

Annual Report to OLAW

Institution: Missouri State University

Assurance Number: D16-00033 (A3057-01)

Reporting Period: 01/01/2019 to 12/31/2019

This Institution's Institutional Animal Care and Use Committee (IACUC), through the Institutional Official, provides this annual report to the Office of Laboratory Animal Welfare (OLAW).

I. Program Changes [Select A or B]

- ☐ A. There have been **no changes** in this institution's program for animal care and use as described in the Assurance. [Skip to Item II.]
- ☒ B. Change(s) in this institution's program for animal care and use as described in the Assurance have occurred during this reporting period. (FAQ 6)

Select all that apply:

- ☐ This institution's AAALAC accreditation status has changed (PHS Policy IV.A.2.).
- ☐ AAALAC Accredited - Category 1
- ☐ Non-Accredited - Category 2
- ☒ This institution's program for animal care and use has changed (PHS Policy IV.A.1.a-i.). [Attach a full description of the changes.]
- ☐ The individual designated by this institution as the Institutional Official has changed. [Provide name, title(s), address, e-mail, phone, and fax numbers in Item V.]
- ☒ The membership of this institution's IACUC has changed. [Provide current roster of members in Item VI.]

II. Semiannual Evaluations

This IACUC has conducted semiannual evaluations of the institution's program and inspections of the institution's facilities (including satellite facilities) on the dates below. Reports of the evaluations and inspections have been submitted to the Institutional Official. The reports include any IACUC-approved departures from the Guide with a reason for each departure, any deficiencies (significant or minor) that were identified, and a plan and schedule for correction of each deficiency. [Do not provide semiannual reports unless they include a minority view.]

A. Program Evaluations

[Two dates (month/day/year) must be provided to satisfy the PHS Policy requirement that evaluations be done at 6-month intervals. If the IACUC conducted more than 2 evaluations of the program during the reporting period, please attach a list showing the dates.]

Date 1: 2/11/19

Date 2: 8/11/19

B. Facility Inspections

[Two dates (month/day/year) must be provided to satisfy the PHS Policy requirement that facility inspections be done at 6-month intervals. If the IACUC conducted more than 2 inspections of each site during the reporting period, please attach a list showing the dates.]

Date 1: 2/11/19

Date 2: 7/30/19

III. Minority Views [Select A or B]

- ☐ A. There were **no minority** views during this reporting cycle.
- ☒ B. Any minority views submitted by members of the IACUC regarding reports filed under PHS Policy IV.F. for this reporting cycle are attached.

IV. Signatures

IACUC Chairperson	Institutional Official
Name: Brian Greene, PhD	Name: Frank Einhellig, PhD
Signature: (b) (6)	Signature: (b) (6)
Date: 1-31-2020	Date: 1/29/20

V. Change in Institutional Official

Name:	
Title:	Degree/Credential:
Name of Institution:	
Address: [street, city, state, zip code]	
E-mail:	
Phone:	Fax:

VI. Change in IACUC Membership [Current roster]

Institution: Missouri State University

IACUC Contact Information

Address: [street, city, state, zip code]

901 S. National Avenue / Carrington (b) (4)
Springfield, MO 65897-0027

E-mail: IACUC@missouristate.edu

Phone: (b) (6)

Fax: (b) (6)

IACUC Chairperson

Name: Brian Greene

Title: Professor, Biology

Degree/Credentials: PhD

PHS Policy Membership Requirements***: S

IACUC Roster [Provide below or attach]

Name of Member/ Code*	Degree/ Credential	Position Title/ Occupational Background**	PHS Policy Membership Requirements***
Brian Greene	PhD	Professor, Biology	S
(b) (6)			NS
			S
			S
			S
Michael Stafford	DVM	Attending Veterinarian	V
(b) (6)			V (alternate)
			S (alternate)
			S
			NA

* Names of members, other than the chairperson and veterinarian, may be represented by a number or symbol in this report to OLAW. Sufficient information to determine that all appointees are appropriately qualified must be provided and the identity of each member must be readily ascertainable by the institution and available to authorized OLAW or other PHS representatives upon request.

** List specific position titles for all members, including nonaffiliated (e.g., banker, teacher, volunteer fireman; not "community member" or "retired").

*** PHS Policy Membership Requirements:

Veterinarian veterinarian with training or experience in laboratory animal science and medicine or in the use of the species at the institution, who has direct or delegated program authority and responsibility for activities involving animals at the institution.

Scientist practicing scientist experienced in research involving animals.

Nonscientist member whose primary concerns are in a nonscientific area (for example, ethicist, lawyer, member of the clergy).

Nonaffiliated individual who is not affiliated with the institution in any way other than as a member of the IACUC and is not a member of the immediate family of a person who is affiliated with the institution. This member is expected to represent general community interests in the proper care and use of animals and should not be a laboratory animal user. A consulting veterinarian may not be considered nonaffiliated.

[Note: all members must be appointed by the CEO (or individual with specific written delegation to appoint members) and must be voting members. Non-voting members and alternate members must be so identified.]

Minority Opinion statement of Semiannual Review

Brian Greene, IACUC Chair and Associate Professor of Biology

During our recent semiannual review, several deficiencies were noted during the inspection of Aquatic Holding (b) (4) in the Temple vivarium, where venomous snakes are housed as research subjects. These comments related to both the microenvironments (cage conditions) and macroenvironment (cabinets where cages are shelved). Comments pertaining to animal welfare specifically involved:

1. Cage conditions: feces, dirty water, and sheds present
2. Cage card information not being current
3. Cabinet enclosures not secure, provide inadequate visibility, ventilation, and lighting

Response:

- **Comment number 1:** Cages are monitored and cleaned as needed according to the standards outlined in the Missouri State University SOP's for snake care, approved by the MSU IACUC. The presence of fecal matter in cages and water bowls would be an understandable concern when conditions indicate a buildup of waste, indicating neglect. However, the fecal matter observed during the inspection was recently deposited because all cages and water bowls had been evaluated and cleaned the previous day. Additionally, shed skins are not a health hazard to snakes. Therefore, I do not believe that the cage conditions observed constitute a deficiency.
- **Comment number 2:** All cages contain cage cards that identify the occupant's taxonomy, individual ID, origin, and affiliated protocol numbers. Cage cards also include accurate feeding records for all research subjects. Occasionally a snake is not fed for extended periods of time. For example, some pregnant individuals refuse to feed and many wild-caught snakes from temperate regions do not eat during the winter. These fasting periods are a normal part of the biology of many snake species and do not constitute a health problem for individuals with healthy body conditions. Fasting of pregnant or hibernating snakes is noted in the Missouri State University SOP's for snake maintenance. The main concern about cage records appears to be related to cage cleaning frequency. Because, cage cleaning events are conducted on an as-needed basis, rather than on a specific schedule, recording of cage cleaning events are sometimes overlooked. This practice suggests that some cages are cleaned on a low frequency, making it appear that maintenance schedules are not uniform across time periods or individual subjects. Admittedly, this issue should be corrected.
- **Comment number 3:** The two cabinets housing caged snakes are similar in size and general design. Both are enclosed with either PVC or an opaque acrylic plastic and have two full-length doors that swing open from the center of each cabinet. The PVC cabinet has greater visibility (due to a large mesh panel in each door) than the acrylic cabinet (with one small mesh panel per door). The size of the mesh panels influences relative visibility into each cabinet. The difference in visibility has been discussed in the context of human safety rather than animal welfare. All

snakes are maintained in escape-proof cages (secured with either keyed locks or binder clips). There have been no escapes of snakes from such cages in over 20 years of continuous research activity at our institution. From an animal welfare standpoint, there is no obvious difference in airflow between cabinets. Photoperiod is set at a 12:12 light/dark cycle and all snakes in the room are subjected to this circadian pattern. The snakes do not need to bask to maintain an optimal body temperature and do not require direct exposure to natural light for other health reasons. In natural settings, cottonmouths bask infrequently during warm weather and are chiefly nocturnal throughout much of their activity season. The conditions under which my research animals are maintained are consistent with those in research colonies that I have observed at other institutions.