FWS Form 3-200-37a (Rev. 01/2020)
U.S. Department of the Interior

OMB Control No. 1018-0093
Expires 08/31/2023

IMPORT/EXPORT/RE-EXPORT OF LIVE ANIMALS (CITES/ESA)

■New ☐Reissue/Renew ☐Amendment

Complete Sections **A or B**, and C, D, and E of this application. U.S. address may be required in Section C.**

A. Complete if applying as an individual			
1.a. Last name	1.b. First name	1.c. Middle name or initial	1.d. Suffix

2 Date of birth (mm/dd/yyyy)	5.a. Telephone number	5.b. Alternate telephone number	6. E-mail address

B. Complete if applying on behalf of a business, corporation, public agency, Tribe, or institution			
1.a. Name of business, agency, Tribe, or institution Zoological Society of San Diego		1.b. Doing business as (dba) San Diego Zoo Wildlife Alliance	
2. Tax identification no. 95-1648219	3.a. Description of business, agency, Tribe, or institution Not for Profit Zoological Institution		3.b. Website URL (if applicable) www.sdzwa.org
4.a. Principal officer (P.O.) last name Baribault	4.b. P.O. first name Paul	4.c. P.O. middle initial A	4.b. P.O. Title President/Chief Executive Officer
5. Primary contact name Brett Baldwin		6. Primary e-mail address BBaldwin@sdzwa.org	
7.a. Business telephone number (619) 231-1515 x3282	7.b. Alternate phone no. 619-312-5142		8.a. Primary contact telephone no. 619-312-5142

C. All applicants complete address information				
1.a. Physical address (Street address; Apartment #, Suite #, or Room #; no P.O. Boxes) 2920 Zoo Drive				
1.b. City San Diego	1.c. State CA	1.d. Zip code/Postal code 92101	1.e. County/Province San Diego	1.f. Country USA
2.a. Mailing Address (include if different than physical address; include name of contact person if applicable) PO Box 120551 C/O Brett Baldwin				
2.b. City San Diego	2.c. State CA	2.d. Zip code/Postal code 92112	2.e. County/Province San Diego	2.f. Country USA

D. All applicants MUST complete

1. Include a check or money order, payable to the U.S. FISH AND WILDLIFE SERVICE, **a nonrefundable processing fee** [50 CFR 13.11(d)(4)]. Federal, Tribal, State, and local government agencies, and those acting on behalf of such agencies, are exempt from the processing fee – ***attach documentation of fee exempt status as outlined in instructions.*** (50 CFR 13.11(d))

2. If you are requesting a reissue/renew/amendment, what is your permit/file number?

3. Certification: I hereby certify that I have read and am familiar with the regulations contained in Title 50, Part 13 of the Code of Federal Regulations and the other applicable parts in subchapter B of Chapter I of Title 50, and I certify that the information submitted in this application for a permit is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. 1001.

PAUL BARIBAULT — JULY 17, 2024

The individual/principal officer of the business must print and sign the application. (No photocopied or stamped signatures) — Date (mm/dd/yyyy)

** Further instructions for the above application may be found on our ePermits website. See the last page for information on the Privacy Act, Paperwork Reduction Act, Estimated Burden, and Freedom of Information Act aspects of this application form.

Mail your application(s) to Division of Management Authority, Branch of Permits, MS:IA 5275 Leesburg Pike, Falls Church, VA 22041-3803.

OMB Control No. 1018-0093
Expires 08/31/2023

E. IMPORT/EXPORT/RE-EXPORT OF LIVE ANIMALS (CITES/ESA)

General Information

This application covers activities involving LIVE CITES and ESA listed animals.

Review this application carefully and **provide complete answers to all of the questions**. If you are applying for multiple species, be sure to indicate which species you are addressing in each response. **If more space is needed, attach a separate sheet with your responses, numbered according to the questions.**

Please allow at least 90 days for the application to be processed.

How do I determine whether the species is protected under CITES and/or the ESA?

CITES	ESA
To determine whether an animal species is protected under CITES, when the species was listed, or whether exemptions apply to your requested activity, see the list of CITES species	To determine whether an animal species is protected under the ESA, please review the list of ESA-listed species in the Code of Federal Regulations. Please be aware that any permit request involving an **ESA endangered species** must be published in the Federal Register for a required 30-day public comment period.

Questions
If you have any questions regarding an action you are requesting authorization for please contact the Division of Management Authority at managementauthority@fws.gov.

Please note: for renewal or amendment of a multi-use permit being requested **within the 5-year** Federal Register public notice period, use application 3-200-52

This form should NOT be used for:

- Pre-Convention, Pre-Act, or antique (antique exemption criteria) specimens (use application 3-200-23)
- Captive Bred Wildlife Registration (use application form 3-200-41)
- ESA Plants (use application form 3-200-36)
- Import of LIVE African Elephants from Botswana, Namibia, South Africa, and Zimbabwe and Southern White Rhinoceros from eSwatini and South Africa (use application form 3-200-37f)

Electronic Information Submission

Electronic submission of inventories, photographs, and receipts: For hard copy applications, if you wish to provide information electronically, please include a flash drive containing this information with your physical application.

1. Name and address where you wish the permit to be mailed, **if different from physical address**. If you would like expedited shipping, please enclose a self-addressed, pre-paid, computer-generated, courier service airway bill. If unspecified, all documents will be mailed via regular mail through the U.S. Postal Service.

   See mailing address above

2. Point of contact if we have questions about the application (name, phone number, and email).

   Brett Baldwin: BBaldwin@sdzwa.org 619-312-5142

OMB Control No. 1018-0093
Expires 08/31/2023

3. Have you or any of the owners of the business (if applying as a business, corporation, or institution), been assessed a civil penalty or convicted of any criminal provision of any statute or regulation relating to the activity for which the application is filed; been convicted, or entered a plea of guilty or nolo contendere, for a felony violation of the Lacey Act, the Migratory Bird Treaty Act, or the Bald and Golden Eagle Protection Act; forfeited collateral; OR are currently under charges for any violation of the laws mentioned above?

☑ No ☐ Yes

If you answered "Yes" to Question 3, provide: a) the individual's name; b) date of charge; c) charge(s); d) location of incident; e) court, and f) action taken for each violation. Please be aware that a "Yes" response does not automatically disqualify you from getting a permit.

4. Type of Activity:
   - ☒ Import
   - ☐ Export
   - ☐ Re-export (e.g. exporting a specimen that was previously imported into the United States)

5. The current location of the **animal(s) (if different from the physical address**):

   Name:
   Address:
   City:
   State/Province:
   Postal Code:
   Country:

6. Recipient/Sender:
   - If **export/re-export**, provide name and **physical address** of the recipient in the foreign country.
   - If **import**, provide name and **physical address** of the exporter/re-exporter in the foreign country.

Name:	CITES Management Authority of Spain, Subdireccion General Biodiversidad Terrestre Marina, Ministerio para la Transicion Ecologica y el Reto Demografico, Plaza San Juan de la Cruz, 10
Address:	
City:	Madrid
State/Province:	
Postal Code:	28003
Country:	Spain

7. For **each animal** involved in the import/export/re-export, provide (you may use the table below):
   a. Scientific name (genus, species, and *if applicable*, subspecies)
   b. Common name
   c. Approximate or actual birth/hatch date (mm/dd/yyyy)
   d. Wild or captive-born

e. Quantity

f. Sex (males.females.unknown sex, 10.2.3)

g. Permanent markings and/or identification information (microchip #, leg band #, tattoos, studbook #).

a. Scientific name (genus, species, and *if applicable*, subspecies)	b. Common Name	c. Approximate or Actual Birth/Hatch Date (mm/dd/yyyy)	d. Wild (W) or Captive-born (C)	e. Quantity	f. Sex (male. female. unknown sex, ex: 1.0.0)	g. Permanent markings/ID information (e.g., microchip #, leg band #, tattoo, studbook #, etc.)
EXAMPLE: *Pan troglodytes*	Chimpanzee	08/01/2006	C	1	1.0.0 OR male	Studbook# 152; Microchip# 00056321-00
Brachylophus fasciatus	Fiji Banded Iguana	Approximate 01/01/2014	w	1	Male	Transponder# 941000023065134
Brachylophus bulabula	Banded Iguana	Approximate 01/01/2014	w	1	Male	Transponder# 941000023065238
Brachylophus bulabula	Banded Iguana	Approximate 01/01/2014	w	1	Male	Transponder# 941000023065239

Source of Specimen

8. For **each captive-born/captive-hatched animal(s),** provide a signed and dated statement from the breeder or other appropriate documentation (e.g. Species 360 report) that includes the following: **Refer to letter from Spanish CITES Management Authority**

   a. Scientific name (genus, species, and *if applicable*, subspecies),

   b. Common name,

   c. Name and address of the facility where the animal was bred and born,

   d. Birth/hatch date (mm/dd/yyyy),

   e. Identification information (studbook, microchip, leg band, etc.),

   f. Name and address of the facility where the parental stock is located,

   g. A statement from the breeder that the animal was bred and born at the breeder's facility (including the facility's name and address), and

   h. If you are not the breeder, provide documentation demonstrating the history of transactions (e.g., chain of custody or ownership of the animal).

9. For **each animal(s) taken from the wild**, provide: **Refer to letter from Spanish CITES Management Authority**

   a. Scientific name (genus, species, and *if applicable*, subspecies),

   b. Common name,

   c. Specific location (e.g. county, state, province, country) where the animal was removed from the wild;

   d. The name of the individual(s) who collected the animal(s) and their authorization to do so, including copies of foreign and domestic (Federal, State, and/or Tribal) government collecting permits, licenses, contracts and/or agreements;

These Fijian Iguanas were part of an international confiscation that took place on May 12 2017 in Spain. The CITES Management Authority of Spain has held thse iguanas at FIEB Foundation which is a certified rescue facility that works with CITES Authority Spain. No Additional information is known on these iguanas and exact morphology and comparative genetics can be completed once at San Diego Zoo to help determine which specific islands they were illegally collected from in Fiji.

e. Method of collection, including capture protocol and any injury and mortality experienced during collection, transport, and holding;

f. Information related to any remuneration, either financial or in-kind, provided for acquiring the animal(s);

g. Efforts to use captive specimens (e.g., captive-born, captive-held) in lieu of taking animals from the wild.

10. For **each animal being re-exported** (e.g., exporting animal(s) previously imported into the United States), provide:
N/A - application for import to the U.S.

a. A copy of the CITES export or re-export document issued by the appropriate CITES office in the country from which the wildlife was imported (this document is **stamped cancelled** by USFWS Office of Law Enforcement upon import inspection); and

b. A copy of your Declaration for Importation or Exportation of Fish or Wildlife (Form 3-177) **cleared** by USFWS Office of Law Enforcement.

c. A copy of the ESA permit that authorized the original import.

d. If you did not make the original import, provide documentation outlining chain-of-ownership since import, including:

1. A copy of the importer's clearance documents (a, b & c above) and,
2. Subsequent invoices (or other documentation) showing the history of transactions leading to your ownership of the animals after import (chain of custody).

Description and Justification For Requested Activity

Describe the purpose of your proposed activity.

11. If **scientific research**, provide: N/A - application for conservation education, zoo display, and captive propagation.

a. A copy of the research proposal (outlining the purpose, objectives, and methods),
b. Detailed information on capture methods including:
   i. who will be capturing the animals
   ii. equipment used
   iii. measures taken to prevent injury and mortality
c. An explanation of whether other similar work has already been conducted or is currently being conducted,
d. A copy of the study's Institutional Animal Care and Use Committee (IACUC) form (*if applicable*),
e. Peer-reviewed scientific papers published from this research (*if applicable*).

12. If **conservation education and/or zoological display**, provide: ***Please see additional and attached documentation for more information describing this section.**

a. Objectives of proposed activity in support of an education program,

b. Copies of educational materials (e.g., handouts, text of signage or public presentations), incorporating the following information:

   i. Status in the wild

   ii. Current threats

   iii. Conservation efforts

13. If **captive propagation for the conservation and survival of the species**, provide: ***Please see additional and attached documentation for more information describing this section.**

a. A description of how the species will be propagated (e.g. artificial insemination, breeding pairs/groups),

b. Documentation showing your participation in an established breeding program (example: current breeding plan outlining your role in the program AND letter from the breeding coordinator confirming your participation in this breeding program.)

c. How your breeding stock is managed to maintain genetic vitality, including:

   i. avoidance of inbreeding,

ii. considerations of average kinship,

iii. differences in paternal and maternal average blood relationships/relatedness,

iv. carrying capacity of your facility,

v. disposition of progeny.

d. Plans and agreements for future re-introduction (*if applicable*).

14. Please provide a detailed description on how the proposed activities will **enhance or benefit the wild population within its native range** (e.g., direct or indirect conservation efforts) and provide documentation (e.g., **signed** memorandums of understanding) demonstrating your commitment to supporting the program and how the program contributes directly to the species identified in your application.
Refer to included supplemental materials on Fijiian Iguana ranger program and (2016) IUCN Re-introduction Perspectives which outlines captive breeding and re-introduction of the Monuriki Island Crested Iguana in Fiji (*Brachylophus vitiensis*).

Technical Expertise & Facilities

- For **export/re-export**, provide information for the **receiving institution.**
- For **import**, provide information for **your institution**.
- For **import to multiple facilities**, provide information for **all receiving institutions.**

15. CV or resume outlining the technical experience of each caretaker working with, maintaining, and/or propagating **each** species, as it relates to the proposed activities, including experience with similar species. **See included materials.**
16. Current inventory of the species at the facility (males.females.unknown sex, e.g., 10.2.3).
15.10.2 B. bulabula at the San Diego Zoo. Taxon report for all current animals located at the San Diego Zoo attached.
17. Number of years the species has been maintained at the facility, **Over 50 years; see included materials.**
18. Number of births per species per year over the last 5 years, **See included materials.**
19. Number of mortalities per species (or similar species) per year over the last 5 years and steps taken to avoid or decrease such mortalities, **See included materials.**
20. A detailed description, diagrams, and photos clearly depicting the existing facilities **where the wildlife will be maintained** including: dimensions, construction materials, and protection from the elements. Do not provide blueprints; **See included materials.**
21. Approximate carrying capacity for the species at the facility.
Facility carrying capacity in excess of 50 individuals (depending on age and/or breeding plans. As of 9/Jul/2024 the San Diego Zoo provides care and housing for 15.10.2 individual Brachylophus iguanas.

Transport/Shipment of Live Animals

22. Transport conditions for live animals must comply with the CITES Guidelines for Transport of Live Animals. All air transport must also comply with the International Air Transport Association (IATA) live animal regulations (contact airline for information). As such, provide: ***Please see additional and attached documentation for more information describing this section.**

a. The type, size, and construction of any shipping container and,
b. The arrangements for watering or otherwise caring for the wildlife during transport.

All international shipment(s) must be through a designated port. A list of designated ports (where an inspector is posted) is available. If you wish to use a port not listed, please contact the Office of Law Enforcement for a Designated Port Exemption Permit (form 3-200-2).

CITES Appendix I & Marine Mammal Species

- For **export** of a **CITES Appendix I-listed species**, provide a copy of the CITES import permit, or evidence one will be issued by the Management Authority of the country to which you plan to export the specimen(s). In accordance with Article III of the CITES treaty, it is required that import permits are issued before the

corresponding export permit.

- For **import** of **CITES Appendix-I listed species**, provide information to show the import is not primarily for commercial purposes as outlined in Resolution Conf. 5.10 (Rev. CoP 15). *Please see additional and attached documentation for more information describing this section.
- For **import** of **live CITES Appendix-I marine mammals**, provide a copy of your FWS or NMFS Marine Mammal Protection Act (MMPA) permit or authorization.

OMB Control No. 1018-0093
Expires 08/31/2023

NOTICES

PRIVACY ACT STATEMENT

Authority: The information requested is authorized by the following: the Bald and Golden Eagle Protection Act (16 U.S.C. 668), 50 CFR 22; the Endangered Species Act (16 U.S.C. 1531-1544), 50 CFR 17; the Migratory Bird Treaty Act (16 U.S.C. 703-712), 50 CFR 21; the Marine Mammal Protection Act (16 U.S.C. 1361, et seq.), 50 CFR 18; the Wild Bird Conservation Act (16 U.S.C. 4901-4916), 50 CFR 15; the Lacey Act: Injurious Wildlife (18 U.S.C. 42), 50 CFR 16; Convention on International Trade in Endangered Species of Wild Fauna and Flora (TIAS 8249), 50 CFR 23; General Provisions, 50 CFR 10; General Permit Procedures, 50 CFR 13; and Wildlife Provisions (Import/export/transport), 50 CFR 14.

Purpose: The collection of contact information is to verify the individual has an eligible permit to conduct activities which affect protected species. This helps FWS monitor and report on protected species and assess the impact of permitted activities on the conservation and management of species and their habitats.

Routine Uses: The collected information may be used to verify an applicant's eligibility for a permit to conduct activities with protected wildlife; to provide the public and the permittees with permit related information; to monitor activities under a permit; to analyze data and produce reports to monitor the use of protected wildlife; to assess the impact of permitted activities on the conservation and management of protected species and their habitats; and to evaluate the effectiveness of the permit programs. More information about routine uses can be found in the System of Records Notice, Permits System, FWS-21.

Disclosure: The information requested in this form is voluntary. However, submission of requested information is required to process applications for permits authorized under the listed authorities. Failure to provide the requested information may be sufficient cause for the U.S. Fish & Wildlife Service to deny the request.

PAPERWORK REDUCTION ACT STATEMENT

We are collecting this information subject to the Paperwork Reduction Act (44 U.S.C. 3501) in order provide the U.S. Fish and Wildlife Service the information necessary, under the applicable laws governing the requested activity, for which a permit is requested. Information requested in this form is purely voluntary. However, submission of requested information is required in order to process applications for permits authorized under the applicable laws. Failure to provide all requested information may be sufficient cause for the U.S. Fish and Wildlife Service to deny the request. According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. OMB has approved this collection of information and assigned Control No. 1018-0093.

ESTIMATED BURDEN STATEMENT

We estimate public reporting for this collection of information to average 2 hours, including time for reviewing instructions, gathering and maintaining data and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of the form to the Service Information Clearance Officer, Fish and Wildlife Service, U.S. Department of the Interior, 5275 Leesburg Pike, MS: BPHC, Falls Church, VA 22041-3803, or via email at Info_Coll@fws.gov.

Please do not send your completed form to this address.

Brett Baldwin

From: Luis Mariano González García <lmgonzalez@miteco.es>
Sent: Tuesday, July 10, 2024
To: managementauthority@fws.gov
Cc: Brett Baldwin; Luis Mariano González García
Subject: transfer of seized Fiji Iguanas (from Spain to the US)

Dear colleagues of the CITES Management Authority of the United States of America,

We are writing to you from the CITES Management Authority of Spain with regards to nine seized individuals (9) of Fiji Iguanas (*Brachylophus sp*.). These individuals are part of a big seizure developed by the Spanish Civil Guard back in 2017 (December) in the framework of the so call JUNGLA V police operation. From that time on, the specimens have been kept at a CITES Rescue Center here in Spain, a change in the Spanish scheme in CITES authorities have taken place and a judicial procedure regarding these iguanas has being initiated.

Only 9 of more than 30 remain alive (they suffered a fungi infection) and now (from 2022) that the new scheme of CITES authorities has been consolidated it is a priority for us to give these Appendix I and critically endangered species' specimens a final destination that maximizes their contribution to the conservation of their species. With that purpose we have got in touch with the San Diego Zoo, as they have got extensive experience with this species and a breeding, conservation and reintroduction program of Fiji Iguanas agreed with the authorities of Fiji. The San Diego Zoo is willing to receive these iguanas to include them in this scientific and conservation program. Brett Baldwin is the responsible of this program.

We have a court order with the instructions to return these iguanas to their natural habitat in the country of origin or to provide a final destination that maximizes their contribution to the conservation of the species. After so many years in captivity, it is unlikely that they can survive on their own in the wild, and the San Diego Zoo Fiji Iguana's conservation program is undoubtedly the best option for them, in order to contribute to the conservation of their species. We therefore have the legal obligation to do it.

We are working hand by hand with Brett Baldwin to arrange all the sanitary and trip details. As management authorities, ourwork should not delay the work and technical effort to carry out this transfer of animals, and we ask that, once we issuethe export permit, the issuance of the corresponding import permit be as quick as possible.

We wanted to inform you about this mission with these seized Fiji Iguanas, as ask for your cooperation as much as possible.

Thank you very much, and kind regards,

Luis Mariano González García
Jefe de Área - CITES Management Authority team
Subdirección General Biodiversidad Terrestre y Marina
Dirección General de Biodiversidad, Bosques y Desertificación
Ministerio para la Transición Ecológica y el Reto Demográfico
Plaza San Juan de la Cruz, 10, 28003 - Madrid (España)

JUSTIFICATION FOR REQUESTED ACTIVITY.

San Diego Zoo Wildlife Alliance Herpetology Department and Veterinary Care Staff have decades of experience working with Fijian iguanas (Brachylophus) as well as similar Iguanaidae species such as Caribbean rock iguanas. Both the Fijian Banded Iguana and the Caribbean Rock Iguanas are managed by San Diego Zoo Staff in the form of Species Survival Plan Programs and Studbooks for these animals. Besides having had Brachylophus in the Zoo's collection since the 1960s, we have routinely bred them since the 1980s.

Our San Diego Zoo Wildlife Alliance Research Department has helped preserve Brachylophus in their Frozen Zoo and also catalogued this species sperm in an online atlas. We partner with other researchers including the United States Geological Survey to run genetic research on Brachylophus and we are helping to identify characteristics to help determine species within the Fijian Archipelago among the Brachylophus species complex.

This combination of captive husbandry and veterinary care expertise, combined with our genetic understanding to help us best determine specific island haplotypes of the imported iguanas, we are set to provide the best care possible for these iguanas and best determine what specific islands they originated from which will ultimately be the primary deciding factor on where to focus strategic conservation activities such as wildlife enforcement and future planning for repatriation of confiscated iguanas back to Fiji.

Additionally, San Diego Zoo Wildlife Alliance staff (Kim Gray who also serves as the Fijian Iguana SSP and Studbook Manager) have been assisting in collaborative efforts within Fiji including but not limited to Ranger Training to help combat wildlife trafficking and provide education and outreach about Fiji iguanas, expertise and advice on captive care of Fiji iguanas within Fiji, and we assisted with the release of captive reared head-started iguanas back into the wild in Fiji since 2013.

CVs are provided as part of this application as well to document the technical experience of the staff who are either assigned as primary keepers or oversee the entire vet program or Herpetology Department staff.

JUSTIFICATION FOR REQUESTED ACTIVITY

How San Diego Zoo Global is Helping to Save the Fiji Iguana

Conservation Status: **IUCN Red List – Critically Endangered (Fiji crested iguana); IUCN Red List – Endangered (Fiji banded iguana, Lau banded iguana)**

Threats to Survival: **Habitat loss; introduced invasive species**

Solving a Genetic Puzzle

San Diego Zoo was one of the first zoos to receive Fiji iguanas. The Zoo's Herpetology Department maintains the largest captive colony of these reptiles, and currently manages the Fiji Banded Iguana Species Survival Program (SSP). Several years ago, due to the atypical appearance of two of our iguanas, we initiated a genetics study to verify the species of our founder population, then identified as Lau banded iguanas. We also studied iguanas housed at Australia's Taronga Zoo and samples collected from wild individuals by our partners for comparative purposes. Testing by our Genetics team was facilitated with funding from the International Iguana Foundation and revealed significant result. Through DNA sequencing, we learned that our captive founders and first generation offspring grouped with Fiji crested or Fiji banded iguanas instead of Lau banded iguanas, and microsatellite markers showed that our captive population included unexpected hybrids. These findings are critical to our long-term goal of maintaining a sustainable zoo population.

A New Species?

Over the past five years, our partners in the field have performed extensive field surveys and collected samples from nearly 200 iguanas on 30 islands. Results from our DNA testing showed that wild Fiji iguana populations have much greater genetic diversity than previously thought. Nearly every island population sampled has a unique mitochondrial haplotype, including some never previously described. The data even suggest there is at least one new species, pending morphological assessments by our colleagues. These genetic studies have raised new questions about the appropriate conservation units for the iguanas, and helped determine priorities for protecting wild populations.

Future Directions

Fiji iguanas are found on just 10-percent of Fiji's 300 islands, with the majority of iguana populations still threatened and in decline. Through the SSP, we are hoping to support future conservation efforts for Fijian iguanas by strengthening existing collaborations and building new ones. We also hope to support educational outreach, enable habitat restoration, and provide husbandry guidance for other assurance colonies of iguanas within Fiji. Continuing efforts in the field and the lab are critical to future conservation efforts for all Fiji iguanas.

Our Partners

Association of Zoos and Aquariums partner institutions
Department of Natural Heritage Fiji
National Trust of Fiji
Taronga Western Plains Zoo
U.S. Geological Survey
Birdlife International
IUCN Iguana Specialist Group
NatureFiji-MareqetiViti
U.S. Fish and Wildlife Service

G. JUSTIFICATION FOR REQUESTED ACTIVITY. 7. a. & b., 8

Fiji and Caribbean Rock Iguana Conservation Initiatives at San Diego Zoo Global

The San Diego Zoo and San Diego Zoo Safari Park are home to many iguana species. As we care for them, we learn important things about them, such as ideal conditions for reproducing or special dietary needs. The information we learn can help us to strengthen the chances of iguana survival in the wild. We've had many breeding success stories over the years: the San Diego Zoo was the first zoo in the U.S. to hatch the critically endangered Anegada Island iguana.

The Zoo has a long history of working with Fiji Island banded iguanas, starting with a gift of six of these lizards from the prince of Tonga in 1965, and we welcomed our first hatchling in 1981. Today, the Zoo has the largest and most successful colony of this endangered species outside of Fiji. Most lizards require ultraviolet radiation to absorb calcium from their food, and banded iguanas seem to need more exposure than most. Our banded iguanas can bask all year, even in colder weather, thanks to UV-permeable skylights throughout our Reptile House. Most of them live in an off-exhibit area there, but a pair is always on exhibit in our Reptile House for guests to admire.

You can see two more iguana species at the San Diego Zoo; Exuma Island iguanas and a Cuban rock iguana live in large, outdoor enclosures between our Galápagos tortoise yard and the Reptile Walk. Each enclosure has a large "boulder" for the iguanas to sunbathe; the boulders are hollow and provide heat lamps, nest boxes, water, and privacy inside for the iguanas, if needed. When the outside temperature drops below 55 degrees Fahrenheit (12.7 degrees Celsius), a keeper placing a trail of tasty grapes coaxes the iguanas inside this rocky sanctuary!

We are contributing to the recovery of Grand Cayman blue, Jamaican, and Anegada iguanas, known collectively as rock iguanas, by maintaining assurance colonies at our Kenneth and Anne Griffin Reptile Conservation Center, located on Safari Park grounds. The Center is the most advanced rock iguana breeding center in the world. As of August 2012, 20 Grand Cayman blue iguanas have hatched at our facilities, and we developed and maintain a studbook database for these rare iguanas. In the future, they will be shared with other facilities for further breeding to aid the continuation of the species.

Habitat loss, the introduction of exotic animals that prey on iguanas, capture for the pet trade, and poaching are some of the threats to wild iguana populations. Some species that were once plentiful in the wild are now beginning to disappear. There are several measures that can help iguanas survive, such as captive propagation in zoos, hunting and collecting restrictions, and education programs for people living in or near iguana habitats.

As a group, Caribbean rock iguanas *Cyclura* species are the most endangered lizards in the world. They suffered greatly when humans settled on these islands and began large-scale habitat destruction and alteration. Plantations, homes, and resorts cleared out the plants iguanas fed on, and car traffic became one of the biggest threats to iguanas on the move. Cats

introduced to the islands by humans have been eating both iguana eggs and the young hatchlings, causing the iguanas' numbers to shrink.

Working with local governments and other organizations, San Diego Zoo Global is helping these iguanas both here in our Kenneth and Anne Griffin Reptile Conservation Center, and in the field on various Caribbean islands. Our rock iguana breeding program has been so successful that a new facility was built in Puerto Rico to accommodate the growing population. Without this expanded facility, the fate of these beautiful iguanas would be less certain. The breeding program includes supporting the animals in our facilities and field programs to establish new populations and to move current populations to small islands with no people, so the iguanas have room to grow.

We use a technique called “headstarting”: iguana eggs are incubated in a facility and the hatchlings are taken care of in large pens until they are large enough to protect themselves from predators, thus giving them a head start in the wild. We have translocated some species to smaller uninhabited and protected islands or cays where, it is hoped, the iguanas can flourish.

To date, 179 Anegada iguanas *Cyclura pinguis* have been raised and released, nearly doubling the size of the wild population. Our goals include removing feral predators from Anegada Island and restoring iguanas to some of Puerto Rico’s satellite islands, where the species historically occurred.

Since 2002, our recovery program for the Grand Cayman blue iguana *Cyclura lewisi* has boosted their numbers from a low of 25 in the wild to more than 500 released into a new wilderness reserve where they are now reproducing! San Diego Zoo Global is one of several organizations in North America working to produce a captive, self-sustaining population of Jamaican iguanas *Cyclura collei* to ensure genetic diversity for the species' worldwide population. A male iguana hatched on August 30, 2013—the first time this species was successfully bred at our facility.

In addition, we’ve helped implement conservation education programs on some of the Caribbean islands to increase public awareness and support for iguana conservation initiatives.

The Lau banded iguana *Brachylophus fasciatus*, first described in 1800, was believed to be the sole iguana species in Fiji for nearly 200 years. In 1979, the Fiji crested iguana *Brachylophus vitiensis* was found on one of Fiji’s volcanic islands, and that island was soon set aside as a crested iguana sanctuary, which helped increase the species population dramatically. A third species of Fiji iguana was described in 2006, the Fiji banded iguana *Brachylophus bulabula*. San Diego Zoo Global’s Genetics Division has been working to further test blood and skin samples from iguanas living on 23 of Fiji’s islands, and the results suggest at least another new species is in need of description! These genetic studies will help determine how iguanas should be protected in Fiji and which managed-care lineages could be used for reintroduction.

Both banded and crested iguanas are endangered, due to habitat destruction for housing and the clearing of land for farming and livestock, as well as the introduction of mongooses and feral cats, which prey upon the iguanas and their young. Mongooses were brought to Fiji to hunt rats in the sugarcane fields, but they spread to wild areas and also feasted on the iguanas.

Fiji is also battling the introduction in 2000 of the green or common iguana *Iguana Iguana*, called the American iguana in Fiji. That species has become quite a pest and is said to be a threat to local vegetation; eradication measures are underway.

Visiting the San Diego Zoo and the San Diego Zoo Safari Park helps the giant rock iguanas of the West Indies, which are the most endangered group of lizards in the world. Our rock iguana breeding program has been so successful that a new facility was built to accommodate the growing population. Without this expanded facility, the fate of these beautiful iguanas would be less certain. The breeding program includes supporting the animals in our facilities and supporting a field program to establish new populations and to move current populations to small islands with no people so the iguanas have room to grow.

Additional Supplemental Information for Brachylophus to be imported from Spain:

The animals (iguanas from Spain) are to be tested for genetics to help us inform our partners the Fiji National Trust and the Ministry of Environment Fiji to best understand where these animals were smuggled from (some may have just been from the EU illegal pet trade and would be of mixed genetic heritage). Knowledge of specific islands impacted will help support targeted outreach to local communities within Fiji and support for more enforcement.

We also hope to document all that would need to be considered if animals ever were to be repatriated to home countries and given that these animals may be of mixed heritage and have been in contact with other reptiles the risk for disease transmission is too great however we want to document all of the process from point of confiscation to actual proper repatriation what would is cost, what needs to be considered for logistics etc so essentially this is a detailed case study of how to create best practices for Fijian iguanas during confiscations

The taxa Brachylophus is what is considered a cryptic species in that numerous yet to be described species exist within the complex. We had documented mixed unknown genetics in our original group which at the time was only 2 species described (B. vittiensis and B. fasciatus), as a result other species include genes from vittiensis were found in the captive population. Since that time we have been partnering with Fiji National Trust and USGS to conduct in country species assessments and compare genetics and morphology with additional specimens to be described.

Once exact species can be genetically and morphologically identified a plan moving forward will be incorporated in partnership with Fiji National Trust and Ministry of Environment Fiji. Specimens determined to be bulabula will be incorporated into existing breeding SSP and studbook – other species such as B. fasciatus or B. vittiensis can be maintained as part of the studbook but will not have a breeding designation assigned and will be maintained for education and display purposes at San Diego Zoo only. Animals would not be placed in with other sister taxa and if eggs are laid they would be sent to pathology/vets for health monitoring and not for incubation.

Fijian iguanas from the genus Brachylophus have been house at SD Zoo since our 50th anniversary when gifted to us from the Prince of Tonga. SD Zoo is a 107 year old institution and have had other iguana species off and on in the collection for many years. Fijian iguanas are managed and bred at the San Diego Zoo with intent to house and manage in perpetuity. The specific iguanas for this import would be housed until they decease due to age or for other medical management reasons deemed necessary by veterinarians or should the Fijian Government (National Trust etc) determine they would want any specific animals returned to Fiji for any reason in the future.

The Fijian Iguanas are only housed at the San Diego Zoo location – the San Diego Zoo's Safari Park information was provided as our staff is the same team managing the iguana care facility there to highlight similar species. We care for Cyclura (rock iguanas) at the Safari Park.

B. vittiensis and B. fasciatus would have identical care and facilities as that which was provided in permit application for B. bulabula. This taxa is managed with the same husbandry, diet etc at the genus level with no differences among species.

March 12, 2018: A Spanish criminal network trafficking rare animals has been dismantled by the Spanish Guardia Civil after more than 600 reptiles from the Americas, Africa, Asia and Oceania were found. Nine people have been arrested and seven, suspected members of the criminal network, are under investigation.

Members of the criminal group bought the animals from Australia, the Fiji Islands, Mexico, New Zealand, Oman and South Africa, then illegally transported them to Spain.

This operation was aided by Europol, which provided analytical and operational support to all Member States involved. Europol assisted Guardia Civil officers by deploying a team to Spain with a mobile office and UFED extraction capabilities on the internationally-coordinated action day, providing them with real-time intelligence analysis and forensic support. This helped to identify transnational links with other serious and organised crimes. Overall law enforcement authorities from 17 countries worldwide were involved in the operation.

Population Analysis & Breeding and Transfer Plan

Fiji Banded Iguana (*Brachylophus bulabula*)
AZA Species Survival Plan®
Yellow Program

AZA Species Survival Plan® Coordinator and Studbook Keeper
Kim Gray, San Diego Zoo Wildlife Alliance
(kgray@sdzwa.org)

Adjunct Population Advisor
Asako Chaille, San Diego Zoo Wildlife Alliance
(anavarro@sdzwa.org)

15 June 2022

PMC Population Management Center

LINCOLN PARK ZOO. ASSOCIATION OF ZOOS & AQUARIUMS

San Diego Zoo Wildlife Alliance

Table of Contents

Acknowledgments

The Fiji Banded Iguana SSP planning meeting was held at the San Diego Zoo and via online conferencing on 5 April 2022, attended by the following:

Kim Gray, San Diego Zoo
Asako Navarro, San Diego Zoo Wildlife Alliance

Cover photo courtesy of: San Diego Zoo Wildlife Alliance

This plan was prepared and distributed with the assistance of the Planning Coordinator and Program Assistant at the AZA Population Management Center (pmc@lpzoo.org).

Description of Population Status

Species Survival Plan® for the Fiji Banded Iguana (*Brachylophus bulabula)*

Introduction: The Fiji banded iguana (*Brachylophus bulabula*) is an arboreal lizard species endemic to the Fijian Islands. Prior to a DNA study published in 2008 (Keogh et al.), all banded iguanas were lumped under a single species. Based on the results of that study, *B. bulabula* is now recognized as a distinct species from *B. fasciatus*. Subsequent DNA work on the managed population in North America suggests that many captive individuals are of *bulabula x fasciatus* hybrid ancestry. Thus, at this time, it has been determined that the role of the SSP within AZA institutions is exhibit/education.

This current SSP population consists of 65 animals (42 males, 23 females) distributed among 20 AZA facilities. The Lizard Taxon Advisory Group has set a five-year target size of 60 animals and a long-term target size of 120 animals (2019 Regional Collection Plan). Under AZA's current sustainability designations, this Program qualifies as a Yellow SSP (≥50 formally managed animals; <90% gene diversity for 100 years). This is the fifth Breeding and Transfer Plan for this Program.

Analytical Assumptions and Exclusions: The pedigree of this population is 96.9% known before exclusions. No pedigree assumptions were necessary to perform genetic analyses (Appendix A). Nine animals have been excluded from the potentially breeding population due to advanced age, unknown pedigree, and medical reasons (Appendix C). Following exclusions, the potentially breeding population included 56 animals (36 males, 20 females) with a pedigree that was 100% known and 100% certain (Appendix A).

Demography: Studbook records indicate that Fiji banded iguanas have been held in current AZA facilities since 1965 when the San Diego Zoo first imported 6 animals from Tonga, but the species was not consistently exhibited until 1973. The population grew quickly between 1986 and 1995 at an average rate of 42%, due primarily to successful captive breeding and a limited number of sporadic imports (average λ 1986-1995 = 1.42; Figure 1). The population reached a peak of 75 individuals 2003, but this was followed by a decade of slow decline until 2014 (average λ 2004 – 2014 = 0.96). The reason for the slightly decline was a temporary suspension of breeding while the SSP changed leadership and hybrid *bulabula x fasciatus* ancestry was investigated. Since that time, the population has grown once again, with notable growth in 2018 due to one particularly prolific breeding pair producing 18 offspring. Population growth has been primarily due to successful captive breeding, with consistent hatches occurring at the San Diego Zoo in 1989. Although an occasional wild-caught animal does continue to be imported, imports have never been a predominant driver of growth (Figure 1). Based on current life tables (Appendix D), the population has a projected growth rate of 2% per year (projected λ = 1.02). There are currently three wild-caught animals remaining in the population.

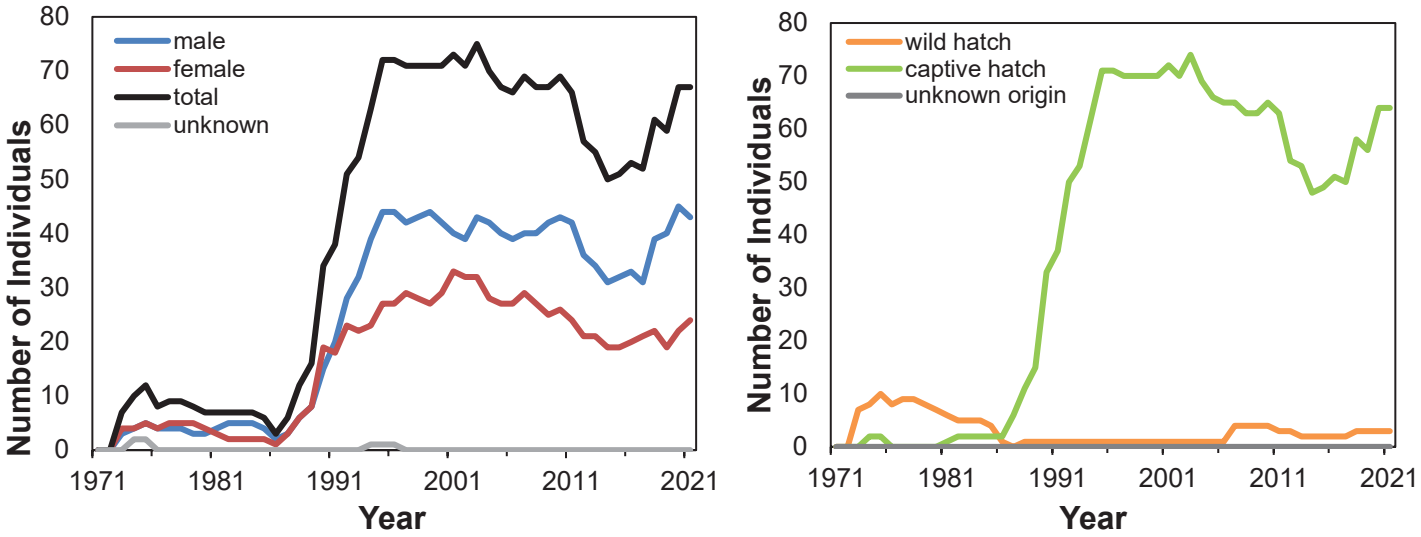


Figure 1. *Census of Fiji Banded Iguana SSP from 1971 to 2021 by sex (left) and hatch type (right).*

Fiji banded iguanas can live into their late teens or early twenties; studbook data indicate the oldest male on record is still alive at 27 years of age (SB# 104) and the oldest female lived to 20 years of age (SB# 61). The lower longevity observed in females may be an artefact of smaller sample sizes in adult females as they experience higher mortality than males due to medical challenges associated with reproduction. Current life tables used for demographic analyses indicate first-year mortality is 17% for males and 10% for females (Appendix D). Although there is currently no clear explanation for the difference in first year mortality rates between the sexes, it may be husbandry-related and this difference appears to represent a true disparity (calculated from >100 individuals for each sex). Both sexes are reproductive at approximately one year of age, but little reproduction has been observed until the age of two. Both sexes can likely reproduce throughout their entire lives, although the SSP generally considers animals 18 years of age and older to be post-reproductive due to health reasons. The oldest male on record to breed was 16 years of age at the time of conception (SB# 84) and the oldest female to produce offspring was 14 years of age (SB# 227). Females typically lay three to six eggs per clutch and can lay multiple clutches throughout the year.

The age structure illustrates the number of males and females in each age class (Figure 2). Based on its current age structure and growth rate, if the population continues on its current trajectory, this population is expected to increase over time (Table 1). The age structure of the Fiji banded iguana population is robust, exhibiting a roughly pyramidal structure with more animals in the youngest age classes (Figures 2). Although captive reproduction was historically quite successful, the paucity of animals in age classes 9 to 12 illustrates that breeding was temporarily suspended while the SSP changed leadership and hybrid *bulabula x fasciatus* ancestry was investigated. As captive reproduction has resumed, the younger age classes have repopulated. A demographically robust age structure can be maintained if the population produces a low but consistent number of hatches every year. The sex ratio of the population is skewed, with 1.83 males present for every female. This sex-bias in the adult population is expected to persist as long as females experience higher reproduction-related mortality than males. Because this species is typically maintained in pairs during a breeding season, the less numerous sex will dictate reproductive rates.

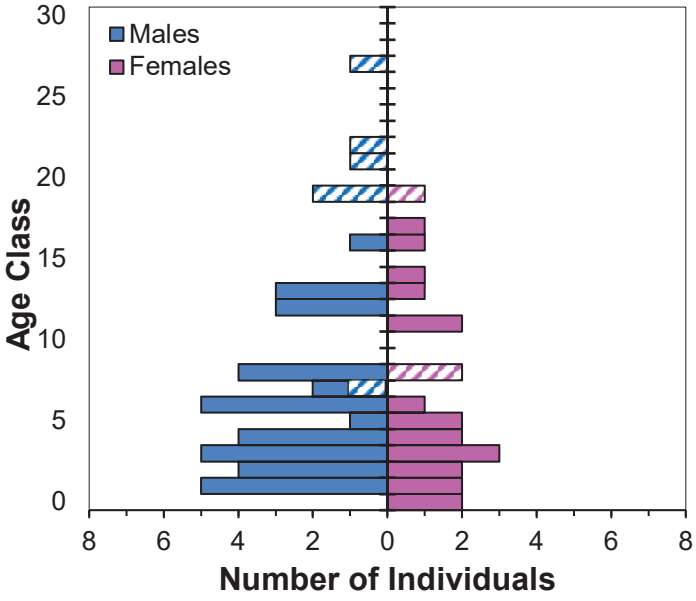


Figure 2. *Age distribution of the Fiji Banded Iguana SSP for the total population, N = 65 (42.23.0). Animals excluded for breeding are represented by hash marks, N = 9 (6.3.0).*

Table 1: *Demographic status of SSP population, according to studbook.*

Demography Summary		
Current size of SSP population (N) – Total (Males.Females.Unknown Sex)	65 (42.23.0)	
Number of individuals excluded from breeding	9 (6.3.0)	
Breeding Population size following exclusions	56 (36.20.0)	
Target population size (Kt) *Lizard TAG 2019 RCP (long-term target)	120	
Mean generation time (T, years)	6.4	
Population growth rates (λ; lambda)*: Life Table / 5–year / Projected	1.022 / 1.048 / 0.949<>1.001<>1.043	
Percentage (%) of living population born/hatched ex situ	95%	
Survival/Mortality	**Males**	**Females**
Observed first year mortality rate (Q_x)	0.17	0.10
Median life expectancy (MLE), excluding first year mortalities (years) (from PopLink Survival Statistics Report (https://www.aza.org/species-survival-statistics)) *the lower MLE observed in females could be due to higher mortality observed in females due to medical challenges associated with reproduction	15.9	7.2
Observed maximum longevity (L_x) (Studbook ID # of individual) *SB# 104 is still living.	27 (SB# 104)	20 (SB# 61)
Reproduction		
Observed reproductive age range	1.5 – 16	1.8 - 14
Incubation time	160 days	
Median clutch size hatched	1 (1 - 6)	

* Life table (AZA, 1988 – present); 5-year from studbook census; Projected from PMx stochastic 20 year projections

Genetics: Based on pedigree assumptions and exclusions, the studbook pedigree indicates that analytical Fiji banded iguana SSP population is descended from 14 founders with one potential founder remaining (Figure 3). The mean kinship in the population is 0.1198. Full-siblings have a kinships of 0.25 and half-siblings have a kinship of 0.125, which means that the average relationship across the population is just below that of second-order relatives. The gene diversity of the analytical population 88.0%, which is equivalent to that found in approximately 4 to 5 founders (FGE = 4.17). Typical AZA program goals include thresholds for tolerance of gene diversity loss over time; 90% gene diversity retention for 100 years is a common management goal. Decreases in gene diversity below 90% of that in the founding population have been associated with reproduction increasingly compromised by, among other factors, lower hatch weights, smaller clutch sizes, and greater hatchling mortality in some species.

Gene diversity in the analytical Fiji banded iguana population is projected to decline to ~56% over the next 100 years if the population grows at its projected growth rate of 2.2% (λ = 1.022) to a long-term target size of 120 animals. The population parameters that currently have the greatest negative impact on gene diversity projections are low starting gene diversity, a short generation length, and the population's Ne/N ratio (the long-term target size is already quite reasonable). With one potential founder and a potential gene diversity of 93.48%, current gene diversity could be improved through rigorous genetic management. Furthermore, the population's Ne/N ratio could be improved if more adults start successfully producing offspring. As a benchmark, if starting gene diversity and the Ne/N ratio were increased to 91% and 0.25 respectively, gene diversity in 100 years is projected to be 67% of founding diversity. That projection is still well below the 90% threshold commonly thought to represent genetic vigor and demonstrates that additional imports of unrelated animals ultimately will be necessary to support long-term gene diversity maintenance. With the parameter improvements already discussed, approximately three to four new founders would need to be acquired every 10 years to retain 90% founding gene diversity for 100 years (T = 6.4 years; λ = 1.022; Ne/N = 0.25; starting GD = 0.91; target size = 120 animals).

Figure 3. *Founder representation distribution of the analytical Fiji Banded Iguana population.*

The best genetic management strategy to maximize a population's long-term gene diversity retention is typically managed breeding targeted at equalizing founder representations by breeding animals with low and well-matched mean kinships. Founder representations in the Fiji banded iguana population are currently skewed (Figure 3); more equal representations would retain more gene diversity. Thus, particular priority is being placed on breeding animals with low mean kinships (representative of under-represented founders) and the potential founder that has not yet produced surviving offspring. If more equal founder representations can be achieved, some of the potential gene diversity in the population can be realized and current gene diversity would rise. However, because genetic management must be balanced against demographic goals, some animals with higher mean kinships will still receive breeding recommendations to meet demographic goals.

Table 2: *Population size, genetic status, and projections for the Fiji Banded Iguana SSP population.*

Genetics Summary*					
	2009	*2013*	*2019*	**2022**	**Potential**
Founders	*12*	*16*	*15*	14	1
Founder genome equivalents (FGE)	*4.36*	*4.17*	*4.02*	4.17	7.67
Gene diversity (GD %)	*88.53*	*88.53*	*87.58*	88.02	93.48
Population mean kinship (MK)	*0.1147*	*0.1200*	*0.1242*	0.1198	--
Mean inbreeding (F)	*0.0451*	*0.0793*	*0.0907*	0.0630	--
Effective population size (N_e/N)	*0.21*	0.22	*0.18* ‡	0.17 ‡	--
Percentage of pedigree known before / after assumptions and exclusions	*100 / 100*	*100 / 100*	*100 / 100*	96.9 / 100	--
Percentage pedigree certain after assumptions and exclusions	*100*	*100*	*100*	100	--
Projections					
Years to 90% gene diversity	*NA <90%*	*NA <90%*	*NA <90%*	*NA <90%*	--
Years to 10% loss of gene diversity	*NA*	*15*	*17*	17	--
Gene diversity at 100 Years (%)	*60*	*52*	*55*	56	--
Parameters for analysis: growth rate (λ), target size (Kt), generation length (T), starting population size (n)	assuming λ=1.05, Kt=120, T=6.0, n=54	assuming λ=1.01, Kt=120, T=6.1, n=46	assuming λ=1.02, Kt=120, T=6.2, n=55	assuming λ=1.02, Kt=120, T=6.4, n=56	--

*Genetic statistics may not be comparable across years due to changes in software and parameters used for projections from year to year.
‡ Known to include founders. N_e/N ratios might not be comparable across years due to different methods of calculation.

Recommendation Outcomes: The website PMCTrack calculates the outcomes fo SSP recommendations by comparing Breeding and Transfer Plan recommendations to births/hatches and transfers recorded in the studbook (Figure 4). There are many reasons that recommendations might not be fulfilled, including interim recommendations issued by the SSP Coordinator; these reasons can be captured using PMCTrack Outcomes Surveys. Note that starting in 2022, SSP Coordinators directly add interim recommendations to PMCTrack to improve the accuracy of recommendation outcomes. The fulfillment rates of any plan that had outcomes calculated in 2022 or after may reflect inclusion of these interim rates; in the graph, this may include the last plan before 2022, such as a 2021 plan, plus any plans with a date of 2022 or after.

Of the recommendations proprosed in the 2019 Breeding and Transfer Plan, 0% of the BREED WITH recommendations were fulfilled, and 14% of SEND TO recommendations were fulfilled as requested by 02/23/22. The proportion of BREED WITH recommendations that appear to be unfulfilled are a result of multiple breeding options one main breeding facility (SANDIEGOZ) was given in the last plan, that is not recognized by PMCTrack. Five individuals given multiple breeding options successfully produced offspring since the last plan. The low fulfillment rates for transfer recommendations are mainly due to transfer restrictions and challenges related to the COVID-19 pandemic. SSP participants are always encouraged to attempt to fulfill recommendations and communicate sucesses and challenges to the SSP Coordinator.

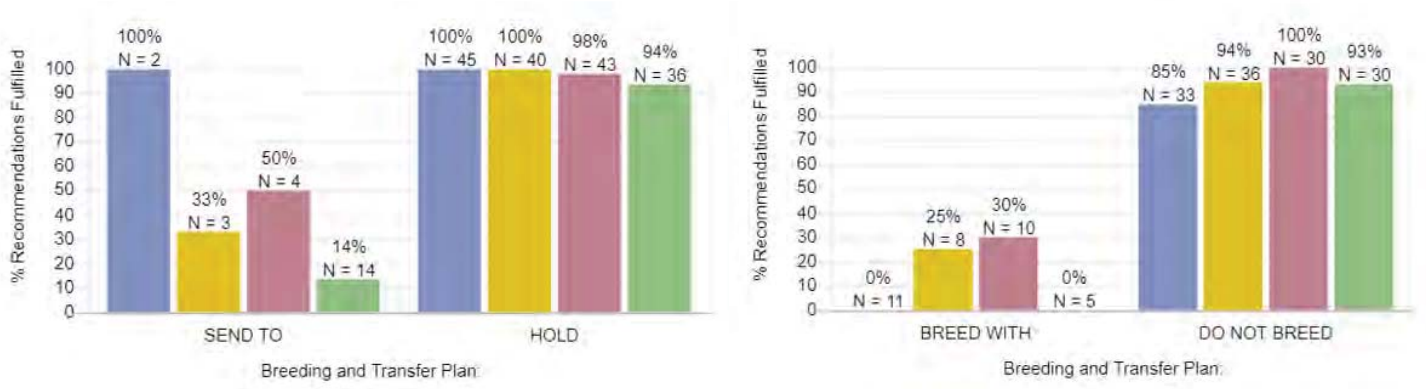


Figure 4. Recommendation outcomes by transfers (left) and breeding (right) for the past Fiji Banded Iguana SSP Breeding and Transfer Plans. *N* represents the number of recommendations scored for each recommendation type, per plan, and the number represents the percentage recommendations fulfilled. Please visit PMCTrack.org or contact pmctrack@lpzoo.org for more information or with any questions.

Management Strategies: The current SSP population consists of 65 animals (42 males, 23 female) distributed among 20 AZA facilities. Demographic analyses based on current life tables (Appendix D) indicate that approximately 20 hatches are needed over the next three years (6 to 7 hatches per year) to maintain the population at its current size. If the population grows at its projected growth rate of 2.2% per year (λ = 1.022), then ~25 hatches are needed over the next three years (8 to 9 hatches per year) for the population to reach 70 animals in three years, and it would take approximately 28 years for population to reach the TAG's long-term target size of 120 animals. The population averaged 7.0 hatches per year in the last five years (2017-2021), indicating that recent reproduction is sufficient to maintain the population at its current size, but needs to be at least minimally improved to confidently grow towards its long-term target size.

Gene diversity in the analytical population is 88.02%, which is below the 90% threshold commonly thought to represent genetic vigor. Gene diversity is projected to decline to ~56% over the next 100 years if the analytical population grows at its projected growth rate of 2.2% to a target size of 120 animals. Although rigorous genetic management could result in some improvements in the population's current gene diversity and Ne/N ratio, thereby marginally improving long-term gene diversity projections, additional imports of unrelated iguanas ultimately will be necessary to support long-term gene diversity maintenance given the species' short generation length (which hastens gene diversity loss). Particularly priority is being placed on breeding animals with low mean kinships (representative of under-represented founders) and the potential founder to support long-term gene diversity retention across the population. However, because genetic management must be balanced against demographic goals, some animals with higher mean kinships will still receive breeding recommendations to meet demographic goals. As with most AZA-managed programs, breeding recommendations also aim to limit inbreeding and minimize differences between sire and dam kinships.

At this time, the number of breeding recommendations is intended to grow the population to 75 animals over the next three years. Although the number of recommended breeding females may seem aggressive, breeding only occurred in four pairs at two facilities, compared to the eleven females that were recommended to breed at 6 facilities in the previous Breeding & Transfer plan (2019). Although this provided a demographic boost to the population, current management is focused on trying to breed a larger number of animals that each produce fewer offspring to support genetic management (by increasing the population's Ne/N ratio and improving long-term gene diversity retention).

This is a 3-year plan (2022-2025). Interim recommendations will continue to be made as needed until another full set of recommendations are produced. Please promptly report any hatches or deaths to the Program Coordinator, so that interim recommendations can be based on accurate population data. Recommendations contained in this plan supersede all previous recommendations.

Table 3: *Historic reproduction and future population goals.*

Current Reproductive Goals Summary		
	Number of Hatches Needed per Year over the next 3 Years	**Target Population Size**
To maintain current population size (λ = 1.00)	6 - 7	65
To grow to the RCP target population size in 30 years (Kt = 120; λ = 1.022)	8 - 9	120
Reproductive Goals Summary from the Last BTP (2019)		
Number of females recommended to breed	11	
Number of hatches since then (11/19/19 – 4/5/22)	14	
Average Number of Births/Hatches in the SSP Population		
Average number of hatches per year, from the past five years (range)	7.0 (1 – 18)	

At this time, the SSP:

1. **Recommends 11 females to breed at 9 facilities.** Two proven females remain paired with compatible mates, one existing pair that has not yet produced offspring has again been recommended to breed, and eight new breeding pairs will be established through these recommendations.

    - Each female is recommended to produce one successful clutch (with at least one offspring surviving >30 days) during the next three years.

    - One breeding facility (SANDIEGOZ) has been provided with a MateRx matrix for backup pairings.

2. **Recommends 17 transfers to meet institutional requests and establish new breeding pairs.** A total of 8 of the 17 transfers are recommendations to establish new breeding pairs. Ten of the 17 transfers are intended to place animals at new holding facilities. No facilities will be lost and eight facilities will gained as a result of these transfers.

Explanation of Recommendations Using MateR$_x$

Recommendations Using MateR$_x$: MateR$_x$ is analytical software developed jointly by the Lincoln Park Zoo and Smithsonian's National Zoo and Conservation Biology Institute. The primary output is a matrix of genetic ratings (Mate Suitability Indices = MSI) for possible breeding pairs.

Each MSI represents the genetic consequences for the population if a given pair was to produce offspring. There are seven values for MSIs varying in degree of genetic benefit or detriment to the genetic health of the population.

These MSI values are defined as:

MSI Value	*Genetic consequences*	*Demographic consequences*
1	very beneficial	ok to breed
2	moderately beneficial	ok to breed
3	slightly beneficial	ok to breed
4	slightly detrimental/beneficial	may be necessary to breed to maintain or increase population size
5	moderately detrimental	may be necessary to breed in declining populations
6	very detrimental	not to be bred without a consultation with a population biologist
—	extremely detrimental	not to be bred without a consultation with a population biologist

If MateRx setting have been modified by the population biologist, the interpretation of the MSI values may differ. Your population biologists may provide additional MateR$_x$ instructions, as MateR$_x$ values do not integrate a population's demographic goals or needs.

MateR$_x$ integrates four genetic factors to produce the Mate Suitability Index:

1. the expected change in genetic diversity (increase, decrease) that would result if an offspring of a pair is added to the population
2. the relative rareness or commonness of the parent's genome (i.e., the difference between the male and female mean kinships)
3. the inbreeding coefficient of offspring that would be produced by a pair
4. the proportion, if any, of the dam and sire's pedigree that is of unknown origin.

Additional information on reading, interpreting, using MateRx Matrices can be found at:
http://youtu.be/0YX-FdOCekI

Breeding and Transfer Recommendations by Facility

ATLANTA

Zoo Atlanta
Atlanta, GA

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
183	15R001	M	18	HOLD	ATLANTA	DO NOT BREED		excluded - age

AUDUBON

Audubon Zoo
New Orleans, LA

Facility notes: The SSP will gain this facility as a result of this transfer.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
261	303734	M	4	RECEIVE FROM	LOWRY	DO NOT BREED		

BISMARCK

Dakota Zoo
Bismarck, ND

Facility notes: The SSP will gain this facility as a result of this transfer.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
277	1001424	M	2	RECEIVE FROM	SANDIEGOZ	DO NOT BREED		

BUFFALO

Buffalo Zoo
Buffalo, NY

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
268	R21000	M	3	HOLD	BUFFALO	DO NOT BREED		

CHATTANOO

Tennessee Aquarium
Chattanooga, TN

Facility notes: The SSP will gain this facility as a result of this transfer.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
269	303811	M	3	RECEIVE FROM	LOWRY	DO NOT BREED		

CHICAGOBR

Brookfield Zoo
Brookfield, IL

Facility notes: This pair is recommended to produce one surviving clutch (at least one offspring surviving >30 days) over the next three years. After one clutch has been produced, please contact the SSP Coordinator BEFORE A SECOND CLUTCH IS LAID for a possible interim recommendation to continue breeding.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
235	6086	M	8	HOLD	CHICAGOBR	BREED WITH	256	
256	303735	F	4	HOLD	CHICAGOBR	BREED WITH	235	

CLEVELAND

Cleveland Metroparks Zoo
Cleveland, OH

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
156	M80904	M	22	HOLD	CLEVELAND	DO NOT BREED		excluded - age

DALLAS

Dallas Zoo
Dallas, TX

Facility notes: This pair is recommended to produce one surviving clutch (at least one offspring surviving >30 days) over the next three years. After one clutch has been produced, please contact the SSP Coordinator BEFORE A SECOND CLUTCH IS LAID for a possible interim recommendation to continue breeding.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
252	916383	M	6	RECEIVE FROM	SANDIEGOZ	BREED WITH	286	
285	20C247	M	1	SEND TO	SANDIEGOZ	SEE NOTES		
286	20C251	F	1	HOLD	DALLAS	BREED WITH	252	

DENVER

Denver Zoo
Denver, CO

Facility Notes: The SSP has noted your facility's desire to receive a female to breed with your male. Due to the shortage of females in the population and M262's over-representation, the SSP is unable to provide any animals at this time. A breeding recommendation may be given in a future plan when a suitable animal becomes available.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
262	303739	M	4	HOLD	DENVER	DO NOT BREED		

DETROIT

Detroit Zoological Society
Royal Oak, MI

Facility notes: The SSP will gain this facility as a result of this transfer.

This pair is recommended to produce one surviving clutch (at least one offspring surviving >30 days) over the next three years. After one clutch has been produced, please contact the SSP Coordinator BEFORE A SECOND CLUTCH IS LAID for a possible interim recommendation to continue breeding.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
258	303737	F	4	RECEIVE FROM	LOWRY	BREED WITH	276	
276	1001350	M	2	RECEIVE FROM	SANDIEGOZ	BREED WITH	258	

EVANSVLLE

Mesker Park Zoo
Evansville, IL

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
161	317001	M	21	HOLD	EVANSVLLE	DO NOT BREED		excluded - age

FORTWORTH

Fort Worth Zoo
Ft Worth, TX

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
216	211912	M	13	HOLD	FORTWORTH	DO NOT BREED		
224	UNDETERMINED	F	11	HOLD	FORTWORTH	DO NOT BREED		

FRESNO

Fresno Chaffee Zoo
Fresno, CA

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
182	290056	M	16	HOLD	FRESNO	DO NOT BREED		excluded - age
249	916098	F	5	RECEIVE FROM	SANDIEGOZ	DO NOT BREED		

HONOLULU

Honolulu Zoo
Honolulu, HI

Facility notes: The SSP will gain this facility as a result of this transfer.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
265	303790	M	3	RECEIVE FROM	LOWRY	DO NOT BREED		

HOUSTON

Houston Zoo, Inc.
Houston, TX

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
104	15518	M	27	HOLD	HOUSTON	DO NOT BREED		excluded - age
199	22910	F	17	HOLD	HOUSTON	DO NOT BREED		
209	28420	M	13	HOLD	HOUSTON	DO NOT BREED		

KNOXVILLE

Zoo Knoxville
Knoxville, TN

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
267	303792	M	3	HOLD	KNOXVILLE	DO NOT BREED		

LOSANGELE

Los Angeles Zoo
Los Angeles, CA

Facility notes: The SSP will gain this facility as a result of this transfer.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
242	915093	M	6	RECEIVE FROM	SANDIEGOZ	BREED WITH	263	
263	303788	F	3	RECEIVE FROM	LOWRY	BREED WITH	242	

LOWRY

Tampa's Lowry Park Zoo
Tampa, FL

Facility notes: F264 is recommended to breed with unrelated male M239. This pair is recommended to produce one surviving clutch (at least one offspring surviving >30 days) over the next three years. After one clutch has been produced, please contact the SSP Coordinator BEFORE A SECOND CLUTCH IS LAID for a possible interim recommendation to continue breeding.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
239	913464	M	8	RECEIVE FROM	SANDIEGOZ	BREED WITH	264	
257	303738	M	4	SEND TO	SEDGWICK	DO NOT BREED		
258	303737	F	4	SEND TO	DETROIT	BREED WITH	276	
261	303734	M	4	SEND TO	AUDUBON	DO NOT BREED		
263	303788	F	3	SEND TO	LOSANGELE	BREED WITH	242	
264	303789	F	3	HOLD	LOWRY	BREED WITH	239	
265	303790	M	3	SEND TO	HONOLULU	DO NOT BREED		
269	303811	M	3	SEND TO	CHATTANOO	DO NOT BREED		

NORFOLK

Virginia Zoological Park
Norfolk, VA

Facility notes: This pair is recommended to produce one surviving clutch (at least one offspring surviving >30 days) over the next three years. After one clutch has been produced, please contact the SSP Coordinator BEFORE A SECOND CLUTCH IS LAID for a possible interim recommendation to continue breeding.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
222	217198	M	12	HOLD	NORFOLK	BREED WITH	273	
273	1000031	F	3	RECEIVE FROM	SANDIEGOZ	BREED WITH	222	

NZP-WASH

Smithsonian National Zoological Park
Washington, DC

Facility notes: This pair is recommended to produce one surviving clutch (at least one offspring surviving >30 days) over the next three years. After one clutch has been produced, please contact the SSP Coordinator BEFORE A SECOND CLUTCH IS LAID for a possible interim recommendation to continue breeding.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
212	307298	F	13	HOLD	NZP-WASH	BREED WITH	221	
221	307492	M	12	HOLD	NZP-WASH	BREED WITH	212	

OKLAHOMA

Oklahoma City Zoo
Oklahoma City, OK

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
266	303791	M	3	HOLD	OKLAHOMA	DO NOT BREED		

SAN ANTON

San Antonio Zoo
San Antonio, TX

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
260	B20008	M	4	HOLD	SAN ANTON	DO NOT BREED		

SANDIEGOZ

San Diego Zoo
San Diego, CA

Facility notes: Four females are recommended for breeding. Each breeding female is recommended to produce one surviving clutch (at least one offspring surviving >30 days) over the next three years. After one clutch has been produced, please contact the SSP Coordinator BEFORE A SECOND CLUTCH IS LAID for a possible interim recommendation to continue breeding.

Pairs recommended for breeding (in priority order):

M275 x F230 (male is potential founder)
M219 x F241
M225 x F227 (both living founders)
M237 x F232

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
180	903031	F	19	HOLD	SANDIEGOZ	DO NOT BREED		excluded - age
219	16554	M	12	RECEIVE FROM	TULSA	BREED WITH	241	
225	907105	M	16	HOLD	SANDIEGOZ	BREED WITH	227	founder
227	907107	F	16	HOLD	SANDIEGOZ	BREED WITH	225	founder
230	907581	F	14	HOLD	SANDIEGOZ	BREED WITH	275	
232	911032	F	11	HOLD	SANDIEGOZ	BREED WITH	237	
236	913268	M	8	HOLD	SANDIEGOZ	SEE NOTES		
237	913270	M	8	HOLD	SANDIEGOZ	BREED WITH	232	
239	913464	M	8	SEND TO	LOWRY	BREED WITH	264	
240	913465	F	8	HOLD	SANDIEGOZ	DO NOT BREED		excluded - medical
241	915092	F	6	HOLD	SANDIEGOZ	BREED WITH	219	
242	915093	M	6	SEND TO	LOSANGELE	BREED WITH	263	
243	915094	M	6	HOLD	SANDIEGOZ	SEE NOTES		
246	916380	M	6	HOLD	SANDIEGOZ	SEE NOTES		
247	916382	M	6	HOLD	SANDIEGOZ	SEE NOTES		
249	916098	F	5	SEND TO	FRESNO	DO NOT BREED		
250	916099	F	5	HOLD	SANDIEGOZ	SEE NOTES		
251	916097	M	5	SEND TO	TULSA	DO NOT BREED		
252	916383	M	6	SEND TO	DALLAS	BREED WITH	286	
273	1000031	F	3	SEND TO	NORFOLK	BREED WITH	222	
274	1000366	M	2	HOLD	SANDIEGOZ	SEE NOTES		
275	918030	M	7	HOLD	SANDIEGOZ	BREED WITH	230	potential founder
276	1001350	M	2	SEND TO	DETROIT	BREED WITH	258	
277	1001424	M	2	SEND TO	BISMARCK	DO NOT BREED		
278	1001427	F	2	HOLD	SANDIEGOZ	SEE NOTES		
279	1001426	M	2	SEND TO	SYRACUSE	DO NOT BREED		
280	1001506	F	2	HOLD	SANDIEGOZ	SEE NOTES		
281	1001736	M	1	HOLD	SANDIEGOZ	SEE NOTES		
282	1001739	F	1	HOLD	SANDIEGOZ	SEE NOTES		
283	1001800	M	1	HOLD	SANDIEGOZ	SEE NOTES		
284	1001910	M	1	HOLD	SANDIEGOZ	SEE NOTES		
285	20C247	M	1	RECEIVE FROM	DALLAS	SEE NOTES		
288	1001881	F	0	HOLD	SANDIEGOZ	SEE NOTES		juvenile
289	1001896	F	0	HOLD	SANDIEGOZ	SEE NOTES		juvenile
290	1001873	M	1	HOLD	SANDIEGOZ	SEE NOTES		

SANDIEGOZ continued…

A MateRx matrix has been provided for alternate backup options. Please prioritize breeding pairs with MateRx values of 1, 2, or 3. These pairs are each recommended to produce one surviving clutch a year; please contact the SSP Coordinator for a possible second breeding recommendation before attempting to breed the same pair for the second time. Pairings with MateRx values of 5, 6, or "—" are not recommended and should be discouraged by managers.

UniqueID	Females >	SANDIEGOZ 227	SANDIEGOZ 230	SANDIEGOZ 232	SANDIEGOZ 241	SANDIEGOZ 249	SANDIEGOZ 250	SANDIEGOZ 273	SANDIEGOZ 278	SANDIEGOZ 280	SANDIEGOZ 282	SANDIEGOZ 288	SANDIEGOZ 289
Males V	Location												
219	TULSA	1	3	3	2	4	4	2	3	3	2	1	1
225	SANDIEGOZ	2	3	3	-	4	4	-	-	-	-	-	-
236	SANDIEGOZ	-	4	3	-	4	4	-	-	-	-	-	-
237	SANDIEGOZ	-	3	3	-	4	4	-	-	-	-	-	-
239	SANDIEGOZ	-	3	3	-	4	4	-	-	-	-	-	-
242	SANDIEGOZ	-	3	3	-	4	4	-	-	-	-	-	-
243	SANDIEGOZ	-	3	3	-	4	4	-	-	-	-	-	-
246	SANDIEGOZ	2	4	-	2	-	-	2	4	4	2	3	3
247	SANDIEGOZ	2	4	-	2	-	-	2	4	4	2	3	3
251	SANDIEGOZ	4	6	-	4	-	-	4	-	-	4	6	6
252	SANDIEGOZ	2	4	-	2	-	-	2	4	4	2	3	3
274	SANDIEGOZ	-	3	3	-	4	4	-	-	-	-	-	-
275 PF	SANDIEGOZ	2	1	3.5	2	3.5	3.5	2	3.5	3.5	2	1	1
276	SANDIEGOZ	-	3	3	-	4	4	-	-	-	-	-	-
277	SANDIEGOZ	-	6	4	-	-	-	-	-	-	-	4	4
279	SANDIEGOZ	-	6	4	-	-	-	-	-	-	-	4	4
281	SANDIEGOZ	-	3	3	-	4	4	-	-	-	-	-	-
283	SANDIEGOZ	-	3	3	-	4	4	-	-	-	-	-	-
284	SANDIEGOZ	-	6	4	-	-	-	-	-	-	-	4	4
285	DALLAS	-	4	2	-	4	4	-	4	4	-	3	3
290	SANDIEGOZ	-	-	3	-	4	4	-	4	4	-	-	-
208	TOLEDO	3	6	-	3	-	-	3	4	4	3	3	3

SEDGWICK

Sedgwick County Zoo
Wichita, KS

Facility notes: The SSP will gain this facility as a result of this transfer.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
257	303738	M	4	RECEIVE FROM	LOWRY	DO NOT BREED		

SYRACUSE

Rosamond Gifford Zoo at Burnet Park
Syracuse, NY

Facility notes: The SSP will gain this facility as a result of this transfer.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
279	1001426	M	2	RECEIVE FROM	SANDIEGOZ	DO NOT BREED		

TOLDEO

Toledo Zoological Gardens
Toledo, OH

Facility Notes: The SSP has noted your facility's desire to receive a female to breed with your male. Due to the shortage of females in the population, the SSP is unable to provide any animals at this time. A breeding recommendation may be given in a future plan when a suitable animal becomes available.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
208	7795	M	13	HOLD	TOLEDO	DO NOT BREED		

TORONTO

Toronto Zoo
Toronto, Ontario, Canada

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
291	50589	M	7	HOLD	TORONTO	DO NOT BREED		excluded – unknown pedigree
292	51681	F	8	HOLD	TORONTO	DO NOT BREED		excluded – unknown pedigree

TULSA

Tulsa Zoo
Tulsa, OK

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
219	16554	M	12	SEND TO	SANDIEGOZ	BREED WITH	241	
251	916097	M	5	RECEIVE FROM	SANDIEGOZ	DO NOT BREED		

Appendices

A. Analytical Assumptions

No assumptions were used for these analyses.

B. Summary of Data Exports

Studbook Name	Fijian Banded Iguana
Studbook Currentness Date	3/22/22
Studbook Software and version #	ZIMS for Studbooks v 3.0
Overlay Name (if applicable)	N/A
PMx version #	1.6.5.20220325
.fed file	N/A
Descriptive Survival Statistics Report	Report is archived with PMC/AZA and Median Life Expectancy can be viewed here: https://www.aza.org/species-survival-statistics

PMx Project: IguanaFijiBanded_SSP_2022Mar25
Created: 2022-03-25

Studbook information:
Data compiled by: Kim Gray
Scope of data: AZA Regional

Primary data file:
zims.zims
Filter conditions:
Dates: 1988-01-01 to 2022-03-22
Association: AZA

Moves data files:
genetic.csv
demographic.csv
Filter conditions:
Dates: 1988-01-01 to 2022-03-22
Association: AZA

Census data file:
Exchcens.txt
Filter conditions:
Dates: annual census taken on 12/31
Association: AZA

PMx Analysis Notes: F245 was removed from demographic and genetic analyses directly in the PMx project due to her recent death.

MateRx Settings:
F Break Point: UseAverageMK
Genetic Value Type: Mean Kinship
MK Diff Method: AbsoluteDiffs
For Unknown Sexes: ExcludeUnknowns
MSI Method: Tulsa
F: Breakpoint = 0.1198, No Way Point = 0.125
GVDiff: Breakpoint = 0.70, No Way Point = 1.00

There are 3 hatches to parents with unknown ages that have been added in proportion to known aged parents. This is 1% of TOTAL hatches (N=237).

Sustainability Partners: none

C. Animals Excluded from Genetic Analyses

ID	Location	Sex	Age	Reason for Exclusion
104	HOUSTON	M	27	age
156	CLEVELAND	M	22	age
161	EVANSVLLE	M	21	age
180	SANDIEGOZ	F	19	age
182	FRESNO	M	18	age
183	ATLANTA	M	18	age
240	SANDIEGOZ	F	8	medical
291	TORONTO	M	7	unknown pedigree
292	TORONTO	F	8	unknown pedigree

D. Life Tables

Px = survival; Qx = mortality; Lx = cumulative survivorship; Mx = fecundity; Ex = life expectancy; Vx = expected future reproduction,
At Risk (Qx and Mx) = number of animals corresponding values are estimated from.

Ex not calculated because oldest male in demographic selection (SB# 104) is still living.
Qx for age class 27 changed to 1.0 for all analyses, with no notable impact.

MALES											
Age	Px	Mid Px	Qx	Risk Qx	Lx	Mid Lx	Mx	Risk Mx	Ex	Vx	Cx
0	0.827	0.892	0.173	101.367	1.000	0.914	0.000	101.367	---	1.095	0.089
1	0.970	0.980	0.030	99.511	0.827	0.815	0.005	99.511	---	1.259	0.078
2	0.989	0.981	0.011	93.612	0.802	0.798	0.037	93.613	---	1.313	0.074
3	0.972	0.986	0.028	88.130	0.794	0.783	0.178	88.133	---	1.335	0.071
4	1.000	0.982	0.000	82.159	0.772	0.772	0.129	82.161	---	1.203	0.068
5	0.964	0.956	0.036	81.310	0.772	0.758	0.189	81.313	---	1.122	0.065
6	0.948	0.966	0.052	74.688	0.744	0.724	0.157	74.689	---	1.001	0.061
7	0.986	0.985	0.014	68.953	0.705	0.700	0.139	68.955	---	0.896	0.057
8	0.985	0.945	0.015	65.786	0.695	0.690	0.234	65.791	---	0.788	0.055
9	0.905	0.925	0.095	60.156	0.685	0.652	0.203	60.162	---	0.602	0.051
10	0.947	0.937	0.053	54.847	0.620	0.603	0.110	54.849	---	0.443	0.046
11	0.926	0.921	0.074	51.671	0.587	0.565	0.058	51.673	---	0.364	0.042
12	0.915	0.944	0.085	45.652	0.544	0.520	0.098	45.655	---	0.341	0.037
13	0.976	0.963	0.024	41.786	0.497	0.491	0.037	41.787	---	0.264	0.034
14	0.949	0.921	0.051	38.022	0.485	0.473	0.080	38.027	---	0.242	0.032
15	0.892	0.871	0.108	35.214	0.461	0.436	0.102	35.215	---	0.180	0.029
16	0.847	0.781	0.153	29.844	0.411	0.379	0.092	29.845	---	0.092	0.025
17	0.704	0.783	0.296	24.277	0.348	0.297	0.000	24.278	---	0.000	0.019
18	0.895	0.913	0.105	18.888	0.245	0.232	0.000	18.888	---	0.000	0.014
19	0.933	0.931	0.067	14.721	0.219	0.212	0.000	14.721	---	0.000	0.013
20	0.929	0.802	0.071	13.216	0.205	0.197	0.000	13.216	---	0.000	0.012
21	0.667	0.743	0.333	10.663	0.190	0.158	0.000	10.663	---	0.000	0.009
22	0.857	0.692	0.143	6.463	0.127	0.118	0.000	6.463	---	0.000	0.007
23	0.500	0.667	0.500	4.414	0.109	0.081	0.000	4.414	---	0.000	0.004
24	1.000	0.833	0.000	3.000	0.054	0.054	0.000	3.000	---	0.000	0.003
25	0.667	0.600	0.333	2.507	0.054	0.045	0.000	2.507	---	0.000	0.002
26	0.500	0.667	0.500	1.384	0.036	0.027	0.000	1.384	---	0.000	0.001

FEMALES											
Age	Px	Mid Px	Qx	Risk Qx	Lx	Mid Lx	Mx	Risk Mx	Ex	Vx	Cx
0	0.905	0.908	0.095	105.022	1.000	0.952	0.000	105.022	7.829	1.050	0.139
1	0.912	0.929	0.088	97.473	0.905	0.865	0.021	97.473	7.518	1.175	0.124
2	0.947	0.917	0.053	93.160	0.825	0.803	0.080	93.160	7.018	1.263	0.113
3	0.884	0.897	0.116	85.026	0.782	0.737	0.194	85.026	6.565	1.311	0.102
4	0.910	0.886	0.090	74.384	0.691	0.660	0.250	74.384	6.207	1.267	0.090
5	0.859	0.869	0.141	65.504	0.629	0.585	0.215	65.504	5.878	1.166	0.078
6	0.881	0.871	0.119	53.904	0.541	0.508	0.353	53.904	5.612	1.113	0.067
7	0.860	0.827	0.140	45.734	0.476	0.443	0.460	45.734	5.293	0.886	0.057
8	0.789	0.802	0.211	38.611	0.410	0.366	0.133	38.611	5.189	0.524	0.047
9	0.818	0.833	0.182	30.633	0.323	0.294	0.241	30.633	5.224	0.496	0.037
10	0.852	0.811	0.148	24.948	0.265	0.245	0.061	24.948	5.069	0.310	0.030
11	0.764	0.839	0.236	20.153	0.225	0.199	0.050	20.153	5.015	0.312	0.024
12	0.938	0.864	0.063	15.926	0.172	0.167	0.031	15.926	4.786	0.318	0.020
13	0.786	0.880	0.214	12.732	0.161	0.144	0.164	12.732	4.382	0.337	0.017
14	1.000	0.900	0.000	10.268	0.127	0.127	0.200	10.268	3.843	0.200	0.015
15	0.800	0.825	0.200	8.521	0.127	0.114	0.000	8.521	3.159	0.000	0.013
16	0.857	0.654	0.143	7.658	0.101	0.094	0.000	7.658	2.615	0.000	0.011
17	0.417	0.588	0.583	3.000	0.087	0.062	0.000	3.000	2.471	0.000	0.007
18	1.000	1.000	0.000	2.000	0.036	0.036	0.000	2.000	2.500	0.000	0.004
19	1.000	0.500	0.000	1.066	0.036	0.036	0.000	1.066	1.500	0.000	0.004
20	0.000	0.000	1.000	0.833	0.036	0.018	0.000	0.833	1.000	0.000	0.002

E. Ordered Mean Kinship List

These lists are current to June 2022 and values are subject to change with any birth/hatch, death, import, export, inclusion, exclusion, or changes in pedigree or pedigree assumptions. Unknown sexed animals appear on both the male and female side of the mean kinship list and are designated by a 'U' after the studbook ID.

Population MK = 0.1198

Males

ID	MK	Known	Age	Location
275	0.0000	100	7	SANDIEGOZ
290	0.0649	100	1	SANDIEGOZ
219	0.0762	100	12	TULSA
222	0.0762	100	12	NORFOLK
221	0.0833	100	12	NZP-WASH
225	0.0849	100	16	SANDIEGOZ
235	0.0896	100	8	CHICAGOBR
237	0.0896	100	8	SANDIEGOZ
239	0.0896	100	8	SANDIEGOZ
242	0.0896	100	6	SANDIEGOZ
243	0.0896	100	6	SANDIEGOZ
274	0.0896	100	2	SANDIEGOZ
276	0.0896	100	2	SANDIEGOZ
281	0.0896	100	1	SANDIEGOZ
283	0.0896	100	1	SANDIEGOZ
236	0.0967	100	8	SANDIEGOZ
246	0.1048	100	6	SANDIEGOZ
247	0.1048	100	6	SANDIEGOZ
252	0.1048	100	6	SANDIEGOZ
285	0.1052	100	1	DALLAS
209	0.1222	100	13	HOUSTON
208	0.1243	100	13	TOLEDO
277	0.1392	100	2	SANDIEGOZ
279	0.1392	100	2	SANDIEGOZ
284	0.1392	100	1	SANDIEGOZ
216	0.1536	100	13	FORTWORTH
257	0.1618	100	4	LOWRY
260	0.1618	100	4	SAN ANTON
261	0.1618	100	4	LOWRY
262	0.1618	100	4	DENVER
265	0.1618	100	3	LOWRY
266	0.1618	100	3	OKLAHOMA
267	0.1618	100	3	KNOXVILLE
268	0.1618	100	3	BUFFALO
269	0.1618	100	3	LOWRY
251	0.1728	100	5	SANDIEGOZ

Females

ID	MK	Known	Age	Location
230	0.0236	100	14	SANDIEGOZ
288	0.0649	100	0	SANDIEGOZ
289	0.0649	100	0	SANDIEGOZ
227	0.0849	100	16	SANDIEGOZ
241	0.0896	100	6	SANDIEGOZ
273	0.0896	100	3	SANDIEGOZ
282	0.0896	100	1	SANDIEGOZ
199	0.1014	100	17	HOUSTON
286	0.1052	100	1	DALLAS
212	0.1182	100	13	NZP-WASH
232	0.1210	100	11	SANDIEGOZ
278	0.1392	100	2	SANDIEGOZ
280	0.1392	100	2	SANDIEGOZ
224	0.1612	100	11	FORTWORTH
249	0.1618	100	5	SANDIEGOZ
250	0.1618	100	5	SANDIEGOZ
256	0.1618	100	4	CHICAGOBR
258	0.1618	100	4	LOWRY
263	0.1618	100	3	LOWRY
264	0.1618	100	3	LOWRY

F. Definitions

Management Terms (as of December 2021)

Green Species Survival Plan® (Green SSP) Program – A Green SSP Program has a population size of 50 or more animals and is projected to retain 90% gene diversity for a minimum of 100 years or 10 generations. Green SSP Programs are subject to AZA's Full Participation and Sustainability Partner Policies.

Yellow Species Survival Plan® (Yellow SSP) Program – A Yellow SSP Program has a population size of 50 or more animals but cannot retain 90% gene diversity for 100 years or 10 generations. Yellow SSP participation by AZA facilities is voluntary. Yellow SSP Programs are subject to AZA's Sustainability Partner Policy.

Red Species Survival Plan® (Red SSP) Program – A Red SSP Program has a population size of twenty or more animals managed among three or more participating AZA facilities. If a population does not meet these minimum criteria, but has an IUCN designation of Critically Endangered, Endangered, or Extinct in the Wild, and the TAG has developed three goals to sustain this population, then the population will be considered a Red SSP Program. Red SSPs cannot retain 90% gene diversity for 100 years or 10 generations and participation by AZA facilities is voluntary. Red SSP Programs are subject to AZA's Sustainability Partner Policy.

Candidate Program – A Candidate Program either has a population size of fewer than twenty individuals and/or found at fewer than three AZA facilities or it does not yet have a completed studbook so the population size is unclear. A Candidate Program is overseen by the TAG, with no additional AZA accountability requirements.

Sustainability Partners – AZA Animal Population Management (APM) Committee approved wildlife facilities that regularly exchange animals with AZA-accredited facilities and certified related facilities, typically as part of the Species Survival Plan® (SSP) Program Breeding and Transfer Plan or other SSP Program management process.

Full Participation – AZA policy stating that all AZA accredited facilities and certified related facilities having a Green SSP animal in their collection are required to participate in the collaborative SSP planning process (e.g., provide relevant animal data to the AZA Studbook Keeper, assign an Institutional Representative who will communicate facility wants and needs to the SSP Coordinator and comment on the draft plan during the 30-day review period, and abide by the recommendations agreed upon in the final plan).

All AZA member facilities and Animal Programs, regardless of management designation, must adhere to the AZA Policy on Responsible Population Management and the AZA Code of Professional Ethics. For more information on AZA policies, see https://www.aza.org/board-approved-policies-and-position-statements.

Currentness Date – The date when the entire studbook is updated. This equates to the first date you received an update after requesting updates from all the facilities included in your studbook.

Demographic Terms

Age Distribution – A visual representation of the numbers or percentages of individuals in various age and sex classes.

Ex, Life Expectancy – The average years of further life for an animal in age class x.

Lambda (λ) or Population Growth Rate – The proportional change in population size from one year to the next. A lambda of 1.11 means an 11% per year increase; a lambda of 0.97 means a 3% decline in size per year. The three lambdas highlighted in this BTP are: 1) Life Table, from the PMx life tables, the change in the population based on the demographic regional and date window exported from the studbook, the life table lambda is the rate at which the population would be expected to grow (in the future) given the birth and death rates reported in the life tables and assuming a stable age distribution (does NOT factor in imports or exports); 2) 5-year, from the studbook census, the 5-year lambda is calculated from observed changes in population size over the last 5 years and includes births, deaths, imports and exports; and 3) Projected, from the PMx stochastic 20-year projections (includes confidence intervals), models how the population is predicted to grow or decline over the next 20 years given the birth and death rates from the life tables and the age structure of the current population.

lx, Age-Specific Survivorship – The probability that a new individual (e.g., age 0) is alive at the *beginning* of age *x*. Alternatively, the proportion of individuals which survive from birth to the beginning of a specific age class.

Mean Generation Time (T) – The average time elapsing from reproduction in one generation to the time the next generation reproduces. Also, the average age at which a female (or male) produces offspring. It is not the age of first reproduction. Males and females often have different generation times.

Median Life Expectancy (MLE) – The 'typical' age at which an average animal is expected to live; 50% will die before the median life expectancy and 50% die after. The MLE reported in Breeding and Transfer Plans (BTPs) and Survival Stats Reports, does excludes individuals that did not survive to their first birthday. The MLE obtained from population management software (PM2000, PMx, ZooRisk) or from life tables in BTPs (e.g., where Lx = 0.5) will be lower because they include those individuals that did not survive to their first birthday in order to project the correct number of births needed. A Survival Statistics Library is maintained for most AZA Animal Programs on the AZA website: https://www.aza.org/species-survival-statistics.

Maximum Longevity – The maximum age at which we have observed a species to live. If the oldest observed animal is currently living, we do not yet know the maximum longevity.

Mx, Fecundity – The average number of same-sexed offspring born to animals in that age class. Because studbooks typically have relatively small sample sizes, studbook software calculates Mx as 1/2 the average number of offspring born to animals in that age class. This provides a somewhat less "noisy" estimate of Mx, though it does not allow for unusual sex ratios. The fecundity rates provide information on the age of first, last, and maximum reproduction.

Px, Age-Specific Survival – The probability that an individual of age *x* survives an age class; is conditional on an individual being alive at the beginning of the age class. Alternatively, the proportion of individuals that survive from the beginning of one age class to the next.

Qx, Mortality – The probability that an individual of age *x* dies during an age class (Qx = 1-Px). Alternatively, the proportion of individuals that die during an age class. It is calculated from the number of animals that die during an age class divided by the number of animals that were alive at the beginning of the age class (i.e., "at risk").

Risk (Qx or Mx) – The number of individuals that have lived during an age class. The number “at risk” is used to calculate Mx and Qx by dividing the number of births and deaths that occurred during an age class by the number of animals at risk of dying and reproducing during that age class.

Target Population Size (TPS) – The desired number of SSP animals to be held across AZA and approved partner facilities over a specific, stated timeframe. This number is determined with consideration for program roles and goals (genetic, demographic, and others), logistical constraints, spatial competition with other TAG-managed species, and other population-specific concerns. Target Population Size is determined by the Taxon Advisory Group (TAG) and published in their Regional Collection Plan (RCP).

Vx, **Reproductive Value –** The expected number of offspring produced this year and in future years by an animal of age *x*.

Genetic Terms

Allele – Alternate forms of DNA at a particular position in a genome (genetic locus). Alleles represent the most basic form of genetic diversity.

Gene Diversity (GD) – The probability that two alleles randomly sampled from the same genetic locus across a population are not identical by descent. Gene diversity is calculated relative to a population’s founders, which are assumed to be unrelated and not inbred, and is the proportional diversity retained by the current, descendant population.

Effective Population Size (N_e) – The size of a randomly mating population of constant size with equal sex ratio and a Poisson distribution of family sizes that would (a) result in the same mean rate of inbreeding as that observed in the population, or (b) would result in the same rate of random change in allele frequencies (genetic drift) as observed in the population. These two definitions are identical only if the population is demographically stable (because the rate of inbreeding depends on the distribution of alleles in the parental generation, whereas the rate of allele frequency drift is measured in the current generation). More specifically, PMx software uses the definition as the size of the current population that have produced offspring, assuming that there are current breeders, that these current breeders have a Poisson distribution of family sizes, that none of the current breeders are now post-reproductive, and none of the not-yet-breeding adults will breed.

Founder – An individual obtained from a source population (often the wild) that has no known relationship to any individuals in the derived population (except for its own descendants).

Founder Genome Equivalents (FGE) – The number of wild-caught individuals (founders) that represent the same amount of gene diversity as does the population under study. The gene diversity of a population is 1 - 1 / (2 * FGE).

Founder Representation – The proportion of the alleles in the living, descendant population that are derived from that founder.

Inbreeding Coefficient (F) – The probability that the two alleles present at an individual’s genetic locus are identical by descent (i.e., both alleles originated from an ancestor common to both the individual’s parents).

Mean Kinship (MK) – The mean (or average) kinship coefficient between an animal and all animals (including itself) in the living, captive-born population. An individual’s mean kinship is a measure of how well its alleles are represented within a population. Animals with low mean kinships have few relatives, are from under-represented founder lineages, and have transmitted few of their alleles to the next generation; these individuals should be prioritized for breeding to slow a population’s gene diversity loss.

Percent Known – The percentage of an animal's genome that is traceable to known founders. Thus, if an animal has an UNK sire, its % Known = 50. If it has an UNK grandparent, its % Known = 75.

Percent Certain – The percentage of the living individuals’ pedigree that can be completely identified as *certain:* (exact identity of both parents is known) and traceable back to known founders. Individuals that are 100% *certain* do not have any MULTs or UNKs in their pedigree. *Certainty* represents a higher degree of knowledge than *Known* and therefore is always less than or equal to *Known.*

G. AZA Animal Population Management (APM) Committee Disclaimers

as of June 2019

This Animal Program is currently a Yellow SSP and recommendations proposed are non-binding – participation is voluntary. Transfers to non-AZA facilities must comply with each facility's acquisition/transfer policy, in accordance with the AZA Policy on Responsible Population Management. APM Committee-approved Sustainability Partners are expected to agree and abide by AZA's Code of Professional Ethics, SSP Full Participation Policy, Policy on Responsible Population Management, and Accreditation Standards related to animal care and welfare.

H. Directory of Institutional Representatives

Contact Name (IR or Advisor)	Mnemonic – Facility Name	Email Address	Phone
Robert Hill	ATLANTA Zoo Atlanta	rhill@zooatlanta.org	
Ann Meyer	AUDUBON Audubon Zoo	ameyer@auduboninstitute.org	
Allison Malkowski	BISMARCK Dakota Zoo	asdirect@dakotazoo.org	
Lisa Smith	BUFFALO Buffalo Zoo	lsmith@buffalozoo.org	
William Hughes	CHATTANOO Tennessee Aquarium	bhh@tnaqua.org	
Tim Snider	CHICAGOBR Brookfield Zoo	tim.snider@czs.org	
Tad Schoffner	CLEVELAND Cleveland Metroparks Zoo	tad@clevelandmetroparks.com	216-661-6500 x3332
Thomas Owens	DALLAS Dallas Zoo	tommy.owens@dallaszoo.com	
Thomas Weaver	DENVER Denver Zoo	tweaver@denverzoo.org	
Jeff Jundt	DETROIT Detroit Zoological Society	jjundt@dzs.org	
Erik Beck	EVANSVLLE Mesker Park Zoo	ebeck@meskerparkzoo.com	
Diane Barber	FORTWORTH Fort Worth Zoo	dbarber@fortworthzoo.org	817-759-7180
Mark Halvorsen	FRESNO Fresno Chaffee Zoo	mhalvorsen@fresnochaffeezoo.org	559-492-4438
Laura Debnar	HONOLULU Honolulu Zoo	ldebnar@honolulu.gov	808-768-7161
Joann Watson	HOUSTON Houston Zoo, Inc.	jwatson@houstonzoo.org	
Phil Colclough	KNOXVILLE Zoo Knoxville	pcolclough@zooknoxville.org	
Ian Recchio	LOSANGELE Los Angeles Zoo	Ian.recchio@lacity.org	
Dan Costell	LOWRY Tampa's Lowry Park Zoo	dan.costell@zootampa.org	813-935-8552 x258
Dennis McNamara	NORFOLK Virginia Zoological Park	dennis.mcnamara@norfolk.gov	757-576-6262
Matt Evans	NZP-WASH Smithsonian National Zoological Park	evansmj@si.edu	202-633-3252
Seamus Ehrhard	OKLAHOMA Oklahoma City Zoo	sehrhard@okczoo.org	
Craig Pelke	SAN ANTON San Antonio Zoo	craig.pelke@sazoo.org	210-734-7184 x1340
Kim Gray - SSP Coordinator	SANDIEGOZ San Diego Zoo	kgray@sdzwa.org	619-557-3984
Nate Nelson	SEDGWICK Sedgwick County Zoo	Nate.Nelson@scz.org	
Daniel Meates	SYRACUSE Rosamond Gifford Zoo at Burnet Park	danmeates@ongov.net	
John Chastain	TOLEDO Toledo Zoological Gardens	john.chastain@toledozoo.org	
Rick Vos	TORONTO Toronto Zoo	rvos@torontozoo.ca	
Erik Kalen	TULSA Tulsa Zoo	ekalen@tulsazoo.org	918-669-6535

Fiji Banded Iguana (B*rachylophus bulabula*) AZA Animal Program Population Viability Analysis Report

Population Biologist
Brent Johnson,
bjohnson@lpzoo.org

AZA Animal Program Leader & Regional Studbook Keeper
Kim Lovich,
klovich@sandiegozoo.org

AZA Lizard TAG Chair
Brian Aucone,
baucone@denverzoo.org

May 21st, 2015

Population Viability Analyses (PVAs) for AZA Animal Programs

Lincoln Park Zoo | PMC Population Management Center | Association of Zoos & Aquariums | Institute of Museum and Library Services

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Population Viability Analyses (PVA) are being conducted by Lincoln Park Zoo and Population Management Center researchers through funding from the Institute of Museum and Library Services (IMLS). The project team uses ZooRisk 3.80 (Earnhardt et al. 2008), a PVA modeling software, to examine what would happen to AZA populations if current conditions remain the same (the baseline scenario), and then assess the impact of changes in reproductive rates, space availability, imports/exports, or other potential management actions (alternate scenarios). Model scenarios for this population were developed with members of the Association of Zoos and Aquarium (AZA) Lizard Taxon Advisory Group (TAG) during winter of 2015.

POPULATION HISTORY/CURRENT STATUS

Fiji banded iguanas (*Brachylophus bulabula*) have been consistently held in AZA institutions since 1973. Through a combination of zoo hatches and infrequent importation from outside of the AZA population, the population grew to approximately 70 individuals in 1995 and remained near that size until 2011. Breeding was limited during the next two years due to changes in program leadership and investigation of the ancestry of potential *Brachylophus bulabula* x *B. fasciatus* hybrid individuals. Currently, the Fiji banded iguana population includes 53 individuals held among 18 institutions. Over the past 10 years, the population averaged 3.8 hatches (or 4.5 hatches if excluding years with intentionally limited breeding) and 0.4 imports (via confiscations) per year. The population's gene diversity is 90.45% and its inbreeding is above the equivalent of mating between first cousins (average inbreeding coefficient [F] of 0.065).

PROGRAM CHALLENGES

One institution holds 43% of the current potential breeding population but has produced all 38 hatches within the past decade. Purposefully focusing breeding efforts at a single institution may be a valuable management strategy for developing optimal husbandry practices and increasing hatch rates. However, doing so may also make a population more vulnerable to catastrophic events, such as disease outbreaks or natural disasters. Another potential challenge for this population is difficulty in importing new individuals. Because of the species' endangered status in the wild and other legal constraints, future imports are only likely to come in the form of infrequent confiscations from private holders. Lastly, it has been determined that, due to the complexity of Operational Taxonomic Units (OTUs) within the Fijian iguana species complex, the AZA Fiji banded iguana program should be maintained for the purposes of husbandry development, research, and fundraising efforts for in situ conservation.

PVA RESULTS

Model results indicate that under current management practices, the population will decline over the next 100 years. However, **increased breeding is predicted to allow the Fiji banded iguana population to stabilize over the next 100 years**. If importation via confiscations continues to occur at its current rate, increasing breeding to a minimum of 5 to 6 hatches/year could potentially maintain the population near its current size with a low extinction risk, although the majority of projected population sizes vary between 15 and 87 individuals. In order to grow the population to a more stable average size of 120 individuals in approximately 11 years, breeding would need to be increased further to an average of 13 to 14 hatches/year over the next decade. A population of 120 individuals could retain between 83.8% and 94.8% gene diversity over the next 100 years, depending on whether or not confiscated animals are received.

MANAGEMENT ACTIONS

Given the current challenges for the Fiji banded iguana population, PVA results indicate that the following changes in management should be considered in an effort to improve this population's sustainability. Note that the PVA allows us to compare between these hypothetical changes, but cannot evaluate whether achieving these changes is feasible, practical, or desirable given the program's constraints.

- **To remain demographically stable, increase breeding rates:** If breeding is slightly increased from an average of ~4.5 hatches per year to a minimum of 5 to 6 hatches each year, the Fiji banded iguana population could potentially remain near its current size with a low risk of extinction, given continued imports. However, producing an average of 13 to 14 hatches per year could allow the population to grow to fill 120 potential spaces in approximately 11 years and reduce its reliance on imports. By increasing to fill space, the population would have greater demographic stability and retain better genetic health over the next 100 years.

- **To equalize founder representation and reduce risk, fulfill breeding recommendations:** In the past decade, a single institution produced all hatches in the Fiji banded iguana population. However, individuals at many other institutions have received breeding recommendations in the program's most recent Breeding & Transfer Plan. As these recommendations are fulfilled, a more even representation of founder lineages among zoos and aquariums can be ensured. Additionally, managers can share husbandry knowledge and reduce risks associated with catastrophic events at a single location (e.g., disease outbreaks, natural disasters).

FULL REPORT

POPULATION VIABILITY ANALYSIS (PVA) APPROACH

A Population Viability Analysis (PVA) is a model that projects the likely future status of a population. PVAs are used to evaluate long-term demographic and genetic sustainability and extinction risk, identify key factors impacting a population's dynamics, and compare alternative management strategies.

This PVA utilizes ZooRisk, a computer software package that models the future dynamics of a cooperatively-bred population using that population's age and sex structure, mortality and reproductive rates, and genetic structure (Earnhardt et al., 2008). ZooRisk is individual-based, meaning it tracks every animal (current and future) in the population over time. It also includes stochasticity, the randomness in mortality, fecundity, and birth/hatch sex ratios among individuals, which is especially important for small populations. Because of this stochasticity, we run each model many times, allowing us to determine the range of potential outcomes a population could experience under a given set of conditions.

The most powerful use of PVAs is to compare a baseline scenario, reflecting the population's likely future trajectory if no management changes are made, to alternate scenarios reflecting potential management changes. For zoo and aquarium populations, these alternate scenarios typically involve varying breeding rates (probability of breeding), potential space for the population, importation or exportation rates, mortality rates, or genetic management strategies. These comparisons can help evaluate the relative costs and benefits of possible management actions. Because the future can be uncertain and difficult to predict, model results are most appropriately used to compare between scenarios (e.g. relative to each other) rather than as absolute predictions of what will happen.

Full documentation on ZooRisk can be found in the software's manual (Faust et al., 2008); complete details on the modeling approach for this PVA, including data sources, parameter values, and model setup, can be found in Appendix A.

POPULATION HISTORY AND CURRENT STATUS

Demographics

Based on the North American Fiji Banded Iguana Studbook (Lovich, 2014), Fiji banded iguanas have been consistently held in AZA institutions since 1973, although the population was sustained mostly via imports and remained small (<15 individuals) until 1989 (Figs. 1 and 2a). (Note that throughout this report, "imports" are animals entering AZA institutions which may be coming from outside sources such as the private sector, zoos in other regions, or the wild, and conversely "exports" are animals exiting AZA institutions and going into non-AZA populations, such as other zoo regions). In 1989, regular breeding of Fiji banded iguanas in zoos and aquariums began (Fig. 2a). The population then grew to approximately 70 individuals by 1995 and remained near that size until 2011 (Fig. 1). During the following two years, breeding was limited as the program changed leadership and the ancestry of potential *Brachylophus bulabula* x *B. fasciatus* hybrids was investigated (Lovich and Ivy, 2013).

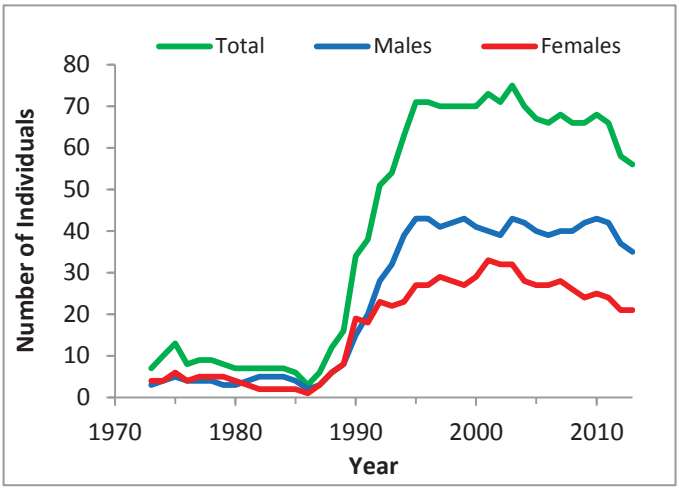


Figure 1. Number of Fiji banded iguanas in AZA institutions since 1973.

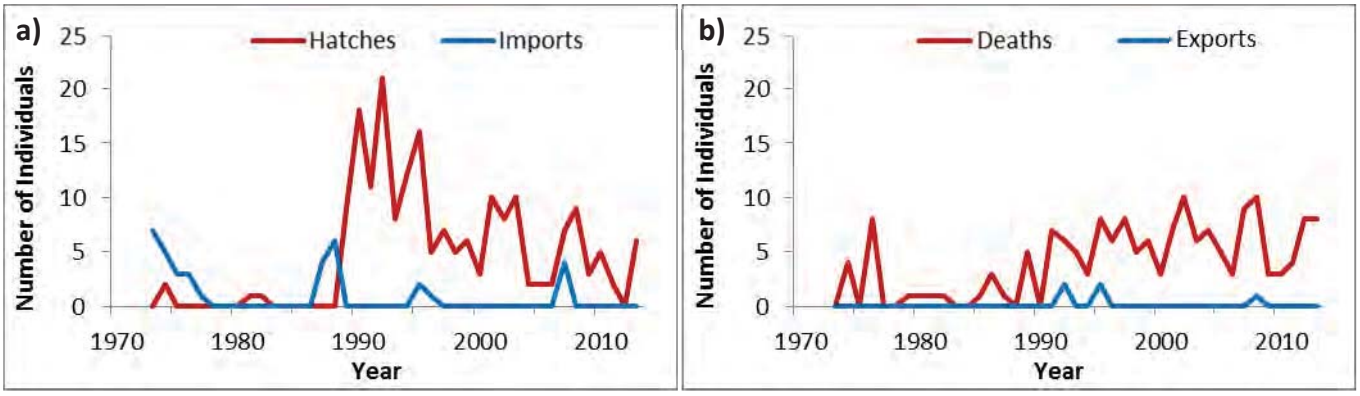


Figure 2. Number of a) hatches and imports and b) deaths and exports in the population since 1973. Imported animals entering AZA institutions may be coming from the private sector, other zoo regions, or the wild; exported animals may be going to other institutions outside of AZA in North America or other regions.

Over the last 10 years (2004-2013, based on the studbook currentness date, December 1st, 2014), the AZA population of Fiji banded iguanas decreased in size from 70 to 53 individuals at an average annual rate of -2.9%, although specific annual growth rates ranged from -12.1% to +3.0% (Table 1). The population has declined at an average rate of -3.2% within the past five years. In the past decade, the population averaged 3.8 hatches each year (which corresponds to each female having an 8.3% probability of breeding in a given year; see Appendix A). Note that these data include two years (2011-2012) in which managers limited breeding to investigate the ancestry of potential hybrid individuals. Excluding these two years, the population averaged 4.5 hatches per year over the past decade. The population also had an average of 0.4 imports and 0.1 exports per year in that timeframe (Fig. 2). The four imports were confiscations of wild individuals made by the U.S. Fish and Wildlife Service and the single export went to a non-AZA partner institution.

Table 1. Summary of demographic statistics for the population.

Population Sizes	**Total (male.female.unknown)**
Current population	53 (33.20.0)
Potentially breeding population	46 (27.19.0)
Annual rates over the last decade	**Mean (min-max)**
Population Growth (Lambda, λ)	0.971 (0.879-1.030)
Hatches	3.8 (0-9)
Deaths	6.0 (3-10)
Imports	0.4 (0-4)
Exports	0.1 (0-1)

As of December 1st, 2014 (the studbook currentness date), the Fiji banded iguana population consisted of **53 individuals (33 males, 20 females)**. Seven animals (6 males, 1 female) are excluded from the breeding population based on being beyond the reproductive age window (2-18 for males, 2-17 for females; see Appendix A) or being sterile. In the model, these animals hold space until their death but do not breed. This leaves a **potentially breeding population of 46 (27.19) individuals**. See Appendix B for a complete list of the individuals included in the model and their reproductive status.

The Fiji banded iguana population includes many individuals in younger age classes and few in older age classes (Fig. 3a). However, there are gaps in several reproductive age classes and the potentially breeding population currently displays a male-biased sex ratio of 1.4 males per female (Fig. 3b). Because Fiji banded iguanas are bred in pairs and breeding is limited by the number of reproductive females, this male-biased sex ratio could lead to restrictions in the number of breeding pairs that can be formed if space becomes limited.

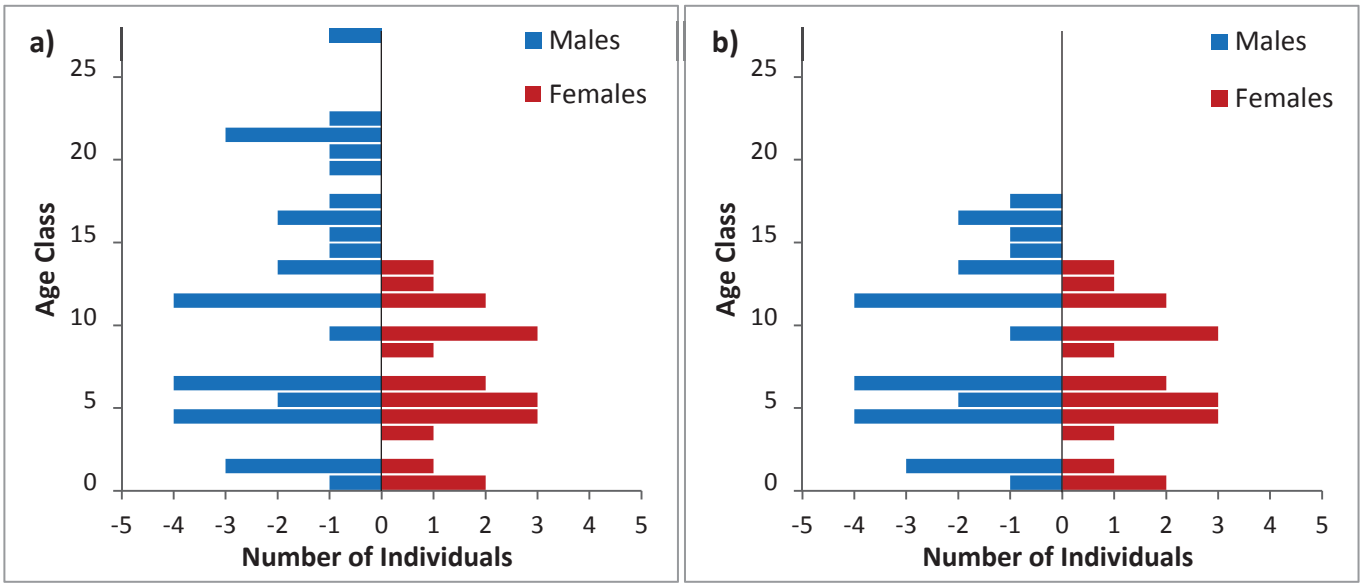


Figure 3. The population's age distribution within the formally managed population, divided into a) the total population 53 (33.20.0) and b) the potentially breeding population 46 (27.19.0).

Genetics

The pedigree of the Fiji banded iguana population is 100% known, and no analytical assumptions were necessary. The managed population is descended from 16 founders with one additional potential founder remaining (Lovich and Ivy, 2013). Current gene diversity is estimated to be 90.45%. As gene diversity falls, reproduction may become increasingly compromised by lower hatch weights, greater neonatal mortality, and other negative factors.

Table 2. Summary of starting genetic statistics for the population.

Percentage of pedigree known	100%
Gene diversity (GD)	90.45%
Population mean kinship (MK)	0.0955
Mean inbreeding (F)	0.0646
Mean generation time (T) (years)	6.1
Number of generations in 100 model years	16.4

The population currently has a mean inbreeding level of 0.0646 (a mean inbreeding coefficient of 0.0625 is equivalent to mating between first cousins with no prior inbreeding). One of the largest genetic threats to small populations is the potential for inbreeding depression, in which breeding between close relatives results in reductions in fecundity or litter size, increases in infant mortality, and other detrimental effects (DeRose and Roff, 1999; Koeninger Ryan, et al., 2002; Ballou and Foose, 1996; Reed and Frankham, 2003). We found no significant effect of inbreeding on infant mortality (logistic regression using the offspring's inbreeding coefficient, N = 177 offspring, $p > 0.26$) or clutch size (Poisson regression using each of the offspring's, dam's, and sire's inbreeding coefficients, $p > 0.54$). However, we caution that these results do not mean that the population is entirely free of inbreeding depression historically nor that it will remain so in the future. Rather, these results

indicate that inbreeding depression is not detectable in these two traits at this time. Because modeling inbreeding depression adds an additional layer of complexity to interpretation of results, we do not include a "standard" inbreeding depression effect in the PVA models. There are several strategies that can delay the effects or lower the probability of inbreeding depression including pairing based on mean kinship and importing and breeding unrelated individuals (Ballou and Lacy, 1995). Genetic management was incorporated into our model setup unless otherwise specified. **Because inbreeding depression is not included, readers should consider that model results may be optimistic if inbreeding depression begins to impact the population.**

Management and Challenges

The AZA Fiji banded iguana population is currently designated as a Yellow Species Survival Plan® (SSP). The population is housed among 18 institutions, including eight with at least one potential breeding pair. **However, the San Diego Zoo has served as the only breeding facility for this population in the past 10 years, producing all 38 hatches within AZA but holding 43% of the current potential breeding population.** Purposefully focusing breeding efforts at a single institution may be a valuable management strategy for developing optimal husbandry practices and increasing hatch rates. However, doing so may also make a population more vulnerable to catastrophic events such as disease outbreaks or natural disasters, lead to genetic under-representation of individuals at other institutions, and limit husbandry knowledge among institutions. For these reasons, individuals at seven institutions were recently given breeding recommendations (Lovich and Ivy, 2013).

Since 2008, *Brachylophus bulabula* has been recognized as a distinct species from *B. fasciatus* (Keogh et al., 2008). However, due to the complexity of Operational Taxonomic Units (OTUs) within the Fijian iguana species complex, it has been determined that the AZA Fiji Banded Iguana Animal Program should not be maintained for the purpose of releasing individuals to the wild but rather for education via exhibit animals and to provide support and husbandry expertise for in situ conservation efforts.

Fiji banded iguanas are currently listed as Endangered in the wild, and **imports into the AZA population are only likely to continue via irregular confiscations** made by the U.S. Fish and Wildlife Service. A population of Fiji banded iguanas is also held by the European Association of Zoos and Aquaria (ZIMS-ISIS, 2014), but AZA is not able to legally import any of these animals due to their unknown origins. Additionally, **program managers do not anticipate exporting any iguanas out of AZA in the future.**

ZooRisk can include a space limitation on population growth, reducing breeding as the population approaches the potential space limit. This mimics the way a population manager would recommend fewer pairs when at capacity. To accurately model the "potential space" for a population, we use either a) the projected spaces in 5 years based on a TAG's Regional Collection Plan (RCP) or, if that value is unavailable or inappropriate, b) the current population size + 10% or 10 individuals, whichever is greater. These values are also placed in context of current institutional interest by the Program Leader. The most recent AZA Lizard TAG RCP (2013) does not include 5-year space estimates. However, it suggests a target size of 120 individuals for the Fiji banded iguana population because of high institutional interest in the species. Therefore, **we allowed for 120 spaces in our modeled scenarios.**

MODEL SCENARIOS

Model scenarios were created to reflect what would happen if current management approaches continued (baseline) and to address potential alternate management strategies (Table 3). Model setup is described more fully in Appendix A. Scenarios are described in more detail in the following sections.

Table 3. ZooRisk Model Scenarios

Scenario Name	Scenario Description	p(B)	Spaces
Baseline Scenarios			
A. Open baseline; p(B) = 8.3%	Reproduction to match past 10 years (3.8 hatches/year), imports to match past 10 years (0.4 imports/year)	8.3%	120
B. Closed baseline; p(B) = 8.3%	Reproduction to match past 10 years (3.8 hatches/year), no imports	8.3%	120
Alternate Scenarios			
C. Open; p(B) = 11%	Reproduction required to sustain current population size, imports to match past 10 years (0.4 imports/year)	11%	120
D. Open; p(B) = 21%	Reproduction required to fill potential space, imports to match past 10 years (0.4 imports/year)	21%	120
E. Closed; p(B) = 21%	Reproduction required to fill potential space and minimize extinction risk, no imports	21%	120

p(B) = Probability of Breeding

POPULATION VIABILITY UNDER CURRENT MANAGEMENT

BASELINE MODEL PVA RESULTS

We first examined the viability of the AZA Fiji banded iguana population as it was managed over the past 10 years ("open" baseline; Scenario A): 8.3% female probability of breeding (corresponding to 3.8 hatches/year in the past 10 years), imports via confiscations occurring similarly to those of the past decade (an average of 0.4 imports per year), no exports, and 120 potential spaces. Because importation via confiscations cannot be expected to occur in a predictable manner, we also evaluated the viability of the population under current management but closed to future imports ("closed baseline"; Scenario B). See Appendix A for more details on all model parameters.

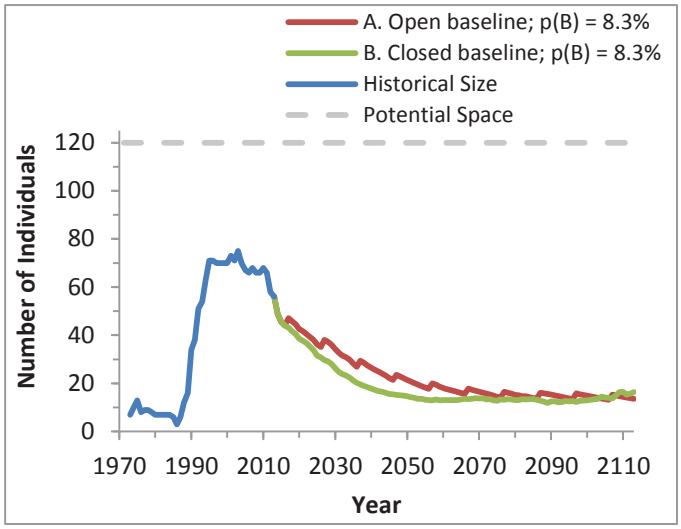


Figure 4. Historical and projected mean population size under the baseline model scenario. Projected results are averaged across 1000 model iterations.

Under management as it occurred over the past decade, the Fiji banded iguana population is expected to decline to about ~15 individuals during the next 100 years whether open or closed to further imports (Fig. 4, Table 4). Furthermore, the population would be reliant on imports for maintaining a low extinction risk over that timeframe (5% risk in Scenario A vs. 97% risk in Scenario B; Table 4). With further imports, the population would have an Endangered risk status in zoos and aquariums because of only four pairs reproducing in the last generation (past ~6 years; see Appendix C). However, in the absence of imports, the population's risk status would increase to Critical due to its high risk of extinction.

Table 4. Baseline model results.

SCENARIO		DEMOGRAPHICS					GENETICS				OVERALL POPULATION STATUS[2]
		Initial Population Size	Size in Year 25[1]	Size in Year 100[1]	Probability of Reaching Space (%)	Probability of Extinction (%)	Initial GD (%)	GD Retained in Year 100[1]	Initial F	F in Year 100[1]	
A	Open* baseline; p(B) = 8.3%	53	28 ± 17	14 ± 12	0	5	90.5	78.6 ± 1.4*	0.065	0.051 ± 0.072*	Endangered
B	Closed baseline; p(B) = 8.3%	53	19 ± 15	16 ± 19	0	97	90.5	49.7 ± 24.9	0.065	0.425 ± 0.222	Critical

GD = gene diversity, F = inbreeding coefficient

[1] Mean value ± 1 Standard Deviation, taken across 1000 iterations. If an iteration goes extinct that value is not included in the calculation. Some results may only reflect a few iterations in scenarios with a high probability of extinction.

[2] ZooRisk uses five standardized tests to give a summary risk score for each scenario, from Low Risk (most secure), Vulnerable, Endangered, to Critical (least secure). For more details on this score, see Appendix C.

**Genetic results are likely optimistic as ZooRisk counts all imports as genetically unique potential founders (i.e., they unrelated to each other and the current population). In reality, it is likely that final GD would be lower and inbreeding higher than the results displayed in the table.*

ALTERNATE MODEL SCENARIOS

Importation of Fiji banded iguanas via confiscations occurs unpredictably but could possibly continue at approximately the current rate of 0.4 new individuals/year. Under this rate of importation and breeding increased from ~4 hatches/year to an average of 5 to 6 hatches/year, the Fiji banded iguana population could be sustained near its current size over the next 100 years (p(B) = 11%, Scenario C; Figs. 5 and 6, Table 5). Although the population is predicted, on average, to have 51 animals in 100 years, there is substantial variation around this predicted size (standard deviation [SD] = 36; Table 5) and the population has a ~16% chance of having fewer than 15 animals remaining in 100 years. Assuming that all imports (an average of 0.4 imports/year, totaling to 40 over the next 100 years) would be genetically unique founders, the population would retain 86.3% gene diversity over the next century and would develop an average inbreeding coefficient of 0.080, which is above that of offspring resulting from mating between first cousins (F = 0.063).

Table 5. All model results.

	SCENARIO	DEMOGRAPHICS					GENETICS				OVERALL POPULATION STATUS[2]
		Initial Population Size	Size in Year 25[1]	Size in Year 100[1]	Probability of Reaching Space (%)	Probability of Extinction (%)	Initial GD (%)	GD Retained in Year 100[1]	Initial F	F in Year 100[1]	
A	Open* baseline; p(B) = 8.3%	53	28 ± 17	14 ± 12	0	5	90.5	78.6 ± 1.4*	0.065	0.051 ± 0.072*	Endangered
B	Closed baseline; p(B) = 8.3%	53	19 ± 15	16 ± 19	0	97	90.5	49.7 ± 24.9	0.065	0.425 ± 0.222	Critical
Alternate Scenarios											
C	Open*; p(B) = 11%	53	55 ± 29	51 ± 36	33	1	90.5	86.3 ± 8.0*	0.065	0.080 ± 0.054*	Endangered
D	Open*; p(B) = 21%	53	119 ± 8	119 ± 8	100	0	90.5	94.8 ± 0.8*	0.065	0.055 ± 0.015*	Endangered
E	Closed; p(B) = 21%	53	119 ± 10	119 ± 7	100	0.1	90.5	83.8 ± 1.1	0.065	0.152 ± 0.013	Endangered

GD = gene diversity, F = inbreeding coefficient

[1] Mean value ± 1 Standard Deviation, taken across 1000 iterations. If an iteration goes extinct that value is not included in the calculation, so results may only reflect a few iterations in scenarios with a high probability of extinction.

[2] ZooRisk uses five standardized tests to give a summary risk score for each scenario, from Low Risk (most secure), Vulnerable, Endangered, to Critical (least secure). For more details on this score, see Appendix C.

**Genetic results are likely optimistic as ZooRisk counts all imports as genetically unique potential founders (i.e., they unrelated to each other and the current population). In reality, it is likely that final GD would be lower and inbreeding higher than the results displayed in the table.*

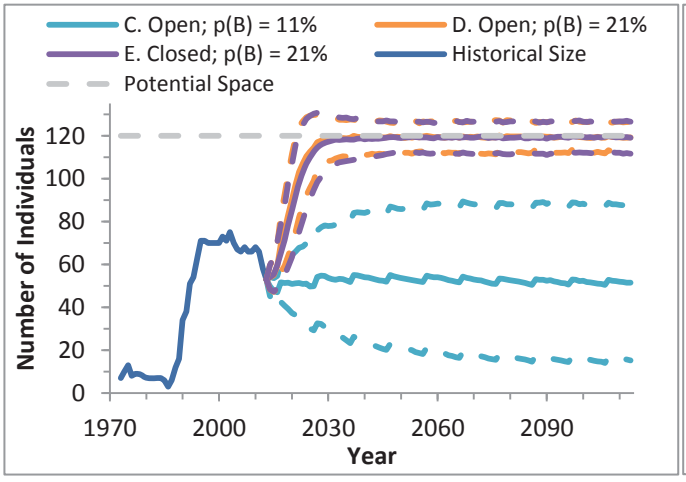


Figure 5. Historical and projected mean population size under alternate model scenarios with ± 1 standard deviation (dashed lines). Projected results are averaged across 1000 model iterations.

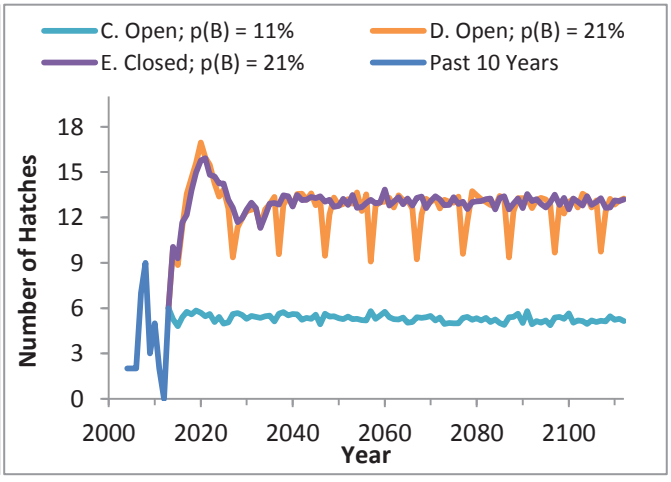


Figure 6. Number of total hatches in the population in the past decade and projected mean number of hatches under alternate model scenarios. Projected results are averaged across 1000 model iterations.

To improve the population's demographic stability and future genetic health, managers could increase the population to fill 120 potential spaces. Whether open or closed to further imports, the population could grow to fill potential spaces in approximately 11 years by producing an average of 13 to 14 hatches/year over the next 10 years, and ~13 hatches/year thereafter (p(B) = 21%, Scenarios D and E; Figs. 5 and 6, Table 5). Although Fiji banded iguanas are easily bred in zoos, 13 to 14 hatches/year could potentially be difficult to achieve given that the population has only produced as many as nine hatches in one of the last 10 years (2008; Fig. 6).

Depending on how many imports the population receives in future years and how related such imports are to each other, we can interpret the genetic results of Scenarios D and E to indicate that a population that is stable near 120 individuals could retain between 83.8% and 94.8% gene diversity and that inbreeding at 100 years could range from 0.055 to 0.152 (Table 5). For reference, a mating between first cousins generates an inbreeding coefficient [F] = 0.063 and a mating between half siblings produces an F = 0.125.

We found that including the single male iguana (#181) that is currently held by a non-AZA partner institution in our projection of a closed population with improved breeding does not have any impact on the population's genetic outlook (see Appendix D). In all alternate scenarios presented, the population would maintain an Endangered risk status in zoos and aquariums because of only four pairs reproducing in the most recent generation (past ~6 years; Appendix C).

MANAGEMENT ACTIONS

Given the current challenges for the Fiji banded iguana population, PVA results indicate that the following changes in management should be considered in an effort to improve this population's sustainability. Note that the PVA allows us to compare between these hypothetical changes, but cannot evaluate whether achieving these changes is feasible, practical, or desirable given the program's constraints.

- **To remain demographically stable, increase breeding rates:** If breeding is slightly increased from an average of ~4.5 hatches per year to a minimum of 5 to 6 hatches each year, the Fiji banded iguana population could potentially remain near its current size with a low risk of extinction, given continued imports. However, producing an average of 13 to 14 hatches per year could allow the population to grow to fill 120 potential spaces in approximately 11 years and reduce its reliance on imports. By increasing to fill space, the population would have greater demographic stability and retain better genetic health over the next 100 years.

- **To equalize founder representation and reduce risk, fulfill breeding recommendations:** In the past decade, a single institution produced all hatches in the Fiji banded iguana population. However, individuals at many other institutions have received breeding recommendations in the program's most recent Breeding & Transfer Plan. As these recommendations are fulfilled, a more even representation of founder lineages among zoos and aquariums can be ensured. Additionally, managers can share husbandry knowledge and reduce risks associated with catastrophic events at a single location (e.g., disease outbreaks, natural disasters).

CONCLUSIONS

This model is a scientifically-sound comprehensive tool to be used by population managers for assessing future directions for the animal program. This PVA report is provided to the AZA community and others to integrate into management of the important species within our care. The PVA model results are intended to provide the necessary data to make science-based decisions.

Our model results illustrate that under current management practices, the AZA Fiji banded iguana population can be expected to decline during the next 100 years. If imports continue (via infrequent confiscations), increasing breeding by only one to two hatches per year could potentially allow the population to remain near its current size. Without imports, however, breeding would need to be increased further to grow the population and minimize its risk of extinction. Increasing the population to fill potential spaces would improve both its demographic stability and its genetic outlook for the next 100 years. Additionally, distributing breeding effort more evenly among AZA institutions could help to equalize genetic representation of individuals in the population while sharing husbandry knowledge and reducing risks associated with focusing breeding efforts at a single institution. The AZA Fiji Banded Iguana Animal Program should consider implementing the recommended management actions in order to keep the population on the path towards long-term sustainability within AZA institutions.

ACKNOWLEDGEMENTS

A meeting was conducted on January 22nd, 2015 to discuss the Fiji banded iguana population and was attended by the following:

- **Lisa Faust,** Vice President of Conservation and Science, Lincoln Park Zoo, lfaust@lpzoo.org
- **Jamie Ivy,** AZA Population Advisor, San Diego Zoo, jivy@sandiegozoo.org
- **Brent Johnson**, Population Biologist , Lincoln Park Zoo, bjohnson@lpzoo.org
- **Kim Lovich**, AZA Fiji Banded Iguana Animal Program SSP Coordinator and Studbook Keeper**,** San Diego Zoo, klovich@sandiegozoo.org
- **Lauren Mechak,** Assistant Population Biologist **,** Lincoln Park Zoo, lmechak@lpzoo.org
- **Adrienne Savrin,** Research Assistant, Lincoln Park Zoo, asavrin@lpzoo.org

This report was also reviewed by:

- **Brian Aucone**, Lizard TAG Chair, Denver Zoo, baucone@denverzoo.org
- **Candice Dorsey**, Director of Animal Programs, Association of Zoos and Aquariums, cdorsey@aza.org
- **Jamie Ivy,** AZA Population Advisor, San Diego Zoo, jivy@sandiegozoo.org
- **Kim Lovich**, AZA Fiji Banded Iguana Animal Program SSP Coordinator and Studbook Keeper**,** San Diego Zoo, klovich@sandiegozoo.org
- **Adrienne Savrin,** Research Assistant, Lincoln Park Zoo, asavrin@lpzoo.org
- **Joseph L. Simonis**, Research Scientist, Lincoln Park Zoo, jsimonis@lpzoo.org

If you have any questions about the report, please contact Lisa Faust at lfaust@lpzoo.org

Analyses in this report utilized the North American Regional Fiji Banded Iguana (B*rachylophus fasciatus*) Studbook current to 1 December 2014 (Lovich, 2014) and was performed using Poplink 2.4 and ZooRisk 3.8.

Funding provided by Institute of Museum and Library Services (IMLS) LG-25-11-018 and MG-30-13-0065-13 to the Association of Zoos and Aquariums.

Cover photo: courtesy of Ken Bohn, San Diego Zoo

Citation:

Johnson, B., Lovich, K., and B. Aucone. 2015. Fiji Banded Iguana (B*rachylophus fasciatus*) AZA Animal Program Population Viability Analysis Report. Lincoln Park Zoo, Chicago, IL.

The contents of this report including opinions and interpretation of results are based on discussions between the project team and do not necessarily reflect the opinion or position of Lincoln Park Zoo, Association of Zoos and Aquariums, and other collaborating institutions. The population model and results are based on the project team's best understanding of the current biology and management of this population. They should not be regarded as absolute predictions of the population's future, as many factors may impact its future status.

LITERATURE CITED

Association of Zoos and Aquariums. Zoological Information Management System – International Species Information System, Version 1.7 Updated: 27 Jan. 2014. Accessed: 19. Jan. 2015. <https://zims.isis.org>

AZA Lizard Taxon Advisory Group (TAG). 2013. Lizard Taxon Advisory Group Regional Collection Plan (RCP).

Ballou, J. D. and R. C. Lacy. 1995. Identifying genetically important individuals for management of genetic variation in pedigreed populations. Pages 76-111 in J. D. Ballou, M. Gilpin, and T. J. Foose, eds. Population Management for Survival and Recovery: Analytical Methods and Strategies in Small Population Conservation. Columbia University Press, New York.

Ballou, J. D. and T. J. Foose. 1996. Demographic and genetic management of captive populations. Pages 263-283 in S. Lumpkin, ed. Wild Mammals in Captivity. University of Chicago Press, Chicago.

DeRose, M. A. and D. A. Roff. 1999. A comparison of inbreeding depression in life-history and morphological traits in animals. Evolution 53: 1288-1292.

Earnhardt, J. M., Bergstrom, Y. M., Lin, A., Faust, L. J., Schloss, C. A., and S. D. Thompson. 2008. ZooRisk: A Risk Assessment Tool. Version 3.8. Lincoln Park Zoo. Chicago, IL.

Faust, L. J., Earnhardt, J. M., Schloss, C. A., and Y. M. Bergstrom. 2008. ZooRisk: A Risk Assessment Tool. Version 3.8 User's Manual. Lincoln Park Zoo. Chicago, IL.

Keogh, J. S., Edwards, D. L., Fisher, R. N., and P. S. Harlow. 2008. Molecular and morphological analysis of the critically endangered Fijian iguanas reveals cryptic diversity and a complex biogeographic history. Philosophical Transactions of the Royal Society B: Biological Sciences 363: 3413-3426.

Koeninger Ryan, K., Lacy, R.C., and S. W. Margulis. 2002. Impacts of kinship and inbreeding on components of fitness. Reproduction and Integrated Conservation Science.

Lovich, K. and J. Ivy. 2013. Fiji Banded Iguana (B*rachylophus fasciatus*) AZA Species Survival Plan® Yellow Program Population Analysis and Breeding & Transfer Plan. San Diego Zoo, San Diego, CA.

Lovich, K. 2014. Fiji Banded Iguana (B*rachylophus fasciatus*) AZA Studbook. San Diego Zoo.

Reed, D. H., and R. Frankham. 2003. Correlation between fitness and genetic diversity. Conservation Biology 17: 230-237.

DEFINITIONS

Age Structure: A two-way classification showing the numbers or percentages of individuals in various age and sex classes.

Current Gene Diversity (GD): The proportional gene diversity (as a proportion of the source population) is the probability that two alleles from the same locus sampled at random from the population will not be identical by descent. Gene diversity is calculated from allele frequencies, and is the heterozygosity expected in progeny produced by random mating, and if the population were in Hardy-Weinberg equilibrium.

Founder: An individual obtained from a source population (often the wild) that has no known relationship to any individuals in the derived population (except for its own descendants).

Inbreeding Coefficient (F): Probability that the two alleles at a genetic locus are identical by descent from an ancestor common to both parents. The mean inbreeding coefficient of a population will be the proportional decrease in observed heterozygosity relative to the expected heterozygosity of the founder population.

Mean Kinship (MK): The mean kinship coefficient between an animal and all animals (including itself) in the living, zoo born population. The mean kinship of a population is equal to the proportional loss of gene diversity of the descendant (zoo born) population relative to the founders and is also the mean inbreeding coefficient of progeny produced by random mating. Mean kinship is also the reciprocal of two times the founder genome equivalents: MK = 1 / (2 * FGE). MK = 1 - GD.

Mean Generation Time (T): The average time elapsing from reproduction in one generation to the time the next generation reproduces. Also, the average age at which a female (or male) produces offspring. It is not the age of first reproduction. Males and females often have different generation times.

Percent Known: Percent of an animal's genome that is traceable to known Founders. Thus, if an animal has an UNK sire, the % Known = 50. If it has an UNK grandparent, % Known = 75%

Population Viability Analysis (PVA): A PVA is a computer model that projects the likely future status of a population. PVAs are used for evaluating long-term sustainability, setting population goals, and comparing alternative management strategies. Several quantitative parameters are used in a PVA to calculate the extinction risk of a population, forecast the population's future trajectory, and identify key factors impacting the population's future.

Potential Space: In the context of a Regional Collection Plan, the 'potential space' selected for each Program within the RCP, which may be based on available spaces for that species, desired spaces the TAG wishes to allocate, the size needed to maintain a viable population, or some combination of those factors. In the context of the ZooRisk modeling work, the potential space is a model parameter that can be set at any level, including the size listed in the RCP or a higher or lower size based on other criteria.

Probability of Breeding [p(B)]: Female p(B) is the age-specific probability that a female will have at least one offspring in a year. For example, p(B) = 25% is equivalent to females producing an offspring once every 4 years. Within the reproductively viable age classes, all p(B) were set at a hypothetical constant value corresponding with an interclutch interval, which varied depending on the model scenario. Using a constant value means that all reproductively viable females would have the same chance of reproduction regardless of age.

Qx, Mortality: Probability that an individual of age x dies during time period.

Regional Collection Plan (RCP): document developed by Taxon Advisory Group (TAG) to describe species managed under their TAG, level of management with explanations, and evaluation of Target Population Sizes for each managed species.

Risk (Qx or Mx): The number of individuals that have lived during an age class. The number at risk is used to calculate Mx and Qx by dividing the number of hatches and deaths that occurred during an age class by the number of animals at risk of dying and reproducing during that age class. The proportion of individuals that die during an age class is calculated from the number of animals that die during an age class divided by the number of animals that were alive at the beginning of the age class (i.e.-"at risk").

Stochastic Model: A model that includes random chance and variation in model parameters (e.g. randomly select if an individual will breed). Stochastic models will produce many different outcomes each time the model is run due to this variation. Models are typically run for many iterations to fully explore the trajectory a population might take. ZooRisk is a stochastic model.

Taxon Advisory Group (TAG): There are several different TAGs and each oversees a broad group of animals (e.g. Antelope TAG, Small Carnivore TAG). Each TAG consists of several programs. The TAG contains experts including studbook keepers, program leaders, the TAG chair, and other advisors. TAGs evaluate the present conditions surrounding a broad group of animals (e.g., marine mammals) and then prioritize the different species in the group for possible captive programs.

APPENDICES

APPENDIX A. MODEL SETUP AND METHODS

Analyses in this report were performed using PopLink 2.4, ZooRisk 3.8, and R statistical package. Complete documentation on ZooRisk's modeling approach and setup can be found in the software manual (Faust et al., 2008). These tables document the basic file information (Table A1), key model variables, give some context for how ZooRisk utilizes them in the model and how the PVA modeling team applies them, give values used in model scenarios, and describe data sources (Table A2). Additionally, age and sex specific mortality rates are documented in table A3.

For clarity, most figures in this report show the mean population size across multiple iterations. Model results such as mean population sizes, levels of gene diversity (GD), and inbreeding (F) are averaged across 1000 model iterations; if some model iterations go extinct, these values are only averaged over extant, surviving iterations. Where relevant, results are reported on medium-term (25 year), and long-term (100 year) time frames. Results such as the probability of reaching the potential space or extinction are based on the percentage of iterations that hit that target at least once over the 100 years. Where applicable, ± 1 standard deviation is included; large values represent wider variability in model results.

Table A1. Information regarding studbook utilization in PopLink 2.4 and ZooRisk 3.8.

File Information	
Studbook Currentness Date	1 December 2014
Studbook Name	FijiIguana_01Dec14
Studbook Keeper for analytical database	Kim Lovich
Studbook Keeper for demographic database	Kim Lovich
ZooRisk Project Name	FijiBandedIguana_2015

Table A2. Variable used in ZooRisk 3.8 scenarios, including a description of each variable, the value, and the source.

Demographic Settings			
Model Variable	**Description/Details of How Variable is Used in Model**	**Value in Model Scenarios**	**Source**
Living Population	ZooRisk uses a starting population to initiate each model scenario, incorporating data on each individual's pedigree, age, sex, and reproductive status. Any animals unable to breed due to age, medical issues, or sterilizations can be designated as non-reproductive in the model, which removes them from the potentially breeding population. The model assumes that any new animals (either hatches or imports) are potentially reproductively viable; this may be an optimistic assumption.	See included individuals in Appendix B	Studbook data; animals in AZA as of 2 Dec 2014
Male and Female Age-Specific Mortality Rates (Qx)	Probability that an individual of age x dies during time period. Each year, the model stochastically determines whether each individual lives or dies based on that individual's age- and sex-specific Qx.	See Table A3. No modifications were made from extracted Qx values.	Studbook data, filters = AZA, 1 Jan 1988 – 2 Dec 2014
Infant Mortality Rates (Qx)	Mortality rate for infants 0-1 used in the model (as described above). Infant mortality is a vital rate that is sensitive to changes in husbandry and also may be a life stage that is vulnerable to inbreeding depression.	Male = 18.13% Female = 9.79%	Studbook data, filters = AZA, 1 Jan 1988 – 2 Dec 2014
Maximum Longevity	The maximum age individuals are allowed to live to in the model (if they haven't died before that age). The model values were based on males = SB #60 and 79 (both of which are currently living) and female = #61 (which is deceased).	Male = 22 Female = 20	Modeling team consulted the following sources: Program Leader, Population Advisor
Reproductive Age Classes	Age classes in which females or males could potentially be paired for breeding in the model	Male = 2 – 18 Female = 2 – 17	Modeling team consulted the following sources: Program Leader, Population Advisor

Model Variable	Description/Details of How Variable is Used in Model	Value in Model Scenarios	Source
Annual Number of Offspring	When a female within the model is selected to reproduce in a given model year, ZooRisk uses these frequencies to stochastically determine the number of offspring she produces. Note that this distribution will be different than a litter size distribution if a species can have multiple clutches/litters within a year.	1 offspring = 24.59% 2 = 21.31% 3 = 18.03% 4 = 14.75% 5 = 11.48% 6 = 4.92% 7 = 0% 8 = 3.28% 9 = 1.64%	Studbook data, filters = AZA, 1 Jan 1988 – 2 Dec 2014
Birth Sex Ratio (BSR)	The model stochastically assigns a sex for any offspring created in the model. We extract historic studbook data and test for bias towards males or females in the sex ratio using a χ2 test. This evaluates whether the population is significantly different than 50% males, 50% females. For this population, the extracted birth sex ratio was not significantly biased. The extracted value was 0.4833 (χ^2 = 0.2000, df = 1, p > 0.05)	0.5	Studbook data, filters = AZA, 1 Jan 1988 – 2 Dec 2014
Female Probability of Breeding [p(B)]	P(B) is the age-specific probability that a female will have at least one offspring in a year. For example, p(B) = 0.25 is equivalent to females producing an offspring on average once every 4 years, or 25% of reproductively available females breeding in any given year. Historical studbook data include many females who never had access to a male and were non-reproductive for management rather than biological reasons. It is difficult to use extracted p(B) data to determine what a population could do if all individuals were in breeding situations or the population was truly trying to increase reproduction. Because of this, model scenarios use simplified hypothetical levels of p(B) to evaluate the impact of changes in reproduction. To set the baseline p(B), we extracted the average number of hatches/year over the past decade from the studbook and identified a p(B) level in the model that would produce, on average, an equivalent number of projected hatches over the first 10 model years. Alternate scenarios used higher or lower p(B) levels. In the model, all p(B) were set at the same value within all female reproductive age classes. Using a constant value means that all reproductively viable females would have the same chance of reproduction regardless of age. This population produced 3.8 hatches/year on average over the past decade, which was used to calibrate the baseline p(B).	Baseline scenarios: 0.083 Alternate scenarios: 0.11, 0.21	Studbook data, filters = AZA, 1 Jan 2004 – 31 Dec 2013
Genetic Settings			
Genetic Management	ZooRisk can model a randomly breeding population or genetic management by mean kinship pairings and other genetic criteria, mimicking the way that AZA populations are managed to maintain gene diversity (GD) (Ballou & Lacy, 1995). This allows ZooRisk to more accurately project the amount of gene diversity retained through genetic management.	GM by mean kinship: ON	Modeling team decision

Model Variable	Description/Details of How Variable is Used in Model	Value in Model Scenarios	Source
Inbreeding Depression	Inbreeding depression can be challenging to incorporate into PVA models because of uncertainty about which populations and life history traits will be affected, and at what inbreeding level they will become affected. Due to this uncertainty and since modeling inbreeding depression adds an additional layer of complexity to interpretation of results we have not included a "standard" inbreeding depression effect in the PVA models. The PVA includes management by mean kinship and measurements of final mean inbreeding levels to help users understand the potential future levels of inbreeding even with careful management. **Readers should consider that model results may be optimistic if this species would be susceptible to inbreeding depression now or in the future.**	OFF	Modeling team decision
Breeding group ratio	ZooRisk can simulate breeding groups of 1 male: multiple females. If a population has few reproductive-aged animals and/or very few breeding age males, this can impact demographic results by limiting the number of pairs/groups that can be formed. It can also impact genetic results, as it influences how pairings by mean kinship are made (see manual for more details).	1 male: 1 female	Modeling team consulted the following sources: TAG Chair
Number of Years Between Pairing	ZooRisk reshuffles the pairings with this frequency; a breeding group is left together for this number of years unless an individual group member dies, in which case another individual is shuffled in. A group is left together even if they may no longer be optimally paired by MK because of subsequent hatches.	3	Modeling team decision Modeling team consulted the following sources: Program Leader, Population Advisor
Other Model Settings			
Potential Space	ZooRisk has the option of including a space limitation on population growth. This limitation reduces breeding in the model population as it approaches the space limit, mimicking zoo management. For example, a Program Leader may begin to recommend fewer breeding pairs if available spaces for a population become limited. To determine an appropriate space limitation for the models, the PVA team, in consultation with the AZA Wildlife Conservation and Management Committee (WCMC), developed the approach of using the number of projected spaces in 5 years based on a Taxon Advisory Group's (TAG) Regional Collection Plan (RCP). If that number is unavailable or unsuitable (i.e. if the population is already close to or larger than that space), the team will use the current population size + 10% or 10 individuals, whichever is greater. In some instances when more information is available, i.e. a more recent survey by the Species Coordinator, we will use this value. The most recent AZA Lizard TAG RCP (2013) does not include 5-year space estimates. Because of high institutional interest we used the RCP's target size of 120 individuals in our modeled scenarios.	120	Modeling team consulted the following sources: 2013 Lizard TAG RCP, Program Leader, Population Advisor
Approach to space limit	The model can allow the population to grow/decline immediately to its space limit (if hatch rates will allow it), but it is more likely that increases/decreases in space will occur gradually as new institutions join or leave a program.	Approach space limit gradually over 5 years	Modeling team decision
Number of Years	How far into the future the model projects.	100	Modeling team decision
Number of Iterations	Since stochastic models have inherent variation, each model run (or iteration) will produce a slightly different population trajectory, and the model is run many times to reflect the full potential variation a population could experience.	1000	Modeling team decision

Model Variable	Description/Details of How Variable is Used in Model	Value in Model Scenarios	Source
Extinction Threshold	Size at which the population will be considered extinct.	0	Modeling team decision
Importations/ Exportations	ZooRisk can model removal or addition of individuals into the population. An importation event will bring a specific number of individuals (of a specified sex and age) that are completely unrelated to the current population (potential founders) into the population in a specified year. These might be individuals coming from the wild or from non-AZA institutions in other regions or in North America. Exportations can be used to model reintroductions into the wild or transfer of individuals outside of the AZA population. ZooRisk can model two types – a simple export that selects a specific number of individuals of the designated sex and age classes in the specified year, or a threshold export that will select the 'extra' individuals above some threshold to export in the specified year.	Imports- even # of males and females ages 2-5, mimicking amounts from the past decade in each future decade: 2007- 4 Exports- none Averages: 0.4 imports and 0 exports/year	Studbook data, # of individuals entering and exiting the AZA population from 1 Jan 2004 – 31 Dec 2013

Table A3. Male and female mortality rates used in all scenarios of the ZooRisk model are listed below. Each year, the model determines whether each individual lives or dies stochastically based on that individuals age- and sex- specific mortality rate.

Male

Age(x)	Qx	Number at Risk
0	0.1813	91
1	0.0387	77.5
2	0.014	71.5
3	0.0355	70.5
4	0	68
5	0.0308	65
6	0.0492	61
7	0.0185	54
8	0.0189	53
9	0.0769	52
10	0.0638	47
11	0.0455	44
12	0.0526	38
13	0.0278	36
14	0.0606	33
15	0.1333	30
16	0.12	25
17	0.25	20
18	0.1429	14
19	0	12
20	0.0909	11
21	0.4444	9
22	1	2
23	0	1
24	0	1
25	0	1
26	0	1
27	0	1
28	0	0

Female

Age(x)	Qx	Number at Risk
0	0.0979	97
1	0.1017	88.5
2	0.0359	83.5
3	0.1166	81.5
4	0.0986	71
5	0.1475	61
6	0.1429	49
7	0.15	40
8	0.2059	34
9	0.1538	26
10	0.1579	19
11	0.25	16
12	0.1	10
13	0.375	8
14	0	4
15	0.5	4
16	0	2
17	0.5	2
18	0	1
19	0	1
20	1	1
21	0	0
22	0	0
23	0	0
24	0	0
25	0	0

APPENDIX B. INCLUDED INDIVIDUALS

As of December 1st, 2014 (the studbook currentness date), the AZA population consisted of 53 individuals (33 males, 20 females). Seven animals (6 males, 1 female) are excluded from the breeding population. Those animals with "Allowed to Breed = NO" hold space but are never eligible for reproduction. This leaves a potentially breeding population of 46 (27.19) individuals.

Table B1. Individuals included in the starting population.

ID	Sex	% Known	Mean Kinship	Age	Institution	Allow Breed	Reason for Exclusion
60	Male	100	---	22	SANDIEGOZ	NO	Age
79	Male	100	---	21	DALLAS	NO	Age
83	Male	100	---	21	SANDIEGOZ	NO	Age
85	Male	100	---	21	LOSANGELE	NO	Age
104	Male	100	---	20	HOUSTON	NO	Age
112	Male	100	---	19	SANDIEGOZ	NO	Age
127	Male	100	0.0946	17	SANDIEGOZ	YES	
137	Male	100	0.0495	16	AUDUBON	YES	
148	Male	100	0.0607	16	SANDIEGOZ	YES	
152	Male	100	0.103	15	FORTWORTH	YES	
156	Male	100	0.136	14	CLEVELAND	YES	
161	Male	100	0.136	13	NORFOLK	YES	
163	Male	100	0.136	13	DENVER	YES	
165	Female	100	0.136	13	NORFOLK	YES	
167	Female	100	0.06	12	SANDIEGOZ	YES	
176	Male	100	0.0731	11	DALLAS	YES	
180	Female	100	0.1021	11	SANDIEGOZ	YES	
182	Male	100	0.136	11	FRESNO	YES	
183	Male	100	0.136	11	LOWRY	YES	
185	Female	100	0.1491	11	SACRAMNTO	YES	
187	Male	100	0.1062	11	SAN ANTON	YES	
199	Female	100	0.136	9	HOUSTON	YES	
200	Female	100	0.136	9	SANDIEGOZ	YES	
201	Female	100	0.1025	8	ST LOUIS	YES	
206	Male	100	0.1025	6	SACRAMNTO	YES	
207	Female	100	0.1025	6	SAN ANTON	YES	
208	Male	100	0.1389	6	TOLEDO	YES	
209	Male	100	0.1363	6	HOUSTON	YES	
212	Female	100	0.1027	5	NZP-WASH	YES	
213	Male	100	0.1027	5	DALLAS	YES	
214	Female	100	0.1027	5	LOSANGELE	YES	
215	Female	100	---	5	TOLEDO	NO	
216	Male	100	0.1027	5	SANDIEGOZ	YES	
218	Male	100	0.0881	4	SANDIEGOZ	YES	
219	Male	100	0.0881	4	TULSA	YES	
220	Female	100	0.0881	4	SANDIEGOZ	YES	
221	Male	100	0.0881	4	NZP-WASH	YES	
222	Male	100	0.0881	4	EVANSVLLE	YES	
223	Female	100	0.1363	4	TULSA	YES	
224	Female	100	0.1363	4	LOWRY	YES	
225	Male	100	0.0407	9	SANDIEGOZ	YES	
227	Female	100	0.0465	9	SANDIEGOZ	YES	
229	Male	100	0.032	6	SANDIEGOZ	YES	
230	Female	100	0.0116	6	SANDIEGOZ	YES	
232	Female	100	0.1248	3	SANDIEGOZ	YES	
234	Male	100	0.0494	1	SANDIEGOZ	YES	
235	Female	100	0.0494	1	SANDIEGOZ	YES	
236	Male	100	0.0494	1	SANDIEGOZ	YES	
237	Male	100	0.0494	1	SANDIEGOZ	YES	
238	Male	100	0.0494	0	SANDIEGOZ	YES	
239	Female	100	0.0494	0	SANDIEGOZ	YES	
240	Female	100	0.0494	0	SANDIEGOZ	YES	

APPENDIX C. RISK CATEGORIES AND RESULTS

ZooRisk uses five standardized risk tests to evaluate different aspects of a population's demography, genetics, and management that might put the population at risk (Table C1). The ZooRisk development team and members of the AZA small Population Management Advisory Group (SPMAG) worked to develop the cutoff for each test. This approach standardizes assessments across species and allows managers to compare species programs using the same framework.

For a given scenario, the overall risk level is based on the most severe score it achieved for any of the five tests. Tests 2-4 are based on the population's history, and are the same across all model scenarios. For the AZA Giant Leaf-tailed Gecko Animal Program, the risk levels showed some variation between scenarios (Table C2). The goal for managers should be to move the population from a Critical status towards a Low Risk status, utilizing some of the management tactics highlighted in the model results.

Table C1: Standardized Risk Test, reflecting the population's status in zoos and aquariums.

Tests	Low Risk (LR)	Vulnerable (V)	Endangered (E)	Critical (C)
Probability of extinction in 100 years, based on PVA	0 - 9%	10 - 15%	20 - 49%	50 - 100%
Number of zoos with breeding-aged mixed-sex groups in current population	>3 Zoos	3 Zoos	2 Zoos	1 Zoo
Number of breeding-aged animals (m.f); based on current population	>10.10	7.7 to 10.10	4.4 to 6.6	0.0 to 3.3
Reproduction in the last generation, based on historic studbook data	>9 pairs reproducing	6-9 pairs reproducing	3-5 pairs reproducing	0-2 pairs reproducing
GD of starting population and/or population in 100 years based on PVA	Starting: > 0.9 100 yrs: > 0.9	Starting: 0.8 – 0.9 100 yrs: 0.75 – 0.9	Starting: 0.75 – 0.8 100 yrs: 0.5 – 0.75	Starting: < 0.75 100 yrs: < 0.5

Table C2: Detailed risk results for the population model scenarios.

Scenario		Individual Risk Score for Each Test						OVERALL RISK SCORE FOR EACH SCENARIO (HIGHLIGHTED)			
		Probability of extinction	Number of zoos	Breeding Groups	Breeding in Last Gen.	GD					
A	Open baseline; p(B) = 8.3%	LR	LR	LR	E	V		LR	V	E	C
B	Closed baseline; p(B) = 8.3%	C	LR	LR	E	C		LR	V	E	C
C	Open; p(B) = 11%	LR	LR	LR	E	V		LR	V	E	C
D	Open; p(B) = 21%	LR	LR	LR	E	LR		LR	V	E	C
E	Closed; p(B) = 21%	LR	LR	LR	E	V		LR	V	E	C
D1	Closed; p(B) = 21%; add individual 181	LR	LR	LR	E	V		LR	V	E	C

APPENDIX D. ADDITIONAL MODEL RESULTS

San Diego Zoo retains ownership of the single male (#181) that was exported to a non-AZA partner institution in 2008. Including this male in our projection of a population with increased breeding and no imports was not shown to impact the future genetic health of Fiji banded iguanas in AZA zoos and aquariums (Table D1).

Table D1. Additional model results.

SCENARIO		DEMOGRAPHICS					GENETICS				OVERALL POPULATION STATUS[2]
		Initial Population Size	Size in Year 25[1]	Size in Year 100[1]	Probability of Reaching Space (%)	Probability of Extinction (%)	Initial GD (%)	GD Retained in Year 100[1]	Initial F	F in Year 100[1]	
E	Closed; p(B) = 21%	53	119 ± 10	119 ± 7	100	0.1	90.5	83.8 ± 1.1	0.065	0.152 ± 0.013	Endangered
D1	Closed; p(B) = 21%; add individual 181	53	118 ± 9	119 ± 8	100	0.1	90.5	83.9 ± 1.2	0.065	0.151 ± 0.014	Endangered

GD = gene diversity, F = inbreeding coefficient

[1] Mean value ± 1 Standard Deviation, taken across 1000 iterations. If an iteration goes extinct that value is not included in the calculation, so results may only reflect a few iterations in scenarios with a high probability of extinction.

[2] ZooRisk uses five standardized tests to give a summary risk score for each scenario, from Low Risk (most secure), Vulnerable, Endangered, to Critical (least secure). For more details on this score, see Appendix C.

***Genetic results are likely optimistic as ZooRisk counts all imports as genetically unique potential founders (i.e., they unrelated to each other and the current population). In reality, it is likely that final GD would be lower and inbreeding higher than the results displayed in the table.*

Fijian Banded Iguana

Brachylophus bulabula

AZA Regional Studbook

Sixth Edition

Data Current to: March 22, 2022

Kim Gray

Curator of Herpetology & Ichthyology
San Diego Zoo Wildlife Alliance
P. (619) 557-3984
Post Office Box 120551
San Diego, CA 92112-0551
kgray@sdzwa.org

San Diego Zoo Wildlife Alliance

Table of Contents

AZA Studbook Disclaimer

The information contained in this studbook has been obtained from numerous sources believed to be reliable. AZA and the San Diego Zoo make a diligent effort to provide a complete and accurate representation of the data in its reports, publications, and services. However, AZA and the San Diego Zoo do not guarantee the accuracy, adequacy, or completeness of any information. AZA and the San Diego Zoo make no warranties or representations of any kind, express or implied, including but not limited to warranties of merchantability of fitness for particular purpose. AZA and the San Diego Zoo disclaim all liability for errors or omissions that may exist and shall not be liable for any incidental, consequential, or other damages (whether resulting from negligence or otherwise) including, without limitation, exemplary damages or lost profits arising out of or in connection with the use of this publication.

Because the technical information provided in the studbook can easily be misread or misinterpreted unless properly analyzed, AZA and San Diego Zoo strongly recommend that users of this information consult with the Studbook Keeper in all matters relate to data analysis and interpretation.

Introduction and Natural History

The Fijian Banded Iguana is one of only a few species of iguanas found in the Old World as well is one of the most geographically isolated members of the iguana species. The Fijian banded iguana, *Brachylophus bulabula*, is notably one of the most distinctive iguanids in the world today. The Lau Banded Iguana, Bracylophus fasciatus along with another full species, the Gau iguana (Brachylophus gau) were recently taxonomically split as both are genetically and morphologically distinct. Still other full species may result from further genetic evaluation of this group. Rarely seen in the wild, knowledge of this animal's natural behaviors is scarce, and until recently, there was very little known about the genetic variations and taxonomic diversity of the Brachylophus group. Fiji

iguanas are also one of the most striking lizard species in the world. Males have a dark green background with white or pale bluish spots and streaks on the neck and two large, vertical bands down the sides of the body, while females are generally solid green with occasional spots and partial bands. The general body structure is similar to a small green iguana but with a stouter, more compact head shape. Adult size is similar for both males and females, 15-19 cm SVL and up to 60 cm total length. Well suited for their arboreal lifestyle, they have long tails and toes that are equipped with sharp claws. This species is herbivorous, however there have been no diet studies performed on this species to determine what it eats in the wild, it is assumed this species would prefer the same food plants as the crested iguana (B. vitiensis) where wild diet for this species has been researched. This species is endemic to some of the larger central islands of Fiji. On Mali and Cikobia Islands, iguanas show significant differences in size and show some additional morphological differences as well, compared with populations found on other southern islands. Further genetic analysis is required in order to develop more detailed comparisons. The Fijian banded iguana is highly arboreal and occurs mostly in coastal and lowland wet forests. Most commonly found in areas of native trees, the iguanas prefer areas of many overlapping branches where their coloration is more cryptic and access to food and other trees is easier. Rarely seen on the ground, it is hypothesized the animals will only come down to the ground to nest. This species can reproduce at three years of age in captivity and specimens have lived for over 25 years. It is believed that B. bulabula may not reproductive until age four in the wild and the mean generation length is more likely to be 10-15 years based on field data for B. vitiensis. They lay an average of five eggs per clutch both in the wild and in captivity.

Conservation Status

Throughout the world, the Fiji iguana is now fully protected. On Fiji, it is illegal to export, and there are poaching fines. CITES has listed this animal on Appendix 1 since 1 June 1981, due to its vulnerable status and desirability for reptile collections. The U.S. Fish and Wildlife Service has listed the Fiji iguana as endangered since 20 March 1980. The IUCN Red Data Book (2012), lists this species as Endangered, based on its insular status, introduced feral predators, and habitat loss. There are currently no conservation measures in place for the Fiji Banded Iguana and data indicates that they do not occur in any protected areas, however further field surveys should be conducted to confirm absence from large forest preserves on Viti Levu Island. Makogai and Makodroga Islands would benefit from the establishment of national park status, thus protecting iguanas found on these islands. The current wild population is currently unknown and recent population surveys have shown iguanas to be very rare over most of their presumed range. Local extinctions have occurred on several islands, habitat fragmentation and loss, as well as predation by alien mongooses are implicated in these declines. This species has been in decline for the past century, due to introduction of predators such as

mongoose and feral cats, and to a lesser degree, goats and pigs, and habitat clearing for mining and agriculture. Due to limited habitat areas, and the ability of both major predators to colonize, all the populations must be considered endangered regardless of current population estimates. Overall recent population declines are estimated to be more than 50% with additional losses of 30-40% projected within the next 40 years. Further research surveys are needed to determine population sizes, trends, natural history, genetic analysis to help determine presence of unique haplotypes and even additional species. Educational programs should be developed and implemented to encourage the local community to embrace and understand the conservation needs of the Fijian Banded Iguana. Discussions to help create a Conservation Action Plan have taken place as to date, no specific conservation actions have been designed or implemented and such a plan could greatly benefit this species. Support of genetic studies and partnerships with the Fijian Government and conservation organizations within Fiji are strongly encouraged.

Female Fijian banded iguana (Brachylophus bulabula)

Male Fijian Banded Iguana (Brachylophus bulabula)

Captive Management

As of 22 March 2022, there are 42.24.0 (66) At 20 Institutions This species has reproduced in a few U.S. zoos, and F2 generations have been hatched at the San Diego Zoo, Dallas Zoo, San Antonio Zoo, Audubon Zoo, Cincinnati Zoo and the Smithsonian's National Zoo and Lowry Park Zoo. Eight of the ten founding animals are a group of four pairs acquired from the Orchid Island Cultural Centre on Fiji in 1987 and housed in San Diego. Some of the original founders have died, but many offspring are now reproducing, and many others are reaching reproductive age. Over the past decade, more than 100 captive offspring have been produced and these represent all but six of the current population. All of the wild-caught animals still alive have successfully reproduced, and assuming they were unrelated, no inbreeding of animals has occurred. The addition of 2 new founders and two unrelated offspring were introduced to the overall population in 2012 when a USFWS confiscation was turned over to the San Diego Zoo, enabling us to add these animals to the breeding program.

Husbandry Procedures

Fijian iguanas should be housed in roomy enclosures, a minimum of 4'W x 4'L x 4'H and screened on all sides. The larger the enclosure the better as the males can be extremely territorial with the potential to become aggressive toward a female if not provided with ample room. Enclosures should be provided with many large horizontal branches for climbing. Since this is where the animals will spend most of their time, the branches should be of a large enough diameters for comfortable resting. Sandblasted grape vines have been used with success and are aesthetically pleasing also. Nontoxic tropical plants (e.g. *Ficus, Fatsia, Coccoloba,*) are added for perching, animal security and browse. Plenty of plants will allow for an area for the female to hide from the male if necessary. Nontoxic plants are essential as the iguanas will browse on the leaves, so the plants may need to be replaced often. Enclosures are misted thrice weekly with tepid water to allow the animals to drink off the leaves and branches. Although bowls of clean water are provided at all times, they should not be relied upon to keep the animals hydrated. Sphagnum moss covers the cage bottoms to hold moisture and raise humidity to aid in the shedding process. Due to the large amount of water used, cage bottoms should either be made of hardware cloth or provided with sufficient drainage. Proper air circulation throughout the cage is essential to prevent any bacterial infections, particularly of the skin. The most important element in the captive care of these iguanas is access to natural sunlight. All cages should be portable, on wheels, or built in such a way that they can be placed in the sun during fair weather. A few hours a day or at least several times a week seems to be adequate. No combination of commercially available lights is sufficient for the long-term management of Fiji iguanas. Depressed appetite, poor color, hypocalcemia, and eventually death may occur if the animals are not allowed to bask naturally. Access to shaded areas and proper amounts of screening are important to

keep animals from overheating, and to allow natural thermoregulation. During inclement weather, the following lighting system can be used. Again it should be stressed that this is not a permanent or long-term option. A Sylvania™ BL 350 black light bulb is used in combination with full spectrum Dura-test™ bulb. Indoor temperatures are maintained between 72° and 80° F at night and 80° to 88° F daily. 250 watt infrared heat lamps are used to provide basking sites indoors. The photo period is 12 hour days and 12 hour nights year round. No artificial cooling period is used, only the natural San Diego climate. Male iguanas are highly territorial and should never be housed together. Visual barriers, such as curtains should be used between cages to prevent males from viewing one another. If males are allowed to become over stimulated, they could attack and injure their cage mate females causing serious bite wounds or even death. However, a closely monitored viewing schedule between males will help to stimulate breeding. Placing the cages so the males can see each other for fifteen minutes and then replacing the cages to the normal position is usually adequate. All animals should be watched for a while after such encounters. Females may also be territorial, so they should be housed alone or with a single male. It is best to house pairs of animals together year round. If a reintroduction is necessary due to medical treatment etc., monitor both animals closely afterwards. Even previously amicable pairs can become aggressive if separated and reintroduced. Obviously, separations and reintroductions should be kept to a minimum. Some biting may occur naturally as part of the introduction process, but, if serious wounds appear, the female must be removed. Some pairs may never become compatible. Fijian banded iguanas are omnivorous and should be offered the greatest variety of foods possible. Three times a week, a mixture of fruits and vegetables, chopped to a proper size for the individual, should be offered. The green base for the salad is either kale, dandelion greens, collard greens or mustard greens. Lettuce has little nutritional value and spinach contains oxalates, so these should not be fed exclusively. Other vegetables offered are: broccoli, bean sprouts, yams, and shredded carrots. Fruits may include: mango, papaya, kiwi, berries, melons, grapes and any other seasonal fruit for variety. Bananas should be avoided or fed in very small amounts due to their low calcium/high phosphorous content. Fresh browse is also used, especially *Hibiscus* flowers and leaves, but daisies, dandelions and mulberry can also be fed. Three or four times weekly, different insects are fed from a choice of: waxworms, crickets, kingworms and silkworms. Males should be monitored closely as they have a tendency towards obesity. Legs, tail and neck should be firm and well muscled but not puffy and fat. All food items are dusted with a 1:1 mixture of calcium carbonate and a vitamin supplement before feeding. Reproductive females can be given extra calcium in the form of pink mice or liquid calcium gluconate. Dosages should be confirmed with a veterinarian and may be given daily through an eyedropper or it may be drizzled on food items. Post ovipositional female’s appetite and weight must be monitored closely. Loss of appetite can be a sign of egg binding or other problems. Without extra care a female's health may decline quickly and death can result.

Reproduction

Courtship in Fiji iguanas may include color intensification, head bobbing and biting of the neck and foreleg region. Courtship may occur many times without copulation occurring. Females should be watched closely during courtship for any signs of wounds inflicted by the male. During intense courtship, a female's appetite may become depressed and she may have to be hand fed. Iguanas may lay in their second year, but fertility is very low until the third or fourth year. Females usually lay one clutch of 3 to 7 eggs annually, with occasional double clutches spaced at 3 to 6 month intervals. In San Diego the majority of clutches are laid between April and July, but there have been clutches in every month of the year. Large nest boxes, at least 145 cm W x 45 cm H x 45 cm L are needed. Covered Tupperware™ type boxes can be used. Providing several small holes drilled in the bottom of the box for drainage, and a 10 cm x 10 cm hole in the lid as an entrance for the iguana. Most females seem to prefer the security of the lid as opposed to a bare surface. The nest box is filled within 5cm of the top with loamy, well packed potting soil. The female digs a diagonal nest about 12" deep and angled downward away from the entrance. Into the nest cavity she will deposit the eggs, then bury the cavity and tamp down the soil with her head. Laying usually takes place late in the afternoon or overnight. Care should be taken not to disturb the female while she is nesting. The nest is defended by the female for only a short time, and the nest box may be removed and the eggs taken for incubation shortly after being laid and covered up by the female. The eggs are 2 cm. x 4 cm. upon laying and weigh from 8 to 10 grams. They are incubated in a 1:1 by weight mixture of vermiculite and water. A covered air-tight Tupperware™ type box is used for incubation, and the vermiculite/water substrate is changed every two weeks. About 5cm of air space is left between the surface of the substrate and the lid of the box to allow for gas exchange. Eggs are incubated at 82°F which has resulted in almost a 1:1 ratio of males to females. Incubation time has varied from 121 to almost 200 days. Earlier trials with different incubation temperatures resulted in deformities and poor egg viability. When the egg is slit, the egg is removed from the vermiculite and placed into another container on a clean, moist cloth. Hatchlings are removed from the vermiculite so they will not ingest it. Care must be taken not to frighten the hatchling into bursting out of its egg and tearing its umbilical tissue. The towel is changed daily and kept moist until the umbilical tissue drops off and the belly heals, usually occurring in two days. Hatchlings weigh between 8 and 14 grams and most can be sexed immediately by the distinct banding. Fijian iguana hatchlings are housed alone in 20 gallon screen sided terrariums outfitted with plants and climbing structures similar to the adult cages. Access to natural sunlight is permitted daily as hypocalcemia and other problems can develop rapidly in young animals. Young are weighed weekly until they start to eat well, and put on weight rapidly. Hatchlings are offered the same food and supplements as the adults. However, hatchlings seem to be more insectivorous than adults and should be fed insects more regularly. Normally young will begin eating within the first two weeks, but some do not. If a hatchling loses more than 10 percent of its body weight, it should be hand fed.

Hand feeding is done by carefully opening the mouth of the hatchling with a fingernail and placing the food item in its mouth. Normally the animal will bite down and chew immediately. While the animal is chewing, another item may be placed in its mouth. Another method of hand feeding is to crush different fruits in a little water and suck the mixture into an eyedropper. Place a drop of the fluid on the tip of the animal's nose. When the animal starts to lick, another drop can be placed. At three months of age, suitable pairs of animals may be placed together.

Hatchling Fijian Banded Iguana (Brachylophus bulabula)

Hatching and full term Fijian banded iguana eggs

Comments and Discussion

If certain requirements are met, the Fijian banded iguana is a hardy, long-lived animal. The lifespan of this iguana is believed to average 20 years with some specimens over 25 years in age documented. Animals in ill health show very obvious signs: poor appetite, their color will vary from black to bright chartreuse and their eyes will be sunken. Timely supportive care is necessary to keep these animals alive. Nematodes and the other typical types of intestinal parasites are occasionally found in captive iguanas, but are easily cured. Fiji banded iguanas have shown no adverse affects from most common antibiotics or antihelminthics. Ivermectin (Ivomec®, 1%, Merck & Co., Rahway, N.J.), however, should only be given orally **not** subcutaneously as extreme aggression and loss of appetite will result. These are fascinating and beautiful iguanas, and highly recommended to institutions with adequate facilities.

Bibliography

Fisher, R., Grant, T. & Harlow, P. 2012. *Brachylophus bulabula*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2.

Ineich, I. 2011. Amphibians and reptiles. In: Bouchet P., Le Guyader H. & PascaL O. (eds), The Natural History of Santo. pp. 187-236. MNhN, Paris; Ird, Marseille; PNI, Paris. 572 pp. (Patrimoines naturels; 70).

INEICH, Ivan 2009. The terrestrial herpetofauna of Torres and Banks Groups (northern Vanuatu), with report of a new species for Vanuatu. Zootaxa 2198: 1-15

Keogh JS, Edwards DL, Fisher RN, Harlow PS. 2008. Molecular and morphological analysis of the critically endangered Fijian iguanas reveals cryptic diversity and a complex biogeographic history. Philos Trans R Soc Lond B Biol Sci. 363(1508): 3413-26

Robert N. Fisher, Niukula J, Watling D, Harlow PS. 2017. A new species of iguana *Brachylophus* Cuvier 1829 (Sauria: Iguania: Iguanidae) from Gau Island, Fiji Islands. Zootaxa 4273 (3): 407-422

Column Name Description

StudBook ID: Unique studbook number assigned when a specimen is entered into the studbook.

Sex: M = Male F = Female U = Unknown

Hatch Date/Hatch Date Estimate: Date of hatch (day/month/year). Hatch dates are actual, estimated, or unknown. Estimates can be accurate to the day, month, year or a range.

Sire/Dam: Studbook number of the parents. WILD if parents were imported from the wild; UNK if captive hatched iguanas are of unknown parentage.

Event: Type of event: capture, hatch, transfer, or death.

Location: Specimen location listed from earliest to most recent. If wild caught, location of capture site is reported.

Local ID: Accession or identification number assigned to the specimen by the institution.

Date/Date Est: Date of arrival (day/month/year) at institution. If the arrival date is unknown an estimated date is used.

Living Population by Institution

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
ATLANTA - Zoo Atlanta, Atlanta, GA, USA											
183	3/27/2003	None	60	89	Male	Not Contracepted	Hatch	SANDIEGOZ	903034	3/27/2003	None
							Transfer	LOWRY	303581	11/12/2013	None
							Transfer	ATLANTA	15R001	1/20/2016	None
Totals: 1.0.0 (1)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
BUFFALO – Buffalo Zoo, Buffalo, NY, USA											
268	7/9/2018	None	216	224	Male	Not Contracepted	Hatch	LOWRY	303793	3/27/2003	None
							Transfer	BUFFALO	R21000	4/28/2021	None
Totals: 1.0.0 (1)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
CHICAGOBR - Chicago Zoological Society, Brookfield, IL, USA											
235	7/12/2013	None	225	227	Male	Not Contracepted	Hatch	SANDIEGOZ	913258	7/12/2013	None
							Transfer	CHICAGOBR	6086	6/9/2015	None
256	2/16/2018	None	216	224	Female	Not Contracepted	Hatch	LOWRY	303735	2/16/2018	None
							Transfer	CHICAGO	9669	1/14/2021	None
Totals: 1.1.0 (2)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
CLEVELAND - Cleveland Metroparks Zoo, Cleveland, OH, USA											
156	1/14/2000	None	60	89	Male	Not Contracepted	Hatch	SANDIEGOZ	900004	1/14/2000	None
							Transfer	SHEDD AQ	205069	3/17/2006	None
							Transfer	CLEVELAND	M80904	9/17/2008	None
Totals: 1.0.0 (1)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
DALLAS - Dallas Zoo, Dallas, TX, USA											
285	6/13/2020	None	213	234	Male	Not Contracepted	Hatch	DALLAS	20C247	6/13/2020	None
286	6/22/2020	None	213	234	Female	Not Contracepted	Hatch	DALLAS	20C251	6/22/2020	None
Totals: 1.1.0 (2)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
DENVER – Denver Zoo, Denver, CO, USA											
262	2/18/2018	None	216	224	Male	Not Contracepted	Hatch	LOWRY	303739	2/18/2018	None
							Transfer	DENVER	A20048	7/8/2020	None
Totals: 1.0.0 (1)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
EVANSVLLE - Mesker Park Zoo, Evansville, IN, USA											
161	2/16/2018	None	60	89	Male	Not Contracepted	Hatch	SANDIEGOZ	901017	2/16/2001	None
							Transfer	NORFOLK	204073	10/12/2004	None
							Transfer	EVANSVLLE	313010	5/18/2017	None
Totals: 1.0.0 (1)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
FORTWORTH – Fort Worth Zoological Park, Fort Worth, TX, USA											
216	12/29/2008	None	83	162	Male	Not Contracepted	Hatch	SANDIEGOZ	908560	12/29/2008	None
							Transfer	LOWRY	303631	4/22/2015	None
							Transfer	FORTWORTH	211912	1/14/2020	None
224	12/2/2010	None	186	185	Female	Not Contracepted	Hatch	SANDIEGOZ	910590	12/2/2010	None
							Transfer	LOWRY	303582	11/12/2013	None
							Transfer	FORTWORTH	UNK	1/16/2020	None
Totals: 1.1.0 (2)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
FRESNO - Chaffee Zoological Gardens of Fresno, Fresno, CA, USA											
182	3/27/2003	None	60	89	Male	Not Contracepted	Hatch	SANDIEGOZ	903033	3/27/2003	None
							Transfer	FRESNO	290056	4/11/2009	None
245	4/25/2015	None	221	212	Female	Not Contracepted	Hatch	NZP-WASH	307533	4/25/2015	None
							Transfer	FRESNO	320092	10/20/2021	None
Totals: 1.1.0 (2)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
HOUSTON - Houston Zoo, Inc., Houston, TX, USA											
104	10/21/1994	None	27	42	Male	Not Contracepted	Hatch	SAN ANTON	941028	10/21/1994	None
							Transfer	HOUSTON	15518	11/28/1994	None
199	2/11/2005	None	60	89	Female	Not Contracepted	Hatch	SANDIEGOZ	905012	2/11/2005	None
							Transfer	HOUSTON	22910	4/12/2007	None
209	5/7/2008	None	186	185	Male	Not Contracepted	Hatch	SANDIEGOZ	908138	5/7/2008	None
							Transfer	HOUSTON	28420	9/26/2013	None
Totals: 2.1.0 (3)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
KNOXVILLE – Knoxville Zoo, Knoxville, TN, USA											
267	7/9/2018	None	216	224	Male	Not Contracepted	Hatch	LOWRY	303792	7/9/2018	None
							Transfer	KNOXVILLE	5903	3/18/2021	None
Totals: 1.0.0 (1)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
LOWRY - Tampa's Lowry Park Zoo, Tampa, FL, USA											
257	2/18/2018	None	216	224	Male	Not Contracepted	Hatch	LOWRY	303738	2/18/2018	None
258	2/18/2018	None	216	224	Female	Not Contracepted	Hatch	LOWRY	303737	2/18/2018	None

261	2/16/2018	None	216	224	Male	Not Contracepted	Hatch	LOWRY	303734	2/16/2018	None
263	7/5/2018	None	216	224	Female	Not Contracepted	Hatch	LOWRY	303788	7/5/2018	None
264	7/9/2018	None	216	224	Female	Not Contracepted	Hatch	LOWRY	303789	7/9/2018	None
265	7/9/2018	None	216	224	Male	Not Contracepted	Hatch	LOWRY	303790	7/9/2018	None
269	2/18/2018	None	216	224	Male	Not Contracepted	Hatch	LOWRY	303738	2/18/2018	None
Totals: 4.3.0 (7)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
NORFOLK - Virginia Zoological Park, Norfolk, VA, USA											
222	10/15/2001	None	84	180	Male	Not Contracepted	Hatch	SANDIEGOZ	9010032	2/23/2010	None
							Transfer	EVANSVLLE	313010	10/17/2013	None
							Transfer	NORFOLK	217198	7/11/2017	None
Totals: 1.0.0 (1)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
NZP-WASH - Smithsonian National Zoological Park, Washington, DC, USA											
212	12/13/2008	None	83	162	Female	Not Contracepted	Hatch	SANDIEGOZ	908521	12/13/2008	None
							Transfer	NZP-WASH	307298	7/27/2010	None
221	2/18/2010	None	84	180	Male	Not Contracepted	Hatch	SANDIEGOZ	910031	2/18/2010	None
Totals: 1.1.0 (2)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
OKLAHOMA – Oklahoma City Zoological Park, Oklahoma, CA, USA											
266	7/9/2018	None	216	224	Male	Not Contracepted	Hatch	LOWRY	303791	7/9/2018	None
							Transfer	OKLAHOMA	752401	7/21/2020	None
Totals: 1.0.0 (1)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
SAN ANTON - San Antonio Zoological Gardens & Aquar, San Antonio, TX, USA											
260	2/16/2018	None	216	224	Male	Not Contracepted	Hatch	LOWRY	303736	2/16/2018	None
							Transfer	SAN ANTON	B20008	10/7/2020	None
Totals: 1.0.0 (1)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
SANDIEGOZ - San Diego Zoo, San Diego, CA, USA											
180	3/7/2003	None	84	59	Female	Not Contracepted	Hatch	SANDIEGOZ	903031	3/7/2003	None
225	7/1/2005	Year	WILD	WILD	Male	Not Contracepted	Hatch	FIJI	UNK	7/1/2005	None
							Transfer	USFWS	UNK	5/11/2007	None
							Transfer	SANDIEGOZ	907105	10/4/2011	None
							Transfer	SANDIEGOZ	907105	5/11/2007	None
227	7/1/2005	Year	WILD	WILD	Female	Not Contracepted	Hatch	FIJI	UNK	7/1/2005	Year

							Transfer	USFWS	UNK	5/11/2007	None
							Transfer	SANDIEGOZ	907107	5/11/2007	None
230	12/22/2007	None	WILD	226	Female	Not Contracepted	Hatch	SANDIEGOZ	907581	12/22/2007	None
232	1/11/2011	None	208	215	Female	Not Contracepted	Hatch	SANDIEGOZ	911032	1/11/2011	None
236	7/18/2013	None	225	227	Male	Not Contracepted	Hatch	SANDIEGOZ	913268	7/18/2013	None
237	7/22/2013	None	225	227	Male	Not Contracepted	Hatch	SANDIEGOZ	913270	7/22/2013	None
239	12/30/2013	None	225	227	Female	Not Contracepted	Hatch	SANDIEGOZ	913464	12/30/2013	None
240	12/30/2013	None	225	227	Female	Not Contracepted	Hatch	SANDIEGOZ	913465	12/30/2013	None
241	6/15/2015	None	225	227	Female	Not Contracepted	Hatch	SANDIEGOZ	915092	6/15/2015	None
242	6/15/2015	None	225	227	Male	Not Contracepted	Hatch	SANDIEGOZ	915093	6/15/2015	None
243	6/15/2015	None	225	227	Male	Not Contracepted	Hatch	SANDIEGOZ	915094	6/15/2015	None
246	1/8/2016	None	221	212	Male	Not Contracepted	Hatch	NZP-WASH	307587	1/8/2016	None
							Transfer	SANDIEGOZ	916380	5/23/2019	None
247	1/7/2016	None	221	212	Male	Not Contracepted	Hatch	NZP-WASH	307589	1/7/2016	None
							Transfer	SANDIEGOZ	916382	5/23/2019	None
249	6/1/2016	None	216	224	Female	Not Contracepted	Hatch	LOWRY	303660	6/1/2016	None
							Transfer	SANDIEGOZ	916098		None
250	6/1/2016	None	216	224	Female	Not Contracepted	Hatch	LOWRY	303661	6/1/2016	None
							Transfer	SANDIEGOZ	916099	10/30/2018	None

251	6/11/2016	None	216	224	Male	Not Contracepted	Hatch	LOWRY	303663	6/1/2016	None
							Transfer	SANDIEGOZ	916097	10/30/2018	None
252	1/28/2016	None	221	212	Male	Not Contracepted	Hatch	NZP-WASH	307590	1/28/2016	None
							Transfer	SANDIEGOZ	916383	5/23/2019	None
273	1/14/2019	None			Female	Not Contracepted	Hatch		1000031	1/14/2019	None
274	5/4/2019	None			Male	Not Contracepted	Hatch		1000366	5/4/2019	None
275	1/1/2015 +/-	None	WILD	WILD	Male	Not Contracepted	Hatch	FIJI	-	1/1/2015	+/- 6 month
							Transfer (Wild Capture)	FIJI	-	1/1/2017	+/- 6 month
							Transfer	BUENOSAR	R1200	1/17/2018	None
							Transfer	SANDIEGOZ	918030	6/6/2018	None
276		None			Male	Not Contracepted	Hatch	SANDIEGOZ	1001350	12/4/2019	None
277		None			Male	Not Contracepted	Hatch	SANDIEGOZ	1001424	1/2/2020	None
278		None			Female	Not Contracepted	Hatch	SANDIEGOZ	1001427	1/4/2020	None
279		None			Male	Not Contracepted	Hatch	SANDIEGOZ	1001426	1/4/2020	None
280		None			Female	Not Contracepted	Hatch	SANDIEGOZ	1001506	1/23/2020	None
281		None			Male	Not Contracepted	Hatch	SANDIEGOZ	1001736	3/29/2020	None
282		None			Female	Not Contracepted	Hatch	SANDIEGOZ	1001739	3/31/2020	None
283		None			Male	Not Contracepted	Hatch	SANDIEGOZ	1001800	4/22/2020	None
284		None			Male	Not Contracepted	Hatch	SANDIEGOZ	1001910	1/2/2020	

288		None			Female	Not Contracepted	Hatch	SANDIEGOZ	1001881	5/18/2021	
289		None			Female	Not Contracepted	Hatch	SANDIEGOZ	1001896	5/27/2021	
290		None			Male	Not Contracepted	Hatch	SANDIEGOZ	1001873	5/15/2020	
Totals: 19.14.0 (33)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
TOLEDO - Toledo Zoological Gardens, Toledo, OH, USA											
208	5/5/2008	None	186	185	Male	Not Contracepted	Hatch	SANDIEGOZ	908137	5/5/2008	None
							Transfer	TOLEDO	7795	4/26/2012	None
Totals: 1.0.0 (1)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
TORONTO - Toronto Zoo, Toronto, ON, USA											
291	9/2/2014	None	UND	UND	Male	Not Contracepted	Hatch	KOLN	R714	9/2/2019	None
							Transfer	TORONTO	50589	10/18/2018	None
292	9/8/2013	None	UND	UND	Male	Not Contracepted	Hatch	ZURICH	B30506	9/8/2013	None
							Transfer	TORONTO	51681	9/15/2021	None
Totals: 1.1.0 (2)											

Studbook ID	Hatch Date	Hatch Date Est.	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date	Date Est.
TULSA - Tulsa Zoo & Living Museum, Tulsa, OK, USA											

219	12/30/2009	None	84	180	Male	Not Contracepted	Hatch	SANDIEGOZ	909562	12/30/2009	None
							Transfer	TULSA	16554	7/12/2012	None
Totals: 1.0.0 (2)											

TOTALS: 42.24.0 (66)

Historical Population by Studbook Number

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
1	01/Jan/1975 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jan/1975 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1975 +/- 6 month
						Transfer	SANDIEGOZ	236	27/Jul/1976
						Death	SANDIEGOZ	236	07/Jan/1986
2	01/Jun/1972 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jun/1972 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jun/1972 +/- 6 month
						Transfer	SACRAMNTO	300171	01/Jun/1973 +/- 15 day
						Transfer	SANDIEGOZ	1191	20/Jul/1977
						Death	SANDIEGOZ	1191	14/Jan/1986
3	05/Nov/1981	68	64	Male	-	Birth/Hatch	SANDIEGOZ	381224	05/Nov/1981
						Death	SANDIEGOZ	381224	01/Jun/1999
4	16/May/1982	2	1	Male	-	Birth/Hatch	SANDIEGOZ	382060	16/May/1982
						Transfer	FORTWORTH	895001	24/May/1989
						Transfer	SANDIEGOZ	382060	20/May/1991
						Death	SANDIEGOZ	382060	11/Apr/2001
5	01/Jun/1986 +/- 15 day	WILD	WILD	Male	-	Birth/Hatch	ORCHIDISL	UNK	01/Jun/1986 +/- 15 day
						Transfer	ORCHIDISL	UNK	01/Jun/1986 +/- 15 day
						Transfer	SANDIEGOZ	187307	16/Sep/1987
						Death	SANDIEGOZ	187307	12/Sep/2002
6	01/Oct/1985 +/- 1 day	WILD	WILD	Female	-	Birth/Hatch	ORCHIDISL	UNK	01/Oct/1985 +/- 1 day
						Transfer	SANDIEGOZ	187308	16/Sep/1987
						Death	SANDIEGOZ	187308	13/Apr/1993

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
7	01/Jul/1986 +/- 15 day	WILD	WILD	Female	-	Birth/Hatch	ORCHIDISL	UNK	01/Jul/1986 +/- 15 day
						Transfer	SANDIEGOZ	187309	16/Sep/1987
						Death	SANDIEGOZ	187309	20/Nov/1992
8	01/Oct/1985 +/- 1 day	WILD	WILD	Female	-	Birth/Hatch	ORCHIDISL	UNK	01/Oct/1985 +/- 1 day
						Transfer	SANDIEGOZ	187310	16/Sep/1987
						Death	SANDIEGOZ	187310	20/May/1996
9	01/Jan/1986 +/- 15 day	WILD	WILD	Male	-	Birth/Hatch	ORCHIDISL	UNK	01/Jan/1986 +/- 15 day
						Transfer	SANDIEGOZ	188091	19/May/1988
						Death	SANDIEGOZ	188091	25/Aug/1998
10	01/Jan/1987 +/- 15 day	WILD	WILD	Male	-	Birth/Hatch	ORCHIDISL	UNK	01/Jan/1987 +/- 15 day
						Transfer	SANDIEGOZ	188092	19/May/1988
						Death	SANDIEGOZ	188092	03/Aug/1997
11	01/Jan/1987 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jan/1987 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1987 +/- 6 month
						Transfer	ORCHIDISL	UNK	01/Jan/1987 +/- 6 month
						Transfer	SANDIEGOZ	188093	19/May/1988
						Transfer	FORTWORTH	905001	17/May/1990
						Transfer	SANDIEGOZ	188093	20/Mar/1991
						Transfer	TULSA	12696	30/Apr/1998
						Death	TULSA	12696	13/May/2013
12	01/Jan/1986 +/- 15 day	WILD	WILD	Female	-	Birth/Hatch	ORCHIDISL	UNK	01/Jan/1986 +/- 15 day
						Transfer	SANDIEGOZ	188095	19/May/1988
						Transfer	FORTWORTH	885002	04/Aug/1988
						Transfer	SANDIEGOZ	188095	09/May/1990
						Death	SANDIEGOZ	188095	15/May/1991

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
13	01/Jan/1986 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	ORCHIDISL	UNK	01/Jan/1986 +/- 6 month
						Transfer	SANDIEGOZ	188096	19/May/1988
						Death	SANDIEGOZ	188096	21/Aug/1996
14	20/Jul/1989	5	6	Female	-	Birth/Hatch	SANDIEGOZ	189174	20/Jul/1989
						Transfer	CINCINNAT	390055	03/Jul/1990
						Death	CINCINNAT	390055	13/May/1995
15	31/Jul/1989	5	6	Female	-	Birth/Hatch	SANDIEGOZ	189183	31/Jul/1989
						Transfer	AUDUBON	R1084	23/Mar/1993
						Death	AUDUBON	R1084	25/Oct/1999 +/- 1 day
16	08/Aug/1989	9	7	Male	-	Birth/Hatch	SANDIEGOZ	189190	08/Aug/1989
						Transfer	KNOXVILLE	926	16/May/1990
						Death	KNOXVILLE	926	19/Feb/1991
17	09/Aug/1989	9	7	Female	-	Birth/Hatch	SANDIEGOZ	189191	09/Aug/1989
						Transfer	KNOXVILLE	927	16/May/1990
						Death	KNOXVILLE	927	18/Nov/1991
18	21/Nov/1989	9	7	Male	-	Birth/Hatch	SANDIEGOZ	189337	21/Nov/1989
						Transfer	ST LOUIS	920451	28/Apr/1992
						Death	ST LOUIS	920451	19/Nov/2005
19	23/Feb/1990	5	6	Female	-	Birth/Hatch	SANDIEGOZ	190049	23/Feb/1990
						Death	SANDIEGOZ	190049	29/Jan/1994
20	07/Mar/1990	5	6	Female	-	Birth/Hatch	SANDIEGOZ	190066	07/Mar/1990
						Death	SANDIEGOZ	190066	01/Oct/1991
21	09/Mar/1990	3	13	Female	-	Birth/Hatch	SANDIEGOZ	190067	09/Mar/1990
						Transfer	CINCINNAT	390054	03/Jul/1990
						Death	CINCINNAT	390054	11/Jun/1991
22	09/Mar/1990	3	13	Female	-	Birth/Hatch	SANDIEGOZ	190068	09/Mar/1990
						Death	SANDIEGOZ	190068	03/Oct/2003
23	19/Jul/1990	3	13	Female	-	Birth/Hatch	SANDIEGOZ	190198	19/Jul/1990
						Death	SANDIEGOZ	190198	18/Jun/2003
24	21/Jul/1990	3	13	Male	-	Birth/Hatch	SANDIEGOZ	190199	21/Jul/1990
						Transfer	AUDUBON	R1083	23/Mar/1993
						Transfer	SANDIEGOZ	190199	17/Oct/1996

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Transfer	OMAHA	11329	22/Sep/1999
						Death	OMAHA	1329	16/May/2012
25	24/Jul/1990	3	13	Female	-	Birth/Hatch	SANDIEGOZ	190203	24/Jul/1990
						Death	SANDIEGOZ	190203	01/Sep/1994
26	25/Jul/1990	3	13	Male	-	Birth/Hatch	SANDIEGOZ	190204	25/Jul/1990
						Transfer	DALLAS	917233	15/Aug/1991
						Transfer	SANDIEGOZ	190204	20/Jul/1995
						Transfer	AUDUBON	R1382	15/Oct/1996
						Transfer	ST AUGUST	A01021	16/May/2001
						Transfer	CENTRALPK	C07056	28/May/2007
						Death	CENTRALPK	C07056	25/Jun/2007
27	29/Jul/1990	3	13	Male	-	Birth/Hatch	SANDIEGOZ	190240	29/Jul/1990
						Transfer	SAN ANTON	930331	23/Mar/1993
						Death	SAN ANTON	930331	01/Sep/2000
28	29/Jul/1990	3	13	Male	-	Birth/Hatch	SANDIEGOZ	190241	29/Jul/1990
						Death	SANDIEGOZ	190241	19/Sep/1997
29	25/Oct/1990	9	7	Female	-	Birth/Hatch	SANDIEGOZ	190343	25/Oct/1990
						Transfer	DALLAS	917234	15/Aug/1991
						Death	DALLAS	917234	25/Mar/1994
30	27/Oct/1990	9	7	Female	-	Birth/Hatch	SANDIEGOZ	190344	27/Oct/1990
						Death	SANDIEGOZ	190344	11/Feb/1992
31	30/Oct/1990	9	7	Female	-	Birth/Hatch	SANDIEGOZ	190355	30/Oct/1990
						Transfer	ST LOUIS	920452	28/Apr/1992
						Death	ST LOUIS	920452	18/Oct/1995
32	03/Nov/1990	9	7	Male	-	Birth/Hatch	SANDIEGOZ	190362	03/Nov/1990
						Transfer	CINCINNAT	393126	05/May/1993
						Death	CINCINNAT	393126	29/Jul/2004
33	21/Nov/1990	9	7	Male	-	Birth/Hatch	SANDIEGOZ	190363	21/Nov/1990
						Transfer	CINCINNAT	391062	01/Oct/1991
						Death	CINCINNAT	391062	01/Mar/2000
34	27/Nov/1990	10	8	Female	-	Birth/Hatch	SANDIEGOZ	190364	27/Nov/1990
						Death	SANDIEGOZ	190364	10/Apr/1992
35	29/Nov/1990	10	8	Female	-	Birth/Hatch	SANDIEGOZ	190365	29/Nov/1990
						Transfer	DALLAS	917232	15/Aug/1991

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Death	DALLAS	917232	12/Mar/1995
36	04/Dec/1990	10	8	Male	-	Birth/Hatch	SANDIEGOZ	190366	04/Dec/1990
						Death	SANDIEGOZ	190366	31/Mar/2006
37	30/Jan/1991	9	7	Male	-	Birth/Hatch	SANDIEGOZ	191005	30/Jan/1991
						Death	SANDIEGOZ	191005	18/Jul/1997
38	31/Jan/1991	10	8	Male	-	Birth/Hatch	SANDIEGOZ	191006	31/Jan/1991
						Transfer	CYCLURARC	UNK	10/Mar/1992
						Transfer	SANDIEGOZ	191006	18/Mar/1995
						Transfer	TOLEDO	973150	03/Sep/1997
						Death	TOLEDO	73150	24/Aug/2012
39	21/Feb/1991	9	7	Female	-	Birth/Hatch	SANDIEGOZ	191022	21/Feb/1991
						Death	SANDIEGOZ	191022	20/Mar/1992
40	06/Apr/1991	9	7	Male	-	Birth/Hatch	SANDIEGOZ	191070	06/Apr/1991
						Transfer	CINCINNAT	391063	01/Oct/1991
						Transfer	CINCINNAT	391063	10/Jan/1992
						Transfer	CINCINNAT	391063	01/Oct/1992
						Death	CINCINNAT	391063	03/Feb/1993
41	03/Jul/1991	5	6	Male	-	Birth/Hatch	SANDIEGOZ	191150	03/Jul/1991
						Death	SANDIEGOZ	191150	26/Apr/2013
42	01/Feb/1991	10	8	Female	-	Birth/Hatch	SANDIEGOZ	191007	01/Feb/1991
						Transfer	SAN ANTON	930332	23/Mar/1993
						Death	SAN ANTON	930332	22/Oct/2002
43	03/Jun/1991	5	6	Male	-	Birth/Hatch	SANDIEGOZ	191132	03/Jun/1991
						Transfer	DALLAS	917231	15/Aug/1991
						Transfer	SANDIEGOZ	191132	20/Jul/1995
						Death	SANDIEGOZ	death code needed	15/Aug/2011
44	17/Jun/1991	5	6	Female	-	Birth/Hatch	SANDIEGOZ	191146	17/Jun/1991
						Transfer	CYCLURARC	UNK	10/Mar/1992
						Transfer	SANDIEGOZ	191146	18/Mar/1995
						Transfer	TOLEDO	973151	03/Sep/1997
						Death	TOLEDO	973151	16/Sep/2008
45	29/Dec/1991	9	7	Male	-	Birth/Hatch	SANDIEGOZ	191417	29/Dec/1991
						Transfer	TOLEDO	933029	20/Apr/1993

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Transfer	DETROIT	5767	08/May/1997
						Death	DETROIT	5767	24/Jul/2004
46	13/Apr/1992	9	7	Male	-	Birth/Hatch	SANDIEGOZ	192097	13/Apr/1992
						Transfer	FRESNO	6690	23/Mar/1993
						Death	FRESNO	6690	28/Nov/2003
47	13/Apr/1992	9	7	Male	-	Birth/Hatch	SANDIEGOZ	192098	13/Apr/1992
						Transfer	DENVER	930095	20/Apr/1993
						Transfer	ATLANTA	985000	28/Apr/1998
						Death	ATLANTA	985000	20/Apr/2001
48	18/Apr/1992	9	7	Female	-	Birth/Hatch	SANDIEGOZ	192106	18/Apr/1992
						Transfer	CINCINNAT	393127	05/May/1993
						Death	CINCINNAT	393127	10/Jul/1993
49	03/Jan/1992	9	7	Undetermined	-	Birth/Hatch	SANDIEGOZ	192005	03/Jan/1992
						Death	SANDIEGOZ	192005	03/Jan/1992
50	09/Aug/1992	9	7	Female	-	Birth/Hatch	SANDIEGOZ	192345	09/Aug/1992
						Transfer	CINCINNAT	393128	05/May/1993
						Death	CINCINNAT	393128	02/Jan/1996
51	15/Aug/1992	9	7	Female	-	Birth/Hatch	SANDIEGOZ	192355	15/Aug/1992
						Transfer	TOLEDO	933030	20/Apr/1993
						Transfer	DETROIT	5768	08/May/1997
						Death	DETROIT	5768	21/Dec/1997
52	24/Aug/1992	9	7	Female	-	Birth/Hatch	SANDIEGOZ	192362	24/Aug/1992
						Transfer	DENVER	930094	20/Apr/1993
						Death	DENVER	930094	27/Nov/1996
53	04/Sep/1992	9	7	Male	-	Birth/Hatch	SANDIEGOZ	192364	04/Sep/1992
						Death	SANDIEGOZ	192364	16/Mar/1998
54	08/Sep/1992	9	7	Female	-	Birth/Hatch	SANDIEGOZ	192366	08/Sep/1992
						Transfer	FRESNO	6691	23/Mar/1993
						Death	FRESNO	6691	14/Apr/1998
55	10/Oct/1992	10	8	Female	-	Birth/Hatch	SANDIEGOZ	192451	10/Oct/1992
						Death	SANDIEGOZ	192451	12/Mar/2001
56	16/Oct/1992	10	8	Male	-	Birth/Hatch	SANDIEGOZ	192452	16/Oct/1992
						Transfer	C R A P	UNK	14/Nov/1995

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Death	C R A P	UNK	15/Jan/1996
57	14/Nov/1992	11	13	Male	-	Birth/Hatch	SANDIEGOZ	192521	14/Nov/1992
						Transfer	HONOLULU	930502	09/Dec/1993
						Death	HONOLULU	930502	10/Jul/1996
58	17/Nov/1992	11	13	Male	-	Birth/Hatch	SANDIEGOZ	192522	17/Nov/1992
						Transfer	LOSANGELE	990379	03/Apr/2001
						Death	LOSANGELE	990379	15/Jul/2008
59	17/Nov/1992	11	13	Female	-	Birth/Hatch	SANDIEGOZ	192523	17/Nov/1992
						Transfer	C R A P	UNK	14/Nov/1995
						Transfer	SANDIEGOZ	192523	04/Jun/1996
						Death	SANDIEGOZ	192523	07/May/2008
60	24/Nov/1992	11	13	Male	-	Birth/Hatch	SANDIEGOZ	192535	24/Nov/1992
						Death	SANDIEGOZ	192535	25/Feb/2016
61	25/Nov/1992	11	13	Female	-	Birth/Hatch	SANDIEGOZ	192538	25/Nov/1992
						Death	SANDIEGOZ	192538	19/Sep/2013
62	28/Nov/1992	11	13	Male	-	Birth/Hatch	SANDIEGOZ	192539	28/Nov/1992
						Death	SANDIEGOZ	192539	06/Feb/2007
63	03/Oct/1992	26	35	Undetermined	-	Birth/Hatch	DALLAS	927971	03/Oct/1992
						Death	DALLAS	927971	15/Oct/1992
64	01/Jan/1974 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jan/1974 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1974 +/- 6 month
						Transfer	SANDIEGOZ	198	14/Apr/1975
						Death	SANDIEGOZ	198	12/Apr/1982
65	01/Jan/1974 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jan/1974 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1974 +/- 6 month
						Transfer	SANDIEGOZ	199	14/Apr/1975
						Death	SANDIEGOZ	199	22/May/1980
66	01/Jan/1974 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jan/1974 +/- 6 month

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Wild Capture	Fiji / ~	-	01/Jan/1974 +/- 6 month
						Transfer	SANDIEGOZ	200	21/Oct/1975
						Death	SANDIEGOZ	200	19/Apr/1979
67	01/Jan/1975 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jan/1975 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1975 +/- 6 month
						Transfer	SANDIEGOZ	237	27/Jul/1976
						Death	SANDIEGOZ	237	23/Jul/1981
68	01/Jan/1975 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jan/1975 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1975 +/- 6 month
						Transfer	SANDIEGOZ	238	27/Jul/1976
						Death	SANDIEGOZ	238	21/Dec/1986
69	01/Jan/1976 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jan/1976 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1976 +/- 6 month
						Transfer	ST LOUIS	R77033	03/Mar/1977
						Transfer	SANDIEGOZ	186022	23/Oct/1986
						Death	SANDIEGOZ	186022	25/May/1987
70	21/Jul/1989	5	6	Undetermined	-	Birth/Hatch	SANDIEGOZ	189175	21/Jul/1989
						Death	SANDIEGOZ	189175	26/Jul/1989
71	31/Jul/1989	5	6	Male	-	Birth/Hatch	SANDIEGOZ	189184	31/Jul/1989
						Death	SANDIEGOZ	189184	01/Aug/1989
72	09/Aug/1989	9	7	Male	-	Birth/Hatch	SANDIEGOZ	189192	09/Aug/1989
						Death	SANDIEGOZ	189192	09/Aug/1989
73	02/Dec/1989	9	7	Male	-	Birth/Hatch	SANDIEGOZ	189353	02/Dec/1989
						Death	SANDIEGOZ	189353	02/Dec/1989
74	01/Jan/1986 +/- 15 day	WILD	WILD	Female	-	Birth/Hatch	ORCHIDISL	UNK	01/Jan/1986 +/- 15 day

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Transfer	SANDIEGOZ	188094	19/May/1988
						Death	SANDIEGOZ	188094	03/Jul/1989
75	15/Apr/1991	9	7	Female	-	Birth/Hatch	SANDIEGOZ	191082	15/Apr/1991
						Death	SANDIEGOZ	191082	07/Jun/1991
76	10/Dec/1991	9	7	Undetermined	-	Birth/Hatch	SANDIEGOZ	191392	10/Dec/1991
						Death	SANDIEGOZ	191392	11/Dec/1991
79	19/Dec/1992	10	8	Male	-	Birth/Hatch	SANDIEGOZ	192547	19/Dec/1992
						Transfer	DALLAS	07H035	17/Feb/2007
						Death	DALLAS	07H035	15/Jun/2018
80	25/Dec/1992	10	8	Female	-	Birth/Hatch	SANDIEGOZ	192548	25/Dec/1992
						Transfer	HONOLULU	930501	09/Dec/1993
						Death	HONOLULU	930501	11/Sep/1995
81	26/Dec/1992	10	8	Female	-	Birth/Hatch	SANDIEGOZ	192549	26/Dec/1992
						Transfer	TULSA	12697	30/Apr/1998
						Death	TULSA	12697	18/Sep/1998
82	27/Feb/1993	24	19	Female	-	Birth/Hatch	SANDIEGOZ	193139	27/Feb/1993
						Death	SANDIEGOZ	193139	12/Apr/1993
83	16/Mar/1993	9	7	Male	-	Birth/Hatch	SANDIEGOZ	193178	16/Mar/1993
						Death	SANDIEGOZ	93178	10/Jun/2015
84	03/Mar/1993	9	7	Male	-	Birth/Hatch	SANDIEGOZ	193264	03/Mar/1993
						Death	SANDIEGOZ	193264	12/Jun/2014
85	03/Apr/1993	9	7	Male	-	Birth/Hatch	SANDIEGOZ	193265	03/Apr/1993
						Transfer	LOSANGELE	990381	03/Apr/2001
						Death	LOSANGELE	990381	28/Dec/2016
86	21/Sep/1993	4	22	Male	-	Birth/Hatch	SANDIEGOZ	193584	21/Sep/1993
						Death	SANDIEGOZ	193584	25/Sep/1993
87	23/Sep/1993	4	22	Male	-	Birth/Hatch	SANDIEGOZ	193585	23/Sep/1993
						Death	SANDIEGOZ	193585	24/Mar/1997
88	24/Sep/1993	4	22	Male	-	Birth/Hatch	SANDIEGOZ	193586	24/Sep/1993
						Death	SANDIEGOZ	93586	01/Feb/2011
89	24/Sep/1993	4	22	Female	-	Birth/Hatch	SANDIEGOZ	193587	24/Sep/1993
						Death	SANDIEGOZ	193587	27/Mar/2007

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
90	01/Jan/1972 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jan/1972 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1972 +/- 6 month
						Transfer	ST LOUIS	R74106	31/Oct/1974
						Death	ST LOUIS	R74106	08/Sep/1976
91	01/Jan/1972 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jan/1972 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1972 +/- 6 month
						Transfer	ST LOUIS	R74001	01/Jan/1974 +/- 15 day
						Death	ST LOUIS	R74001	30/Apr/1985 +/- 15 day
92	01/Jan/1972 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jan/1972 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1972 +/- 6 month
						Transfer	ST LOUIS	R74002	01/Jan/1974 +/- 15 day
						Death	ST LOUIS	R74002	31/Jul/1974
93	01/Jan/1970 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jan/1970 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1973 +/- 6 month
						Transfer	JENKINTOW	UNK	01/Jan/1973 +/- 6 month
						Transfer	NZP-WASH	300760	19/Oct/1973
						Death	NZP-WASH	300760	05/Jan/1974
94	01/Jun/1972 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jun/1972 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jun/1972 +/- 6 month

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Transfer	SACRAMNTO	30A171	01/Jun/1973 +/- 15 day
						Death	SACRAMNTO	30A171	31/Jan/1976 +/- 15 day
95	01/Jun/1972 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jun/1972 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jun/1972 +/- 6 month
						Transfer	SACRAMNTO	30B171	01/Jun/1973 +/- 15 day
						Death	SACRAMNTO	30B171	31/Jan/1976 +/- 15 day
96	01/Jun/1972 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jun/1972 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jun/1972 +/- 6 month
						Transfer	SACRAMNTO	UNK	01/Jun/1973 +/- 15 day
						Death	SACRAMNTO	UNK	22/May/1976 +/- 15 day
97	01/Jun/1972 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jun/1972 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jun/1972 +/- 6 month
						Transfer	SACRAMNTO	30D171	01/Jun/1973 +/- 15 day
						Death	SACRAMNTO	30D171	05/Oct/1975
98	29/Oct/1974	2	97	Undetermined	-	Birth/Hatch	SACRAMNTO	30F171	29/Oct/1974
						Death	SACRAMNTO	30F171	27/Apr/1976
99	01/Nov/1974 +/- 1 day	2	96	Undetermined	-	Birth/Hatch	SACRAMNTO	30G171	01/Nov/1974 +/- 1 day
						Death	SACRAMNTO	30G171	05/May/1976
100	23/Sep/1994	4	22	Female	-	Birth/Hatch	SANDIEGOZ	194193	23/Sep/1994

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Transfer	LOSANGELE	990380	03/Apr/2001
						Death	LOSANGELE	990380	04/May/2004
101	08/Oct/1994	4	22	Male	-	Birth/Hatch	SANDIEGOZ	194221	08/Oct/1994
						Death	SANDIEGOZ	194221	20/Sep/2013
102	17/Oct/1994	27	42	Male	-	Birth/Hatch	SAN ANTON	941013	17/Oct/1994
						Death	SAN ANTON		30/Apr/2012
103	18/Oct/1994	27	42	Female	-	Birth/Hatch	SAN ANTON	941014	18/Oct/1994
						Transfer	HOUSTON	15520	29/Nov/1994
						Death	HOUSTON	15520	26/Sep/1998
104	21/Oct/1994	27	42	Male	-	Birth/Hatch	SAN ANTON	941028	21/Oct/1994
						Transfer	HOUSTON	15518	28/Nov/1994
105	21/Oct/1994	27	42	Male	-	Birth/Hatch	SAN ANTON	941029	21/Oct/1994
						Transfer	HOUSTON	15519	28/Nov/1994
						Death	HOUSTON	15519	24/Aug/2012
106	01/Dec/1994	41	81	Male	-	Birth/Hatch	SANDIEGOZ	194273	01/Dec/1994
						Transfer	DENVER	980170	06/May/1998
						Transfer	SANDIEGOZ	194273	08/Oct/2003
						Death	SANDIEGOZ	194273	18/Oct/2010
107	08/Dec/1994	41	81	Female	-	Birth/Hatch	SANDIEGOZ	194274	08/Dec/1994
						Death	SANDIEGOZ	194274	11/Jul/1999
108	28/Jan/1994	32	14	Undetermined	-	Birth/Hatch	CINCINNAT	394001	28/Jan/1994
						Death	CINCINNAT	394001	26/Mar/1997
109	28/Jan/1994	32	14	Male	-	Birth/Hatch	CINCINNAT	394002	28/Jan/1994
						Death	CINCINNAT	394002	14/Mar/2000
110	01/Feb/1994	32	14	Male	-	Birth/Hatch	CINCINNAT	394200	01/Feb/1994
						Death	CINCINNAT	394200	16/Jul/2002
111	05/Feb/1994	32	14	Female	-	Birth/Hatch	CINCINNAT	394201	05/Feb/1994
						Death	CINCINNAT	394201	04/Jul/1997
112	02/Jan/1995	58	55	Male	-	Birth/Hatch	SANDIEGOZ	195001	02/Jan/1995
						Death	SANDIEGOZ	195001	16/May/2018
113	03/Jan/1995	58	55	Female	-	Birth/Hatch	SANDIEGOZ	195002	03/Jan/1995
						Transfer	DENVER	980169	06/May/1998
						Death	DENVER	980169	09/Jan/2002

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
114	12/Jan/1995	58	55	Male	-	Birth/Hatch	SANDIEGOZ	195013	12/Jan/1995
						Transfer	COLUMBIA	2152	12/May/1998
						Death	COLUMBIA	2152	25/Apr/2001
115	22/Feb/1995	4	22	Female	-	Birth/Hatch	SANDIEGOZ	195031	22/Feb/1995
						Transfer	COLUMBIA	2153	12/May/1998
						Death	COLUMBIA	2153	12/Sep/2002
116	01/Oct/1995	41	81	Female	-	Birth/Hatch	SANDIEGOZ	195265	01/Oct/1995
						Death	SANDIEGOZ	195265	22/May/2001
117	03/Oct/1995	41	81	Male	-	Birth/Hatch	SANDIEGOZ	195266	03/Oct/1995
						Transfer	DETROIT	11143	25/Aug/2003
						Death	DETROIT	11143	21/Nov/2005
118	19/Oct/1995	11	13	Female	-	Birth/Hatch	SANDIEGOZ	195277	19/Oct/1995
						Death	SANDIEGOZ	195277	17/Feb/2009
119	24/Oct/1995	11	13	Female	-	Birth/Hatch	SANDIEGOZ	195280	24/Oct/1995
						Death	SANDIEGOZ	195280	29/Jun/1997
120	24/Oct/1995	11	13	Male	-	Birth/Hatch	SANDIEGOZ	195281	24/Oct/1995
						Death	SANDIEGOZ	195281	29/Oct/1995
121	24/Oct/1995	11	13	Male	-	Birth/Hatch	SANDIEGOZ	195282	24/Oct/1995
						Death	SANDIEGOZ	195282	26/Sep/2013
122	24/Oct/1995	11	13	Female	-	Birth/Hatch	SANDIEGOZ	195283	24/Oct/1995
						Death	SANDIEGOZ	195283	27/Oct/1995
123	24/Oct/1995	11	13	Female	-	Birth/Hatch	SANDIEGOZ	195284	24/Oct/1995
						Death	SANDIEGOZ	195284	09/Mar/2002
124	19/Jan/1996	58	55	Female	-	Birth/Hatch	SANDIEGOZ	196017	19/Jan/1996
						Death	SANDIEGOZ	196017	09/Jun/2005
125	22/Jan/1996	58	55	Female	-	Birth/Hatch	SANDIEGOZ	196018	22/Jan/1996
						Death	SANDIEGOZ	196018	02/Jul/2004
126	28/Nov/1996	11	13	Female	-	Birth/Hatch	SANDIEGOZ	196231	28/Nov/1996
						Death	SANDIEGOZ	196231	17/Jul/2006
127	22/Dec/1996	114	115	Male	-	Birth/Hatch	SANDIEGOZ	196253	22/Dec/1996
						Death	SANDIEGOZ	196253	10/Oct/2014
128	11/Feb/1997	10	59	Male	-	Birth/Hatch	SANDIEGOZ	197086	11/Feb/1997
						Transfer	FRESNO	280233	20/Jul/2008
						Death	FRESNO	280233	29/Oct/2008

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
129	15/Feb/1997	10	59	Female	-	Birth/Hatch	SANDIEGOZ	197087	15/Feb/1997
						Death	SANDIEGOZ	197087	10/Jul/2005
130	03/May/1990	170	169	Male	-	Birth/Hatch	MELBOURNE	900278	03/May/1990
						Transfer	TORONTO	31109	11/Oct/1995
						Death	TORONTO	31109	24/Jun/2001
131	01/Jan/1973 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jan/1973 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1973 +/- 6 month
						Transfer	WESTERN	UNK	01/Mar/1974 +/- 15 day
						Transfer	JACKSONVL	474047	20/May/1974
						Death	JACKSONVL	474047	13/Oct/1974
132	01/Jan/1973 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jan/1973 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1974 +/- 6 month
						Transfer	WESTERN	UNK	01/Mar/1974 +/- 15 day
						Transfer	JACKSONVL	474070	02/Aug/1974
						Death	JACKSONVL	474070	10/Aug/1974
133	28/Aug/1997	4	22	Female	-	Birth/Hatch	SANDIEGOZ	197421	28/Aug/1997
						Transfer	AUDUBON	100258	12/Jun/2001
						Death	AUDUBON	100258	20/Sep/2003
134	28/Aug/1997	4	22	Female	-	Birth/Hatch	SANDIEGOZ	197422	28/Aug/1997
						Transfer	TULSA	13321	22/Sep/1999
						Death	TULSA	13321	08/Apr/2001
135	27/Feb/1995	4	22	Male	-	Birth/Hatch	SANDIEGOZ	195032	27/Feb/1995
						Death	SANDIEGOZ	195032	04/Mar/1995
136	19/Jan/1996	58	55	Male	-	Birth/Hatch	SANDIEGOZ	196016	19/Jan/1996
						Death	SANDIEGOZ	196016	02/Feb/1996
137	22/Jan/1998	43	124	Male	-	Birth/Hatch	SANDIEGOZ	198030	22/Jan/1998
						Transfer	AUDUBON	100257	12/Jun/2001
						Death	AUDUBON	100257	21/May/2015

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
138	07/Sep/1995	47	52	Female	Hormonal	Birth/Hatch	DENVER	950393	07/Sep/1995
						Transfer	SANDIEGOZ	198127	24/Apr/1998
						Transfer	LOSANGELE	990382	03/Apr/2001
						Death	LOSANGELE	990382	28/Jul/2004
139	11/Nov/1995	47	52	Female	-	Birth/Hatch	DENVER	950466	11/Nov/1995
						Transfer	DENVER	950466	12/Nov/1995
						Transfer	SANDIEGOZ	198128	24/Apr/1998
						Death	SANDIEGOZ	198128	27/Jul/2002
140	01/Nov/1997	10	59	Female	-	Birth/Hatch	SANDIEGOZ	197483	01/Nov/1997
						Transfer	SAN ANTON		06/Aug/2009
						Death	SAN ANTON		10/Nov/2012
141	23/Feb/1997	10	59	Male	-	Birth/Hatch	SANDIEGOZ	197162	23/Feb/1997
						Transfer	ST LOUIS	105900	27/Jun/2007
						Death	ST LOUIS	5900	26/Sep/2013
142	23/Nov/1997	10	59	Female	-	Birth/Hatch	SANDIEGOZ	197481	23/Nov/1997
						Transfer	OMAHA	11330	22/Sep/1999
						Death	OMAHA	11330	23/Nov/2004
145	27/Sep/1998	58	100	Female	-	Birth/Hatch	SANDIEGOZ	198234	27/Sep/1998
						Death	SANDIEGOZ	198234	21/Jan/1999
146	29/Oct/1998	43	118	Male	-	Birth/Hatch	SANDIEGOZ	198274	29/Oct/1998
						Death	SANDIEGOZ	198274	19/Jan/1999
147	29/Oct/1998	43	118	Female	-	Birth/Hatch	SANDIEGOZ	198275	29/Oct/1998
						Death	SANDIEGOZ	198275	26/Mar/1999
148	05/Nov/1998	43	118	Male	-	Birth/Hatch	SANDIEGOZ	198287	05/Nov/1998
						Death	SANDIEGOZ	198287	12/Jul/2018
149	03/May/1999	27	42	Male	-	Birth/Hatch	SAN ANTON	990507	03/May/1999
						Transfer	SANDIEGOZ	199069	03/Aug/1999
						Transfer	SANDIEGOZ	199069	07/Oct/1999
						Transfer	DETROIT	12321	20/May/2009
						Death	DETROIT	2321	21/Feb/2014
150	04/May/1999	27	42	Male	-	Birth/Hatch	SAN ANTON	990510	04/May/1999
						Transfer	SANDIEGOZ	199070	07/Oct/1999
						Death	SANDIEGOZ	199070	02/Mar/2002

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
151	16/Nov/1995	47	52	Undetermined	-	Birth/Hatch	DENVER	950501	16/Nov/1995
						Death	DENVER	950501	03/Dec/1995
152	21/Oct/1999	58	100	Male	-	Birth/Hatch	SANDIEGOZ	199191	21/Oct/1999
						Transfer	FORTWORTH	203626	13/Oct/2004
						Death	FORTWORTH	203626	11/Aug/2017
153	21/Oct/1999	58	100	Female	-	Birth/Hatch	SANDIEGOZ	199192	21/Oct/1999
						Death	SANDIEGOZ	199192	11/Jul/2011
154	21/Oct/1999	58	100	Female	-	Birth/Hatch	SANDIEGOZ	199193	21/Oct/1999
						Death	SANDIEGOZ	199193	01/Oct/2001
155	23/Oct/1999	58	100	Female	-	Birth/Hatch	SANDIEGOZ	199194	23/Oct/1999
						Transfer	SHEDD AQ	205068	17/Mar/2006
						Death	SHEDD AQ	205068	20/Feb/2008
156	14/Jan/2000	60	89	Male	-	Birth/Hatch	SANDIEGOZ	900004	14/Jan/2000
						Transfer	SHEDD AQ	205069	17/Mar/2006
						Transfer	CLEVELAND	M80904	17/Sep/2008
157	04/Feb/2000	60	89	Female	-	Birth/Hatch	SANDIEGOZ	900029	04/Feb/2000
						Death	SANDIEGOZ	900029	04/Aug/2008
158	04/Feb/2000	60	89	Female	-	Birth/Hatch	SANDIEGOZ	900030	04/Feb/2000
						Transfer	CLEVELAND	M90703	15/Jul/2009
						Death	CLEVELAND	M90703	26/Jan/2012
159	01/May/2001	112	140	Female	-	Birth/Hatch	SANDIEGOZ	900118	01/May/2001
						Transfer	NORFOLK	204074	12/Oct/2004
						Transfer	AUDUBON	102956	11/Nov/2009
						Death	AUDUBON	102956	04/Apr/2013
160	20/May/2001	112	140	Female	-	Birth/Hatch	SANDIEGOZ	900137	20/May/2001
						Transfer	FORTWORTH	203627	13/Oct/2004
						Death	FORTWORTH		13/Feb/2010
161	16/Feb/2001	60	89	Male	-	Birth/Hatch	SANDIEGOZ	901017	16/Feb/2001
						Transfer	NORFOLK	204073	12/Oct/2004
						Transfer	EVANSVLLE	317001	18/May/2017
162	16/Feb/2001	60	89	Female	-	Birth/Hatch	SANDIEGOZ	901018	16/Feb/2001
						Death	SANDIEGOZ	901018	11/Sep/2008
163	16/Feb/2001	60	89	Male	-	Birth/Hatch	SANDIEGOZ	901019	16/Feb/2001

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Transfer	DENVER	A13244	10/Oct/2013
						Death	DENVER	A13244	06/Jun/2016
164	21/Feb/2001	60	89	Female	-	Birth/Hatch	SANDIEGOZ	901020	21/Feb/2001
						Transfer	DETROIT	11144	25/Aug/2003
						Death	DETROIT		01/Nov/2010
165	15/Oct/2001	60	89	Female	-	Birth/Hatch	SANDIEGOZ	901172	15/Oct/2001
						Transfer	AUDUBON	102157	29/Mar/2007
						Transfer	NORFOLK	209131	28/Oct/2009
						Death	SANDIEGOZ	209131	02/Apr/2019
166	08/Dec/2001	117	123	Female	-	Birth/Hatch	SANDIEGOZ	901246	08/Dec/2001
						Death	SANDIEGOZ	901246	11/Mar/2005
167	08/Dec/2001	117	123	Female	-	Birth/Hatch	SANDIEGOZ	901247	08/Dec/2001
						Death	SANDIEGOZ	901247	01/Nov/2018
168	08/Dec/2001	117	123	Female	-	Birth/Hatch	SANDIEGOZ	901248	08/Dec/2001
						Transfer	HOUSTON	20873	20/Nov/2003
						Death	HOUSTON	20873	20/Dec/2004
169	09/Apr/1986	179	178	Female	-	Birth/Hatch	SYDNEY	860354	09/Apr/1986
						Transfer	MELBOURNE	870117	04/Nov/1987
						Death	MELBOURNE	870117	18/Jun/2000
170	18/May/1987	179	178	Male	-	Birth/Hatch	SYDNEY	870444	18/May/1987
						Transfer	MELBOURNE	870118	04/Nov/1987
						Death	MELBOURNE	870118	24/Jun/1995
171	20/Aug/2002	127	153	Male	-	Birth/Hatch	SANDIEGOZ	902099	20/Aug/2002
						Death	SANDIEGOZ	902099	05/Sep/2002
172	20/Aug/2002	127	153	Female	-	Birth/Hatch	SANDIEGOZ	902100	20/Aug/2002
						Death	SANDIEGOZ	902100	24/Aug/2008
173	20/Aug/2002	127	153	Female	-	Birth/Hatch	SANDIEGOZ	902101	20/Aug/2002
						Transfer	ST LOUIS	104494	20/Oct/2005
						Death	ST LOUIS	104494	22/Sep/2007
174	31/Aug/2002	24	142	Female	-	Birth/Hatch	OMAHA	12978	31/Aug/2002
						Death	OMAHA	12978	13/Jan/2008
175	31/Aug/2002	24	142	Male	-	Birth/Hatch	OMAHA	12979	31/Aug/2002
						Death	OMAHA	12979	02/Jul/2008
176	29/Dec/2002	137	133	Male	-	Birth/Hatch	AUDUBON	100782	29/Dec/2002

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Transfer	DALLAS	04F013	18/Feb/2004
						Death	DALLAS	04F013	03/Oct/2012
177	22/Dec/2002	137	133	Female	-	Birth/Hatch	AUDUBON	100781	22/Dec/2002
						Transfer	DALLAS	04F014	18/Feb/2004
						Death	DALLAS	04F014	07/Jul/2007
178	01/Jan/1978 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jan/1978 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1982 +/- 6 month
						Transfer	AUSTR MUS	UNK	01/Jan/1982 +/- 6 month
						Transfer	SYDNEY	840197	18/Jan/1984
						Death	SYDNEY	840197	07/Mar/1990
179	01/Jan/1980 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jan/1980 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/1982 +/- 6 month
						Transfer	AUSTR MUS	UNK	01/Jan/1982 +/- 6 month
						Transfer	SYDNEY	840196	18/Jan/1984
						Death	SYDNEY	840196	17/May/2004
180	07/Mar/2003	84	59	Female	-	Birth/Hatch	SANDIEGOZ	903031	07/Mar/2003
181	27/Mar/2003	60	89	Male	-	Birth/Hatch	SANDIEGOZ	903032	27/Mar/2003
						Transfer	BL HILLS	UNK	24/Sep/2008
						Death	SANDIEGOZ	NONE	11/Dec/2019
182	27/Mar/2003	60	89	Male	-	Birth/Hatch	SANDIEGOZ	903033	27/Mar/2003
						Transfer	FRESNO	290056	11/Apr/2009
183	27/Mar/2003	60	89	Male	-	Birth/Hatch	SANDIEGOZ	903034	27/Mar/2003
						Transfer	LOWRY	303581	12/Nov/2013
						Transfer	ATLANTA	15R001	16/Jan/2015
						Transfer	ATLANTA	15R001	20/Jan/2016
184	30/Mar/2003	60	89	Male	-	Birth/Hatch	SANDIEGOZ	903035	30/Mar/2003
						Death	SANDIEGOZ	903035	02/Apr/2003
185	02/Apr/2003	60	89	Female	-	Birth/Hatch	SANDIEGOZ	903036	02/Apr/2003

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Transfer	SACRAMNTO	301530	07/Feb/2013
						Death	SANDIEGOZ	301530	13/May/2020
186	03/Oct/2003	127	153	Male	-	Birth/Hatch	SANDIEGOZ	903227	03/Oct/2003
						Death	SANDIEGOZ	903227	21/May/2013
187	12/Oct/2003	127	153	Male	-	Birth/Hatch	SANDIEGOZ	903228	12/Oct/2003
						Transfer	SAN ANTON	Y14066	20/May/2014
						Death	SAN ANTON	Y14066	10/Jan/2020
188	15/Oct/2003	127	153	Female	-	Birth/Hatch	SANDIEGOZ	903229	15/Oct/2003
						Transfer	AUDUBON	101387	05/Aug/2004
						Death	AUDUBON	101387	10/Feb/2006
189	22/Jan/2004	112	140	Male	-	Birth/Hatch	SANDIEGOZ	904001	22/Jan/2004
						Transfer	LOSANGELE	992596	17/Jan/2012
						Death	LOSANGELE	92596	08/Sep/2013
190	22/Jan/2004	112	140	Female	-	Birth/Hatch	SANDIEGOZ	904002	22/Jan/2004
						Transfer	FRESNO	282034	20/Jul/2008
						Death	FRESNO		25/Jul/2009
191	01/Jan/1963 +/- 6 month	WILD	WILD	Undetermined	-	Birth/Hatch	Tonga / ~	-	01/Jan/1963 +/- 6 month
						Wild Capture	Tonga / ~	-	01/Jan/1963 +/- 6 month
						Transfer	SANDIEGOZ	193014	28/Mar/1965
						Death	SANDIEGOZ	193014	01/Jan/1968 +/- 15 day
192	01/Jan/1963 +/- 6 month	WILD	WILD	Undetermined	-	Birth/Hatch	Tonga / ~	-	01/Jan/1963 +/- 6 month
						Wild Capture	Tonga / ~	-	01/Jan/1963 +/- 6 month
						Transfer	SANDIEGOZ	193015	28/Mar/1965
						Death	SANDIEGOZ	193015	01/Jan/1968 +/- 15 day
193	01/Jan/1963 +/- 6 month	WILD	WILD	Undetermined	-	Birth/Hatch	Tonga / ~	-	01/Jan/1963 +/- 6 month
						Wild Capture	Tonga / ~	-	01/Jan/1963 +/- 6 month

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Transfer	SANDIEGOZ	193016	28/Mar/1965
						Death	SANDIEGOZ	193016	01/Jan/1968
194	01/Jan/1963 +/- 6 month	WILD	WILD	Undetermined	-	Birth/Hatch	Tonga / ~	-	01/Jan/1963 +/- 6 month
						Wild Capture	Tonga / ~	-	01/Jan/1963 +/- 6 month
						Transfer	SANDIEGOZ	193017	28/Mar/1965
						Death	SANDIEGOZ	193017	01/Jan/1968 +/- 15 day
195	01/Jan/1963 +/- 6 month	WILD	WILD	Undetermined	-	Birth/Hatch	Tonga / ~	-	01/Jan/1963 +/- 6 month
						Wild Capture	Tonga / ~	-	01/Jan/1963 +/- 6 month
						Transfer	SANDIEGOZ	193018	28/Mar/1965
						Death	SANDIEGOZ	193018	01/Jan/1968 +/- 15 day
196	01/Jan/1963 +/- 6 month	WILD	WILD	Undetermined	-	Birth/Hatch	Tonga / ~	-	01/Jan/1963 +/- 6 month
						Wild Capture	Tonga / ~	-	01/Jan/1963 +/- 6 month
						Transfer	SANDIEGOZ	193019	28/Mar/1965
						Death	SANDIEGOZ	193019	01/Jan/1968 +/- 15 day
197	10/Sep/2002	24	142	Undetermined	-	Birth/Hatch	OMAHA	12986	10/Sep/2002
						Death	OMAHA	12986	10/Sep/2002
198	08/Jan/2003	137	133	Male	-	Birth/Hatch	AUDUBON	100784	08/Jan/2003
						Death	AUDUBON	100784	08/Jan/2003
199	11/Feb/2005	60	89	Female	-	Birth/Hatch	SANDIEGOZ	905012	11/Feb/2005
						Transfer	HOUSTON	22910	12/Apr/2007
200	11/Feb/2005	60	89	Female	-	Birth/Hatch	SANDIEGOZ	905013	11/Feb/2005
						Death	SANDIEGOZ	5013	09/Jul/2015
201	20/Nov/2006	149	158	Female	-	Birth/Hatch	SANDIEGOZ	906709	20/Nov/2006
						Transfer	ST LOUIS	1077464	08/Jul/2009

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Death	ST LOUIS	107464	17/Sep/2015
202	27/Nov/2006	149	158	Female	-	Birth/Hatch	SANDIEGOZ	906714	27/Nov/2006
						Transfer	FORTWORTH	UNK	08/Jul/2009
						Death	FORTWORTH	UNK	22/Feb/2014
203	18/Feb/2007	84	180	Undetermined	-	Birth/Hatch	SANDIEGOZ	907027	18/Feb/2007
						Death	SANDIEGOZ	907027	18/Feb/2007
204	25/May/2007	84	180	Male	-	Birth/Hatch	SANDIEGOZ	907119	25/May/2007
						Death	SANDIEGOZ	907119	27/May/2007
205	01/Jun/2007	84	180	Male	-	Birth/Hatch	SANDIEGOZ	907124	01/Jun/2007
						Death	SANDIEGOZ	907124	11/Jul/2007
206	23/Dec/2007	149	158	Male	-	Birth/Hatch	SANDIEGOZ	907590	23/Dec/2007
						Transfer	SACRAMNTO	301529	07/Feb/2013
						Death	SACRAMNTO	1529	04/Oct/2017
207	27/Dec/2007	149	158	Female	-	Birth/Hatch	SANDIEGOZ	907591	27/Dec/2007
						Transfer	SAN ANTON	Y14067	20/May/2014
						Death	SAN ANTON	Y14067	19/Mar/2019
208	05/May/2008	186	185	Male	-	Birth/Hatch	SANDIEGOZ	908137	05/May/2008
						Transfer	TOLEDO	7795	26/Apr/2012
209	07/May/2008	186	185	Male	-	Birth/Hatch	SANDIEGOZ	908138	07/May/2008
						Transfer	HOUSTON	28420	26/Sep/2013
210	09/May/2008	186	185	Female	-	Birth/Hatch	SANDIEGOZ	908139	09/May/2008
						Transfer	DALLAS	14P126	28/May/2014
						Death	DALLAS	14P126	12/Sep/2014
211	09/May/2008	186	185	Female	-	Birth/Hatch	SANDIEGOZ	908140	09/May/2008
						Death	SANDIEGOZ	908140	29/Sep/2012
212	13/Dec/2008	83	162	Female	-	Birth/Hatch	SANDIEGOZ	908521	13/Dec/2008
						Transfer	NZP-WASH	307298	27/Jul/2010
213	20/Dec/2008	83	162	Male	-	Birth/Hatch	SANDIEGOZ	908530	20/Dec/2008
						Transfer	NZP-WASH	307297	27/Jul/2010
						Transfer	DALLAS	14P119	21/May/2014
						Death	SANDIEGOZ	14P119	30/May/2021
214	22/Dec/2008	83	162	Female	-	Birth/Hatch	SANDIEGOZ	908532	22/Dec/2008
						Transfer	LOSANGELE	992597	17/Jan/2012

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Death	LOSANGELE	992597	29/Sep/2016
215	25/Dec/2008	83	162	Female	-	Birth/Hatch	SANDIEGOZ	908536	25/Dec/2008
						Transfer	TOLEDO	7796	26/Apr/2012
						Death	TOLEDO	7796	20/Dec/2018
216	29/Dec/2008	83	162	Male	-	Birth/Hatch	SANDIEGOZ	908560	29/Dec/2008
						Transfer	LOWRY	303631	22/Apr/2015
						Transfer	FORTWORTH	211912	14/Jan/2020
217	15/Jan/2009	189	202	Female	-	Birth/Hatch	SANDIEGOZ	909020	15/Jan/2009
						Death	SANDIEGOZ	909020	25/Jan/2009
218	23/Dec/2009	84	180	Male	-	Birth/Hatch	SANDIEGOZ	909560	23/Dec/2009
						Death	SANDIEGOZ	909560	15/Feb/2021
219	30/Dec/2009	84	180	Male	-	Birth/Hatch	SANDIEGOZ	909562	30/Dec/2009
						Transfer	TULSA	16554	12/Jul/2012
220	08/Jan/2010	84	180	Female	-	Birth/Hatch	SANDIEGOZ	910003	08/Jan/2010
						Death	SANDIEGOZ	10003	16/Apr/2019
221	18/Feb/2010	84	180	Male	-	Birth/Hatch	SANDIEGOZ	910031	18/Feb/2010
						Transfer	NZP-WASH	307492	28/May/2014
222	23/Feb/2010	84	180	Male	-	Birth/Hatch	SANDIEGOZ	910032	23/Feb/2010
						Transfer	EVANSVLLE	313010	17/Oct/2013
						Transfer	NORFOLK	217198	11/Jul/2017
223	27/Nov/2010	186	185	Female	-	Birth/Hatch	SANDIEGOZ	910586	27/Nov/2010
						Transfer	TULSA	16555	12/Jul/2012
						Death	TULSA	6555	04/Apr/2016
224	02/Dec/2010	186	185	Female	-	Birth/Hatch	SANDIEGOZ	910590	02/Dec/2010
						Transfer	LOWRY	303582	12/Nov/2013
						Transfer	FORTWORTH	UNDETERMINED	16/Jun/2020
225	01/Jul/2005 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jul/2005 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jul/2005 +/- 6 month
						Transfer	USFWS	UNK	11/May/2007
						Transfer	SANDIEGOZ	907105	11/May/2007

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
226	01/Jul/2005 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jul/2005 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jul/2005 +/- 6 month
						Transfer	USFWS	UNK	11/May/2007
						Transfer	SANDIEGOZ	907106	11/May/2007
						Death	SANDIEGOZ	907106	04/Oct/2011
227	01/Jul/2005 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jul/2005 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jul/2005 +/- 6 month
						Transfer	USFWS	UNK	11/May/2007
						Transfer	SANDIEGOZ	907107	11/May/2007
228	01/Jul/2005 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jul/2005 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jul/2005 +/- 6 month
						Transfer	USFWS	UNK	11/May/2007
						Transfer	SANDIEGOZ	907108	11/May/2007
						Death	SANDIEGOZ	907108	12/May/2007
229	08/Dec/2007	WILD	227	Male	-	Birth/Hatch	SANDIEGOZ	907529	08/Dec/2007
						Death	SANDIEGOZ	907529	10/Jun/2020
230	22/Dec/2007	WILD	226	Female	-	Birth/Hatch	SANDIEGOZ	907581	22/Dec/2007
231	06/Jan/2011	208	215	Male	-	Birth/Hatch	SANDIEGOZ	911031	06/Jan/2011
						Death	SANDIEGOZ	911031	15/May/2012
232	11/Jan/2011	208	215	Female	-	Birth/Hatch	SANDIEGOZ	911032	11/Jan/2011
233	01/Jun/1972 +/- 6 month	WILD	WILD	Female	-	Birth/Hatch	Fiji / ~	-	01/Jun/1972 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jun/1972 +/- 6 month
						Transfer	SACRAMNTO	3.00E+172	01/Jun/1973 +/- 15 day
						Death	SACRAMNTO	3.00E+172	28/Dec/1976
234	11/Jul/2013	225	227	Female	-	Birth/Hatch	SANDIEGOZ	913257	11/Jul/2013

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Transfer	DALLAS	15Q468	15/Sep/2015
						Death	DALLAS	15Q468	03/Oct/2021
235	12/Jul/2013	225	227	Male	-	Birth/Hatch	SANDIEGOZ	913258	12/Jul/2013
						Transfer	CHICAGOBR	6086	09/Jun/2015
236	18/Jul/2013	225	227	Male	-	Birth/Hatch	SANDIEGOZ	913268	18/Jul/2013
237	22/Jul/2013	225	227	Male	-	Birth/Hatch	SANDIEGOZ	913270	22/Jul/2013
238	30/Dec/2013	225	227	Male	-	Birth/Hatch	SANDIEGOZ	913463	30/Dec/2013
						Death	SANDIEGOZ	913463	14/Sep/2019
239	30/Dec/2013	225	227	Male	-	Birth/Hatch	SANDIEGOZ	913464	30/Dec/2013
240	30/Dec/2013	225	227	Female	-	Birth/Hatch	SANDIEGOZ	913465	30/Dec/2013
241	15/Jun/2015	225	227	Female	-	Birth/Hatch	SANDIEGOZ	915092	15/Jun/2015
242	15/Jun/2015	225	227	Male	-	Birth/Hatch	SANDIEGOZ	915093	15/Jun/2015
243	15/Jun/2015	225	227	Male	-	Birth/Hatch	SANDIEGOZ	915094	15/Jun/2015
244	25/Apr/2015	221	212	Male	-	Birth/Hatch	NZP-WASH	307532	25/Apr/2015
						Transfer	SANDIEGOZ	915406	23/May/2019
						Death	SANDIEGOZ	915406	04/Feb/2022
245	25/Apr/2015	221	212	Female	-	Birth/Hatch	NZP-WASH	307533	25/Apr/2015
						Transfer	FRESNO	320092	20/Oct/2021
246	08/Jan/2016	221	212	Male	-	Birth/Hatch	NZP-WASH	307587	08/Jan/2016
						Transfer	SANDIEGOZ	916380	23/May/2019
247	07/Jan/2016	221	212	Male	-	Birth/Hatch	NZP-WASH	307589	07/Jan/2016
						Transfer	SANDIEGOZ	916382	23/May/2019
248	10/Jan/2016	221	212	Male	-	Birth/Hatch	NZP-WASH	307588	10/Jan/2016
						Death	NZP-WASH	307588	29/Jan/2016
249	01/Jun/2016	216	224	Female	-	Birth/Hatch	LOWRY	303660	01/Jun/2016
						Transfer	SANDIEGOZ	916098	30/Oct/2018
250	04/Jun/2016	216	224	Female	-	Birth/Hatch	LOWRY	303661	04/Jun/2016
						Transfer	SANDIEGOZ	916099	04/Jun/2016
						Transfer	SANDIEGOZ	916099	30/Oct/2018
251	11/Jun/2016	216	224	Male	-	Birth/Hatch	LOWRY	303663	11/Jun/2016
						Transfer	SANDIEGOZ	916097	30/Oct/2018
252	28/Jan/2016	221	212	Male	-	Birth/Hatch	NZP-WASH	307590	28/Jan/2016
						Transfer	SANDIEGOZ	916383	23/May/2019
253	10/Jan/2016	225	227	Female	-	Birth/Hatch	SANDIEGOZ	916184	10/Jan/2016

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
						Death	SANDIEGOZ	916184	12/May/2018
254	14/May/2017	221	212	Female	-	Birth/Hatch	NZP-WASH	307657	14/May/2017
						Transfer	SANDIEGOZ	917619	23/May/2019
						Death	SANDIEGOZ	917619	13/Aug/2019
255	20/Feb/2018	216	224	Male	-	Birth/Hatch	LOWRY	303740	20/Feb/2018
						Death	LOWRY	303740	17/May/2018
256	16/Feb/2018	216	224	Female	-	Birth/Hatch	LOWRY	303735	16/Feb/2018
						Transfer	CHICAGOBR	9669	14/Jan/2021
257	18/Feb/2018	216	224	Male	-	Birth/Hatch	LOWRY	303738	18/Feb/2018
258	18/Feb/2018	216	224	Female	-	Birth/Hatch	LOWRY	303737	18/Feb/2018
259	21/Feb/2018	216	224	Male	-	Birth/Hatch	LOWRY	303741	21/Feb/2018
						Death	LOWRY	3741	22/Feb/2018
260	16/Feb/2018	216	224	Male	-	Birth/Hatch	LOWRY	303736	16/Feb/2018
						Transfer	SAN ANTON	B20008	07/Oct/2020
261	16/Feb/2018	216	224	Male	-	Birth/Hatch	LOWRY	303734	16/Feb/2018
262	18/Feb/2018	216	224	Male	-	Birth/Hatch	LOWRY	303739	18/Feb/2018
						Transfer	DENVER	A20048	08/Jul/2020
263	05/Jul/2018	216	224	Female	-	Birth/Hatch	LOWRY	303788	05/Jul/2018
264	09/Jul/2018	216	224	Female	-	Birth/Hatch	LOWRY	303789	09/Jul/2018
265	09/Jul/2018	216	224	Male	-	Birth/Hatch	LOWRY	303790	09/Jul/2018
266	09/Jul/2018	216	224	Male	-	Birth/Hatch	LOWRY	303791	09/Jul/2018
						Transfer	OKLAHOMA	752401	21/Jul/2020
267	09/Jul/2018	216	224	Male	-	Birth/Hatch	LOWRY	303792	09/Jul/2018
						Transfer	KNOXVILLE	5903	18/Mar/2021
268	09/Jul/2018	216	224	Male	-	Birth/Hatch	LOWRY	303793	09/Jul/2018
						Transfer	BUFFALO	R21000	28/Apr/2021
269	10/Nov/2018	216	224	Male	-	Birth/Hatch	LOWRY	303811	10/Nov/2018
270	13/Nov/2018	216	224	Undetermined	-	Birth/Hatch	LOWRY	303807	13/Nov/2018
						Death	LOWRY	303807	13/Nov/2018
271	16/Nov/2018	216	224	Undetermined	-	Birth/Hatch	LOWRY	303809	16/Nov/2018
						Death	LOWRY	303809	16/Nov/2018

Studbook ID	Hatch Date	Sire	Dam	Sex	Reproductive	Event	Location	Local ID	Date
272	29/Nov/2018	216	224	Undetermined	-	Birth/Hatch	LOWRY	303810	29/Nov/2018
						Death	LOWRY	303810	29/Nov/2018
273	14/Jan/2019	225	227	Female	-	Birth/Hatch	SANDIEGOZ	1000031	14/Jan/2019
274	04/May/2019	225	227	Male	-	Birth/Hatch	SANDIEGOZ	1000366	04/May/2019
275	01/Jan/2015 +/- 6 month	WILD	WILD	Male	-	Birth/Hatch	Fiji / ~	-	01/Jan/2015 +/- 6 month
						Wild Capture	Fiji / ~	-	01/Jan/2017 +/- 6 month
						Transfer	BUENOSAIR	R1200	17/Jan/2018
						Transfer	SANDIEGOZ	918030	06/Jun/2018
276	04/Dec/2019	225	227	Male	-	Birth/Hatch	SANDIEGOZ	1001350	04/Dec/2019
277	02/Jan/2020	251	240	Male	-	Birth/Hatch	SANDIEGOZ	1001424	02/Jan/2020
278	04/Jan/2020	251	240	Female	-	Birth/Hatch	SANDIEGOZ	1001427	04/Jan/2020
279	04/Jan/2020	251	240	Male	-	Birth/Hatch	SANDIEGOZ	1001426	04/Jan/2020
280	23/Jan/2020	251	240	Female	-	Birth/Hatch	SANDIEGOZ	1001506	23/Jan/2020
281	29/Mar/2020	225	227	Male	-	Birth/Hatch	SANDIEGOZ	1001736	29/Mar/2020
282	31/Mar/2020	225	227	Female	-	Birth/Hatch	SANDIEGOZ	1001739	31/Mar/2020
283	22/Apr/2020	225	227	Male	-	Birth/Hatch	SANDIEGOZ	1001800	22/Apr/2020
284	02/Jun/2020	251	240	Male	-	Birth/Hatch	SANDIEGOZ	1001910	02/Jun/2020
285	13/Jun/2020	213	234	Male	-	Birth/Hatch	DALLAS	20C247	13/Jun/2020
286	22/Jun/2020	213	234	Female	-	Birth/Hatch	DALLAS	20C251	22/Jun/2020
287	11/Dec/2007	WILD	226	Female	-	Birth/Hatch	SANDIEGOZ	907540	11/Dec/2007
						Death	SANDIEGOZ	907540	03/Jan/2011
288	18/May/2021	236	230	Female	-	Birth/Hatch	SANDIEGOZ	1001881	18/May/2021
289	27/May/2021	236	230	Female	-	Birth/Hatch	SANDIEGOZ	1001896	27/May/2021
290	15/May/2020	236	230	Male	-	Birth/Hatch	SANDIEGOZ	1001873	15/May/2020
291	02/Sep/2014	UND	UND	Male	-	Birth/Hatch	KOLN	R714	02/Sep/2014
					-	Transfer	TORONTO	50589	18/Oct/2018
292	08/Sep/2013	UND	UND	Female	-	Birth/Hatch	ZURICH	B30506	08/Sep/2013
					-	Transfer	TORONTO	51681	15/Sep/2021

Geographic scope of Regional Studbook

The Fiji Banded Iguana AZA Regional Studbook documents all Fiji Banded Iguanas that currently reside or once resided inthe United States of America and Canada. This studbook only contains one species, *Brachylophus bulabula*.
The historical studbook contains 288 specimens 136.133.19 at 35 institutions. The living studbook contains 66 specimens (42.24.0) currently housed in 20 institutions. This data is current through March 2022.

Conventions

The studbook contains no data entry conventions

Acknowledgements

Photos: Ken Bohn, San Diego Zoo Wildlife Alliance

Asako Navarro, Population Biologist, San Diego Zoo Wildlife Alliance

The group of Fijian iguanas at the San Diego Zoo Wildlife Alliance serves as:

1) a safeguard population in case of a catastrophic event in the Fiji Islands and habitat and animals need to be restored/reintroduced, and

2) through successful reproduction and careful management of genetics, individuals are sent to other AZA institutions to further stabilize the captive population through reproduction and/or displaying single animals while educating the public on critically endangered species and ecosystems on how to support efforts to restore and preserve them.

SDZWA works with Nature Fiji Mareqeti Vita, International Iguana Foundation, National Trust of Fiji Islands, Bird Life International, USGS and Ahura Resorts. Within these partners SDZWA has helped restore forests, set up breeding enclosures, training local people on husbandry, educating public; school children, track and monitor reintroductions of iguanas and genetic surveys and studying gut microbes. All AZA institutions that hold Fiji iguanas support these efforts with graphics and signage that tell a conservation message. They may also support either financially to one or more of the many Fijian conservation organizations. The breeding population of Fiji iguanas has been managed at SDZWA for over 3 decades and SDZWA has managed the AZA Species Survival Program since inception. The last 5 years there have been 22 successful hatchlings at the SDZWA. This new group of Fijian iguanas is unrelated to SDZWA animals and will greatly enhance genetic diversity as founder animals.

Received: 25 September 2020 | Revised: 25 January 2021 | Accepted: 8 February 2021

DOI: 10.1002/ece3.7373

ORIGINAL RESEARCH

Ecology and Evolution Open Access WILEY

Gut microbial ecology of the Critically Endangered Fijian crested iguana (*Brachylophus vitiensis*): Effects of captivity status and host reintroduction on endogenous microbiomes

Samuel J. Eliades[1] | Joseph C. Brown[1,2] | Timothy J. Colston[3] | Robert N. Fisher[4] | Jone B. Niukula[5] | Kim Gray[6] | Jhabar Vadada[5] | Sia Rasalato[7] | Cameron D. Siler[1]

[1]Sam Noble Oklahoma Museum of Natural History and Department of Biology, University of Oklahoma, Norman, Oklahoma, USA

[2]Hope Zoo Preservation Foundation, Kingston, Jamaica

[3]Department of Biology, University of Florida, Gainesville, Florida, USA

[4]Western Ecological Research Center, U.S. Geological Survey, San Diego, California, USA

[5]National Trust of Fiji Islands, Suva, Fiji

[6]San Diego Zoo Wildlife Alliance, San Diego, California, USA

[7]Ahura Resorts, Suva, Fiji

Correspondence
Samuel J. Eliades, Sam Noble Oklahoma Museum of Natural History and Department of Biology, University of Oklahoma, 2401 Chautauqua Ave., Norman OK 73072-7029, USA.
Email: sjeliades@ou.edu

Funding information
University of Oklahoma; International Iguana Foundation; San Diego Zoo Global; Survivor Entertainment Group; Dutch Iguana Society; National Science Foundation, Grant/Award Number: DEB 1657648; Kula Eco Park; Taronga Conservation Society Australia; USGS Ecosystems Mission Area; Oklahoma City Zoo and Botanical Garden; Critical Ecosystems Partnership Fund

Abstract

Animals often exhibit distinct microbial communities when maintained in captivity as compared to when in the wild. Such differentiation may be significant in headstart and reintroduction programs where individuals spend some time in captivity before release into native habitats. Using 16S rRNA gene sequencing, we (i) assessed differences in gut microbial communities between captive and wild Fijian crested iguanas (*Brachylophus vitiensis*) and (ii) resampled gut microbiota in captive iguanas released onto a native island to monitor microbiome restructuring in the wild. We used both cloacal swabs and fecal samples to further increase our understanding of gut microbial ecology in this IUCN Critically Endangered species. We found significant differentiation in gut microbial community composition and structure between captive and wild iguanas in both sampling schemes. Approximately two months postrelease, microbial communities in cloacal samples from formerly captive iguanas closely resembled wild counterparts. Interestingly, microbial communities in fecal samples from these individuals remained significantly distinct from wild conspecifics. Our results indicate that captive upbringings can lead to differences in microbial assemblages in headstart iguanas as compared to wild individuals even after host reintroduction into native conditions. This investigation highlights the necessity of continuous monitoring of reintroduced animals in the wild to ensure successful acclimatization and release.

KEYWORDS

conservation, headstart, husbandry, microbial restructuring, reptiles, wildlife management

1 | INTRODUCTION

Gastrointestinal microbial communities are critical to host health, contributing to an array of functions that impact host fitness and reproductive success such as nutrient acquisition based on digestive efficiency, hormone balance, and immune response (Cho & Blaser, 2012; Colston & Jackson, 2016; Fraune & Bosch, 2010; Ley et al., 2008). Given that gut microbiota serve essential roles in maintaining host well-being, the study of these communities is a novel tool for wildlife conservation initiatives, particularly in programs involving ex situ animal care (Bahrndorff et al., 2016; Jiménez & Sommer, 2017; Redford et al., 2012; West et al., 2019). With few exceptions, a variety of species housed in captivity show disparate gut microbiomes compared with wild counterparts which may be caused by dietary differences, antibiotic treatments, exposure to other species in captivity, or various other potential drivers that alter microbial compositions (Alfano et al., 2015; Cheng et al., 2015; Clayton et al., 2016; Eigeland et al., 2012; McKenzie et al., 2017; West et al., 2019; Zhu et al., 2011). Such differences may be signs of dysbiosis, or perturbations of microbial communities that hinder system function and are often associated with negative health outcomes in hosts (Gilbert et al., 2016; West et al., 2019). For example, captivity has been linked to increases in potential pathogens within gastrointestinal microbial communities in mammals (Amato et al., 2016; Cheng et al., 2015; Wan et al., 2016; Wasimuddin et al., 2017), birds (Xie et al., 2016), and reptiles (Jiang et al., 2017; Kohl et al., 2017). Distinct gut microbiota between captive and wild hosts is especially significant in headstart and reintroduction conservation programs, as altered microbial communities or introduced pathogens in captive animals slated for release could hinder reintroduction success and survivorship in the wild due to reduced dietary efficiency or compromised immune response affecting survivorship (Bahrndorff et al., 2016; Jiménez & Sommer, 2017; Redford et al., 2012; West et al., 2019).

Headstart programs have become increasingly common management strategies to supplement declining wildlife populations at risk of extinction (McGowan et al., 2017; Redford et al., 2011; Tear et al., 1993). In these programs, young animals are reared in captivity past their most vulnerable life stages before being released to reinforce wild populations (Alberts, 2007; Ferguson et al., 1982). Historically, however, effective reintroduction of captive animals into the wild has been rare, with as few as 13% of such projects being deemed successful (Fischer & Lindenmayer, 2000; Mathews et al., 2005). Multiple factors have been linked to animal headstart and reintroduction difficulties including individual animal behavior (Alberts, 2007; Mathews et al., 2005) and ill-suited release sites (Pérez-Buitrago et al., 2008). More recently, microbial incompatibilities also have been suggested as possible impediments to reintroduction success (Bahrndorff et al., 2016; Jiménez & Sommer, 2017; Redford et al., 2012; West et al., 2019). However, no studies to date have examined gut microbiota in reintroduced species both pre- and postrelease to analyze microbial composition and acclimation of these communities to native habitats. Improved understanding of host natural microbiomes and microbial shifts associated with captivity and headstart animal release could help management practitioners to better prepare animals for reintroduction and increase headstart success of imperiled species.

The Fijian crested iguana (*Brachylophus vitiensis*) is an herbivorous lizard species endemic to dry and littoral forests in western Fiji (Fisher et al., 2019; Harlow, Fisher, & Grant, 2012). Since the species' discovery in 1981, it has experienced sharp population declines throughout most of its limited range due to habitat loss and introduced predators (Fisher et al., 2019; Gibbons, 1981; Harlow et al., 2007). The Fijian crested iguana is listed on CITES Appendix S1 and as Critically Endangered by the IUCN Red List (Fisher et al., 2019; Harlow et al., 2012). To ensure the long-term viability of this species in Fiji, a captive breeding and headstart program was established in 2010 with a specific focus on animals from the uninhabited island of Monuriki (Chand et al., 2016; Fisher et al., 2019). Monuriki Island crested iguanas are genetically distinct from all other crested iguana populations (Keogh et al., 2008), and the 2008 Iguana Species Recovery Plan prioritized Monuriki as the single most important site for immediate conservation action for this taxon (Fisher et al., 2019; Harlow et al., 2008). From 2010 to 2012, 20 adult iguanas were caught in the wild from Monuriki Island and transported to Kula Eco Park on the large island of Viti Levu to develop a captive breeding colony (Chand et al., 2016). Over the next six years, these 20 wild-caught individuals were successfully bred in managed care at Kula Eco Park with the intention of headstarting and returning the offspring to their source island of Monuriki (Chand et al., 2016; Fisher et al., 2019). In mid-May 2015, 32 captive-bred crested iguanas were released onto Monuriki Island, with an additional 32 captive-bred iguanas and 16 of the original adult wild founder iguanas released onto Monuriki in February 2017.

In 2017, we completed extensive sampling of gut microbial communities from Fijian crested iguanas in captivity at Kula Eco Park, wild iguanas on Monuriki Island, and previously captive iguanas released onto Monuriki to better understand how endogenous microbiomes are influenced by both human care and host reintroduction. In this study, we not only compare gut microbiomes in captive and wild lizards of a Critically Endangered species, but also assess the restructuring of microbiota in headstart animals reintroduced into native habitats. Additionally, by inventorying gut microbiota in Fijian crested iguanas using two sampling techniques, cloacal swabs and fecal samples, we address how sampling regime influences microbial data recovered and subsequent downstream analyses. While gut microbial diversity reported from cloacal and fecal sampling is often similar, significant discrepancies in relative abundances of microbial taxa between sampling types are well noted (Colston et al., 2015; Kohl et al., 2017; Stanley et al., 2015). We used both techniques to maximize our understanding of gut microbial ecology in *B. vitiensis* and to mitigate potential shortcomings associated with employment of a single sampling technique (Colston et al., 2015; Ren et al., 2016). The Fijian crested iguana headstart initiative represents a unique opportunity to address two important research questions: (i) How does captivity status effect the diversity and structure of

gut microbiomes? and (ii) How do such communities respond to host reintroduction into native habitats? The results of this study have direct implications for the management and conservation of this Critically Endangered reptile species and for headstart and reintroduction programs globally.

2 | MATERIALS AND METHODS

2.1 | Animal maintenance and sample collection

Located 45 km northwest of the main Fijian island of Vitu Levu, Monuriki Island (17°37'S, 177°02'E) is a small (45 ha, 216 m ele.), uninhabited island belonging to the Mamanuca Island group in western Fiji (Figure 1). From 2010 to 2012, 10 male and 10 female adult Monuriki Island crested iguanas were harvested from the wild and brought to Kula Eco Park on Viti Levu to initiate a captive breeding headstart program. These 20 wild-caught crested iguanas were maintained at Kula Eco Park in a private facility specifically built for captive breeding of Monuriki crested iguanas. Iguana cages were made from galvanized steel and mesh, measuring 92 cm tall and 92 cm wide, with wood branches for arboreal perching. Iguanas were maintained on a daily diet of fresh salad made from local mixed greens and fruits. Adult iguanas were housed in pairs, while all captive-bred offspring were kept in small groups of two to four individuals per cage. Nest boxes were placed in cages for gravid females. Once eggs were deposited by a female, they were immediately removed and placed in a separate incubator until hatching.

FIGURE 1 Adult Fijian crested iguana (*B. vitiensis*) perched in native habitat on Monuriki Island (Photograph by J.C.B.)

Hatchlings were fed in the same manner as adults and juveniles, but salads were cut into smaller pieces. We implanted unique passive integrated transponder (PIT) tags subcutaneously into all iguanas for identification in the wild.

We collected samples from crested iguanas of four distinct life history groups: The original wild-caught adult founder iguanas from Monuriki brought to Kula Eco Park for captive breeding (wild-caught founders; WCF) from 2010 to 2012, captive-born individuals released onto Monuriki in 2015 (CB2015), captive-born individuals released onto Monuriki in 2017 (CB2017), and wild individuals on Monuriki (Wild). Further, we sampled microbiota in WCF and CB2017 individuals while in captivity and approximately 2 months after relocation onto Monuriki Island.

From 22 to 24 February 2017, we inventoried gut microbiota in WCF and CB2017 Fijian crested iguanas at Kula Eco Park using two sampling techniques, cloacal swabs and fecal samples. To collect cloacal samples, sterile, rayon-tipped swabs were inserted approximately 3 cm into the cloacal opening of each animal and rotated 10 times. For fecal sample collection, iguanas were placed in individual prewashed pillowcases overnight and feces were retrieved opportunistically within 4–8 hr. Pillowcases were washed subsequent to each use. For efficient preservation of DNA in both sample types, swabs and fecal samples were placed into individual screw-cap 1.5 ml cryovials with 750 μl Xpedition™ Lysis/Stabilization Solution. These vials were subsequently inserted into a custom 3D-printed plastic sleeve to hold the vials, bolted to a reciprocating saw attachment, inserted into a Milwaukee M12 Hackzall battery-operated reciprocating saw, and shaken vigorously for 5 min to act as a mechanical homogenization device. Samples were stored at ambient temperature while in the field before transportation to the Sam Noble Oklahoma Museum of Natural History for curation and storage.

On 24 February 2017, we transported 16 WCF and 32 CB2017 (aged 12–28 months) iguanas from Kula Eco Park to Monuriki Island for assimilation into their source population. From the time of release to mid-July 2017, we conducted standard night surveys for *Brachylophus* (Harlow et al., 2007) on Monuriki Island to monitor iguanas and sample gut microbial communities in the wild. Once iguanas were captured, the presence of a PIT tag allowed us to determine whether the individual was a WCF, CB2017, or CB2015 iguana, while all iguanas lacking PIT tags were classified as Wild individuals. Gut microbial samples were collected using the same methodologies as for iguanas in captivity at Kula Eco Park.

2.2 | Microbial inventories

We extracted total DNA from 94 samples (52 cloacal and 42 fecal) from 39 host lizards using Zymo Quick-DNA Fecal/Soil Microbe Kits. Both cloacal swabs and fecal samples were incubated at 65°C for 15 min on a dry heating block and then vortexed for 15 min on an Eppendorf ThermoMixer® at 23°C and maximum speed (2000 rpm) immediately prior to beginning Zymo's recommended protocol. We amplified the V4 region of the 16S rRNA gene using

the index primers and PCR protocols of Kozich et al., (2013). PCR products were cleaned, normalized, and pooled using a SequelPrep Normalization Plate Kit (Invitrogen). Pooled libraries were purified using Agencourt® AMPure® magnetic bead capture and sent to the University of Oklahoma's Consolidated Core Lab (CCL) for sequencing using 515F and 806R primers targeting 2x300bp reads on an Illumina MiSeq sequencing platform (Caporaso et al., 2012).

Raw sequences were first paired and trimmed using AdapterRemoval2 v2.2.2 with default parameters (Lindgreen, 2012; Schubert et al., 2016). Cleaned sequences were clustered de novo into operational taxonomic units (OTUs) using UPARSE in USEARCH v11.0.667 at a minimum sequence identity of 97% and a minimum abundance of four (Edgar, 2013). Remaining sample curation and analysis were carried out in QIIME v1.9.1 (Caporaso et al., 2010). Taxonomies were assigned to OTUs using GreenGenes v13.8 (DeSantis et al., 2006). Archaea, chloroplast, mitochondria, PhiX, and other nonbacterial sequences were removed from processed OTU tables to ensure only bacterial sequences were included in downstream analyses. All 16S rRNA sequences have been deposited in the Sequence Read Archive (SRA) under accession no. PRJNA702127.

Among all samples (n = 94), a number were either duplicates (i.e., multiple subsamples of a single fecal deposit or cloacal swabs collected from the same host consecutively) or failed to generate sufficient sequencing coverage to produce meaningful microbial assessments. In instances where duplicate samples existed (n = 9), we retained only the sample with the greater sequencing depth. Of the remaining samples, those with fewer than 500 sequences (n = 2) were also removed to maximize sample inclusion against OTU coverage. The finalized dataset used for all subsequent analyses consisted of 83 samples (46 cloacal and 37 fecal) from 38 Fijian crested iguanas (Appendix S1). Within these datasets, five Fijian crested iguana hosts had complete time-series sets (pre- and postrelease sampling) via cloacal swabbing and five had them through fecal sampling. Three individuals occurred in both groups and had complete sampling sets from the two methodologies (Appendix S1).

Rarefaction depths varied by comparison based on Good's coverage estimates (Good, 1953) and rarefaction curves to maximize sample inclusion against OTU coverage (Figure S1). For analyses inclusive of all samples and of cloacal samples exclusively, we rarefied to 500 reads per sample (Good's estimate all samples = 0.92 ± 0.03, range: 0.86–0.99; cloacal samples = 0.94 ± 0.03, range: 0.87–0.98). In analyses involving fecal samples exclusively, we rarefied to 3,350 sequences per sample (Good's estimate fecal samples = 0.98 ± 0.005, range: 0.97–0.99).

We compared a variety of community membership metrics across samples from Fijian crested iguana hosts. For all comparisons, we first calculated alpha-diversity measurements including number of observed OTUs, the Shannon index (Shannon, 1948), and Faith's phylogenetic diversity (Faith's PD; Faith, 1992). Alpha-diversity measurements were compared using analysis of variance (ANOVA) tests in R v3.6.2 (R Core Team, 2013) with the Tukey test used for post hoc analyses. The Kruskal–Wallis tests with Bonferroni's corrections were used in QIIME to compare relative abundances of bacterial taxa between treatment groups. In examining specific OTUs, BLAST (Altschul et al., 1990) was used to compare novel sequences against those available in the National Center for Biotechnology Information's (NCBI) nucleotide database.

Community diversity and structure were compared using principal coordinates analysis (PCoA) on beta-diversity metrics including weighted and unweighted UniFrac distances (Lozupone & Knight, 2005) and the binary Jaccard index (Jaccard, 1901). Beta-diversity matrices and PCoA plots were generated from the same rarefied datasets used to measure alpha-diversity metrics. The adonis function in the vegan v2.3_4 package (Oksanen et al., 2016) of R v3.3.1 (R Core Team, 2013) was used on beta-diversity distance matrices with 999 permutations to compare community composition between groups statistically.

2.3 | Sample comparisons

We first analyzed bacterial composition across all 83 samples (Appendix S1) and then split the dataset into cloacal and fecal subsets to examine general patterns between sample types. Following broad overviews of the data, we tested the effects of captivity status on gut bacterial communities in crested iguana hosts and examined for microbial restructuring in reintroduced lizards postrelease.

To determine the influences of captivity status on gut microbial communities, we used snapshot analyses of cloacal and fecal samples taken from WCF, CB2017, CB2015, and Wild lizards. For cloacal comparisons, we included 35 samples collected between 22 February and 2 March 2017 (Appendix S1). This subset included 10 WCF, 13 CB2017, three CB2015, and nine Wild individuals. In our subsequent fecal analyses, we included 26 fecal samples collected between 22 February and 1 March 2017 (Appendix S1). This dataset encompassed fecal samples from nine WCF, nine CB2017, two CB2015, and six Wild iguanas. In addition to comparing microbial communities across four treatments, we also ran all analyses between just two conditions, captive (WCF and CB2017 grouped) and noncaptive (CB2015 and Wild grouped) (Ren et al., 2016).

We sought to assess the effects of release on lizard microbiota using both cloacal and fecal samples collected roughly 2 months after host reintroduction to Monuriki. We collected cloacal samples from five recently released lizards, one WCF and four CB2017, between 24 April and 11 May 2017 (Appendix S1). We compared microbial communities from these samples against those in the initial 23 captive animal cloacal samples (10 WCF, 13 CB2017) and the initial 12 noncaptive samples (nine Wild, three CB2015). We also compared six novel fecal samples (one WCF, five CB2017) collected between 2 and 17 May (Appendix S1) against the 18 initial captive fecal samples (nine WCF, nine CB2017) and eight noncaptive fecal samples (two CB2015, six Wild). In both instances, we sought to determine whether gut microbiomes were more similar to captive communities or noncaptive communities two months after host reintroduction.

3 | RESULTS

3.1 | General patterns in Fijian crested iguana microbiota

Our curated dataset of 83 samples generated 898,625 reads with a minimum read depth of 540, a maximum of 30,503, and a median of 9,883 reads per sample. Among the 46 cloacal samples only, 410,545 reads were recovered with a minimum read depth of 540 sequences per sample, maximum of 25,304, and median read depth of 8,521.5. The 37 fecal samples produced 488,080 reads with a minimum, maximum, and median read depth of 3,378, 30,503, and 12,558 reads per sample, respectively.

Fijian crested iguana microbiome samples averaged 85 unique OTUs per 500 reads, the Shannon index varied from 0.93 to 6.32 (mean = 4.77 ± 1.28), and Faith's PD varied from 2.76 to 14.33 (mean = 9.34 ± 2.87). The average Jaccard distance between pairs of samples was 0.83 suggesting that any two samples shared ~17% of their OTUs on average. Across rarefied sequences, six OTUs were found in ≥ 70% of all samples, one *Oscillospira* sp., one *Phascolarctobacterium* sp., two unidentified taxa in the family Enterobacteriaceae, and two unidentified taxa in the families Clostridiaceae and Lachnospiraceae. At a rarefied depth of 500 reads per sample, most sequences (91.8%) belonged to four phyla: Firmicutes (48.3%), Proteobacteria (18.4%), Actinobacteria (13.9%), and Bacteroidetes (11.1%).

The average number of OTUs per cloacal sample was 68 (sequence depth = 500 rarified reads/sample), the Shannon index varied from 0.81 to 6.07 (mean = 4.09 ± 1.32), and Faith's PD varied from 2.8 to 12.66 (mean 7.88 ± 3.04). Jaccard distances averaged 0.86 across pairs of cloacal samples, a slight increase when compared to that among all samples. Just four OTUs were identified in ≥ 70% rarefied cloacal sequences, one *Corynebacterium* sp., an unidentified microbe in Clostridiaceae, and two unidentified taxa in Enterobacteriaceae. The majority of cloacal reads (95.1%) belonged to the same four dominant phyla as in all samples: Firmicutes (37.2%), Proteobacteria (27.7%), Actinobacteria (24.3%), and Bacteroidetes (5.9%).

Within fecal samples and at a sequencing depth of 3,350 quality-controlled reads, the average number of OTUs found was 224, the Shannon index varied from 5.14 to 6.63 (mean = 5.90 ± 0.37), and Faith's PD varied from 11.94 to 21.69 (mean = 17.13 ± 2.05). The average Jaccard distance between any pair of fecal samples was 0.65, suggesting more similarity among fecal samples compared with among cloacal samples. Across all fecal samples, 90 OTUs were found in ≥ 70% of samples and seven OTUs were found in 100% of fecal samples. These included three *Bacteroides* spp., one *Parabacteroides* sp., an unidentified taxon in Lachnospiraceae, one in Enterobacteriaceae, and a third in Ruminococcaceae. Most rarefied reads (86.6%) belonged to just three phyla: Firmicutes (61.5%), Bacteroidetes (18.1%), and Proteobacteria (7.0%), while Actinobacteria comprised only 0.8% of rarified fecal reads.

3.2 | Comparison of microbiota in captive and noncaptive iguanas via cloacal samples

Comparisons of cloacal samples from Fijian crested iguanas of treatment groups WCF, CB2017, CB2015, and Wild yielded no significant differences in measured alpha-diversity metrics (Figure S2). This lack of differentiation remained even when samples were grouped as captive (WCF and CB2017 grouped) and noncaptive (CB2015 and Wild grouped) treatments (Figure S2). PCoA plots of beta-diversity metrics showed limited clustering when grouping both by four treatments and by captive and noncaptive lizards (Figure 2a). Among all four treatments, adonis tests determined significant differentiation in unweighted UniFrac distances ($R^2 = 0.1412$, $p = 0.004$) and Jaccard distances ($R^2 = 0.1445$, $p = 0.001$), while weighted UniFrac distances ($R^2 = 0.1448$, $p = 0.075$) were not significantly distinct. Grouping by captive and noncaptive types produced similar, yet weaker, results in unweighted UniFrac distances ($R^2 = 0.0641$, $p = 0.007$), Jaccard distances ($R^2 = 0.0646$, $p = 0.002$), and weighted UniFrac distances ($R^2 = 0.0460$, $p = 0.174$). The average Jaccard distance between pairs of cloacal samples in this subset was 0.85 and remained similar within treatment groups (WCF = 0.81, CB2017 = 0.82, CB2015 = 0.75, Wild = 0.88; captive = 0.83, noncaptive = 0.86).

Rarefied cloacal samples across all groups in this subset were dominated by Firmicutes (37.7%), Proteobacteria (26.2%), Actinobacteria (24.9%), and Bacteroidetes (6.5%) with some differentiation among treatments (Figure S3). At 500 sequences per sample, the Kruskal–Wallis tests identified two OTUs that varied significantly in relative abundance between all four treatments following Bonferroni's corrections. These included one *Cupriavidus* sp. (WCF mean reads = 0, CB2017 = 0, CB2015 = 0.7, Wild = 0) and an unidentified taxon in Coriobacteriaceae (WCF mean reads = 0, CB2017 = 0, CB2015 = 2.0, Wild = 0). Both of these differentiations are likely due to limited sampling in the CB2015 category ($n = 3$). When comparing captive and noncaptive samples, one OTU, an unidentified taxon in Micrococcaceae, was found to differ between treatment groups (mean captive reads = 19.1, noncaptive = 0). BLAST queries of this specific sequence returned a 99.6% match to *Nesterenkonia* sp. strain MadaFrogSkinBac.DB-0.3605. While not significantly distinct between treatments, a number of OTUs were present in rarefied captive samples that were absent in noncaptive ones (Appendix S2). Notably, these included another *Nesterenkonia* sp. (captive mean reads = 37.7), one *Brevibacterium* sp. (captive mean reads = 12.5), and one *Brachybacterium* sp. (captive mean reads = 11.2).

3.3 | Comparison of microbiota in captive and noncaptive iguanas via fecal samples

We found significant differences in the number of OTUs ($p = 0.005$; WCF = 223, CB2017 = 233, CB2015 = 181.5, Wild = 190) and in Faith's PD ($p = 0.001$; WCF = 17.0, CB2017 = 17.8, CB2015 = 14.1,

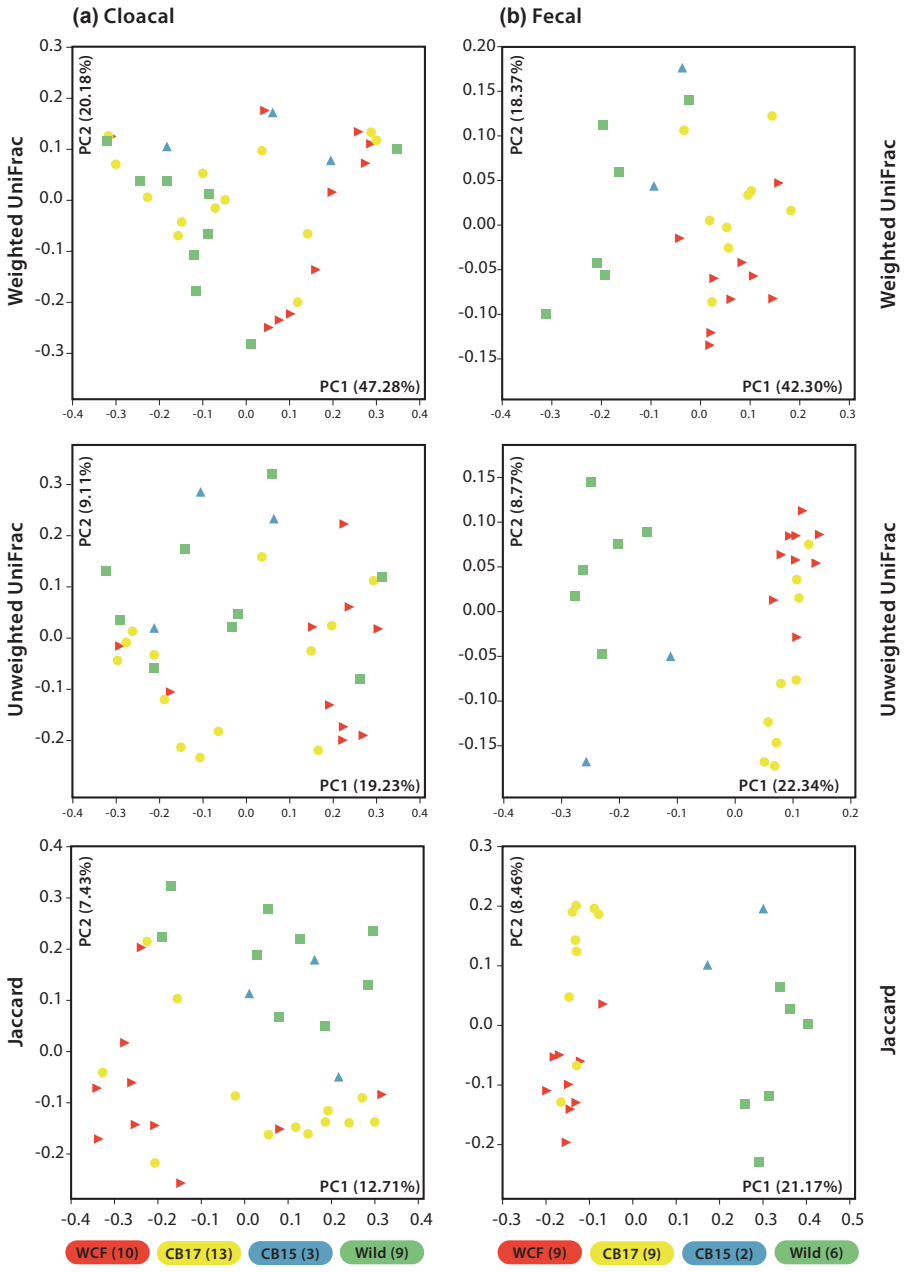


FIGURE 2 Principal coordinates analysis plots of initial (2017) (a) cloacal swabs and (b) fecal samples across four Fijian crested iguana treatment groups. Treatment groups include wild-caught founders (WCF) in captivity and captive-born headstart individuals (CB2017) in captivity at Kula Eco Park on Viti Levu, Fiji, as well as captive-born individuals released onto Monuriki Island in 2015 (CB2015) and fully wild individuals on Monuriki Island (Wild). The number of individual samples per treatment group is indicated in parentheses

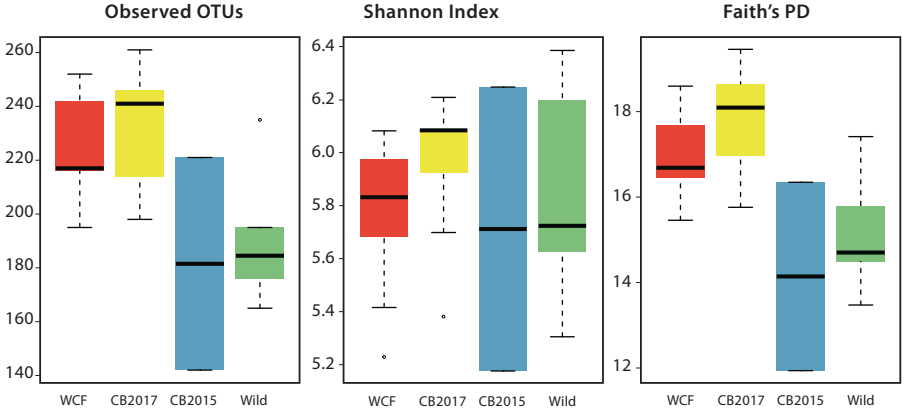


FIGURE 3 Alpha-diversity metrics of initial (2017) fecal samples across four treatment groups. Treatments included wild-caught founder (WCF) iguanas in captivity, captive-born headstart individuals (CB2017) in captivity, captive-born individuals released onto Monuriki in 2015 (CB2015), and fully wild individuals on Monuriki Island (Wild). Paired symbols denote significantly distinct treatment groups

Wild = 15.1) but not in the Shannon index when comparing fecal samples across all four treatments (Figure 3). Post hoc analyses of observed OTUs found significant differentiation between CB2017 and Wild samples (p = 0.012), while remaining comparisons were insignificant. Post hoc analyses of Faith's PD results revealed significant differentiation between CB2017 and CB2015 (p = 0.011)

and CB2017 and Wild ($p = 0.005$) treatments. Remaining pairwise comparisons were insignificant. Grouping by captive and noncaptive statuses again resulted in significant differences in the number observed OTUs ($p < 0.001$; captive mean = 229, noncaptive mean = 188) and in Faith's PD ($p < 0.001$, captive mean = 17.4, noncaptive mean = 14.9) but not in the Shannon index (Figure S4). PCoA plots showed evident clustering among all four treatments and when grouped as captive and noncaptive samples (Figure 2b). Adonis analyses showed significant differences between the four conditions in weighted UniFrac distances ($R^2 = 0.4297$, $p = 0.001$), unweighted UniFrac distances ($R^2 = 0.3302$, $p = 0.001$), and Jaccard distances ($R^2 = 0.3142$, $p = 0.001$). Captive and noncaptive comparisons showed similarly significant yet slightly weaker results in weighted UniFrac ($R^2 = 0.3162$, $p = 0.001$), unweighted UniFrac ($R^2 = 0.2122$, $p = 0.001$), and Jaccard distances ($R^2 = 0.2036$, $p = 0.001$). Pairs of fecal samples averaged a Jaccard distance of 0.65 with some deviation within treatment groups (WCF = 0.57, CB2017 = 0.55, CB2015 = 0.57, Wild = 0.63; captive = 0.57, noncaptive = 0.64).

The most prevalent phyla among rarefied fecal reads included Firmicutes (66.5%), Bacteroidetes (16.1%), and Proteobacteria (6.5%) contributing to 89.2% of sequences. Synergistetes (2.4%), Planctomycetes (2.3%), Tenericutes (2.0%), and Verrucomicrobia (1.9%) also contributed to general relative diversity present while Actinobacteria accounted for just 0.7% of rarefied reads (Figure S5). The Kruskal–Wallis tests identified one OTU that varied in abundance across all four groups, an unidentified Clostridiales (WCF mean reads = 0, CB2017 = 0, CB2015 = 1.5, Wild = 0) though significance of this difference is likely due to limited sampling of CB2015 individuals ($n = 2$) in this subset. Comparisons of captive and noncaptive microbial communities from crested iguana fecal samples identified seven OTUs that varied significantly between treatments. Three of these OTUs, one *Coprococcus* sp. (captive mean = 0.3, noncaptive = 26.5), an unidentified Coriobacteriaceae (captive mean = 0, noncaptive = 3.9), and an unidentified Mogibacteriaceae (captive mean = 0, noncaptive = 4.3), were more prevalent in noncaptive animals than in captive ones (Appendix S2). The remaining four OTUs were common in rarefied captive animal communities but absent from noncaptive counterparts. These OTUs included one *Ruminococcus* sp. (captive mean = 95.3, noncaptive = 0), an *Acetobacterium* sp. (captive mean = 82, noncaptive = 0), an unidentified Christensenellaceae (captive mean = 53.4, noncaptive = 0), and one *Bacteroides* sp. (captive mean = 25.3, noncaptive = 0; Appendix S2). References of the unidentified Christensenellaceae sequence against published data in BLAST returned hits only to uncultured bacterial clones. A litany of additional OTUs were present in rarefied captive fecal samples that were not recovered in noncaptive ones (Appendix S2). Among these included an unidentified taxon in Synergistaceae (captive mean = 116.9), two unidentified Christensenellaceae (captive means = 58.6, 38.9), one *Akkermansia* sp. (captive mean = 29.3), another *Ruminococcus* sp. (captive mean = 18.7), an unidentified Clostridiales (captive mean = 15.1), and one *Coprococcus* sp. (captive mean = 11.0). BLAST searches of the unidentified taxon in Synergistaceae returned a 100% match to *Cloacibacillus porcorum* strain CL-84, while the two unidentified Christensenellaceae and the Clostridiales paired only to uncultured bacterium.

3.4 | Temporal variation of cloacal microbiota in captive crested iguanas postrelease

Comparisons of microbial communities from five cloacal samples taken shortly after host reintroduction against both captive and noncaptive microbial communities revealed no significant variation in alpha-diversity metrics (Figure S6). Comparisons of reintroduced individuals with complete time-series sampling yielded no significant difference in alpha-diversity metrics pre- and postrelease. PCoA plots revealed limited clustering across all three conditions in weighted and unweighted UniFrac metrics though some grouping between reintroduced and noncaptive samples was apparent in Jaccard plots (Figure 4a). Plots of only individuals with complete time-series sampling also showed inconsistent groupings (Figure S7). Adonis tests between reintroduced, captive, and noncaptive samples found significant differentiation in unweighted UniFrac ($R^2 = 0.0883$, $p = 0.006$) and Jaccard distances ($R^2 = 0.0907$, $p = 0.001$). Further pairwise comparisons between reintroduced samples and noncaptive samples uncovered no distinction in any beta metrics. Reintroduced samples were, however, significantly distinct from captive ones in the Jaccard metric ($R^2 = 0.0601$, $p = 0.006$). The average Jaccard distance among pairs of samples from reintroduced lizards was 0.83.

Microbial communities sourced from cloacal swabs in this subset were largely dominated by three phyla: Firmicutes, Proteobacteria, and Actinobacteria in all treatment groups. However, proportions of these taxa shifted between reintroduced, captive, and noncaptive conditions (Figure S8). We identified a single OTU that varied statistically between all three groups based on the Kruskal–Wallis tests, the unidentified taxon in Micrococcaceae matching *Nesterenkonia* sp. strain MadaFrogSkinBac.DB-0.3605 (reintroduced mean reads = 0, captive = 19.1, noncaptive = 0). Interestingly, a number of OTUs that were commonly found in cloacal samples from captive animals including the additional strain of *Nesterenkonia*, the *Brevibacterium* sp., and the *Brachybacterium* sp. were nearly or entirely absent in rarefied reads of samples from reintroduced hosts (reintroduced mean reads = 0, 0.2, 0.2, respectively; Appendix S2).

3.5 | Temporal variation of fecal microbiota in captive crested iguanas postrelease

We compared microbial communities in six fecal samples from reintroduced iguanas against those from captive and noncaptive samples and found significant differences in the number of observed OTUs ($p < 0.001$; reintroduced mean reads = 252, captive = 229, noncaptive = 188) and in Faith's PD ($p < 0.001$, reintroduced mean reads = 18.9, captive = 17.4, noncaptive = 14.9; Figure 5). Post hoc

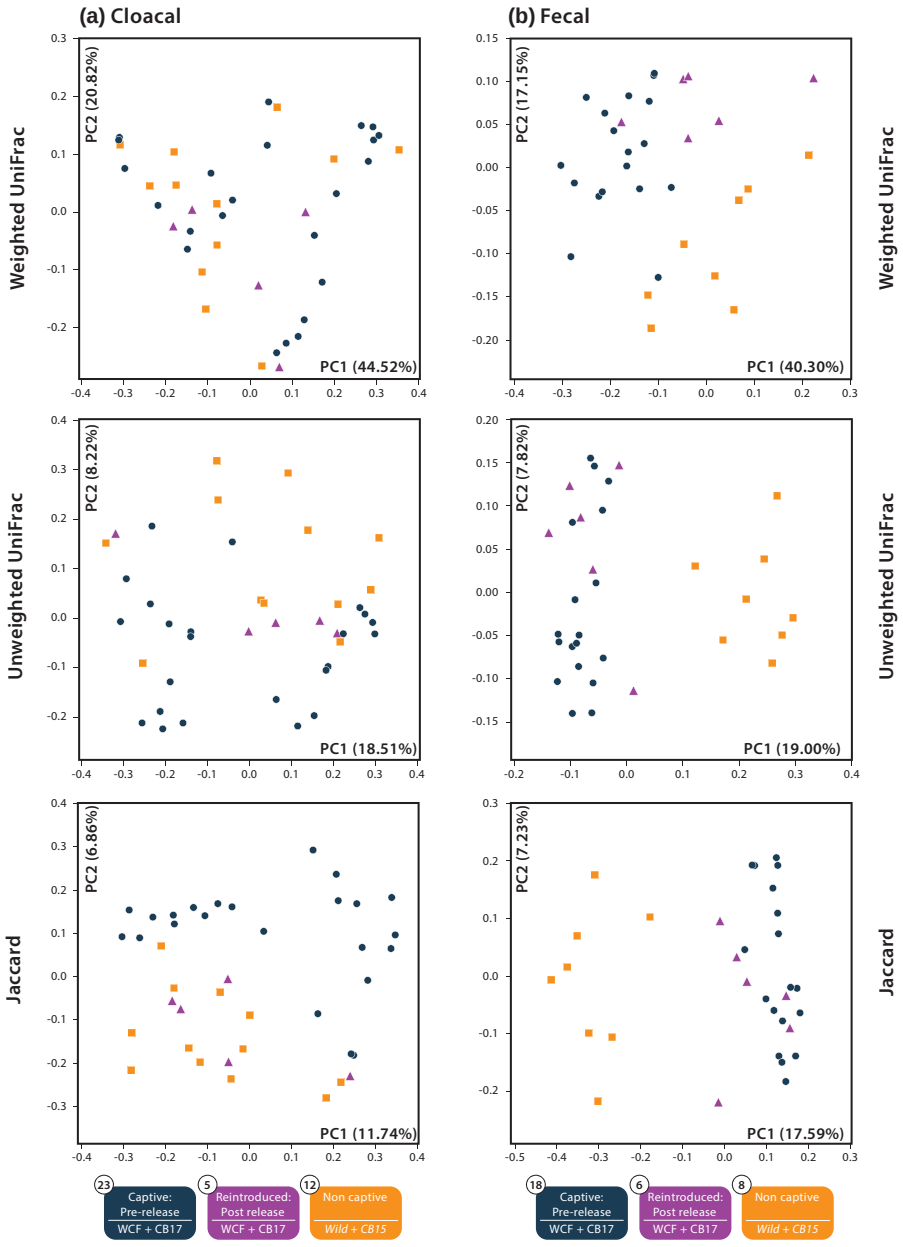


FIGURE 4 Principal coordinates analysis of reintroduced and initial (2017) (a) cloacal swabs and (b) fecal samples across three Fijian crested iguana treatment groups. Captive prerelease samples include wild-caught founders (WCF) in captivity and captive-born headstart individuals (CB2017) in captivity at Kula Eco Park collected February 2017. Noncaptive individuals consist of captive-born individuals released onto Monuriki Island in 2015 (CB2015) and fully wild individuals on Monuriki Island (Wild). Postrelease treatments include formerly captive WCF and CB2017 individuals sampled in late April 2017, 2 months after release onto Monuriki Island

analyses of observed OTUs found significance only between reintroduced and noncaptive communities ($p = 0.001$). Faith's PD posthoc tests found significance between reintroduced and noncaptive communities ($p = 0.003$) as well as between captive and noncaptive communities ($p = 0.003$). Comparisons of reintroduced individuals with complete time-series sampling yielded no significant difference in alpha-diversity metrics pre- and postrelease. Plotted beta-diversity metrics showed some clustering between treatment groups with reintroduced animals associating most closely with captive samples (Figure 4b). Significant differences in adonis tests were recorded in weighted UniFrac distances ($R^2 = 0.3417$, $p = 0.001$), unweighted UniFrac distances ($R^2 = 0.2291$, $p = 0.001$), and Jaccard distances ($R^2 = 0.2197$, $p = 0.001$) between reintroduced, captive, and noncaptive samples. Pairwise comparisons between reintroduced and captive samples were significantly distinct for all three metrics: weighted UniFrac ($R^2 = 0.2493$, $p = 0.001$), unweighted UniFrac ($R^2 = 0.0899$, $p = 0.001$), and Jaccard distances ($R^2 = 0.0915$, $p = 0.001$). Comparisons between reintroduced and noncaptive samples also produced significant differentiation in weighted UniFrac distances ($R^2 = 0.3992$, $p = 0.006$), unweighted UniFrac distances ($R^2 = 0.3862$, $p = 0.002$), and Jaccard distances ($R^2 = 0.3747$, $p = 0.001$). PCoA plots of individuals with complete time-series sampling exclusively showed clustering with some overlap between groups (Figure S9). The average Jaccard distance among pairs of samples after release was 0.61.

Microbial communities found in fecal samples from reintroduced, captive, and noncaptive samples were primarily dominated by three phyla: Firmicutes, Bacteroidetes, and Proteobacteria. Relative abundances of these phyla varied between conditions (Figure S10). In comparing OTU relative abundances, Kruskal–Wallis tests retrieved nine OTUs that differed between all three treatments (Appendix S2). These included one *Acetobacterium* sp.

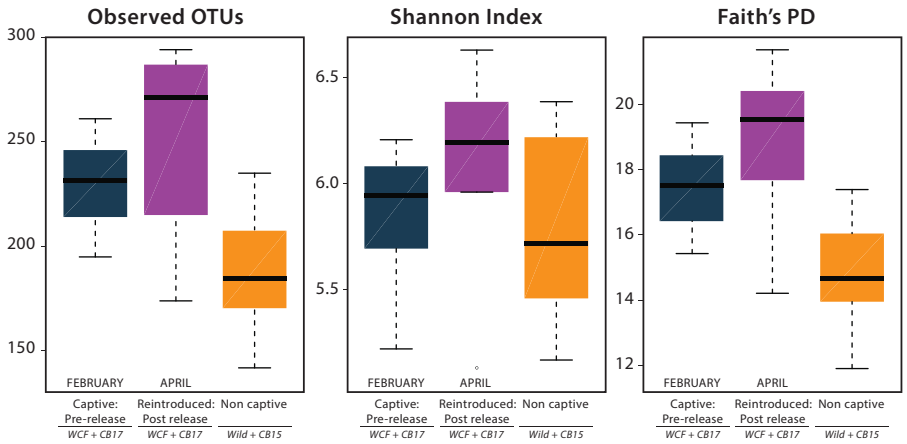


FIGURE 5 Alpha-diversity metrics of fecal samples from reintroduced Fijian crested iguana hosts compared against initial samples. Captive prerelease samples include wild-caught founders (WCF) in captivity and captive-born headstart individuals (CB2017) in captivity at Kula Eco Park. Noncaptive individuals consist of captive-born individuals released onto Monuriki Island in 2015 (CB2015) and fully wild individuals on Monuriki Island (Wild). Initial sample collection occurred in February 2017. Postrelease treatments include formerly captive WCF and CB2017 individuals sampled 2 months after release onto Monuriki Island in April 2017. Paired symbols denote significantly distinct treatment groups

(reintroduced = 3.2, captive = 82, noncaptive = 0), one *Akkermansia* sp. (reintroduced = 164.8, captive = 29.3, noncaptive = 0), one *Butyricimonas* sp. (reintroduced = 1.7, captive = 0, noncaptive = 0.3), one *Coprococcus* sp. (reintroduced = 2.5, captive = 0.3, noncaptive = 26.5), one *Ruminococcus* sp. (reintroduced = 7.7, captive = 95.3, noncaptive = 0), an unidentified Christensenellaceae (reintroduced = 121.7, captive = 53.4, noncaptive = 0), an unidentified Coriobacteriaceae (reintroduced mean reads = 0, captive = 0, noncaptive = 3.9), an unidentified Lachnospiraceae (reintroduced = 0.3, captive = 7.7, noncaptive = 0), and an unidentified Mogibacteriaceae (reintroduced = 0.5, captive = 0, noncaptive = 4.3). Scrutiny of additional taxa found in captive lizards yet absent from noncaptive ones yielded mixed results with some bacterial strains becoming more prevalent in reintroduced hosts and others becoming less prevalent (Appendix S2). The unknown Synergistaceae matching *C. porcorum*, for example, increased in mean relative abundance between conditions (reintroduced mean reads = 122.5, captive = 116.9) as did the noted *Bacteroides* sp. (reintroduced = 134.7, captive = 25.3). Meanwhile the second *Ruminococcus* sp. (reintroduced = 0.8, captive mean = 18.7), *Coprococcus* sp. (reintroduced = 0.7, captive mean = 11.0), and unidentified Clostridiales (reintroduced = 0.2, captive mean = 15.1) all decreased in relative abundances in reintroduced hosts (Appendix S2).

4 | DISCUSSION

Our findings show that captive and noncaptive Fijian crested iguanas harbor distinct microbial communities regardless of sampling regime (cloacal versus fecal). These results expand on a growing body of evidence that suggests animals housed in captivity have distinct microbiomes when compared to wild conspecifics (Alfano et al., 2015; Cheng et al., 2015; Clayton et al., 2016; Eigeland et al., 2012; Jiang et al., 2017; Kohl et al., 2017; McKenzie et al., 2017; Ren et al., 2016; West et al., 2019; Zhu et al., 2011). In both cloacal and fecal sampling, captive (WCF and CB2017 grouped) and noncaptive (CB2017 and Wild grouped) iguanas harbored significantly different microbial communities in at least two beta-diversity metrics (Figure 4). Further, Jaccard distances were consistently lower within captive treatments, suggesting a greater degree of shared OTU breadth and potentially homogenization among captive individuals. These findings are consistent with those seen in *Anolis sagrei* where alpha-diversity measures were generally higher in captive animals compared with wild conspecific hosts, yet gut communities were more homogenous, and beta-diversity metrics separated wild and captive hosts (Ren et al., 2016). In addition to harboring distinct microbial communities, a number of specific OTUs, particularly potential pathogens, were seen in greater abundances in captive over noncaptive Critically Endangered Fijian crested iguanas.

The introduction of potentially pathogenic bacteria has been documented previously in wild reptiles brought into temporary captivity (Jiang et al., 2017; Kohl et al., 2017) but not in a conservation initiative specifically designed to release captive animals into the wild. In cloacal samples from captive Fijian crested iguanas, one *Brachybacterium* sp., one *Brevibacterium* sp., and two *Nesterenkonia* spp. were present in rarefied reads while absent from noncaptive counterparts (Appendix S2). All three of these genera have species implicated as potential pathogens at least in humans (Gruner et al., 1993; Nakayama et al., 2009; Tamai et al., 2018). Fecal samples produced similar results where strains from multiple genera, including *Bacteroides*, *Cloacibacillus*, and *Ruminococcus* were found commonly in captive samples but absent in rarefied, noncaptive reads (Appendix S2). These three genera are also potentially pathogenic strains in humans (Domingo et al., 2015; Titécat et al., 2014; Wexler, 2007). Although determining the exact pathogenic capacities of particular microbes is outside the realm of this investigation,

high abundances of potential pathogens in animals under human care support the possibility that headstart animals can harbor disease-causing bacteria at significantly higher rates than animals living in the wild (Redford et al., 2012). Although microbial communities in hosts can shift rapidly on the scale of days to even hours in some cases (Costello et al., 2010; Ren et al., 2016), the impacts of releasing animals with elevated levels of what could be pathogenic microbiota have received little attention to date (Redford et al., 2012).

Reintroduction of captive Fijian crested iguanas into native habitats promoted restructuring of gut microbiomes toward noncaptive communities. After 2 months on Monuriki Island, cloacal samples from reintroduced iguanas appeared to harbor gut microbial communities more similar to noncaptive than to captive compositions (Figure 4 and S6). Additionally, noted potential pathogens in captive individuals were either absent or diminished in reintroduced hosts. Microbial assemblages generated from fecal samples, however, did not produce similar results. Instead, microbiota from fecal samples of reintroduced lizards seemingly resembled captive hosts more closely rather than noncaptive hosts (Figures 4 and 5). Potential pathogens also displayed differing trends with *Ruminococcus* spp. becoming less abundant in host iguanas two months after release and *Bacteroides* sp. and *Cloacibacillus* sp. becoming more abundant in samples taken from individuals after reintroduction. Such findings support previously proposed hypotheses that pathogens associated with human care may continue to impact headstart or reintroduced animals even after release (Bahrndorff et al., 2016; Redford et al., 2012; West et al., 2019). Despite fecal samples from reintroduced iguanas being significantly distinct from noncaptive samples, this differentiation does appear to be temporary. Released animals relocated onto Monuriki Island in 2015 (CB2015) contained gut microbial assemblages more closely associated with true wild iguanas rather than captive ones in both cloacal and fecal samples, suggesting that reacclimation of wild-type microbiomes can occur after prolonged survival in native habitats (i.e., two years; Figure 2).

Although both cloacal and fecal sampling techniques recovered significant differentiation in gut microbial communities between captive and noncaptive Fijian crested iguanas (Figures 2 and 4), specific OTUs that varied between treatments were inconsistent. Further, differences were apparent in comparing assemblages from reintroduced lizards to those in captive and noncaptive hosts based on sampling regime (Figure 4). Cloacal samples from reptiles generally encapsulate the breadth of gut microbial diversity but vary significantly in abundances compared directly to hindgut samples while fecal samples tend to better represent gut diversity and abundances (Colston et al., 2015; Kohl et al., 2017). When assessing microbial communities in captive lizards for potential disease-causing microbes, or in evaluating the restructuring of host microbiomes postrelease, multiple nonlethal gut microbial sampling techniques may be necessary to fully elucidate trends of interest.

Gut microbial communities in captive Fijian crested iguanas are distinct from those in noncaptive iguanas and this differentiation prevails for some time postrelease. However, the duration in which a host's microbial composition shifts to closely resemble true wild counterparts remains unclear. A continued need exists to monitor microbial communities in headstart animals postrelease to track animal well-being (Bahrndorff et al., 2016; Jiménez & Sommer, 2017; Redford et al., 2012; West et al., 2019). Such studies could determine the influences of potential disease-causing bacteria associated with captive upbringings on host survival, growth, and reproduction in the wild. Further, wild conspecifics in populations with introduced animals should be monitored closely for introduction of novel pathogens brought on from interaction with animals sourced from headstart programs (West et al., 2019). Such scenarios may justify the use of soft releases or probiotics prior to animal release to acclimatize gut microbiota in headstart individuals to natural conditions and eliminate possible disease-causing agents before complete reintroduction to the wild (Redford et al., 2012; West et al., 2019). Along with increased monitoring of animal health, additional scrutiny of specific OTUs seen in differential abundances between headstart and wild animals that may be pathogenic is necessary to determine the virulence of such bacterial strains. Should these OTUs be minimally pathogenic, then no additional action may be necessary to mitigate their increased abundances while animals are in captive settings. Ultimately, consistent monitoring of hosts postrelease and further examination of possible pathogens are the next step toward improving our understanding of gut microbial ecology in endangered species with conservation significance.

ACKNOWLEDGMENTS

This study was carried out under the permission of the Ministry of Education, National Heritage, Culture & Arts Fiji (Reference RA24/13). All methods were carried out in accordance with protocol R17-005 of the Institutional Animal Care and Use Committee of the University of Oklahoma and protocol 12-003 of the Institutional Animal Care and Use Committee of San Diego Zoo Wildlife Alliance (Zoological Society of San Diego). Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government. We thank the Mataqali Vunaivi for their support and assistance throughout this project. The project was jointly funded by the International Iguana Foundation, Dutch Iguana Society, San Diego Zoo Global, Survivor Entertainment Group, Critical Ecosystems Partnership Fund, Kula Eco Park, Taronga Conservation Society Australia, the University of Oklahoma, and the USGS Ecosystems Mission Area to J.C.B, R.N.F, and C.K.L., the Oklahoma City Zoo and Botanical Garden to S.J.E., and NSF grant DEB 1657648 to C.D.S. We thank R. Chand and P. Harlow for all of their work to have successful breeding in captivity at Kula Eco Park. We thank C. Rochester, S. Pasachnik, S. Hathaway, E. Matatia, N. Thomas, S. Antsey, M. Glaser, B. Thaman, R. Ursua, K. Laqere-Beitaki, and Likuliku Resorts for assistance in the field, K. Sankaranarayanan for invaluable assistance in data analysis, and members of the Siler Lab for critical reviews of early drafts of the manuscript. Lastly, we thank anonymous reviewers for their critical evaluations of this manuscript.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Samuel Joseph Eliades: Formal analysis (equal); Funding acquisition (equal); Methodology (equal); Writing-original draft (equal). **Joseph C. Brown:** Conceptualization (equal); Data curation; Funding acquisition; Methodology; Project administration (equal); Writing-review & editing (equal). **Tim Colston:** Conceptualization (equal); Data curation; Formal analysis; Methodology; Writing-review & editing (equal). **Robert N Fisher:** Conceptualization; Funding acquisition; Writing-review & editing (equal). **Jone Niukula:** Data curation; Writing-review & editing (equal). **Kim Gray:** Funding acquisition; Writing-review & editing. **Jhabar Vadada:** Data curation; Writing-review & editing (equal). **Sia Rasalato:** Data curation; Writing-review & editing. **Cameron Siler:** Conceptualization (equal); Data curation (equal); Funding acquisition (equal); Project administration (equal); Writing-review & editing (equal).

DATA AVAILABILITY STATEMENT

All 16S rRNA sequences have been deposited in the Sequence Read Archive (SRA) under accession no. PRJNA702127.

ORCID

Samuel J. Eliades https://orcid.org/0000-0002-6753-5881
Joseph C. Brown https://orcid.org/0000-0002-9823-9022
Timothy J. Colston https://orcid.org/0000-0002-1127-1207
Robert N. Fisher https://orcid.org/0000-0002-2956-3240
Cameron D. Siler https://orcid.org/0000-0002-7573-096X

REFERENCES

Alberts, A. C. (2007). Behavioral considerations of headstarting as a conservation strategy for endangered Caribbean rock iguanas. *Applied Animal Behaviour Science*, *102*, 380–391. https://doi.org/10.1016/j.applanim.2006.05.037

Alfano, N., Courtiol, A., Vielgrader, H., Timms, P., Roca, A. L., & Greenwood, A. D. (2015). Variation in koala microbiomes within and between individuals: Effect of body region and captivity status. *Scientific Reports*, *5*, 10189. https://doi.org/10.1038/srep10189

Altschul, S. F., Gish, W., Miller, W., Myers, E. W., & Lipman, D. J. (1990). Basic local alignment search tool. *Journal of Molecular Biology*, *215*, 403–410. https://doi.org/10.1016/S0022-2836(05)80360-2

Amato, K. R., Metcalf, J. L., Song, S. J., Hale, V. L., Clayton, J., Ackermann, G., Humphrey, G., Niu, K., Cui, D., Zhao, H., Schrenzel, M. D., Tan, C. L., Knight, R., & Braun, J. (2016). Using the gut microbiota as a novel tool for examining colobine primate GI health. *Global Ecology and Conservation*, *7*, 225–237. https://doi.org/10.1016/j.gecco.2016.06.004

Bahrndorff, S., Alemu, T., Alemneh, T., & Lund Nielsen, J. (2016). The microbiome of animals: Implications for conservation biology. *International Journal of Genomics*, *2016*, 5304028. https://doi.org/10.1155/2016/5304028

Caporaso, J. G., Kuczynski, J., Stombaugh, J., Bittinger, K., Bushman, F. D., Costello, E. K., Fierer, N., Peña, A. G., Goodrich, J. K., Gordon, J. I., Huttley, G. A., Kelley, S. T., Knights, D., Koenig, J. E., Ley, R. E., Lozupone, C. A., McDonald, D., Muegge, B. D., Pirrung, M., … Knight, R. (2010). QIIME allows analysis of high-throughput community sequencing data. *Nature Methods*, *7*, 335. https://doi.org/10.1038/nmeth.f.303

Caporaso, J. G., Lauber, C. L., Walters, W. A., Berg-Lyons, D., Huntley, J., Fierer, N., Owens, S. M., Betley, J., Fraser, L., Bauer, M., Gormley, N., Gilbert, J. A., Smith, G., & Knight, R. (2012). Ultra-high-throughput microbial community analysis on the Illumina HiSeq and MiSeq platforms. *The ISME Journal*, *6*, 1621–1624. https://doi.org/10.1038/ismej.2012.8

Chand, R., Niukula, J., Vadada, J., Fisher, R. N., Lovich, K., Pasachnik, S., Rasalato, S., Thaman, B., Seniloli, E., Tuamoto, T., & Harlow, P. (2016). Captive breeding and re-introduction of the Monuriki island crested Iguana in Fiji. In P. S. Soorae (Ed.), *Global re-introduction perspectives: 2016* (pp. 76–81). IUCN SSC Re-introduction Specialist Group and Environment Agency-Abu Dhabi.

Cheng, Y., Fox, S., Pemberton, D., Hogg, C., Papenfuss, A. T., & Belov, K. (2015). The Tasmanian devil microbiome—implications for conservation and management. *Microbiome*, *3*, 76. https://doi.org/10.1186/s40168-015-0143-0

Cho, I., & Blaser, M. J. (2012). The human microbiome: At the interface of health and disease. *Nature Reviews Genetics*, *13*, 260–270. https://doi.org/10.1038/nrg3182

Clayton, J. B., Vangay, P., Huang, H. U., Ward, T., Hillmann, B. M., Al-Ghalith, G. A., Travis, D. A., Long, H. T., Tuan, B. V., Minh, V. V., Cabana, F., Nadler, T., Toddes, B., Murphy, T., Glander, K. E., Johnson, T. J., & Knights, D. (2016). Captivity humanizes the primate microbiome. *Proceedings of the National Academy of Sciences*, *113*, 10376–10381. https://doi.org/10.1073/pnas.1521835113

Colston, T. J. & Jackson, C. R. (2016). Microbiome evolution along divergent branches of the vertebrate tree of life: What is known and unknown. *Molecular Ecology*, *25*, 3776–3800. https://doi.org/10.1111/mec.13730

Colston, T. J., Noonan, B. P., & Jackson, C. R. (2015). Phylogenetic analysis of bacterial communities in different regions of the gastrointestinal tract of *Agkistrodon piscivorus*, the cottonmouth snake. *PLoS One*, *10*, e0128793. https://doi.org/10.1371/journal.pone.0128793

Costello, E. K., Gordon, J. I., Secor, S. M., & Knight, R. (2010). Postprandial remodeling of the gut microbiota in Burmese pythons. *The ISME Journal*, *4*, 1375–1385. https://doi.org/10.1038/ismej.2010.71

DeSantis, T. Z., Hugenholtz, P., Larsen, N., Rojas, M., Brodie, E. L., Keller, K., Huber, T., Dalevi, D., Hu, P., & Andersen, G. L. (2006). Greengenes, a chimera-checked 16S rRNA gene database and workbench compatible with ARB. *Applied and Environmental Microbiology*, *72*, 5069–5072. https://doi.org/10.1128/AEM.03006-05

Domingo, M. C., Yansouni, C., Gaudreau, C., Lamothe, F., Lévesque, S., Tremblay, C., & Garceau, R. (2015). *Cloacibacillus* sp, a potential human pathogen associated with bacteremia in Quebec and New Brunswick. *Journal of Clinical Microbiology*, *53*, 3380–3383. https://doi.org/10.1128/JCM.01137-15

Edgar, R. C. (2013). UPARSE: Highly accurate OTU sequences from microbial amplicon reads. *Nature Methods*, *10*, 996. https://doi.org/10.1038/nmeth.2604

Eigeland, K. A., Lanyon, J. M., Trott, D. J., Ouwerkerk, D., Blanshard, W., Milinovich, G. J., Gulino, L. M., Martinez, E. D., Merson, S. D., & Klieve, A. V. (2012). Bacterial community structure in the hindgut of wild and captive dugongs (*Dugong dugon*). *Aquatic Mammals*, *38*, 402–411. https://doi.org/10.1578/AM.38.4.2012.402

Faith, D. P. (1992). Conservation evaluation and phylogenetic diversity. *Biological Conservation*, *61*, 1–10. https://doi.org/10.1016/0006-3207(92)91201-3

Ferguson, G. W., Brown, K. L., & DeMarco, V. G. (1982). Selective basis for the evolution of variable egg and hatchling size in some iguanid lizards. *Herpetologica*, *38*, 178–188.

Fischer, J. & Lindenmayer, D. B. (2000). An assessment of the published results of animal relocations. *Biological Conservation*, *96*, 1–11. https://doi.org/10.1016/S0006-3207(00)00048-3

Fisher, R. N., Niukula, J., Harlow, P. S., Rasalato, S., Chand, R., Thaman, B., Seniloli, E., Vadada, J., Cranwell, S., Brown, J. J., Lovich, K., & Thomas-Moko, N. (2019). Community-based conservation and recovery of native species on Monuriki Island, Fiji. In C. R. Veitch, M. N. Clout, A. R. Martin, J. C. Russell & C. J. West (Eds.), *Island invasives: Scaling up to meet the challenge* (vol. *62*, pp. 552–557). Gland, Switzerland: IUCN Species Survival Commission. https://doi.org/10.2305/IUCN.CH.2019.SSC-OP.62.en

Fraune, S. & Bosch, T. C. (2010). Why bacteria matter in animal development and evolution. *BioEssays*, *32*, 571–580. https://doi.org/10.1002/bies.200900192

Gibbons, J. R. (1981). The biogeography of *Brachylophus* (Iguanidae) including the description of a new species, *B. vitiensis*, from Fiji. *Journal of Herpetology*, *15*, 255–273. https://doi.org/10.2307/1563429

Gilbert, J. A., Quinn, R. A., Debelius, J., Xu, Z. Z., Morton, J., Garg, N., Jansson, J. K., Dorrestein, P. C., & Knight, R. (2016). Microbiome-wide association studies link dynamic microbial consortia to disease. *Nature*, *535*, 94–103. https://doi.org/10.1038/nature18850

Good, I. J. (1953). The population frequencies of species and the estimation of population parameters. *Biometrika*, *40*, 237–264. https://doi.org/10.2307/2333344

Gruner, E., Pfyffer, G. E., & von Graevenitz, A. (1993). Characterization of *Brevibacterium* spp. from clinical specimens. *Journal of Clinical Microbiology*, *31*, 1408–1412. https://doi.org/10.1128/JCM.31.6.1408-1412.1993

Harlow, P. S., Fisher, M., Tuiwawa, M., Biciloa, P. N., Palmeirim, J. M., Mersai, C., Naidu, S., Naikatini, A., Thaman, B., Niukula, J., & Strand, E. (2007). The decline of the endemic Fijian crested iguana *Brachylophus vitiensis* in the Yasawa and Mamanuca archipelagos, western Fiji. *Oryx*, *41*, 44–50. https://doi.org/10.1017/S0030605307001639

Harlow, P. S., Fisher, R. N., & Grant, T. (2012). *Brachylophus vitiensis*. *The IUCN red list of threatened species 2012*, eT2965A2791620. https://doi.org/10.2305/IUCN.UK.2012.RLTS.T2965A2791620.en

Harlow, P. S., Hudson, R., & Alberts, A. (2008). *Fijian crested Iguana* Brachylophus vitiensis *species recovery plan 2008–2012*. IUCN Species Survival Commission, Iguana Specialist Group.

Jaccard, P. (1901). Étude comparative de la distribution florale dans une portion des Alpes et des Jura. *Bulletin De La Societe Vaudoise Des Sciences Naturelles*, *37*, 547–579. https://doi.org/10.5169/seals-266450

Jiang, H.-Y., Ma, J.-E., Li, J., Zhang, X.-J., Li, L.-M., He, N., Liu, H.-Y., Luo, S.-Y., Wu, Z.-J., Han, R.-C., & Chen, J.-P. (2017). Diets alter the gut microbiome of crocodile lizards. *Frontiers in Microbiology*, *8*, e2073. https://doi.org/10.3389/fmicb.2017.02073

Jiménez, R. R. & Sommer, S. (2017). The amphibian microbiome: Natural range of variation, pathogenic dysbiosis, and role in conservation. *Biodiversity and Conservation*, *26*, 763–786. https://doi.org/10.1007/s10531-016-1272-x

Keogh, J. S., Edwards, D. L., Fisher, R. N., & Harlow, P. S. (2008). Molecular and morphological analysis of the critically endangered Fijian iguanas reveals cryptic diversity and a complex biogeographic history. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *363*, 3413–3426. https://doi.org/10.1098/rstb.2008.0120

Kohl, K. D., Brun, A., Magallanes, M., Brinkerhoff, J., Laspiur, A., Acosta, J. C., Caviedes-Vidal, E., & Bordenstein, S. R. (2017). Gut microbial ecology of lizards: Insights into diversity in the wild, effects of captivity, variation across gut regions and transmission. *Molecular Ecology*, *26*, 1175–1189. https://doi.org/10.1111/mec.13921

Kozich, J. J., Westcott, S. L., Baxter, N. T., Highlander, S. K., & Schloss, P. D. (2013). Development of a dual-index sequencing strategy and curation pipeline for analyzing amplicon sequence data on the MiSeq Illumina sequencing platform. *Applied and Environmental Microbiology*, *79*, 5112–5120. https://doi.org/10.1128/AEM.01043-13

Ley, R. E., Hamady, M., Lozupone, C., Turnbaugh, P. J., Ramey, R. R., Bircher, J. S., Schlegel, M. I, Tucker, T. A, Schrenzel, M. D, Knight, R., & Gordon, J. I. (2008). Evolution of mammals and their gut microbes. *Science*, *320*, 1647–1651. https://doi.org/10.1126/science.1155725

Lindgreen, S. (2012). AdapterRemoval: Easy cleaning of next-generation sequencing reads. *BMC Research Notes*, *5*, 337. https://doi.org/10.1186/1756-0500-5-337

Lozupone, C. & Knight, R. (2005). UniFrac: A new phylogenetic method for comparing microbial communities. *Applied and Environmental Microbiology*, *71*, 8228–8235. https://doi.org/10.1128/AEM.71.12.8228-8235.2005

Mathews, F., Orros, M., McLaren, G., Gelling, M., & Foster, R. (2005). Keeping fit on the ark: Assessing the suitability of captive-bred animals for release. *Biological Conservation*, *121*, 569–577. https://doi.org/10.1016/j.biocon.2004.06.007

McGowan, P. J., Traylor-Holzer, K., & Leus, K. (2017). IUCN guidelines for determining when and how ex situ management should be used in species conservation. *Conservation Letters*, *10*, 361–366. https://doi.org/10.1111/conl.12285

McKenzie, V. J., Song, S. J., Delsuc, F., Prest, T. L., Oliverio, A. M., Korpita, T. M., Alexiev, A., Amato, K. R., Metcalf, J. L., Kowalewski, M., Avenant, N. L., Link, A., Di Fiore, A., Seguin-Orlando, A., Feh, C., Orlando, L., Mendelson, J. R., Sanders, J., & Knight, R. (2017). The effects of captivity on the mammalian gut microbiome. *Integrative and Comparative Biology*, *57*, 690–704. https://doi.org/10.1093/icb/icx090

Nakayama, T., Ohkusu, K., & Tateda, K. (2009). The novel human pathogen *Nesterenkonia* sp causes persistent asymptomatic bacteremia in an immunocompetent host. *Infectious Diseases Society of America 2009 Annual Meeting*.

Oksanen, J., Blanchet, F. G., Kindt, R., Legendre, P., Minchin, P. R., O'hara, R. B., Simpson, G. L., Solymos, P., Stevens, H., & Wagner, H. (2016). Vegan: Community Ecology Package. R Package Version v2.3_4. URL. https://CRAN.R-project.org/package=vegan

Pérez-Buitrago, N., García, M. A., Sabat, A., Delgado, J., Álvarez, A., McMillan, O., & Funk, S. M. (2008). Do headstart programs work? Survival and body condition in headstarted Mona Island iguanas *Cyclura cornuta stejnegeri*. *Endangered Species Research*, *6*, 55–65. https://doi.org/10.3354/esr00130

R Core Team. (2013). *R: A language and environment for statistical computing R Foundation for Statistical Computing*. Austria. https://wwwR-projectorg/

Redford, K. H., Amato, G., Baillie, J., Beldomenico, P., Bennett, E. L., Clum, N., Cook, R., Fonseca, G., Hedges, S., Launay, F., Lieberman, S., Mace, G. M., Murayama, A., Putnam, A., Robinson, J. G., Rosenbaum, H., Sanderson, E. W., Stuart, S. N., Thomas, P., & Thorbjarnarson, J. (2011). What does it mean to successfully conserve a (vertebrate) species? *BioScience*, *61*, 39–48. https://doi.org/10.1525/bio.2011.61.1.9

Redford, K. H., Segre, J. A., Salafsky, N., del Rio, C. M., & McAloose, D. (2012). Conservation and the microbiome. *Conservation Biology*, *26*, 195–197. https://doi.org/10.1111/j.1523-1739.2012.01829.x

Ren, T., Kahrl, A. F., Wu, M., & Cox, R. M. (2016). Does adaptive radiation of a host lineage promote ecological diversity of its bacterial communities? A test using gut microbiota of *Anolis* lizards. *Molecular Ecology*, *25*, 4793–4804. https://doi.org/10.1111/mec.13796

Schubert, M., Lindgreen, S., & Orlando, L. (2016). AdapterRemoval v2: Rapid adapter trimming, identification, and read merging. *BMC Research Notes*, *9*, 88. https://doi.org/10.1186/s13104-016-1900-2

Shannon, C. E. (1948). A mathematical theory of communication. *Bell System Technical Journal*, *27*, 379–423. https://doi.org/10.1002/j.1538-7305.1948.tb01338.x

Stanley, D., Geier, M. S., Chen, H., Hughes, R. J., & Moore, R. J. (2015). Comparison of fecal and cecal microbiotas reveals qualitative similarities but quantitative differences. *BMC Microbiology*, *15*, 51. https://doi.org/10.1186/s12866-015-0388-6

Tamai, K., Akashi, Y., Yoshimoto, Y., Yaguchi, Y., Takeuchi, Y., Shiigai, M., Igarashi, J., Hirose, Y., Suzuki, H., & Ohkusu, K. (2018). First case of a bloodstream infection caused by the genus *Brachybacterium*. *Journal of Infection and Chemotherapy*, *24*, 998–1003. https://doi.org/10.1016/j.jiac.2018.06.005

Tear, T. H., Scott, J. M., Hayward, P. H., & Griffith, B. (1993). Status and prospects for success of the endangered species act: A look at recovery plans. *Science*, *262*, 976–978. https://doi.org/10.1126/science.262.5136.976

Titécat, M., Wallet, F., Vieillard, M. H., Courcol, R. J., & Lo, C. (2014). *Ruminococcus gnavus*: An unusual pathogen in septic arthritis. *Anaerobe*, *30*, 159–160. https://doi.org/10.1016/j.anaerobe.2014.10.001

Wan, X., Ruan, R., McLaughlin, R. W., Hao, Y., Zheng, J., & Wang, D. (2016). Fecal bacterial composition of the endangered Yangtze finless porpoises living under captive and semi-natural conditions. *Current Microbiology*, *72*, 306–314. https://doi.org/10.1007/s00284-015-0954-z

Wasimuddin, XX., Menke, S., Melzheimer, J., Thalwitzer, , Heinrich, S., Wachter, B., & Sommer, S. (2017). Gut microbiomes of free-ranging and captive Namibian cheetahs: Diversity, putative functions and occurrence of potential pathogens. *Molecular Ecology*, *26*, 5515–5527. https://doi.org/10.1111/mec.14278

West, A. G., Waite, D. W., Deines, P., Bourne, D. G., Digby, A., McKenzie, V. J., & Taylor, M. W. (2019). The microbiome in threatened species conservation. *Biological Conservation*, *229*, 85–98. https://doi.org/10.1016/j.biocon.2018.11.016

Wexler, H. M. (2007). *Bacteroides*: The good, the bad, and the nitty-gritty. *Clinical Microbiology Reviews*, *20*, 593–621. https://doi.org/10.1128/CMR.00008-07

Xie, Y., Xia, P. U., Wang, H., Yu, H., Giesy, J. P., Zhang, Y., Mora, M. A., & Zhang, X. (2016). Effects of captivity and artificial breeding on microbiota in feces of the red-crowned crane (*Grus japonensis*). *Scientific Reports*, *6*, 33350. https://doi.org/10.1038/srep33350

Zhu, L., Wu, Q., Dai, J., Zhang, S., & Wei, F. (2011). Evidence of cellulose metabolism by the giant panda gut microbiome. *Proceedings of the National Academy of Sciences*, *108*, 17714–17719. https://doi.org/10.1073/pnas.1017956108

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

How to cite this article: Eliades SJ, Brown JC, Colston TJ, et al. Gut microbial ecology of the Critically Endangered Fijian crested iguana (*Brachylophus vitiensis*): Effects of captivity status and host reintroduction on endogenous microbiomes. *Ecol Evol*. 2021;11:4731–4743. https://doi.org/10.1002/ece3.7373

Managed Care Facilities for Iguanas; Review of Various Facilities with Specific Examples for Conservation of Critically Endangered Fijian Iguanas (*Brachylophus spp.)*

[1]Kim Gray (previously Lovich), [2]Steve Anstey
[1]San Diego Zoo Wildlife Alliance, San Diego, USA
[2] Ahura Resorts, Fiji

Iguana species are kept throughout the world for various reasons, from pets in people's homes to specific in situ head start facilities, to the gardens of resorts. The Fijian Banded and Crested Iguanas are similarly maintained by various stakeholders within Fiji. Here we will review the various facilities that exist where captive iguanas are kept in managed care. We will review the focus of these facilities and discuss other stakeholders' vested interest in displaying this species as well as the need for standardized husbandry and care guidelines. This discussion is intended to provide the audience with background information for further review as part of our planned break out session where we will have the opportunity to work together on the Brachylophus recovery plan for the region.

Global Re-introduction Perspectives: 2016

Case-studies from around the globe

Edited by Pritpal S. Soorae

IUCN/SSC Re-introduction Specialist Group (RSG)

RSG

هيئة البيئة - أبوظبي
Environment Agency - ABU DHABI

calgaryzoo

TURNER ENDANGERED SPECIES FUND

DENVER ZOO

Global Re-introduction Perspectives: 2016

Case-studies from around the globe

Edited by Pritpal S. Soorae

IUCN/SSC Re-introduction Specialist Group (RSG)

The designation of geographical entities in this book, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of IUCN or any of the funding organizations concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The views expressed in this publication do not necessarily reflect those of IUCN.

Published by: IUCN/SSC Re-introduction Specialist Group & Environment Agency-ABU DHABI

Citation: Soorae, P. S. (ed.) (2016). *Global Re-introduction Perspectives: 2016. Case-studies from around the globe*. Gland, Switzerland: IUCN/SSC Re-introduction Specialist Group and Abu Dhabi, UAE: Environment Agency-Abu Dhabi. xiv + 276 pp.

ISBN: **978-2-8317-1761-6**

Cover photo: Clockwise starting from top-left:

i. Bolson's tortoise, USA @ Turner Endangered Species Fund
ii. Wetapunga, New Zealand @ Richard Gibson
iii. Morelos minnow, Mexico @ Topiltzin Contreras-MacBeath
iv. *Silene cambessedesii*, Spain @ Emilio Laguna
v. Tasmanian Devil, Maria Island, Tasmania @Simon DeSalis
vi. Agile frog, Jersey @ States of Jersey Department of the Environment

Cover design & layout by: Pritpal S. Soorae, IUCN/SSC Re-introduction Specialist Group

Produced by: IUCN/SSC Re-introduction Specialist Group & Environment Agency-ABU DHABI

Download at: www.iucnsscrsg.org

IUCN Species Survival Commission (SSC)
The SSC is a science-based network of close to 8,000 volunteer experts from almost every country of the world, all working together towards achieving the vision of, “A world that values and conserves present levels of biodiversity.”

Environment Agency - ABU DHABI (EAD)
The EAD was established in 1996 to preserve Abu Dhabi’s natural heritage, protect our future, and raise awareness about environmental issues. EAD is Abu Dhabi’s environmental regulator and advises the government on environmental policy. It works to create sustainable communities, and protect and conserve wildlife and natural resources. EAD also works to ensure integrated and sustainable water resources management, and to ensure clean air and minimize climate change and its impacts.

Turner Endangered Species Fund (TESF)
The TESF was established in 1997 to conserve biological diversity by ensuring the persistence of imperiled species and their habitats with an emphasis on private land. Our activities range from single species conservation actions to restoration of ecological communities and functional ecosystems. We are unique in our efforts to bring the role of private lands to the forefront of ecological conservation. We aim to use the best science to effectively conserve biodiversity and disseminate reliable scientific and policy information. We are determined to establish a new level of effectiveness for private-public efforts to redress the extinction crisis.

Calgary Zoo (CZ)
The Calgary Zoo’s vision is to be Canada’s leader in wildlife conservation. In close alignment with IUCN, this vision is pursued through a mix of Canadian and global conservation initiatives regarding two strategic pillars: 1) Conservation Translocations, such as re-introductions, to avert species extinction and strengthen ecosystem function; and 2) Community Conservation to bring mutual and sustainable benefits for local livelihoods and biodiversity. The Calgary Zoo engages in collaborative partnerships around the world to develop the innovation and application of science-based solutions to achieve long-term benefits for conservation.

Denver Zoological Foundation (DZF)
The DZF is a non-profit organization whose mission is to “secure a better world for animals through human understanding.” DZF oversees Denver Zoo and conducts conservation education and biological conservation programs at the zoo, in the greater Denver area, and worldwide. Over 3,800 animals representing more than 650 species call Denver Zoo home. A member of the World Association of Zoos and Aquariums (WAZA), Denver Zoo’s accreditation from the Association of Zoos and Aquariums (AZA) assures the highest standards of animal care. A leader in environmental action, Denver Zoo was the first U.S. zoo to receive ISO 14001 sustainability certification for its entire facility and operations and in 2011 was voted the greenest zoo in the country. The ISO 14001 international certification ensures the zoo attains the highest environmental standards. Since 1994, Denver Zoo has participated in well over 550 conservation projects in 55 countries. In 2011 alone, Denver Zoo participated in 70 projects in 20 countries and spent well over US$ 1 million to support of wildlife conservation in the field.

Re-introduction Specialist Group (RSG)
The RSG is a network of specialists whose aim is to combat the ongoing and massive loss of biodiversity by using re-introductions as a responsible tool for the management and restoration of biodiversity. It does this by actively developing and promoting sound inter-disciplinary scientific information, policy, and practice to establish viable wild populations in their natural habitats.

CONTENTS

Captive breeding and re-introduction of the Monuriki Island Crested Iguana in Fiji

Ramesh Chand[1], Jone Niukula[2], Joeli Vadada[3], Robert Fisher[4], Kim Lovich[5], Stesha Pasachnik[6], Sia Rasalato[7], Baravi Thaman[8], Elenoa Seniloli[9], Tuverea Tuamoto[10], Tui Yanuya[11] & Peter Harlow[12]

[1] - Director and Endangered Species Breeding Manager, Kula Eco Park, P.O. Box 823, Sigatoka Fiji kulapark@fijiwild.com.
[2] - National Trust of Fiji Islands, 3 Ma'afu St, Suva, Fiji jniukula@nationaltrust.org.fj
[3] - National Trust of Fiji Islands, 3 Ma'afu St, Suva, Fiji
[4] - U.S. Geological Survey, Western Ecological Research Center, 4165 Spruance Road, San Diego, CA, USA rfisher@usgs.gov
[5] - San Diego Zoo Global, P.O. Box 120551, San Diego, CA, USA klovich@sandiegozoo.org
[6] - Institute for Conservation Research, San Diego Zoo, 15600 San Pasqual Valley Rd., Escondido, 92027, USA sapasachnik@gmail.com
[7] - Birdlife Pacific, 10 MacGregor Road, Suva, Fiji sialesi.rasalato@birdlife.org
[8] - National Trust of Fiji Islands, 3 Ma'afu St, Suva, Fiji baravi5@yahoo.com
[9] - Birdlife Pacific, 10 MacGregor Road, Suva, Fiji seniloli@birdlifepacific.org.fj
[10] - Hamilton Beattie Street, Suva, Fiji tuamoto@naturefiji.org
[11] - National Trust of Fiji Islands, 3 Ma'afu St, Suva, Fiji
[12] - Manager, Herpetofauna Division, Taronga Zoo, P.O. Box 20, Mosman, NSW, 2088, Australia pharlow@zoo.nsw.gov.au

Introduction

The Fijian crested iguana (*Brachylophus vitiensis*) is an arboreal, herbivorous lizard found on only a small number of islands with native dry or littoral forest in western Fiji. Its population is secure only on the sanctuary island of Yadua Taba, where >12,000 individuals exist; this equates to over 200 individuals/ha in the best forest habitat. All other island populations appear to be low and declining (mostly <100 individuals), and survive on communally owned land which is mostly outside the control of central government legislation (Harlow *et al.*, 2007). The forest habitat that is essential for its survival continues to be burnt and cleared for gardens, coconut plantations and grasslands for goat grazing. In addition, exotic predators, especially mongoose (*Herpestes fuscus* and *H. auropunctatus*) and feral cats continue to spread across the Fijian

Monuriki Island crested iguana © Peter Harlow

Monuriki Island release site © Peter Harlow

archipelego, with devastating effects on ground nesting birds and many reptile species. The Fijian crested iguana is listed as Critically Endangered by the IUCN (2014), is on CITES Appendix I, is listed by the U.S. Fish and Wildlife Service as endangered and is protected in Fiji under the Endangered and Protected Species Act (2002).

Goals

- Goal 1: Halt the potential extirpation of the Monuriki Island crested iguana in Fiji.
- Goal 2: Successfully negotiate with the land owning clan of Monuriki Island to remove goats and/or capture and move the remaining iguanas into a captive-breeding facility.
- Goal 3: Capture, hold and breed a minimum of 10 pairs of Monuriki iguanas to maximize maintenance of genetic diversity.
- Goal 4: After goat removal, monitor vegetation recovery prior to releasing captive-bred iguanas.
- Goal 5: Replace the land owning clan's lost income from goats with funding from “Fijian iguana encounter” ranger-led, tourist visits to the island. Monuriki has the only wild Fijian iguana population that can be visited on a day trip from both a popular tourist region and a major Fijian city (Nadi).

Success Indicators

- Indicator 1: Obtaining approval from land owning clan to remove goats and/or capture and move remaining iguanas into captive-breeding.
- Indicator 2: Successful capture, captive husbandry and breeding of Monuriki crested iguanas to ensure maintenance of genetic diversity.
- Indicator 3: Successful removal of all goats from Monuriki.
- Indicator 4: Sufficient natural vegetation recovery on Monuriki after goat removal to eventually sustain a population of >1,000 crested iguanas.

- Indicator 5: Survival and growth of captive bred iguanas for 3 months post-release.

Project Summary

Feasibility: The crested iguana population on the small and uninhabited Fijian island of Monuriki (40.4 ha, 216 m a.s.l.) has been low and declining for years. In the 1980s there was still 'a high density of iguanas' on Monuriki (Gibbons, 1984), however less than 20 years later a survey suggested a total population of less than 100 iguanas remained (Harlow & Biciloa, 2001). Monuriki has no exotic predators, but had been used for goat grazing since at least the 1960s, and forest fires were a common event over the subsequent decades. Monuriki is a rugged and beautiful island, and has been utilized previously for filming movies such as "Castaway" starring Tom Hanks, and today is a very popular tourist destination with several boats and many people visiting everyday. Before the removal of goats there was a total absence of both ground vegetation and tree seedlings, and the remaining vegetation was dominated by just a few tree species, most of which were inedible to iguanas (Harlow & Biciloa, 2001). Monuriki Island crested iguanas are genetically distinct from all other crested iguana populations (Keogh *et al.*, 2008), and the 2008 Species Recovery Plan (Harlow *et al.*, 2008) prioritized Monuriki as the single most important site for immediate conservation action.

Iguana habitat on Monuriki Island
© Peter Harlow

In April 2010 a Memorandum of Understanding was agreed to and signed by 1) leaders of the Monuriki Island land-owning clan, the Mataqali Vunaivi, 2) The National Trust of Fiji Islands and 3) Kula Eco Park, Korotoga, Fiji, to remove goats from Monuriki and capture and remove the remaining iguanas for captive-breeding. Monuriki iguanas are on loan to Kula Eco Park, and the agreement is to return them and all their offspring when the vegetation had recovered after goat removal.

Implementation: Between April 2010 and February 2012, 21 crested iguanas were captured on Monuriki Island during nine field trips by National Trust of Fiji staff, and transported to newly established quarantine and captive breeding facilities at Kula Eco Park. Six additional iguanas were seen on these trips, but could not be captured. At Kula Eco Park iguanas

Yanuya school boy and Ramesh Chand release a Monuriki iguana © Nick Felstead

are normally kept singually, however they were paired for 3 - 4 months annually (~December to March) for breeding purposes. Eighteen of these iguanas have now bred, and the total captive pre-release population was 17 wild caught adults, 50 captive bred offspring and 22 fertile eggs. In late 2011 goats and Pacific rats (*Rattus exulans*) were eradicated from the island by Birdlife International - Fiji Program. Pacific rats are not known to be a predator of Fijian iguanas, and co-exist on all islands where both occur, and were eradicated from Monuriki because of its importance as a seabird nesting island.

Four wet seasons after goat removal the vegetation of Monuriki has significantly recovered. In mid-May 2015, 32 captive-bred crested iguanas, all implanted with unique PIT tags, were released into four different areas on Monuriki Island. Twenty-six, 2 to 5 year-old iguanas (Snout Vent Length 158 - 210 mm, mass 105 - 350 g) were fitted with small radio transmitters (Holohil BD 2, 1.8 g) prior to release for monitoring purposes.

Post-release monitoring: At 56 days post-release 18 telemetered iguanas were re-sighted - 9 or captured - 9, the captured individuals were measured and weighed, and the transmitters were removed before release. All transmitters are expected to drop off at the next skin shedding event, and indeed we found six transmitters had already been shed by day 56. The recovered transmitters showed no signs of trauma, which might indicate a mortality event. The nine recaptured iguanas had grown slightly in SVL length since release (mean 4.5 mm, range 1 - 11 mm: mean % increase in SVL = 2.4%, range 0 - 6.0%), however they had lost a small amount of body weight (mean 11.4% body weight, range 3.2 - 29.4%).

At release these iguanas looked a little ‘fat’, probably from their excellent captive diet, but by day 56 post-release they looked more like sleek, healthy wild iguanas and their new Body Mass Index matched closely to the five wild iguanas also captured during the post release monitoring. The observation of five wild sub-adult iguanas in one night of survey also serves as an indicator that the population that remained on the island is now recovering, as capture rates during the “harvest” period were less than one iguana per night. Based on GPS data,

these 18 iguanas had moved an average of 41.2 m since release (range 5.1 - 182 m).

Major difficulties faced

- Obtaining sufficient funding for all components of this 5 year project (landowner negotiation, iguana capture, building and staffing a captive breeding center, eradicating goats, vegetation surveys and biosecurity training for landowners).
- Lack of an overall planning team, and poor communications among disparate groups involved in the different aspects of this project.
- Low reproductive output of this iguana species (females lay 3 - 5 eggs every 2 years).
- No vegetation survey of edible plant species (for iguanas) abundance was undertaken prior to re-introduction.
- No long-term monitoring of the iguana population is planned due to limited resources.

Major lessons learned

- Fully involve landowners in all discussions and throughout the implementation of the project.
- Ensure that there is regular contact between the landowners and representatives of the project team to ensure that any grievances/misgivings can be allayed/addressed before they become a serious impediment to the future success of the project.
- Develop a detailed workplan, identifying the persons responsible for, and a time period required to deliver, each of the individual activities.
- Identify the project manager who has overall responsibility for delivering the project outcome - and has the authority to require individuals to deliver their components, and is responsible for keeping all records, including financial records, which must be available for audit and public scrutiny.
- Flexibility to identify and acquire additional partners and funding as the project progresses.

Success of project

Highly Successful	**Successful**	Partially Successful	Failure
	√		

Reason(s) for success/failure:

- Landowner support and involvement at all levels made this project a success.
- Absence of exotic predators on Monuriki.
- Rapid vegetation recovery after goat removal.
- Successful captive-breeding and good record keeping by Kula Eco Park.
- The original goal to replace the land owning clan's lost income after goat removal with village-run, iguana based guided tours of Monuriki has not eventuated. This is a failure, but may still happen in the future.

Acknowledgements
We thank the Mataqali Vunaivi for their support and assistance throughout this project. The many facets of this project were supported by a Critical Ecosystems Partnership Fund grant to the National Trust of Fiji Islands (land owner negotiations, collecting iguanas and constructing captive-breeding facilities) Kula Eco Park (iguana husbandry and breeding), The International Iguana Foundation, the Dutch Iguana Foundation, Durrell Zoo, San Diego Zoo and Taronga Conservation Society Australia (assistance with captive husbandry and re-introduction) and a David and Lucile Packard Foundation grant to Birdlife International - Fiji Program (for goat and rat eradication).

References

Gibbons, J. (1984) Iguanas of the South Pacific. Oryx 18 (2):82-91.

Harlow, P.S. & Biciloa, P.N. (2001) Abundance of the Fijian crested iguana (*Brachylophus vitiensis*) on two islands. Biological Conservation. 98: 223-231.

Harlow, P.S, Fisher, M., Tuiwawa, M., Biciloa, P.N., Palmeirim, J., Mersai, C., Naidu, S., Naikatini, A., Thaman, B., Niukula, J. & Strand, E. (2007) The decline of the endemic Fijian crested iguana *Brachylophus vitiensis* in the Yasawa and Mamanuca archipelagos, western Fiji. Oryx, 41(1): 44-50.

Harlow, P.S., Hudson, R. & Alberts, A. (2008) Fijian Crested Iguana *Brachylophus vitiensis* Species Recovery Plan 2008-2012. IUCN Species Survival Commission, Iguana Specialist Group. Pp 26. http://www.iucn-isg.org/publications/actions-plans/

Keogh, J. S., Edwards, D. L., Fisher, R. N. & Harlow, P.S. (2008) Molecular and morphological analysis of the critically endangered Fijian iguanas reveals cryptic diversity and a complex biogeographic history. Philosophical Transactions of the Royal Society, Series B. Vol. 363 (1508): 3413-3426.

INTERNATIONAL UNION
FOR CONSERVATION OF NATURE

WORLD HEADQUARTERS
Rue Mauverney 28
1196 Gland, Switzerland
Tel +41 22 999 0000
Fax +41 22 999 0002
www.iucn.org

San Diego Zoo Global Aids Critically Endangered Jamaican Iguana

September 01, 2016

Twenty Years of Headstarting Program Boosts Survival of Species in the Wild

The population of the critically endangered Jamaican iguana is on the rise, thanks in part to the efforts of San Diego Zoo Global and the Fort Worth Zoo. Earlier this year, Tandora Grant, a scientist at the San Diego Zoo Institute for Conservation Research, co-led the health checks of Jamaican iguanas that were headstarted in managed care at the Hope Zoo in Kingston, Jamaica. The health checks determined that 37 of the 232 Jamaican iguanas at the Hope Zoo were healthy and large enough to be released back into their native habitat in the Hellshire Hills, on the south central coast of the island. This year's health screen and release was assisted by returning volunteers from the Audubon Zoo.

The release, which took place in March 2016—20 years after the first release—marks a milestone for the Jamaican Iguana Recovery Group, as the number of animals returned to their native habitat has passed the benchmark of 300 and now totals 315. The Recovery Group is a coalition of local and international collaborators, currently led by the Jamaican government's National Environment and Planning Agency, and includes the field component leads from the University of the West Indies.

The Jamaican iguana population experienced a drastic decline in the past century, due to habitat destruction and predation by free-ranging non-native cats, dogs, pigs and particularly mongooses. The mongooses and cats attack nearly all hatchling and juvenile iguanas, and there are ongoing efforts to trap these predators to protect the now-recovering Jamaican iguana population.

The headstarting program collects iguana hatchlings from the wild as they emerge from their nests, and cares for the animals until they are large enough to defend themselves from most of the introduced predators in their native habitat. Typically, the iguanas released are between 5 and 8 years old. The population is now increasing—measured by the number of annual hatchlings counted and an eightfold increase in the number of nesting female Jamaican iguanas observed, compared to the first survey of the species in 1991. Before the

Jamaican iguana's rediscovery in 1990, it was thought to have been extinct, since the last confirmed observation had been in the mid-1940s.

An off-island breeding population of Jamaican iguanas is cooperatively managed by members of the Association of Zoos and Aquariums' (AZA) Species Survival Plan program, as an assurance against a catastrophe in the iguana's home. Member zoos contribute essential funds, staff hours and expertise for the recovery program, as well as raising awareness for the iguana, its unique and threatened habitat, and the role it plays in the health of the forest. AZA zoos and wildlife conservation organizations have directly contributed more than $1 million toward the recovery efforts in Jamaica since the iguana's rediscovery.

The first hatching of a Jamaican iguana at the San Diego Zoo Institute for Conservation Research occurred Aug. 30, 2013 at the Kenneth and Anne Griffin Reptile Conservation Center, an off-display breeding facility at the San Diego Zoo Safari Park. The female, named Fay, is a second-generation captive-bred animal. His parents hatched in the first successful breeding of the species at the Indianapolis Zoo, in 2006.

In 2008, our Caribbean rock iguana breeding program moved to the newly constructed Griffin Reptile Conservation Center at the San Diego Zoo Safari Park. The $600,000, 3,500-square foot facility was funded by a matching donation from Kenneth C. and Anne D. Griffin. This gift enabled construction of a dedicated center for propagation and research of rock iguanas, considered the world's most endangered lizards. It holds 20 adults and up to 20 hatchlings and juveniles of four iguana species, including the Grand Cayman blue iguana, Jamaican iguana, Anegada iguana, and Cuban iguana. The facility is equipped with heated enclosures that maintain high humidity, and skylights and windows constructed of ultraviolet light-transmitting materials. Enclosures are joined via sliding doors for separating and pairing animals, with separate outdoor enclosures. Each indoor/outdoor enclosure is planted with native Caribbean plants and filled with three feet of soil for burrow construction and nesting. Since its construction, it has become the first facility to reproduce the three most endangered lizards in the world. We have completed projects on egg incubation, hormone-behavior interactions, and stable isotope diet studies. Additional research on nesting behavior, salivary hormones, and sperm cryopreservation and artificial insemination are planned.

IIF Funding Report Template

Sections 1-11 are required for the IIF grant report. Sections 1-8 and 12 (optional) will be posted on the IIF Website (marked WEB) and should total 1,500 words max. Word limits per section are suggestions and may differ as long as the total is less than 1,500. Sections 9-11 (marked IIF Board) will only be shared with the IIF board and not the general public.

Section 13 is a great opportunity to discuss additional details from your work and will be included in the Taxon Reports for the ISG Newsletter.

1) *WEB*: **Fijian Iguana conservation through development of a new ranger program for Macuata Island and cross training of rangers on Monuriki and Yadua Taba Islands**

2) *WEB*: **Kim Lovich, Robert Fisher, Jone Niukula, Nunia Thomas**

3) *WEB*: **January 2016 – February 2017**

4) *WEB*: **Photos** — Include 4-8 full resolution photos: *a minimum of* 2 photos of species and 2 of researchers in action. (Some will be included in the report, others in the Web Gallery). Include photographer credit and a short caption for each photo. Do not merge photos together as a collage.

Cross training of Rangers on the downloading and processing of photos taken by the remote cameras that are deployed on the islands to determine amounts and types of trespass. Photo by Robert Fisher.

Cross training of Rangers on the use and attachment of the remote cameras that are deployed on the islands to determine amounts and types of trespass. Photo by Kim Lovich.

In situ iguana on Macuata Island from March 2016 with chew marks on the crest from rats. Removal of rats from Macuata Island is a priority and the Ranger will be heavily involved in this project. Photo credited to Robert Fisher

Fire in August 2015 on Macuata Island started at the beach facing the mainland by villagers having picnic lunch, it burned uncontrolled. Edge of forest and dead trees are obvious at edge of burn. Photo by Nunia Thomas.

Striking pattern of a Macuata Iguana from March 2016. This iguana was detected during our post-cyclone surveys. Photo by Robert Fisher.

5) *WEB*: **Overview and Objectives of Project** — Provide a brief overview of the project, its objectives/project components (200 words max).

Fijian iguanas (*Brachylophus sp*.) remain in fragmented forest patches with often isolation on remote islands. This relict distribution with little or no protected land can lead to continued habitat loss and degradation in addition to invasive species spread and illegal collecting. This project is to create a community of Rangers within Fiji that are tasked with protecting the endemic iguanas. Since the 1980's there has been a Ranger program on Yadua Taba Island protecting that species of iguana, and this program has been successfully run by the National Trust of Fiji. With funding from Disney Conservation Fund and the IIF, in 2016 we are expanding that program to include both Monuriki and Macuata Islands. All three Rangers would receive the same training and tools for conducting their work. This would include deploying remote triggered camera stations so that the types and amount of trespass and potential poaching can be identified and then interdiction can be optimized. They would also be involved in education outreach with school and village programs about the protection of the iguanas and the islands they occupy. As Macuata Island is privately owned, all access should be closely controlled but traditionally has not been.

6) *WEB*: **Outcomes** — Describe the outcomes by **numbered** objective/project component, including a basic description of methods pertaining to each objective (600 words).

This project is ongoing and will not be completed until early in 2017, per our agreement. Below we just update the work to date and some next steps.

1. The first discussion of hiring a Ranger took place in August 2015 when Nunia Thomas (NatureFiji) identified Varayame ("Abraham") Tavualevu from Navunitogoloa Village as the potential person. He had previous experience working with the University of South Pacific when they first investigated the occurrence of iguanas on the island about 10 years ago. He helped with putting out the fire started by picnickers on the island in August. Discussion then took place with the Island's owner about the possibility of having a Ranger employed that was overseeing island activities. These discussions all went well enough to submit the proposal to IIF for funding this position which was received in December of 2015.

2. January 2016 Fisher attended several meetings in Fiji to sort out Ranger logistics for both Monuriki (funded by Disney) and Macuata (funded by IIF). With the National Trust of Fiji and NatureFiji a supervisory infrastructure was developed to oversee the elements of these Ranger programs. In March of 2016 the team first came together for initial Education outreach training and Ranger training. This week long training with all three Rangers and several Educators within Fiji allowed everyone to develop a sense of the program and work was completed on both Monuriki and Macuata Islands on that trip. These site visits focused on the priority issues, such as ecotourism on Monuriki and illegal fires and trespassing on Macuata Island. Also during these visits we conducted post cyclone assessments, as Tropical Cyclone Winston had come through both islands in February, just 5 weeks earlier. This was the second largest cyclone to ever make landfall in the southern hemisphere, and the eye passed right over Macuata Island. These post assessments were critical to understanding how the iguanas fared after the events, and for the most part the leaves were removed from the trees during the storm and on Macuata, many of the tops of the trees were missing. We found iguanas were doing extremely well on both islands, as there was a lot of new growth when we arrived.

3. June 2016 we continued training and everyone received their equipment and camera infrastructure. We deployed the cameras on the three islands, and conducted training on the photo downloading and processing. We programmed a special interface for the Rangers to use for data entry and analysis on their laptops. We collected preliminary datasets and worked with them on the processing. To date this program is seeming to be very successful. When we arrive in Oct 28 to Fiji we will revisit the cameras and continue to determine how well the process is working.

4. No fires have taken place on Macuata since we initiated the Ranger program. Abraham was doing a great job of informing people about the rules for the place and taking his job very seriously.

7) *WEB*: **Impact** — Describe the conservation impact by objective/projective component (300 words max).

Initiating these Ranger programs and Education programs on Macuata and Monuriki Islands are building a lot of local excitement for iguana conservation. There is an increased buy-in by the National Trust, as their only responsibility is for Yadua Taba and taking on these additional islands puts pressure on their existing programs, but they see the short and

long term benefits of this expanded iguana conservation network. Additionally Rangers at Sigatoka Sand Dunes, and other sites are helping form the Education and training programs of work, and serve as peer groups for the new iguana Rangers. Having the Rangers named and the continued training programs gives a sense of conservation on these two islands that was lacking before, as having a responsible party that everyone looks to really makes a difference. Having the imagery where we can actually start to quantify access onto these islands is very important and once its analyzed we can really focus on the groups that are out of compliance.

8) *WEB*: **Future** — Describe any future directions for yourself or what is needed for the project (200 words max).

Unfortunately Abraham disappeared on August 31 while fishing not far from Macuata Island (http://www.fijitimes.com/story.aspx?id=372250) and we will be presenting something to his family following the IUCN ISG Meeting in Fiji. We are working on identifying another potential Ranger to continue the work and to start training on the camera program. This was quite a surprise and everyone is very upset about these circumstances. The village and the Island owner are both very excited about the Ranger program and we plan to continue it into the future and to work towards sustainability.

9) *IIF Board*: **10/3/2016**

10) *IIF Board*: Describe deviations from proposal with justification/lessons learned (200 words).

We had no deviations from the proposal. We were able to identify and hire a proper Ranger for the Macuata Island program. We conducted two training programs and established our camera set up to determine levels of trespass. We have not had another fire on the island in a year. We were able to bring in additional match funding, and were able to do significant training with the Fijian partners in addition to the Rangers.

11) *IIF Board*: **Budget** — Use original budget form.

- Add 1 column for deviations.
- Add 1 column for funds from other sources [list by name in narrative].
- Add 1 row for remaining funding [specify if funds will be returned or propose options for how they may be applied to the project].

Work is still continuing so no budget attached. If needed we can amend and add budget spending to date. No significant deviations. Some additional match from National Trust, USGS and San Diego Zoo Global. When project completed then entire budget and deviations will be included.

12) *WEB*: **Optional** — Include an interesting or compelling story (personal story). Incorporate anecdotes within any of the WEB sections above.

We released 32 captive bred iguanas on Monuriki Island in May of 2015. We conducted a short term radio-telemetry project to show survivorship over 56 days (Chand et al. 2016). During this grant period we did long term survivorship surveys as part of the Ranger training in March 2016 to see if we could detect the released iguanas. We were a bit concerned because the devastating cyclone was only 5 weeks prior to our visit. We conducted two nights of field work with the Rangers for iguanas on Monuriki and we were unable to

detect and of the captive born and released iguanas. This was quite surprising and concerning. But good news was we were able to find 15 wild caught iguanas, five of which were hatchlings. This was a huge number of individuals for this island, and never previously had we detected hatchlings (1998, 2003), and it seems that this is an important response to the rat and goat eradication that took place in 2012. Overall the wild iguanas are recovering at a fast rate, and really show the success of the eradication effort. For comparison we surveyed Macuata Island the following night and although we detected 21 iguanas, none were hatchlings. Macuata Island still contains many rats and conducting an eradication is something the Ranger would help with in the future.

13) *ISG only*: **Optional Additional Details** — If appropriate, additional detailed outcomes by **numbered** objective/project component (no word limit) may be included for the ISG Newsletter. Be sure to clearly specify which **numbered objective from Section 6** these additional details correspond to.

- Figures, tables, and maps may be included.
- May include sensitive locality information (location details will be edited from ISG Newsletter, but shared with the IIF Board).

References:

Chand, R., Niukula, J., Vadada, J., Fisher, R., Lovich, K., Pasachnik, S., Rasalato, S., Thaman, B., Seniloli, E., Tuamoto, T., Yanuya, T., and P. Harlow. 2016. *Captive breeding and re-introduction of the Monuriki Island Crested Iguana in Fiji*. Pp. 76-81 in Global Re-introduction perspectives:2016. Case studies from around the globe, Soorae, P.S., ed. Re-introduction specialist Group and Abu Dhabi, UAE: Environment Agency-Abu Dhabi. Gland, Switzerland.

DNY21-38891

Egg | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
30/May/2021	From Lay	In	In	SANDIEGOZ	Death	Out	Out	1/Nov/2021

Sex/Contraception	Undetermined / -	**Egg Laid Type**	Captive Laid
Hybrid Status	Species Hybrid	**Birth Location**	-
Enclosure	-	**Birth Date/Age**	1/Nov/2021 / 0Y,0M,0D at the time of disposed
Rearing	-	**Death Number**	[0067566/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Old Accession Number**	[DNY21-38887-IA/SANDIEGOZ]
Sire	[GAN: SFQ13-00210 | SANDIEGOZ / 918030]		

8227363 | Local ID: 000198

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
14/Apr/1975	Trade From WESTERN/NONE	In	In	SANDIEGOZ / 000198	Death	Out	Out	12/Apr/1982

Sex/Contraception	Female / -	**Birth Type**	Undetermined
Hybrid Status	Not a hybrid	**Birth Location**	Unknown Location
Enclosure	-	**Birth Date/Age**	~ from 1/Jan/1973 to 1/Jan/1975 / 8Y,3M,11D at the time of death
Rearing	Undetermined	**Death Number**	[0017679/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	**Local ID**	[000198/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	**Regional Studbook #**	[64-AZA /SANDIEGOZ]

8227364 | Local ID: 000199

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
14/Apr/1975	Trade From WESTERN/NONE	In	In	SANDIEGOZ / 000199	Death	Out	Out	22/May/1980

Sex/Contraception	Female / -	**Birth Type**	Undetermined
Hybrid Status	Not a hybrid	**Birth Location**	Unknown Location
Enclosure	-	**Birth Date/Age**	~ from 1/Jan/1973 to 1/Jan/1975 / 6Y,4M,21D at the time of death
Rearing	Undetermined	**Local ID**	[000199/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	**Regional Studbook #**	[65-AZA /SANDIEGOZ]
Sire	[UNK / UNKNOWN]		

8227365 | Local ID: 000200

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Oct/1975	Trade From WESTERN/NONE	In	In	SANDIEGOZ / 000200	Death	Out	Out	19/Apr/1979

Sex/Contraception	Male / -	**Birth Type**	Undetermined
Hybrid Status	Not a hybrid	**Birth Location**	Unknown Location
Enclosure	-	**Birth Date/Age**	~ from 1/Jan/1973 to 1/Jan/1975 / 5Y,3M,18D at the time of death
Rearing	Undetermined	**Local ID**	[000200/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	**Regional Studbook #**	[66-AZA /SANDIEGOZ]
Sire	[UNK / UNKNOWN]		

8227366 | Local ID: 000236

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Jul/1976	Purchase PUBLIC/NONE	In	In	SANDIEGOZ / 000236	Death	Out	Out	7/Jan/1986

Sex/Contraception	Female / -	**Birth Type**	Undetermined
Hybrid Status	Not a hybrid	**Birth Location**	Unknown Location
Enclosure	-	**Birth Date/Age**	~ from 1/Jan/1974 to 1/Jan/1976 / 11Y,0M,6D at the time of death
Rearing	Undetermined	**Death Number**	[0022320/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	**Local ID**	[000236/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	**Regional Studbook #**	[1-AZA /SANDIEGOZ]

8227367 | Local ID: 000237

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Jul/1976	Trade From PUBLIC/NONE	In	In	SANDIEGOZ / 000237	Death	Out	Out	23/Jul/1981

Sex/Contraception	Female / -	**Birth Type**	Undetermined
Hybrid Status	Not a hybrid	**Birth Location**	Unknown Location
Enclosure	-	**Birth Date/Age**	~ from 1/Jan/1974 to 1/Jan/1976 / 6Y,6M,22D at the time of death
Rearing	Undetermined	**Local ID**	[000237/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	**Regional Studbook #**	[67-AZA /SANDIEGOZ]
Sire	[UNK / UNKNOWN]		

8227368 | Local ID: 000238

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Jul/1976	Purchase PUBLIC/NONE	In	In	SANDIEGOZ / 000238	Death	Out	Out	21/Dec/1986

Sex/Contraception	Male / -	**Birth Type**	Undetermined
Hybrid Status	Not a hybrid	**Birth Location**	Unknown Location
Enclosure	-	**Birth Date/Age**	~ from 1/Jan/1974 to 1/Jan/1976 / 11Y,11M,20D at the time of death
Rearing	Undetermined	**Death Number**	[0023375/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	**Local ID**	[000238/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	**Regional Studbook #**	[68-AZA /SANDIEGOZ]

MIG12-8227402 | Local ID: 001191

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
~ from 1/May/1973 to 1/Jul/1973	Purchase	In	In	SACRAMNTO / 300171	Loan Out To SANDIEGOZ/001191	Out	-	20/Jul/1977
20/Jul/1977	Loan In From Vendor: SACRAMNTO/300171	In	-	SANDIEGOZ / 001191	Death	Out	-	14/Jan/1986
-	-	-	-	SACRAMNTO / 300171	Death (ownership only)	-	Out	14/Jan/1986

Sex/Contraception	Male / -	**Birth Type**	Wild Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Fiji /
Enclosure	-	**Birth Date/Age**	~ from 1/Jan/1975 to 1/Jan/1977 / 10Y,0M,13D at the time of death
Rearing	Undetermined	**Death Number**	[0022329/SANDIEGOZ]
Dam	[WILD / WILD]	**Local ID**	[001191/SANDIEGOZ]
Sire	[WILD / WILD]	**Regional Studbook #**	[2-AZA /SANDIEGOZ]

DNY19-33416 | Local ID: 1000031

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
14/Jan/2019	Birth/Hatch	In	In	SANDIEGOZ / 1000031	Loan Out To NORFOLK/222109	Out	-	3/Nov/2022
3/Nov/2022	Loan In From Sender: SANDIEGOZ/1000031 Vendor: SANDIEGOZ/1000031	In	-	NORFOLK / 222109	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	14/Jan/2019 / 5Y,5M,26D
Rearing	-	**Local ID**	[1000031/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Regional Studbook #**	[273-AZA /SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]	**Transponder**	[00-07F5-E943/[-/Hind, Left]/SANDIEGOZ]

DNY19-33983 | Local ID: 1000366

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/May/2019	Birth/Hatch	In	In	SANDIEGOZ / 1000366	Death	Out	Out	17/Nov/2023

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	4/May/2019 / 4Y,6M,13D at the time of death
Rearing	-	**Death Number**	[0071058/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Local ID**	[1000366/SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]	**Regional Studbook #**	[274-AZA /SANDIEGOZ]

DNY19-35586 | Local ID: 1001350

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/Dec/2019	Birth/Hatch	In	In	SANDIEGOZ / 1001350	Loan Out To DETROIT/14436	Out	-	12/Jul/2022
13/Jul/2022	Loan In From Sender: SANDIEGOZ/1001350 Vendor: SANDIEGOZ/1001350	In	-	DETROIT / 14436	Death	Out	-	8/Sep/2023
-	-	-	-	SANDIEGOZ / 1001350	Death (ownership only)	-	Out	8/Sep/2023

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	4/Dec/2019 / 3Y,9M,4D at the time of death
Rearing	-	**Local ID**	[1001350/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Regional Studbook #**	[276-AZA /SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]	**Transponder**	[00-07F5-F868/[Leg/Cranial, Hind, Left]/SANDIEGOZ]

DNY20-35708 | Local ID: 1001424

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
2/Jan/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001424	Loan Out To BISMARCK/3572	Out	-	19/Apr/2023
19/Apr/2023	Loan In From Sender: SANDIEGOZ/1001424 Vendor: SANDIEGOZ/1001424	In	-	BISMARCK / 3572	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	2/Jan/2020 / 4Y,6M,8D
Rearing	-	**Local ID**	[1001424/SANDIEGOZ]
Dam	[GAN: DNY14-14094 | SANDIEGOZ / 913465]		
Sire	[GAN: BPL16-02624 | SANDIEGOZ / 916097]		

DNY20-35712 | Local ID: 1001426

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/Jan/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001426	Loan Out To SYRACUSE/R22104	Out	-	15/Jun/2022
15/Jun/2022	Loan In From Sender: SANDIEGOZ/1001426 Vendor: SANDIEGOZ/1001426	In	-	SYRACUSE / R22104	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	4/Jan/2020 / 4Y,6M,6D
Rearing	-	**Local ID**	[1001426/SANDIEGOZ]
Dam	[GAN: DNY14-14094 | SANDIEGOZ / 913465]	**Transponder**	[00-07F4-47A9/[-/Left]/SANDIEGOZ]
Sire	[GAN: BPL16-02624 | SANDIEGOZ / 916097]		

DNY20-35713 | Local ID: 1001427

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/Jan/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001427	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	4/Jan/2020 / 4Y,6M,6D
Rearing	-	**Local ID**	[1001427/SANDIEGOZ]
Dam	[GAN: DNY14-14094 | SANDIEGOZ / 913465]		
Sire	[GAN: BPL16-02624 | SANDIEGOZ / 916097]		

DNY20-35827 | Local ID: 1001506

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Jan/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001506	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	23/Jan/2020 / 4Y,5M,17D
Rearing	-	**Local ID**	[1001506/SANDIEGOZ]
Dam	[GAN: DNY14-14094 | SANDIEGOZ / 913465]		
Sire	[GAN: BPL16-02624 | SANDIEGOZ / 916097]		

DNY20-36502 | Local ID: 1001736

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
29/Mar/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001736	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	29/Mar/2020 / 4Y,3M,11D
Rearing	-	**Local ID**	[1001736/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY20-36509 | Local ID: 1001739

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
31/Mar/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001739	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	31/Mar/2020 / 4Y,3M,10D
Rearing	-	**Local ID**	[1001739/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Old Accession Number**	[DNY20-36508-IA/SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY20-36616 | Local ID: 1001800

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Apr/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001800	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	22/Apr/2020 / 4Y,2M,18D
Rearing	-	Local ID	[1001800/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY20-36705 | Local ID: 1001873

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/May/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001873	Loan Out To DALLAS/24H084	Out	-	24/Apr/2024
24/Apr/2024	Loan In From Sender: SANDIEGOZ/1001873 Vendor: SANDIEGOZ/1001873	In	-	DALLAS / 24H084	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	15/May/2020 / 4Y,1M,25D
Rearing	-	Local ID	[1001873/SANDIEGOZ]
Dam	[GAN: 25215774 | SANDIEGOZ / 907581]	Transponder	[00-0806-6371/[Leg/Left]/SANDIEGOZ]
Sire	[GAN: DNY14-13972 | SANDIEGOZ / 913268]		

DNY20-36715 | Local ID: 1001881

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
18/May/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001881	-	-	-	-

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	18/May/2020 / 4Y,1M,22D
Rearing	-	Local ID	[1001881/SANDIEGOZ]
Dam	[GAN: 25215774 | SANDIEGOZ / 907581]		
Sire	[GAN: DNY14-13972 | SANDIEGOZ / 913268]		

DNY20-36740 | Local ID: 1001896

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/May/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001896	Loan Out To DALLAS/24H083	Out	-	24/Apr/2024
24/Apr/2024	Loan In From Sender: SANDIEGOZ/1001896 Vendor: SANDIEGOZ/1001896	In	-	DALLAS / 24H083	Death	Out	-	1/Jul/2024
-	-	-	-	SANDIEGOZ / 1001896	Death (ownership only)	-	Out	1/Jul/2024

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	27/May/2020 / 4Y,1M,4D at the time of death
Rearing	-	Local ID	[1001896/SANDIEGOZ]
Dam	[GAN: 25215774 | SANDIEGOZ / 907581]	Transponder	[00-0806-60DE/[Leg/Left]/SANDIEGOZ]
Sire	[GAN: DNY14-13972 | SANDIEGOZ / 913268]		

DNY20-36760 | Local ID: 1001910

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
2/Jun/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001910	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	2/Jun/2020 / 4Y,1M,8D
Rearing	Autonomous	Local ID	[1001910/SANDIEGOZ]
Dam	[GAN: DNY14-14094 | SANDIEGOZ / 913465]		
Sire	[GAN: BPL16-02624 | SANDIEGOZ / 916097]		

HFV20-24487 | Local ID: 1003309

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
13/Jun/2020	Birth/Hatch	-	In	SANDIEGOZ / 1003309	-	-	-	-
13/Jun/2020	Birth/Hatch Owner: SANDIEGOZ/UNDETERMINED	In	-	DALLAS / 20C247	Loan Return To Owner SANDIEGOZ/1003309	Out	-	4/May/2022
4/May/2022	Loan Return to Us Sender: DALLAS/20C247	In	-	SANDIEGOZ / 1003309	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Dallas Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	13/Jun/2020 / 4Y,0M,27D
Rearing	-	Local ID	[1003309/SANDIEGOZ]
Dam	[GAN: DNY14-13969 | 15Q468/DALLAS]		
Sire	[GAN: 25216187 | 14P119/DALLAS]		

DNY22-39673 | Local ID: 1003850

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
25/Apr/2022	Birth/Hatch	In	In	SANDIEGOZ / 1003850	Death	Out	Out	25/Apr/2022

Sex/Contraception	Undetermined / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	25/Apr/2022 / 0Y,0M,0D at the time of death
Rearing	-	Death Number	[0068229/SANDIEGOZ]
Dam	[GAN: DNY20-36715 | SANDIEGOZ / 1001881] [GAN: DNY20-36740 | SANDIEGOZ / 1001896]	Local ID	[1003850/SANDIEGOZ]
Sire	[GAN: DNY20-36705 | SANDIEGOZ / 1001873]	Old Accession Number	[DNY22-39664-IA/SANDIEGOZ]

DNY22-40317 | Local ID: 1004211

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Jul/2022	Birth/Hatch	In	In	SANDIEGOZ / 1004211	Loan Out To DES MOINE/3753	Out	-	30/May/2024
30/May/2024	Loan In From Sender: SANDIEGOZ/DNY22-40+ Vendor: SANDIEGOZ/DNY22-40+	In	-	DES MOINE / 3753	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	15/Jul/2022 / 1Y,11M,25D
Rearing	-	Local ID	[1004211/SANDIEGOZ]
Dam	[GAN: DNY19-33983 | SANDIEGOZ / 1000366]	Transponder	[00-0806-6381/[-/Caudal, Left]/SANDIEGOZ]
Sire	[GAN: DNY20-36616 | SANDIEGOZ / 1001800]		

DNY22-40318 | Local ID: 1004212

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Jul/2022	Birth/Hatch	In	In	SANDIEGOZ / 1004212	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	15/Jul/2022 / 1Y,11M,25D
Rearing	-	Color Marking - Artificial	[RED DOT/SANDIEGOZ]
Dam	[GAN: DNY19-33983 | SANDIEGOZ / 1000366]	Color Marking - Natural	[BLUE BARS/SANDIEGOZ]
Sire	[GAN: DNY20-36616 | SANDIEGOZ / 1001800]	Local ID	[1004212/SANDIEGOZ]
		Old Accession Number	[DNY22-40304-IA/SANDIEGOZ]

DNY22-40954 | Local ID: 1004616

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
26/Sep/2022	Birth/Hatch	In	In	SANDIEGOZ / 1004616	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	26/Sep/2022 / 1Y,9M,14D
Rearing	-	Local ID	[1004616/SANDIEGOZ]
Dam	[GAN: DNY15-15892 | SANDIEGOZ / 915092]		
Sire	[GAN: SYC16-01173 | SANDIEGOZ / 916380]		

DNY22-41131 | Local ID: 1004736

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
31/Oct/2022	Birth/Hatch	In	In	SANDIEGOZ / 1004736	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	31/Oct/2022 / 1Y,8M,10D
Rearing	Autonomous	Local ID	[1004736/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY22-41202 | Local ID: 1004787

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
10/Nov/2022	Birth/Hatch	In	In	SANDIEGOZ / 1004787	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	10/Nov/2022 / 1Y,8M,0D
Rearing	Autonomous	Local ID	[1004787/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY23-41650 | Local ID: 1005024

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Feb/2023	Birth/Hatch	In	In	SANDIEGOZ / 1005024	-	-	-	-

Sex/Contraception	Undetermined / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	21/Feb/2023 / 1Y,4M,19D
Rearing	-	Local ID	[1005024/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY23-41669 | Local ID: 1005037

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
2/Mar/2023	Birth/Hatch	In	In	SANDIEGOZ / 1005037	-	-	-	-

Sex/Contraception	Undetermined / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	2/Mar/2023 / 1Y,4M,8D
Rearing	Autonomous	Local ID	[1005037/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

19978322 | Local ID: 186022

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Oct/1986	Loan In From Vendor: ST LOUIS/NONE	In	-	SANDIEGOZ / 186022	Death	Out	-	25/Apr/1987

Sex/Contraception	Female / -	Birth Type	Undetermined
Hybrid Status	Not a hybrid	Birth Location	Unknown Location
Enclosure	-	Birth Date/Age	~ from 1/Jan/1983 to 1/Jan/1985 / 3Y,3M,24D at the time of death
Rearing	Undetermined	Death Number	[0023730/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	Local ID	[186022/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	Regional Studbook #	[69-AZA /SANDIEGOZ]

23052937 | Local ID: 187307

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Sep/1987	Donation From FIJI MINI/NONE	In	In	SANDIEGOZ / 187307	Death	Out	Out	12/Sep/2002

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Fiji /
Enclosure	-	Birth Date/Age	~ from 1/Dec/1985 to 1/Dec/1986 / 16Y,3M,11D at the time of death
Rearing	Undetermined	Death Number	[0044858/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	Local ID	[187307/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	Regional Studbook #	[5-AZA /SANDIEGOZ]

23052938 | Local ID: 187308

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Sep/1987	Donation From FIJI MINI/NONE	In	In	SANDIEGOZ / 187308	Death	Out	Out	13/Apr/1993

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Fiji /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1984 to 1/Jan/1986 / 8Y,3M,12D at the time of death
Rearing	Undetermined	Death Number	[0032279/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	Local ID	[187308/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	Regional Studbook #	[6-AZA /SANDIEGOZ]

23052939 | Local ID: 187309

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Sep/1987	Donation From FIJI MINI/NONE	In	In	SANDIEGOZ / 187309	Death	Out	Out	20/Nov/1992

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Fiji /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1986 to 1/Jan/1987 / 6Y,4M,19D at the time of death
Rearing	Undetermined	Death Number	[0031643/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	Local ID	[187309/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	Regional Studbook #	[7-AZA /SANDIEGOZ]

23052940 | Local ID: 187310

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Sep/1987	Donation From FIJI MINI/NONE	In	In	SANDIEGOZ / 187310	Death	Out	Out	20/May/1996

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Fiji /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1984 to 1/Jan/1986 / 11Y,4M,19D at the time of death
Rearing	Undetermined	Death Number	[0036641/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	Local ID	[187310/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	Regional Studbook #	[8-AZA /SANDIEGOZ]

23052951 | Local ID: 188091

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
19/May/1988	Donation From FIJI MINI/NONE	In	In	SANDIEGOZ / 188091	Death	Out	Out	25/Aug/1998

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Fiji /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1985 to 1/Jan/1987 / 12Y,7M,24D at the time of death
Rearing	Undetermined	Death Number	[0039632/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	Local ID	[188091/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	Regional Studbook #	[9-AZA /SANDIEGOZ]

23052952 | Local ID: 188092

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
19/May/1988	Donation From FIJI MINI/NONE	In	In	SANDIEGOZ / 188092	Death	Out	Out	3/Aug/1997

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Fiji /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1984 to 1/Jan/1986 / 12Y,7M,2D at the time of death
Rearing	Undetermined	Death Number	[0038200/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	Local ID	[188092/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	Regional Studbook #	[10-AZA /SANDIEGOZ]
		Transponder	[00-0280-073/SANDIEGOZ]

27311553 | Local ID: 188093

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
19/May/1988	Donation From FIJI MINI/NONE	In	In	SANDIEGOZ / 188093	Loan Out To FORTWORTH/905001	Out	-	17/May/1990
18/May/1990	Loan In From Vendor: SANDIEGOZ/188093	In	-	FORTWORTH / 905001	Loan Return To Owner SANDIEGOZ/188093	Out	-	19/Mar/1991
20/May/1991	Loan Return to Us Sender: FORTWORTH/905001	In	-	SANDIEGOZ / 188093	Loan Out To TULSA/12696	Out	-	30/Apr/1998
1/May/1998	Loan In From Vendor: SANDIEGOZ/188093	In	-	TULSA / 12696	Death	Out	-	13/May/2013
-	-	-	-	SANDIEGOZ / 188093	Death (ownership only)	-	Out	13/May/2013

Sex/Contraception	Male / -	Birth Type	Wild Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Fiji /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1984 to 1/Jan/1986 / 28Y,4M,12D at the time of death
Rearing	Undetermined	Local ID	[188093/SANDIEGOZ]
Dam	[WILD / WILD]	Regional Studbook #	[11-AZA /SANDIEGOZ]
Sire	[WILD / WILD]		

23052953 | Local ID: 188094

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
19/May/1988	Donation From FIJI MINI/NONE	In	In	SANDIEGOZ / 188094	Death	Out	Out	3/Jul/1989

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Fiji /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1985 to 1/Jan/1987 / 3Y,6M,2D at the time of death
Rearing	Undetermined	Death Number	[0026628/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	Local ID	[188094/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	Regional Studbook #	[74-AZA /SANDIEGOZ]

4057366 | Local ID: 188095

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
19/May/1988	Donation From FIJI MINI/NONE	In	In	SANDIEGOZ / 188095	Loan Out To FORTWORTH/885002	Out	-	5/Aug/1988
9/May/1990	Loan Return to Us Sender: FORTWORTH/885002	In	-	SANDIEGOZ / 188095	Death	Out	Out	15/May/1991

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Fiji /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1985 to 1/Jan/1987 / 5Y,4M,14D at the time of death
Rearing	Undetermined	Death Number	[0029277/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	Local ID	[188095/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	Regional Studbook #	[12-AZA /SANDIEGOZ]

23052954 | Local ID: 188096

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
19/May/1988	Donation From FIJI MINI/NONE	In	In	SANDIEGOZ / 188096	Death	Out	Out	21/Aug/1996

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Fiji /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1985 to 1/Jan/1987 / 10Y,7M,20D at the time of death
Rearing	Undetermined	Death Number	[0037024/SANDIEGOZ]
Dam	[UNK / UNKNOWN]	Local ID	[188096/SANDIEGOZ]
Sire	[UNK / UNKNOWN]	Regional Studbook #	[13-AZA /SANDIEGOZ]

CWF10-00328 | Local ID: 189174

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
20/Jul/1989	Birth/Hatch	In	In	SANDIEGOZ / 189174	Loan Out To CINCINNAT/390055	Out	-	3/Jul/1990
3/Jul/1990	Loan In From Sender: SANDIEGOZ/189174 Vendor: SANDIEGOZ/189174	In	-	CINCINNAT / 390055	Death	Out	-	13/May/1995
-	-	-	-	SANDIEGOZ / 189174	Death (ownership only)	-	Out	13/May/1995

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	20/Jul/1989 / 5Y,9M,23D at the time of death
Rearing	Hand	Death Number	[RP5858/SANDIEGOZ]
Dam	[GAN: 23052938 | SANDIEGOZ / 187308]	Local ID	[189174/SANDIEGOZ]
Sire	[GAN: 23052937 | SANDIEGOZ / 187307]	Regional Studbook #	[14-AZA /SANDIEGOZ]

8227548 | Local ID: 189175

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Jul/1989	Birth/Hatch	In	In	SANDIEGOZ / 189175	Death	Out	Out	26/Jul/1989

Sex/Contraception	Undetermined / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	21/Jul/1989 / 0Y,0M,5D at the time of death
Rearing	None	Death Number	[0026725/SANDIEGOZ]
Dam	[GAN: 23052938 | SANDIEGOZ / 187308]	Local ID	[189175/SANDIEGOZ]
Sire	[GAN: 23052937 | SANDIEGOZ / 187307]	Regional Studbook #	[70-AZA /SANDIEGOZ]

MIG12-4057375 | Local ID: 189183

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
31/Jul/1989	Birth/Hatch	In	In	SANDIEGOZ / 189183	Loan Out To AUDUBON/R1084	Out	-	23/Mar/1993
-	-	-	-	SANDIEGOZ / 189183	Death (ownership only)	-	Out	25/Oct/1999

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	31/Jul/1989 / 10Y,2M,25D at the time of death
Rearing	None	Death Number	[RP8160/SANDIEGOZ]
Dam	[GAN: 23052938 | SANDIEGOZ / 187308]	Local ID	[189183/SANDIEGOZ]
Sire	[GAN: 23052937 | SANDIEGOZ / 187307]	Regional Studbook #	[15-AZA /SANDIEGOZ]
		Transponder	[00-0779-290/SANDIEGOZ]

8227549 | Local ID: 189184

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
31/Jul/1989	Birth/Hatch	In	In	SANDIEGOZ / 189184	Death	Out	Out	1/Aug/1989

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	31/Jul/1989 / 0Y,0M,1D at the time of death
Rearing	None	Death Number	[0026744/SANDIEGOZ]
Dam	[GAN: 23052938 | SANDIEGOZ / 187308]	Local ID	[189184/SANDIEGOZ]
Sire	[GAN: 23052937 | SANDIEGOZ / 187307]	Regional Studbook #	[71-AZA /SANDIEGOZ]

MIG12-4057376 | Local ID: 189190

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
8/Aug/1989	Birth/Hatch	In	In	SANDIEGOZ / 189190	Loan Out To KNOXVILLE/926	Out	-	16/May/1990
17/May/1990	Loan In From Sender: SANDIEGOZ/189190 Vendor: SANDIEGOZ/189190	In	-	KNOXVILLE / 926	Death	Out	-	18/Feb/1991
-	-	-	-	SANDIEGOZ / 189190	Death (ownership only)	-	Out	19/Feb/1991

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	8/Aug/1989 / 1Y,6M,11D at the time of death
Rearing	Undetermined	Local ID	[189190/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	Regional Studbook #	[16-AZA /SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]		

MIG12-8227551 | Local ID: 189191

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
9/Aug/1989	Birth/Hatch	In	In	SANDIEGOZ / 189191	Loan Out To KNOXVILLE/LI364	Out	-	16/May/1990
17/May/1990	Loan In From Sender: SANDIEGOZ/189191 Vendor: SANDIEGOZ/189191	In	-	KNOXVILLE / 927	Death	Out	-	18/Nov/1991
-	-	-	-	SANDIEGOZ / 189191	Death (ownership only)	-	Out	18/Nov/1991

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	9/Aug/1989 / 2Y,3M,9D at the time of death
Rearing	Undetermined	**Local ID**	[189191/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Regional Studbook #**	[17-AZA /SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]		

8227552 | Local ID: 189192

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
9/Aug/1989	Birth/Hatch	In	In	SANDIEGOZ / 189192	Death	Out	Out	9/Aug/1989

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	9/Aug/1989 / 0Y,0M,0D at the time of death
Rearing	None	**Death Number**	[0026773/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[189192/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[72-AZA /SANDIEGOZ]

MIG12-4057381 | Local ID: 189337

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Nov/1989	Birth/Hatch	In	In	SANDIEGOZ / 189337	Loan Out To ST LOUIS/920451	Out	-	28/Apr/1992
28/Apr/1992	Loan In From Sender: SANDIEGOZ/189337 Vendor: SANDIEGOZ/189337	In	-	ST LOUIS / 920451	Death	Out	-	19/Nov/2005
-	-	-	-	SANDIEGOZ / 189337	Death (ownership only)	-	Out	19/Nov/2005

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	21/Nov/1989 / 15Y,11M,29D at the time of death
Rearing	Undetermined	**Death Number**	[RP16537/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[189337/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[18-AZA /SANDIEGOZ]

8227555 | Local ID: 189353

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
2/Dec/1989	Birth/Hatch	In	In	SANDIEGOZ / 189353	Death	Out	Out	2/Dec/1989

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	2/Dec/1989 / 0Y,0M,0D at the time of death
Rearing	None	**Death Number**	[0027184/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[189353/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[73-AZA /SANDIEGOZ]

8227598 | Local ID: 190049

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Feb/1990	Birth/Hatch	In	In	SANDIEGOZ / 190049	Death	Out	Out	29/Jan/1994

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	23/Feb/1990 / 3Y,11M,6D at the time of death
Rearing	None	**Death Number**	[0033513/SANDIEGOZ]
Dam	[GAN: 23052938 | SANDIEGOZ / 187308]	**Local ID**	[190049/SANDIEGOZ]
Sire	[GAN: 23052937 | SANDIEGOZ / 187307]	**Regional Studbook #**	[19-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-4965/[Thigh/Inner,Right]/SANDIEGOZ]

8227600 | Local ID: 190066

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
7/Mar/1990	Birth/Hatch	In	In	SANDIEGOZ / 190066	Death	Out	Out	30/Sep/1991

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	7/Mar/1990 / 1Y,6M,23D at the time of death
Rearing	None	**Death Number**	[0029927/SANDIEGOZ]
Dam	[GAN: 23052938 | SANDIEGOZ / 187308]	**Local ID**	[190066/SANDIEGOZ]
Sire	[GAN: 23052937 | SANDIEGOZ / 187307]	**Regional Studbook #**	[20-AZA /SANDIEGOZ]

CWF10-00253 | Local ID: 190067

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
9/Mar/1990	Birth/Hatch	In	In	SANDIEGOZ / 190067	Loan Out To CINCINNAT/390054	Out	-	3/Jul/1990
3/Jul/1990	Loan In From Sender: SANDIEGOZ/190067 Vendor: SANDIEGOZ/190067	In	-	CINCINNAT / 390054	Death	Out	-	11/Jun/1991
-	-	-	-	SANDIEGOZ / 190067	Death (ownership only)	-	Out	11/Jun/1991

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	9/Mar/1990 / 1Y,3M,2D at the time of death
Rearing	Hand	**Local ID**	[190067/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	**Regional Studbook #**	[21-AZA /SANDIEGOZ]
Sire	[GAN: 8230656 | SANDIEGOZ / 381224]		

10307395 | Local ID: 190068

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
9/Mar/1990	Birth/Hatch	In	In	SANDIEGOZ / 190068	Death	Out	Out	3/Oct/2003

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	9/Mar/1990 / 13Y,6M,24D at the time of death
Rearing	None	**Death Number**	[0046044/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	**Local ID**	[190068/SANDIEGOZ]
Sire	[GAN: 8230656 | SANDIEGOZ / 381224]	**Regional Studbook #**	[22-AZA /SANDIEGOZ]
		Transponder	[00-0027-025/SANDIEGOZ]

9044110 | Local ID: 190198

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
19/Jul/1990	Birth/Hatch	In	In	SANDIEGOZ / 190198	Death	Out	Out	18/Jun/2003

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	19/Jul/1990 / 12Y,10M,30D at the time of death
Rearing	None	**Death Number**	[0045714/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	**Local ID**	[190198/SANDIEGOZ]
Sire	[GAN: 8230656 | SANDIEGOZ / 381224]	**Regional Studbook #**	[23-AZA /SANDIEGOZ]
		Transponder	[00-0782-64/SANDIEGOZ]

MIG12-29901939 | Local ID: 190199

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Jul/1990	Birth/Hatch	In	In	SANDIEGOZ / 190199	Loan Out To AUDUBON/R1083	Out	-	23/Mar/1993
24/Mar/1993	Loan In From Vendor: SANDIEGOZ/190199	In	-	AUDUBON / R1083	Loan Return To Owner SANDIEGOZ/190199	Out	-	16/Oct/1996
17/Oct/1996	Loan Return to Us Sender: AUDUBON/R1083	In	-	SANDIEGOZ / 190199	Loan Out To OMAHA/11329	Out	-	22/Sep/1999
-	-	-	-	SANDIEGOZ / 190199	Death (ownership only)	-	Out	16/May/2012

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	21/Jul/1990 / 21Y,9M,25D at the time of death
Rearing	None	**Death Number**	[RP20695/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	**Local ID**	[190199/SANDIEGOZ]
Sire	[GAN: 8230656 | SANDIEGOZ / 381224]	**Regional Studbook #**	[24-AZA /SANDIEGOZ]
		Transponder	[00-0062-519/SANDIEGOZ]

8227724 | Local ID: 190203

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
24/Jul/1990	Birth/Hatch	In	In	SANDIEGOZ / 190203	Death	Out	Out	1/Sep/1994

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	24/Jul/1990 / 4Y,1M,8D at the time of death
Rearing	None	**Death Number**	[0034405/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	**Local ID**	[190203/SANDIEGOZ]
Sire	[GAN: 8230656 | SANDIEGOZ / 381224]	**Regional Studbook #**	[25-AZA /SANDIEGOZ]
		Transponder	[00-0581-801/SANDIEGOZ]

MIG12-29901941 | Local ID: 190204

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
25/Jul/1990	Birth/Hatch	In	In	SANDIEGOZ / 190204	Loan Out To DALLAS/917232	Out	-	15/Aug/1991
16/Aug/1991	Loan In From Sender: SANDIEGOZ/190365 Vendor: SANDIEGOZ/190204	In	-	DALLAS / 917232	Loan Return To Owner SANDIEGOZ/190204	Out	-	19/Jul/1995
20/Jul/1995	Loan Return to Us Sender: DALLAS/917232	In	-	SANDIEGOZ / 190204	Loan Out To AUDUBON/R1382	Out	-	14/Oct/1996
16/Oct/1996	Loan In From Vendor: SANDIEGOZ/190204	In	-	AUDUBON / R1382	Loan Transfer To ST AUGUST/A01021	Out	-	16/May/2001
-	-	-	-	SANDIEGOZ / 190204	Loan out to (change in reported holder) ST AUGUST/A01021	-	-	16/May/2001
-	-	-	-	SANDIEGOZ / 190204	Loan out to (change in reported holder) CENTRALPK/C07056	-	-	24/May/2007
24/May/2007	Loan In From Vendor: SANDIEGOZ/190204	In	-	CENTRALPK / C07056	Death	Out	-	19/Jun/2007
-	-	-	-	SANDIEGOZ / 190204	Death (ownership only)	-	Out	19/Jun/2007

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	25/Jul/1990 / 16Y,10M,25D at the time of death
Rearing	Undetermined	**Death Number**	[RP13495/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	**Local ID**	[190204/SANDIEGOZ]
Sire	[GAN: 8230656 | SANDIEGOZ / 381224]	**Regional Studbook #**	[26-AZA /SANDIEGOZ]

MIG12-6713024 | Local ID: 190240

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
29/Jul/1990	Birth/Hatch	In	In	SANDIEGOZ / 190240	Loan Out To SAN ANTON/930331	Out	-	23/Mar/1993
24/Mar/1993	Loan In From Sender: SANDIEGOZ/190240 Vendor: SANDIEGOZ/190240	In	-	SAN ANTON / 930331	Death	Out	-	1/Sep/2000
-	-	-	-	SANDIEGOZ / 190240	Death (ownership only)	-	Out	1/Sep/2000

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	29/Jul/1990 / 10Y,1M,3D at the time of death
Rearing	Undetermined	**Death Number**	[RP8370/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	**Local ID**	[190240/SANDIEGOZ]
Sire	[GAN: 8230656 | SANDIEGOZ / 381224]	**Regional Studbook #**	[27-AZA /SANDIEGOZ]
		Transponder	[00-0067-346/SANDIEGOZ]

8227747 | Local ID: 190241

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
29/Jul/1990	Birth/Hatch	In	In	SANDIEGOZ / 190241	Death	Out	Out	19/Sep/1997

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	29/Jul/1990 / 7Y,1M,21D at the time of death
Rearing	None	**Death Number**	[0038344/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	**Local ID**	[190241/SANDIEGOZ]
Sire	[GAN: 8230656 | SANDIEGOZ / 381224]	**Regional Studbook #**	[28-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-4344/SANDIEGOZ] [00-1025-789/SANDIEGOZ]

MIG12-13055972 | Local ID: 190343

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
25/Oct/1990	Birth/Hatch	In	In	SANDIEGOZ / 190343	Loan Out To DALLAS/917233	Out	-	15/Aug/1991
16/Aug/1991	Loan In From Sender: SANDIEGOZ/190343 Vendor: SANDIEGOZ/190343	In	-	DALLAS / 917233	Death	Out	-	25/Mar/1994
-	-	-	-	SANDIEGOZ / 190343	Death (ownership only)	-	Out	25/Mar/1994

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	25/Oct/1990 / 3Y,5M,0D at the time of death
Rearing	Undetermined	**Local ID**	[190343/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Physical characteristics**	[Imperfection/[Tail/-]/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[29-AZA /SANDIEGOZ]

19978396 | Local ID: 190344

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Oct/1990	Birth/Hatch	In	In	SANDIEGOZ / 190344	Death	Out	Out	11/Feb/1992

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	27/Oct/1990 / 1Y,3M,15D at the time of death
Rearing	None	**Death Number**	[0030463/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[190344/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[30-AZA /SANDIEGOZ]

MIG12-4057391 | Local ID: 190355

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
30/Oct/1990	Birth/Hatch	In	In	SANDIEGOZ / 190355	Loan Out To ST LOUIS/920452	Out	-	28/Apr/1992
28/Apr/1992	Loan In From Sender: SANDIEGOZ/190355 Vendor: SANDIEGOZ/190355	In	-	ST LOUIS / 920452	Death	Out	-	18/Oct/1995
-	-	-	-	SANDIEGOZ / 190355	Death (ownership only)	-	Out	18/Oct/1995

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	30/Oct/1990 / 4Y,11M,18D at the time of death
Rearing	Undetermined	Local ID	[190355/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	Regional Studbook #	[31-AZA /SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]		

CWF10-00325 | Local ID: 190362

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
3/Nov/1990	Birth/Hatch	In	In	SANDIEGOZ / 190362	Loan Out To CINCINNAT/393126	Out	-	4/May/1993
5/May/1993	Loan In From Sender: SANDIEGOZ/190362 Vendor: SANDIEGOZ/190362	In	-	CINCINNAT / 393126	Death	Out	-	29/Jul/2004
-	-	-	-	SANDIEGOZ / 190362	Death (ownership only)	-	Out	29/Jul/2004

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	3/Nov/1990 / 13Y,8M,26D at the time of death
Rearing	Hand	Death Number	[RP11250/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	Local ID	[190362/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	Regional Studbook #	[32-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-470D/SANDIEGOZ]

CWF10-00327 | Local ID: 190363

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Nov/1990	Birth/Hatch	In	In	SANDIEGOZ / 190363	Loan Out To CINCINNAT/391062	Out	-	1/Oct/1991
1/Oct/1991	Loan In From Sender: SANDIEGOZ/190363 Vendor: SANDIEGOZ/190363	In	-	CINCINNAT / 391062	Death	Out	-	1/Mar/2000
-	-	-	-	SANDIEGOZ / 190363	Death (ownership only)	-	Out	1/Mar/2000

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	21/Nov/1990 / 9Y,3M,9D at the time of death
Rearing	Hand	Death Number	[RP15440/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	Local ID	[190363/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	Regional Studbook #	[33-AZA /SANDIEGOZ]

8227834 | Local ID: 190364

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Nov/1990	Birth/Hatch	In	In	SANDIEGOZ / 190364	Death	Out	Out	10/Apr/1992

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	27/Nov/1990 / 1Y,4M,14D at the time of death
Rearing	None	Death Number	[0030671/SANDIEGOZ]
Dam	[GAN: 23052940 | SANDIEGOZ / 187310]	Local ID	[190364/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	Regional Studbook #	[34-AZA /SANDIEGOZ]

MIG12-8321742 | Local ID: 190365

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
29/Nov/1990	Birth/Hatch	In	In	SANDIEGOZ / 190365	Loan Out To DALLAS/917234	Out	-	15/Aug/1991
16/Aug/1991	Loan In From Sender: SANDIEGOZ/190365 Vendor: SANDIEGOZ/190365	In	-	DALLAS / 917234	Death	Out	-	12/Mar/1995
-	-	-	-	SANDIEGOZ / 190365	Death (ownership only)	-	Out	12/Mar/1995

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	29/Nov/1990 / 4Y,3M,12D at the time of death
Rearing	Undetermined	Death Number	[RP5550/SANDIEGOZ]
Dam	[GAN: 23052940 | SANDIEGOZ / 187310]	Local ID	[190365/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	Regional Studbook #	[35-AZA /SANDIEGOZ]

19978399 | Local ID: 190366

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/Dec/1990	Birth/Hatch	In	In	SANDIEGOZ / 190366	Death	Out	Out	31/Mar/2006

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	4/Dec/1990 / 15Y,3M,27D at the time of death
Rearing	None	Death Number	[0048816/SANDIEGOZ]
Dam	[GAN: 23052940 | SANDIEGOZ / 187310]	Local ID	[190366/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	Regional Studbook #	[36-AZA /SANDIEGOZ]

8227841 | Local ID: 191005

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
30/Jan/1991	Birth/Hatch	In	In	SANDIEGOZ / 191005	Death	Out	Out	18/Jul/1997

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	30/Jan/1991 / 6Y,5M,18D at the time of death
Rearing	None	Death Number	[0038134/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	Local ID	[191005/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	Regional Studbook #	[37-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-4246/SANDIEGOZ]

6713031 | Local ID: 191006

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
31/Jan/1991	Birth/Hatch	In	In	SANDIEGOZ / 191006	Loan Out To CYCLURARC/NONE	Out	-	1/Oct/1992
7/Mar/1995	Loan Return to Us Sender: CYCLURARC/NONE	In	-	SANDIEGOZ / 191006	Loan Out To TOLEDO/973150	Out	-	3/Sep/1997
4/Sep/1997	Loan In From Sender: SANDIEGOZ/191006 Vendor: SANDIEGOZ/191006	In	-	TOLEDO / 973150	Death	Out	-	24/Aug/2012
-	-	-	-	SANDIEGOZ / 191006	Death (ownership only)	-	Out	24/Aug/2012

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	31/Jan/1991 / 21Y,6M,24D at the time of death
Rearing	Undetermined	Local ID	[191006/SANDIEGOZ]
Dam	[GAN: 23052940 | SANDIEGOZ / 187310]	Regional Studbook #	[38-AZA /SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]		

MIG12-6713032 | Local ID: 191007

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
1/Feb/1991	Birth/Hatch	In	In	SANDIEGOZ / 191007	Loan Out To SAN ANTON/930332	Out	-	23/Mar/1993
24/Mar/1993	Loan In From Sender: SANDIEGOZ/191007 Vendor: SANDIEGOZ/191007	In	-	SAN ANTON / 930332	Death	Out	-	22/Oct/2002
-	-	-	-	SANDIEGOZ / 191007	Death (ownership only)	-	Out	22/Oct/2002

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	1/Feb/1991 / 11Y,8M,21D at the time of death
Rearing	Parent	Death Number	[RP9724/SANDIEGOZ]
Dam	[GAN: 23052940 | SANDIEGOZ / 187310]	Local ID	[191007/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	Regional Studbook #	[42-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-491D/SANDIEGOZ]

8227853 | Local ID: 191022

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Feb/1991	Birth/Hatch	In	In	SANDIEGOZ / 191022	Death	Out	Out	20/Mar/1992

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	21/Feb/1991 / 1Y,0M,28D at the time of death
Rearing	None	Death Number	[0030571/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	Local ID	[191022/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	Regional Studbook #	[39-AZA /SANDIEGOZ]

CWF10-00326 | Local ID: 191070

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
6/Apr/1991	Birth/Hatch	In	In	SANDIEGOZ / 191070	Loan Out To CINCINNAT/391063	Out	-	10/Jan/1992
1/Oct/1991	Loan In From Vendor: SANDIEGOZ/191070	In	-	CINCINNAT / 391063	Death	Out	-	3/Feb/1993
-	-	-	-	SANDIEGOZ / 191070	Death (ownership only)	-	Out	3/Feb/1993

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	6/Apr/1991 / 1Y,9M,28D at the time of death
Rearing	Hand	**Death Number**	[RP5222 /SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[191070/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[40-AZA /SANDIEGOZ]

8227909 | Local ID: 191082

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Apr/1991	Birth/Hatch	In	In	SANDIEGOZ / 191082	Death	Out	Out	7/Jun/1991

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	15/Apr/1991 / 0Y,1M,23D at the time of death
Rearing	None	**Death Number**	[0029426/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[191082/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[75-AZA /SANDIEGOZ]

6713034 | Local ID: 191132

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
3/Jun/1991	Birth/Hatch	In	In	SANDIEGOZ / 191132	Loan Out To DALLAS/917231	Out	-	15/Aug/1991
16/Aug/1991	Loan In From Sender: SANDIEGOZ/191132 Vendor: SANDIEGOZ/191132	In	-	DALLAS / 917231	Loan Return To Owner SANDIEGOZ/191132	Out	-	19/Jul/1995
20/Jul/1995	Loan Return to Us Sender: DALLAS/917231	In	-	SANDIEGOZ / 191132	Death	Out	Out	15/Aug/2011

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	3/Jun/1991 / 20Y,2M,12D at the time of death
Rearing	Undetermined	**Death Number**	[0054395/SANDIEGOZ]
Dam	[GAN: 23052938 | SANDIEGOZ / 187308]	**Local ID**	[191132/SANDIEGOZ]
Sire	[GAN: 23052937 | SANDIEGOZ / 187307]	**Regional Studbook #**	[43-AZA /SANDIEGOZ]

MIG12-6713035 | Local ID: 191146

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
17/Jun/1991	Birth/Hatch	In	In	SANDIEGOZ / 191146	Loan Out To CYCLURARC/NONE	Out	-	1/Oct/1992
7/Mar/1995	Loan Return to Us Sender: CYCLURARC/NONE	In	-	SANDIEGOZ / 191146	Loan Out To TOLEDO/973151	Out	-	3/Sep/1997
4/Sep/1997	Loan In From Sender: SANDIEGOZ/191146 Vendor: SANDIEGOZ/191146	In	-	TOLEDO / 973151	Death	Out	-	16/Sep/2008
-	-	-	-	SANDIEGOZ / 191146	Death (ownership only)	-	Out	16/Sep/2008

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	17/Jun/1991 / 17Y,2M,30D at the time of death
Rearing	Undetermined	**Death Number**	[RP15150/SANDIEGOZ]
Dam	[GAN: 23052938 | SANDIEGOZ / 187308]	**Local ID**	[191146/SANDIEGOZ]
Sire	[GAN: 23052937 | SANDIEGOZ / 187307]	**Regional Studbook #**	[44-AZA /SANDIEGOZ]

8227973 | Local ID: 191150

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
3/Jul/1991	Birth/Hatch	In	In	SANDIEGOZ / 191150	Death	Out	Out	26/Apr/2013

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	3/Jul/1991 / 21Y,9M,23D at the time of death
Rearing	None	**Death Number**	[0056101/SANDIEGOZ]
Dam	[GAN: 23052938 | SANDIEGOZ / 187308]	**Local ID**	[191150/SANDIEGOZ]
Sire	[GAN: 23052937 | SANDIEGOZ / 187307]	**Regional Studbook #**	[41-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-4135/SANDIEGOZ]

8228188 | Local ID: 191392

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
10/Dec/1991	Birth/Hatch	In	In	SANDIEGOZ / 191392	Death	Out	Out	11/Dec/1991

Sex/Contraception	Undetermined / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	10/Dec/1991 / 0Y,0M,1D at the time of death
Rearing	None	Death Number	[0030224/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	Local ID	[191392/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	Regional Studbook #	[76-AZA /SANDIEGOZ]

MIG12-29851934 | Local ID: 191417

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
29/Dec/1991	Birth/Hatch	In	In	SANDIEGOZ / 191417	Loan Out To TOLEDO/933029	Out	-	20/Apr/1993
22/Apr/1993	Loan In From Sender: SANDIEGOZ/191417 Vendor: SANDIEGOZ/191417	In	-	TOLEDO / 933029	Loan Transfer To DETROIT/5767	Out	-	7/May/1997
-	-	-	-	SANDIEGOZ / 191417	Loan out to (change in reported holder) DETROIT/5767	-	-	8/May/1997
8/May/1997	Loan In From Sender: TOLEDO/933029 Vendor: SANDIEGOZ/191417	In	-	DETROIT / 5767	Death	Out	-	24/Jul/2004
-	-	-	-	SANDIEGOZ / 191417	Death (ownership only)	-	Out	24/Jul/2004

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	29/Dec/1991 / 12Y,6M,25D at the time of death
Rearing	None	Death Number	[RP11256/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	Local ID	[191417/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	Regional Studbook #	[45-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-495E/SANDIEGOZ]

8228216 | Local ID: 192005

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
3/Jan/1992	Birth/Hatch	In	In	SANDIEGOZ / 192005	Death	Out	Out	3/Jan/1992

Sex/Contraception	Undetermined / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	3/Jan/1992 / 0Y,0M,0D at the time of death
Rearing	None	Death Number	[0030289/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	Local ID	[192005/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	Regional Studbook #	[49-AZA /SANDIEGOZ]

MIG12-4057426 | Local ID: 192097

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
13/Apr/1992	Birth/Hatch	In	In	SANDIEGOZ / 192097	Loan Out To FRESNO/6690	Out	-	23/Mar/1993
24/Mar/1993	Loan In From Sender: SANDIEGOZ/192097 Vendor: SANDIEGOZ/192097	In	-	FRESNO / 6690	Death	Out	-	28/Nov/2003
-	-	-	-	SANDIEGOZ / 192097	Death (ownership only)	-	Out	28/Nov/2003

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	13/Apr/1992 / 11Y,7M,15D at the time of death
Rearing	Undetermined	Local ID	[192097/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	Regional Studbook #	[46-AZA /SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	Transponder	[7F-7E60-451D/SANDIEGOZ]

MIG12-28546900 | Local ID: 192098

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
13/Apr/1992	Birth/Hatch	In	In	SANDIEGOZ / 192098	Loan Out To DENVER/930095	Out	-	20/Apr/1993
21/Apr/1993	Loan In From Vendor: SANDIEGOZ/192098	In	-	DENVER / 930095	Loan Transfer To ATLANTA/985000	Out	-	23/Apr/1998
-	-	-	-	SANDIEGOZ / 192098	Loan out to (change in reported holder) ATLANTA/985000	-	-	23/Apr/1998
24/Apr/1998	Loan In From Vendor: SANDIEGOZ/192098	In	-	ATLANTA / 985000	Death	Out	-	20/Apr/2000
-	-	-	-	SANDIEGOZ / 192098	Death (ownership only)	-	Out	20/Apr/2000

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	13/Apr/1992 / 8Y,0M,7D at the time of death
Rearing	Undetermined	Death Number	[RP8264/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	Local ID	[192098/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	Regional Studbook #	[47-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-4778/SANDIEGOZ]

CWF10-00324 | Local ID: 192106

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
18/Apr/1992	Birth/Hatch	In	In	SANDIEGOZ / 192106	Loan Out To CINCINNAT/393127	Out	-	4/May/1993
5/May/1993	Loan In From Sender: SANDIEGOZ/192106 Vendor: SANDIEGOZ/192106	In	-	CINCINNAT / 393127	Death	Out	-	10/Jul/1993
-	-	-	-	SANDIEGOZ / 192106	Death (ownership only)	-	Out	10/Jul/1993

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	18/Apr/1992 / 1Y,2M,22D at the time of death
Rearing	Hand	**Death Number**	[RP5223 /SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[192106/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[48-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-3430/SANDIEGOZ]

CWF10-00323 | Local ID: 192345

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
9/Aug/1992	Birth/Hatch	In	In	SANDIEGOZ / 192345	Loan Out To CINCINNAT/393128	Out	-	4/May/1993
5/May/1993	Loan In From Sender: SANDIEGOZ/192345 Vendor: SANDIEGOZ/192345	In	-	CINCINNAT / 393128	Death	Out	-	2/Jan/1996
-	-	-	-	SANDIEGOZ / 192345	Death (ownership only)	-	Out	2/Jan/1996

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	9/Aug/1992 / 3Y,4M,24D at the time of death
Rearing	Hand	**Death Number**	[RP6031/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[192345/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[50-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-440A/SANDIEGOZ]

MIG12-29851933 | Local ID: 192355

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Aug/1992	Birth/Hatch	In	In	SANDIEGOZ / 192355	Loan Out To TOLEDO/933030	Out	-	20/Apr/1993
22/Apr/1993	Loan In From Sender: SANDIEGOZ/192355 Vendor: SANDIEGOZ/192355	In	-	TOLEDO / 933030	Loan Transfer To DETROIT/5768	Out	-	7/May/1997
-	-	-	-	SANDIEGOZ / 192355	Loan out to (change in reported holder) DETROIT/5768	-	-	8/May/1997
8/May/1997	Loan In From Sender: TOLEDO/933030 Vendor: SANDIEGOZ/192355	In	-	DETROIT / 5768	Death	Out	-	21/Dec/1997
-	-	-	-	SANDIEGOZ / 192355	Death (ownership only)	-	Out	21/Dec/1997

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	15/Aug/1992 / 5Y,4M,6D at the time of death
Rearing	None	**Death Number**	[RP7804/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[192355/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[51-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-4371/SANDIEGOZ]

MIG12-6713042 | Local ID: 192362

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
24/Aug/1992	Birth/Hatch	In	In	SANDIEGOZ / 192362	Loan Out To DENVER/930094	Out	-	20/Apr/1993
21/Apr/1993	Loan In From Vendor: SANDIEGOZ/192362	In	-	DENVER / 930094	Death	Out	-	27/Nov/1996
-	-	-	-	SANDIEGOZ / 192362	Death (ownership only)	-	Out	27/Nov/1996

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	24/Aug/1992 / 4Y,3M,3D at the time of death
Rearing	None	**Death Number**	[RP6234/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[192362/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[52-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-4720/SANDIEGOZ]

8228557 | Local ID: 192364

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/Sep/1992	Birth/Hatch	In	In	SANDIEGOZ / 192364	Death	Out	Out	15/Mar/1998

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	4/Sep/1992 / 5Y,6M,11D at the time of death
Rearing	None	**Death Number**	[0038894/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[192364/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[53-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-3B44/SANDIEGOZ]

MIG12-4057433 | Local ID: 192366

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
8/Sep/1992	Birth/Hatch	In	In	SANDIEGOZ / 192366	Loan Out To FRESNO/6691	Out	-	23/Mar/1993
24/Mar/1993	Loan In From Sender: SANDIEGOZ/192366 Vendor: SANDIEGOZ/192366	In	-	FRESNO / 6691	Death	Out	-	14/Apr/1998
-	-	-	-	SANDIEGOZ / 192366	Death (ownership only)	-	Out	14/Apr/1998

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	8/Sep/1992 / 5Y,7M,6D at the time of death
Rearing	Undetermined	**Death Number**	[RP7221/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[192366/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[54-AZA /SANDIEGOZ]
		Transponder	[7F-7E60-4416/SANDIEGOZ]

8228640 | Local ID: 192451

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
10/Oct/1992	Birth/Hatch	In	In	SANDIEGOZ / 192451	Death	Out	Out	12/Mar/2001

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	10/Oct/1992 / 8Y,5M,2D at the time of death
Rearing	None	**Death Number**	[0042740/SANDIEGOZ]
Dam	[GAN: 23052940 | SANDIEGOZ / 187310]	**Local ID**	[192451/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	**Regional Studbook #**	[55-AZA /SANDIEGOZ]

MIG12-8228641 | Local ID: 192452

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Oct/1992	Birth/Hatch	In	In	SANDIEGOZ / 192452	Loan Out To C R A P/NONE	Out	-	14/Nov/1995
-	-	-	-	SANDIEGOZ / 192452	Death (ownership only)	-	Out	15/Jan/1996

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	16/Oct/1992 / 3Y,2M,30D at the time of death
Rearing	None	**Local ID**	[192452/SANDIEGOZ]
Dam	[GAN: 23052940 | SANDIEGOZ / 187310]	**Regional Studbook #**	[56-AZA /SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]		

MIG12-4057435 | Local ID: 192521

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
14/Nov/1992	Birth/Hatch	In	In	SANDIEGOZ / 192521	Loan Out To HONOLULU/930501	Out	-	9/Dec/1993
9/Dec/1993	Loan In From Sender: SANDIEGOZ/192521 Vendor: SANDIEGOZ/192521	In	-	HONOLULU / 930501	Death	Out	-	3/Jul/1996
-	-	-	-	SANDIEGOZ / 192521	Death (ownership only)	-	Out	10/Jul/1996

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	14/Nov/1992 / 3Y,7M,26D at the time of death
Rearing	Hand	**Death Number**	[RP6118/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	**Local ID**	[192521/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	**Regional Studbook #**	[57-AZA /SANDIEGOZ]

6713043 | Local ID: 192522

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
17/Nov/1992	Birth/Hatch	In	In	SANDIEGOZ / 192522	Loan Out To LOSANGELE/990379	Out	-	3/Apr/2001
3/Apr/2001	Loan In From Sender: SANDIEGOZ/192522 Vendor: SANDIEGOZ/192522	In	-	LOSANGELE / 990379	Death	Out	-	15/Jul/2008
-	-	-	-	SANDIEGOZ / 192522	Death (ownership only)	-	Out	15/Jul/2008

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	17/Nov/1992 / 15Y,7M,28D at the time of death
Rearing	Undetermined	**Local ID**	[192522/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	**Regional Studbook #**	[58-AZA /SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	**Transponder**	[00-0605-7F34/[Leg/Left,Hind]/SANDIEGOZ]

25215131 | Local ID: 192523

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
17/Nov/1992	Birth/Hatch	In	In	SANDIEGOZ / 192523	Loan Out To C R A P/NONE	Out	-	14/Nov/1995
4/Jun/1996	Loan Return to Us Sender: C R A P/NONE	In	-	SANDIEGOZ / 192523	Death	Out	Out	7/May/2008

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	17/Nov/1992 / 15Y,5M,20D at the time of death
Rearing	None	Death Number	[0051034/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	Local ID	[192523/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	Regional Studbook #	[59-AZA /SANDIEGOZ]

8228719 | Local ID: 192535

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
24/Nov/1992	Birth/Hatch	In	In	SANDIEGOZ / 192535	Death	Out	Out	25/Feb/2016

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	24/Nov/1992 / 23Y,3M,1D at the time of death
Rearing	None	Death Number	[0059180/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	Local ID	[192535/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	Regional Studbook #	[60-AZA /SANDIEGOZ]

8228722 | Local ID: 192538

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
25/Nov/1992	Birth/Hatch	In	In	SANDIEGOZ / 192538	Death	Out	Out	19/Sep/2013

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	25/Nov/1992 / 20Y,9M,25D at the time of death
Rearing	None	Death Number	[0056510/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	Local ID	[192538/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	Regional Studbook #	[61-AZA /SANDIEGOZ]

19978460 | Local ID: 192539

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
28/Nov/1992	Birth/Hatch	In	In	SANDIEGOZ / 192539	Death	Out	Out	6/Feb/2007

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	28/Nov/1992 / 14Y,2M,9D at the time of death
Rearing	None	Death Number	[0049803/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	Local ID	[192539/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	Regional Studbook #	[62-AZA /SANDIEGOZ]

19978461 | Local ID: 192547

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
19/Dec/1992	Birth/Hatch	In	In	SANDIEGOZ / 192547	Loan Out To DALLAS/07H035	Out	-	22/Feb/2007
23/Feb/2007	Loan In From Sender: SANDIEGOZ/192547 Vendor: SANDIEGOZ/192547	In	-	DALLAS / 07H035	Death	Out	-	15/Jun/2018
-	-	-	-	SANDIEGOZ / 192547	Death (ownership only)	-	Out	15/Jun/2018

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	19/Dec/1992 / 25Y,5M,27D at the time of death
Rearing	Undetermined	Local ID	[192547/SANDIEGOZ]
Dam	[GAN: 23052940 | SANDIEGOZ / 187310]	Regional Studbook #	[79-AZA /SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]		

MIG12-4057436 | Local ID: 192548

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
25/Dec/1992	Birth/Hatch	In	In	SANDIEGOZ / 192548	Loan Out To HONOLULU/930502	Out	-	9/Dec/1993
9/Dec/1993	Loan In From Sender: SANDIEGOZ/192548 Vendor: SANDIEGOZ/192548	In	-	HONOLULU / 930502	Death	Out	-	11/Sep/1995
-	-	-	-	SANDIEGOZ / 192548	Death (ownership only)	-	Out	11/Sep/1995

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	25/Dec/1992 / 2Y,8M,17D at the time of death
Rearing	Hand	Death Number	[RP5761/SANDIEGOZ]
Dam	[GAN: 23052940 | SANDIEGOZ / 187310]	Local ID	[192548/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	Regional Studbook #	[80-AZA /SANDIEGOZ]

MIG12-6713044 | Local ID: 192549

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
26/Dec/1992	Birth/Hatch	In	In	SANDIEGOZ / 192549	Loan Out To TULSA/12697	Out	-	30/Apr/1998
1/May/1998	Loan In From Sender: SANDIEGOZ/192549 Vendor: SANDIEGOZ/192549	In	-	TULSA / 12697	Death	Out	-	18/Sep/1998
-	-	-	-	SANDIEGOZ / 192549	Death (ownership only)	-	Out	18/Sep/1998

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	26/Dec/1992 / 5Y,8M,23D at the time of death
Rearing	Undetermined	Death Number	[RP7222/SANDIEGOZ]
Dam	[GAN: 23052940 | SANDIEGOZ / 187310]	Local ID	[192549/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	Regional Studbook #	[81-AZA /SANDIEGOZ]

26753106 | Local ID: 193014

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
28/Mar/1965	Donation From TONGA DOF/NONE	In	In	SANDIEGOZ / 193014	Death	Out	Out	1/Jan/1968

Sex/Contraception	Undetermined / -	Birth Type	Wild Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Tonga /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1962 to 1/Jan/1964 / 5Y,0M,0D at the time of death
Rearing	Undetermined	Local ID	[193014/SANDIEGOZ]
Dam	[WILD / WILD]		
Sire	[WILD / WILD]		

26753107 | Local ID: 193015

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
28/Mar/1965	Donation From TONGA DOF/NONE	In	In	SANDIEGOZ / 193015	Death	Out	Out	1/Jan/1968

Sex/Contraception	Undetermined / -	Birth Type	Wild Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Tonga /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1962 to 1/Jan/1964 / 5Y,0M,0D at the time of death
Rearing	Undetermined	Local ID	[193015/SANDIEGOZ]
Dam	[WILD / WILD]		
Sire	[WILD / WILD]		

8228746 | Local ID: 193016

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
28/Mar/1965	Donation From TONGA DOF/NONE	In	In	SANDIEGOZ / 193016	Death	Out	Out	1/Jan/1968

Sex/Contraception	Undetermined / -	Birth Type	Wild Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Tonga /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1962 to 1/Jan/1964 / 5Y,0M,0D at the time of death
Rearing	Undetermined	Local ID	[193016/SANDIEGOZ]
Dam	[WILD / WILD]		
Sire	[WILD / WILD]		

8228747 | Local ID: 193017

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
28/Mar/1965	Donation From TONGA DOF/NONE	In	In	SANDIEGOZ / 193017	Death	Out	Out	1/Jan/1968

Sex/Contraception	Undetermined / -	Birth Type	Wild Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Tonga /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1962 to 1/Jan/1964 / 5Y,0M,0D at the time of death
Rearing	Undetermined	Local ID	[193017/SANDIEGOZ]
Dam	[WILD / WILD]		
Sire	[WILD / WILD]		

8228748 | Local ID: 193018

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
28/Mar/1965	Donation From TONGA DOF/NONE	In	In	SANDIEGOZ / 193018	Death	Out	Out	1/Jan/1968

Sex/Contraception	Undetermined / -	Birth Type	Wild Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Tonga /
Enclosure	-	Birth Date/Age	~ from 1/Jan/1962 to 1/Jan/1964 / 5Y,0M,0D at the time of death
Rearing	Undetermined	Local ID	[193018/SANDIEGOZ]
Dam	[WILD / WILD]		
Sire	[WILD / WILD]		

8228749 | Local ID: 193019

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
28/Mar/1965	Donation From TONGA DOF/NONE	In	In	SANDIEGOZ / 193019	Death	Out	Out	1/Jan/1968

Sex/Contraception	Undetermined / -	**Birth Type**	Wild Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Tonga /
Enclosure	-	**Birth Date/Age**	~ from 1/Jan/1962 to 1/Jan/1964 / 5Y,0M,0D at the time of death
Rearing	Undetermined	**Local ID**	[193019/SANDIEGOZ]
Dam	[WILD / WILD]		
Sire	[WILD / WILD]		

8228853 | Local ID: 193139

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Feb/1993	Birth/Hatch	In	In	SANDIEGOZ / 193139	Death	Out	Out	13/Apr/1993

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	27/Feb/1993 / 0Y,1M,17D at the time of death
Rearing	None	**Death Number**	[0032281/SANDIEGOZ]
Dam	[GAN: 8227598 | SANDIEGOZ / 190049]	**Local ID**	[193139/SANDIEGOZ]
Sire	[GAN: MIG12-29901939 | SANDIEGOZ / 190199]	**Regional Studbook #**	[82-AZA /SANDIEGOZ]

25215134 | Local ID: 193178

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Mar/1993	Birth/Hatch	In	In	SANDIEGOZ / 193178	Death	Out	Out	10/Jun/2015

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	16/Mar/1993 / 22Y,2M,25D at the time of death
Rearing	None	**Death Number**	[0058341/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[193178/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[83-AZA /SANDIEGOZ]

8228910 | Local ID: 193264

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
3/Apr/1993	Birth/Hatch	In	In	SANDIEGOZ / 193264	Death	Out	Out	12/Jun/2014

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	3/Apr/1993 / 21Y,2M,9D at the time of death
Rearing	None	**Death Number**	[0057145/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[193264/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[84-AZA /SANDIEGOZ]

6713053 | Local ID: 193265

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
3/Apr/1993	Birth/Hatch	In	In	SANDIEGOZ / 193265	Loan Out To LOSANGELE/990381	Out	-	3/Apr/2001
3/Apr/2001	Loan In From Sender: SANDIEGOZ/193265 Vendor: SANDIEGOZ/193265	In	-	LOSANGELE / 990381	Death	Out	-	28/Dec/2016
-	-	-	-	SANDIEGOZ / 193265	Death (ownership only)	-	Out	28/Dec/2016

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	3/Apr/1993 / 23Y,8M,25D at the time of death
Rearing	Undetermined	**Death Number**	[RP25891/SANDIEGOZ]
Dam	[GAN: 23052939 | SANDIEGOZ / 187309]	**Local ID**	[193265/SANDIEGOZ]
Sire	[GAN: 23052951 | SANDIEGOZ / 188091]	**Regional Studbook #**	[85-AZA /SANDIEGOZ]
		Transponder	[00-0605-6284/[Leg/Left,Hind]/SANDIEGOZ]

8229153 | Local ID: 193584

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Sep/1993	Birth/Hatch	In	In	SANDIEGOZ / 193584	Death	Out	Out	25/Sep/1993

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	21/Sep/1993 / 0Y,0M,4D at the time of death
Rearing	None	**Death Number**	[0033055/SANDIEGOZ]
Dam	[GAN: 10307395 | SANDIEGOZ / 190068]	**Local ID**	[193584/SANDIEGOZ]
Sire	[GAN: 6713193 | SANDIEGOZ / 382060]	**Regional Studbook #**	[86-AZA /SANDIEGOZ]

8229154 | Local ID: 193585

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Sep/1993	Birth/Hatch	In	In	SANDIEGOZ / 193585	Death	Out	Out	24/Mar/1997

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	23/Sep/1993 / 3Y,6M,1D at the time of death
Rearing	None	Death Number	[0037643/SANDIEGOZ]
Dam	[GAN: 10307395 | SANDIEGOZ / 190068]	Local ID	[193585/SANDIEGOZ]
Sire	[GAN: 6713193 | SANDIEGOZ / 382060]	Regional Studbook #	[87-AZA /SANDIEGOZ]

8229155 | Local ID: 193586

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
24/Sep/1993	Birth/Hatch	In	In	SANDIEGOZ / 193586	Death	Out	Out	1/Feb/2011

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	24/Sep/1993 / 17Y,4M,8D at the time of death
Rearing	None	Death Number	[0053817/SANDIEGOZ]
Dam	[GAN: 10307395 | SANDIEGOZ / 190068]	Local ID	[193586/SANDIEGOZ]
Sire	[GAN: 6713193 | SANDIEGOZ / 382060]	Regional Studbook #	[88-AZA /SANDIEGOZ]

19978485 | Local ID: 193587

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
24/Sep/1993	Birth/Hatch	In	In	SANDIEGOZ / 193587	Death	Out	Out	27/Mar/2007

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	24/Sep/1993 / 13Y,6M,3D at the time of death
Rearing	None	Death Number	[0049920/SANDIEGOZ]
Dam	[GAN: 10307395 | SANDIEGOZ / 190068]	Local ID	[193587/SANDIEGOZ]
Sire	[GAN: 6713193 | SANDIEGOZ / 382060]	Regional Studbook #	[89-AZA /SANDIEGOZ]

MIG12-6713077 | Local ID: 194193

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Sep/1994	Birth/Hatch	In	In	SANDIEGOZ / 194193	Loan Out To LOSANGELE/990380	Out	-	3/Apr/2001
3/Apr/2001	Loan In From Sender: SANDIEGOZ/194193 Vendor: SANDIEGOZ/194193	In	-	LOSANGELE / 990380	Death	Out	-	3/May/2004
-	-	-	-	SANDIEGOZ / 194193	Death (ownership only)	-	Out	4/May/2004

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	23/Sep/1994 / 9Y,7M,11D at the time of death
Rearing	Undetermined	Death Number	[RP11202/SANDIEGOZ]
Dam	[GAN: 10307395 | SANDIEGOZ / 190068]	Local ID	[194193/SANDIEGOZ]
Sire	[GAN: 6713193 | SANDIEGOZ / 382060]	Regional Studbook #	[100-AZA /SANDIEGOZ]
		Transponder	[00-0605-572F/[Leg/Left,Hind]/SANDIEGOZ]

8229479 | Local ID: 194221

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
8/Oct/1994	Birth/Hatch	In	In	SANDIEGOZ / 194221	Death	Out	Out	20/Sep/2013

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	8/Oct/1994 / 18Y,11M,12D at the time of death
Rearing	None	Death Number	[0056514/SANDIEGOZ]
Dam	[GAN: 10307395 | SANDIEGOZ / 190068]	Local ID	[194221/SANDIEGOZ]
Sire	[GAN: 6713193 | SANDIEGOZ / 382060]	Regional Studbook #	[101-AZA /SANDIEGOZ]

4057557 | Local ID: 194273

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
1/Dec/1994	Birth/Hatch	In	In	SANDIEGOZ / 194273	Loan Out To DENVER/980170	Out	-	6/May/1998
6/May/1998	Loan In From Vendor: SANDIEGOZ/194273	In	-	DENVER / 980170	Loan Return To Owner SANDIEGOZ/194273	Out	-	8/Oct/2003
8/Oct/2003	Loan Return to Us Sender: DENVER/980170	In	-	SANDIEGOZ / 194273	Death	Out	Out	18/Oct/2010

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	1/Dec/1994 / 15Y,10M,17D at the time of death
Rearing	None	Death Number	[0053548/SANDIEGOZ]
Dam	[GAN: MIG12-6713044 | SANDIEGOZ / 192549]	Local ID	[194273/SANDIEGOZ]
Sire	[GAN: 8227973 | SANDIEGOZ / 191150]	Regional Studbook #	[106-AZA /SANDIEGOZ]

8229526 | Local ID: 194274

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
8/Dec/1994	Birth/Hatch	In	In	SANDIEGOZ / 194274	Death	Out	Out	10/Jul/1999

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	8/Dec/1994 / 4Y,7M,2D at the time of death
Rearing	None	Death Number	[0040694/SANDIEGOZ]
Dam	[GAN: MIG12-6713044 | SANDIEGOZ / 192549]	Local ID	[194274/SANDIEGOZ]
Sire	[GAN: 8227973 | SANDIEGOZ / 191150]	Regional Studbook #	[107-AZA /SANDIEGOZ]

13843274 | Local ID: 195001

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
2/Jan/1995	Birth/Hatch	In	In	SANDIEGOZ / 195001	Death	Out	Out	16/May/2018

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	2/Jan/1995 / 23Y,4M,14D at the time of death
Rearing	None	Death Number	[0061572/SANDIEGOZ]
Dam	[GAN: 8228640 | SANDIEGOZ / 192451]	Local ID	[195001/SANDIEGOZ]
Sire	[GAN: 6713043 | SANDIEGOZ / 192522]	Regional Studbook #	[112-AZA /SANDIEGOZ]

MIG12-6713083 | Local ID: 195002

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
3/Jan/1995	Birth/Hatch	In	In	SANDIEGOZ / 195002	Loan Out To DENVER/980169	Out	-	6/May/1998
6/May/1998	Loan In From Vendor: SANDIEGOZ/195002	In	-	DENVER / 980169	Death	Out	-	10/Jan/2002
-	-	-	-	SANDIEGOZ / 195002	Death (ownership only)	-	Out	9/Jan/2002

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	3/Jan/1995 / 7Y,0M,7D at the time of death
Rearing	None	Death Number	[RP9780/SANDIEGOZ] [RP9326 /SANDIEGOZ]
Dam	[GAN: 8228640 | SANDIEGOZ / 192451]	Local ID	[195002/SANDIEGOZ]
Sire	[GAN: 6713043 | SANDIEGOZ / 192522]	Regional Studbook #	[113-AZA /SANDIEGOZ]

MIG12-6713084 | Local ID: 195013

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
12/Jan/1995	Birth/Hatch	In	In	SANDIEGOZ / 195013	Loan Out To COLUMBIA/2152	Out	-	12/May/1998
14/May/1998	Loan In From Sender: SANDIEGOZ/195013 Vendor: SANDIEGOZ/195013	In	-	COLUMBIA / 2152	Death	Out	-	18/Mar/2001
-	-	-	-	SANDIEGOZ / 195013	Death (ownership only)	-	Out	25/Apr/2001

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	12/Jan/1995 / 6Y,3M,13D at the time of death
Rearing	Hand	Local ID	[195013/SANDIEGOZ]
Dam	[GAN: 8228640 | SANDIEGOZ / 192451]	Regional Studbook #	[114-AZA /SANDIEGOZ]
Sire	[GAN: 6713043 | SANDIEGOZ / 192522]		

MIG12-6713085 | Local ID: 195031

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Feb/1995	Birth/Hatch	In	In	SANDIEGOZ / 195031	Loan Out To COLUMBIA/2153	Out	-	12/May/1998
14/May/1998	Loan In From Sender: SANDIEGOZ/195031 Vendor: SANDIEGOZ/195031	In	-	COLUMBIA / 2153	Death	Out	-	12/Sep/2002
-	-	-	-	SANDIEGOZ / 195031	Death (ownership only)	-	Out	12/Sep/2002

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	22/Feb/1995 / 7Y,6M,21D at the time of death
Rearing	Hand	Local ID	[195031/SANDIEGOZ]
Dam	[GAN: 10307395 | SANDIEGOZ / 190068]	Regional Studbook #	[115-AZA /SANDIEGOZ]
Sire	[GAN: 6713193 | SANDIEGOZ / 382060]		

8229578 | Local ID: 195032

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Feb/1995	Birth/Hatch	In	In	SANDIEGOZ / 195032	Death	Out	Out	4/Mar/1995

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	27/Feb/1995 / 0Y,0M,5D at the time of death
Rearing	None	Death Number	[0034995/SANDIEGOZ]
Dam	[GAN: 10307395 | SANDIEGOZ / 190068]	Local ID	[195032/SANDIEGOZ]
Sire	[GAN: 6713193 | SANDIEGOZ / 382060]		

8229751 | Local ID: 195265

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
1/Oct/1995	Birth/Hatch	In	In	SANDIEGOZ / 195265	Death	Out	Out	22/May/2001

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	1/Oct/1995 / 5Y,7M,21D at the time of death
Rearing	None	Death Number	[0043053/SANDIEGOZ]
Dam	[GAN: MIG12-6713044 | SANDIEGOZ / 192549]	Local ID	[195265/SANDIEGOZ]
Sire	[GAN: 8227973 | SANDIEGOZ / 191150]	Regional Studbook #	[116-AZA /SANDIEGOZ]

MIG12-8229752 | Local ID: 195266

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
3/Oct/1995	Birth/Hatch	In	In	SANDIEGOZ / 195266	Loan Out To DETROIT/11143	Out	-	25/Aug/2003
26/Aug/2003	Loan In From Sender: SANDIEGOZ/195266 Vendor: SANDIEGOZ/195266	In	-	DETROIT / 11143	Death	Out	-	21/Nov/2005
-	-	-	-	SANDIEGOZ / 195266	Death (ownership only)	-	Out	21/Nov/2005

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	3/Oct/1995 / 10Y,1M,18D at the time of death
Rearing	None	Death Number	[RP11872/SANDIEGOZ]
Dam	[GAN: MIG12-6713044 | SANDIEGOZ / 192549]	Local ID	[195266/SANDIEGOZ]
Sire	[GAN: 8227973 | SANDIEGOZ / 191150]	Regional Studbook #	[117-AZA /SANDIEGOZ]

26753194 | Local ID: 195277

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
19/Oct/1995	Birth/Hatch	In	In	SANDIEGOZ / 195277	Death	Out	Out	17/Feb/2009

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	19/Oct/1995 / 13Y,3M,29D at the time of death
Rearing	None	Death Number	[0051764/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	Local ID	[195277/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	Regional Studbook #	[118-AZA /SANDIEGOZ]

8229754 | Local ID: 195280

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
24/Oct/1995	Birth/Hatch	In	In	SANDIEGOZ / 195280	Death	Out	Out	28/Jun/1997

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	24/Oct/1995 / 1Y,8M,4D at the time of death
Rearing	None	Death Number	[0038064/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	Local ID	[195280/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	Regional Studbook #	[119-AZA /SANDIEGOZ]

8229755 | Local ID: 195281

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
24/Oct/1995	Birth/Hatch	In	In	SANDIEGOZ / 195281	Death	Out	Out	29/Oct/1995

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	24/Oct/1995 / 0Y,0M,5D at the time of death
Rearing	None	Death Number	[0035966/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	Local ID	[195281/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	Regional Studbook #	[120-AZA /SANDIEGOZ]

25215170 | Local ID: 195282

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
24/Oct/1995	Birth/Hatch	In	In	SANDIEGOZ / 195282	Death	Out	Out	26/Sep/2013

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	24/Oct/1995 / 17Y,11M,2D at the time of death
Rearing	None	Death Number	[0056536/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	Local ID	[195282/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	Regional Studbook #	[121-AZA /SANDIEGOZ]

8229757 | Local ID: 195283

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
24/Oct/1995	Birth/Hatch	In	In	SANDIEGOZ / 195283	Death	Out	Out	27/Oct/1995

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	24/Oct/1995 / 0Y,0M,3D at the time of death
Rearing	None	Death Number	[0035956/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	Local ID	[195283/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	Regional Studbook #	[122-AZA /SANDIEGOZ]

8229758 | Local ID: 195284

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
24/Oct/1995	Birth/Hatch	In	In	SANDIEGOZ / 195284	Death	Out	Out	11/Mar/2002

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	24/Oct/1995 / 6Y,4M,15D at the time of death
Rearing	None	Death Number	[0044129/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	Local ID	[195284/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	Regional Studbook #	[123-AZA /SANDIEGOZ]

8229845 | Local ID: 196016

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
19/Jan/1996	Birth/Hatch	In	In	SANDIEGOZ / 196016	Death	Out	Out	2/Feb/1996

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	19/Jan/1996 / 0Y,0M,14D at the time of death
Rearing	None	Death Number	[0036286/SANDIEGOZ]
Dam	[GAN: 8228640 | SANDIEGOZ / 192451]	Local ID	[196016/SANDIEGOZ]
Sire	[GAN: 6713043 | SANDIEGOZ / 192522]	Regional Studbook #	[136-AZA /SANDIEGOZ]

15729611 | Local ID: 196017

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
19/Jan/1996	Birth/Hatch	In	In	SANDIEGOZ / 196017	Death	Out	Out	9/Jun/2005

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	19/Jan/1996 / 9Y,4M,21D at the time of death
Rearing	None	Death Number	[0047953/SANDIEGOZ]
Dam	[GAN: 8228640 | SANDIEGOZ / 192451]	Local ID	[196017/SANDIEGOZ]
Sire	[GAN: 6713043 | SANDIEGOZ / 192522]	Regional Studbook #	[124-AZA /SANDIEGOZ]

13843292 | Local ID: 196018

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Jan/1996	Birth/Hatch	In	In	SANDIEGOZ / 196018	Death	Out	Out	2/Jul/2004

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	22/Jan/1996 / 8Y,5M,10D at the time of death
Rearing	None	Death Number	[0046837/SANDIEGOZ]
Dam	[GAN: 8228640 | SANDIEGOZ / 192451]	Local ID	[196018/SANDIEGOZ]
Sire	[GAN: 6713043 | SANDIEGOZ / 192522]	Regional Studbook #	[125-AZA /SANDIEGOZ]

19978535 | Local ID: 196231

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
18/Nov/1996	Birth/Hatch	In	In	SANDIEGOZ / 196231	Death	Out	Out	17/Jul/2006

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	18/Nov/1996 / 9Y,7M,29D at the time of death
Rearing	None	Death Number	[0049206/SANDIEGOZ]
Dam	[GAN: 23052954 | SANDIEGOZ / 188096]	Local ID	[196231/SANDIEGOZ]
Sire	[GAN: 27311553 | SANDIEGOZ / 188093]	Regional Studbook #	[126-AZA /SANDIEGOZ]

23053132 | Local ID: 196253

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Dec/1996	Birth/Hatch	In	In	SANDIEGOZ / 196253	Death	Out	Out	10/Oct/2014

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	22/Dec/1996 / 17Y,9M,18D at the time of death
Rearing	None	**Death Number**	[0057648/SANDIEGOZ]
Dam	[GAN: MIG12-6713085 | SANDIEGOZ / 195031]	**Local ID**	[196253/SANDIEGOZ]
Sire	[GAN: MIG12-6713084 | SANDIEGOZ / 195013]	**Regional Studbook #**	[127-AZA /SANDIEGOZ]

MIG12-23053134 | Local ID: 197086

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/Feb/1997	Birth/Hatch	In	In	SANDIEGOZ / 197086	Loan Out To FRESNO/280233	Out	-	20/Jul/2008
20/Jul/2008	Loan In From Sender: SANDIEGOZ/197086 Vendor: SANDIEGOZ/197086	In	-	FRESNO / 280233	Death	Out	-	28/Oct/2008
-	-	-	-	SANDIEGOZ / 197086	Death (ownership only)	-	Out	28/Oct/2008

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	11/Feb/1997 / 11Y,8M,17D at the time of death
Rearing	None	**Death Number**	[RP14484/SANDIEGOZ]
Dam	[GAN: 25215131 | SANDIEGOZ / 192523]	**Local ID**	[197086/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	**Regional Studbook #**	[128-AZA /SANDIEGOZ]
		Transponder	[00-0699-E0D0/[Leg/Left,Hind]/SANDIEGOZ]

15729704 | Local ID: 197087

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Feb/1997	Birth/Hatch	In	In	SANDIEGOZ / 197087	Death	Out	Out	10/Jul/2005

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	15/Feb/1997 / 8Y,4M,25D at the time of death
Rearing	None	**Death Number**	[0048077/SANDIEGOZ]
Dam	[GAN: 25215131 | SANDIEGOZ / 192523]	**Local ID**	[197087/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	**Regional Studbook #**	[129-AZA /SANDIEGOZ]

19978543 | Local ID: 197162

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Feb/1997	Birth/Hatch	In	In	SANDIEGOZ / 197162	Loan Out To ST LOUIS/105900	Out	-	27/Jun/2007
28/Jun/2007	Loan In From Sender: SANDIEGOZ/197162 Vendor: SANDIEGOZ/197162	In	-	ST LOUIS / 105900	Death	Out	-	26/Sep/2013
-	-	-	-	SANDIEGOZ / 197162	Death (ownership only)	-	Out	26/Sep/2013

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	23/Feb/1997 / 16Y,7M,3D at the time of death
Rearing	Undetermined	**Death Number**	[RP21142/SANDIEGOZ]
Dam	[GAN: 25215131 | SANDIEGOZ / 192523]	**Local ID**	[197162/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	**Regional Studbook #**	[141-AZA /SANDIEGOZ]
		Transponder	[00-0689-5BBE/[Leg/Right,Hind]/SANDIEGOZ]

MIG12-6713134 | Local ID: 197421

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
28/Aug/1997	Birth/Hatch	In	In	SANDIEGOZ / 197421	Loan Out To AUDUBON/100258	Out	-	12/Jun/2001
-	-	-	-	SANDIEGOZ / 197421	Death (ownership only)	-	Out	20/Sep/2003

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	28/Aug/1997 / 6Y,0M,23D at the time of death
Rearing	None	**Local ID**	[197421/SANDIEGOZ]
Dam	[GAN: 10307395 | SANDIEGOZ / 190068]	**Regional Studbook #**	[133-AZA /SANDIEGOZ]
Sire	[GAN: 6713193 | SANDIEGOZ / 382060]		

MIG12-6713135 | Local ID: 197422

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
28/Aug/1997	Birth/Hatch	In	In	SANDIEGOZ / 197422	Loan Out To TULSA/13321	Out	-	23/Sep/1999
23/Sep/1999	Loan In From Sender: SANDIEGOZ/197422 Vendor: SANDIEGOZ/197422	In	-	TULSA / 13321	Death	Out	-	8/Apr/2001
-	-	-	-	SANDIEGOZ / 197422	Death (ownership only)	-	Out	8/Apr/2001

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	28/Aug/1997 / 3Y,7M,11D at the time of death
Rearing	Undetermined	Death Number	[RP8984/SANDIEGOZ]
Dam	[GAN: 10307395 | SANDIEGOZ / 190068]	Local ID	[197422/SANDIEGOZ]
Sire	[GAN: 6713193 | SANDIEGOZ / 382060]	Regional Studbook #	[134-AZA /SANDIEGOZ]

MIG12-2892087 | Local ID: 197481

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Nov/1997	Birth/Hatch	In	In	SANDIEGOZ / 197481	Loan Out To OMAHA/11330	Out	-	22/Sep/1999
23/Sep/1999	Loan In From Sender: SANDIEGOZ/197481 Vendor: SANDIEGOZ/197481	In	-	OMAHA / 11330	Death	Out	-	23/Nov/2004
-	-	-	-	SANDIEGOZ / 197481	Death (ownership only)	-	Out	23/Nov/2004

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	23/Nov/1997 / 7Y,0M,0D at the time of death
Rearing	Undetermined	Death Number	[RP11161/SANDIEGOZ]
Dam	[GAN: 25215131 | SANDIEGOZ / 192523]	Local ID	[197481/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	Regional Studbook #	[142-AZA /SANDIEGOZ]

19978575 | Local ID: 197483

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
1/Nov/1997	Birth/Hatch	In	In	SANDIEGOZ / 197483	Loan Out To SAN ANTON/G09003	Out	-	6/Aug/2009
7/Aug/2009	Loan In From Sender: SANDIEGOZ/197483 Vendor: SANDIEGOZ/197483	In	-	SAN ANTON / G09003	Death	Out	-	10/Nov/2012
-	-	-	-	SANDIEGOZ / 197483	Death (ownership only)	-	Out	10/Nov/2012

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	1/Nov/1997 / 15Y,0M,9D at the time of death
Rearing	Undetermined	Death Number	[RP19470/SANDIEGOZ]
Dam	[GAN: 25215131 | SANDIEGOZ / 192523]	Local ID	[197483/SANDIEGOZ]
Sire	[GAN: 23052952 | SANDIEGOZ / 188092]	Regional Studbook #	[140-AZA /SANDIEGOZ]

6713981 | Local ID: 198030

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Jan/1998	Birth/Hatch	In	In	SANDIEGOZ / 198030	Loan Out To AUDUBON/100257	Out	-	12/Jun/2001
-	-	-	-	SANDIEGOZ / 198030	Death (ownership only)	-	Out	21/May/2015

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	22/Jan/1998 / 17Y,3M,29D at the time of death
Rearing	None	Death Number	[RP23683/SANDIEGOZ]
Dam	[GAN: 15729611 | SANDIEGOZ / 196017]	Local ID	[198030/SANDIEGOZ]
Sire	[GAN: 6713034 | SANDIEGOZ / 191132]	Regional Studbook #	[137-AZA /SANDIEGOZ]

MIG12-28555441 | Local ID: 198127

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
7/Sep/1995	Birth/Hatch	-	In	SANDIEGOZ / 198127	-	-	-	-
7/Sep/1995	Loan In From Vendor: SANDIEGOZ/198127	In	-	DENVER / 950393	Loan Return To Owner SANDIEGOZ/198127	Out	-	23/Apr/1998
24/Apr/1998	Loan Return to Us Sender: DENVER/950393	In	-	SANDIEGOZ / 198127	Loan Out To LOSANGELE/990382	Out	-	3/Apr/2001
3/Apr/2001	Loan In From Sender: SANDIEGOZ/198127 Vendor: SANDIEGOZ/198127	In	-	LOSANGELE / 990382	Death	Out	-	27/Jul/2004
-	-	-	-	SANDIEGOZ / 198127	Death (ownership only)	-	Out	28/Jul/2004

Sex/Contraception	Female / Undetermined(Active)	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	Denver Zoological Garden
Enclosure	-	Birth Date/Age	7/Sep/1995 / 8Y,10M,21D at the time of death
Rearing	Undetermined	Death Number	[RP11203/SANDIEGOZ]
Dam	[GAN: MIG12-6713042 | SANDIEGOZ / 192362]	Local ID	[198127/SANDIEGOZ]
Sire	[GAN: MIG12-28546900 | SANDIEGOZ / 192098]	Regional Studbook #	[138-AZA /SANDIEGOZ]

6713155 | Local ID: 198128

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/Nov/1995	Birth/Hatch	-	In	SANDIEGOZ / 198128	-	-	-	-
11/Nov/1995	Loan In From Vendor: SANDIEGOZ/198128	In	-	DENVER / 950466	Loan Return To Owner SANDIEGOZ/198128	Out	-	23/Apr/1998
24/Apr/1998	Loan Return to Us Sender: DENVER/950466	In	-	SANDIEGOZ / 198128	Death	Out	Out	27/Jul/2002

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Denver Zoological Garden
Enclosure	-	**Birth Date/Age**	11/Nov/1995 / 6Y,8M,16D at the time of death
Rearing	Undetermined	**Death Number**	[0044718/SANDIEGOZ]
Dam	[GAN: MIG12-6713042 | SANDIEGOZ / 192362]	**Local ID**	[198128/SANDIEGOZ]
Sire	[GAN: MIG12-28546900 | SANDIEGOZ / 192098]	**Regional Studbook #**	[139-AZA /SANDIEGOZ]

8230593 | Local ID: 198234

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Sep/1998	Birth/Hatch	In	In	SANDIEGOZ / 198234	Death	Out	Out	21/Jan/1999

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	27/Sep/1998 / 0Y,3M,25D at the time of death
Rearing	None	**Death Number**	[0040090/SANDIEGOZ]
Dam	[GAN: MIG12-6713077 | SANDIEGOZ / 194193]	**Local ID**	[198234/SANDIEGOZ]
Sire	[GAN: 6713043 | SANDIEGOZ / 192522]	**Regional Studbook #**	[145-AZA /SANDIEGOZ]

8230598 | Local ID: 198274

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
29/Oct/1998	Birth/Hatch	In	In	SANDIEGOZ / 198274	Death	Out	Out	19/Jan/1999

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	29/Oct/1998 / 0Y,2M,21D at the time of death
Rearing	None	**Death Number**	[0040077/SANDIEGOZ]
Dam	[GAN: 26753194 | SANDIEGOZ / 195277]	**Local ID**	[198274/SANDIEGOZ]
Sire	[GAN: 6713034 | SANDIEGOZ / 191132]	**Regional Studbook #**	[146-AZA /SANDIEGOZ]

8230599 | Local ID: 198275

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
29/Oct/1998	Birth/Hatch	In	In	SANDIEGOZ / 198275	Death	Out	Out	26/Mar/1999

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	29/Oct/1998 / 0Y,4M,26D at the time of death
Rearing	None	**Death Number**	[0040263/SANDIEGOZ]
Dam	[GAN: 26753194 | SANDIEGOZ / 195277]	**Local ID**	[198275/SANDIEGOZ]
Sire	[GAN: 6713034 | SANDIEGOZ / 191132]	**Regional Studbook #**	[147-AZA /SANDIEGOZ]

8230600 | Local ID: 198287

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
5/Nov/1998	Birth/Hatch	In	In	SANDIEGOZ / 198287	Death	Out	Out	12/Jul/2018

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	5/Nov/1998 / 19Y,8M,7D at the time of death
Rearing	None	**Death Number**	[0061743/SANDIEGOZ]
Dam	[GAN: 26753194 | SANDIEGOZ / 195277]	**Local ID**	[198287/SANDIEGOZ]
Sire	[GAN: 6713034 | SANDIEGOZ / 191132]	**Regional Studbook #**	[148-AZA /SANDIEGOZ]

MIG12-29851959 | Local ID: 199069

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
3/May/1999	Birth/Hatch	-	In	SANDIEGOZ / 199069	-	-	-	-
3/May/1999	Birth/Hatch Owner: SANDIEGOZ/199069	In	-	SAN ANTON / 990507	Loan Return To Owner SANDIEGOZ/199069	Out	-	3/Aug/1999
7/Oct/1999	Loan Return to Us Sender: SAN ANTON/990507	In	-	SANDIEGOZ / 199069	Loan Out To DETROIT/12321	Out	-	20/May/2009
21/May/2009	Loan In From Sender: SANDIEGOZ/199069 Vendor: SANDIEGOZ/199069	In	-	DETROIT / 12321	Death	Out	-	21/Feb/2014
-	-	-	-	SANDIEGOZ / 199069	Death (ownership only)	-	Out	21/Feb/2014

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Antonio Zoological Gardens & Aquar
Enclosure	-	**Birth Date/Age**	3/May/1999 / 14Y,9M,18D at the time of death
Rearing	None	**Death Number**	[RP29511/SANDIEGOZ]
Dam	[GAN: MIG12-6713032 | SANDIEGOZ / 191007]	**Local ID**	[199069/SANDIEGOZ]
Sire	[GAN: MIG12-6713024 | SANDIEGOZ / 190240]	**Regional Studbook #**	[149-AZA /SANDIEGOZ]

8221505 | Local ID: 199070

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/May/1999	Birth/Hatch	-	In	SANDIEGOZ / 199070	-	-	-	-
4/May/1999	Birth/Hatch Owner: SANDIEGOZ/199070	In	-	SAN ANTON / 990510	Loan Return To Owner SANDIEGOZ/199070	Out	-	3/Aug/1999
7/Oct/1999	Loan Return to Us Sender: SAN ANTON/990510	In	-	SANDIEGOZ / 199070	Death	Out	Out	2/Mar/2002

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Antonio Zoological Gardens & Aquar
Enclosure	-	Birth Date/Age	4/May/1999 / 2Y,9M,26D at the time of death
Rearing	Parent	Death Number	[0044101/SANDIEGOZ]
Dam	[GAN: MIG12-6713032 | SANDIEGOZ / 191007]	Local ID	[199070/SANDIEGOZ]
Sire	[GAN: MIG12-6713024 | SANDIEGOZ / 190240]	Regional Studbook #	[150-AZA /SANDIEGOZ]

8230639 | Local ID: 199191

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Oct/1999	Birth/Hatch	In	In	SANDIEGOZ / 199191	Loan Out To FORTWORTH/203626	Out	-	13/Oct/2004
-	-	-	-	SANDIEGOZ / 199191	Death (ownership only)	-	Out	11/Aug/2017

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	21/Oct/1999 / 17Y,9M,21D at the time of death
Rearing	None	Death Number	[RP25884/SANDIEGOZ]
Dam	[GAN: MIG12-6713077 | SANDIEGOZ / 194193]	Local ID	[199191/SANDIEGOZ]
Sire	[GAN: 6713043 | SANDIEGOZ / 192522]	Regional Studbook #	[152-AZA /SANDIEGOZ]

26753367 | Local ID: 199192

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Oct/1999	Birth/Hatch	In	In	SANDIEGOZ / 199192	Death	Out	Out	11/Jul/2011

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	21/Oct/1999 / 11Y,8M,20D at the time of death
Rearing	None	Death Number	[0054305/SANDIEGOZ]
Dam	[GAN: MIG12-6713077 | SANDIEGOZ / 194193]	Local ID	[199192/SANDIEGOZ]
Sire	[GAN: 6713043 | SANDIEGOZ / 192522]	Regional Studbook #	[153-AZA /SANDIEGOZ]

8230641 | Local ID: 199193

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Oct/1999	Birth/Hatch	In	In	SANDIEGOZ / 199193	Death	Out	Out	1/Oct/2001

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	21/Oct/1999 / 1Y,11M,10D at the time of death
Rearing	None	Death Number	[0043610/SANDIEGOZ]
Dam	[GAN: MIG12-6713077 | SANDIEGOZ / 194193]	Local ID	[199193/SANDIEGOZ]
Sire	[GAN: 6713043 | SANDIEGOZ / 192522]	Regional Studbook #	[154-AZA /SANDIEGOZ]

MIG12-15729858 | Local ID: 199194

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Oct/1999	Birth/Hatch	In	In	SANDIEGOZ / 199194	Loan Out To SHEDD AQ/205068	Out	-	17/Mar/2006
17/Mar/2006	Loan In From Vendor: SANDIEGOZ/199194	In	-	SHEDD AQ / 205068	Death	Out	-	20/Feb/2008
-	-	-	-	SANDIEGOZ / 199194	Death (ownership only)	-	Out	20/Feb/2008

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	23/Oct/1999 / 8Y,3M,28D at the time of death
Rearing	Undetermined	Death Number	[RP14352/SANDIEGOZ]
Dam	[GAN: MIG12-6713077 | SANDIEGOZ / 194193]	Local ID	[199194/SANDIEGOZ]
Sire	[GAN: 6713043 | SANDIEGOZ / 192522]	Regional Studbook #	[155-AZA /SANDIEGOZ]

8230656 | Local ID: 381224

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
5/Nov/1981	Birth/Hatch	In	In	SANDIEGOZ / 381224	Death	Out	Out	1/Jun/1999

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	5/Nov/1981 / 17Y,6M,27D at the time of death
Rearing	None	Death Number	[0040549/SANDIEGOZ]
Dam	[GAN: 8227363 | SANDIEGOZ / 000198]	Local ID	[381224/SANDIEGOZ]
Sire	[GAN: 8227368 | SANDIEGOZ / 000238]	Regional Studbook #	[3-AZA /SANDIEGOZ]

6713193 | Local ID: 382060

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/May/1982	Birth/Hatch	In	In	SANDIEGOZ / 382060	Loan Out To FORTWORTH/895001	Out	-	24/Apr/1989
20/May/1991	Loan Return to Us Sender: FORTWORTH/895001	In	-	SANDIEGOZ / 382060	Death	Out	Out	17/Apr/2001

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	16/May/1982 / 18Y,11M,1D at the time of death
Rearing	None	**Death Number**	[0042888/SANDIEGOZ]
Dam	[GAN: 8227366 | SANDIEGOZ / 000236]	**Local ID**	[382060/SANDIEGOZ]
Sire	[GAN: MIG12-8227402 | SANDIEGOZ / 001191]	**Regional Studbook #**	[4-AZA /SANDIEGOZ]

MIG12-28700858 | Local ID: 900004

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
14/Jan/2000	Birth/Hatch	In	In	SANDIEGOZ / 900004	Loan Out To SHEDD AQ/205069	Out	-	17/Mar/2006
17/Mar/2006	Loan In From Vendor: SANDIEGOZ/900004	In	-	SHEDD AQ / 205069	Loan Transfer To CLEVELAND/M80904	Out	-	16/Sep/2008
-	-	-	-	SANDIEGOZ / 900004	Loan out to (change in reported holder) CLEVELAND/M80904	-	-	17/Sep/2008

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	14/Jan/2000 / 24Y,5M,26D
Rearing	Undetermined	**Local ID**	[900004/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	**Regional Studbook #**	[156-AZA /SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]		

25215366 | Local ID: 900029

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/Feb/2000	Birth/Hatch	In	In	SANDIEGOZ / 900029	Death	Out	Out	4/Aug/2008

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	4/Feb/2000 / 8Y,6M,0D at the time of death
Rearing	None	**Death Number**	[0051340/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	**Local ID**	[900029/SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]	**Regional Studbook #**	[157-AZA /SANDIEGOZ]

26753489 | Local ID: 900030

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/Feb/2000	Birth/Hatch	In	In	SANDIEGOZ / 900030	Loan Out To CLEVELAND/M90703	Out	-	15/Jul/2009
-	-	-	-	SANDIEGOZ / 900030	Death (ownership only)	-	Out	26/Jan/2012

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	4/Feb/2000 / 11Y,11M,22D at the time of death
Rearing	None	**Local ID**	[900030/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	**Regional Studbook #**	[158-AZA /SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]		

MIG12-30074700 | Local ID: 900118

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
1/May/2000	Birth/Hatch	In	In	SANDIEGOZ / 900118	Loan Out To NORFOLK/204074	Out	-	12/Oct/2004
13/Oct/2004	Loan In From Vendor: SANDIEGOZ/900118	In	-	NORFOLK / 204074	Loan Transfer To AUDUBON/102956	Out	-	10/Nov/2009
-	-	-	-	SANDIEGOZ / 900118	Loan out to (change in reported holder) AUDUBON/102956	-	-	11/Nov/2009
11/Nov/2009	Loan In From Vendor: SANDIEGOZ/900118	In	-	AUDUBON / 102956	Death	Out	-	4/Apr/2013
-	-	-	-	SANDIEGOZ / 900118	Death (ownership only)	-	Out	4/Apr/2013

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	1/May/2000 / 12Y,11M,3D at the time of death
Rearing	None	**Death Number**	[RP19859/SANDIEGOZ]
Dam	[GAN: 19978575 | SANDIEGOZ / 197483]	**Local ID**	[900118/SANDIEGOZ]
Sire	[GAN: 13843274 | SANDIEGOZ / 195001]	**Regional Studbook #**	[159-AZA /SANDIEGOZ]

10307609 | Local ID: 900137

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
20/May/2000	Birth/Hatch	In	In	SANDIEGOZ / 900137	Loan Out To FORTWORTH/203627	Out	-	13/Oct/2004
-	-	-	-	SANDIEGOZ / 900137	Death (ownership only)	-	Out	13/Feb/2010

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	20/May/2000 / 9Y,8M,24D at the time of death
Rearing	None	Death Number	[RP16026/SANDIEGOZ]
Dam	[GAN: 19978575 | SANDIEGOZ / 197483]	Local ID	[900137/SANDIEGOZ]
Sire	[GAN: 13843274 | SANDIEGOZ / 195001]	Regional Studbook #	[160-AZA /SANDIEGOZ]

8230857 | Local ID: 901017

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Feb/2001	Birth/Hatch	In	In	SANDIEGOZ / 901017	Loan Out To NORFOLK/204073	Out	-	12/Oct/2004
13/Oct/2004	Loan In From Sender: SANDIEGOZ/901017 Vendor: SANDIEGOZ/901017	In	-	NORFOLK / 204073	Loan Transfer To EVANSVLLE/UNDETERM+	Out	-	17/May/2017
-	-	-	-	SANDIEGOZ / 901017	Loan out to (change in reported holder) EVANSVLLE/317001	-	-	18/May/2017
22/May/2017	Loan Transfer From Sender: NORFOLK/204073 Vendor: SANDIEGOZ/901017	In	-	EVANSVLLE / 317001	Death	Out	-	18/Nov/2022
-	-	-	-	SANDIEGOZ / 901017	Death (ownership only)	-	Out	18/Nov/2022

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	16/Feb/2001 / 21Y,9M,2D at the time of death
Rearing	Parent	Local ID	[901017/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	Regional Studbook #	[161-AZA /SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]		

26753534 | Local ID: 901018

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Feb/2001	Birth/Hatch	In	In	SANDIEGOZ / 901018	Death	Out	Out	11/Sep/2008

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	16/Feb/2001 / 7Y,6M,26D at the time of death
Rearing	None	Death Number	[0051422/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	Local ID	[901018/SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]	Regional Studbook #	[162-AZA /SANDIEGOZ]

8230859 | Local ID: 901019

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Feb/2001	Birth/Hatch	In	In	SANDIEGOZ / 901019	Loan Out To DENVER/A13244	Out	-	10/Oct/2013
-	-	-	-	SANDIEGOZ / 901019	Death (ownership only)	-	Out	6/Jun/2016

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	16/Feb/2001 / 15Y,3M,21D at the time of death
Rearing	None	Death Number	[RP24245/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	Local ID	[901019/SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]	Regional Studbook #	[163-AZA /SANDIEGOZ]

8230860 | Local ID: 901020

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Feb/2001	Birth/Hatch	In	In	SANDIEGOZ / 901020	Loan Out To DETROIT/11144	Out	-	25/Aug/2003
26/Aug/2003	Loan In From Sender: SANDIEGOZ/901020 Vendor: SANDIEGOZ/901020	In	-	DETROIT / 11144	Death	Out	-	1/Nov/2010
-	-	-	-	SANDIEGOZ / 901020	Death (ownership only)	-	Out	1/Nov/2010

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	21/Feb/2001 / 9Y,8M,11D at the time of death
Rearing	None	Death Number	[RP18633/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	Local ID	[901020/SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]	Regional Studbook #	[164-AZA /SANDIEGOZ]

MIG12-29901948 | Local ID: 901172

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Oct/2001	Birth/Hatch	In	In	SANDIEGOZ / 901172	Loan Out To AUDUBON/102157	Out	-	29/Mar/2007
29/Mar/2007	Loan In From Vendor: SANDIEGOZ/901172	In	-	AUDUBON / 102157	Loan Transfer To NORFOLK/209131	Out	-	28/Oct/2009
-	-	-	-	SANDIEGOZ / 901172	Loan out to (change in reported holder) NORFOLK/209131	-	-	28/Oct/2009
28/Oct/2009	Loan Transfer From Sender: AUDUBON/102157 Vendor: SANDIEGOZ/901172	In	-	NORFOLK / 209131	Death	Out	-	2/Apr/2019
-	-	-	-	SANDIEGOZ / 901172	Death (ownership only)	-	Out	2/Apr/2019

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	16/Oct/2001 / 17Y,5M,17D at the time of death
Rearing	None	**Local ID**	[901172/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	**Regional Studbook #**	[165-AZA /SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]		

13843461 | Local ID: 901246

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
8/Dec/2001	Birth/Hatch	In	In	SANDIEGOZ / 901246	Death	Out	Out	11/Mar/2005

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	8/Dec/2001 / 3Y,3M,3D at the time of death
Rearing	None	**Death Number**	[0047576/SANDIEGOZ]
Dam	[GAN: 8229758 | SANDIEGOZ / 195284]	**Local ID**	[901246/SANDIEGOZ]
Sire	[GAN: MIG12-8229752 | SANDIEGOZ / 195266]	**Regional Studbook #**	[166-AZA /SANDIEGOZ]

10307665 | Local ID: 901247

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
8/Dec/2001	Birth/Hatch	In	In	SANDIEGOZ / 901247	Death	Out	Out	1/Nov/2018

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	8/Dec/2001 / 16Y,10M,24D at the time of death
Rearing	None	**Death Number**	[0062242/SANDIEGOZ]
Dam	[GAN: 8229758 | SANDIEGOZ / 195284]	**Local ID**	[901247/SANDIEGOZ]
Sire	[GAN: MIG12-8229752 | SANDIEGOZ / 195266]	**Regional Studbook #**	[167-AZA /SANDIEGOZ]
		Transponder	[00-7206-FCF/SANDIEGOZ]

MIG12-8230901 | Local ID: 901248

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
8/Dec/2001	Birth/Hatch	In	In	SANDIEGOZ / 901248	Loan Out To HOUSTON/20873	Out	-	19/Nov/2003
-	-	-	-	SANDIEGOZ / 901248	Death (ownership only)	-	Out	20/Dec/2004

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	8/Dec/2001 / 3Y,0M,12D at the time of death
Rearing	None	**Death Number**	[RP11160/SANDIEGOZ]
Dam	[GAN: 8229758 | SANDIEGOZ / 195284]	**Local ID**	[901248/SANDIEGOZ]
Sire	[GAN: MIG12-8229752 | SANDIEGOZ / 195266]	**Regional Studbook #**	[168-AZA /SANDIEGOZ]

9044635 | Local ID: 902099

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
20/Aug/2002	Birth/Hatch	In	In	SANDIEGOZ / 902099	Death	Out	Out	5/Sep/2002

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	20/Aug/2002 / 0Y,0M,16D at the time of death
Rearing	None	**Death Number**	[0044834/SANDIEGOZ]
Dam	[GAN: 26753367 | SANDIEGOZ / 199192]	**Local ID**	[902099/SANDIEGOZ]
Sire	[GAN: 23053132 | SANDIEGOZ / 196253]	**Regional Studbook #**	[171-AZA /SANDIEGOZ]

26753602 | Local ID: 902100

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
20/Aug/2002	Birth/Hatch	In	In	SANDIEGOZ / 902100	Death	Out	Out	24/Aug/2008

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	20/Aug/2002 / 6Y,0M,4D at the time of death
Rearing	None	**Death Number**	[0051389/SANDIEGOZ]
Dam	[GAN: 26753367 | SANDIEGOZ / 199192]	**Local ID**	[902100/SANDIEGOZ]
Sire	[GAN: 23053132 | SANDIEGOZ / 196253]	**Regional Studbook #**	[172-AZA /SANDIEGOZ]

MIG12-15730344 | Local ID: 902101

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
20/Aug/2002	Birth/Hatch	In	In	SANDIEGOZ / 902101	Loan Out To ST LOUIS/104494	Out	-	20/Oct/2005
21/Oct/2005	Loan In From Sender: SANDIEGOZ/902101 Vendor: SANDIEGOZ/902101	In	-	ST LOUIS / 104494	Death	Out	-	22/Sep/2007
-	-	-	-	SANDIEGOZ / 902101	Death (ownership only)	-	Out	22/Sep/2007

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	20/Aug/2002 / 5Y,1M,2D at the time of death
Rearing	Undetermined	Death Number	[RP13732/SANDIEGOZ]
Dam	[GAN: 26753367 | SANDIEGOZ / 199192]	Local ID	[902101/SANDIEGOZ]
Sire	[GAN: 23053132 | SANDIEGOZ / 196253]	Regional Studbook #	[173-AZA /SANDIEGOZ]

19978942 | Local ID: 903031

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
7/Mar/2003	Birth/Hatch	In	In	SANDIEGOZ / 903031	-	-	-	-

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	7/Mar/2003 / 21Y,4M,3D
Rearing	None	Local ID	[903031/SANDIEGOZ]
Dam	[GAN: 25215131 | SANDIEGOZ / 192523]	Regional Studbook #	[180-AZA /SANDIEGOZ]
Sire	[GAN: 8228910 | SANDIEGOZ / 193264]		

25215433 | Local ID: 903032

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Mar/2003	Birth/Hatch	In	In	SANDIEGOZ / 903032	Loan Out To BL HILLS/NONE	Out	-	24/Sep/2008
-	-	-	-	SANDIEGOZ / 903032	Death (ownership only)	-	Out	11/Dec/2019

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	27/Mar/2003 / 16Y,8M,14D at the time of death
Rearing	None	Local ID	[903032/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	Regional Studbook #	[181-AZA /SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]		

13843485 | Local ID: 903033

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Mar/2003	Birth/Hatch	In	In	SANDIEGOZ / 903033	Loan Out To FRESNO/290056	Out	-	11/Apr/2009
11/Apr/2009	Loan In From Sender: SANDIEGOZ/903033 Vendor: SANDIEGOZ/903033	In	-	FRESNO / 290056	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	27/Mar/2003 / 21Y,3M,13D
Rearing	None	Local ID	[903033/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	Regional Studbook #	[182-AZA /SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]		

13843486 | Local ID: 903034

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Mar/2003	Birth/Hatch	In	In	SANDIEGOZ / 903034	Loan Out To LOWRY/303581	Out	-	12/Nov/2013
13/Nov/2013	Loan In From Sender: SANDIEGOZ/903034 Vendor: SANDIEGOZ/903034	In	-	LOWRY / 303581	Loan Transfer To ATLANTA/15R001	Out	-	15/Jan/2015
-	-	-	-	SANDIEGOZ / 903034	Loan out to (change in reported holder) ATLANTA/15R001	-	-	16/Jan/2015

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	27/Mar/2003 / 21Y,3M,13D
Rearing	None	Local ID	[903034/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	Regional Studbook #	[183-AZA /SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]		

8230972 | Local ID: 903035

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
30/Mar/2003	Birth/Hatch	In	In	SANDIEGOZ / 903035	Death	Out	Out	2/Apr/2003

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	30/Mar/2003 / 0Y,0M,3D at the time of death
Rearing	None	Death Number	[0045374/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	Local ID	[903035/SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]		

23053413 | Local ID: 903036

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
2/Apr/2003	Birth/Hatch	In	In	SANDIEGOZ / 903036	Loan Out To SACRAMNTO/301530	Out	-	6/Feb/2013
7/Feb/2013	Loan In From Sender: SANDIEGOZ/903036 Vendor: SANDIEGOZ/903036	In	-	SACRAMNTO / 301530	Death	Out	-	13/May/2020
-	-	-	-	SANDIEGOZ / 903036	Death (ownership only)	-	Out	13/May/2020

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	2/Apr/2003 / 17Y,1M,11D at the time of death
Rearing	None	Local ID	[903036/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	Regional Studbook #	[185-AZA /SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]	Transponder	[00-0689-6768/SANDIEGOZ]

23053437 | Local ID: 903227

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
3/Oct/2003	Birth/Hatch	In	In	SANDIEGOZ / 903227	Death	Out	Out	21/May/2013

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	3/Oct/2003 / 9Y,7M,18D at the time of death
Rearing	None	Death Number	[0056157/SANDIEGOZ]
Dam	[GAN: 26753367 | SANDIEGOZ / 199192]	Local ID	[903227/SANDIEGOZ]
Sire	[GAN: 23053132 | SANDIEGOZ / 196253]	Regional Studbook #	[186-AZA /SANDIEGOZ]
		Transponder	[00-0689-52E7/SANDIEGOZ]

13843529 | Local ID: 903228

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
12/Oct/2003	Birth/Hatch	In	In	SANDIEGOZ / 903228	Loan Out To SAN ANTON/Y14066	Out	-	20/May/2014
21/May/2014	Loan In From Sender: SANDIEGOZ/903228 Vendor: SANDIEGOZ/903228	In	-	SAN ANTON / Y14066	Death	Out	-	10/Jan/2020
-	-	-	-	SANDIEGOZ / 903228	Death (ownership only)	-	Out	10/Jan/2020

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	12/Oct/2003 / 16Y,2M,29D at the time of death
Rearing	None	Local ID	[903228/SANDIEGOZ]
Dam	[GAN: 26753367 | SANDIEGOZ / 199192]	Regional Studbook #	[187-AZA /SANDIEGOZ]
Sire	[GAN: 23053132 | SANDIEGOZ / 196253]		

MIG12-10307798 | Local ID: 903229

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Oct/2003	Birth/Hatch	In	In	SANDIEGOZ / 903229	Loan Out To AUDUBON/101387	Out	-	5/Aug/2004
-	-	-	-	SANDIEGOZ / 903229	Death (ownership only)	-	Out	12/Feb/2006

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	15/Oct/2003 / 2Y,3M,28D at the time of death
Rearing	None	Death Number	[RP12306/SANDIEGOZ]
Dam	[GAN: 26753367 | SANDIEGOZ / 199192]	Local ID	[903229/SANDIEGOZ]
Sire	[GAN: 23053132 | SANDIEGOZ / 196253]	Regional Studbook #	[188-AZA /SANDIEGOZ]

25215447 | Local ID: 904001

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Jan/2004	Birth/Hatch	In	In	SANDIEGOZ / 904001	Loan Out To LOSANGELE/992596	Out	-	17/Jan/2012
17/Jan/2012	Loan In From Vendor: SANDIEGOZ/904001	In	-	LOSANGELE / 992596	Death	Out	-	8/Sep/2013
-	-	-	-	SANDIEGOZ / 904001	Death (ownership only)	-	Out	8/Sep/2013

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	22/Jan/2004 / 9Y,7M,17D at the time of death
Rearing	None	**Local ID**	[904001/SANDIEGOZ]
Dam	[GAN: 19978575 | SANDIEGOZ / 197483]	**Regional Studbook #**	[189-AZA /SANDIEGOZ]
Sire	[GAN: 13843274 | SANDIEGOZ / 195001]		

MIG12-26753636 | Local ID: 904002

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Jan/2004	Birth/Hatch	In	In	SANDIEGOZ / 904002	Loan Out To FRESNO/282034	Out	-	20/Jul/2008
20/Jul/2008	Loan In From Sender: SANDIEGOZ/904002 Vendor: SANDIEGOZ/904002	In	-	FRESNO / 280234	Death	Out	-	25/Jul/2009
-	-	-	-	SANDIEGOZ / 904002	Death (ownership only)	-	Out	25/Jul/2009

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	22/Jan/2004 / 5Y,6M,3D at the time of death
Rearing	None	**Local ID**	[904002/SANDIEGOZ]
Dam	[GAN: 19978575 | SANDIEGOZ / 197483]	**Regional Studbook #**	[190-AZA /SANDIEGOZ]
Sire	[GAN: 13843274 | SANDIEGOZ / 195001]	**Transponder**	[00-0699-BAB1/[Leg/Left,Hind]/SANDIEGOZ]

MIG12-30089855 | Local ID: 905012

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/Feb/2005	Birth/Hatch	In	In	SANDIEGOZ / 905012	Loan Out To HOUSTON/22910	Out	-	12/Apr/2007
12/Apr/2007	Loan In From Vendor: SANDIEGOZ/905012	In	-	HOUSTON / 22910	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	11/Feb/2005 / 19Y,4M,29D
Rearing	None	**Local ID**	[905012/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	**Regional Studbook #**	[199-AZA /SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]		

19979124 | Local ID: 905013

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/Feb/2004	Birth/Hatch	In	In	SANDIEGOZ / 905013	Death	Out	Out	9/Jul/2015

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	11/Feb/2004 / 11Y,4M,28D at the time of death
Rearing	None	**Death Number**	[0058456/SANDIEGOZ]
Dam	[GAN: 19978485 | SANDIEGOZ / 193587]	**Local ID**	[905013/SANDIEGOZ]
Sire	[GAN: 8228719 | SANDIEGOZ / 192535]	**Regional Studbook #**	[200-AZA /SANDIEGOZ]

19979856 | Local ID: 906709

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
20/Nov/2006	Birth/Hatch	In	In	SANDIEGOZ / 906709	Loan Out To ST LOUIS/107464	Out	-	8/Jul/2009
9/Jul/2009	Loan In From Sender: SANDIEGOZ/906709 Vendor: SANDIEGOZ/906709	In	-	ST LOUIS / 107464	Death	Out	-	17/Sep/2015
-	-	-	-	SANDIEGOZ / 906709	Death (ownership only)	-	Out	17/Sep/2015

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	20/Nov/2006 / 8Y,9M,28D at the time of death
Rearing	Undetermined	**Death Number**	[RP23767/SANDIEGOZ]
Dam	[GAN: 26753489 | SANDIEGOZ / 900030]	**Local ID**	[906709/SANDIEGOZ]
Sire	[GAN: MIG12-29851959 | SANDIEGOZ / 199069]	**Regional Studbook #**	[201-AZA /SANDIEGOZ]

26753935 | Local ID: 906714

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Nov/2006	Birth/Hatch	In	In	SANDIEGOZ / 906714	Loan Out To FORTWORTH/205937	Out	-	8/Jul/2009
-	-	-	-	SANDIEGOZ / 906714	Death (ownership only)	-	Out	22/Feb/2014

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	27/Nov/2006 / 7Y,2M,26D at the time of death
Rearing	None	**Local ID**	[906714/SANDIEGOZ]
Dam	[GAN: 26753489 | SANDIEGOZ / 900030]	**Regional Studbook #**	[202-AZA /SANDIEGOZ]
Sire	[GAN: MIG12-29851959 | SANDIEGOZ / 199069]		

19979890 | Local ID: 907027

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
18/Feb/2007	Birth/Hatch	In	In	SANDIEGOZ / 907027	Death	Out	Out	18/Feb/2007

Sex/Contraception	Undetermined / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	18/Feb/2007 / 0Y,0M,0D at the time of death
Rearing	None	**Death Number**	[0049837/SANDIEGOZ]
Dam	[GAN: 19978942 | SANDIEGOZ / 903031]	**Local ID**	[907027/SANDIEGOZ]
Sire	[GAN: 8228910 | SANDIEGOZ / 193264]	**Regional Studbook #**	[203-AZA /SANDIEGOZ]

DNY14-12617 | Local ID: 907105

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/May/2007	Loan In From Vendor: USFWS/NONE	In	-	SANDIEGOZ / 907105	-	-	-	-
4/Oct/2011	Donation From Vendor: USFWS/NONE	-	In	SANDIEGOZ / 907105	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Wild Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Fiji /
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	~ from 1/Jan/2005 to 1/Jan/2007 / 18Y,6M,9D
Rearing	Undetermined	**House Name**	[Angry Joe/SANDIEGOZ]
Dam	[WILD / WILD]	**Local ID**	[907105/SANDIEGOZ]
Sire	[WILD / WILD]	**Old Accession Number**	[AX584306/SANDIEGOZ]

DNY14-12618 | Local ID: 907106

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/May/2007	Loan In From Vendor: USFWS/NONE	In	-	SANDIEGOZ / 907106	-	-	-	-
11/May/2007	Donation From Vendor: USFWS/NONE	-	In	SANDIEGOZ / 907106	Death	Out	Out	4/Oct/2011

Sex/Contraception	Female / -	**Birth Type**	Wild Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Fiji /
Enclosure	-	**Birth Date/Age**	~ from 1/Jan/2005 to 1/Jan/2007 / 5Y,9M,3D at the time of death
Rearing	Undetermined	**Death Number**	[0054523/SANDIEGOZ]
Dam	[WILD / WILD]	**Local ID**	[907106/SANDIEGOZ]
Sire	[WILD / WILD]	**Old Accession Number**	[AX584307/SANDIEGOZ]
		Regional Studbook #	[226-AZA /SANDIEGOZ]

DNY14-12619 | Local ID: 907107

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/May/2007	Loan In From Vendor: USFWS/NONE	In	-	SANDIEGOZ / 907107	-	-	-	-
4/Oct/2011	Donation From Vendor: USFWS/NONE	-	In	SANDIEGOZ / 907107	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Wild Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Fiji /
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	~ from 1/Jan/2005 to 1/Jan/2007 / 18Y,6M,9D
Rearing	Undetermined	**House Name**	[Eleana/SANDIEGOZ]
Dam	[WILD / WILD]	**Local ID**	[907107/SANDIEGOZ]
Sire	[WILD / WILD]	**Old Accession Number**	[AX584308/SANDIEGOZ]

DNY14-12620 | Local ID: 907108

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/May/2007	Loan In From Vendor: USFWS/NONE	In	-	SANDIEGOZ / 907108	Death	Out	-	12/May/2007

Sex/Contraception	Undetermined / -	**Birth Type**	Wild Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Fiji /
Enclosure	-	**Birth Date/Age**	~ from 11/Nov/2006 to 11/Nov/2007 / 0Y,0M,1D at the time of death
Rearing	Undetermined	**Local ID**	[907108/SANDIEGOZ]
Dam	[WILD / WILD]	**Old Accession Number**	[AX584309/SANDIEGOZ]
Sire	[WILD / WILD]		

23053880 | Local ID: 907119

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
25/May/2007	Birth/Hatch	In	In	SANDIEGOZ / 907119	Death	Out	Out	27/May/2007

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	25/May/2007 / 0Y,0M,2D at the time of death
Rearing	None	Death Number	[0050125/SANDIEGOZ]
Dam	[GAN: 19978942 | SANDIEGOZ / 903031]	Local ID	[907119/SANDIEGOZ]
Sire	[GAN: 8228910 | SANDIEGOZ / 193264]	Regional Studbook #	[204-AZA /SANDIEGOZ]

23053881 | Local ID: 907124

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
1/Jun/2007	Birth/Hatch	In	In	SANDIEGOZ / 907124	Death	Out	Out	11/Jul/2007

Sex/Contraception	Undetermined / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	1/Jun/2007 / 0Y,1M,10D at the time of death
Rearing	None	Death Number	[0050272/SANDIEGOZ]
Dam	[GAN: 19978942 | SANDIEGOZ / 903031]	Local ID	[907124/SANDIEGOZ]
Sire	[GAN: 8228910 | SANDIEGOZ / 193264]	Regional Studbook #	[205-AZA /SANDIEGOZ]

23054149 | Local ID: 907529

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
8/Dec/2007	Birth/Hatch	In	In	SANDIEGOZ / 907529	Death	Out	Out	~ from 10/Jun/2020 to 11/Jun/2020

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Species Hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	8/Dec/2007 / 12Y,6M,2D at the time of death
Rearing	None	Death Number	[0065450/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	Local ID	[907529/SANDIEGOZ]
Sire	[UNK / UNKNOWN]		

25215756 | Local ID: 907540

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/Dec/2007	Birth/Hatch	In	In	SANDIEGOZ / 907540	Death	Out	Out	3/Jan/2011

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Species Hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	11/Dec/2007 / 3Y,0M,23D at the time of death
Rearing	None	Death Number	[0053757/SANDIEGOZ]
Dam	[GAN: DNY14-12618 | SANDIEGOZ / 907106]	Local ID	[907540/SANDIEGOZ]
Sire	[UNK / UNKNOWN]		

25215774 | Local ID: 907581

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Dec/2007	Birth/Hatch	In	In	SANDIEGOZ / 907581	-	-	-	-

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Species Hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	22/Dec/2007 / 16Y,6M,18D
Rearing	None	Local ID	[907581/SANDIEGOZ]
Dam	[GAN: DNY14-12618 | SANDIEGOZ / 907106]		
Sire	[UNK / UNKNOWN]		

23054188 | Local ID: 907590

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Dec/2007	Birth/Hatch	In	In	SANDIEGOZ / 907590	Loan Out To SACRAMNTO/301529	Out	-	6/Feb/2013
7/Feb/2013	Loan In From Sender: SANDIEGOZ/907590 Vendor: SANDIEGOZ/907590	In	-	SACRAMNTO / 301529	Death	Out	-	4/Oct/2017
-	-	-	-	SANDIEGOZ / 907590	Death (ownership only)	-	Out	4/Oct/2017

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	-	Birth Date/Age	23/Dec/2007 / 9Y,9M,11D at the time of death
Rearing	None	Death Number	[RP25901/SANDIEGOZ]
Dam	[GAN: 26753489 | SANDIEGOZ / 900030]	Local ID	[907590/SANDIEGOZ]
Sire	[GAN: MIG12-29851959 | SANDIEGOZ / 199069]	Regional Studbook #	[206-AZA /SANDIEGOZ]
		Transponder	[00-075E-877F/[Body/-]/SANDIEGOZ]

23054189 | Local ID: 907591

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Dec/2007	Birth/Hatch	In	In	SANDIEGOZ / 907591	Loan Out To SAN ANTON/Y14067	Out	-	20/May/2014
21/May/2014	Loan In From Sender: SANDIEGOZ/907591 Vendor: SANDIEGOZ/907591	In	-	SAN ANTON / Y14067	Death	Out	-	19/Mar/2019
-	-	-	-	SANDIEGOZ / 907591	Death (ownership only)	-	Out	19/Mar/2019

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	27/Dec/2007 / 11Y,2M,20D at the time of death
Rearing	None	**Local ID**	[907591/SANDIEGOZ]
Dam	[GAN: 26753489 | SANDIEGOZ / 900030]	**Regional Studbook #**	[207-AZA /SANDIEGOZ]
Sire	[GAN: MIG12-29851959 | SANDIEGOZ / 199069]		

23054322 | Local ID: 908137

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
5/May/2008	Birth/Hatch	In	In	SANDIEGOZ / 908137	Loan Out To TOLEDO/7795	Out	-	26/Apr/2012
27/Apr/2012	Loan In From Vendor: SANDIEGOZ/908137	In	-	TOLEDO / 7795	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	5/May/2008 / 16Y,2M,5D
Rearing	None	**Local ID**	[908137/SANDIEGOZ]
Dam	[GAN: 23053413 | SANDIEGOZ / 903036]	**Regional Studbook #**	[208-AZA /SANDIEGOZ]
Sire	[GAN: 23053437 | SANDIEGOZ / 903227]		

23054323 | Local ID: 908138

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
7/May/2008	Birth/Hatch	In	In	SANDIEGOZ / 908138	Loan Out To HOUSTON/28420	Out	-	25/Sep/2013
26/Sep/2013	Loan In From Sender: SANDIEGOZ/908138 Vendor: SANDIEGOZ/908138	In	-	HOUSTON / 28420	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	7/May/2008 / 16Y,2M,3D
Rearing	None	**Local ID**	[908138/SANDIEGOZ]
Dam	[GAN: 23053413 | SANDIEGOZ / 903036]	**Regional Studbook #**	[209-AZA /SANDIEGOZ]
Sire	[GAN: 23053437 | SANDIEGOZ / 903227]	**Transponder**	[00-0726-C4D1/SANDIEGOZ]

23054324 | Local ID: 908139

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
9/May/2008	Birth/Hatch	In	In	SANDIEGOZ / 908139	Loan Out To DALLAS/14P126	Out	-	28/May/2014
28/May/2014	Loan In From Sender: SANDIEGOZ/908139 Vendor: SANDIEGOZ/908139	In	-	DALLAS / 14P126	Death	Out	-	12/Sep/2014
-	-	-	-	SANDIEGOZ / 908139	Death (ownership only)	-	Out	12/Sep/2014

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	9/May/2008 / 6Y,4M,3D at the time of death
Rearing	None	**Local ID**	[908139/SANDIEGOZ]
Dam	[GAN: 23053413 | SANDIEGOZ / 903036]	**Regional Studbook #**	[210-AZA /SANDIEGOZ]
Sire	[GAN: 23053437 | SANDIEGOZ / 903227]	**Transponder**	[TP000724564B/SANDIEGOZ]

23054325 | Local ID: 908140

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
9/May/2008	Birth/Hatch	In	In	SANDIEGOZ / 908140	Death	Out	Out	29/Sep/2012

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	9/May/2008 / 4Y,4M,20D at the time of death
Rearing	None	**Death Number**	[0055523/SANDIEGOZ]
Dam	[GAN: 23053413 | SANDIEGOZ / 903036]	**Local ID**	[908140/SANDIEGOZ]
Sire	[GAN: 23053437 | SANDIEGOZ / 903227]	**Regional Studbook #**	[211-AZA /SANDIEGOZ]

25216178 | Local ID: 908521

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
13/Dec/2008	Birth/Hatch	In	In	SANDIEGOZ / 908521	Loan Out To NZP-WASH/307298	Out	-	27/Jul/2010
28/Jul/2010	Loan In From Vendor: SANDIEGOZ/908521	In	-	NZP-WASH / 307298	Death	Out	-	26/Aug/2023
-	-	-	-	SANDIEGOZ / 908521	Death (ownership only)	-	Out	26/Aug/2023

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	13/Dec/2008 / 14Y,8M,13D at the time of death
Rearing	None	**Local ID**	[908521/SANDIEGOZ]
Dam	[GAN: 26753534 | SANDIEGOZ / 901018]	**Regional Studbook #**	[212-AZA /SANDIEGOZ]
Sire	[GAN: 25215134 | SANDIEGOZ / 193178]		

25216187 | Local ID: 908530

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
20/Dec/2008	Birth/Hatch	In	In	SANDIEGOZ / 908530	Loan Out To NZP-WASH/307297	Out	-	27/Jul/2010
28/Jul/2010	Loan In From Vendor: SANDIEGOZ/908530	In	-	NZP-WASH / 307297	Loan Transfer To DALLAS/14P119	Out	-	21/May/2014
-	-	-	-	SANDIEGOZ / 908530	Loan out to (change in reported holder) DALLAS/14P119	-	-	21/May/2014
21/May/2014	Loan Transfer From Sender: NZP-WASH/307297 Vendor: SANDIEGOZ/908530	In	-	DALLAS / 14P119	Death	Out	-	30/May/2021
-	-	-	-	SANDIEGOZ / 908530	Death (ownership only)	-	Out	30/May/2021

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	20/Dec/2008 / 12Y,5M,10D at the time of death
Rearing	None	**Local ID**	[908530/SANDIEGOZ]
Dam	[GAN: 26753534 | SANDIEGOZ / 901018]	**Regional Studbook #**	[213-AZA /SANDIEGOZ]
Sire	[GAN: 25215134 | SANDIEGOZ / 193178]		

25216189 | Local ID: 908532

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Dec/2008	Birth/Hatch	In	In	SANDIEGOZ / 908532	Loan Out To LOSANGELE/992597	Out	-	17/Jan/2012
17/Jan/2012	Loan In From Vendor: SANDIEGOZ/908532	In	-	LOSANGELE / 992597	Death	Out	-	29/Sep/2016
-	-	-	-	SANDIEGOZ / 908532	Death (ownership only)	-	Out	29/Sep/2016

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	22/Dec/2008 / 7Y,9M,7D at the time of death
Rearing	None	**Death Number**	[RP25889/SANDIEGOZ]
Dam	[GAN: 26753534 | SANDIEGOZ / 901018]	**Local ID**	[908532/SANDIEGOZ]
Sire	[GAN: 25215134 | SANDIEGOZ / 193178]	**Regional Studbook #**	[214-AZA /SANDIEGOZ]

26754236 | Local ID: 908536

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
25/Dec/2008	Birth/Hatch	In	In	SANDIEGOZ / 908536	Loan Out To TOLEDO/7796	Out	-	26/Apr/2012
27/Apr/2012	Loan In From Vendor: SANDIEGOZ/908536	In	-	TOLEDO / 7796	Death	Out	-	20/Dec/2018
-	-	-	-	SANDIEGOZ / 908536	Death (ownership only)	-	Out	20/Dec/2018

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	25/Dec/2008 / 9Y,11M,25D at the time of death
Rearing	None	**Local ID**	[908536/SANDIEGOZ]
Dam	[GAN: 26753534 | SANDIEGOZ / 901018]	**Regional Studbook #**	[215-AZA /SANDIEGOZ]
Sire	[GAN: 25215134 | SANDIEGOZ / 193178]		

26754255 | Local ID: 908560

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
29/Dec/2008	Birth/Hatch	In	In	SANDIEGOZ / 908560	Loan Out To LOWRY/303631	Out	-	22/Apr/2015
23/Apr/2015	Loan In From Sender: SANDIEGOZ/908560 Vendor: SANDIEGOZ/908560	In	-	LOWRY / 303631	Loan Transfer To FORTWORTH/211912	Out	-	14/Jan/2020
-	-	-	-	SANDIEGOZ / 908560	Loan out to (change in reported holder) FORTWORTH/211912	-	-	14/Jan/2020

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	29/Dec/2008 / 15Y,6M,11D
Rearing	None	**Local ID**	[908560/SANDIEGOZ]
Dam	[GAN: 26753534 | SANDIEGOZ / 901018]	**Regional Studbook #**	[216-AZA /SANDIEGOZ]
Sire	[GAN: 25215134 | SANDIEGOZ / 193178]		

26754263 | Local ID: 909020

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Jan/2009	Birth/Hatch	In	In	SANDIEGOZ / 909020	Death	Out	Out	25/Jan/2009

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	15/Jan/2009 / 0Y,0M,10D at the time of death
Rearing	None	**Death Number**	[0051720/SANDIEGOZ]
Dam	[GAN: 26753935 | SANDIEGOZ / 906714]	**Local ID**	[909020/SANDIEGOZ]
Sire	[GAN: 25215447 | SANDIEGOZ / 904001]	**Regional Studbook #**	[217-AZA /SANDIEGOZ]

DNY14-12744 | Local ID: 909560

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Dec/2009	Birth/Hatch	In	In	SANDIEGOZ / 909560	Death	Out	Out	15/Feb/2021

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	23/Dec/2009 / 11Y,1M,23D at the time of death
Rearing	None	**Death Number**	[0066461/SANDIEGOZ]
Dam	[GAN: 19978942 | SANDIEGOZ / 903031]	**Local ID**	[909560/SANDIEGOZ]
Sire	[GAN: 8228910 | SANDIEGOZ / 193264]	**Regional Studbook #**	[218-AZA /SANDIEGOZ]

HVH12-00103 | Local ID: 909562

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
30/Dec/2009	Birth/Hatch	In	In	SANDIEGOZ / 909562	Loan Out To TULSA/16554	Out	-	12/Jul/2012
13/Jul/2012	Loan In From Vendor: SANDIEGOZ/909562	In	-	TULSA / 16554	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	30/Dec/2009 / 14Y,6M,10D
Rearing	Undetermined	**Local ID**	[909562/SANDIEGOZ]
Dam	[GAN: 19978942 | SANDIEGOZ / 903031]	**Regional Studbook #**	[219-AZA /SANDIEGOZ]
Sire	[GAN: 8228910 | SANDIEGOZ / 193264]		

DNY14-12748 | Local ID: 910003

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
8/Jan/2010	Birth/Hatch	In	In	SANDIEGOZ / 910003	Death	Out	Out	16/Apr/2019

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	8/Jan/2010 / 9Y,3M,8D at the time of death
Rearing	None	**Death Number**	[0063136/SANDIEGOZ]
Dam	[GAN: 19978942 | SANDIEGOZ / 903031]	**Local ID**	[910003/SANDIEGOZ]
Sire	[GAN: 8228910 | SANDIEGOZ / 193264]	**Regional Studbook #**	[220-AZA /SANDIEGOZ]
		Transponder	[0006E70FA4/SANDIEGOZ]

DNY14-12765 | Local ID: 910031

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
18/Feb/2010	Birth/Hatch	In	In	SANDIEGOZ / 910031	Loan Out To NZP-WASH/307492	Out	-	28/May/2014
29/May/2014	Loan In From Vendor: SANDIEGOZ/910031	In	-	NZP-WASH / 307492	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	18/Feb/2010 / 14Y,4M,22D
Rearing	None	**Local ID**	[910031/SANDIEGOZ]
Dam	[GAN: 19978942 | SANDIEGOZ / 903031]	**Regional Studbook #**	[221-AZA /SANDIEGOZ]
Sire	[GAN: 8228910 | SANDIEGOZ / 193264]		

JPK13-01041 | Local ID: 910032

Individual — **Fiji banded iguana** — **Endangered (EN)** — **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Feb/2010	Birth/Hatch	In	In	SANDIEGOZ / 910032	Loan Out To EVANSVLLE/313010	Out	-	17/Oct/2013
18/Oct/2013	Loan In From Sender: SANDIEGOZ/910032 Vendor: SANDIEGOZ/910032	In	-	EVANSVLLE / 313010	Loan Transfer To NORFOLK/217198	Out	-	11/Jul/2017
-	-	-	-	SANDIEGOZ / 910032	Loan out to (change in reported holder) NORFOLK/217198	-	-	11/Jul/2017
11/Jul/2017	Loan In From Sender: EVANSVLLE/313010 Vendor: SANDIEGOZ/910032	In	-	NORFOLK / 217198	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	23/Feb/2010 / 14Y,4M,17D
Rearing	None	**Local ID**	[910032/SANDIEGOZ]
Dam	[GAN: 19978942 | SANDIEGOZ / 903031]	**Regional Studbook #**	[222-AZA /SANDIEGOZ]
Sire	[GAN: 8228910 | SANDIEGOZ / 193264]	**Transponder**	[00-0726-808C/[Body/-]/SANDIEGOZ]

HVH12-00104 | Local ID: 910586

Individual — **Fiji banded iguana** — **Endangered (EN)** — **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
27/Nov/2010	Birth/Hatch	In	In	SANDIEGOZ / 910586	Loan Out To TULSA/16555	Out	-	12/Jul/2012
13/Jul/2012	Loan In From Vendor: SANDIEGOZ/910586	In	-	TULSA / 16555	Death	Out	-	4/Apr/2016
-	-	-	-	SANDIEGOZ / 910586	Death (ownership only)	-	Out	4/Apr/2016

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	27/Nov/2010 / 5Y,4M,8D at the time of death
Rearing	Undetermined	**Death Number**	[RP25097/SANDIEGOZ]
Dam	[GAN: 23053413 | SANDIEGOZ / 903036]	**Local ID**	[910586/SANDIEGOZ]
Sire	[GAN: 23053437 | SANDIEGOZ / 903227]	**Regional Studbook #**	[223-AZA /SANDIEGOZ]

BPL13-01636 | Local ID: 910590

Individual — **Fiji banded iguana** — **Endangered (EN)** — **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
2/Dec/2010	Birth/Hatch	In	In	SANDIEGOZ / 910590	Loan Out To LOWRY/303582	Out	-	12/Nov/2013
13/Nov/2013	Loan In From Sender: SANDIEGOZ/910590 Vendor: SANDIEGOZ/910590	In	-	LOWRY / 303582	Loan Transfer To FORTWORTH/UNDETERM+	Out	-	16/Jun/2020
-	-	-	-	SANDIEGOZ / 910590	Loan out to (change in reported holder) FORTWORTH/212140	-	-	16/Jun/2020

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	2/Dec/2010 / 13Y,7M,8D
Rearing	None	**Local ID**	[910590/SANDIEGOZ]
Dam	[GAN: 23053413 | SANDIEGOZ / 903036]	**Regional Studbook #**	[224-AZA /SANDIEGOZ]
Sire	[GAN: 23053437 | SANDIEGOZ / 903227]	**Transponder**	[00-06B3-6247/[Leg/Left]/SANDIEGOZ]

DNY14-13268 | Local ID: 911031

Individual — **Fiji banded iguana** — **Endangered (EN)** — **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
6/Jan/2011	Birth/Hatch	In	In	SANDIEGOZ / 911031	Death	Out	Out	15/May/2012

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	6/Jan/2011 / 1Y,4M,9D at the time of death
Rearing	None	**Death Number**	[0055048/SANDIEGOZ]
Dam	[GAN: 26754236 | SANDIEGOZ / 908536]	**Local ID**	[911031/SANDIEGOZ]
Sire	[GAN: 23054322 | SANDIEGOZ / 908137]	**Regional Studbook #**	[225-AZA /SANDIEGOZ]

DNY14-13269 | Local ID: 911032

Individual — **Fiji banded iguana** — **Endangered (EN)** — **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/Jan/2011	Birth/Hatch	In	In	SANDIEGOZ / 911032	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	BB20004 Sanford Children's Zoo Enclosure	**Birth Date/Age**	11/Jan/2011 / 13Y,5M,29D
Rearing	None	**Local ID**	[911032/SANDIEGOZ]
Dam	[GAN: 26754236 | SANDIEGOZ / 908536]	**Regional Studbook #**	[232-AZA /SANDIEGOZ]
Sire	[GAN: 23054322 | SANDIEGOZ / 908137]	**Transponder**	[0007356c75/[Leg/Hind, Left]/SANDIEGOZ]

DNY14-13969 | Local ID: 913257

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/Jul/2013	Birth/Hatch	In	In	SANDIEGOZ / 913257	Loan Out To DALLAS/15Q468	Out	-	15/Sep/2015
15/Sep/2015	Loan In From Sender: SANDIEGOZ/913257 Vendor: SANDIEGOZ/913257	In	-	DALLAS / 15Q468	Death	Out	-	3/Oct/2021
-	-	-	-	SANDIEGOZ / 913257	Death (ownership only)	-	Out	3/Oct/2021

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	11/Jul/2013 / 8Y,2M,22D at the time of death
Rearing	None	**Local ID**	[913257/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Regional Studbook #**	[234-AZA /SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY14-13970 | Local ID: 913258

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
12/Jul/2013	Birth/Hatch	In	In	SANDIEGOZ / 913258	Loan Out To CHICAGOBR/6086	Out	-	9/Jun/2015
9/Jun/2015	Loan In From Sender: SANDIEGOZ/913258 Vendor: SANDIEGOZ/913258	In	-	CHICAGOBR / 6086	Death	Out	-	25/Mar/2023
-	-	-	-	SANDIEGOZ / 913258	Death (ownership only)	-	Out	25/Mar/2023

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	12/Jul/2013 / 9Y,8M,13D at the time of death
Rearing	None	**Local ID**	[913258/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Regional Studbook #**	[235-AZA /SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY14-13972 | Local ID: 913268

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
18/Jul/2013	Birth/Hatch	In	In	SANDIEGOZ / 913268	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	18/Jul/2013 / 10Y,11M,22D
Rearing	None	**Local ID**	[913268/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Regional Studbook #**	[236-AZA /SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY14-13974 | Local ID: 913270

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Jul/2013	Birth/Hatch	In	In	SANDIEGOZ / 913270	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	BB20004 Sanford Children's Zoo Enclosure	**Birth Date/Age**	22/Jul/2013 / 10Y,11M,18D
Rearing	None	**Local ID**	[913270/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Regional Studbook #**	[237-AZA /SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY14-14092 | Local ID: 913463

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
30/Dec/2013	Birth/Hatch	In	In	SANDIEGOZ / 913463	Death	Out	Out	14/Sep/2019

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	30/Dec/2013 / 5Y,8M,15D at the time of death
Rearing	None	**Death Number**	[0064208/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Local ID**	[913463/SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]	**Regional Studbook #**	[238-AZA /SANDIEGOZ]

DNY14-14093 | Local ID: 913464

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
30/Dec/2013	Birth/Hatch	In	In	SANDIEGOZ / 913464	Loan Out To LOWRY/303893	Out	-	19/Jul/2022
19/Jul/2022	Loan In From Sender: SANDIEGOZ/913464 Vendor: SANDIEGOZ/913464	In	-	LOWRY / 303893	Loan Transfer To CHATTANOO/R23026	Out	-	28/Aug/2023
-	-	-	-	SANDIEGOZ / 913464	Loan out to (change in reported holder) CHATTANOO/R23026	-	-	29/Aug/2023
29/Aug/2023	Loan Transfer From Sender: LOWRY/303893 Vendor: SANDIEGOZ/913464	In	-	CHATTANOO / R23026	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	30/Dec/2013 / 10Y,6M,10D
Rearing	None	**Local ID**	[913464/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Regional Studbook #**	[239-AZA /SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY14-14094 | Local ID: 913465

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
30/Dec/2013	Birth/Hatch	In	In	SANDIEGOZ / 913465	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	30/Dec/2013 / 10Y,6M,10D
Rearing	None	**Local ID**	[913465/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Regional Studbook #**	[240-AZA /SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY15-15892 | Local ID: 915092

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Jun/2015	Birth/Hatch	In	In	SANDIEGOZ / 915092	Death	Out	Out	15/Sep/2023

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	15/Jun/2015 / 8Y,3M,0D at the time of death
Rearing	-	**Death Number**	[0070793/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Local ID**	[915092/SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY15-15893 | Local ID: 915093

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Jun/2015	Birth/Hatch	In	In	SANDIEGOZ / 915093	Loan Out To LOSANGELE/995641	Out	-	20/Mar/2023
20/Mar/2023	Loan In From Sender: SANDIEGOZ/915093 Vendor: SANDIEGOZ/915093	In	-	LOSANGELE / 995641	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	15/Jun/2015 / 9Y,0M,25D
Rearing	-	**Local ID**	[915093/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Transponder**	[00-0809-99A6/SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY15-15894 | Local ID: 915094

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Jun/2015	Birth/Hatch	In	In	SANDIEGOZ / 915094	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	15/Jun/2015 / 9Y,0M,25D
Rearing	-	**Local ID**	[915094/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

SYC15-00891 | Local ID: 915406

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
25/Apr/2015	Birth/Hatch	-	In	SANDIEGOZ / 915406	-	-	-	-
25/Apr/2015	Birth/Hatch Owner: SANDIEGOZ/UNK	In	-	NZP-WASH / 307532	Loan Return To Owner SANDIEGOZ/915406	Out	-	23/May/2019
23/May/2019	Loan Return to Us Sender: NZP-WASH/307532	In	-	SANDIEGOZ / 915406	Death	Out	Out	4/Feb/2022

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Smithsonian National Zoological Park
Enclosure	-	**Birth Date/Age**	25/Apr/2015 / 6Y,9M,10D at the time of death
Rearing	None	**Death Number**	[0067874/SANDIEGOZ]
Dam	[GAN: 25216178 | 307298/NZP-WASH]	**Local ID**	[915406/SANDIEGOZ]
Sire	[GAN: DNY14-12765 | 307492/NZP-WASH]	**Regional Studbook #**	[244-AZA /SANDIEGOZ]

BPL16-02624 | Local ID: 916097

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/Jun/2016	Birth/Hatch	-	In	SANDIEGOZ / 916097	-	-	-	-
11/Jun/2016	Birth/Hatch Owner: SANDIEGOZ/916097	In	-	LOWRY / 303663	Loan Return To Owner SANDIEGOZ/916097	Out	-	30/Oct/2018
30/Oct/2018	Loan Return to Us Sender: LOWRY/303663	In	-	SANDIEGOZ / 916097	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	ZooTampa at Lowry Park
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	11/Jun/2016 / 8Y,0M,29D
Rearing	-	**Local ID**	[916097/SANDIEGOZ]
Dam	[GAN: BPL13-01636 | 303582/LOWRY]	**Regional Studbook #**	[251-AZA /SANDIEGOZ]
Sire	[GAN: 26754255 | 303631/LOWRY]		

BPL16-02621 | Local ID: 916098

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
1/Jun/2016	Birth/Hatch	-	In	SANDIEGOZ / 916098	-	-	-	-
1/Jun/2016	Birth/Hatch Owner: SANDIEGOZ/916098	In	-	LOWRY / 303660	Loan Return To Owner SANDIEGOZ/916098	Out	-	30/Oct/2018
30/Oct/2018	Loan Return to Us Sender: LOWRY/303660	In	-	SANDIEGOZ / 916098	Loan Out To FRESNO/340013	Out	-	13/Apr/2023
13/Apr/2023	Loan In From Sender: SANDIEGOZ/916098 Vendor: SANDIEGOZ/916098	In	-	FRESNO / 340013	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	ZooTampa at Lowry Park
Enclosure	-	**Birth Date/Age**	1/Jun/2016 / 8Y,1M,9D
Rearing	-	**Local ID**	[916098/SANDIEGOZ]
Dam	[GAN: BPL13-01636 | 303582/LOWRY]	**Regional Studbook #**	[249-AZA /SANDIEGOZ]
Sire	[GAN: 26754255 | 303631/LOWRY]		

BPL16-02622 | Local ID: 916099

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/Jun/2016	Birth/Hatch	-	In	SANDIEGOZ / 916099	-	-	-	-
4/Jun/2016	Birth/Hatch Owner: SANDIEGOZ/916099	In	-	LOWRY / 303661	Loan Return To Owner SANDIEGOZ/916099	Out	-	30/Oct/2018
30/Oct/2018	Loan Return to Us Sender: LOWRY/303661	In	-	SANDIEGOZ / 916099	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	ZooTampa at Lowry Park
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	4/Jun/2016 / 8Y,1M,6D
Rearing	-	**Local ID**	[916099/SANDIEGOZ]
Dam	[GAN: BPL13-01636 | 303582/LOWRY]	**Regional Studbook #**	[250-AZA /SANDIEGOZ]
Sire	[GAN: 26754255 | 303631/LOWRY]		

DNY16-17340 | Local ID: 916184

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
1/Oct/2016	Birth/Hatch	In	In	SANDIEGOZ / 916184	Death	Out	Out	12/May/2018

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	-	**Birth Date/Age**	1/Oct/2016 / 1Y,7M,11D at the time of death
Rearing	-	**Death Number**	[0061557/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	**Local ID**	[916184/SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

SYC16-01173 | Local ID: 916380

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
8/Jan/2016	Birth/Hatch	-	In	SANDIEGOZ / 916380	-	-	-	-
8/Jan/2016	Birth/Hatch Owner: SANDIEGOZ/916380	In	-	NZP-WASH / 307587	Loan Return To Owner SANDIEGOZ/916380	Out	-	23/May/2019
23/May/2019	Loan Return to Us Sender: NZP-WASH/307587	In	-	SANDIEGOZ / 916380	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Smithsonian National Zoological Park
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	8/Jan/2016 / 8Y,6M,2D
Rearing	None	**Local ID**	[916380/SANDIEGOZ]
Dam	[GAN: 25216178 | 307298/NZP-WASH]		
Sire	[GAN: DNY14-12765 | 307492/NZP-WASH]		

SYC16-01175 | Local ID: 916382

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Jan/2016	Birth/Hatch	-	In	SANDIEGOZ / 916382	-	-	-	-
16/Jan/2016	Birth/Hatch Owner: SANDIEGOZ/916382	In	-	NZP-WASH / 307589	Loan Return To Owner SANDIEGOZ/916382	Out	-	23/May/2019
23/May/2019	Loan Return to Us Sender: NZP-WASH/307589	In	-	SANDIEGOZ / 916382	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Smithsonian National Zoological Park
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	16/Jan/2016 / 8Y,5M,24D
Rearing	None	**Local ID**	[916382/SANDIEGOZ]
Dam	[GAN: 25216178 | 307298/NZP-WASH]		
Sire	[GAN: DNY14-12765 | 307492/NZP-WASH]		

SYC16-01178 | Local ID: 916383

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
28/Jan/2016	Birth/Hatch	-	In	SANDIEGOZ / 916383	-	-	-	-
28/Jan/2016	Birth/Hatch Owner: SANDIEGOZ/916383	In	-	NZP-WASH / 307590	Loan Return To Owner SANDIEGOZ/916383	Out	-	23/May/2019
23/May/2019	Loan Return to Us Sender: NZP-WASH/307590	In	-	SANDIEGOZ / 916383	Loan Out To DALLAS/22F070	Out	-	7/Apr/2022
7/Apr/2022	Loan In From Sender: SANDIEGOZ/916383 Vendor: SANDIEGOZ/916383	In	-	DALLAS / 22F070	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Smithsonian National Zoological Park
Enclosure	-	**Birth Date/Age**	28/Jan/2016 / 8Y,5M,12D
Rearing	None	**Local ID**	[916383/SANDIEGOZ]
Dam	[GAN: 25216178 | 307298/NZP-WASH]	**Transponder**	[0007F5F528/[Leg/Left]/SANDIEGOZ]
Sire	[GAN: DNY14-12765 | 307492/NZP-WASH]		

SYC18-02924 | Local ID: 917619

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
14/May/2017	Birth/Hatch	-	In	SANDIEGOZ / 917619	-	-	-	-
14/May/2017	Birth/Hatch Owner: SANDIEGOZ/UNK	In	-	NZP-WASH / 307657	Loan Return To Owner SANDIEGOZ/917619	Out	-	23/May/2019
23/May/2019	Loan Return to Us Sender: NZP-WASH/307657	In	-	SANDIEGOZ / 917619	Death	Out	Out	13/Aug/2019

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Smithsonian National Zoological Park
Enclosure	-	**Birth Date/Age**	14/May/2017 / 2Y,2M,30D at the time of death
Rearing	None	**Death Number**	[0063974/SANDIEGOZ]
Dam	[GAN: 25216178 | 307298/NZP-WASH]	**Local ID**	[917619/SANDIEGOZ]
Sire	[GAN: DNY14-12765 | 307492/NZP-WASH]		

SFQ13-00210 | Local ID: 918030

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Jan/2012	Loan In From Sender: MAyDS Nación/UNDETERM+ Vendor: MAyDS Nación/UNDETERM+	In	-	BUENOSAIR / R1200	Loan Transfer To SANDIEGOZ/UNDETERM+	Out	-	6/Jun/2018
6/Jun/2018	Donation From Sender: BUENOSAIR/R1200 Vendor: CITES AR/UNDETERM+	In	In	SANDIEGOZ / 918030	Death	Out	Out	31/May/2024

Sex/Contraception	Male / -	**Birth Type**	Undetermined
Hybrid Status	Not a hybrid	**Birth Location**	Undetermined
Enclosure	-	**Birth Date/Age**	~> 1/Jan/2011 / 13Y,4M,30D at the time of death
Rearing	Undetermined	**Death Number**	[0071771/SANDIEGOZ]
Dam	[Wild / SANDIEGOZ]	**Local ID**	[918030/SANDIEGOZ]
Sire	[Wild / SANDIEGOZ]	**Transponder**	[981098104822079/SANDIEGOZ]

BPL18-02920 | Local ID: 918038

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
5/Jul/2018	Birth/Hatch	-	In	SANDIEGOZ / 918038	-	-	-	-
5/Jul/2018	Birth/Hatch Owner: SANDIEGOZ/UNDETERMINED	In	-	LOWRY / 303788	Loan Return To Owner SANDIEGOZ/918038	Out	-	16/Nov/2022
16/Nov/2022	Loan Return to Us Sender: LOWRY/303788	In	-	SANDIEGOZ / 918038	Loan Out To LOSANGELE/995642	Out	-	20/Mar/2023
20/Mar/2023	Loan In From Sender: SANDIEGOZ/918038 Vendor: SANDIEGOZ/918038	In	-	LOSANGELE / 995642	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	ZooTampa at Lowry Park
Enclosure	-	**Birth Date/Age**	5/Jul/2018 / 6Y,0M,5D
Rearing	Autonomous	**Local ID**	[918038/SANDIEGOZ]
Dam	[GAN: BPL13-01636 | 303582/LOWRY]	**Transponder**	[00-0806-7121/[Leg/Hind, Left]/SANDIEGOZ]
Sire	[GAN: 26754255 | 303631/LOWRY]		

BPL18-02966 | Local ID: 918476

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
10/Nov/2018	Birth/Hatch	-	In	SANDIEGOZ / 918476	-	-	-	-
10/Nov/2018	Birth/Hatch Owner: SANDIEGOZ/UNDETERMINED	In	-	LOWRY / 303811	Loan Return To Owner SANDIEGOZ/918476	Out	-	16/Nov/2022
16/Nov/2022	Loan Return to Us Sender: LOWRY/303811	In	-	SANDIEGOZ / 918476	Death	Out	Out	25/Mar/2023

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	ZooTampa at Lowry Park
Enclosure	-	**Birth Date/Age**	10/Nov/2018 / 4Y,4M,15D at the time of death
Rearing	Autonomous	**Death Number**	[0069870/SANDIEGOZ]
Dam	[GAN: BPL13-01636 | 303582/LOWRY]	**Local ID**	[918476/SANDIEGOZ]
Sire	[GAN: 26754255 | 303631/LOWRY]	**Transponder**	[00-0809-9319/[Leg/Hind, Left]/SANDIEGOZ]

DNY18-25237 | Local ID: 964448

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
~< 4/Dec/1989	Undetermined	In	In	SANDIEGOZ / 964448	Death	Out	Out	~< 4/Dec/1989

Sex/Contraception	Male / -	**Birth Type**	Undetermined
Hybrid Status	Not a hybrid	**Birth Location**	Undetermined
Enclosure	-	**Birth Date/Age**	Indeterminate / 0Y,0M,0D at the time of death
Rearing	-	**Death Number**	[RP4147/SANDIEGOZ]
Dam	[Undetermined / SANDIEGOZ]	**Local ID**	[964448/SANDIEGOZ]
Sire	[Undetermined / SANDIEGOZ]		

DNY18-25333 | Local ID: 965134

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
~< 27/Dec/1990	Undetermined	In	In	SANDIEGOZ / 965134	Death	Out	Out	~< 27/Dec/1990

Sex/Contraception	Male / -	**Birth Type**	Undetermined
Hybrid Status	Not a hybrid	**Birth Location**	Undetermined
Enclosure	-	**Birth Date/Age**	Indeterminate / 0Y,0M,0D at the time of death
Rearing	-	**Death Number**	[RP4371/SANDIEGOZ]
Dam	[Undetermined / SANDIEGOZ]	**Local ID**	[965134/SANDIEGOZ]
Sire	[Undetermined / SANDIEGOZ]		

DNY18-25838 | Local ID: 973268

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
~< 6/Mar/2000	Undetermined	In	In	SANDIEGOZ / 973268	Death	Out	Out	~< 6/Mar/2000

Sex/Contraception	Indeterminate / -	**Birth Type**	Undetermined
Hybrid Status	Not a hybrid	**Birth Location**	Undetermined
Enclosure	-	**Birth Date/Age**	Indeterminate / 0Y,0M,0D at the time of death
Rearing	-	**Death Number**	[RP7830/SANDIEGOZ]
Dam	[GAN: 26753194 | SANDIEGOZ / 195277]	**Local ID**	[973268/SANDIEGOZ]
Sire	[GAN: 6713034 | SANDIEGOZ / 191132]		

DNY18-26518 | Local ID: 973526

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
~< 8/Dec/2007	Undetermined	In	In	SANDIEGOZ / 973526	Death	Out	Out	~< 8/Dec/2007

Sex/Contraception	Indeterminate / -	**Birth Type**	Undetermined
Hybrid Status	Not a hybrid	**Birth Location**	Undetermined
Enclosure	-	**Birth Date/Age**	Indeterminate / 0Y,0M,5D at the time of death
Rearing	-	**Death Number**	[RP13621/SANDIEGOZ]
Dam	[Undetermined / SANDIEGOZ]	**Local ID**	[973526/SANDIEGOZ]
Sire	[Undetermined / SANDIEGOZ]		

Preferred ID	GAN	Sex	Age at Date	Date	Transaction	Vendor/ Recipient	Vendor ID
Fiji banded iguana			**Brachylophus bulabula**				
1000031	DNY19-33416	Female	0Y,0M,0D	14/Jan/2019	Birth/Hatch		
1000366	DNY19-33983	Female	0Y,0M,0D	4/May/2019	Birth/Hatch		
1001350	DNY19-35586	Male	0Y,0M,0D	4/Dec/2019	Birth/Hatch		
1001424	DNY20-35708	Male	0Y,0M,0D	2/Jan/2020	Birth/Hatch		
1001426	DNY20-35712	Male	0Y,0M,0D	4/Jan/2020	Birth/Hatch		
1001427	DNY20-35713	Female	0Y,0M,0D	4/Jan/2020	Birth/Hatch		
1001506	DNY20-35827	Female	0Y,0M,0D	23/Jan/2020	Birth/Hatch		
1001736	DNY20-36502	Male	0Y,0M,0D	29/Mar/2020	Birth/Hatch		
1001739	DNY20-36509	Female	0Y,0M,0D	31/Mar/2020	Birth/Hatch		
1001800	DNY20-36616	Male	0Y,0M,0D	22/Apr/2020	Birth/Hatch		
1001873	DNY20-36705	Male	0Y,0M,0D	15/May/2020	Birth/Hatch		
1001881	DNY20-36715	Female	0Y,0M,0D	18/May/2020	Birth/Hatch		
1001896	DNY20-36740	Female	0Y,0M,0D	27/May/2020	Birth/Hatch		
1001910	DNY20-36760	Male	0Y,0M,0D	2/Jun/2020	Birth/Hatch		
1003309	HFV20-24487	Male	0Y,0M,0D	13/Jun/2020	Birth/Hatch		
1003310	HFV20-24491	Female	0Y,0M,0D	22/Jun/2020	Birth/Hatch		
1003850	DNY22-39673	Undetermined	0Y,0M,0D	25/Apr/2022	Birth/Hatch		
1004211	DNY22-40317	Male	0Y,0M,0D	15/Jul/2022	Birth/Hatch		
1004212	DNY22-40318	Male	0Y,0M,0D	15/Jul/2022	Birth/Hatch		
1004616	DNY22-40954	Male	0Y,0M,0D	26/Sep/2022	Birth/Hatch		
1004736	DNY22-41131	Male	0Y,0M,0D	31/Oct/2022	Birth/Hatch		
1004787	DNY22-41202	Male	0Y,0M,0D	10/Nov/2022	Birth/Hatch		
1005024	DNY23-41650	Undetermined	0Y,0M,0D	21/Feb/2023	Birth/Hatch		
1005037	DNY23-41669	Undetermined	0Y,0M,0D	2/Mar/2023	Birth/Hatch		
189174	CWF10-00328	Female	0Y,0M,0D	20/Jul/1989	Birth/Hatch		
189175	8227548	Undetermined	0Y,0M,0D	21/Jul/1989	Birth/Hatch		
189183	MIG12-4057375	Female	0Y,0M,0D	31/Jul/1989	Birth/Hatch		
189184	8227549	Male	0Y,0M,0D	31/Jul/1989	Birth/Hatch		
189190	MIG12-4057376	Male	0Y,0M,0D	8/Aug/1989	Birth/Hatch		
189191	MIG12-8227551	Female	0Y,0M,0D	9/Aug/1989	Birth/Hatch		
189192	8227552	Male	0Y,0M,0D	9/Aug/1989	Birth/Hatch		
189337	MIG12-4057381	Male	0Y,0M,0D	21/Nov/1989	Birth/Hatch		
189353	8227555	Male	0Y,0M,0D	2/Dec/1989	Birth/Hatch		
190049	8227598	Female	0Y,0M,0D	23/Feb/1990	Birth/Hatch		
190066	8227600	Female	0Y,0M,0D	7/Mar/1990	Birth/Hatch		
190067	CWF10-00253	Female	0Y,0M,0D	9/Mar/1990	Birth/Hatch		
190068	10307395	Female	0Y,0M,0D	9/Mar/1990	Birth/Hatch		
190198	9044110	Female	0Y,0M,0D	19/Jul/1990	Birth/Hatch		
190199	MIG12-29901939	Male	0Y,0M,0D	21/Jul/1990	Birth/Hatch		
190203	8227724	Female	0Y,0M,0D	24/Jul/1990	Birth/Hatch		
190204	MIG12-29901941	Male	0Y,0M,0D	25/Jul/1990	Birth/Hatch		
190240	MIG12-6713024	Male	0Y,0M,0D	29/Jul/1990	Birth/Hatch		
190241	8227747	Male	0Y,0M,0D	29/Jul/1990	Birth/Hatch		
190343	MIG12-13055972	Female	0Y,0M,0D	25/Oct/1990	Birth/Hatch		
190344	19978396	Female	0Y,0M,0D	27/Oct/1990	Birth/Hatch		
190355	MIG12-4057391	Female	0Y,0M,0D	30/Oct/1990	Birth/Hatch		
190362	CWF10-00325	Male	0Y,0M,0D	3/Nov/1990	Birth/Hatch		
190363	CWF10-00327	Male	0Y,0M,0D	21/Nov/1990	Birth/Hatch		
190364	8227834	Female	0Y,0M,0D	27/Nov/1990	Birth/Hatch		
190365	MIG12-8321742	Female	0Y,0M,0D	29/Nov/1990	Birth/Hatch		
190366	19978399	Male	0Y,0M,0D	4/Dec/1990	Birth/Hatch		
191005	8227841	Male	0Y,0M,0D	30/Jan/1991	Birth/Hatch		
191006	6713031	Male	0Y,0M,0D	31/Jan/1991	Birth/Hatch		
191007	MIG12-6713032	Female	0Y,0M,0D	1/Feb/1991	Birth/Hatch		
191022	8227853	Female	0Y,0M,0D	21/Feb/1991	Birth/Hatch		
191070	CWF10-00326	Male	0Y,0M,0D	6/Apr/1991	Birth/Hatch		
191082	8227909	Female	0Y,0M,0D	15/Apr/1991	Birth/Hatch		

(Brackets display # acquired or dispositioned from group.)

Preferred ID	GAN	Sex	Age at Date	Date	Transaction	Vendor/ Recipient	Vendor ID
191132	6713034	Male	0Y,0M,0D	3/Jun/1991	Birth/Hatch		
191146	MIG12-6713035	Female	0Y,0M,0D	17/Jun/1991	Birth/Hatch		
191150	8227973	Male	0Y,0M,0D	3/Jul/1991	Birth/Hatch		
191392	8228188	Undetermined	0Y,0M,0D	10/Dec/1991	Birth/Hatch		
191417	MIG12-29851934	Male	0Y,0M,0D	29/Dec/1991	Birth/Hatch		
192005	8228216	Undetermined	0Y,0M,0D	3/Jan/1992	Birth/Hatch		
192097	MIG12-4057426	Male	0Y,0M,0D	13/Apr/1992	Birth/Hatch		
192098	MIG12-28546900	Male	0Y,0M,0D	13/Apr/1992	Birth/Hatch		
192106	CWF10-00324	Female	0Y,0M,0D	18/Apr/1992	Birth/Hatch		
192345	CWF10-00323	Female	0Y,0M,0D	9/Aug/1992	Birth/Hatch		
192355	MIG12-29851933	Female	0Y,0M,0D	15/Aug/1992	Birth/Hatch		
192362	MIG12-6713042	Female	0Y,0M,0D	24/Aug/1992	Birth/Hatch		
192364	8228557	Male	0Y,0M,0D	4/Sep/1992	Birth/Hatch		
192366	MIG12-4057433	Female	0Y,0M,0D	8/Sep/1992	Birth/Hatch		
192451	8228640	Female	0Y,0M,0D	10/Oct/1992	Birth/Hatch		
192452	MIG12-8228641	Male	0Y,0M,0D	16/Oct/1992	Birth/Hatch		
192521	MIG12-4057435	Male	0Y,0M,0D	14/Nov/1992	Birth/Hatch		
192522	6713043	Male	0Y,0M,0D	17/Nov/1992	Birth/Hatch		
192523	25215131	Female	0Y,0M,0D	17/Nov/1992	Birth/Hatch		
192535	8228719	Male	0Y,0M,0D	24/Nov/1992	Birth/Hatch		
192538	8228722	Female	0Y,0M,0D	25/Nov/1992	Birth/Hatch		
192539	19978460	Male	0Y,0M,0D	28/Nov/1992	Birth/Hatch		
192547	19978461	Male	0Y,0M,0D	19/Dec/1992	Birth/Hatch		
192548	MIG12-4057436	Female	0Y,0M,0D	25/Dec/1992	Birth/Hatch		
192549	MIG12-6713044	Female	0Y,0M,0D	26/Dec/1992	Birth/Hatch		
193013	MIG12-8228743	Undetermined	0Y,0M,0D	3/Oct/1992	Birth/Hatch		
193139	8228853	Female	0Y,0M,0D	27/Feb/1993	Birth/Hatch		
193178	25215134	Male	0Y,0M,0D	16/Mar/1993	Birth/Hatch		
193264	8228910	Male	0Y,0M,0D	3/Apr/1993	Birth/Hatch		
193265	6713053	Male	0Y,0M,0D	3/Apr/1993	Birth/Hatch		
193584	8229153	Male	0Y,0M,0D	21/Sep/1993	Birth/Hatch		
193585	8229154	Male	0Y,0M,0D	23/Sep/1993	Birth/Hatch		
193586	8229155	Male	0Y,0M,0D	24/Sep/1993	Birth/Hatch		
193587	19978485	Female	0Y,0M,0D	24/Sep/1993	Birth/Hatch		
194193	MIG12-6713077	Female	0Y,0M,0D	23/Sep/1994	Birth/Hatch		
194221	8229479	Male	0Y,0M,0D	8/Oct/1994	Birth/Hatch		
194236	17664858	Male	0Y,0M,0D	17/Oct/1994	Birth/Hatch		
194237	MIG12-29068063	Female	0Y,0M,0D	18/Oct/1994	Birth/Hatch		
194238	MIG12-29068064	Male	0Y,0M,0D	21/Oct/1994	Birth/Hatch		
194239	MIG12-29505057	Male	0Y,0M,0D	21/Oct/1994	Birth/Hatch		
194273	4057557	Male	0Y,0M,0D	1/Dec/1994	Birth/Hatch		
194274	8229526	Female	0Y,0M,0D	8/Dec/1994	Birth/Hatch		
195001	13843274	Male	0Y,0M,0D	2/Jan/1995	Birth/Hatch		
195002	MIG12-6713083	Female	0Y,0M,0D	3/Jan/1995	Birth/Hatch		
195013	MIG12-6713084	Male	0Y,0M,0D	12/Jan/1995	Birth/Hatch		
195016	CWF10-00322	Undetermined	0Y,0M,0D	28/Jan/1994	Birth/Hatch		
195017	CWF10-00321	Male	0Y,0M,0D	28/Jan/1994	Birth/Hatch		
195018	CWF10-00320	Male	0Y,0M,0D	1/Feb/1994	Birth/Hatch		
195019	CWF10-00319	Female	0Y,0M,0D	6/Feb/1994	Birth/Hatch		
195031	MIG12-6713085	Female	0Y,0M,0D	22/Feb/1995	Birth/Hatch		
195032	8229578	Male	0Y,0M,0D	27/Feb/1995	Birth/Hatch		
195265	8229751	Female	0Y,0M,0D	1/Oct/1995	Birth/Hatch		
195266	MIG12-8229752	Male	0Y,0M,0D	3/Oct/1995	Birth/Hatch		
195277	26753194	Female	0Y,0M,0D	19/Oct/1995	Birth/Hatch		
195280	8229754	Female	0Y,0M,0D	24/Oct/1995	Birth/Hatch		
195281	8229755	Male	0Y,0M,0D	24/Oct/1995	Birth/Hatch		
195282	25215170	Male	0Y,0M,0D	24/Oct/1995	Birth/Hatch		
195283	8229757	Female	0Y,0M,0D	24/Oct/1995	Birth/Hatch		
195284	8229758	Female	0Y,0M,0D	24/Oct/1995	Birth/Hatch		

(Brackets display # acquired or dispositioned from group.)

Preferred ID	GAN	Sex	Age at Date	Date	Transaction	Vendor/ Recipient	Vendor ID
195412	MIG12-8229829	Undetermined	0Y,0M,0D	16/Nov/1995	Birth/Hatch		
196016	8229845	Male	0Y,0M,0D	19/Jan/1996	Birth/Hatch		
196017	15729611	Female	0Y,0M,0D	19/Jan/1996	Birth/Hatch		
196018	13843292	Female	0Y,0M,0D	22/Jan/1996	Birth/Hatch		
196231	19978535	Female	0Y,0M,0D	18/Nov/1996	Birth/Hatch		
196253	23053132	Male	0Y,0M,0D	22/Dec/1996	Birth/Hatch		
197086	MIG12-23053134	Male	0Y,0M,0D	11/Feb/1997	Birth/Hatch		
197087	15729704	Female	0Y,0M,0D	15/Feb/1997	Birth/Hatch		
197162	19978543	Male	0Y,0M,0D	23/Feb/1997	Birth/Hatch		
197421	MIG12-6713134	Female	0Y,0M,0D	28/Aug/1997	Birth/Hatch		
197422	MIG12-6713135	Female	0Y,0M,0D	28/Aug/1997	Birth/Hatch		
197481	MIG12-2892087	Female	0Y,0M,0D	23/Nov/1997	Birth/Hatch		
197483	19978575	Female	0Y,0M,0D	1/Nov/1997	Birth/Hatch		
198030	6713981	Male	0Y,0M,0D	22/Jan/1998	Birth/Hatch		
198127	MIG12-28555441	Female	0Y,0M,0D	7/Sep/1995	Birth/Hatch		
198128	6713155	Female	0Y,0M,0D	11/Nov/1995	Birth/Hatch		
198234	8230593	Female	0Y,0M,0D	27/Sep/1998	Birth/Hatch		
198274	8230598	Male	0Y,0M,0D	29/Oct/1998	Birth/Hatch		
198275	8230599	Female	0Y,0M,0D	29/Oct/1998	Birth/Hatch		
198287	8230600	Male	0Y,0M,0D	5/Nov/1998	Birth/Hatch		
199069	MIG12-29851959	Male	0Y,0M,0D	3/May/1999	Birth/Hatch		
199070	8221505	Male	0Y,0M,0D	4/May/1999	Birth/Hatch		
199191	8230639	Male	0Y,0M,0D	21/Oct/1999	Birth/Hatch		
199192	26753367	Female	0Y,0M,0D	21/Oct/1999	Birth/Hatch		
199193	8230641	Female	0Y,0M,0D	21/Oct/1999	Birth/Hatch		
199194	MIG12-15729858	Female	0Y,0M,0D	23/Oct/1999	Birth/Hatch		
381224	8230656	Male	0Y,0M,0D	5/Nov/1981	Birth/Hatch		
382060	6713193	Male	0Y,0M,0D	16/May/1982	Birth/Hatch		
900004	MIG12-28700858	Male	0Y,0M,0D	14/Jan/2000	Birth/Hatch		
900029	25215366	Female	0Y,0M,0D	4/Feb/2000	Birth/Hatch		
900030	26753489	Female	0Y,0M,0D	4/Feb/2000	Birth/Hatch		
900118	MIG12-30074700	Female	0Y,0M,0D	1/May/2000	Birth/Hatch		
900137	10307609	Female	0Y,0M,0D	20/May/2000	Birth/Hatch		
901017	8230857	Male	0Y,0M,0D	16/Feb/2001	Birth/Hatch		
901018	26753534	Female	0Y,0M,0D	16/Feb/2001	Birth/Hatch		
901019	8230859	Male	0Y,0M,0D	16/Feb/2001	Birth/Hatch		
901020	8230860	Female	0Y,0M,0D	21/Feb/2001	Birth/Hatch		
901172	MIG12-29901948	Female	0Y,0M,0D	16/Oct/2001	Birth/Hatch		
901246	13843461	Female	0Y,0M,0D	8/Dec/2001	Birth/Hatch		
901247	10307665	Female	0Y,0M,0D	8/Dec/2001	Birth/Hatch		
901248	MIG12-8230901	Female	0Y,0M,0D	8/Dec/2001	Birth/Hatch		
902099	9044635	Male	0Y,0M,0D	20/Aug/2002	Birth/Hatch		
902100	26753602	Female	0Y,0M,0D	20/Aug/2002	Birth/Hatch		
902101	MIG12-15730344	Female	0Y,0M,0D	20/Aug/2002	Birth/Hatch		
902140	MIG12-28899441	Female	0Y,0M,0D	31/Aug/2002	Birth/Hatch		
902141	MIG12-28900204	Male	0Y,0M,0D	31/Aug/2002	Birth/Hatch		
902142	MIG12-29901945	Male	0Y,0M,0D	29/Dec/2002	Birth/Hatch		
902143	MIG12-29901944	Female	0Y,0M,0D	22/Dec/2002	Birth/Hatch		
902144	MIG12-28894444	Undetermined	0Y,0M,0D	10/Sep/2002	Birth/Hatch		
903031	19978942	Female	0Y,0M,0D	7/Mar/2003	Birth/Hatch		
903032	25215433	Male	0Y,0M,0D	27/Mar/2003	Birth/Hatch		
903033	13843485	Male	0Y,0M,0D	27/Mar/2003	Birth/Hatch		
903034	13843486	Male	0Y,0M,0D	27/Mar/2003	Birth/Hatch		
903035	8230972	Male	0Y,0M,0D	30/Mar/2003	Birth/Hatch		
903036	23053413	Female	0Y,0M,0D	2/Apr/2003	Birth/Hatch		
903227	23053437	Male	0Y,0M,0D	3/Oct/2003	Birth/Hatch		
903228	13843529	Male	0Y,0M,0D	12/Oct/2003	Birth/Hatch		
903229	MIG12-10307798	Female	0Y,0M,0D	15/Oct/2003	Birth/Hatch		
903279	MIG12-13843550	Undetermined	0Y,0M,0D	8/Jan/2003	Birth/Hatch		

(Brackets display # acquired or dispositioned from group.)

Preferred ID	GAN	Sex	Age at Date	Date	Transaction	Vendor/ Recipient	Vendor ID
904001	25215447	Male	0Y,0M,0D	22/Jan/2004	Birth/Hatch		
904002	MIG12-26753636	Female	0Y,0M,0D	22/Jan/2004	Birth/Hatch		
905012	MIG12-30089855	Female	0Y,0M,0D	11/Feb/2005	Birth/Hatch		
905013	19979124	Female	0Y,0M,0D	11/Feb/2004	Birth/Hatch		
906709	19979856	Female	0Y,0M,0D	20/Nov/2006	Birth/Hatch		
906714	26753935	Female	0Y,0M,0D	27/Nov/2006	Birth/Hatch		
907027	19979890	Undetermined	0Y,0M,0D	18/Feb/2007	Birth/Hatch		
907119	23053880	Male	0Y,0M,0D	25/May/2007	Birth/Hatch		
907124	23053881	Undetermined	0Y,0M,0D	1/Jun/2007	Birth/Hatch		
907529	23054149	Male	0Y,0M,0D	8/Dec/2007	Birth/Hatch		
907540	25215756	Female	0Y,0M,0D	11/Dec/2007	Birth/Hatch		
907581	25215774	Female	0Y,0M,0D	22/Dec/2007	Birth/Hatch		
907590	23054188	Male	0Y,0M,0D	23/Dec/2007	Birth/Hatch		
907591	23054189	Female	0Y,0M,0D	27/Dec/2007	Birth/Hatch		
908137	23054322	Male	0Y,0M,0D	5/May/2008	Birth/Hatch		
908138	23054323	Male	0Y,0M,0D	7/May/2008	Birth/Hatch		
908139	23054324	Female	0Y,0M,0D	9/May/2008	Birth/Hatch		
908140	23054325	Female	0Y,0M,0D	9/May/2008	Birth/Hatch		
908521	25216178	Female	0Y,0M,0D	13/Dec/2008	Birth/Hatch		
908530	25216187	Male	0Y,0M,0D	20/Dec/2008	Birth/Hatch		
908532	25216189	Female	0Y,0M,0D	22/Dec/2008	Birth/Hatch		
908536	26754236	Female	0Y,0M,0D	25/Dec/2008	Birth/Hatch		
908560	26754255	Male	0Y,0M,0D	29/Dec/2008	Birth/Hatch		
909020	26754263	Female	0Y,0M,0D	15/Jan/2009	Birth/Hatch		
909560	DNY14-12744	Male	0Y,0M,0D	23/Dec/2009	Birth/Hatch		
909562	HVH12-00103	Male	0Y,0M,0D	30/Dec/2009	Birth/Hatch		
910003	DNY14-12748	Female	0Y,0M,0D	8/Jan/2010	Birth/Hatch		
910031	DNY14-12765	Male	0Y,0M,0D	18/Feb/2010	Birth/Hatch		
910032	JPK13-01041	Male	0Y,0M,0D	23/Feb/2010	Birth/Hatch		
910586	HVH12-00104	Female	0Y,0M,0D	27/Nov/2010	Birth/Hatch		
910590	BPL13-01636	Female	0Y,0M,0D	2/Dec/2010	Birth/Hatch		
911031	DNY14-13268	Male	0Y,0M,0D	6/Jan/2011	Birth/Hatch		
911032	DNY14-13269	Female	0Y,0M,0D	11/Jan/2011	Birth/Hatch		
913257	DNY14-13969	Female	0Y,0M,0D	11/Jul/2013	Birth/Hatch		
913258	DNY14-13970	Male	0Y,0M,0D	12/Jul/2013	Birth/Hatch		
913268	DNY14-13972	Male	0Y,0M,0D	18/Jul/2013	Birth/Hatch		
913270	DNY14-13974	Male	0Y,0M,0D	22/Jul/2013	Birth/Hatch		
913463	DNY14-14092	Male	0Y,0M,0D	30/Dec/2013	Birth/Hatch		
913464	DNY14-14093	Male	0Y,0M,0D	30/Dec/2013	Birth/Hatch		
913465	DNY14-14094	Female	0Y,0M,0D	30/Dec/2013	Birth/Hatch		
915092	DNY15-15892	Female	0Y,0M,0D	15/Jun/2015	Birth/Hatch		
915093	DNY15-15893	Male	0Y,0M,0D	15/Jun/2015	Birth/Hatch		
915094	DNY15-15894	Male	0Y,0M,0D	15/Jun/2015	Birth/Hatch		
915406	SYC15-00891	Male	0Y,0M,0D	25/Apr/2015	Birth/Hatch		
915407	SYC15-00892	Female	0Y,0M,0D	25/Apr/2015	Birth/Hatch		
916097	BPL16-02624	Male	0Y,0M,0D	11/Jun/2016	Birth/Hatch		
916098	BPL16-02621	Female	0Y,0M,0D	1/Jun/2016	Birth/Hatch		
916099	BPL16-02622	Female	0Y,0M,0D	4/Jun/2016	Birth/Hatch		
916184	DNY16-17340	Female	0Y,0M,0D	1/Oct/2016	Birth/Hatch		
916379	SYC16-01174	Male	0Y,0M,0D	9/Jan/2016	Birth/Hatch		
916380	SYC16-01173	Male	0Y,0M,0D	8/Jan/2016	Birth/Hatch		
916382	SYC16-01175	Male	0Y,0M,0D	16/Jan/2016	Birth/Hatch		
916383	SYC16-01178	Male	0Y,0M,0D	28/Jan/2016	Birth/Hatch		
917619	SYC18-02924	Female	0Y,0M,0D	14/May/2017	Birth/Hatch		
918004	BPL18-02812	Male	0Y,0M,0D	20/Feb/2018	Birth/Hatch		
918005	BPL18-02809	Male	0Y,0M,0D	18/Feb/2018	Birth/Hatch		
918006	BPL18-02810	Male	0Y,0M,0D	18/Feb/2018	Birth/Hatch		
918007	BPL18-02808	Female	0Y,0M,0D	18/Feb/2018	Birth/Hatch		
918008	BPL18-02815	Male	0Y,0M,0D	21/Feb/2018	Birth/Hatch		

(Brackets display # acquired or dispositioned from group.)

Preferred ID	GAN	Sex	Age at Date	Date	Transaction	Vendor/ Recipient	Vendor ID
918009	BPL18-02807	Male	0Y,0M,0D	16/Feb/2018	Birth/Hatch		
918010	BPL18-02805	Male	0Y,0M,0D	16/Feb/2018	Birth/Hatch		
918011	BPL18-02806	Female	0Y,0M,0D	16/Feb/2018	Birth/Hatch		
918038	BPL18-02920	Female	0Y,0M,0D	5/Jul/2018	Birth/Hatch		
918039	BPL18-02921	Female	0Y,0M,0D	9/Jul/2018	Birth/Hatch		
918040	BPL18-02922	Male	0Y,0M,0D	9/Jul/2018	Birth/Hatch		
918041	BPL18-02923	Male	0Y,0M,0D	9/Jul/2018	Birth/Hatch		
918042	BPL18-02924	Male	0Y,0M,0D	9/Jul/2018	Birth/Hatch		
918043	BPL18-02925	Male	0Y,0M,0D	9/Jul/2018	Birth/Hatch		
918476	BPL18-02966	Female	0Y,0M,0D	10/Nov/2018	Birth/Hatch		
918477	BPL18-02958	Undetermined	0Y,0M,0D	13/Nov/2018	Birth/Hatch		
918478	BPL18-02962	Undetermined	0Y,0M,0D	16/Nov/2018	Birth/Hatch		
918479	BPL18-02963	Undetermined	0Y,0M,0D	29/Nov/2018	Birth/Hatch		

SDZWA provides the following standards for all our wildlife care as opposed to "offering enrichment" which is an antiquated form of husbandry. By providing the following opportunities for our animals at all times this provides the best possible care and offers a fully enriched life as opposed to specific enrichment times with limited enrichment specific opportunities.

Opportunities to Thrive

Opportunity for a thoughtfully presented, well-balanced diet: *A suitable, species-specific diet will be provided in a way that ensures full health and vigor, both behaviorally and physically.* Using current scientific knowledge along with SDZG best practices to measure and ensure that animals are being fed an appropriate food in a way that encourages natural seeking, processing and feeding behaviors, physically and temporally.

Opportunity to self-maintain: *An appropriate environment including shelter and species specific substrates that encourage opportunities to self-maintain.* Using current scientific knowledge along with SDZG best practices to measure and ensure the animals are being given the opportunity to maintain their own optimal health and well-being with appropriate environmental factors related to thermoregulation, skin/fur/feather condition, and joint/muscle/cognitive health.

Opportunity for optimal health: *Rapid diagnosis and treatment of injury or disease while providing supportive environments that increase the likelihood of healthy individuals.* Using current scientific knowledge along with SDZG best practices to measure and ensure animals are given the benefit of clear lines of communication, clear roles and responsibilities, and that all parties involved are working within their area of expertise as part of a collaborative effort. Ensure animals are benefiting from the most advanced technology and medicine as evidenced by the quality of life, as opposed to the length of life.

Opportunity to express species-specific behavior: *Quality spaces and appropriate social groupings will be provided that encourage species-specific behaviors at natural frequencies and of appropriate diversity while meeting social and developmental needs of each species in the collection.* Using current scientific knowledge along with SDZG best practices to measure and ensure that animals are being given the opportunity to express meaningful behaviors at a frequency that meets the needs of the species' natural history. This includes but is not limited to appropriate developmental conditions (social/cognitive), enriched social environment, complex environmental experiences, lack of maladaptive behaviors, and a strong and responsive relationship with the environment (exhibit/management technique).

Opportunities for choice and control: *Providing conditions in which animals can exercise control and make choices to avoid suffering and distress, and make behavior meaningful.* Using current scientific knowledge along with SDZG best practices to measure and ensure animals are being given the opportunity to make choices related to spatial organization, and training programs are based on the principles of positive reinforcement. Experiences and exhibit conditions should include problem solving and opportunities to make choices based on varying degrees of challenge using natural sensory modalities and physical adaptations.

San Diego Zoo Wildlife Alliance
Wildlife Nutrition

DIET RECORD

Scientific Name *Iguanidae*
Common Name Herbivorous Iguana Spp.
Accession No. **H TAX-10288-A**

Diet Herbivorous Spp. Diet Sheet
Life-stage Adult 1
Sex M/F
Institution SP Zoo

Diet for 1 Adult Animal

Effective Date 19-Dec-23

Item	Food Type	Amount Measure	Wgt	Schedule
1	Lettuce, Romaine		10 g	2x/week
2	Kale		10 g	2x/week
3	Collard		10 g	1x/week
4	Dandelion Greens		10 g	1x/week
5	Chard		10 g	1x/week
6	Bok Choy		10 g	1x/week
	Note: Rotate through greens such that two types are used on each feed day following the above frequency with a total of four feed days per week.			
7	Vegetables, Variable		2 g	4x/week
8	Roots, Variable		1 g	4x/week
9	Tortoise LS Diet, Extruded, Mazuri 5E5L, Ground		2 g	4x/week
	Note: Mix ground Tortoise LS Diet with produce thoroughly.			
10	Browse			Variable

FEED STRICTLY AS INDICATED. DO NOT ALTER DIET. IF CHANGE IS REQUIRED, PROVIDE DETAILS IN DIET CHANGE REQUEST FORM.

Note

1) Diet is estimated for individuals 0 to 1 kg.
2) Diet amounts and frequencies are adjusted at Wildlife Care management discretion during brumation and breeding.

Includes: Fiji Banded Iguana, Chuckwalla, Grand Cayman Blue Iguana, Jamaican Iguana, Cuba/Caymans Iguana

San Diego Zoo Wildlife Alliance
Wildlife Nutrition

DIET RECORD

Scientific Name *Iguanidae*
Common Name Herbivorous Iguana Spp.
Accession No. **H TAX-10288-B**

Diet Herbivorous Spp. Diet Sheet
Life-stage Adult 2
Sex M/F
Institution SP Zoo

Diet for 1 Adult Animal

Effective Date 19-Dec-23

Item	Food Type	Amount Measure	Wgt	Schedule
1	Lettuce, Romaine		100 g	2x/week
2	Kale		100 g	2x/week
3	Collard		100 g	1x/week
4	Dandelion Greens		100 g	1x/week
5	Chard		100 g	1x/week
6	Bok Choy		100 g	1x/week
	Note: Rotate through greens such that two types are used on each feed day following the above frequency with a total of four feed days per week.			
7	Vegetables, Variable		10 g	4x/week
8	Roots, Variable		5 g	4x/week
9	Tortoise LS Diet, Extruded, Mazuri 5E5L, Ground		15 g	4x/week
	Note: Mix ground Tortoise LS Diet with produce thoroughly.			
10	Browse			Variable

FEED STRICTLY AS INDICATED. DO NOT ALTER DIET. IF CHANGE IS REQUIRED, PROVIDE DETAILS IN DIET CHANGE REQUEST FORM.

Note

1) Diet is estimated for individuals 1 to 5 kg.
2) Diet amounts and frequencies are adjusted at Wildlife Care management discretion during brumation and breeding.

Includes: Fiji Banded Iguana, Chuckwalla, Grand Cayman Blue Iguana, Jamaican Iguana, Cuba/Caymans Iguana

San Diego Zoo Wildlife Alliance
Wildlife Nutrition

DIET RECORD

Scientific Name *Iguanidae*
Common Name Herbivorous Iguana Spp.
Accession No. **H TAX-10288-C**

Diet Herbivorous Spp. Diet Sheet
Life-stage Adult 3
Sex M/F
Institution SP Zoo

Diet for 1 Adult Animal

Effective Date 19-Dec-23

Item	Food Type	Amount Measure	Wgt	Schedule
1	Lettuce, Romaine		125 g	2x/week
2	Kale		125 g	2x/week
3	Collard		125 g	1x/week
4	Dandelion Greens		125 g	1x/week
5	Chard		125 g	1x/week
6	Bok Choy		125 g	1x/week
	Note: Rotate through greens such that two types are used on each feed day following the above frequency with a total of four feed days per week.			
7	Vegetables, Variable		20 g	4x/week
8	Roots, Variable		10 g	4x/week
9	Tortoise LS Diet, Extruded, Mazuri 5E5L, Ground		20 g	4x/week
	Note: Mix ground Tortoise LS Diet with produce thoroughly.			
10	Browse			Variable

FEED STRICTLY AS INDICATED. DO NOT ALTER DIET. IF CHANGE IS REQUIRED, PROVIDE DETAILS IN DIET CHANGE REQUEST FORM.

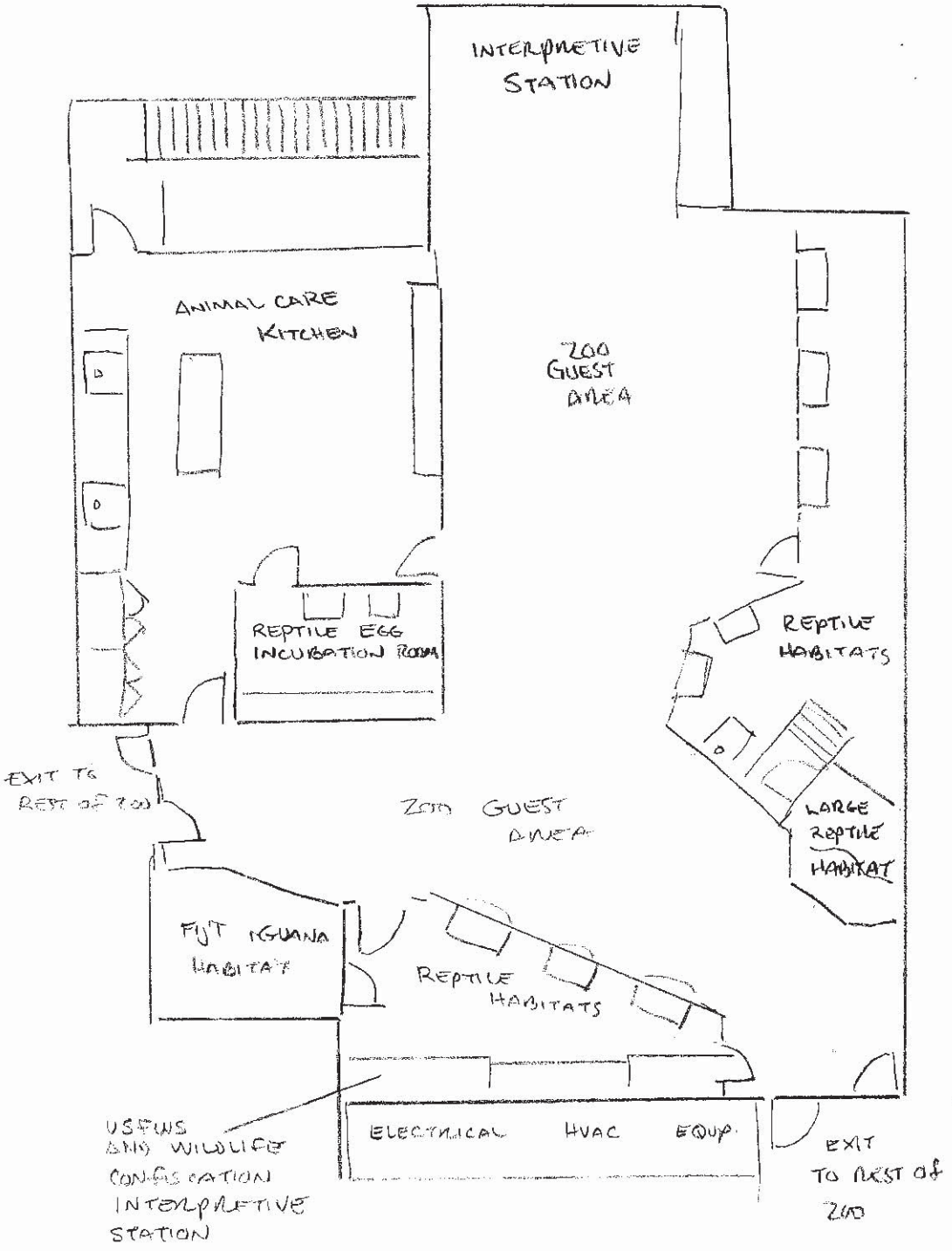
Note

1) Diet is estimated for individuals 5+ kg.
2) Diet amounts and frequencies are adjusted at Wildlife Care management discretion during brumation and breeding.

Includes: Fiji Banded Iguana, Chuckwalla, Grand Cayman Blue Iguana, Jamaican Iguana, Cuba/Caymans Iguana

"WILDLIFE EXPLORER'S BASECAMP"

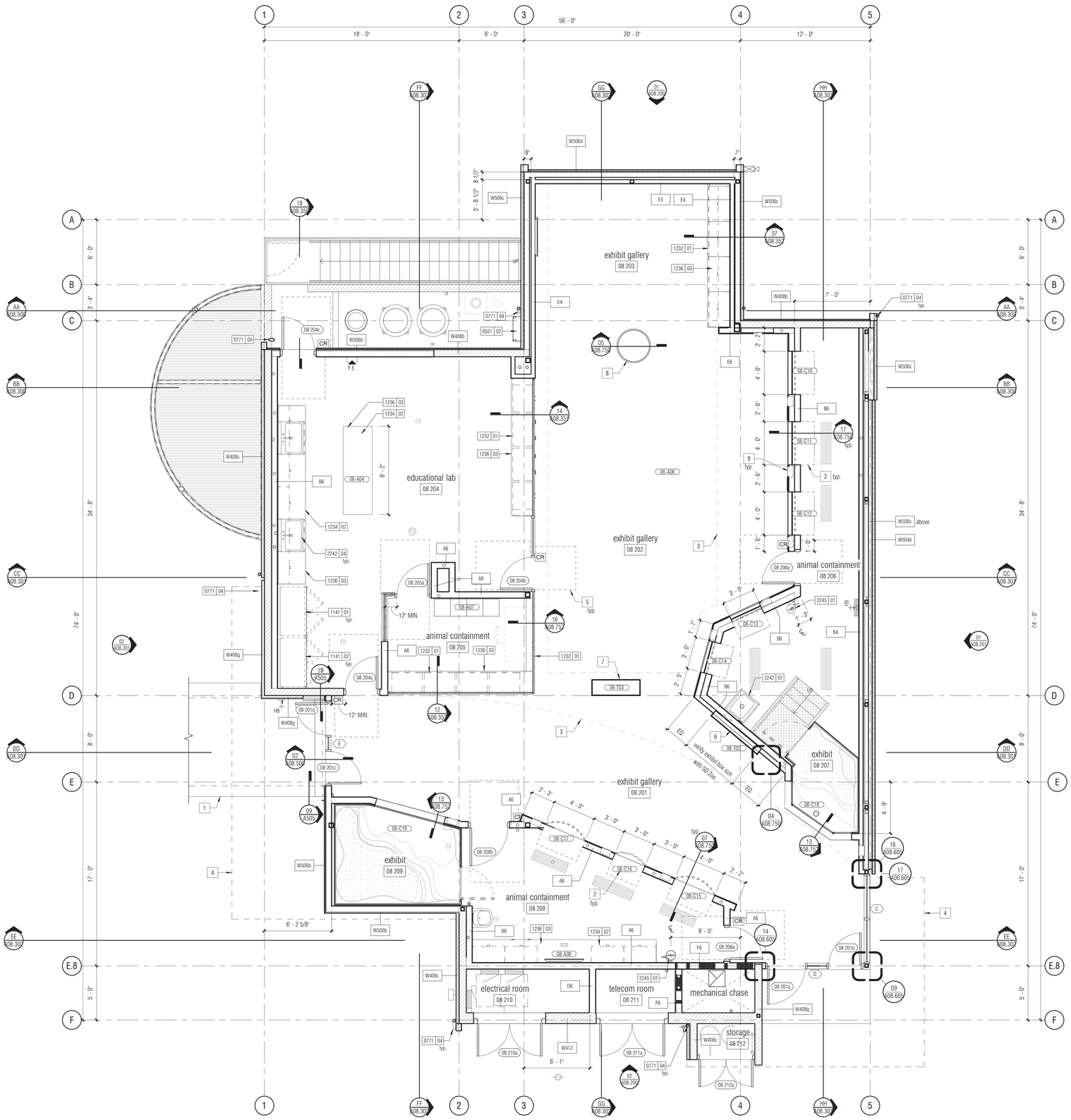
SECOND FLOOR - JAKE'S COOL CRITTERS



GRAPHIC SCALES: 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 3/4" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0"

A R C H I T E C T S
hanna gabriel wells

1955 bacon street
san diego, ca 92107
619.523.8485
619.523.8487
www.architects-hgw.com



sheet general notes

1. FOR OVERALL PROJECT GENERAL NOTES, REFER TO SHEET T001.
2. CONTRACTOR SHALL VERIFY ALL PLUMBING SLAB PENETRATIONS WITH PLUMBING PRIOR TO POURING SLAB.
3. CONTRACTOR SHALL VERIFY ALL ELECTRICAL SLAB PENETRATIONS WITH ELECTRICAL PRIOR TO POURING SLAB.
4. REFERENCE FINISH PLAN FOR FINISH INFORMATION RELATED TO SLAB-ON-GRADE.
5. ALL SPOT ELEVATIONS ARE TO TOP OF SLAB U.N.O.
6. ALL DIMENSIONS FROM FACE OF MASONRY AT CMU WALLS, U.O.N.
7. ALL DIMENSIONS FROM FACE OF FRAMING AT COLD-FORMED METAL FRAMED WALLS, U.O.N.
8. NO EXPOSED MECHANICAL ELEMENTS, SPRINKLER HEADS OR ELECTRICAL DEVICES WITHIN ANIMAL HOLDING BEDROOMS, TYP.
9. ALL WINDOW AND DOOR OPENINGS WITHIN ANIMAL HOLDING SPACES TO INCLUDE REMOVABLE SAFETY CAGING PANEL.
10. REFER TO ENCLOSURE DETAILS FOR ALL ANIMAL DOOR REQUIREMENTS, LOCATIONS AND DIMENSIONS.
11. REFER TO DOOR SCHEDULE FOR ALL DOOR DIMENSIONS AND MASONRY ROUGH OPENINGS.
12. REFER TO WINDOW SCHEDULE AND ELEVATIONS FOR ALL WINDOW DIMENSIONS AND SILL HEIGHTS.
13. REFER TO PROJECT SPECIFICATIONS FOR DETAILED INFORMATION REGARDING KEYNOTES
14. ALL NEW WALLS TO BE FULL HEIGHT, TO UNDERSIDE OF FLOOR SLAB OR ROOF DECK, U.O.N.
15. REFERENCE SHEET A500 FOR EXTERIOR WALL TYPES.
16. REFERENCE SHEET A700 FOR INTERIOR PARTION TYPES.

sheet legend

- 000a — DOOR TAG, REFER TO DOOR SCHEDULE
- 000a — ENCLOSURE DOOR TAG, REFER TO ENCLOSURE DOOR SCHEDULE
- A — WINDOW TAG, REFER TO WINDOW SCHEDULE
- FD — FLOOR DRAIN
- AD — ATRIUM DRAIN
- FLOOR DRAIN WITH STRAINER BASKET
- TRENCH DRAIN
- SHALLOW TRENCH DRAIN
- HB — HOSE BIBB
- LD — LIXIT DRINKER @ 12" A.F.F.
- O.F.C.I. HOSE RACK
- A4 — WALL TYPE TAG
- 1 HOUR RATED WALL PER WALL TYPE
- F.E. — FIRE EXTINGUISHER CABINET
- O.F.C.I. HOSE RACK
- +0" T.O. SLAB — SPOT ELEVATION
- xx-Axx — AUDIO VISUAL ELEMENT, REFER TO SAN DIEGO ZOO - CZ EXHIBIT ELEMENTS DOCUMENT
- xx-Cxx — COLLECTION EXHIBIT, REFER TO SAN DIEGO ZOO - CZ EXHIBIT ELEMENTS DOCUMENT
- xx-Txx — THEMATIC ELEMENT, REFER TO SAN DIEGO ZOO - CZ EXHIBIT ELEMENTS DOCUMENT

keynotes

0551	02	METAL ROOF ACCESS LADDER
0771	04	SHEET METAL DOWNSPOUT - FINISH PER SPECIFICATION
1141	01	REACH-IN REFRIGERATOR - O.F.C.I.
1141	02	REACH-IN FREEZER - O.F.C.I.
1232	01	PLASTIC-LAMINATE-CLAD CASEWORK
1234	02	PHENOLIC CASEWORK, COLOR AND FINISH TO MATCH WILSONART HD LAMINATE RUSKIN OAK 17001K-57
1236	03	SOLID SURFACE COUNTERTOP
2242	04	SINK
2242	07	EQUIPMENT SINK
2245	01	EYEWASH EQUIPMENT

sheet keynotes 1

1. TROPICAL BRIDGE, REFER TO SHEET LC-21.1
2. INTERIOR EXHIBIT BY OTHERS - REFER TO CZ EXHIBIT ELEMENTS DOCUMENT
3. LINE OF SOFFIT ABOVE
4. LINE OF ROOF ABOVE
5. MANEUVERING CLEARANCE ON BOTH SIDES OF DOOR IN ACCORDANCE WITH CBC, SECTION 11B-404.2.4.
6. RECESSED EXHIBIT BOX WITH INTEGRAL LIGHTING. CONFIRM SIZE AND DESIGN PARAMETERS WITH SD ZOO FOR DISPLAY OF EXISTING PYTHON SKELETON EXHIBIT.
7. FREE STANDING EXHIBIT PEDESTAL WITH INTEGRAL LIGHTING. CONFIRM SIZE AND DESIGN PARAMETERS WITH SD ZOO FOR DISPLAY OF EXISTING GARIAL SKELETON EXHIBIT.
8. MOVABLE DISPLAY PEDESTAL. REFER TO 05/A08.750
9. O.F.O.I. DIGITAL INFORMATIONAL DISPLAY - REFER TO DEATIL 06/A750

architect seal

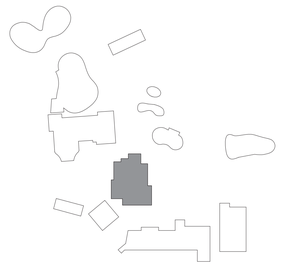
consultant seal

consultant

revision schedule

No.	Revisions	By	Date
004 ADD	Addenda 004	TM	11.30.2018
005 ADD	Addenda 005	TM	03.08.2019
009 ADD	Addenda 009	TM	07.15.2019
004 ASI	ASI 004	TM	08.13.2019
294 RFI	RFI 294	TM	11.11.2019
023 ASI	ASI 023	TM	03.05.2020
971 RFI	RFI 971	TM	10.21.2020
015 CC	RFI 984	TM	10.29.2020
1062 RFI	RFI 1062	TM	11.20.2020
1219 RFI	RFI 1219	TM	02.22.2021
015 CC	Construction Change 015	TM	03.03.2021
1338 RFI	RFI 1338	TM	04.09.2021
1476 RFI	RFI 1476	TM	07.27.2021

key plan



project
SAN DIEGO CHILDREN'S ZOO
HERP BUILDING
2920 zoo drive
san diego, ca 92101

date 02.11.2022

hgw project number 17.07

volume VOL. III

sheet description
second floor plan

sheet number
A08.112

project phase
record set

01 second floor plan
1/4" = 1'-0"

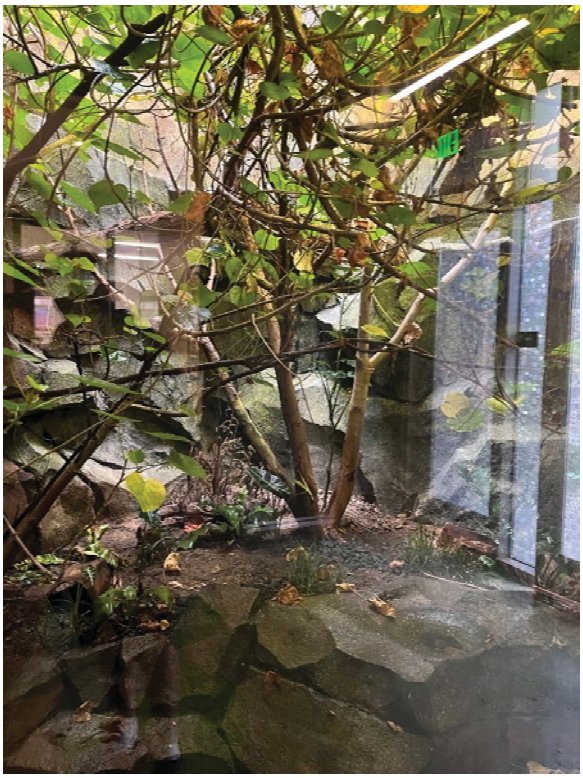
0 1 2 4

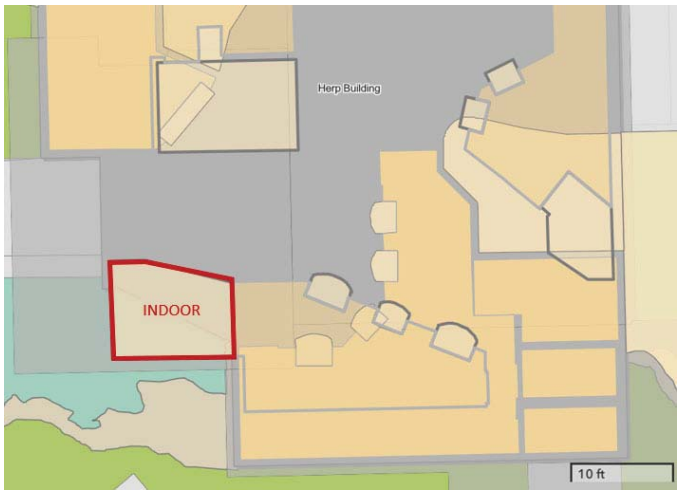
Fiji Banded Iguana - Completed new construction to increase the number of habitats available for animals. (BB20004)

Facility Description & General Size: Indoor habitat; space measures approximately 11.08’ x 8.58’ (L x W).

Description of Primary Containment: Fully enclosed; perimeter constructed of solid surface concrete walls and glass viewing window.

Habitat Photographs: Habitat includes climbing and perching structures, vegetative cover and shade. Environmental controls for lighting and temperature.





SAN DIEGO ZOO AR07100

Species:

Fijian banded Iguana (*Brachylophus bulabula*) Radiated Tortoise (*Astrochelys radiata*)

Facility Description & General Size:
Indoor area measuring approximately 51.5' x 36'. Room contains multiple terrestrial enclosures.

Description of Primary Containment:
Indoor complex located within the Reptile House; ceiling composed of solid surface concrete. Room perimeter constructed of solid surface walls.

Enclosure Structures:

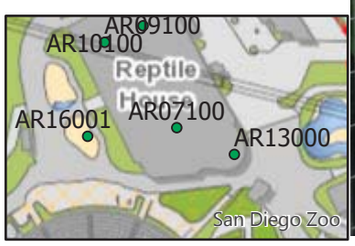
Climbing Structure(s): Yes
Perching: Yes
Water feature(s): O*
* All animals receive potable water.

Psychological Cover/Shelter:

Vegetative Cover: Yes
Cave/Overhange: O
Artificial Nest/Den: O

Protection from Weather/Elements:

Approximate Cover: 100%
Artificial Shade: Yes
Botanical Shade:NoN/A
Fan: No
Mister: NE YES
Wallow: No
Hot/Cold Rocks: No
Radiant Heat: Yes



Primary Enclosure Area

Holding area for Fiji iguanas - inside main Reptile House.

There are currently 18 enclosures measuring 3'x3'x75", 7 enclosures measuring 2'x2'x75", 1 enclosure measuring 4'x8'x77"

The main Reptile House is a secured large building that has a specialized locking mechanism with fire and smoke supression alarms etc. Zoo is secured with parimiter fencing, monitored security cameras and 24 hour 7 day per week security staff. No Fiji iguanas have ever been stolen/no theft of this taxa has occured.

Date Saved 5/12/2018 12:25 PM

San Diego Zoo Wildlife Alliance Staff Experience

The San Diego Zoo's Herpetology & Ichthyology Department has staff that is highly skilled in the care, maintenance and breeding of a wide variety of herpteofauna, including lizard species, in particular that of Brachylophus species. We have maintained a wide variety of lizard species at our facility since the early 1920's and continue to this day. Various species have been bred for sustainability purposes within the AZA community such as Caribbean rock iguanas from the genus Cyclura and Fijian iguanas from the genus Brachylophus, which and we have managed as SSP programs in the AZA community for many years as well. Currently we have one Wildlife Care Manager, one Wildlife Care Lead, a number of other Wildlife Care Specialists, all of which work full time providing 7 day per week animal care coverage (full list also provided). New or less experienced staff are trained by team members with more experience who have significant number of years of experience (also provided on staff list) and our team works alongside the San Diego Zoo Veterinary Department to help provide any medical needs and including quarantine for new incoming reptiles. The San Diego Zoo maintains two completely staffed veterinary hospital facilities; one at the Jennings Center for Animal Health located at the San Diego Zoo, and one at the Harter Animal Health Center at The San Diego Zoo's Safari Park. These facilities are staffed by experienced zoo veterinarians with over 10 years each of clinical experience with herpetofauna in a captive management environment and significant experience with free ranging herpetofauna through involvement in various wildlife care and conservation projects. Examples of wildlife conservation activities for which veterinary staff at the San Diego Zoo Wildlife Alliance (SDZWA) have had direct involvement include but not limited to Caribbean iguana recovery, desert tortoise recovery, US endangered anuran recovery (mountain yellow-legged frog), horned lizard population biology and varanid population biology research projects. Please see attached list of current staff veterinarians and Vet team staff.

Last Name	First Name	Iguana and similar species husbandry experience	Number of Years Experince	Position
Alex	Arvallo	YES	over 5	Wildlife Care Specialist
Baldwin	Brett	YES	over 30	Curator of Herpetology & Ichthyology
Barwig	Thomas	YES	over 8	Wildlife Care Specialist
Boucree	Joey	YES	over 5	Wildlife Care Specialist
Cattell	Robert	YES	over 5	Wildlife Care Specialist
DiVenti	Erika	YES	over 25	Lead Wildlife Care Specialist
Garr	Michael	YES	over 15	Senior Wildlife Care Specialist
Grousis	Alexander	YES	over 5	Wildlife Care Specialist
Mooney	Christopher	YES	over 5	Senior Wildlife Care Specialist
Provan	Davis	YES	over 5	Senior Wildlife Care Specialist
Reeder	Travis	YES	over 15	Lead Wildlife Care Specialist
Rinaudo	Amanda	YES	over 10	Senior Wildlife Care Specialist
Schneider	Rachelrose	YES	over 10	Senior Wildlife Care Specialist
Scott	Brandon	YES	over 20	Wildlife Care Manager Herpetology & Ichthyology
Borgardt	Erin	YES	over 10	Wildlife Care Specialist
Vilitchai	Somboon	YES	over 20	Senior Wildlife Care Specialist
Villines	Barbara	YES	over 5	Wildlife Care Specialist
Morales	Kyle	YES	over 5	Wildlife Care Specialist

Deena Brenner, DVM, Dipl. ACZM

PERSONAL

Work Address: San Diego Zoo
Department of Veterinary Services
P.O. Box 120551
San Diego, CA 92112
dbrenner@sdzwa.org

Home Address: [redacted]
Poway, CA 92064
[redacted]

BOARD CERTIFICATION

Diplomate, American College of Zoological Medicine **2010**

EDUCATION AND TRAINING

Zoological Medicine Residency **2005-2008**
UC- Davis, School of Veterinary Medicine and San Diego Zoo Wildlife Alliance
Out-rotations: The Marine Mammal Center (4 weeks), Sea World (12 weeks)

Small Animal Medicine and Surgery Internship **2004-2005**
Purdue University – College of Veterinary Medicine

Doctor of Veterinary Medicine **2004**
North Carolina State University – College of Veterinary Medicine

Bachelor of Science, Animal Science/Pre-Veterinary **1999**
University of Massachusetts – Amherst

International Study Abroad **1998**
Melbourne University, New South Wales, Australia

EMPLOYMENT

San Diego Zoo **2014-present**
Senior Veterinarian, Veterinary Services, San Diego, CA
Supervisor: Dr. Ben Nevitt

San Diego Zoo Safari Park and San Diego Zoo **2011-2014**
Relief Veterinarian, Veterinary Services, Escondido and San Diego, CA
Supervisors: Dr. Nadine Lamberski and Dr. Meg Sutherland-Smith

Denver Zoo **2008-2012**
Staff Veterinarian, Department of Animal Health, Denver, CO
Supervisors: Dr. Scott Larsen and Craig Piper

STUDENT/ RESIDENT TRAINING

Zoological Medicine Residency Mentor, San Diego Zoo **2011-present**
Provide clinical teaching and mentorship during 2nd year of UC-Davis and San Diego Zoo Wildlife Alliance ACZM-accredited residency. As primary mentor (*), provide oversight on publications, ACZM board study, clinical caseload, technical skill development, and formal reviews at 6 months and 12 months. Mentored 9 residents.

Resident Name	ACZM status	Current Position	Current Location	Date
Melanie Peel, DVM	Exam 2025	2nd year resident	San Diego Zoo	2022-2023
Erin Berlin, DVM	Exam 2024	3rd year resident	San Diego Zoo Safari Park	2021-2022
Rachel Ferris, DVM	Dipl. ACZM	Associate Veterinarian	St. Louis Zoo	2020-2021
Rob Browning, DVM	Dipl. ACZM	Associate Veterinarian	Woodland Park Zoo	2019-2020
Louden Wright, DVM	Exam 2021	Associate Veterinarian	Great Plains Zoo	2018-2019
*Matt Marinkovich, DVM	Dipl. ACZM	Clinical Veterinarian	San Diego Zoo	2017-2018
*Mary Thurber, DVM	Dipl. ACZM	Clinical Instructor	University of Wisconsin - School of Veterinary Medicine	2016-2017
Katie Delk, DVM	Dipl. ACZM	Associate Veterinarian	North Carolina Zoo	2014-2015
Christine Molter, DVM	Dipl. ACZM	Director of Animal Health	Houston Zoo	2013-2014
Matt Kinney, DVM	Dipl. ACZM	Senior Veterinarian	San Diego Zoo Safari Park	2012-2013
Kristen Phair, DVM	Dipl. ACZM	Associate Veterinarian	San Diego Zoo Safari Park	2011-2012

Veterinary Student Externship Mentor and Program Supervisor, San Diego Zoo **2014-present**
Application review, extern selection and orientation. Provide clinical mentorship, project oversight, and structured review. Mentored approximately 60 students.

Veterinary Student Preceptorship Mentor and Program Supervisor, Denver Zoo **2008-2012**
Redesigned and implemented veterinary student preceptorship program with structured mentorship, focus on didactic learning, and clinical skill development. Application review, approval, and scheduling. Acted as liaison with Human Resources. Mentored approximately 50 students.

SUPERVISORY

Veterinary Clinical Fellow Supervisor, San Diego Zoo **2018-present**
Application review, candidate selection, and conducted interviews. Created orientation program, provide oversight of clinical duties, and provide regular opportunities for discussion and targeted feedback.

Clinical Fellow Name	Current Position	Current Location	Date
Garrett Fraess, DVM	Veterinary Clinical Fellow	San Diego Zoo	Starting Aug 2023
Kathyln Reed, DVM	Associate Veterinarian	Sea World – San Antionio	2021-2023
Melissa Nau, DVM	Director of Animal Health	Zoo Tampa at Lowry Park	2018-2020

Veterinary Services Administrative Staff Supervision, San Diego Zoo **2021**
Interim management of Veterinary Services Administration staff including Medical Records Specialist, Pharmacy Technician, and Administrative Assistant. Provided support and leadership to this team.

Interim Supervisory Veterinarian, Denver Zoo **2011-2012**
Interim executive and supervisory responsibilities, including management of veterinary staff, budget, and oversight of laboratory and pharmacy.

RESEARCH

Current Research:

2021 Improving snake welfare through opportunities for movement and exercise. Co-Primary Investigator for IACUC-approved study #20-020 at San Diego Zoo.
Justification: Many snakes kept in zoological collections and as zoological companion animals do not have sufficient opportunities to stretch their bodies in straight-line body posture and lack adequate opportunities for movement and exercise due to small enclosure size. This has been standard practice in herpetology for many decades but is often inconsistent with the natural history of the species. This study aims to evaluate the difference in activity budget and diversity of behaviors of snakes in their standard enclosures compared with when snakes are given opportunities for exercise and activity. Variables related to health, mobility, and fitness, including traction force, epaxial muscle width, and subcutaneous fat measurements, will be measured at start and end of study to determine if there are measurable changes. This study will guide future research on space and exercise needs of snakes under human care.

Peer-Reviewed Publications:

Brenner D, and Wolfe T. Physical therapy in zoological species. In: Miller RE, Lamberski N, Calle P (eds). Fowler's zoo and wild animal medicine, Volume 10, Current therapy. St. Louis (MO): Elsevier. 2021. Ch 47, pp 313-317.

Greene W, **Brenner D.** Geriatric elephant survey of medical care, nutrition, husbandry, and welfare. J Zoo Wildl Med. Sept; 51(3):545-56.2020.

Marinkovich M, Wisner E, **Brenner DJ.** Distal limb swelling and periosteal productive reaction in periparturient Sichuan takin (*Budorcas taxicolor tibetana*): five cases of presumptive hypertrophic osteopathy. J Zoo Wildl Med. Jun;50(2):437-46. 2019.

Greggor A, Vicino GA, Swaisgood RR, Fidgett AL, **Brenner D**, Kinney ME, Farabaugh SM, Masuda B, Lamberski. Animal welfare in conservation breeding: applications and challenges. Front. Vet. Sci 18 Dec 2018.

Brenner DJ, Larsen RS, Dickinson PJ, Wack RF, Williams DC, Pascoe PJ. Development of an avian brachial plexus nerve block technique for perioperative analgesia using mallard ducks (*Anas platyrhychos*). J Avian Med Surg. Mar;24(1):24-34. 2010.

Brenner DJ, Stokking L, Donovan TA, Lamberski N. Pemphigus foliaceus in a Barbary sheep (*Ammotragus lervia*). Vet Rec. Oct 24;165(17):509-10. 2009.

Imai DM, Nadler SA, **Brenner D**, Donovan TA, Pessier AP. Rhabditid nematode–associated ophthalmitis and meningoencephalomyelitis in captive Asian horned frogs (*Megophrys montana*). J Vet Diagn Invest. Jul;21(4):568-73. 2009.

Brenner D, Larsen RS, Pascoe PJ, Wack RF, Williams DC, Dickinson PJ. Somatosensory evoked potentials and sensory nerve conduction velocities in the thoracic limb of mallard ducks (*Anas platyrhynchos*). Am J Vet Res. 69(11): 1476-80. 2008.

Brenner D, Larsen RS, Wack RF, Agnew D, Imai D. Concurrent West Nile virus and *Mycobacterium avium* infection in a black-necked swan (*Cygnus melanocoryphus*). J Zoo Wildl Med. 38(2): 357-62. 2007.

Brenner D, Lewbart G, Stebbins M, Herman D. Health survey of wild and captive bog turtles (*Clemmys muhlenbergii*) in North Carolina and Virginia. J Zoo Wildl Med. 33 (4):311-316. 2002.

McDonald-Madden E, Akers LK, **Brenner DJ**, Howell S, Patullo BW, Elgar MA. Possums in the park: Efficient foraging under the risk of predation or of competition? Aust J Zool. 48(2):155-160. 2000.

<u>Conference Presentations and Workshops:</u>

Harrison T, Reilly T, **Brenner D**. Acupuncture and Physical Rehabilitation Workshop Instructor. Am Assoc Zoo Vet Conf. 2022.

Brenner D. Telemedicine in Avian Conservation. Association of Zoos and Aquariums (AZA) Mid-Year meeting. Apr 2021.

Brenner D, and Wolfe T. Physical therapy improves function and mobility in two geriatric Galapagos Tortoises (*Chelonoidis nigra*). Proc of Am Assoc Zoo Vet Conf. 2020.

Greene W, **Brenner D.** Geriatric elephant survey of medical care, nutrition, husbandry, and welfare: Initial results. Proc. Am. Assoc. Zoo. Vet. Pp. 107-109. 2019.

Brenner D, Larsen RS, Wack RF, Dickinson PJ, Pascoe PJ, Williams DC. Development of an avian brachial plexus nerve block technique for perioperative analgesia in mallard ducks. Proc of Am Assoc Zoo Vet Conf. 40-41. 2007.

Invited Presentations:

2021 Avian Conservation Medicine. Tuskegee University College of Veterinary Medicine – Wildlife and Conservation Medicine Webinar.
2016 Elephant Medical Management: Geriatric Focus. Wildlife and Aquatic Animal Medicine Symposium. University of California Davis, Veterinary Medical Teaching Hospital.
2011 Zoo Medicine and Behavioral Husbandry. Lecture to Zoo Medicine Club. Colorado State University, Veterinary Teaching Hospital.

Other Presentations:

2019 Physical exam skills and animal bandaging laboratory. Tierra Bonita Elementary School. Poway, CA
2019 Maui parrotbill (Kiwikiu) reintroduction effort presentation. San Diego Zoo Veterinary Services Department Meeting.
2018 Introduction to zoological medicine, hospital tour for multiple high school tour groups. San Diego Zoo.
2007 Somatosensory evoked-potentials in the thoracic limb of mallard ducks. House Officer Seminar Day. University of California – Davis, Veterinary Medical Teaching Hospital.
2005 Lecture series in VME 415 course including lectures on Chiroptera, Monotremes and Marsupials, and Prosimians and New World Primates. University of California – Davis, College of Veterinary Medicine
2005 Analgesia in zoo and wildlife medicine. Grand Rounds. Purdue University, School of Veterinary Medicine
2004 Mortality study of two fruit bat colonies at the National Zoological Park (*Carollia perspicillata* and *Artibeus jamaicensis*). Smithsonian National Zoological Park.
2003 Creation of a medical records system and retrospective survival study of two-toed sloths (*Choloepus hoffmani*) and three-toed sloths (*Bradypus variegatus*) in Costa Rica. Poster presentation. North Carolina State University, College of Veterinary Medicine.

WILDLIFE CONSERVATION MEDICINE – INTERNATIONAL AND DOMESTIC

2019 **Hawaiian Islands - Haleakala National Park**
Part of a multi-organization conservation effort including USFW, Maui Forest Bird Recovery Project, DLNR, Pacific Bird Conservation, American Bird Conservancy, and San Diego Zoo Wildlife Alliance to translocate a population of critically endangered Maui

parrotbills (Kiwikiu) on Haleakala volcano due to imminent threat of avian malaria. Examined pre-release candidates and wild birds, provided triage and medical care, advised on animal care practices.

2017-present **Commonwealth of the Northern Mariana Islands - Rota**
Veterinary Advisor for Mariana Crow Rear and Release Program.
Provide individual and flock veterinary care. Traveled to Rota in 2017 for examination of release candidates, and to train staff in physical exam skills, venipuncture, triage care, and emergency procedures. Telemedicine platforms used for weekly case rounds and urgent medical needs.

2016-present **Hawaiian Islands – Hawai'i and Maui:**
Veterinary Co-Advisor for Hawaii Endangered Bird Conservation Program.
Provide veterinary oversight for conservation breeding and release programs of native passerines through remote and onsite veterinary care. Travel to both Keauhou Bird Conservation Center (KBCC) and Maui Bird Conservation Center (MBCC) 1-3 times per year for veterinary care, medical and surgical procedures, and staff training. Telemedicine platforms used for weekly case rounds and urgent medical needs.

2015-2018 **Galapagos Islands – Charles Darwin Research Station, Santa Cruz**
Veterinary Advisor for Galapagos Mangrove Finch Rear and Release Program.
Designed protocols for emergency triage of sick and injured chicks. Traveled to Galapagos in 2017 for examination of captive-reared chicks, veterinary consultation on animal care practices, and staff training. Remote consultation on medical cases continued for the duration of the program.

2008-2012 **South Africa: Pongola Game Reserve, Selati Game Reserve**
Scientific Advisor in Anesthesia for the Elephant Population Management Program (EPMP). Provided safe and effective anesthesia for elephants undergoing laparoscopic vasectomy surgery as a population management tool. Traveled to South Africa in 2008 and 2011 for this conservation effort.

PROFESSIONAL DUTIES AND INITIATIVES

2020-present **Chemical Environmental Management, Veterinary Approvals, San Diego Zoo**
Review and approve or reject chemical requests for use in and around animal areas with attention to impacts on animal, plant, and environmental health.

2020-present **Mammal Morbidity and Mortality Rounds, San Diego Zoo**
Lead monthly meetings, facilitate discussions, and identify disease trends and emerging disease concerns to guide veterinary care, nutrition, and management of San Diego Zoo population.

2014-2021 **International and Domestic Animal Shipments, San Diego Zoo**

Create pre-shipment testing recommendations and medical summaries, work with internal administrative staff and regulatory veterinarians on complex shipments.

2014-2022 **Elephant Odyssey, Veterinary Liaison, San Diego Zoo**
Provide veterinary oversight of preventative medicine program for elephant herd and ensure AZA compliance. Promote health and wellness through comprehensive and innovative medical care which has included urinary and reproductive tract assessments, hormonal vaccine study trial, stem cell therapy, and individualized physical therapy plans.

2014-present **Behavioral Husbandry, Veterinary Liaison, San Diego Zoo**
Review training requests and help develop training protocols for medical procedures using principles and practice of operant conditioning.

2014-present **Isospora (Atoxoplasma) Prophylaxis Program, San Diego Zoo**
Initiated this program in 2014 due to avian deaths from to this hemoparasite. Annual review of susceptible breeding passerines and avian mortalities to determine treatment groups. Created protocols and templates for treatment.

2010-2012 **Animal Transactions and Incoming Shipments, Denver Zoo**
Responsible for veterinary management of incoming shipments and management of quarantine.

2009-2012 **Fish, Reptile, and Amphibian Morbidity and Mortality Rounds, Denver Zoo**
Developed and conducted monthly rounds for review and discussion of aquatic and herptile cases with veterinary and animal care staff.

2008-2012 **Safety Committee, Denver Zoo**
Established and promoted health, safety, and sustainable veterinary practices. Instituted rabies vaccination and surveillance program for veterinary staff, wild bat handling protocol and protocols for pharmaceutical and chemical disposal.

2008-2012 **Visitor Experience Team, Denver Zoo**
Veterinary contributor to inter-departmental team responsible for educational messaging related to zoological medicine, animal husbandry, and conservation.

MEDIA

2023 San Diego Zoo Wildlife Alliance Journal. “Let’s Get Physical (Therapy).” Featured in article about physical rehabilitation in zoological species. May 2023 Issue:15-18.
2022 San Diego Zoo Wildlife Alliance Journal. “Hope Takes Wing.” Featured in article about ‘akikiki conservation and risk of extinction due to avian malaria. May 2022 Issue: 16-18.
2020 The Zoo: San Diego – Season 2, Episode 2: “Mabel’s Joy.” Episode features story about the first successful Pygmy hippopotamus birth at the San Diego Zoo in over 30 years.
2020 ZOONOOZ: San Diego Zoo Global. “Little Size, Big Personality.” Featured in article about Pygmy hippopotamus birth planning. Sept 2020 Issue: 12-15.

2019 ZOONOOZ: San Diego Zoo Global. "Injecting Hope." Featured in article on stem cell therapy treatment in a Bornean Sunbear. Mar 2019 Issue: 24-26.

2019 The Zoo: San Diego – Season 1, Episode 5: "Panda-monium." Featured in story about care of a geriatric African Elephant.

2019 VetStem Biopharma press release. "VetStem regenerative cell therapy helps arthritic Sun Bear at the World-Famous San Diego Zoo." https://vetstem.com/pr_detail.php/142

2019 Honolulu Civil Beat. "Fighting to save this rare Maui forest bird from extinction." Online publication on the conservation effort to translocate a population of critically endangered Maui parrotbills (*Pseudonestor xanthophrys*). https://www.civilbeat.org/2019/11/fighting-to-save-this-rare-maui-forest-bird-from-extinction/

2019 San Diego Zoo Kids Network. "Wallace the Galapagos tortoise gets physical therapy." Featured in video for children's hospital programming which broadcasts widely domestically and internationally. This video shows diagnostic evaluation of Galapagos tortoise and successful physical therapy techniques which restore function and mobility. https://www.youtube.com/watch?v=H2XpiOqab58

2016 KHON Hawaii News. "Alala male chicks given health exams, to be reintroduced to Hawaii Island forest." News article regarding conservation release effort for the critically endangered Hawaiian crow. https://www.khon2.com/local-news/alala-male-chicks-given-health-exams-to-be-reintroduced-into-hawaii-island-forests/

2012 OnWisconsin: University of Wisconsin Madison Magazine. "An elephant never begets." Article describing laparoscopic vasectomy surgical procedures in African elephants as a population management alternative to culling in South Africa. https://onwisconsin.uwalumni.com/features/an-elephant-never-begets/

2012 Elephant Population Management Program website. Scientific advisor on elephant anesthesia. https://www.elepmp.org/who-we-are/scientific-advisors.html

2011 Smithsonian's National Zoo and Conservation Biology Institute website. "Field surgery on wild elephants in South Africa." https://nationalzoo.si.edu/conservation/news/field-surgery-wild-elephants-south-africa

2011 Colorado Public Radio. Featured in radio interview and website article on treatment of respiratory disease in a Bornean orangutan at the Denver Zoo. https://www.cpr.org/2011/07/20/mias-the-orangutan/

2011 RT magazine online (Respiratory Therapy). "eFlow nebulizer helping a Denver Zoo Orangutan breathe easier." Article describing collaboration with MD pulmonologist from National Jewish Health and use of eFlow technology for treatment of chronic airsacculitis in an orangutan. https://rtmagazine.com/disorders-diseases/chronic-pulmonary-disorders/cystic-fibrosis/eflow-nebulizer-helping-a-denver-zoo-orangutan-breathe-easier/

2008 UC Davis, School of Veterinary Medicine NEWS publication. "DVMs expand career opportunities." Article on zoological medicine careers. Vol 25 (1): 1, 4. https://www.yumpu.com/en/document/view/9050091/pdf-8-pp-428-kb-uc-davis-school-of-veterinary-medicine-

HONORS

2016 American Association of Zoo Veterinarians (AAZV) Presidential Service award

2007 AAZV / Morris Animal Foundation Graduate Student Manuscript Competition: Second place for "Development of an avian brachial plexus nerve block technique for perioperative analgesia using mallard ducks."
2004 North Carolina State University- College of Veterinary Medicine Proficiency in Zoological Medicine Award (WAAZM Award)
2003 Terrence M. Curtin Scholarship
2002 Association for Women Veterinarians Scholarship
2002 Charles and Barbara Wilcox Scholarship
2001 Christi P. Massey Scholarship
1999 Honor Program Commonwealth Scholar
1995 Golden Key National Honor Society

FUNDING AND AWARDS

Amount	Date	Title	Agency
$1600	2022	Physical rehabilitation equipment for zoological species	San Diego Zoo Wildlife Alliance – Ocelots Grant
$220,000	2021	Zoological Veterinary Mentorship program	Institute of Museum and Library Services (IMLS)
$3500	2010	Surgical contraception as an alternative to culling in free-ranging African elephants (*Loxodonta africana*)	Denver Zoo Department of Conservation Biology
$600	2007	Development of an avian brachial plexus technique using mallard ducks	Morris Animal Foundation Post-graduate student competition
$3500	2005	Development of a brachial plexus nerve block technique for perioperative analgesia in mallard ducks	University of California – Davis CCAH Research Grant

LEADERSHIP TRAINING

2022 Conservation Standards Leadership Course
2015 Zoo U Extraordinary Leadership Training Program.
2013 Completed a three-series program focusing on Passion, Engagement & Innovation.
2011 The Servant Leadership Training Course. Audio course, James L. Hunter.
2011 Leadership and Supervisory Skills for Women. Rockhurst University. Denver, CO.

VETERINARY LICENSURE AND ACCREDITATION

California	Licensure	2006-Present
USDA Category II	Accreditation	2004-Present

Colorado	Licensure	2008-2012
North Carolina	Licensure	2004-2007
Colorado DOW	Wildlife Rehabilitation License	2010-2012

PROFESSIONAL AFFILIATIONS AND SERVICE

American Association of Zoo Veterinarians (AAZV)	
-Executive Committee – Member at Large	2022-present
-Member	2002-present
-Scientific Program Committee (Workshop Chair, Assistant Chair, Chair)	2010-2016
-Conference Session Chair (Hoofstock)	2011
American College of Zoological Medicine (ACZM)	
-Diplomate Member	2010-present
-ACZM Exam Committee (Zoo Specialty)	2010- 2015
-Local host, logistical coordinator, San Diego Zoo Safari Park	2014-2018
Association of Avian Veterinarians (AAV) – Member	2019- 2020
Association of Zoos and Aquariums (AZA) – Member	2015 - present
American Veterinary Medical Association (AVMA) – Member	2015 - present
Wildlife Disease Association (WDA) – Member	2015-2018
Reviewer for Veterinary Anaesthesia and Analgesia	2011
Reviewer for Journal of Zoo and Wildlife Medicine	2009

CONTINUING EDUCATION

Clinical Skills:

Certified Companion Animal Rehabilitation Therapist Program (CCAT) - North Carolina State University – College of Veterinary Medicine	2022- present
Canine Rehabilitation Certificate Program (CCRP) -Didactic (40 hours), hands on laboratory (40 hours), internship (40 hours) -University of Tennessee	2022
Certified Small Animal Myofascial Practitioner Program (CSMP) -Didactic (10 hours) and on hands on laboratory (14 hours) -University of Tennessee	2021
Wolfe Kinetic Technique Advanced Canine Physical Therapy -Didactic (6 hours) and hands on laboratory (10 hours) -K9 Body Shop, Aurora, CO	2018
Wolfe Kinetic Technique Basic Canine Physical Therapy -Didactic (6 hours) and hands on laboratory (10 hours)	2017

-K9 Body Shop, Aurora, CO

Avian, Reptile & Small Mammal Diagnostic Endoscopy Course -Department of Small Animal Medicine & Surgery. Athens, Georgia	2009
Sea Turtle Laparoscopy -NOAA-NMFS Laboratory, Beaufort, NC	2001

Conferences:

American Association of Zoo Veterinarians. Multiple locations	2021, 2020, 2017, 2016, 2014
American Association of Zoo Veterinarians. Multiple locations	2013, 2011, 2010, 2007
American Association of Zoo Veterinarians. Multiple locations	2006, 2005, 2004, 2002
American Association of Zoo Veterinarians. Multiple locations	2001
Wildlife Disease Association. Tahoe City, CA	2019
American College of Veterinary Internal Medicine. Seattle, WA	2018
Aquatic Medicine Seminar, Shark Reef Aquarium. Las Vegas, NV	2016
European Association of Zoo and Wildlife Veterinarians. Barcelona, Spain2	2015
36th Annual Zoonosis Conference, Colorado Department of Public Health	2011
ACZM Short Course, University of California-Davis	2009
Feline seizure disorders and renal disease, Alameda East Vet Hospital, CO	2009
Equine Lameness Prevention Organization (ELPO), Pueblo, CO	2009

LANGUAGE SKILLS

Native English speaker, basic French, Swedish comprehension

HOBBIES AND INTERESTS

Rock climbing (traditional, sport, outdoor, indoor), bouldering, scrambling, hiking, swimming, back-packing and camping. Crafts of all sorts (knitting, soft sculpture, pen and ink, clay). Archeological endeavors and nature adventures with my husband, daughter, and our super mutt. Spending time with family and friends.

REFERENCES

Available Upon Request

ELIZABETH J. BICKNESE D.V.M., M.P.V.M.
CURRICULUM VITAE

HOME ADDRESS: [redacted]
San Diego, CA 92119

WORK ADDRESS: Veterinary Services
San Diego Zoo
PO Box 120551
San Diego, CA 92112
(619) 685- 3246
FAX (619) 230-1256

EDUCATION:

1991 University of California at Davis
Davis, California
Masters of Preventive Veterinary Medicine
Thesis: Prevalence and Risk Factors for Iron Deficiency Anemia in Weanling Rhesus Macaques

1986 University of Illinois at Champaign- Urbana
Urbana, Illinois
Doctor of Veterinary Medicine

1982 Southern Illinois University
Carbondale, Illinois
Undergraduate study in Chemistry
(Admitted to veterinary school prior to receiving degree)

PROFESSIONAL ASSOCIATIONS:

American Association of Zoo Veterinarians
- Member of Infectious Disease Committee since 1990.
- Occasional reviewer for Journal of Zoo and Wildlife Medicine
- Member of Animal Welfare and Legislature Committee since 2002.
  - Vice chair beginning 2013; IACUC subcommittee since 2013
- Member Disaster preparedness committee since 2013

Association of Avian Veterinarians
Association of Reptilian and Amphibian Veterinarians
- Member Animal Welfare and Legislature Committee since 2005
- Co chair since 2014; chair ACUC subcommittee since 2014

American Veterinary Medicine Association

AWARDS:

Employee of the Month, Baltimore Zoological Society, May 1994
Davis and Mary E. Bloom Graduate Scholarship, 1985-1986
Merck Chemical Company Senior Year Award, 1982
American Chemical Society Outstanding Sophomore Award, 1980

CERTIFICATES AND LICENSES:

Residency in Zoological Medicine, 1993
Residency in Primate Medicine, 1990
Licensed Veterinarian in California
Trained in Cervid Cervical Tuberculosis Testing, 1993
Accreditated Veterinarian, 1986

PROFESSIONAL EXPERIENCES:

2010-2012- IACUC chair for SDZG: Chair for the Zoological Society of San Diego Institutional Animal Care and Use Committee. The IACUC reviews research projects in-house and in the field (both domestic and international). During this time the Assurance was reissued through OLAW and I was actively involved in this process.

1996- Present Veterinary Services
San Diego Zoo
San Diego, CA 92112
Senior Veterinarian Jan 2008 to current;
Associate Veterinarian July 1996-December 2007

- The San Diego Zoo is part of the Zoological Society of San Diego and has 4000 specimen of 780 species consisting of mammalian, avian, and herptilian species. I am part of a 6 veterinarian team (plus a veterinary resident) performing all aspects of zoological medicine. My job is performed in either the full-service hospital or on the zoo grounds. I perform both preventive medicine and acute/chronic case care.
- I am the veterinarian in charge of approving enrichment items. Also I am the veterinarian in charge of special quarantine cases such as animal ambassadors.
- I deliver the Zoonotic Disease lectures for Animal Care Education classes.
- Starting in 1997, I organize the monthly Herptilian Morbidity and Mortality meetings with keepers, curator, veterinarians, and pathologists.
- Adjunct Professor for the University of California-Davis Zoological Medicine Residency. Supervise and provide intensive training for the resident during their year at the San Diego Zoo. Have a new resident annually rotating through a 3 year program.
- Member of the ZSSD IACUC committee since 1997. In 2010, I became vice-chair for the IACUC committee.- I was chair 2011-2012

1995 – 1996 Zoo Hospital Denver Zoological Foundation
Denver, Colorado 80205
Associate Veterinarian

- The Denver Zoo is a city and foundation run organization with 3,000 specimens of 640 species consisting of mammalian, avian, herptilian and piscine groups. I was the primary clinical veterinarian in a 2.75 –doctor department performing all aspects of zoological medicine and surgery, on grounds and in a full–service hospital with computerized records.
- I actively participated in the well–established preventive medicine program including annual examinations for primates and selected large carnivores, TB testing, quarantine, vaccinations and parasite monitoring.
- As a senior staff member, I actively participated in Senior Staff, Animal Staff, and Vet–Curator meetings and communicated with all levels of zoo personnel. I shared the responsibility of supervising the 5 hospital employees (3 keeper/vet technicians, 1 medical technologist, and 1 office staff) and multiple volunteers on a daily basis. Since January 1996, I was responsible for supervising and coordinating the clinical cases with a part–time veterinarian. When the head veterinarian was absent from the zoo, I functioned as the department head making sensitive clinical decisions, overseeing hospital building maintenance and personnel management.
- I worked with the Bird Department to improve confidence in the Veterinary Department. I especially concentrated on neonatal and pediatric medicine offering services like egg radiographs, summaries of morbidity and mortality trends in chicks and nutritional intervention. For example, I investigated a Staphylococcus aureus outbreak in anseriformes at the Propagation Building resulting in new hygienic measures to prevent future outbreaks.
- In the last year, I also concentrated on learning fish medicine and expanded the care offered to both fresh water and marine fishes. With the medical technologist, we have improved the techniques used in fish clinical and necropsy samples. I developed an anamnesis form for medical and necropsy fish cases. I established a network with leading aquariums to increase the quality of fish medicine practiced at the Denver Zoo.
- I had an active role when the General Enrichment Committee was reorganized. I was responsible for signing the veterinary input section of the enrichment request forms and sending food related requests to the nutritionist. I was co–chairman of the Primate Enrichment Subcommittee and was actively involved in reorganizing primate enrichment while the primate area was rebuilt. I spearheaded the behavioral conditioning of two medical cases (conditioning a lemur for cataract eye ointment treatment; conditioning a diabetic mandrill for injections and monitoring).
- I performed gross necropsies and cut in tissues on approximately 160 necropsy cases in 1995.
- I increased contact between the consulting nutritionist and the vet staff for more effective nutritional intervention.

1993 – 1995 Medical Department
Baltimore Zoo
Druid Hill Park
Baltimore, Maryland 21217
Associate Veterinarian

- Baltimore Zoo is a city zoo with 1,500 animals of 235 species. I was the primary clinical veterinarian in a 2– doctor department. I performed all aspects of

Zoological medicine and surgery on grounds and in a full – service hospital with endoscopy, laparoscopy, and ultrasound equipment.

- I managed the preventive medicine program including vaccinations, annual primate examinations, parasite monitoring, and quarantine. I was the primary supervisor for the quarantine facility and spearheaded a complete revision of the quarantine protocol. Additionally, I organized and monitored the postmortem results.
- My daily tasks included supervising 7 hospital employees (3 keepers, 2 technicians, and 2 support staff). I communicated with all levels of the zoo organization from keepers to the director. Veterinary student s'externs (4–6 per year) were exposed to zoo animal medicine and management under my guidance. I actively participated in the Animal Management Meetings where animal related issues were discussed between the director, curators, and veterinarians. At these meetings I also presented the postmortem reports to the curators.
- I assisted in ongoing research projects (avian malaria, reptilian cryptosporidiosis, Lion–tailed macaque IVF and AI, amphibian embryo cryopreservation).
- I gave medical support to several conservation projects (Eastern Wood Rat Captive Propagation, Poison Dart Frog Propagation, Peregrine Project). Endangered birds of prey which were referred by the Department of Fish and Wildlife or the Maryland Department of Natural Resources were also treated at the zoo hospital.

1991 – 1993 Veterinary Services
San Diego Zoo
PO Box 551
San Diego, California 92112
Veterinary Resident

- I had an active role in the medical and surgical care for 3,900 animals of 800 species using endoscopy, ultrasonography, laparoscopy and standard zoological medicine techniques. My responsibilities included communication with keepers, curators, pathologists and researchers.
- Several months of the residency were spent at the San Diego Wild Animal Park expanding my knowledge of field anesthesia in a semi–free ranging environment.
- I participated in all aspects of the preventive medicine program including: annual primate examinations and Tb testing; quarantine and pre–shipment examinations; monthly Morbidity/ Mortality meetings between the vet staff, animal managers and curators; annual vaccinations; parasite monitoring program; weight control program; and dental prophylaxis and root canals. Additionally I performed laparoscopic sex determination of birds.
- Neonatal and nursery experience was obtained at the hoof stock nursery, small animal/ primate nursery, and the Avian Propagation Center.
- Bimonthly I spent a day with the pathology staff on the necropsy floor performing postmortem examinations and reviewing cytology slides from clinical cases.
- I was exposed to various conservation projects (California Condor Project, San Clemente Island Shrike Project, Bali Mynah repatriation, and California Big Horn Sheep project).
- I supervised senior veterinary students on externships in clinical situations.

1988 – 1991 California Primate Research Center
University of California at Davis
Davis, California 95616
Veterinary Resident– Primate Medicine

– My role was to provide medical care for a colony of 3,500 primates of 5 species. Medical duties included diagnostic work-ups, nursery and ICU cases. Surgical duties included cesarean sections, embryectomies, amputations, and chronic catheter placement. When on the pathology rotation, I conducted necropsies.

– I participated in the preventive medicine program (such as TB testing, quarantine, annual examinations and monitoring morbidity trends) and supervising colony management projects such as a special diet program for weight loss/gain. I communicated with area supervisors and animal care technicians.

– Didactic experiences included delivering 2 one-hour classes each year in a primate medicine elective for junior veterinary students and presenting several seminars at the California Primate Research Center. I also supervised senior veterinary students in clinical situations. I performed 3 clinically based research projects in the first 2 years of my residency. During the third year, I completed a master s'degree in preventive veterinary medicine. Computer skills learned included word processing, spreadsheets, and statistical packages on IBM and Macintosh computers.

1986 – 1988 Aamerican Veterinary Hospital
Oak Park, Illinois 60304
Veterinarian

– I was employed as a small animal veterinarian in a two-man full service practice. My responsibilities included examining client animals, monitoring hospitalized patients, staff supervision, record keeping, and performing emergency duty. I performed standard small animal surgical procedures (example spays, lumpectomies, splenectomies) with an emphasis on soft tissue surgeries. I was partially responsible for inventory and purchasing.
– Exotic pets comprised approximately 3% of the practice and included small mammals, avian and reptilian species.

1985 – 1986 Malarial Research Division
Hemotropic Disease Laboratory
University of Illinois at Champaign-Urbana
Urbana, Illinois 61801
Graduate Research Assistant

– I maintained a 20-25 animal squirrel monkey colony on a daily basis. My duties included restraint, physical examinations, medicating and feeding. I also conducted procedures such as scaling and canine tooth extraction.

1984 – 1985 Emergency Clinical Pathology Staff
College of Veterinary Medicine
University of Illinois at Champaign-Urbana
Urbana, Illinois 61801
Laboratory Technician

- While employed as a clinical laboratory technician, I performed after-hours laboratory tests for the veterinary teaching hospital. Tests included complete blood counts, selected serum chemistries and electrolytes, and cross-matching.

1983 – 1985 Wildlife Ward
College of Veterinary Medicine
University of Illinois at Champaign-Urbana
Urbana, Illinois 61801
Ward Manager

- The Wildlife Ward of the veterinary school treated native Illinoisan avian and mammalian species with an emphasis on raptors. I performed treatments, cleaning and feeding, selected rehabilitation work, and public presentations. Additionally, I trained volunteers and procured supplies and feeds.

1983 Small Mammal House
Brookfield Zoo
Brookfield, Illinois 60513
Intern Zoo Keeper

- As a summer intern, my duties included maintaining indoor and outdoor exhibits, animal shifting, observations and feeding. I prepared food plates for insectivorous, omnivorous, carnivorous and frugivorous diets.

SPECIAL TRAINING:

Incubation Workshop 2011- SDZG and LAZ sponsored. Hands- on weeklong training on incubation, chick development, break-outs and keeping related documents.

IACUC 101: PRM&R and ARENA 2 day workshop on IACUC. Also attended rest of conference. March 14-15, 2005 Baltimore. MD

WEBINAR:

IACUC – AZA Academy, Webinar June 19, 2013. E.J. Bicknese. NP Training Works Webinars. (http://www.nptrainingworks.com/; NP Training Works, Suite 116, 3349 Monroe Avenue, Rochester NY 14618)

PUBLICATIONS:

Cerebral *Angiostrongylus cantonensis* in a captive African Pygmy falcon, *Polihierax semitorquatus,* in Southern California . R.E. Burns, E.J.Bicknese, Y.Qvarnstron et al. Journal of Veterinary Diagnostic Investigation. 2014 26(5) 695-98.

Tumoral Calcinosis Form of Hydroxyapatite Deposition Disease in Related Red-Bellied Short-Necked Turtles, Emydura subglobosa. R. E. Burns, E. J. Bicknese, J. L. Westropp, R. Shiraki and I. H. Stalis. *Vet Pathol* 2013 50(3): 443-450 originally published online 1 March 2013 DOI: 10.1177/0300985813480511

Kate Gustavsen, Beth Bicknese. ANATRICHOSOMIASIS in: Napier, J.E. and K. C. Gamble (eds). Infectious Diseases of Concern to Captive and Free Ranging Animals in North America, 1st ed. 2011. Infectious Disease Committee, American Association of Zoo Veterinarians, Yulee, Florida. 374 pp. Website address: http://www.aazv.org/displaycommon.cfm?an=1&subarticlenbr=754.

Conor P. Kilgallon, Beth Bicknese, and David A. Fagan. SUCCESSFUL TREATMENT OF CHRONIC PERIAPICAL OSTEOMYELITIS IN A PARMA WALLABY (MACROPUS PARMA) USING COMPREHENSIVE ENDODONTIC THERAPY WITH APICOECTOMY. In press for December 2010 publication in Journal of Zoo and Wildlife Medicine.

Elizabeth J. Bicknese, April L. Childress, James F.X. Wellehan Jr. A NOVEL HERPESVIRUS OF THE PROPOSED GENUS *CHELONIVIRUS* FROM AN ASYMPTOMATIC BOWSPRIT TORTOISE (*CHERSINA ANGULATA*.) Journal of Zoo and Wildlife Medicine 41(2): 353–58.2010.

Salmonella and Reptiles: Veterinary Guidelines. 2009. Journal of Herpetological Medicine and Surgery 19 (2): 36.

Salmonella and Reptiles: Client Education Handout. 2009. Journal of Herpetological Medicine and Surgery 19 (2): 37.

Donovan T.A., M.D. Schrenzel, T. Tucker, A.P. Pessier, B. Bicknese, M.D. Busch, A.G. Wise, R. Maes, M. Kiupel, C. McKnight, R.W. Nordhausen. 2009. Meningoencephalitis in a polar bear caused by equine herpesvirus 9 (EHV-9). Veterinary Pathology 46(6): 1138–43

E. J. Bicknese, J. W. George, D. H. Hird, J. Paul-Murphy, J. A. Anderson, and J. A. Roberts. 1993. Prevalence and Risk Factors for Iron Deficiency Anemia in Weanling Rhesus Macaques. Lab. Anim. Sci. 43 (5): 434–438

PAPERS PRESENTED AT SCIENTIFIC MEETING:

2011: The Challenges and Rewards of Conducting Research and Running and an IACUC in a Zoo Setting. Elizabeth Bicknese. Presented in the Charles C. Hunter Lecture, Special topics Section, of the 62nd American Association for Laboratory Animal Science.

2010:

Cryptococcal meningitis and optic neuritis in a Chinchilla (*Chinchilla lanigera*) . Elizabeth Bicknese, Amanda White,Allan Pessier, and Geoff Pye. Presented at the Annual Conference of Association of Exotic Mammal Veterinarians (joint conference with AAV).

2009:

ITRACONAZOLE TREATED CANV (*Chrysosporium anamorph* of *Nannizziopsis vriesii*)

DERMATITIS IN GREEN ANACONDAS (*Eunectes murinus murinus*). Elizabeth J Bicknese. Presented at the Annual Conference of Amphibian and Reptilian Veterinarians.

2008:

A NOVEL HERPESVIRUS OF THE PROPOSED GENUS *CHELONIVIRUS* FROM AN ASYMPTOMATIC BOWSPRIT TORTOISE (*Chersina Angulata*)

Elizabeth J. Bicknese[1], James F.X. Wellehan Jr.[2], April L. Childress[2];* Presented at Annual Conference of Amphibian and Reptile Veterinarians.

SUCCESSFUL TREATMENT OF FUNGAL OSTEOMYELITIS IN A PARSON S CHAMELEON (*CALUMMA PARSONII*) USING SURGICAL AND ANTI-FUNGAL TREATMENTS. *Elizabeth J. Bicknese, MPVM DVM[1], Allan Pessier, DVM, Dipl ACVP[2] , and Nancy Boedeker, DVM[3].* Presented at Annual Conference of Amphibian and Reptile Veterinarians.

A CYCLIC REGIMENT OF LOW-DOSE DOXYCYCLINE TO TREAT PERIODONTAL DISEASE IN A CHACOAN PECCARY (*Catagonus wagneri*), RED PANDAS (*Ailurus fulgens*), AND BAT-EARED FOXES (*Otocyon megalotis megalotis*)

Elizabeth J. Bicknese DVM, MPVM,[1] David A. Fagan DDS,[2] and Nadine Lamberski, DVM, Dipl. ACZM[3].* Presented at annual Conference of the American Association or Zoo Veterinarians

2005:

CHRONIC LOW-DOSE DOXYCYCLINE AS A TREATMENT FOR PERIODONTAL DISEASE IN PRIMATES. Elizabeth J. Bicknese DVM, MPVM[1]*, David A. Fagan DDS. Presented at annual Conference of the American Association or Zoo Veterinarians.

2002: E.J. Bicknese, D. A. Fagan. Low Dose Doxycycline Treatment to Control Periodontal Disease in Multiple Primate Species- a preliminary report. Presented at the 2002 Zoo Animal Dental Symposium in conjunction with the American Association of Zoo Veterinarians Annual Conference at Milwaukee, Wisconsin in October 2002.

1995 E. J. Bicknese and M. R. Cranfield. Cyanoacrylate Treatment for Corneal Ulcers in Kokoe-Pa Poison Dart Frogs (Dendrobates histrionicus). Presented at the 2nd Annual Conference of the Association of Reptilian and Amphibian Veterinarians at Sacramento, California in October, 1995.

1993 M. R. Cranfield and E. J. Bicknese. The Identification and Evaluation of Disease within species with a designated Species Survival Plan. Presented at the American Association of Zoo Veterinarians Annual Conference at St. Louis, Missouri in October, 1993.

1993 E. J. Bicknese. Review of Avian Sarcocystosis. Presented at the Association of Avian Veterinarians Annual Conference at Nashville, Tennessee in August, 1993.

1992 E. J. Bicknese, R. D. Murrnane, B. A. Rideout, R. M. Bunte, and L. A. Miller. A Pathologic Muscular Form of Sarcocystitis in Two Species of Exotic Columbiformes. Presented at the American Association of Zoo Veterinarians Annual Conference at Oakland, California in November, 1992.

1992 E. J. Bicknese, J. W. George, D. H. Hird, J. Paul-Murphy, J. A. Anderson, and J. R. Roberts. Prevalence and Risk Factors for Iron Deficiency Anemia in Weanling Rhesus Macaques. Presented at the Student Manuscript Competition of the American Association of Zoo Veterinarians Annual Conference at Oakland, California in November, 1992.

1989 E. J. Bicknese, P. H. Eiselle, J. W. George. Psychogenic Polydipsia in Individually Housed Adult Rhesus Macaques (Macaca mulatta). Presented at the 40th Annual Conference of the American Association of Laboratory Animal Science at Little Rock, Arkansas in August 1989.

1989 L. G. Doyle, E. J. Bicknese, J. Markovits, and J. R. Roberts. Microcytic Anemia Associated with Multiple Intestinal Carcinomas in an Aged Rhesus Macaque (Macaca mulatta). Presented at the 40th Annual Conference of the American Association of Laboratory Animal Science at Little Rock, Arkansas in August, 1989.

1989 E. J. Bicknese, J. A. Anderson. and P. H. Eiselle. Epidemiology of Lameness in Ascorbic Acid Deficient Juvenile Rhesus Macaques (Macaca mulatta). Presented at the 17th Annual Association of Primate Veterinarians Workshop at Mobile, Alabama in August, 1989 and at the American Association of Zoo Veterinarians Annual Conference at Greensboro, North Carolina in October, 1989.

POSTERS PRESENTED AT SCIENTIFIC MEETINGS:

2013 E. J. Bicknese, Megan EB Jones. Gastric Pneumatosis in a Bengal Slow Loris (*Nycticebus coucang bengalensis*). Presented at the American Association of Zoo Veterinarians annual conference at Salt Lake City. October 2013. P 156-7.

1990 E. J. Bicknese,. Rhabdomyolysis in Macaques. Presented at the American Association of Zoo Veterinarians Annual Conference at South Padre Island, Texas in October, 1990.

INVITED PRESENTATIONS:

1996 E. J. Bicknese. Non – Infectious Primate Diseases. Presented at the First Annual Exotic Animal Symposium for the Wildlife and Zoological Medicine Society of Colorado State University Veterinary School at Fort Collins, Colorado in March, 1996.

1992 E. J. Bicknese. Monitoring of the Critical Care Neonate. Presented at the Zoological Society of San Diego Biannual Nondomestic Neonatal Husbandry and Medicinal Care Symposium at San Diego, California in September, 1992.

Meg Sutherland-Smith
Director, Veterinary Services, San Diego Zoo
San Diego Wildlife Alliance
619-685-3266
msutherlan@sdzwa.org

WORK EXPERIENCE:

- Rotating Small Animal Internship at the Animal Medical Center in Manhattan, New York. July 1989-July 1990
- Zoological Medicine Residency, San Diego Zoo, San Diego, California. August 1990-August 1992
- Associate Veterinarian, San Diego Zoo, San Diego, California. September 1992-September 2004
- Senior Veterinarian, San Diego Zoo, San Diego, California. September 2004-September 2006
- Veterinary Clinical Operations Manager, San Diego Zoo, San Diego, California. September 2006-September 2011
- Associate Director of Veterinary Services, San Diego Zoo, San Diego, California. September 2011-August 2018
- Director of Veterinary Services, San Diego Zoo, San Diego, California. August 2018 - present

EDUCATION:

- Bachelor's in Arts and Sciences, Virginia Tech, 1982
- Master's in Biochemistry, North Carolina State University, 1986
- Doctorate in Veterinary Medicine, North Carolina State University, 1989

CERTIFICATIONS:

- Diplomate of the American College of Zoological Medicine, 2005

CONSERVATION/FIELD PROJECTS:

- China, captive giant pandas
- Paraguay, tagua
- Peru, Andean bear
- California, USA, San Clemente Island loggerhead shrike

PROFESSIONAL ORGANIZATIONS:

- American Veterinary Medical Association
- American Association of Zoo Veterinarians
  - Secretary, 2011-2012
  - Vice-President, 2012-2013
  - President-Elect, 2013-2014
  - President, 2014-2015
- Association of Avian Veterinarians
- Association of Reptile and Amphibian Veterinarians
- European Association of Zoo Veterinarians
- Association of Zoos and Aquariums

PUBLICATIONS:

- Available upon request

Matt Marinkovich, DVM, DACZM

mmarinkovich@sdzwa.org

[redacted] San Diego, CA 92014

POST-GRADUATE EDUCATION

University of California, Davis/San Diego Zoo Global
Resident in Zoological Medicine, July 2017 – July 2019

- Intensive clinical residency in zoological medicine. Year 1 based out of the Sacramento Zoo, UC Davis School of Veterinary Medicine, the Marine Mammal Center, and California National Primate Research Center. Year 2 based out of the San Diego Zoo. Year 3 at Sea World San Diego, Sea World San Diego Hubbs Research Institute, and the San Diego Zoo Safari Park.
- Served as veterinary representative for San Diego Zoo Global's response to confiscation of >10,000 confiscated endangered radiated tortoises in Madagascar (2018). Performed triage and emergency treatments over 2 week period.
- Performed on-site health assessments, medical care, and pre-release exams for endangered Hawaiian forest birds at breeding centers on Maui and the big island of Hawaii (2019).
- Completed the San Diego Zoo Global Evidence Based Animal Welfare Course (2018).
- Attended the San Diego Zoo Global Egg Incubation Workshop (2018).

The Animal Medical Center, New York, NY
Specialty Intern in Emergency and Critical Care, June 2015 – June 2016

- Intensive specialty internship under the guidance of three board-certified criticalists
- Supervised rotating interns in the emergency room setting and oversaw critical cases in a high volume ICU – responsibilities identical to first year Critical Care resident
- Acted as primary clinician on after-hour exotics emergencies
- Participated in regular teaching rounds and journal club with both Exotics and Critical Care departments.

The Animal Medical Center, New York, NY
Intern in General Medicine and Surgery, June 2014 – June 2015

- Rotating clinical training program in emergency, medicine, and surgical specialties

EDUCATION

Cornell University College of Veterinary Medicine, Ithaca, NY
Doctor of Veterinary Medicine, May 2014

Westmont College, Santa Barbara, CA
Bachelor of Science, cum laude, *in Biology*, May 2007

PUBLICATIONS

- Marinkovich M, Wisner ER, Brenner DJ. Distal limb swelling and periosteal productive reaction in periparturient Sichian takin (*Budorcas taxicolor tibetana*): five cases of presumptive hypertrophic osteopathy. J Zoo Wildl Med. 2019:50(2);437-446.Abstract presented at AAZV 2018 in Prague, CZ.
- Marinkovich M, Wack RF, Field CL, Whoriskey ST, Kass PH, Gjeltema J. Evaluation of serial blood lactate and evaluation of a point-of-care lactate meter in live-stranded pinnipeds. J Zoo Wildl Med. 2019:50(1);137-146.Abstract presented at IAAAM 2018 in Long Beach, CA.
- Marinkovich M, Sanchez-Migallon Guzman D, Hawkins M, Gleeson M, Chou PY. Open reduction and stabilization of a luxated coxofemoral joint in a domestic rabbit (*Oryctolagus cuniculus*) using a toggle-pin fixation. J Exot Pet Med. 2019:30(1);43-49.

- Marinkovich M, Quesenberry K, Donovan T, Le Roux A. Use of a standing computed tomography scan to aid in the diagnosis of a primary respiratory adenocarcinoma in a scarlet macaw (*Ara macao*). J Exot Pet Med. 2017:26(2);101-107. Abstract presented at AAZV 2015 in Portland, OR.
- Marinkovich M, Wallace C, Morris P, Rideout B, Pye G. Lessons from a retrospective analysis of a five-year period of pre-shipment testing at San Diego Zoo: a risk-based approach to pre-shipment testing may benefit animal welfare. J Zoo Wildl Med. 2016:47(1);297-300.
- Wallace C, Marinkovich M, Morris PJ, Rideout B, Pye G. Lessons from a retrospective analysis of a five-year period of quarantine at San Diego Zoo: a risk-based approach to quarantine isolation and testing may benefit animal welfare. J Zoo Wildl Med. 2016:47(1);291-296.
- Siniard WC, Sheley MF, Stevens BN, Parker-Graham CA, Roy MA, Watson KD, Marinkovich MJ. Robertson JA, Frei S, Soto E. Immunohistochemical analysis of pigment cell tumors in two cyprinid species (*Cyprinus carpio* and *Carassius auratus*). Accepted to the Journal of Veterinary Diagnostic Investigation.

MISCELLANEOUS RESEARCH

- Pye G, Wallace C, Marinkovich M, Morris P, Rideout B*, Institutional Risk Analysis: A Smarter Basis for Pre-shipment Testing and Quarantine Elimination?* Abstract presented by Dr. Geoffrey Pye at AAZV 2014 in Orlando, FL.
- Bliss TN, Marinkovich MJ, Burns RE, Clancy MM, Howard LH. Comparison of diagnostics predictors of neonatal viability in nondomestic caprinae at the San Diego Zoo and the San Diego Zoo Safari Park. Poster presented at AAZV 2019 in St. Louis, MO.
- Raphael BL, Andriamihajarivo MA, Bartlett SL, Conley KJ, Innis CJ, Koplos PM, Leach KS, O'Connor MR, Marinkovich MJ, Nielsen A, Perry SM, Rakotoarisoa NAT, Ramsay EC, Rosenberg JF, Shaw SD. The Turtle Survival Alliance (TSA) response to the confiscation of a large group of radiated tortoises (*Astrochelys radiata*) in Madagascar in 2018. Abstract presented at the 16th Annual Symposium on the Conservation and Biology of Tortoises and Freshwater Turtles (2018).

AWARDS

- Phi Zeta Veterinary Honor Society, Alpha Chapter, *CUCVM*, 2014
- The Daphne Award, *CUCVM*, 2014
  "This award was established to recognize clinical proficiency and assist new graduates beginning a career in a practice setting. It is awarded to a small number of graduating students who exemplify excellence in the practice of veterinary medicine; whose knowledge, professional skills, compassion, and high standards of patient care promise to advance a legacy of excellence throughout their professional careers."
- Isidor I. Sprecker Wildlife Medicine Award, *CUCVM*, 2013

EXPERIENCE

San Diego Zoo Wildlife Alliance, San Diego, California
Clinical Veterinarian, February 2020 – Present

American College of Zoological Medicine
Diplomate, October 2020 - Present

Cora L. Singleton, DVM, DACZM

[redacted] San Diego, CA 92115 • csingleton@sdzwa.org [redacted]

EDUCATION & VETERINARY TRAINING

Board Certified Specialist in Zoological Medicine 2018
American College of Zoological Medicine

Master of Public Health - Epidemiology 2022-2024
San Diego State University Global Campus

Resident in Zoological Medicine 2003-2006
University of California – Davis, Sacramento Zoo, San Diego Zoo, San Diego Wild Animal Park, SeaWorld San Diego

Internship in Zoological Medicine 2002-2003
Indianapolis Zoo, Indianapolis, IN

Internship in Small Animal Medicine and Surgery 2001-2002
Veterinary Specialists of South Florida, Cooper City, FL

Doctor of Veterinary Medicine 1997-2001
University of Wisconsin School of Veterinary Medicine, Madison, WI

Bachelor of Science, Wildlife Ecology 1990-1997
University of Wisconsin, Madison, WI

VETERINARY EMPLOYMENT

Senior Veterinarian Sep 16 – present
Associate Veterinarian Sep 14 – Sep 16
San Diego Zoo, San Diego Zoo Wildlife Alliance, San Diego, CA

Member of a team of six full-time veterinarians providing veterinary services to the San Diego Zoo.

Clinical Medicine

- Preventive, regulatory, critical care, and emergency medicine in inpatient and outpatient settings
- Advanced diagnostic imaging – computed tomography superuser
- Routine and emergency surgical procedures
- Basic endodontics

Collection Health

- Disease investigations – yellow-footed rock wallaby urolithiasis, Speke's gazelle neonatal morbidity and mortality, koala mortality, koala retrovirus infection and disease manifestation, lesser kudu vitamin E deficiency, red ruffed lemur toxoplasmosis
- Aging animal care – primate osteoarthritis grading, aging animal assessments

Regulatory Medicine

- Animal Transactions
  - Medical oversight of mammal acquisitions and dispositions
  - Revise and update preshipment testing requests
  - Employ risk-based quarantine process to optimize resource investment, improve animal welfare, and minimize risk to individual animals and larger collection
- DEA (Drug Enforcement Agency) licensee
  - Maintain license to facilitate controlled substance ordering
  - Perform controlled substances inventory
- USDA Accreditation

Liaison Roles

- Marsupial health liaison
  - Maintain working knowledge of health status of all marsupials
  - Complete annual medical reports for Australian government
- Neonatal Assisted Care Unit liaison
  - Facilitate difficult transition of unit between departments

    - Coach individuals in behavioral standards and change adaptation
- Pharmacy liaison
    - Evaluate and reduce on-site drug stock, based on drug usage and expiration
    - Develop system to prevent untracked future expansion of drug stock

Research Support

- Institutional Animal Care and Use Committee (IACUC) member
    - Evaluate and approve research protocols
    - Inspect facilities
    - Created field anesthesia and euthanasia guidelines
- Biomaterials Request Group (BRG) approver
    - Evaluate and approve biomaterials requests

Conservation Support

- Koala Education and Conservation Program – Veterinary Advisor
    - Train veterinarians new to caring for koalas on loan from San Diego Zoo
    - Consult on koala medical cases at other institutions
    - Assist with creation of annual report distributed to holding facilities
- SDZWA Conservation Hubs
    - Australian Forests – co-leader (2022-2024)
    - Amazonia member – veterinary consultation with two animal sanctuaries in Peru (2021)
- Koala Retrovirus Symposium (May 2021)
    - Symposium Planning Committee member (2019-2021)
    - Proceedings co-editor (2022)

Associate Veterinarian Apr 09 – Sep 14

Riverbanks Zoo and Garden, Columbia, SC

Member of a team of two full-time veterinarians providing veterinary services to the Riverbanks Zoo, with a collection size of approximately 2000 vertebrates, which consists of 45% fish, 26% reptiles, 14% birds, 8% amphibians, and 7% mammals. Clinical caseload approximately 40% mammals, 40% birds, 10% reptiles and amphibians, and 10% fish.

Clinical Responsibilities

- Provide preventive and emergency medical and surgical services for collection animals
- Provide medical and surgical care for injured free-ranging raptors
- Coordinate medical aspects of animal shipments
- Perform necropsy examinations, evaluate pathology trends
- Evaluate animal diets and implement changes

Conservation Contributions

- Field Veterinarian, Bezá Mahafaly Lemur Biology Project, Madagascar 2010, 2011, 2012
    - Secure grant funding to conduct independent research projects
    - Organize, order, and transport medical supplies internationally
    - Anesthetize and capture free-ranging ring-tailed lemurs
    - Perform health exams, collect and analyze biological samples, and evaluate data
- Riverbanks Zoo Conservation Support Fund 2012, 2013
    - Member of team that reviews and evaluates applications for small conservation grants

Zoo Veterinarian II Aug 06 – Apr 09

Los Angeles Zoo, Los Angeles, CA

Member of a team of five full-time and two part-time veterinarians providing veterinary services to the Los Angeles Zoo and clinical instruction to veterinary students at the Western University of Health Sciences.

Clinical Responsibilities

- Provide preventive and emergency medical and surgical services for collection animals
- Coordinate medical aspects of domestic and international animal shipments, including CDC primate quarantine
- Perform necropsy examination, evaluate pathology trends

Conservation Contributions

- California Condor Recovery Program
    - Provide routine and emergency veterinary care for captive and free-flying California condors

- Conduct health evaluations of wild-hatched chicks at the nest sites
- Peninsular Pronghorn Recovery Project
  - Collaborate with three other zoos to provide medical care for semi-captive herd and nursery facility
  - Conduct disease surveillance of pronghorn prior to translocation
  - Anesthetize and translocate adult pronghorn between management sites

Clinical Teaching

- Western University third year veterinary student rotation
  - Six students rotating every two weeks for mandatory exposure to zoological medicine
  - Mentor students as individuals and in groups in problem-based learning format
- Fourth year veterinary students
  - Domestic and international students and recent veterinary graduates
  - Provide instruction in comparative clinical techniques, medicine, and surgery

Adjunct Faculty Aug 06 – Apr 09
Western University of Health Sciences, Pomona, CA

Relief Veterinarian Jan 06 – Aug 06
Los Angeles Zoo, Los Angeles, CA

Provide periodic solo weekend coverage during time of staff shortage.

- Responsible for medical and surgical care of animals in emergency situations and continuing care of animals with chronic illness
- Communicate with other staff and relief veterinarians to ensure continuity of care
- Perform necropsy examinations

MENTORSHIP & SUPERVISORY EXPERIENCE

Mentorship

- Senior veterinary students – performance reviews, mentor several student projects
- Zoological Medicine residents (two) – performance reviews, coaching

Supervisory

- Temporary direct supervision of five employees
  - Neonatal Assisted Care specialists (four)
  - Hospital Attendant (one)
- Conduct performance reviews
- Coach NACU team through departmental transfer

PUBLICATIONS – PEER-REVIEWED

Browning GR, **Singleton C**, Gibson D, Stalis IH. Outcomes of transplacental transmission of *Toxoplasma gondii* from chronically infected female red ruffed lemurs (*Varecia rubra*). *Journal of Zoo and Wildlife Medicine* 2021; 52(3): 1036-1041.

Thurber MI, **Singleton C,** Cray C. Reference intervals for acute phase proteins for koalas (*Phascolarctos cinereus*) at the San Diego Zoo. *Journal of Zoo and Wildlife Medicine* 2019; 50(3): 735-738.

Singleton CL, Sauther ML, Cuozzo FP, Jacky IAY. Age-related changes in hematology and blood biochemistry values in endangered, wild ring tail lemurs (*Lemur catta*) at the Bezà Mahafaly Special Reserve, Madagascar. *Journal of Zoo and Wildlife Medicine* 2018; 49(1): 30-47.

Singleton C, Norris A, Sauther ML, Cuozzo FP, Jacky Youssouf IA**.** Ring-tailed lemur (*Lemur catta*) health parameters across two habitats with varied levels of human disturbance at the Bezà Mahafaly Special Reserve, Madagascar. *Folia Primatologica* 2015; 86(1-2): 56-65.

Singleton C, Larsen RS, Wack R. Bacteriologic and nutritional evaluation of a commercial raw meat diet as part of a raw meat safety program. *Zoo Biology* 2012; 31(5): 574-585.

Singleton C, Oosterhuis J, Seibold K, Lamberski N. Successful treatment of a venomous snakebite in a caracal (*Caracal caracal*). *Journal of Zoo and Wildlife Medicine* 2009; 40(2):378-381.

Singleton C, Wack R, Zabka T, Kent M, Larsen RS. Diagnosis and treatment of T-lymphocytic leukemia in a spotted hyena (*Crocuta crocuta*). *Journal of Zoo and Wildlife Medicine* 2007; 38(3): 488-491.

PUBLICATIONS – NON-PEER-REVIEWED

Cuozzo F, Sauther M, **Singleton C**. Interpreting the paleopathology of *Darwinius masillae*: A reply to Franzen et al. 2013. *Palaeobiodiversity and Palaeoenvironments* 2013; 93(3): 385-387.

Singleton C. 2013, 2020. Infectious Diseases of Concern to Captive and Free Ranging Animals in North America, 2nd ed. Gamble KC and MM Clancy (eds). Infectious Disease Committee, American Association of Zoo Veterinarians, Yulee, Florida. 614 p. https://www.aazv.org/page/754?&hhsearchterms=%22infectious+and+disease+and+manual%22

a. African Swine Fever
b. Classic Swine Fever
c. Erysipelas
d. Porcine Brucellosis
e. Swine Vesicular Disease
f. Vesicular Exanthema of Swine
g. Vesicular Stomatitis

Singleton C. Use of Unpasteurized Honey as a Topical Wound Dressing. *Journal of the Elephant Managers Association* 2004; 15(2): 20-23.

Singleton C, Ramer J, Proudfoot J. Use of unpasteurized honey to treat a deep, infected wound in an African elephant (*Loxodonta africana*). *Journal of the Elephant Managers Association* 2004; 15(2): 15-18.

INVITED PRESENTATIONS – ORAL

Winter JM, Corner S, **Singleton CL**. Causes of mortality of Andean bears (*Tremarctos ornatus*) in zoological institutions. In proceedings, American Association of Zoo Veterinarians, 2021.

Singleton CL, Stadler CK, Philis-Tsimidas A, Sharipov H, Gaffney PM. Use of a continuous glucose monitor to aid in management of insulin-dependent diabetes mellitus in a koala (*Phascolarctos cinereus*). In proceedings, American Association of Zoo Veterinarians, 2019.

Golembeski M, Stacy NI, Rideout B, **Singleton C**. Fatal nonregenerative anemia in retroviral-infected koalas (*Phascolarctos cinereus*): a possible sequela with characteristic clinical manifestation. In proceedings, American Association of Zoo Veterinarians, 2019.

Furst EA, Dennison S, **Singleton C**. Spinal osteoarthritis in geriatric primates: a proposed radiological scoring system. In proceedings, American Association of Zoo Veterinarians, 2019.

Singleton C, Mulot B, Rideout B. Retrospective review of mortality in Queensland koala (*Phascolarctos cinereus*) in zoological facilities in North America (1976–2016) and Europe (1987–2017). In proceedings, American Association of Zoo Veterinarians, 2018.

Singleton C, Norris A, Sauther M, Cuozzo F, Jacky I. Age-related changes in hematology, plasma biochemistry, and urinalysis values in endangered, wild ring-tailed lemurs (*Lemur catta*) at the Beza Mahafaly Special Reserve, Madagascar. In Proceedings, American Association of Zoo Veterinarians, 2012.

Singleton C, Sykes J, Eng C, Krieger M. Dorsal laminectomy for removal of a cavernous angioma in an emperor tamarin (*Sanguinus imperatus*). In Proceedings, American Association of Zoo Veterinarians, 2008.

Singleton C, Morris P. Survey of foot problems in a collection of captive exotic swine. In Proceedings, American Association of Zoo Veterinarians, 2006.

Singleton C, Larsen RS, Wack R. Nutritional and bacteriologic evaluation of a commercial raw meat product. In Proceedings, Veterinary Medical Teaching Hospital House Officer Seminar Day, UC Davis, CA, 2006.

Singleton C, Larsen RS, Wack R. Nutritional and bacteriologic evaluation as part of a raw meat quality control program. In Proceedings, American Association of Zoo Veterinarians, 2005.

Singleton C, Nichols D, Montali D. Poxvirus infection in captive European red tree squirrels (*Sciurus vulgaris*). In Proceedings, American Association of Zoo Veterinarians Pathology Workshop, 1999.

INVITED PRESENTATIONS – POSTER

Freeman ME, Dennison S, **Singleton CL**. A proposed radiological scoring system for shoulder and elbow osteoarthritis in geriatric nonhuman primates. In proceedings, American Association of Zoo Veterinarians, 2019.

King-Smith M, Dennison S, **Singleton CL.** A proposed radiological scoring system for osteoarthritis in the hips and knees of nonhuman primates. In proceedings, American Association of Zoo Veterinarians, 2019.

Singleton C, Sutherland-Smith M, Bicknese E, Nevitt, B, Schlegel M. Clinical and nutritional investigation into urolithiasis in yellow-footed rock wallabies (*Petrogale xanthopus*). In Proceedings, Wildlife Disease Association, 2015.

Singleton C, Norris A, Sauther M, Cuozzo F, Jacky I. Age and habitat effects on hematology, plasma biochemistry, and urinalysis values in endangered, wild ring-tailed lemurs (*Lemur catta*) at the Beza Mahafaly Special Reserve, Madagascar. In Proceedings, American Association of Physical Anthropologists, 2014.

Singleton C, Norris A, Sauther M, Cuozzo F, Jacky I. Evaluation of three test kits for the manual counting of leukocytes in whole blood in wild and captive ring-tailed lemurs (*Lemur catta*). In Proceedings, American Association of Zoo Veterinarians, 2012.

Singleton C, Larsen RS, Wack R. Use of oral hypoglycemic drugs for the management of type II diabetes mellitus in prosimians. In Proceedings, American Association of Zoo Veterinarians, 2006.

Singleton C, Ramer J, Proudfoot J. Use of unpasteurized honey to treat a deep, infected wound in an African elephant (*Loxodonta africana*). In Proceedings, American Association of Zoo Veterinarians, 2004.

GRANTS RECEIVED

Cytological Characterization of Blood and Bone Marrow and Association with Koala Retrovirus Infection in Koalas (*Phascolarctos cinereus*) in the Wild and at San Diego Zoo — 2019
- Collection Health Research Initiation Fund, San Diego Zoo. $4100 (full amount requested)

Clinical and Nutritional Investigation into Urolithiasis in Yellow-footed Rock Wallabies (*Petrogale xanthopus*) — 2015
- Collection Health Research Initiation Fund, San Diego Zoo. $7764 (full amount requested)

A Comparison of Health Parameters of Endangered, Wild Ring-tailed Lemurs (*Lemur catta*) across Two Habitats and with Varied Levels of Human Disturbance at the Beza Mahafaly Special Reserve, Madagascar — 2012
- American Society of Primatologists. $800 ($1500 requested)
- Riverbanks Zoo Conservation Support Fund. $4354 (full amount requested)

Comparison of White Blood Cell Count Tests in Wild Ring-tailed Lemurs (*Lemur catta*) — 2011
- Riverbanks Zoo Conservation Support Fund. $940 (full amount requested)

Evaluation of Urine Parameters in Wild Ring-tailed Lemurs (*Lemur catta*) — 2011
- Riverbanks Zoo Conservation Support Fund. $5000 (full amount requested)

Nutritional and Bacteriologic Evaluation of a Commercial Raw Meat Diet — 2004
- Columbus Zoo and Aquarium Conservation Fund. $1445 (full amount requested)

PROFESSIONAL MEMBERSHIPS

American College of Zoological Medicine
- Diplomat status — 2018 – present

American Association of Zoo Veterinarians
- Infectious Disease Committee member — 2010 – present

- Conference Poster Session Chair 2009
- Strategic Planning Committee participant 2009

Association of Zoos and Aquariums

- Accreditation Inspector, in training 2022 – present
- Veterinary Advisory Group
    - Andean Bear Species Survival Plan – Veterinary Co-advisor 2020 – present
    - Koala Species Survival Plan – Veterinary Advisor 2014 – present
    - Monotreme and Marsupial Taxon Advisory Group – Veterinary Co-advisor 2014 – present
    - Wild Pig, Peccary and Hippo Taxon Advisory Group – Veterinary Co-advisor 2008 – present

Wildlife Disease Association

- Veterinary Section – member
- Australasia Section – member

American Veterinary Medical Association

VETERINARY LICENSURE

Veterinary Medical Licensure – California
National Veterinary Accreditation Program – active Category II veterinary accreditation
Drug Enforcement Administration – active controlled substance registration certificate

BENJAMIN NEVITT, DVM, DACZM

[redacted]

San Diego, CA 92123

[redacted]

EDUCATION

University of Illinois, College of Veterinary Medicine, Chicago, IL
Graduate student with course work focusing on statistics, epidemiology, and advanced topics in zoologic medicine. 2011-2014

University of Florida, College of Veterinary Medicine Gainesville, FL
Doctor of Veterinary Medicine 2005-2009

Washington University in St. Louis St. Louis, MO
Bachelor of Arts and Sciences in Biology 2001-2005

EMPLOYMENT:

San Diego Zoo, San Diego Zoo Wildlife Alliance San Diego, CA
Associate Veterinarian 2014-2020
Senior Veterinarian 2020-2022
Veterinary Clinical Operations Manager 2022-present
Special skills: Computed tomography, laparoscopic surgery, endoscopy, ZIMS Subject Matter Expert

Illinois Zoological and Aquatic Animal Residency, University of Illinois, Chicago, IL
College of Veterinary Medicine, 2011-2014
Chicago Zoological Society (Brookfield Zoo) and John G. Shedd Aquarium

Denver Zoo Denver, CO
Relief veterinarian Spring 2011

Colorado State University, College of Veterinary Medicine Fort Collins, CO
Internship in Exotics and Zoological Medicine 2010-2011

Iowa State University, College of Veterinary Medicine Ames, IA
Rotating Internship in Small Animal Medicine 2009-2010

MEMBERSHIPS AND COMMITTEES:

Penguin TAG Veterinary Advisor Group 2020-Present

American College of Zoo Medicine, Diplomate 2017-Present

American Association of Zoo Veterinarians, Member 2011-Present
AAZV nominating committee member 2018-2022
2022 AAZV conference session chair, Mammals II Oct 2021

American Veterinary Medical Association, Member 2014-Present

Association of American Reptile and Amphibian Veterinarians, Member 2014-Present

International Association for Aquatic Animal Medicine, Member 2016-Present

FIELD WORK AND CONSERVATION EXPERIENCE:

Desert Tortoise Recovery Program, San Diego Zoo, Veterinary advisor 2017-Present

San Clemente Loggerhead Shrike Breeding Program, San Clemente Island, 2016-Present
Veterinary advisor

BENJAMIN NEVITT, DVM, DACZM

African Penguins, Southern African Foundation for the Conservation of Coastal Birds (SANCCOB), Veterinary support — Nov 2017, Apr 2018
Current research: Comparison of Polymerase Chain Reaction to Blood Smear Microscopic Evaluation for Detection of Haemosporidian in African Penguins (Spheniscus demersus) Under Rehabilitation.

Palawan Forest Turtle Confiscation, Palawan, Philippines — Jun 2015
Veterinary assistance with confiscation of ~3,800 critically endangered Palawan forest turtles

PEER-REVIEWED PUBLICATIONS:

Nevitt BN, Langan JN, Adkesson MJ, Delaney MA, Rubin DA, Muhlbauer MC, Colegrove-Calvey KM. Multifocal *Cryptococcus neoformans* var. *neoforms*: Infection, treatment, and monitoring by serial computed tomography in a Schmidt's red-tailed guenon (*Cercopithecus ascanius schmidti*). *Journal of Zoo and Wildlife Medicine 44(3): 728–736, 2013.*

Nevitt BN, Langan JN, Adkesson MJ, Drees R. Comparison of air sac volume, lung volume, and air sac density in awake and anesthetized Humboldt penguins (S*pheniscus humboldti*) positioned in ventral, dorsal, and right lateral recumbency using computed tomography. *American Journal of Veterinary Research 75(8): 739-745, 2014.*

Nevitt BN, Langan JN, Adkesson MJ, Wilson R. Diagnosis, treatment, and monitoring of chronic lymphocytic leukemia in a bat-eared fox (*Otocyon megalotis*). *Journal of the American Veterinary Medical Association 245(12): 1391-1395, 2014.*

Nevitt BN, Robinson N, Kratz G, Johnston M. Effectiveness of physical therapy as an adjunctive treatment for trauma-induced chronic torticollis in raptors. *Journal of Avian Medicine and Surgery 29(1): 30-39, 2015.*

Nevitt BN, Chinnadurai SK, Langan JN, Flower JE, Adkesson MJ. Prothrombin time and activated partial thromboplastin time using a point-of-care analyser (Abaxis VSpro®) in Bennett's wallabies (Macropus rufogriseus). *Australian Veterinary Journal 94(10): 384-386, 2016.*

Nevitt BN, Langan JN, Adkesson MJ, Jankowski G, West PG. Lumbar hemilaminectomy for treatment of discospondylitis in an aardvark (O*rycteropus afer*). *Journal of the American Veterinary Medical Association 252(4): 464-472, 2018.*

Nevitt BN, Naples LM, Poll CP, Mitchell MA. Evaluation of a portable chemistry analyzer for measurement of serum chemistry panels in beluga whales (*Delphinapterus leucas*). *In preparation.*

Kane LP, Langan JN, Adkesson MJ, Chinnadurai SK, **Nevitt BN**, Drees R. Successful treatment of mandibular osteomyelitis in two red-necked wallabies (*Macropus rufogriseus*) using long-term intensive pharmaceutical therapy and serial monitoring by computed tomography imaging. *Journal of the American Veterinary Medical Association 251(9): 1070-1077, 2017.*

Weeks JM, Langan JN, Gelb H, **Nevitt BN**, Corner S, Adkesson MJ Syringomyelia in the thoracolumbar spinal cord of an african wild dog (*Lycaon pictus*). *Biomed J Sci and Tech Res 1(5), 2017.*

Flower JE, Langan JN, **Nevitt BN**, Chinnadurai SK, Stacey R, Ivančić M, Adkesson MJ. Neonatal Critical Care and Hand-Rearing of a Bottlenose Dolphin (*Tursiops truncatus*) Calf. *Aquatic Mammals 44(5): 482-490, 2018.*

PRESENTATIONS WITH PUBLISHED ABSTRACTS:

Nevitt BN, Lamberski N. Vaccination of great apes at San Diego Zoo with experimental SARS-CoV-2 veterinary vaccine: Preliminary safety and titers. Proceedings of the 53rd Annual American Association of Zoo Veterinarians Conference. Virtual. 2021.

BENJAMIN NEVITT, DVM, DACZM

Nevitt BN, Kinney M, Morris P. Selection, acquisition, and incorporation of a portable computed tomography unit into two zoologic medical practices: pros, cons, and associated costs. Proceedings of the 51st Annual American Association of Zoo Veterinarians Conference. St. Louis, MO. 2019.

Nevitt BN, Johnson SP, Adkesson MJ, Naples LM, Van Bonn WG. Evaluation of alfaxalone-midazolam for sedation and anesthetic induction in California sea lions (*Zalophus californianus*) in a rehabilitation center. Proceedings of the 46th Annual International Association for Aquatic Animal Medicine Conference. Chicago, IL. 2015.

Flower JE, Langan JN, Chinnadurai S, **Nevitt BN**, Stacey R, Adkesson MJ. Neonatal critical care and hand-rearing of a bottlenose dolphin calf (*Tursiops truncatus*). Proceedings of the 46th Annual International Association for Aquatic Animal Medicine Conference. Chicago, IL. 2015.

Nevitt BN, Johnson SP, Adkesson MJ, Naples LM, Van Bonn WG. Evaluation of alfaxalone-midazolam for sedation and anesthetic induction in California sea lions (*Zalophus californianus*) in a rehabilitation center. Proceedings of the 46th Annual American Association of Zoo Veterinarians Conference. Orlando, FL. 2014.

Flower JE, Langan JN, Chinnadurai S, **Nevitt BN**, Stacey R, Adkesson MJ.Neonatal critical care and hand-rearing of a bottlenose dolphin calf (*Tursiops truncatus*). Proceedings of the 46th Annual American Association of Zoo Veterinarians Conference. Orlando, FL. 2014.

Kane L, Langan JN, Adkesson M, Chinnadurai S, **Nevitt BN**, Drees R. Successful treatment of mandibular osteomyelitis in two red-necked wallabies (*Macropus rufogriseus*) using long-term pharmaceutical therapy and serial monitoring by computed tomography imaging. Proceedings of the 46th Annual American Association of Zoo Veterinarians Conference. Orlando, FL. 2014.

Nevitt BN, Langan JN, Adkesson MJ, Mitchell MA, Drees R. Comparison of air sac and lung volume in awake and anesthetized Humboldt penguins (S*pheniscus humboldti*) positioned in ventral, dorsal, and right lateral recumbency using computed tomography. Proceedings of the 45th Annual American Association of Zoo Veterinarians Conference. Salt Lake City, UT. 2013.

Nevitt BN, Adkesson MJ, Sanchez CR, Langan JN, Jankowski G, West P. Treatment of Diskospondylitis Associated Intervertebral Disk Herniation in an Aardvark (*Orycteropus Afer*): Lessons on ICU Care and Rehabilitation Following a Lumbar Hemilaminectomy. Proceedings of the 44th Annual American Association of Zoo Veterinarians Conference. Oakland, CA.

Johnston MS, **Nevitt BN**. Effectiveness of Physical Therapy as an Adjunctive Treatment for Chronic Traumatically Induced Torticollis in Raptors. Proceedings of the 32nd Annual Association of Avian Veterinarians Annual Conference. Seattle, WA. 2011. p.79

PROFESSIONAL TRAINING AND CONTINUING EDUCATION

Annual American Association of Zoo Veterinarians Conference. (2011-2014, 2019, 2021)

Developing Your Unique Strengths As Leaders, 51st AAZV Conference Workshop, St. Louis, MO (2019)

Small Animal Laparoscopy Course for Veterinarians, Western University College of Veterinary Medicine, Pomona, CA (2018)

International Association for Aquatic Animal Medicine Conference. (2015-2018)

Clinical Techniques: Avian Orthopedics, 44th AAZV Conference Workshop, Oakland, CA (2012)

ACZM Short Course, North Carolina State University, Raleigh, NC (2012)

VCM 594: Clinical Epidemiology and Biostatistics, University of Illinois, College of Veterinary Medicine, Chicago, IL (2011)

Brandon Scott
Wildlife Care Manager
Department of Herpetology & Ichthyology
San Diego Zoo Wildlife Alliance 2029 Zoo Dr, San Diego CA 92101
619-557-3987 Bscott@sdzwa.org

Position: Wildlife Care Manager

Location: San Diego Zoo, California

Duration: May 2000 –Present

I am writing to provide a comprehensive overview of my extensive experience working with various Lizard species. Over the years, I have dedicated my efforts to the responsible care and management of the following reptiles:

Anegada Island Iguana (Cyclura pinguis) - 10 years

Armadillo girdled lizard (Ouroborus cataphractus)

Chameleons - 15 years

Cordylus – 17 year

Cuban Iguana (Cyclura nubila nubile) - 17 years

Exuma Island Iguana (Cyclura cychlura figginsi) - 5 years

Fiji Banded Iguana (Brachylophus bulabula) - 17 years

Gila Monsters (Heloderma suspectum) - 17 years

Different Species of Geckos – 17 years

Grand Cayman Blue Iguana (Cyclura lewisi) - 17 years

Horned lizards (Phrynosoma asio, Phrynosoma douglassii) - 17 years

Jamaican Iguana (Cyclura collie) - 17 years

Komodo Dragon (Varanus komodoensis) 17 years

Mexican Beaded Lizard (Heloderma horridum) 17 years

During this time, I have consistently prioritized the health, well-being, and conservation of these reptiles. My experience includes:

1. **Expertise in Species-specific Care:** Through continuous research and hands-on experience, I have developed a deep understanding of the unique requirements and behaviors of each species mentioned. This knowledge has allowed me to create and maintain environments that closely mimic their natural habitats.
2. **Veterinary Care and Health Monitoring:** I have established a rigorous veterinary care routine, ensuring regular health check-ups, vaccinations, and prompt treatment in case of any illness. Detailed health records are maintained for each individual, contributing to the overall well-being of the reptiles under my care.
3. **Breeding Success:** With a strong focus on conservation efforts, I have successfully bred several of the mentioned species. This has not only contributed to the preservation of these species but has also provided valuable insights into their reproductive behaviors and requirements.
4. **Enclosure Design and Maintenance:** I have designed and maintained secure and species-appropriate enclosures, emphasizing safety, enrichment, and stimulation. Each enclosure is tailored to the specific needs of the reptiles to ensure their physical and psychological health.
5. **Public Education and Outreach:** Recognizing the importance of public awareness in reptile conservation, I have actively engaged in educational programs and outreach initiatives. This includes conducting workshops, presentations, and guided tours to impart knowledge about these fascinating creatures.

I am committed to upholding the highest standards of care, ethics, and conservation in the management of these reptiles.

Brett R. Baldwin

Curriculum Vitae

CONTACT INFO:

Tel: 619/685-3282

Email: bbaldwin@sdzwa.org

EDUCATIONAL HISTORY:

1986-1995 B.S. Biology, McMurry University

PROFESSIONAL EXPERIENCE:

1988-1993 Keeper II- Reptiles, Amphibians, Birds and Small Mammals-Abilene Zoological Gardens

1994-1996 Lead Keeper-Reptiles, Amphibians and Fish

1997-2011 Sr. Keeper Herpetology Department, San Diego Zoological Society

2011-2013 Lead Keeper Herpetology Department, San Diego Zoological Society

2014-2016 Animal Care Supervisor Herpetology Department, San Diego Zoological Society

2017-2019 Animal Care Manager Herpetology Department, San Diego Zoological Society

2019-Current Associate Curator of Herpetology and Ichthyology, San Diego Zoological Society

CAPTIVE MANAGEMENT EXPERIENCE:

During 35 years of zoological work I have worked with multiple species of venomous animals including *Helodermatids,* King cobras, Papuan taipans, several species of *Naja* including *pallida*, annulata, Western green mambas, Collett's

black snakes, death adders, 2 *Bungarus sp*. South American bushmasters, black-headed bushmasters, 3 species of *Bothrops*, 5 species of *Atheris*, 8 *Bitis sp*. I have experience with many species of *Trimeresurus*, *Crotalus sp* including *durissus, lepidus, triseriatus, polystictus, cerastes, catalinensis, horridus, helleri, atrox, ruber, mitchelli*

Experience includes writing venomous handling and snake bite protocols, antivenin ordering and inventory, training new staff on venomous snake handling, hooks, tongs.

Training staff on tubing venomous snakes.

PROFESSIONAL AND SCHOLARLY ACTIVITIES:

1999 August 1998, I applied for Arizona state collecting permits through the San Diego Zoo for *Crotalus l. klauberi* and *Crotalus pricei*; permits issued, live specimens were collected 1999-2000

2002-Present SSP Coordinator, Studbook Keeper, South American Bushmaster, *Lachesis muta*

2015-Present SDZG (San Diego Zoo Global) IACUC Committee member

2018-Present Steering Committee Chair, West Indian Iguana SSP (Species Survival Plan)

1988-2002 I led six separate biological field course trips teaching ***Biology Field Studies: Mexico*** in eastern Mexico with Dr. Robert Martin, McMurry University.

1994-1996 Worked Dr. Robert Martin of McMurry University with his fauna study of Copper Breaks State Park, Texas, funded by a federal grant.

2006 Field work in Indonesia on a CRES (Center for Reproduction of Endangered Species, SDZ) field study project of Komodo dragons on the islands of Flores, Rinca and Gili Motang. It was a five-year study headed by Dr. Tim Jessop.

2008 Field work in Mexico collecting live herpetological specimens in Sonora, Sinaloa, Nayarit, Colima, Jalisco, Chihuahua, Durango and Michoacan with staff from the Los Angeles Zoo for our respective institutions under a collaborative project between the institutions.

2014 Field work with Stephen Spear in assisting with his survey in Costa Rica, "Testings survey methods to enable a monitoring program for two cryptic bushmaster species (*Lachesis melanocephala and L. stenophrys*)"

2018 Participated in a massive radiated tortoise recovery and rescue of a confiscation of over 9,000 animals in Madagascar.

2019 worked with WCS and TSA constructing and advising on building breeding pools in Cambodia for endangered Royal river terrapin, *Batagur affinis.*

2020 Nevitt, Ben, Baldwin, Brett "The effects of natural sunlight on 25-hydroxyvitamin D3 in Mangshan mountain pitvipers (*Protobothrops mangshanensis*) in human managed population". **In progress**

PUBLICATIONS:

Baldwin, Brett, 1998. The Little Tiger. ZOONOOZ, NOOZNOTES.

Boyer, D. And B. Baldwin, "A Simple Method of Preventing Self-inflicted Injury when Feeding a Dicephalic California Kingsnake, *Lampropeltis getulus californiae*; in ARAV Vol. 7, No. 3, 1998.

Baldwin, Brett, 2000. And Now From the Reptile House, Raca Daca What?; Snake Success. September.

Baldwin, Brett, 2003. Leapin' Lizards! Emerald Tree Monitors Keep Watch From Above. ZOONOOZ, June.

Baldwin, Brett, 2003. Little Buzzers In the Sky. ZOONOOZ, March.

Baldwin, Brett, 2006. The Successful Reproduction and Captive Husbandry of Varanus prasinus. IGUANA vol.13, #4 (International Reptile Conservation Foundation publication).

Baldwin, Brett, Boyer, Don, 2008. Succulent Dreams Out of Africa. ZOONOOZ, August.

Baldwin, Brett, 2015. Recipe For Success, How to Make a Frog. ZOONOOZ, March.

PUBLICATIONS IN PROGRESS:

Baldwin, Brett, 2001. Notes on the Captive Husbandry and Behavior of *Bungarus flaviceps*

Baldwin, Brett, 2003. Notes on the Captive Husbandry and Reproduction of *Rhacodactylus trachyrhynchus*

PRESENTATIONS AT NATIONAL/INTERNATIONAL MEETINGS:

2013 Invited to talk at EAZA Handling and Care of Venomous Captivity, Universeum, Gothenburg, Sweden

2014 AZA Herp TAG (Taxonomic Advisory Group), presentation of HERPETOLOGICAL SURVEY OF PARQUE NACIONAL PRIEDRAS BLANCAS, COSTA RICA. ("Testings survey methods to enable a monitoring program for two cryptic bushmaster species (*Lachesis melanocephala and L. stenophrys*)")

2015 AZA Herp TAG (Taxonomic Advisory Group), presentation of Venom and The Importance of Venomous Animals In Zoos

2017 AZA Herp TAG (Taxonomic Advisory Group), presentation of Restraint, Anesthetizing and Intubation of Venomous Snakes

2018 AZA Herp TAG (Taxonomic Advisory Group), presentation of West Indian Iguana SSP updates

2018 XXXV CONGRESSO AZCARM, Durango, Durango. Madagascar Tortoise Confiscation, Rescue and Recovery, Taking on the Crisis

2019 SDZG Animal Welfare Meeting, presentation of Mang Mountain Vipers, Triumphs, Troubles and Tribulations

2019 AZA Herp TAG (Taxonomic Advisory Group), presentation of Madagascan Tortoise Rescue

2019 First Annual Herpeton, San Diego, CA. Speaker, presentation on Notes on the Captive Husbandry and Reproduction of the Ethiopian Mountain Viper, *Bitis parviocula*

Erika DiVenti
Lead Wildlife Care Specialist
Department of Herpetology & Ichthyology
San Diego Zoo Wildlife Alliance 2920 Zoo Dr, San Diego CA 92101
619-557-3987 ediventi@sdzwa.org

Position: Lead Wildlife Care Specialist

Location: San Diego Zoo, California

Duration: May 2005 –Present

Educational History: Associate of Zoo Animal Technology, Santa Fe Teaching Zoo

Professional Experience:

1997-2000 Wildlife Care Specialist, Mammals, Birds, San Antonio Zoo

2001-2002 Wildlife Care Specialist, Mammals, San Diego Zoo Safari Park

2002-2004 Wildlife Care Specialist, Mammals, Birds, Reptiles, Joan Embry Enterprises, managing entire collection

2004-2005 Animal Tech II, Mammals, Reptiles, Scripps Research Institute

2005-2017 Wildlife Care Specialist, San Diego Zoo

2017-present Lead Wildlife Care Specialist

I have extensive hands on husbandry care and experience with the following species of lizards:

Anegada Island Iguana (Cyclura pinguis) - 18 years

Armadillo girdled lizard (Ouroborus cataphractus)

Chameleons - 15 years

Cordylus – 17 years

Cuban Iguana (Cyclura nubila nubile) - 18 years

Exuma Island Iguana (Cyclura cychlura figginsi) - 5 years

Fiji Banded Iguana (Brachylophus bulabula) - 18 years

Gila Monsters (Heloderma suspectum) - 20 years

Different Species of Geckos – 18 years

Grand Cayman Blue Iguana (Cyclura lewisi) - 18 years

Horned lizards (Phrynosoma asio, Phrynosoma douglassii) - 18 years

Jamaican Iguana (Cyclura collie) - 18 years

Komodo Dragon (Varanus komodoensis) 18 years

Mexican Beaded Lizard (Heloderma horridum) 20 years

More specifically my experience here has focused on the health, well-being, and conservation of these reptiles in my care and the oversite of Wildlife Care Specialists that includes the following:

1. **Veterinary Care and Health Monitoring:** I have worked closely with veterinary care staff, ensuring regular health check-ups and prompt treatment in case of any illness. Detailed health records are maintained for each individual, contributing to the overall well-being of the reptiles under my care.
2. **Breeding Success:** I have worked with and successfully bred several of the mentioned species. This has not only contributed to the preservation of these species but has also provided valuable insights into their reproductive behaviors and requirements including many species of amphibians and vipers.
3. **Enclosure Design and Maintenance:** I have designed and maintained enclosures, replicating natural history and maintaining secure, enriching environments.
4. **Public Education and Outreach:** Recognizing the importance of public awareness in reptile conservation, I have actively engaged in educational programs and outreach initiatives. This includes conducting workshops, presentations, and guided tours to impart knowledge about these fascinating creatures.

DNY20-35713 | Local ID: 1001427

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/Jan/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001427	-	-	-	-

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	4/Jan/2020 / 4Y,6M,6D
Rearing	-	Local ID	[1001427/SANDIEGOZ]
Dam	[GAN: DNY14-14094 | SANDIEGOZ / 913465]		
Sire	[GAN: BPL16-02624 | SANDIEGOZ / 916097]		

DNY20-35827 | Local ID: 1001506

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
23/Jan/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001506	-	-	-	-

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	23/Jan/2020 / 4Y,5M,17D
Rearing	-	Local ID	[1001506/SANDIEGOZ]
Dam	[GAN: DNY14-14094 | SANDIEGOZ / 913465]		
Sire	[GAN: BPL16-02624 | SANDIEGOZ / 916097]		

DNY20-36502 | Local ID: 1001736

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
29/Mar/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001736	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	29/Mar/2020 / 4Y,3M,11D
Rearing	-	Local ID	[1001736/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY20-36509 | Local ID: 1001739

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
31/Mar/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001739	-	-	-	-

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	31/Mar/2020 / 4Y,3M,10D
Rearing	-	Local ID	[1001739/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	Old Accession Number	[DNY20-36508-IA/SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY20-36616 | Local ID: 1001800

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Apr/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001800	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	22/Apr/2020 / 4Y,2M,18D
Rearing	-	Local ID	[1001800/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY20-36715 | Local ID: 1001881

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
18/May/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001881	-	-	-	-

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	18/May/2020 / 4Y,1M,22D
Rearing	-	Local ID	[1001881/SANDIEGOZ]
Dam	[GAN: 25215774 | SANDIEGOZ / 907581]		
Sire	[GAN: DNY14-13972 | SANDIEGOZ / 913268]		

DNY20-36760 | Local ID: 1001910

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
2/Jun/2020	Birth/Hatch	In	In	SANDIEGOZ / 1001910	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	2/Jun/2020 / 4Y,1M,8D
Rearing	Autonomous	**Local ID**	[1001910/SANDIEGOZ]
Dam	[GAN: DNY14-14094 | SANDIEGOZ / 913465]		
Sire	[GAN: BPL16-02624 | SANDIEGOZ / 916097]		

HFV20-24487 | Local ID: 1003309

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
13/Jun/2020	Birth/Hatch	-	In	SANDIEGOZ / 1003309	-	-	-	-
13/Jun/2020	Birth/Hatch Owner: SANDIEGOZ/UNDETERMINED	In	-	DALLAS / 20C247	Loan Return To Owner SANDIEGOZ/1003309	Out	-	4/May/2022
4/May/2022	Loan Return to Us Sender: DALLAS/20C247	In	-	SANDIEGOZ / 1003309	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Dallas Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	13/Jun/2020 / 4Y,0M,27D
Rearing	-	**Local ID**	[1003309/SANDIEGOZ]
Dam	[GAN: DNY14-13969 | 15Q468/DALLAS]		
Sire	[GAN: 25216187 | 14P119/DALLAS]		

DNY22-40318 | Local ID: 1004212

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Jul/2022	Birth/Hatch	In	In	SANDIEGOZ / 1004212	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	15/Jul/2022 / 1Y,11M,25D
Rearing	-	**Color Marking - Artificial**	[RED DOT/SANDIEGOZ]
Dam	[GAN: DNY19-33983 | SANDIEGOZ / 1000366]	**Color Marking - Natural**	[BLUE BARS/SANDIEGOZ]
Sire	[GAN: DNY20-36616 | SANDIEGOZ / 1001800]	**Local ID**	[1004212/SANDIEGOZ]
		Old Accession Number	[DNY22-40304-IA/SANDIEGOZ]

DNY22-40954 | Local ID: 1004616

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
26/Sep/2022	Birth/Hatch	In	In	SANDIEGOZ / 1004616	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	26/Sep/2022 / 1Y,9M,14D
Rearing	-	**Local ID**	[1004616/SANDIEGOZ]
Dam	[GAN: DNY15-15892 | SANDIEGOZ / 915092]		
Sire	[GAN: SYC16-01173 | SANDIEGOZ / 916380]		

DNY22-41131 | Local ID: 1004736

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
31/Oct/2022	Birth/Hatch	In	In	SANDIEGOZ / 1004736	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	31/Oct/2022 / 1Y,8M,10D
Rearing	Autonomous	**Local ID**	[1004736/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY22-41202 | Local ID: 1004787

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
10/Nov/2022	Birth/Hatch	In	In	SANDIEGOZ / 1004787	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	10/Nov/2022 / 1Y,8M,0D
Rearing	Autonomous	**Local ID**	[1004787/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY23-41650 | Local ID: 1005024

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
21/Feb/2023	Birth/Hatch	In	In	SANDIEGOZ / 1005024	-	-	-	-

Sex/Contraception	Undetermined / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	21/Feb/2023 / 1Y,4M,19D
Rearing	-	**Local ID**	[1005024/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY23-41669 | Local ID: 1005037

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
2/Mar/2023	Birth/Hatch	In	In	SANDIEGOZ / 1005037	-	-	-	-

Sex/Contraception	Undetermined / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	2/Mar/2023 / 1Y,4M,8D
Rearing	Autonomous	**Local ID**	[1005037/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

19978942 | Local ID: 903031

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
7/Mar/2003	Birth/Hatch	In	In	SANDIEGOZ / 903031	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	7/Mar/2003 / 21Y,4M,3D
Rearing	None	**Local ID**	[903031/SANDIEGOZ]
Dam	[GAN: 25215131 | SANDIEGOZ / 192523]	**Regional Studbook #**	[180-AZA /SANDIEGOZ]
Sire	[GAN: 8228910 | SANDIEGOZ / 193264]		

DNY14-12617 | Local ID: 907105

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/May/2007	Loan In From Vendor: USFWS/NONE	In	-	SANDIEGOZ / 907105	-	-	-	-
4/Oct/2011	Donation From Vendor: USFWS/NONE	-	In	SANDIEGOZ / 907105	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Wild Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Fiji /
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	~ from 1/Jan/2005 to 1/Jan/2007 / 18Y,6M,9D
Rearing	Undetermined	**House Name**	[Angry Joe/SANDIEGOZ]
Dam	[WILD / WILD]	**Local ID**	[907105/SANDIEGOZ]
Sire	[WILD / WILD]	**Old Accession Number**	[AX584306/SANDIEGOZ]

DNY14-12619 | Local ID: 907107

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/May/2007	Loan In From Vendor: USFWS/NONE	In	-	SANDIEGOZ / 907107	-	-	-	-
4/Oct/2011	Donation From Vendor: USFWS/NONE	-	In	SANDIEGOZ / 907107	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Wild Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Fiji /
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	~ from 1/Jan/2005 to 1/Jan/2007 / 18Y,6M,9D
Rearing	Undetermined	**House Name**	[Eleana/SANDIEGOZ]
Dam	[WILD / WILD]	**Local ID**	[907107/SANDIEGOZ]
Sire	[WILD / WILD]	**Old Accession Number**	[AX584308/SANDIEGOZ]

25215774 | Local ID: 907581

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Dec/2007	Birth/Hatch	In	In	SANDIEGOZ / 907581	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Species Hybrid	**Birth Location**	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	22/Dec/2007 / 16Y,6M,18D
Rearing	None	**Local ID**	[907581/SANDIEGOZ]
Dam	[GAN: DNY14-12618 | SANDIEGOZ / 907106]		
Sire	[UNK / UNKNOWN]		

DNY14-13269 | Local ID: 911032

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/Jan/2011	Birth/Hatch	In	In	SANDIEGOZ / 911032	-	-	-	-

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	BB20004 Sanford Children's Zoo Enclosure	Birth Date/Age	11/Jan/2011 / 13Y,5M,29D
Rearing	None	Local ID	[911032/SANDIEGOZ]
Dam	[GAN: 26754236 | SANDIEGOZ / 908536]	Regional Studbook #	[232-AZA /SANDIEGOZ]
Sire	[GAN: 23054322 | SANDIEGOZ / 908137]	Transponder	[0007356c75/[Leg/Hind, Left]/SANDIEGOZ]

DNY14-13972 | Local ID: 913268

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
18/Jul/2013	Birth/Hatch	In	In	SANDIEGOZ / 913268	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	18/Jul/2013 / 10Y,11M,22D
Rearing	None	Local ID	[913268/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	Regional Studbook #	[236-AZA /SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY14-13974 | Local ID: 913270

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
22/Jul/2013	Birth/Hatch	In	In	SANDIEGOZ / 913270	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	BB20004 Sanford Children's Zoo Enclosure	Birth Date/Age	22/Jul/2013 / 10Y,11M,18D
Rearing	None	Local ID	[913270/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	Regional Studbook #	[237-AZA /SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY14-14094 | Local ID: 913465

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
30/Dec/2013	Birth/Hatch	In	In	SANDIEGOZ / 913465	-	-	-	-

Sex/Contraception	Female / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	30/Dec/2013 / 10Y,6M,10D
Rearing	None	Local ID	[913465/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]	Regional Studbook #	[240-AZA /SANDIEGOZ]
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

DNY15-15894 | Local ID: 915094

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
15/Jun/2015	Birth/Hatch	In	In	SANDIEGOZ / 915094	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	San Diego Zoo
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	15/Jun/2015 / 9Y,0M,25D
Rearing	-	Local ID	[915094/SANDIEGOZ]
Dam	[GAN: DNY14-12619 | SANDIEGOZ / 907107]		
Sire	[GAN: DNY14-12617 | SANDIEGOZ / 907105]		

BPL16-02624 | Local ID: 916097

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
11/Jun/2016	Birth/Hatch	-	In	SANDIEGOZ / 916097	-	-	-	-
11/Jun/2016	Birth/Hatch Owner: SANDIEGOZ/916097	In	-	LOWRY / 303663	Loan Return To Owner SANDIEGOZ/916097	Out	-	30/Oct/2018
30/Oct/2018	Loan Return to Us Sender: LOWRY/303663	In	-	SANDIEGOZ / 916097	-	-	-	-

Sex/Contraception	Male / -	Birth Type	Captive Birth/Hatch
Hybrid Status	Not a hybrid	Birth Location	ZooTampa at Lowry Park
Enclosure	AR07100 Reptile Mesa Enclosure Group	Birth Date/Age	11/Jun/2016 / 8Y,0M,29D
Rearing	-	Local ID	[916097/SANDIEGOZ]
Dam	[GAN: BPL13-01636 | 303582/LOWRY]	Regional Studbook #	[251-AZA /SANDIEGOZ]
Sire	[GAN: 26754255 | 303631/LOWRY]		

BPL16-02622 | Local ID: 916099

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
4/Jun/2016	Birth/Hatch	-	In	SANDIEGOZ / 916099	-	-	-	-
4/Jun/2016	Birth/Hatch Owner: SANDIEGOZ/916099	In	-	LOWRY / 303661	Loan Return To Owner SANDIEGOZ/916099	Out	-	30/Oct/2018
30/Oct/2018	Loan Return to Us Sender: LOWRY/303661	In	-	SANDIEGOZ / 916099	-	-	-	-

Sex/Contraception	Female / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	ZooTampa at Lowry Park
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	4/Jun/2016 / 8Y,1M,6D
Rearing	-	**Local ID**	[916099/SANDIEGOZ]
Dam	[GAN: BPL13-01636 | 303582/LOWRY]	**Regional Studbook #**	[250-AZA /SANDIEGOZ]
Sire	[GAN: 26754255 | 303631/LOWRY]		

SYC16-01173 | Local ID: 916380

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
8/Jan/2016	Birth/Hatch	-	In	SANDIEGOZ / 916380	-	-	-	-
8/Jan/2016	Birth/Hatch Owner: SANDIEGOZ/916380	In	-	NZP-WASH / 307587	Loan Return To Owner SANDIEGOZ/916380	Out	-	23/May/2019
23/May/2019	Loan Return to Us Sender: NZP-WASH/307587	In	-	SANDIEGOZ / 916380	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Smithsonian National Zoological Park
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	8/Jan/2016 / 8Y,6M,2D
Rearing	None	**Local ID**	[916380/SANDIEGOZ]
Dam	[GAN: 25216178 | 307298/NZP-WASH]		
Sire	[GAN: DNY14-12765 | 307492/NZP-WASH]		

SYC16-01175 | Local ID: 916382

Individual | **Fiji banded iguana** | **Endangered (EN)** | **Brachylophus bulabula**

Date in	Acquisition - Vendor/Local ID	Phy	Own	Reported By	Disposition - Recipient/Local ID	Phy	Own	Date out
16/Jan/2016	Birth/Hatch	-	In	SANDIEGOZ / 916382	-	-	-	-
16/Jan/2016	Birth/Hatch Owner: SANDIEGOZ/916382	In	-	NZP-WASH / 307589	Loan Return To Owner SANDIEGOZ/916382	Out	-	23/May/2019
23/May/2019	Loan Return to Us Sender: NZP-WASH/307589	In	-	SANDIEGOZ / 916382	-	-	-	-

Sex/Contraception	Male / -	**Birth Type**	Captive Birth/Hatch
Hybrid Status	Not a hybrid	**Birth Location**	Smithsonian National Zoological Park
Enclosure	AR07100 Reptile Mesa Enclosure Group	**Birth Date/Age**	16/Jan/2016 / 8Y,5M,24D
Rearing	None	**Local ID**	[916382/SANDIEGOZ]
Dam	[GAN: 25216178 | 307298/NZP-WASH]		
Sire	[GAN: DNY14-12765 | 307492/NZP-WASH]		

Preferred ID	GAN	Sex	Age at Date	Date	Transaction	Vendor/ Recipient	Vendor ID
Fiji banded iguana			**Brachylophus bulabula**				
1000031	DNY19-33416	Female	0Y,0M,0D	14/Jan/2019	Birth/Hatch		
1000366	DNY19-33983	Female	0Y,0M,0D	4/May/2019	Birth/Hatch		
1001350	DNY19-35586	Male	0Y,0M,0D	4/Dec/2019	Birth/Hatch		
1001424	DNY20-35708	Male	0Y,0M,0D	2/Jan/2020	Birth/Hatch		
1001426	DNY20-35712	Male	0Y,0M,0D	4/Jan/2020	Birth/Hatch		
1001427	DNY20-35713	Female	0Y,0M,0D	4/Jan/2020	Birth/Hatch		
1001506	DNY20-35827	Female	0Y,0M,0D	23/Jan/2020	Birth/Hatch		
1001736	DNY20-36502	Male	0Y,0M,0D	29/Mar/2020	Birth/Hatch		
1001739	DNY20-36509	Female	0Y,0M,0D	31/Mar/2020	Birth/Hatch		
1001800	DNY20-36616	Male	0Y,0M,0D	22/Apr/2020	Birth/Hatch		
1001873	DNY20-36705	Male	0Y,0M,0D	15/May/2020	Birth/Hatch		
1001881	DNY20-36715	Female	0Y,0M,0D	18/May/2020	Birth/Hatch		
1001896	DNY20-36740	Female	0Y,0M,0D	27/May/2020	Birth/Hatch		
1001910	DNY20-36760	Male	0Y,0M,0D	2/Jun/2020	Birth/Hatch		
1003309	HFV20-24487	Male	0Y,0M,0D	13/Jun/2020	Birth/Hatch		
1003310	HFV20-24491	Female	0Y,0M,0D	22/Jun/2020	Birth/Hatch		
1003850	DNY22-39673	Undetermined	0Y,0M,0D	25/Apr/2022	Birth/Hatch		
1004211	DNY22-40317	Undetermined	0Y,0M,0D	15/Jul/2022	Birth/Hatch		
1004212	DNY22-40318	Undetermined	0Y,0M,0D	15/Jul/2022	Birth/Hatch		
1004616	DNY22-40954	Undetermined	0Y,0M,0D	26/Sep/2022	Birth/Hatch		
1004736	DNY22-41131	Undetermined	0Y,0M,0D	31/Oct/2022	Birth/Hatch		
1004787	DNY22-41202	Undetermined	0Y,0M,0D	10/Nov/2022	Birth/Hatch		
1005024	DNY23-41650	Undetermined	0Y,0M,0D	21/Feb/2023	Birth/Hatch		
1005037	DNY23-41669	Undetermined	0Y,0M,0D	2/Mar/2023	Birth/Hatch		

(Brackets display # acquired or dispositioned from group.)

Preferred ID	GAN	Sex	Age at Date	Date	Transaction	Vendor/ Recipient	Vendor ID
Fiji banded iguana			**Brachylophus bulabula**				
1000366	DNY19-33983	Female	4Y,6M,13D	17/Nov/2023	Death		
1001350	DNY19-35586	Male	3Y,9M,4D	8/Sep/2023	Death		
1003850	DNY22-39673	Undetermined	0Y,0M,0D	25/Apr/2022	Death		
901017	8230857	Male	21Y,9M,2D	18/Nov/2022	Death		
901172	MIG12-29901948	Female	17Y,5M,17D	2/Apr/2019	Death		
903032	25215433	Male	16Y,8M,14D	11/Dec/2019	Death		
903036	23053413	Female	17Y,1M,11D	13/May/2020	Death		
903228	13843529	Male	16Y,2M,29D	10/Jan/2020	Death		
907529	23054149	Male	12Y,6M,2D	~ from 10/Jun/2020 to 11/Jun/2020	Death		
907591	23054189	Female	11Y,2M,20D	19/Mar/2019	Death		
908521	25216178	Female	14Y,8M,13D	26/Aug/2023	Death		
908530	25216187	Male	12Y,5M,10D	30/May/2021	Death		
909560	DNY14-12744	Male	11Y,1M,23D	15/Feb/2021	Death		
910003	DNY14-12748	Female	9Y,3M,8D	16/Apr/2019	Death		
913257	DNY14-13969	Female	8Y,2M,22D	3/Oct/2021	Death		
913258	DNY14-13970	Male	9Y,8M,13D	25/Mar/2023	Death		
913463	DNY14-14092	Male	5Y,8M,15D	14/Sep/2019	Death		
915092	DNY15-15892	Female	8Y,3M,0D	15/Sep/2023	Death		
915406	SYC15-00891	Male	6Y,9M,10D	4/Feb/2022	Death		
915407	SYC15-00892	Female	6Y,11M,7D	1/Apr/2022	Death		
917619	SYC18-02924	Female	2Y,2M,30D	13/Aug/2019	Death		
918011	BPL18-02806	Female	4Y,4M,24D	10/Jul/2022	Death		
918039	BPL18-02921	Female	4Y,5M,7D	16/Dec/2022	Death		
918476	BPL18-02966	Female	4Y,4M,15D	25/Mar/2023	Death		

****Includes deaths of individuals on loan to other facilities.**

accession #	SDZ Nx #	Cause of Death Summary
1000366	71058	egg binding, oviductal tear/prolapse
1003850	68229	euthanasia, peri-hatch death
907529	65450	bacterial sepsis (Salmonellosis)
909560	66461	euthanasia, bacterial sepsis, cystitis with urolithiasis
910003	63136	euthanasia, intestinal entrapment, yolk coelomitis
913463	64208	euthanasia, renal and articular gout
915092	70793	euthanasia, renal and articular gout
915406	67874	euthanasia, heart disease/failure, chronic coelomitis
917619	63974	euthanasia, yolk coelomitis, post-surgical complications
918476	69870	euthanasia, yolk coelomitis

**** Individuals which died at San Diego Zoo facility.**

Following any death, a full necropsy is completed and results inform evaluation of husbandry practices. We also have multiple Pathologists on staff that review all deaths and provide detailed findings. We review these cases each month in a Vet meeting and discuss ideas and options to improve all animal care. Necessary changes are implemented.

SDZWA employees multiple on staff veterinarians and full teams of vet techs that assist with evaluation of health needs. Yolk peritonitis and reproductive health issues is common in the female Fiji iguanas. Though we see an emerging pattern to suggest this is age related, we have adjusted diets recently (excluding insects as they do not eat insects in the wild).

We will continue to follow Association of Zoos and Aquariums (AZA) policy regarding the use of humane euthanasia, as outlined in the AZA Policy on Responsible Population Management. All procedures are performed in accordance with the AVMA/ AAZV guidelines.

CONTAINER REQUIREMENT 41

The illustrations shown in this Container Requirement are examples only. Containers that conform to the principle of written standards for the species but look slightly different will still be considered compliant with the IATA minimum standards.

Applicable to:

Caiman lizard

Lizards and Tuataras

Venemous lizards that must be packed like venomous/poisonous snakes (see Container Requirements 44), are:

Gila monster, Beaded lizard (Heloderma spp.)

Komodo dragon (Varanus komodoensis)

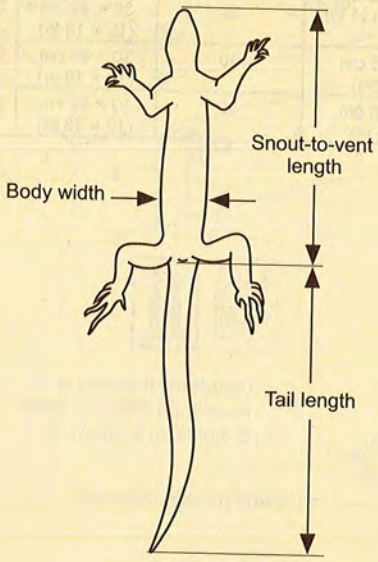
STATE VARIATIONS: GBG-01/02/04, USG-Variations

OPERATOR VARIATIONS: D0-06, GF-07, KL-03, QY-06, UA-01

The following instructions must be complied with in addition to the principles laid down in the General Container Requirements for Reptiles and Amphibians.

Measurement

Lizards (including Chameleons) and tuataras should be measured by snout-to-vent length (SVL), tail length and in body width (BW).



Specific Requirements

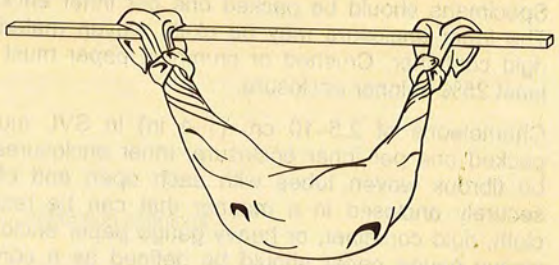
All containers and bags should have some kind of packing material (i.e. crumpled paper). Animals in the same containers or bags should belong to the same size class to avoid damage to smaller individuals.

The maximum number of animals per bag or container must not be increased even when larger bags or containers are used.

Packing Density for Lizards and Tuataras (not including Chameleons and farmed Iguana iguana):

Snouth-vent-length (SVL)	Body-width (BW)	Maximum no. of animals per bag	Minimum bag size
≥ 20 cm (8 in)	≥ 5 cm (2 in)	1	Depending on the size of the animal
≥ 15 < 20 cm (6 < 8 in)	≥ 2.5 < 5 cm (1 < 2 in)	15	45 × 60 cm (18 × 24 in)
		10	30 × 45 cm (12 × 18 in)
≥ 10 < 15 cm (4 < 6 in)	< 2.5 cm (1 in)	30	45 × 60 cm (18 × 24 in)
		20	30 × 45 cm (12 × 18 in)
< 10 cm (4 in)	< 2.5 cm (1 in)	30	30 × 45 cm (12 × 18 in)

If the bag is suspended the bag must be suspended horizontally from opposite ends of the bag the maximum number of animals per bag should be divided by two.



For lizards, rigid containers can be used instead of bags with a maximum of 25 animals, up to 30 cm (12 in) total length. The length of the container should be at least the snout vent length plus half the tail length.

These containers must be rigid and able to support the entire weight of all the other containers when stacked upright and if turned upside down, without failing structurally (without bending, cracking or collapsing). The size of these containers must enable the animals to have contact with their whole ventral surface to the floor of the container.

Arboreal geckos will be provided the use of the surface area of the floor and wall space of rigid containers.

Large Animals

Lizards whose length range from 90–120 cm (36–48 in) SVL require double bags for shipping.

Lizards of 120 cm (48 in) SVL or more in length must follow the same primary enclosure requirements as crocodiles excluding the taping or banding of the mouth.

The direction of the head should be indicated on the outer enclosure.

Lizard species that should be packed singly because they are either aggressive, cannibalistic or delicate:

- Malagasy leaf geckoes (Uroplates spp.)
- New Caledonian giant geckoes (Rhacodactylus spp.)
- Asian gliding agamid (Draco spp.)
- Sail-finned lizard (Hydrosaurus spp.)
- Angle-headed dragon (Gonocephalus spp.)
- Helmeted basiliscs (Corytophanes spp.; basilicus spp.)–(except hatchlings and juveniles)
- Caiman lizard (Dracaena spp.)
- Emerald tree monitor lizard (Varanus prasinus)
- Black tree monitor lizard (Varanus beccari)
- Solomon Island pre-hensile tailed skink (Corucia zebrata)

Specific Requirements for Chameleons including African Dwarf Chameleons (Rhamphoelon) and Malagasy Dwarf Chameleons (Brookesia)

All species with the exception of young and small specimens (see below) must be packed individually.

Chameleons 10 cm (4 in) or greater in SVL need to be packed in adequate space to rest naturally. The enclosure needs to conform to the body shape and size. Specimens should be packed one per inner enclosure. The inner enclosure may be cloth, woven material, or rigid container. Crushed or crumpled paper must fill at least 25% of inner enclosure.

Chameleons of 2.5–10 cm (1–4 in) in SVL must be packed one per inner enclosure. Inner enclosures may be fibrous woven tubes with each open end of tube securely enclosed in a manner that can be resealed, cloth, rigid container, or heavy gauge paper enclosures. Heavy gauge paper should be defined as a container that is sufficient to hold specimens without escape.

Inner enclosures must be easily opened and closed. If heavy gauge paper enclosures are used as inner enclosures, they must be secured to a frame of support bars in the primary or outer enclosure with tacks or nails with head diameter of at least 0.6 cm (¼ in). No burlap (hessian) bags as inner enclosures are permitted.

Chameleons less than 2.5 cm (1 in) SVL can be packed with a maximum of 10 per 0.5 liter rigid enclosure. At all times, the specimens must be able to have full contact with the container floor. At least 50% of the inner enclosure must be filled with loosely crumpled paper.

Crushed or crumpled paper must be provided to ensure a foothold for the animal.

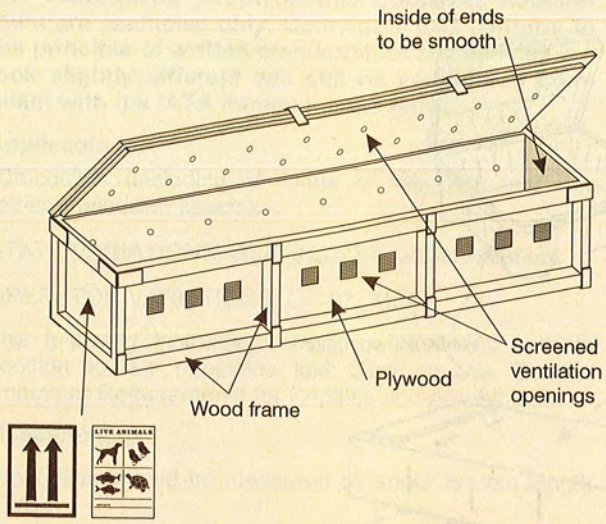
Since farmed Green Iguanas (Iguana iguana) are usually in good condition, free of diseases and used to handling, the use of following special packing density is allowed.

Packing Density for Farmed Green Iguanas (Iguana iguana)

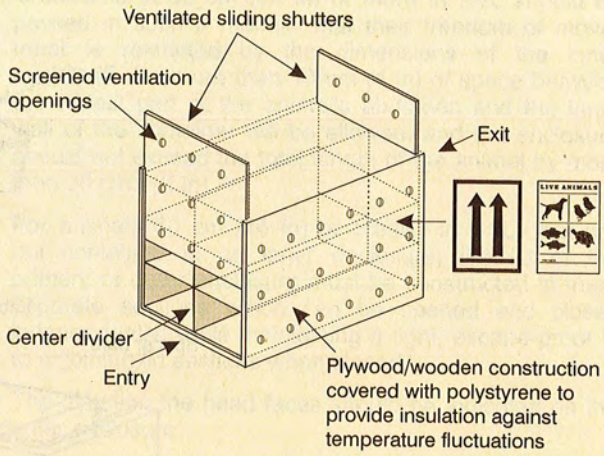
Snout-vent-length (SVL)	Maximum no. of animals per bag/box	Minimum box size	Minimum bag size
> 25 cm (10 in)	1	Depending on the size of the animal	—
> 20 cm (8 in)	6	45 × 85 cm (18 × 34 in)	—
> 17.5 cm (7 in)	6	30 × 60 cm (12 × 24 in)	20 × 40 × 9 cm (8 × 16 × 3 3/8)
> 12.5 cm (5 in)	20	30 × 45 cm (12 × 18 in)	20 × 40 × 6.5 cm (8 × 16 × 2 3/8)
> 10 cm (4 in)	30	30 × 45 cm (12 × 18 in)	20 × 40 × 4.5 cm (8 × 16 × 1 ¾)
> 8.75 cm (3.5 in)	40	30 × 45 cm (12 × 18 in)	20 × 40 × 4.5 cm (8 × 16 × 1¾)
0-8.75 cm (3.5 in)	50	30 × 45 cm (12 × 18 in)	20 × 40 × 4.5 cm (8 × 16 × 1¾)

EXAMPLE:

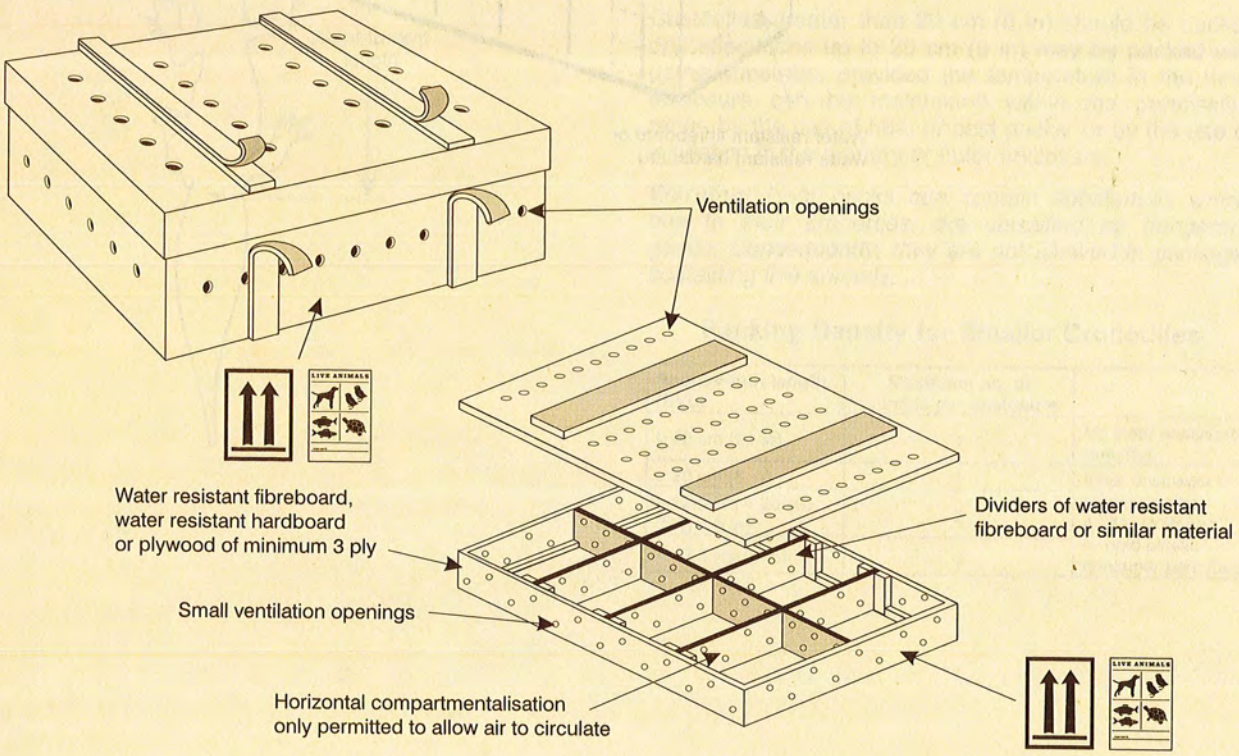
SINGLE CONTAINER



MULTIPLE CONTAINER
(suitable for small or young animals
not exceeding 50 cm [20 in] in total length)



EXAMPLE:

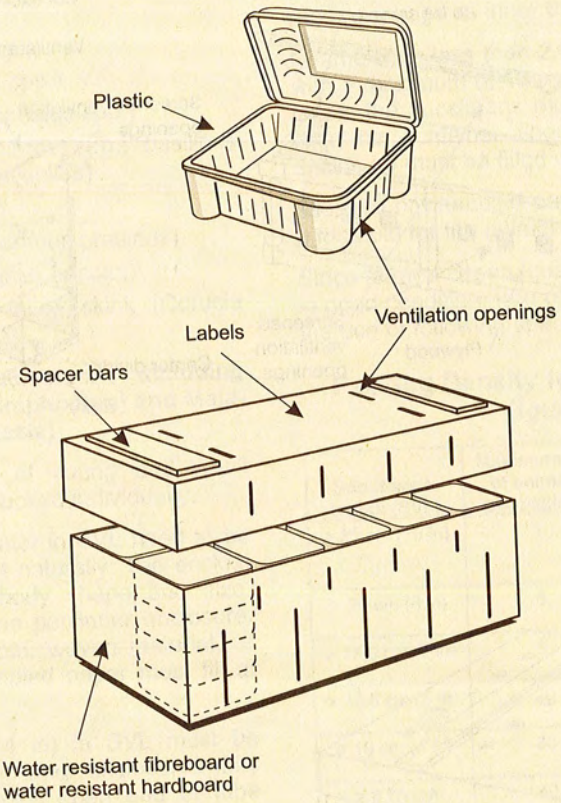


8

41

EXAMPLE:

MULTICOMPARTMENT CONTAINER



8

41

[EXTERNAL] RE: US CITES Management Authority - Response to Fiji Iguana Relocation San Diego Zoo - CS7841639

Correa Villalona, Angel Jose <acorrea3@tragsa.es>

Mon 7/29/2024 4:56 AM

To:Ketram, Natchanon N <natchanon_ketram@fws.gov>

Good morning Natchanon,
Sorry I did not reply earlier, I just came back from holidays. I am very pleased to meet you. Thank you for all the recap about the process and the estimated dates. I confirm that the iguana with the transponder # 941000023065134 is *B. fasciatus*. I mentioned wrong on the email, the application of the San Diego Zoo is correct.
If you need more information, do not hesitate to contact me again.
Best regards,

Correa Villalona, Angel Jose
TSUP Cal Ev Amb y Med Natural
Calidad/Ev.Ambiental/M.Natural / G. Calidad Evaluacion Ambienta
Grupo Tragsa - SEPI

Calle JULIAN CAMARILLO 6 B - 28006 Madrid
Tel.: - 80230 / +34 610559265
acorrea3@tragsa.es
www.tragsa.es

De: Ketram, Natchanon N <natchanon_ketram@fws.gov>
Enviado el: viernes, 26 de julio de 2024 20:03
Para: Correa Villalona, Angel Jose <acorrea3@tragsa.es>
Asunto: US CITES Management Authority - Response to Fiji Iguana Relocation San Diego Zoo - CS7841639

Dear colleague,

My name is Natchanon Ketram, the permit biologist who is reviewing San Diego Zoo's application to import Fijian iguanas from Spain. I was forwarded Rosemarie Gnam communication with you and I am reaching out to you to give a status update on this application as well inform you of what the process will be going forward. First up, I want to inform you that this application is a high priority for our office and that we are aware of the timeline you have presented. The good news is that our office had issued another permit for 6 iguanas that were part of the same seized shipment and the new application contains many of the same information from the other application. This means that there will be fewer back and forth between us and the applicant as we already asked questions of them in the prior application.

That said, as part of our domestic law, the Endangered Species Act (ESA), the import of any species listed as Endangered under the ESA needs to be published in the Federal Register in order to give the public the opportunity to provide theirs comments to us. Of the 3 iguanas that were submitted as part of this application, one of them was identified as *Brachylophus fasciatus*, which is listed under the ESA. This application has been put into queue for publication whereupon after publication, there will be an additional 30 day period for the public to provide their comments. Once the FR notice publish, we do anticipate a quick turnaround around. While the ESA process is underway, the CITES review will continue concurrently.

Given where the application is in the process, we do anticipate the review being completed in September although we do not have an exact timeframe within that month.

Having said all that, there is one question we have for you. Looking at the forwarded email, you mentioned correction you need to make on your export permit for three *Brachylophus bulabula* under the Transponder # 941000023065134, 941000023065238, and 941000023065239. In the application San Diego Zoo submitted, the iguana with the Transponder # 941000023065134 was identified as being *Brachylophus fasciatus*. Can you confirm if this animal is *B. bulabula* or *B. fasciatus?*

Thank you for any assistance you can provide and please don't hesitate to reach out to me if you have any questions.

Natchanon Ketram
Permit Biologist
Branch of Permits
Division of Management Authority
International Affairs Program
U.S. Fish and Wildlife Service
Falls Church, VA, USA

[EXTERNAL] Re: Inquiry Regarding CS7841639 - 3-200-37a: Import of live animals (ESA)

Brett Baldwin <BBaldwin@sdzwa.org>
Tue 8/13/2024 2:57 PM
To:Ketram, Natchanon N <natchanon_ketram@fws.gov>

Hi Natchanon, here are the answers to your questions:

1. Can you confirm the number of individuals for the *Brachylophus spp. (B. fasciatus* and *B. bulabula*) you currently have at your facility? If possible, can you break this down by individual species? **We currently only have 27 *Brachylophus bulabula.***

    a. Additionally, were the other six seized iguanas from Spain that we issued a permit under PER5681188 (24US56888E/9) imported into the US? If so, does the above total includes these new iguanas? **No, they have not been imported into the US yet. We would like to import those 6 and the additional 3 at the same time.**
    b. Have there been any births or death that occurred within the last couple of months? **We have not had any births within last couple of months.**
    The last death was a male 31 May 2024.

Thanks,
Brett

From: Ketram, Natchanon N <natchanon_ketram@fws.gov>
Sent: Monday, August 12, 2024 8:09 AM
To: Brett Baldwin <BBaldwin@sdzwa.org>
Subject: Inquiry Regarding CS7841639 - 3-200-37a: Import of live animals (ESA)

Good morning,

The USFWS has questions regarding your application for a permit. I will provide these questions below:

1. Can you confirm the number of individuals for the *Brachylophus spp. (B. fasciatus* and *B. bulabula*) you currently have at your facility? If possible, can you break this down by individual species?
    a. Additionally, were the other six seized iguanas from Spain that we issued a permit under PER5681188 (24US56888E/9) imported into the US? If so, does the above total includes these new iguanas?
    b. Have there been any births or death that occurred within the last couple of months?

In accordance with 50 CFR 13.11(e), if the requested information is not received by this office by **September 26, 2024**, your application will be abandoned and administratively closed. Once a file is closed you will need to

submit a new application and all required fees for the Service to consider your proposed activity. Please refer to permit application number CS7841639 in your correspondence.

Thank you,

Natchanon Ketram
Permit Biologist
Branch of Permits
Division of Management Authority
International Affairs Program
U.S. Fish and Wildlife Service
Falls Church, VA, USA