

**Memorandum to:** Tamara Deuser

**From:** Institutional Animal Care and Use Committee

**Subject:** Semiannual Report of the Program Review and Facility Inspection

**Date:** November 21, 2019

This report summarizes the IACUC's results of its most recent program review and facility inspection, as required by the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals ([Policy](#)), Section [IV.B.1.-3.](#), the *Guide for the Care and Use of Laboratory Animals* ([Guide](#)), and the Animal Welfare Act ([AWA](#)) regulations, as applicable. Submission of semiannual reports to the Institutional Official is a condition of this institution's Animal Welfare Assurance with the NIH Office of Laboratory Animal Welfare (OLAW).

**Since the last review, the following changes have occurred in the institution's program for animal care and use:**

There were no changes to the program.

**I. Description of the Nature and Extent of the Institution's Adherence to the PHS Policy, the *Guide*, and the AWA**

Departures from the PHS Policy, the *Guide*, and the AWA.

Select A or B:

☐ A. There were no departures during this reporting period.

☒ B. The following departures have been reviewed and approved by the IACUC:

See attached IACUC Approved Deviations Report.

**II. Deficiencies in the Institution's Animal Care and Use Program**

Animal Care and Use Program Review Date(s): October 24, 2019

Select A or B:

☒ A. There were no deficiencies in the program during this reporting period.

☐ B. The following deficiencies have been identified:

### III. Deficiencies in the Institution's Animal Facility

Animal Facility Inspection Date(s): 6/19/2019, 7/24/2019, 7/26/2019, 9/16/2019, 9/19/2019, 9/24/19, 10/1/2019, 10/2/2019

Select A or B:

☐ A. There were no deficiencies in the animal facility during this reporting period.

☒ B. The following deficiencies have been identified:

See attached Inspection Findings Report.

### IV. Minority Views

Select A or B:

☒ A. No minority views were submitted or expressed.

☐ B. The following minority views were expressed:

### V. Status of AAALAC Accreditation

Fully accredited since November 16, 1990. Last accredited on July 31, 2018.

### VI. Signatures

Names of IACUC Members	Signatures
Karen Kibler	
Dale DeNardo	

IACUC Approved Deviations  
May 23, 2019 – November 14, 2019

Protocol Number	Deviation Date	Deviation Type	Investigator	Species	Comments
20-1739R	October 8, 2019	Food/Water Restriction	██████	Mice	<b>What Restricted: Food</b> <b>Parameters:</b> Food is withheld overnight prior to a glucose tolerance test in order to start the test with blood glucose at a baseline value.
20-1744R	September 26, 2019	Food/Water Restriction	██████	Macaca mulatta	<b>What Restricted: Water</b> <b>Parameters:</b> Water will be available only at limited times during the day: first during the behavioral sessions and second at the end of the day when animals are done working. On days when animals are not working, their water allotment is split between the AM and PM. Amounts of water provided will vary with the animal's weight, current work regimen and habits. This water restriction paradigm is used to provide an incentive for work. Details are found in the IACUC SIG "NHP Fluid Regulation."
19-1722R	June 27, 2019	Food/Water Restriction	██████	Rats	<b>What Restricted: Food &amp; Water</b> <b>Parameters:</b> Food and water access is unavailable during prolonged restraint procedures, with a limit of 20% weight loss compared to expected growth chart. For the "Novelty Suppressed Feeding," food is restricted for 24 hours prior to testing, with a limit of 10% weight loss compared to expected growth charts. For the "Attentional Set-Shifting," there is a restricted diet of 15-20 grams of food per day, with a limit of 10% weight loss compared to expected growth charts. For the "Sucrose Preference," water is restricted for up to 18 hours prior to testing, with a limit of 10% weight loss compared to expected growth charts.
20-1740R	October 24, 2019	Food/Water Restriction	██████	Snakes, Mice	<b>What Restricted: Food &amp; Water</b> <b>Parameters:</b> Snakes may be food deprived for up to 8 months during their over-wintering and reproductive seasons. Body condition is visually inspected during daily checks and by Principal

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Protocol Number	Deviation Date	Deviation Type	Investigator	Species	Comments
					<p>Investigator approximately monthly to adjust feeding regimen to return snakes to pre-fasting body condition once feeding resumes. Vitellogenic females, brooding females, and non-reproductive snakes may be water deprived for up to 25, 50, and 60 days, respectively. Snakes are weighed weekly and any snake that loses at least 20% body mass will be removed from the study and offered water or subcutaneous fluids until 90% or more of lost mass is recovered.</p> <p>Juvenile mice will not be provided with food or water when offered as prey to snakes. The mice will be confirmed to have a full stomach (via visible milk spot) prior to placement in the cage.</p>
20-1743R	September 26, 2019	Food/Water Restriction		Macaca mulatta	<p><b>What Restricted: Water</b> Parameters: Water will be available only at limited times during the day: first during the behavioral sessions and second at the end of the day when animals are done working. On days when animals are not working, their water allotment is split between the AM and PM. Amounts of water provided will vary with the animal's weight, current work regimen and habits. This water restriction paradigm is used to provide an incentive for work. Details are found in the IACUC SIG "NHP Fluid Regulation."</p>
19-1723R	June 27, 2019	Food/Water Restriction		Mice	<p><b>What Restricted: Food</b> Parameters: Since the study tests the sensitization to ovalbumin, it requires that the mice be fed ovalbumin-free food. This should not provide any reduction in calorie content.</p>
20-1747R	October 24, 2019	Food/Water Restriction		Mice	<p><b>What Restricted: Food</b> Parameters: During behavioral testing, mice are maintained at about 90% of their baseline body</p>

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					mass to motivate them. Mice are removed from the study if they fall below 85% of baseline mass.
19-1724R	June 27, 2019	Food/Water Restriction	██████	Mice	<b>What Restricted:</b> Food <b>Parameters:</b> To enhance motivation, access to food for mice during behavioral testing will be limited to 1 hour per day. The target mass will be 85%, and up to 80% for 3 consecutive days will lead to food access being increased to 2 hours per day. If weight drops to at least 75%, the animal will be removed from the study.
19-1720R	June 27, 2019	Food/Water Restriction	████	Mice	<b>What Restricted:</b> Food & Water <b>Parameters:</b> Food and water is deprived for a maximum of 2 hours to assess alcohol intake.
20-1735R	October 1, 2019	Food/Water Restriction	██████	Rats	<b>What Restricted:</b> Food <b>Parameters:</b> Rats will be fed a high fat diet to induce weight gain and then switched to a restricted amount of regular chow diet to reduce body weight. Rats will also be fasted prior to the intraperitoneal insulin tolerance test (IPITT) so that they can evaluate the level of dysfunction of glucose and insulin metabolism. Short-term fasting (e.g., 7 or 8 hours) will also be conducted in the hyperthermia project when rats will be fasted prior to exposing the rats to mild hyperthermia. They will be fasted during the exposure for 3 or 4 hours. This will allow the lab to measure the effect of the treatment on food intake. For the long-term food restriction to induce weight loss, target weight loss is a 10-15% reduction in body weight within 2 weeks with food restriction adjusted for another 2-or 6-weeks to maintain the 10-15% level of weight reduction. These animals will be weighed daily. Animals that experience short-term fast (7-16 hours for IPITT) are not expected to have any significant weight or health impacts.

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19-1721R	July 8, 2019	Food/Water Restriction	██████	Mice, Rats	<b>What Restricted:</b> Food <b>Parameters:</b> Animals may be fasted for 2-18 hours prior to the streptozotocin (STZ) injection. Glucose competes for the GLUT receptors that STZ binds too, therefore STZ efficacy and accuracy is enhanced by fasting prior to injection. Food is reintroduced immediately after the injection.
20-1744R	September 26, 2019	Husbandry Deviation from the Guide	██████	Macaca mulatta	Animals may not be pair housed during recovery after surgical procedures (about 2-4 weeks). Suitable pairing partners may not be available for all animals
20-1740R	October 24, 2019	Husbandry Deviation from the Guide	██████	Snakes, Mice	Just prior to oviposition and throughout brooding, females will be maintained in small brooding chambers to mimic the typical nesting environment. Brooding females may have temperature and humidity carefully regulated and monitored, which would require the use of considerable tubing and wiring within the housing room.  Mice will be co-housed with snakes for up to 16 hours.
20-1743R	September 26, 2019	Husbandry Deviation from the Guide	██████████	Macaca mulatta	Animals may not be pair housed during recovery after surgical procedures (about 2-4 weeks). Suitable pairing partners may not be available for all animals.
20-1747R	October 24, 2019	Husbandry Deviation from the Guide	██████████	Mice	The animals will be single housed post-surgery to avoid damage to cranial implants.
19-1724R	June 27, 2019	Husbandry Deviation from the Guide	██████	Mice	To accurately obtain embryonic time points, timed pregnancies will be required for a subset of the experiments. Thus, singly housed males will be temporarily kept in isolation prior to breeding with female mice.
19-1720R	June 27, 2019	Husbandry Deviation from the Guide	██████	Mice	There will be single housing in order to monitor alcohol intake, as well as periodically for breeding purposes (single housing breeder males between

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					breedings and single housing pregnant females prior to birth).
19-1728R	August 19, 2019	Husbandry Deviation from the Guide	██████	Rats	Rats are single housed post-operatively to prevent damage to the head cap. Time-pregnant rats are also single housed to prevent disruption during birth or maternal care from other rats.
20-1736R	August 22, 2019	Husbandry Deviation from the Guide	██████	Mice	Some mice will receive water containing doxycycline (for 7 days) or necrostatin (for 60 days). Some mice are housed in the Intellicage automated system for testing and monitoring (up to 42 days). Mice may be single housed for certain situations (e.g., fighting, treatment of clinical conditions, lack of compatible cage-mates, breeder males that are not actively breeding)
20-1744R	September 26, 2019	Multiple Major Survival Surgeries	██████	Macaca mulatta	There will be a maximum of 4 surgically implanted devices per animal. Procedures include: 1. Pedestal Implant 2. Post procedure 3. Right Hemisphere electrode array cortical implant 4. Left Hemisphere electrode array cortical implant 5. Implant removal 6. Vasectomy 7. Repair procedures as needed
20-1740R	October 24, 2019	Multiple Major Survival Surgeries	██████	Snakes	Temperature loggers will be implanted and explanted.
20-1743R	September 26, 2019	Multiple Major Survival Surgeries	██████	Macaca mulatta	There will be a maximum of 7 surgically implanted devices per animal. Procedures include: 1. Pedestal implant 2. Post procedure 3. Cuff electrode implant (if necessary) 4. Chamber implant 5. Right Hemisphere electrode array cortical implant 6. Left Hemisphere electrode array cortical implant 7. Bone Plate 8. Left arm peripheral nerve array implant

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Protocol Number	Deviation Date	Deviation Type	Investigator	Species	Comments
					9. Right arm peripheral nerve array implant 10. Implant removal 11. Vasectomy 12. Repair procedures as needed
18-1657R	May 28, 2019	Multiple Major Survival Surgeries	██████	Mice	Two surgeries: 1. Controlled cortical impact injury 2. Post-injury injection of neural stem cells/scaffold. Two days between surgeries is needed in order for successful grafting of exogenous cells into injured area.
17-1549R	May 23, 2019	Multiple Major Survival Surgeries	██████	Mice	Skin graft surgeries.
19-1721R	July 8, 2019	Multiple Major Survival Surgeries	██████	Rats, Mice	1. Insulin pellet implantation (mice & rats), 2. Transplantation in epididymal fat pad (mice) or omentum (rats) 3. Transplantation under the kidney capsule (mice) 4. Portal vein injection of islets (mice)
20-1744R	September 26, 2019	Prolonged Restraint	██████	Macaca mulatta	The animals will be seated in an NHP chair during behavioral testing for a maximum of 6 hours, up to 7 days a week. When performing tasks, the monkey also wears an aluminum halo that is affixed to the head by posts. The halo is then connected to an attachment that connects to the chair or the experimental setup table so the head cannot move. In order to prevent the animals from accessing implanted devices or gloves for data acquisition, an arm restraint may be used to limit the use of one arm. The arm restraint consists of a metal tube that one arm is placed inside. Arm restraint will only be used while the monkey is performing a task. A primate jacket may also be used to position small LED sensors down the length of the monkey's arm so that arm position may be tracked.
19-1722R	June 27, 2019	Prolonged Restraint	██████	Rats	Unpredictable Intermittent Restraint (UIR) in a wire mesh restrainer to create controlled stress

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Protocol Number	Deviation Date	Deviation Type	Investigator	Species	Comments
					response. Animals are restrained and secured to an orbital shaker at 125 rpm for up to 1 hour per day (performed any time from 7AM to 7PM), 6 days per week for 2 months.
20-1743R	September 26, 2019	Prolonged Restraint	██████████	Macaca mulatta	The animals will be seated in an NHP chair during behavioral testing for a maximum of 6 hours, up to 7 days a week. When performing tasks, the monkey also wears an aluminum halo that is affixed to the head by posts. The halo is then connected to an attachment that connects to the chair or the experimental setup table so the head cannot move. In order to prevent the animals from accessing implanted devices or gloves for data acquisition, an arm restraint may be used to limit the use of one arm. The arm restraint consists of a metal tube that one arm is placed inside. Arm restraint will only be used while the monkey is performing a task.
20-1730R	July 26, 2019	Prolonged Restraint	██████	Sea Turtles	As part of the normal fishing process, turtles will unintentionally be caught in the nets for up to 1 hour. The research to be conducted will be examining logistically feasible way to reduce the occurrence of turtle entanglement.

IACUC Inspection Findings  
Fall 2019

Inspection Date	Bldg	Room	PI(s)	Finding(s)	Date Notice Sent	Deadline for Correction	Date Returned with Signature	Response	Correction Completion Date
9/19/19	█	█	█	Unclear expiration date on peroxide and isopropanol.	10/25/19	11/8/19	10/30/19	The peroxide in unopened and opened bottles has expired and thus disposed. The isopropanol has an expiration date of April 2012 and was disposed. This information is labeled on the bottles.	10/30/19
9/19/19	█	█	█	Expired antibiotics and expired Virex.	10/25/19	11/8/19	10/29/19	These materials belonged to the █ lab. █ was notified and she removed and discarded these items.	10/29/19
9/19/19	█	█	█	Expired bug trap.	N/A	N/A	N/A	Fixed on site - removed bug trap	9/19/19
9/19/19	█	█	█	Expired bug trap.	N/A	N/A	N/A	Fixed on site - removed bug trap	9/19/19
9/19/19	█	█	█	Expired bug trap.	N/A	N/A	N/A	Fixed on site - removed bug trap	9/19/19
9/24/19	█	█	█	A cage is covered in white residue, making is difficult to see rat(s) inside.	10/25/19	11/8/19	10/29/19	The rat cage was removed from use with animals until further cleaning was performed.	9/24/19
9/24/19	█	█	█	Anesthesia machine last certified 4/2018, and needs to be done every year.	10/25/19	11/8/19	11/15/19	█ will recertify the anesthesia machine December 2019.	11/15/19
10/1/19	█	█	█	Old water in barrel. Change barrel of water before using room.	10/25/19	11/8/19	10/29/19	The water barrel in █ will be emptied and disinfected. It will be left to dry in that room and then will not be refilled until the room is needed for breeding the salamanders again.	10/29/19

IACUC Inspection Findings  
Fall 2019

Inspection Date	Bldg	Room	PI(s)	Finding(s)	Date Notice Sent	Deadline for Correction	Date Returned with Signature	Response	Correction Completion Date
10/1/19	■	■	■	Room not ready for use (filthy table, paint and knives out on the table).	N/A	N/A	N/A	Not being used by the ■ lab currently. It is a shared space with the ■ lab. ■ was notified of unauthorized use on 10/2/19. The room will be re-inspected.	10/2/19
10/1/19	■	■	■	Chloroform in hood, but not used as an anesthetic.	10/25/19	11/8/19	10/25/19	After the inspection, the chloroform was moved back into the chemical cabinet in ■. Just to reiterate, chloroform is not being used as an anesthetic in the lab.	10/1/19
10/2/19	■	■	■	A wild gecko was in the bug trap.	N/A	N/A	N/A	Fixed on site - bug trap removed and trap changed	10/2/19
10/2/19	■	■	■	A bug trap had the wrong expiration date (wrong year).	N/A	N/A	N/A	Fixed on site - expiration date corrected, as it was placed at the same time as other traps	10/2/19
10/2/19	■	■	■	An unmarked bottle of liquid was found.	10/25/19	11/8/19	10/25/19	The bottle is a general use squirt water bottle for filling bird drinking-water dishes. It has been labeled with marker as such now.	10/25/19

Arizona State University  
IACUC  
Semiannual Program Review Checklist – adopted from OLAW  
Date Review Performed: October 24, 2019

### Institutional Policies and Responsibilities

<b>1. Animal Care and Use Program</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Responsibility for animal well-being is assumed by all members of the program (Guide, p 1)	X				
b. IO has authority to allocate needed resources (Guide, p 13)	X				
c. Resources necessary to manage program of veterinary care are provided (Guide, p 14)	X				
d. Sufficient resources are available to manage the program, including training of personnel in accord with regulations and the Guide (Guide, pp 11, 15)	X				
e. Program needs are regularly communicated to IO by AV and/or IACUC (Guide, p 13)	X				
f. Responsibilities for daily animal care and facility management are assigned to specific individual(s) when a full-time veterinarian is not available on site (Guide, p 14)	X				
g. Inter-institutional collaborations are described in formal written agreements (Guide, p 15)	X				
h. Written agreements address responsibilities, animal ownership, and IACUC oversight (Guide, p 15)	X				
<b>2. Disaster Planning and Emergency Preparedness</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Disaster plans for each facility to include satellite locations are in place (Guide, p 35, p 75)	X				
b. Plans include provisions for euthanasia (Guide, p 35)	X				
c. Plans include triage plans to meet institutional and investigators' needs (Guide, p 35)	X				
d. Plans define actions to prevent animal injury or death due to HVAC or other failures (Guide, p 35)	X				
e. Plans describe preservation of critical or irreplaceable animals (Guide, p 35)	X				
f. Plans include essential personnel and their training (Guide, p 35)	X				
g. Animal facility plans are approved by the institution and incorporated into overall response plan (Guide, p 35)	X				
h. Law enforcement and emergency personnel are provided a copy and integration with overall plan is in place (Guide, p 35)	X				
<b>3. IACUC</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Meets as necessary to fulfill responsibilities (Guide, p 25)	X				
b. IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (Guide, p 26)	X				
c. Continuing IACUC oversight after initial protocol approval is in place (Guide, p 33)	X				
d. IACUC evaluates the effectiveness of training programs (Guide, p 15)	X				

A = acceptable; M = minor deficiency; S = significant deficiency (is or may be a threat to animal health or safety); C = change in program (PHS Policy IV.A.1.a.-i.) (Include in semiannual report to IO and in annual report to OLAW); NA = not applicable

<b>4. IACUC Protocol Review – Special Considerations</b>		<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a.	Humane endpoints are established for studies that involve tumor models, infectious diseases, vaccine challenge, pain modeling, trauma, production of monoclonal antibodies, assessment of toxicologic effects, organ or system failure, and models of cardiovascular shock (Guide, p 27)	X				
b.	For pilot studies, a system to communicate with the IACUC is in place (Guide, p 28)	X				
c.	For genetically modified animals, enhanced monitoring and reporting is in place (Guide, p 28)	X				
d.	Restraint devices are justified in the animal use protocols (Guide, p 29)	X				
e.	Alternatives to physical restraint are considered (Guide, p 29)	X				
f.	Period of restraint is the minimum to meet scientific objectives (Guide, p 29)	X				
g.	Training of animals to adapt to restraint is provided (Guide, p 29)	X				
h.	Animals that fail to adapt are removed from study (Guide, p 29)	X				
i.	Appropriate observation intervals of restrained animals are provided (Guide, p 29)	X				
j.	Veterinary care is provided if lesions or illness result from restraint (Guide, p 30)	X				
k.	Explanations of purpose and duration of restraint are provided to study personnel (Guide, p 30)	X				
l.	Multiple surgical procedures on a single animal are justified and outcomes evaluated (Guide, p 30)	X				
m.	Major versus minor surgical procedures are evaluated on a case-by-case basis (Guide, p 30)	X				
n.	Multiple survival procedure justifications in non-regulated species conform to regulated species standards (Guide, p 30)	X				
o.	Animals on food/fluid restriction are monitored to ensure nutritional needs are met (Guide, p 31)	X				
p.	Body weights for food/fluid restricted animals are recorded at least weekly (Guide, p 31)	X				
q.	Daily written records are maintained for food/fluid restricted animals (Guide, p 31)	X				
r.	Pharmaceutical grade chemicals are used, when available, for animal-related procedures (Guide, p 31)	X				
a.	Non-pharmaceutical grade chemicals are described, justified, and approved by IACUC (Guide, p 31)	X				
b.	Investigators conducting field studies know zoonotic diseases, safety issues, laws and regulations applicable in study area (Guide, p 32)	X				
c.	Disposition plans are considered for species removed from the wild (Guide, p 32)	X				
d.	Toe-clipping only used when no alternative, performed aseptically and with pain relief (Guide, p 75)	X				
<b>5. IACUC Membership and Functions</b>		<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a.	IACUC is comprised of at least 5 members, appointed by CEO (PHS Policy, IV.A.3.)	X				
b.	Members include a veterinarian, a scientist, a nonscientist, and a nonaffiliated non-lab animal user (Guide, p 24)ii	X				
c.	IACUC authority and resources for oversight and evaluation of institution's program are provided (Guide, p 14)	X				

A = acceptable; M = minor deficiency; S = significant deficiency (is or may be a threat to animal health or safety); C = change in program (PHS Policy IV.A.1.a.-i.)(Include in semiannual report to IO and in annual report to OLAW); NA = not applicable

<b>IACUC Membership and Functions (continued)</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
d. IACUC conducts semiannual evaluations of institutional animal care and use program (PHS Policy, IV.B.)	X				
e. Conducts semiannual inspections of institutional animal facilities (PHS Policy, IV.B.)	X				
f. IACUC organizationally reports to the Institutional Official (PHS Policy, IV.A.1.b.)	X				
g. Methods for reporting and investigating animal welfare concerns are in place (Guide, p 23)	X				
h. Reviews and investigates concerns about animal care and use at institution <sup>iii</sup> (PHS Policy, V.B.)	X				
i. Procedures are in place for review, approval, and suspension of animal activities <sup>iv</sup> (PHS Policy, IV.B.)	X				
j. Procedures are in place for review and approval of significant changes to approved activities (PHS Policy, IV.B.)	X				
k. Policies are in place for special procedures (e.g., genetically modified animals, restraint, multiple survival surgery, food and fluid regulation, field investigations, agricultural animals) (Guide, p 27-32)	X				
l. Requests for exemptions from major survival surgical procedure restrictions are made to USDA/APHIS <sup>v</sup> 30 (Guide, p 17)	X				
<b>6. IACUC Training</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
<b>All IACUC members should receive:</b>					
a. Formal orientation to institution's program (Guide, p 17)	X				
b. Training on legislation, regulations, guidelines, and policies (Guide, p 17)	X				
c. Training on how to inspect facilities and labs where animal use or housing occurs (Guide, p 17)	X				
d. Training on how to review protocols as well as evaluate the program (Guide, p 17)	X				
e. Ongoing training/education (Guide, p 17)	X				
<b>7. IACUC Records and Reporting</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
<b>Semiannual Report to the IO (PHS Policy, IV.B.)</b>					
a. Submitted to IO every 6 months	X				
b. Compiles program review and facility inspection(s) results (includes all program and facility deficiencies)	X				
c. Includes minority IACUC views	X				
d. Describes IACUC-approved departures from the Guide or PHS Policy and the reasons for each departure <sup>vii</sup>	X				
e. Distinguishes significant from minor deficiencies	X				
f. Includes a plan and schedule for correction for each deficiency identified <sup>viii</sup>	X				
<b>Reports to OLAW (PHS Policy, IV.F.)</b>					
g. Annual report to OLAW documents program changes, dates of the semiannual program reviews and facility inspections and includes any minority views	X				

<b>IACUC Records and Reporting (continued)</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
h. Promptly advises OLAW of serious/ongoing Guide deviations or PHS Policy noncompliance (NOT-OD-05-034)	X				
i. Institute must promptly advise OLAW of any suspension of an animal activity by the IACUC (NOT-OD-05-034)	X				
<b>Reports to U.S. Department of Agriculture (USDA) or Federal funding agency <sup>ix</sup></b>					
j. Annual report to USDA contains required information including all exceptions/exemptions	X				
k. Reporting mechanism to USDA is in place for IACUC-approved exceptions to the regulations and standards	X				
l. Reports are filed within 15 days for failures to adhere to timetable for correction of significant deficiencies	X				
m. Promptly reports suspensions of activities by the IACUC to USDA and any Federal funding agency	X				
<b>Records (PHS Policy, IV.E.)</b>					
n. IACUC meeting minutes and semiannual reports to the IO are maintained for 3 years	X				
o. Records of IACUC reviews of animal activities include all required information <sup>x</sup>	X				
p. Records of IACUC reviews are maintained for 3 years after the completion of the study	X				
<b>8. Veterinary Care (see also next section – Veterinary Care)</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. An arrangement for veterinarian(s) with training or experience in lab animal medicine is in place including backup veterinary care <sup>xi</sup>	X				
b. Veterinary access to all animals is provided (Guide, p 14)	X				
c. Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use (Guide, p 14)	X				
d. Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol (Guide, p 5)	X				
e. Veterinarian provides consultation when interventional control is not possible (Guide, p 5)	X				
f. If part time /consulting veterinarian, visits meet programmatic needs (Guide, p 14)	X				
g. Regular communication occurs between veterinarian and IACUC (Guide, p 14)	X				
h. Veterinarian(s) have experience and training in species used (Guide, p 15)	X				
i. Veterinarian(s) have experience in facility administration/management (Guide, p 15)	X				
<b>9. Personnel Qualifications and Training</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. All personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science. Personnel included:	X				
1. Veterinary/other professional staff (Guide, p 15-16)	X				
2. IACUC members (Guide, p 17)	X				
3. Animal care personnel (Guide, p 16)	X				

<b>Personnel Qualifications and Training (continued)</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
4. Research investigators, instructors, technicians, trainees, and students (Guide, pp 16-17)	X				
b. Continuing education for program and research staff provided to ensure high quality care and reinforce training (Guide, pp 16-17)	X				
c. Training is available prior to starting animal activity (Guide, p 17)	X				
d. Training is documented (Guide, p 15)	X				
e. Training program content includes: (Guide, p 17)					
1. Methods for reporting concerns (Guide, p 17)	X				
2. Humane practices of animal care (e.g., housing, husbandry, handling) <sup>xii</sup>	X				
3. Humane practices of animal use (e.g., research procedures, use of anesthesia, Semiannual Checklist v3/8/2012 5 pre- and post-operative care, aseptic surgical techniques and euthanasia (Guide, p 17) <sup>xiii</sup>	X				
4. Research/testing methods that minimize numbers necessary to obtain valid results (PHS Policy, IV.A.1.g.)	X				
5. Research/testing methods that minimize animal pain or distress (PHS Policy, IV.A.1.g.)	X				
6. Use of hazardous agents, including access to OSHA chemical hazard notices where applicable (Guide, p 20)	X				
7. Animal care and use legislation (Guide, p 17)	X				
8. IACUC function (Guide, p 17)	X				
9. Ethics of animal use and Three R's (Guide, p 17)	X				
<b>10. Occupational Health and Safety of Personnel</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Program is in place and is consistent with federal, state, and local regulations (Guide, p 17)	X				
b. Program covers all personnel who work in laboratory animal facilities (Guide, p 18)	X				
c. Changing, washing, and showering facilities are available as appropriate (Guide, p 19)	X				
d. Hazardous facilities are separated from other areas and identified as limited access (Guide, p 19)	X				
e. Personnel training is provided based on risk (e.g., zoonoses, hazards, personal hygiene, special precautions, animal allergies) (Guide, p 20)	X				
f. Personal hygiene procedures are in place (e.g., work clothing, eating/drinking/smoking policies) (Guide, p 20)	X				
g. Procedures for use, storage, and disposal of hazardous biologic, chemical, and physical agents are in place (Guide, p 21)	X				
h. Personal Protective Equipment for the work area is appropriate and available (Guide, p 21)	X				
i. Program for medical evaluation and preventive medicine for personnel includes:	X				
1. Pre-employment evaluation including health history (Guide, p 22)	X				
2. Immunizations as appropriate (e.g., rabies, tetanus) and tests as appropriate (Guide, p 22)	X				

<b>Occupational Health and Safety of Personnel (continued)</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
3. Zoonosis surveillance as appropriate (e.g., Q-fever, tularemia, Hantavirus, plague) (Guide, p 23)	X				
4. Procedures for reporting and treating injuries, including accidents, bites, allergies, etc. (Guide, p 23)	X				
5. Promotes early diagnosis of allergies including preexisting conditions (Guide, p 22)	X				
6. Considers confidentiality and other legal factors as required by federal, state and local regulations (Guide, p 22)	X				
7. If serum samples are collected, the purpose is consistent with federal and state laws (Guide, p 22)	X				
j. Waste anesthetic gases are scavenged (Guide, p 21)	X				
k. Hearing protection is provided in high noise areas (Guide, p 22)	X				
l. Respiratory protection is available when performing airborne particulate work (Guide, p 22)	X				
m. Special precautions for personnel who work with nonhuman primates, their tissues or body fluids include:	X				
1. Tuberculosis screening provided for all exposed personnel (Guide, p 23)	X				
2. Training and implementation of procedures for bites, scratches, or injuries associated with macaques (Guide, p 23)	X				
3. PPE is provided including gloves, arm protection, face masks, face shields, or goggles (Guide, p 21)	X				
4. Injuries associated with macaques are carefully evaluated and treatment implemented (Guide, p 23)	X				
n. Occupational safety and health of field studies is reviewed by OSH committee or office (Guide, p 32)	X				
<b>11. Personnel Security</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Preventive measures in place include pre-employment screening, and physical and IT security (Guide, p 23)	X				
<b>12. Investigation and Reporting Animal Welfare Concerns</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Methods for investigating and reporting animal welfare concerns are established (Guide, p 23)	X				
b. Reported concerns and corrective actions are documented (Guide, p 24)	X				
c. Mechanisms for reporting concerns are posted in facility and at applicable website with instructions (Guide, p 24)	X				
1. Includes multiple contacts (Guide, p 24)	X				
2. Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection (Guide, p 24)	X				

## Veterinary Care

<b>1. Clinical Care and Management</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Veterinary program offers high quality of care and ethical standards (Guide, p 105)	X				
b. Veterinarian provides guidance to all personnel to ensure appropriate husbandry, handling, treatment, anesthesia, analgesia, and euthanasia (Guide, p 106)	X				
c. Veterinarian provides oversight to surgery and perioperative care (Guide, p 106)	X				
d. Veterinary care program is appropriate for program requirements (Guide, pp 113-114)	X				
e. Veterinarian(s) is familiar with species and use of animals and has access to medical and experimental treatment records (Guide, p 114)	X				
f. Procedures to triage and prioritize incident reports are in place (Guide, p 114)	X				
g. Procedures are in place to address:					
1. Problems with experiments to determine course of treatment in consultation with investigator (Guide, p 114)	X				
2. Recurrent or significant health problems with the IACUC and documentation of treatments and outcomes (Guide, p 114)	X				
3. Veterinary review and oversight of medical and animal use records (Guide, p 115)	X				
h. Procedures established for timely reporting of animal injury, illness, or disease (Guide, p 114)	X				
i. Procedures established for veterinary assessment, treatment, or euthanasia (Guide, p 114)	X				
j. Veterinarian is authorized to treat, relieve pain, and/or euthanize (Guide, p 114)	X				
<b>2. Animal Procurement and Transportation/Preventative Medicine</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Procedures for lawful animal procurement are in place (Guide, p 106)	X				
b. Sufficient facilities and expertise are confirmed prior to procurement (Guide, p 106)	X				
c. Procurement is linked to IACUC review and approval (Guide, p 106)	X				
d. Random source dogs and cats are inspected for identification (Guide, p 106)	X				
e. Population status of wildlife species is considered prior to procurement (Guide, p 106)	X				
f. Appropriate records are maintained on animal acquisition (Guide, p 106)	X				
g. Animal vendors are evaluated to meet program needs and quality (Guide, p 106)	X				
h. Breeding colonies are based on need and managed to minimize numbers (Guide, p 107)	X				
i. Procedures for compliance with animal transportation regulations, including international requirements, are in place (Guide, p 107)	X				
j. Transportation is planned to ensure safety, security and minimize risk (Guide, p 107)	X				
k. Movement of animals is planned to minimize transit time and deliveries are planned to ensure receiving personnel are available (Guide, pp 107-108)	X				

A = acceptable; M = minor deficiency; S = significant deficiency (is or may be a threat to animal health or safety); C = change in program (PHS Policy IV.A.1.a.-i.) (Include in semiannual report to IO and in annual report to OLAW); NA = not applicable

<b>Animal Procurement and Transportation/Preventative Medicine (continued)</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
l. Appropriate loading and unloading facilities are available (Guide, p 109)	X				
m. Environment at receiving site is appropriate (Guide, p 109)	X				
n. Policies in place on separation by species, source, and health status (Guide, pp 109, 111-112)	X				
o. Procedures in place for quarantine to include zoonoses prevention (Guide, p 110)	X				
p. Quarantined animals from different shipments are handled separately or physically separated (Guide, p 110)	X				
q. Procedures in place for stabilization/acclimation (Guide, pp 110-111)	X				
r. Policies in place for isolation of sick animals (Guide, p 112)	X				
s. Program is in place for surveillance, diagnosis, treatment and control of disease to include daily observation (Guide, p 112)	X				
t. Diagnostic resources are available for preventive health program (Guide, p 112)	X				
<b>3. Surgery</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Surgical outcomes are assessed and corrective changes instituted (Guide, p 115)	X				
b. Researchers have appropriate training to ensure good technique (Guide, p 115)	X				
c. Pre-surgical plans are developed and include veterinary input (e.g., location, supplies, anesthetic and analgesic use, peri-operative care, recordkeeping) (Guide, p 116)	X				
d. Aseptic surgery is conducted in dedicated facilities or spaces, unless exception justified and IACUC approved (Guide, p 116)	X				
e. Surgical procedures including laparoscopic procedures are categorized as major or minor (Guide, pp 117-118)	X				
f. For nonsurvival surgery, the site is clipped, gloves are worn and instruments and area are clean (Guide, p 118)	X				
g. Aseptic technique is followed for survival surgical procedures (Guide, pp 118-119)	X				
h. Effective procedures for sterilizing instruments and monitoring expiration dates on sterile packs are in place (Guide, p 119)	X				
i. Procedures for monitoring surgical anesthesia and analgesia are in place (Guide, p 119)	X				
j. For aquatic species, skin surfaces are kept moist during surgical procedures (Guide, p 119)	X				
k. Post-operative monitoring and care are provided by trained personnel and documented (e.g., thermoregulation, physiologic function, analgesia, infection, removal of skin closures) (Guide, pp 119-120)	X				
<b>4. Pain, Distress, Anesthesia and Analgesia</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Guidelines for assessment and categorization of pain, distress and animal wellbeing are provided during training (Guide, p 121)	X				
b. Selection of analgesics and anesthetics is based on professional veterinary judgment (Guide, p 121)	X				
c. Painful procedures are monitored to ensure appropriate analgesic management (Guide, p 122)	X				

<b>Pain, Distress, Anesthesia and Analgesia (continued)</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
d. Nonpharmacologic control of pain is considered as an element of postprocedural care (Guide, p 122)	X				
e. Procedures are in place to assure antinoception before surgery begins (Guide, p 122)	X				
f. Guidelines for selection and use of analgesics and anesthetics are in place and regularly reviewed and updated (Guide, p 122)	X				
g. Special precautions for the use of paralytics are in place to ensure anesthesia <sup>xiv</sup>					X
<b>5. Euthanasia</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Methods are consistent with AVMA Guidelines on Euthanasia unless approved by the IACUC (Guide, p 123)	X				
b. Standardized methods are developed and approved by the veterinarian and IACUC that avoid distress and consider animal age and species (Guide, pp 123-124)	X				
c. Training is provided on appropriate methods for each species and considers psychological stress to personnel (Guide, p 124)	X				
d. Procedures and training are in place to ensure death is confirmed (Guide, p 124)	X				
<b>6. Drug Storage and Control</b>	<b>A</b>	<b>M</b>	<b>S</b>	<b>C</b>	<b>NA</b>
a. Program complies with federal regulations for human and veterinary drugs (Guide, p 115)	X				
b. Drug records and storage procedures are reviewed during facility inspections (Guide, p 115)	X				
c. Procedures are in place to ensure analgesics and anesthetics are used within expiration date (Guide, p 122)	X				
d. Anesthetics and analgesics are acquired, stored, and their use and disposal are recorded legally and safely (Guide, p 122)	X				

[illegible]