



INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE

Dr. Shanna Ivey, Chair

MSC 3RES
New Mexico State University
P. O. Box 30001
Las Cruces, NM 88003-8001
Phone: 575-646-7177 Fax: 575-646-2480
E-mail: ovpr@nmsu.edu

Dr. Shanna Ivey, Chair
Animal & Range Sciences
222 Knox Hall
(575) 646-4650
sivey@nmsu.edu

IACUC SEMI-ANNUAL MEETING MINUTES

APRIL 30, 2018

ANDERSON HALL LARGE CONFERENCE ROOM

Dr. Clint Loest
Animal & Range Sciences

Members Present: Shanna Ivey, Clint Loest, Colleen Caldwell, Trey Miller, Erin Weich, Scott Eschenbrenner, Tim Wright

Dr. Timothy Wright
Biology

Members Not Present: none

Present: JoAnne Dupre, Sue Bonar, Michelle Gavin

Dr. Colleen Caldwell
Fishery & Wildlife Sciences

Meeting was called to order by the Chair at 3:01 p.m.

Mr. W. Scott Eschenbrenner
Special Assistant to the President

1. Sign-In Sheet was distributed. A quorum of members was present.

Mr. Trey Miller
Community Member

2. Approval of Minutes
The minutes of November 2, 2017 were distributed and reviewed. No corrections or additions were identified. A motion was made and seconded to accept the minutes as presented. Vote: In favor (7), opposed (0), abstain (0). The minutes were accepted with no modifications.

Dr. Erin Ivey Weich
University Veterinarian

Dr. JoAnne Dupre, Ex-Officio
Research Integrity & Ethics

3. Animal Care Program Review (OLAW Checklist)
The OLAW Checklist was distributed and reviewed for discussion on all aspects of the animal care and use program. The signature page represents the committee member's review.

Dr. Luis A. Vazquez, Ex-Officio
Interim Vice President for Research
Anderson Hall, Room E2010
(575) 646-7177

- This year to date, ten protocols have been submitted. The majority are from Animal & Range, Science, Biology, and Fish & Wildlife. Seven are approved and

three are pending. New applications are expected soon for classes in the fall semester.

- IACUC member training: “[Field Euthanasia Methods for Wildlife - March 29, 2018](https://grants.nih.gov/grants/olaw/educational_resources.htm)” presentation slides and transcript were provided. This training webinar and others are available from the Office of Laboratory Animal Welfare (OLAW) website at https://grants.nih.gov/grants/olaw/educational_resources.htm.

4. Facility Inspections were conducted on April 23, April 25 and April 26, 2018. IACUC members discussed the surveys of the animals and facility conditions, protocols, daily logs and training certificates that were examined at all locations.

Minor deficiencies

- Biology department: For mice, missing records for mice (current protocol, body weight, training) and for fish area (daily logs).
- Horse farm: missing protocols for teaching use
- Animal Metabolism: missing training records for one protocol.

Recommendations

- Animal Care Facility: Need the updated mouse protocol; establish a central location for current training records and protocols, and identify the location in each animal room; ensure roach control in all rooms; move excess supplies from the surgical room and store in plastic containers that can be closed and organized; mouse room needs minor wall repairs.
- Biology Annex: need a ground fault interrupter; improve upkeep for drains, roof, and water unit.
- Biology: For mice, revise methods for recording daily care and health; improve daily logs by using a standardized spreadsheet with boxes to check daily. For squid room, wall surfaces need maintenance.
- Horse farm: replace feeders when rusted; clean refrigerators in pharmacy and teaching room.
- All protocols: a note can be added to the log records for personnel that are named on the IACUC protocol but have graduated or are no longer involved.
- Animal Metabolism: clean underside of necropsy table.

5. Occupational Health and Safety Program for Animal Workers

Researchers have difficulty obtaining signed certificates from the central system, which doesn't open records on some computers. The biosafety manager can provide a certificate of training and occupational health enrollment upon request if a copy is needed at the location of the animal study. The campus health center has been efficient at seeing people quickly to complete vaccinations and send records to EH&S.

Researchers in Animal Science evaluated the use of protective clothing and safety procedures for studies of sheep reproduction to reduce the potential for exposures to microorganisms.

6. Semi-Annual Report to the Institutional Official (IO)

The committee reviewed the semi-annual reports to be submitted to the Institutional Official as required by the PHS Policy on Humane Care and Use of Laboratory Animals and the USDA Animal Welfare regulations.

The report to Institutional Official for NMSU facilities certifies that the committee met on April 30, 2018, conducted a review of the animal care and use program following the OLAW Semiannual Program Review Checklist, and conducted inspections of the animal facilities. The report will note the minor deficiencies for the mice protocols, fish daily logs, horse farm protocols for teaching courses, and missing training records for one protocol in animal metabolism. The faculty investigators with minor deficiencies will be sent a notice for corrective action. The report as approved by the Committee members will be sent to the IO, Dr. Vazquez.

The report to the Institutional Official for the Jornada Range facilities noted that the facility inspections have been conducted and no deficiencies have been identified, and that the animal welfare program has been evaluated. The report was approved by the committee as indicated by the signature page, and will be sent to the Jornada IO, Dr. Bestelmeyer.

7. Compliance Status (USDA, OLAW)

The OLAW annual report was submitted in February 2018 and was accepted. The USDA-APHIS annual facility report for 2017 was submitted in November 2017. Changes to the NMSU IO will be reported to OLAW and USDA when the new Vice President for Research begins.

8. Adjourn: The Spring 2018 meeting of the IACUC adjourned at 4:30 p.m.

Minutes reviewed and accepted by the Institutional Animal Care and Use Committee:

Dr. Shanna Ivey, Chair

cc: Dr. Luis A. Vazquez, Interim Vice President for Research



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Email: ovpr@nmsu.edu

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Dr. Erin Ivey Weich.
University Veterinarian

Mr. Trey Miller
Community Member

Dr. JoAnne Dupre, Ex-Officio
Manager, Biosafety/Export Control

Office of the Vice President for
Research
Anderson Hall, Room E2010
(575) 646-2480

Dr. Luis A. Cifuentes
Vice President for Research

IACUC Semi-Annual Meeting

Fall

November 30, 2018

Large Conference Room at Anderson Hall 3:00 PM

Agenda

1. Sign-in Sheet
2. Approval of Minutes from April, 2018 Meeting
3. Protocol Reviews and Process
 - a. Review Checklist
4. Facility Inspections-November 26 and 27, 2018
5. Animal Care Program Review (OLAW Checklist)
7. IACUC Certification for Animal Workers
 - a. Occupational Health and Safety Program for Animal Workers - Update
8. Compliance Status (USDA, OLAW)
 - a. Annual Report to USDA/APHIS
 - b. Annual Report to OLAW
9. Semi-Annual Report to the Institutional Officials (NMSU and Jornada)
10. Other Committee Considerations
 - a. Notification of PI when protocols expire



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Dr. JoAnne Dupre (Ex-Officio)
Research Integrity & Ethics

Dr. Luis A. Cifuentes (Ex-Officio)
Vice President for Research and
Graduate School, Institutional Official
Anderson Hall, Room N2015
(575) 646-2481

IACUC SEMI-ANNUAL MEETING

NOVEMBER 30, 2018

ANDERSON HALL LARGE CONFERENCE ROOM

Members Present: Shanna Ivey, Clint Loest, Colleen Caldwell,
Trey Miller, Erin Weich (by phone), Scott Eschenbrenner, Tim
Wright

Present: JoAnne Dupre

Meeting was called to order by Chair Ivey at 3:01 p.m.

1. Sign-In Sheet: all members are present.
2. Approval of Minutes from April 30, 2018: motion and second to accept the minutes as presented. Vote: in favor (7), opposed (0), abstain (0). Accepted with no modifications.
3. Protocol Reviews and Process
 - Thirty-one protocols have been submitted this year, with 27 approved to date. Three are in the review process, and one from May (#011) was not resubmitted after the initial review. Livestock study (#018) was approved as a preliminary study using fewer animals, in anticipation of a future protocol for a larger study.
 - Discussion was held on the method used to review protocols: members agreed that reviews are rigorous, all members have opportunity to comment on each protocol, and review comments have been consistent.

Attention is given to ensure that the pain category for each protocol is correct. Category E protocols must have a consultation with the veterinarian, and the protocol is held until the vet notifies the Chair. Chair Ivey documents the method of review, the comments for modifications, and the outcome of all reviews.

4. Facility Inspections were conducted on November 26 and 27, 2018. Teams of two or more IACUC members visited each facility to survey the animals and facility conditions, protocols, daily logs and training certificates. A member on each inspection team presented comments about the findings of each location.

- Fish, Wildlife, and Conservation Ecology facility: no deficiencies; no concerns from previous inspection. The electronic notification system for monitoring the water conditions works is working well.
- Livestock Entomology: no concerns from previous inspections, and no concerns this time. No animals were indoors at the time of visit. A few employees are due for safety training refresher. Outdoor animals looked healthy and food and clean water was present.
- Metabolism and Physiology Facility: training records are missing; recommend separating the protocols into individual binders by PI. Minor repairs needed: fire extinguisher check; a light bulb in the storage room; small leak in faucet in the metabolism room. No animals were present. The facility was clean overall. Feed was dated; storage bins were closed.
- Animal Care Facility: standard operating procedures and personnel records were present in all the rooms. The protocol for chicks was expired, and chicks are not being used. Prior inspection had five minor deficiencies, and all of these had been addressed. Birds (budgies) were recently moved from the outside aviary due to cold weather. Six mortalities occurred, possibly due to stress from the sudden temperature change even though heat lamps had been available in the outdoor area. No cause of death was apparent, and we're waiting for results from the state lab. The safety office monitored for carbon monoxide and other gas levels, and showed no issues. Communication was good between the facility personnel, PI and vet during the move of the budgies. Indoors, the budgies appeared healthy and well cared for. The facility was clean; temperatures were good, cage areas were clean. Facilities personnel were present in the building responding to a request to fix a drain. The IACUC team commended Mr. Montoya for housing the mice in larger cages with PVC pipes to provide coverings. Cabinets and organization overall is improved.
- Biology Annex: the aviary was clean and empty, since the birds had been moved. In the fish room, protocols and care logs were up-to-date; training records were unavailable for two people. Fish appeared healthy; cleanliness was satisfactory. Extension cords are used in several places; as noted previous inspections, the room is under-served for electrical outlets. Also as noted previously, the drains clog frequently, and a water-service unit has a lighted alarm indicator that has not been reset. *[Update 1/17/2019: Facilities and Services (FS) response: the alarm for water quality system needs to be reset by the system contractor, and will coordinate with the building safety officer; the sensor for the circulation pump is separate and not*

affected; FS will snake drains whenever called for pooling water; if frequent, will arrange for more extensive repair or replacement; started project planning to add electrical receptacles.]

- Foster Hall: overall findings: safety records needed for mice protocol; the previous inspection finding for care logs was corrected; a new protocol is needed for use of chicks, and for the fish in the teaching lab. These will be recorded as minor deficiencies in the report to the Institutional Official (IO). Discussion was held about the criteria for categorizing minor and major deficiencies; a major deficiency is when the health of animals is affected, or three minor deficiencies have been noted; these must be reported immediately to OLAW.
- Jornada: feed barn was well-organized with all feed bags closed and dated. Pens and tanks were clean. Horses in pen had minor injuries from mesquite; these had been doctored and appeared cared-for. A calf that was present appeared healthy. The pharmacy room was orderly, with very few medicines present, none expired. Protocols, operating procedures and daily logs were up-to-date. No issues.
- Horse farm: Four teaching protocols were present, logs, IACUC certification and safety training were up-to-date. Fifty three horses were present and the team looked at all areas. Food, water and the appearance of animals were all good. Refrigerators were clean, no expired antibiotics or chemicals. No deficiencies. Recommendation: would like to have a safe, clean, covered area for hay storage; needs to be close by to prevent fire damage, and able to prevent vermin. The IACUC Chair noted that a request has been submitted for reconstruction (BRR) funds.

Discussion of findings for IO letter:

Minor deficiencies will be reported the IO letter: Biology department, missing protocol for use of chicks; student needs to be added to IACUC protocol; new teaching protocol needed for fish lab. In the Animal Metabolism facility, training records were missing, and a recommendation will be sent to PIs to organize protocols in separate books. Recommendations for facilities: for the Biology Annex, Facilities & Services (FS) needs to address the electrical and drain; in Foster Hall squid room, floor surface needs repair. The Chair will prepare a separate letter to the Associate Director of FS. FS has expressed a willingness to accompany the inspection teams, and an invitation will be sent to include an *ad hoc* representative from F&S on future inspections.

5. Animal Care Program Review (AWA Checklist)

The AWA checklist was reviewed by the Committee members, with no concerns regarding the current animal welfare program on campus. The checklist was approved and signed by the committee members present.

6. Occupational Health and Safety Program (OHSP) for Animal Workers

Dr. Dupre provided an overview of updates to the OHSP. The safety class at Environmental Health, Safety & Risk Management (EHS&RM) training center includes a written quiz on the topics of zoonotic diseases and prevention of respiratory problems related to animal work. Participants are given the updated form to enroll in the health

monitoring program with Aggie Health & Wellness Center (AHWC). A physical exam is not necessary for any of the current protocols; the primary purpose of the OHSP enrollment is to ensure workers are offered immunization for tetanus, and in some cases rabies, and also to provide access to the respiratory protection program and other safety trainings through EHS&RM (i.e., hearing protection). Services are provided at no charge to the animal worker, paid by the office of the Vice President for Research. Animal workers can elect to discuss other health concerns confidentially with a health provider at AHWC. Upon completion of enrollment and follow-up, a certificate is issued that verifies the date of the training and health assessment. This certificate is sent to the individual and to EHS&RM to record in Training Central.

Chair Ivey noted that the safety training can also be completed online through CITI Program courses, and this information needs to be organized on the IACUC webpage.

Action Items:

- Update IACUC webpage with the OHSP instructions and with the form and instructions for protocol modification.
- The webpage, along with New Faculty orientation and PI certification training, are important reminders to inform faculty that an IACUC protocol is needed for the use of animals in teaching as well as research.

7. Compliance Status (USDA, OLAW)

- The USDA-APHIS annual report for 2018 (Oct 2017-Sept 2018, due December 1 each year) was submitted in November and accepted.
- The OLAW annual report is due in the spring, and will report the change in the Vice President for Research as the Institutional Official.

8. Semi-Annual Report to the Institutional Official (IO)

The committee reviewed the semi-annual reports to be submitted to the Institutional Official as required by the PHS Policy on Humane Care and Use of Laboratory Animals and the USDA Animal Welfare regulations.

The semi-annual report to the IO for NMSU campus will be sent to Dr. Luis Cifuentes. The report certifies that the committee met today (November 30, 2018), conducted a review of the animal care and use program following the OLAW Semiannual Program Review Checklist, and conducted inspections of the animal facilities with notes of minor deficiencies and recommendations for corrective actions. The report was approved by the committee as indicated by the signature page.

The semi-annual report to the IO for Jornada will be sent to Dr. Brandon Bestelmeyer. The report certifies that the committee met today (November 30, 2018), conducted a review of the animal care and use program following the applicable Animal Welfare regulations and Guides for USDA-APHIS research facilities, and conducted inspections of the animal facilities. No major or minor deficiencies were observed. The report was approved by the committee as indicated by the signature page.

9. Other considerations

(a). Notification to PI when protocols expire

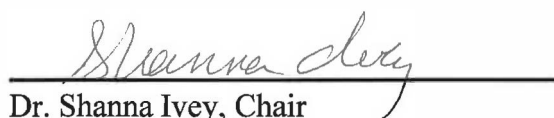
Chair Ivey led a discussion to determine if notifications are needed to remind PIs of expiration dates of protocols. Currently it is left to the PI to keep track of their approval(s). Members suggested that Maestro might be used in a limited way to track the approval dates and notifications beginning two months before expiration, and also a final report when the project ends with a checklist of animal disposition. Input from the VPR will be needed to determine if the Maestro system can be used and a demo ready by the April meeting. A motion was made and seconded to support the office of Research Compliance in developing an electronic reminder system for IACUC notifications of protocol expiration. Vote: in favor (7); opposed (0); abstain (0). Chair Ivey will communicate with Research administration to work toward an electronic notification system for IACUC protocol tracking and notifications.

(b) GO bond: approved for animal facilities, including a biomedical vivarium which will call for some changes in the IACUC program. This will be a topic for future discussions.

(c) Clarification of protocol amendments for personnel listed on active protocols: a graduate student who is no longer working with animals should be removed from the protocol by an amendment for each protocol, as an alternative to requiring the grad student to renew CITI certification/safety training.

10. Adjourn: The Fall 2018 meeting of the IACUC adjourned at 4:15 p.m.

Minutes reviewed and accepted by the Institutional Animal Care and Use Committee:


Dr. Shanna Ivey, Chair

cc: Dr. Luis A. Cifuentes, Vice President for Research

IACUC Applications 2018

No.	PI	Dept	Anim	Title	Recd	Sent	Ac t	Date	Length	PHS
001	Caldwell	FWCE	Fish	Environmental Biology of Fishes (FWCE 432/532)	12/06/17	1/04/18	A	1/22/18	1/18 to 1/21	No
002	Xu	BIOL	Mice	Mosquito microbiota and impact on mosquito immune system	12/06/17	1/04/17	A	1/22/18	1/18 to 1/21	No
003	Smith	NMSU-Alamo	Mud Turtle	Habits and habitats of rough-footed mud turtle	1/11/18	1/11/18	A	3/21/18	3/18 to 2/21	No
004	Duff	ANRS	Cattle	Effect of flaxseed product on health and performance of feedlot cattle	1/24/18	2/08/18	A	3/6/18	3/18 to 2/21	No
005	Frey	FWCE	Chipmunk	Distribution, abundance, and habitat selection by the Penasco least chipmunk	3/16/18	3/21/18	A	4/10/18	4/18 to 3/21	No
006	Frey	FWCE	Chipmunk	Habitat selection by the Organ mountain Colorado chipmunk	3/16/18	3/21/18	A	4/10/18	4/18 to 3/21	No
007	Wright	BIOL	Rosy-faced lovebirds	Individual variation in behavioral flexibility and invasion success of rosy-face lovebirds in Phoenix, AZ	3/16/18	3/21/18	A	4/10/18	4/18 to 3/21	No
008	Desmond	FWCE	Bendire's Thrasher	Bendire's Thrasher nest survival and juvenile survival in relation to land management practices	3/28/18	4/10/18	A	5/9/18	5/18 to 4/21	No
009	Wright	BIOL	Birds	Yellow-naped	4/7/18	4/10/18	A	5/9/18	5/18 to	No

				Amazon					4/21	
010	Bailey	ANRS	Cattle	Accelerometers and GPS tracking to monitor cattle behavior	4/23/18	4/26/18	A	5/18/18	5/18 to 4/21	No
011	Hansen	BIOL	Chickens	Physiology of arthropods	5/17/18	5/29/18				
012	Ward	EASNR	Cattle	Elisa for pregnancy detection	5/17/18	5/29/18	A	7/5/18	7/18 to 6/21	No
013	Caldwell	FWCE	Fish	Trojan YY brook trout	5/21/18	5/29/18	A	7/5/18	7/18 to 6/21	No
014	Priest	ANRS	Horse	ANSC 288 Fitting and Selling	5/9/18	5/29/18	A	7/5/18	7/18 to 6/21	No
015	Priest	ANRS	Horse	ANSC 320 Equine Behavior	5/9/18	5/29/18	A	7/5/18	7/18 to 6/21	No
016	Priest	ANRS	Horse	ANSC 321 Equine Behavior II	5/9/18	5/29/18	A	7/5/18	7/18 to 6/21	No
017	Priest	ANRS	Horse	ANSC 383 Equine Reproduction	5/9/18	5/29/18	A	7/5/18	7/18 to 6/21	No
018	Duff	ANRS	Cattel	Preliminary study to evaluate pluronic fog	8/8/18	8/18/18	A	9/6/18	9/18 to 8/21	No
019	Cain	FWCE	Elk	Elk demography movements and habitat	6/15/18	7/5/18	A	7/6/18	7/18 to 6/21	No
020	Caldwell	FWCE	Fish	Transponder retention by brook trout	8/21/18	9/6/18	A	9/21/18	9/18 to 8/21	No
021	Roemer	FWCE	Wildlife	Wildlife observation data in support of citizen science program	8/29/18	9/6/18	A	9/29/18	9/18 to 8/21	No
022	Cain	FWCE	Large mammal wildlife	Large mammal monitoring	9/6/18	9/6/18	A	9/21/18	9/18 to 8/21	No
023	Duff	ANRS	Cattle	Effect of preconditioning on wheat pasture cattle	9/10/18	9/21/18	A	10/11/18	10/18 to 9/21	No
024	Duff	ANRS	Cattle	Effect of supplemental phytomolecules	9/26/18	10/11/18	A	10/25/1/	10/18 to 9/21	No
025	Wright	BIOL	Macaw	Assessment of genetic variability in captive vs. wild	10/6/18	10/11/18	A	10/25/1/	10/18 to 9/21	No

026	Loest	ANRS	Sheep	Effects of leucine on immunity	10/15/18	10/18/18	A	11/6/18	11/18 to 10/21	No
027	Montanez	FCS	Horses	Equine Assisted therapy	10/15/18	10/18/18	A	11/6/18	11/18 to 10/21	No
028	Scholljegerdes	ANRS	Cattle	Titanium dioxide in cattle feces	10/17/18	10/25/18	A	11/18/18	11/18 to 10/21	No
029	Soto	ANRS	Cattle	Corn processing digestibility of low quality forage	11/7/18	11/18/18	A	12/9/18	12/18 to 11/21	No
030	Soto	ANRS	Cattle	Horn fly on forage intake	11/7/18	11/18/18	A	1/10/19	1/19 to 12/22	No
031	Marion	BIOL	Fish	BIOL 111L Natural history of life	11/16/18	11/18/18	A	12/9/18	12/18 to 11/21	No

I. Semiannual Program Review Checklist¹

Institutional Policies and Responsibilities

Date:

1. Animal Care and Use Program <small>NEW</small>	A*	M	S	C	NA
• Responsibility for animal well-being is assumed by all members of the program (Guide, p 1) must	✓				
• IO has authority to allocate needed resources (Guide, p 13)					
• Resources necessary to manage program of veterinary care are provided (Guide, p 14) must					
• Sufficient resources are available to manage the program, including training of personnel in accord with regulations and the Guide (Guide, pp 11, 15)	✓				
• Program needs are regularly communicated to IO by AV and/or IACUC (Guide, p 13)					
• 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) must	✓				
• Inter-institutional collaborations are described in formal written agreements (Guide, p 15)	✓				
• Written agreements address responsibilities, animal ownership, and IACUC oversight (Guide, p 15)	✓				
2. Disaster Planning and Emergency Preparedness <small>NEW</small>	A*	M	S	C	NA
• Disaster plans for each facility to include satellite locations are in place (Guide, p 35, p 75) must	✓				
• Plans include provisions for euthanasia (Guide, p 35) must	✓				
• Plans include triage plans to meet institutional and investigators' needs (Guide, p 35)	✓				
• Plans define actions to prevent animal injury or death due to HVAC or other failures (Guide, p 35)	✓				
• Plans describe preservation of critical or irreplaceable animals (Guide, p 35)	✓				
• Plans include essential personnel and their training (Guide, p 35)	✓				
• Animal facility plans are approved by the institution and incorporated into overall response plan (Guide, p 35)	✓				
• Law enforcement and emergency personnel are provided a copy and integration with overall plan is in place (Guide, p 35)	✓				
3. IACUC <small>NEW</small>	A*	M	S	C	NA
• Meets as necessary to fulfill responsibilities (Guide, p 25) must	✓				
• IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (Guide, p 26) must	✓				
• Continuing IACUC oversight after initial protocol approval is in place (Guide, p 33)	✓				
• IACUC evaluates the effectiveness of training programs (Guide, p 15)	✓				
4. IACUC Protocol Review - Special Considerations	A*	M	S	C	NA
• 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)	✓				
• For pilot studies, a system to communicate with the IACUC is in place (Guide, p 28)					
• For genetically modified animals, enhanced monitoring and reporting is in place (Guide, p 28)					
• Restraint devices are justified in the animal use protocols (Guide, p 29) must	✓				
• Alternatives to physical restraint are considered (Guide, p 29)	✓				
• Period of restraint is the minimum to meet scientific objectives (Guide, p 29)	✓				
• Training of animals to adapt to restraint is provided (Guide, p 29)	✓				
• Animals that fail to adapt are removed from study (Guide, p 29)	✓				
• Appropriate observation intervals of restrained animals are provided (Guide, p 29)	✓				
• Veterinary care is provided if lesions or illness result from restraint (Guide, p 30) must	✓				

<ul style="list-style-type: none"> • Explanations of purpose and duration of restraint are provided to study personnel (<i>Guide, p 30</i>) • Multiple surgical procedures on a single animal are justified and outcomes evaluated (<i>Guide, p 30</i>) • Major versus minor surgical procedures are evaluated on a case-by-case basis (<i>Guide, p 30</i>) • Multiple survival procedure justifications in non-regulated species conform to regulated species standards (<i>Guide, p 30</i>) • Animals on food/fluid restriction are monitored to ensure nutritional needs are met (<i>Guide, p 31</i>) • Body weights for food/fluid restricted animals are recorded at least weekly (<i>Guide, p 31</i>) • Daily written records are maintained for food/fluid restricted animals (<i>Guide, p 31</i>) • Pharmaceutical grade chemicals are used, when available, for animal-related procedures (<i>Guide, p 31</i>) • Non-pharmaceutical grade chemicals are described, justified, and approved by IACUC (<i>Guide, p 31</i>) • Investigators conducting field studies know zoonotic diseases, safety issues, laws and regulations applicable in study area (<i>Guide, p 32</i>) • Disposition plans are considered for species removed from the wild (<i>Guide, p 32</i>) • Toe-clipping only used when no alternative, performed aseptically and with pain relief (<i>Guide, p 75</i>) 	✓								
5. IACUC Membership and Functions	A*	M	S	C	NA				
<ul style="list-style-type: none"> • IACUC is comprised of at least 5 members, appointed by CEO (PHS Policy, <i>IV.A.3.</i>) • Members include a veterinarian, a scientist, a nonscientist, and a nonaffiliated non-lab animal user (<i>Guide, p 24</i>)ⁱⁱ • IACUC authority and resources for oversight and evaluation of institution's program are provided (<i>Guide, p 14</i>) • IACUC conducts semiannual evaluations of institutional animal care and use program (PHS Policy, <i>IV.B.</i>) • Conducts semiannual inspections of institutional animal facilities (PHS Policy, <i>IV.B.</i>) • IACUC organizationally reports to the Institutional Official (PHS Policy, <i>IV.A.1.b.</i>) • Methods for reporting and investigating animal welfare concerns are in place (<i>Guide, p 23</i>) Guide • Reviews and investigates concerns about animal care and use at institutionⁱⁱⁱ (PHS Policy, <i>IV.B.</i>) • Procedures are in place for review, approval, and suspension of animal activities^{iv} (PHS Policy, <i>IV.B.</i>) • Procedures are in place for review and approval of significant changes to approved activities (PHS Policy, <i>IV.B.</i>) • Policies are in place for special procedures (e.g., genetically modified animals, restraint, multiple survival surgery, food and fluid regulation, field investigations, agricultural animals) (<i>Guide, p 27-32</i>) • Requests for exemptions from major survival surgical procedure restrictions are made to USDA/APHIS^v (<i>Guide, p 30</i>) Guide 	✓	✓							
6. IACUC Training	A*	M	S	C	NA				
<ul style="list-style-type: none"> • All IACUC members should receive: <ul style="list-style-type: none"> ◦ Formal orientation to institution's program (<i>Guide, p 17</i>) ◦ Training on legislation, regulations, guidelines, and policies (<i>Guide, p 17</i>) ◦ Training on how to inspect facilities and labs where animal use or housing occurs (<i>Guide, p 17</i>) ◦ Training on how to review protocols as well as evaluate the program (<i>Guide, p 17</i>) ◦ Ongoing training/education (<i>Guide, p 17</i>) 	✓	✓	✓						
7. IACUC Records and Reporting Requirements^{vi}	A*	M	S	C	NA				
<ul style="list-style-type: none"> • Semiannual report to the IO (PHS Policy, <i>IV.B.</i>) <ul style="list-style-type: none"> ◦ Submitted to IO every 6 months ◦ Complies program review and facility inspection(s) results (Includes all program 	✓								

and facility deficiencies)					
o Includes minority IACUC views					
o Describes IACUC-approved departures from the <i>Guide</i> or PHS Policy and the reasons for each departure ^{vii}	✓				
o Distinguishes significant from minor deficiencies	✓				
o Includes a plan and schedule for correction for each deficiency identified ^{viii}					
• Reports to OLAW (PHS Policy, IV.F.)					
o Annual report to OLAW documents program changes, dates of the semiannual program reviews and facility inspections and includes any minority views	✓				
o Promptly advises OLAW of serious/ongoing <i>Guide</i> deviations or PHS Policy noncompliance (NOT-OD-05-034)	✓				
o Institute must promptly advise OLAW of any suspension of an animal activity by the IACUC (NOT-OD-05-034)	✓				
• Reports to U.S. Department of Agriculture (USDA) or Federal funding agency ^x					
o Annual report to USDA contains required information including all exceptions/exemptions	✓				
o Reporting mechanism to USDA is in place for IACUC-approved exceptions to the regulations and standards					
o Reports are filed within 15 days for failures to adhere to timetable for correction of significant deficiencies	✓				
o Promptly reports suspensions of activities by the IACUC to USDA and any Federal funding agency	✓				
• Records (PHS Policy, IV.E.)					
o IACUC meeting minutes and semiannual reports to the IO are maintained for 3 years	✓				
o Records of IACUC reviews of animal activities include all required information ^x					
o Records of IACUC reviews are maintained for 3 years after the completion of the study	✓				
B. Veterinary Care (See also next section - Veterinary Care)	A*	M	S	C	NA
• An arrangement for veterinarian(s) with training or experience in lab animal medicine is in place including backup veterinary care ^{xi}	✓				
• Veterinary access to all animals is provided (<i>Guide</i> , p 14) must					
• Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use (<i>Guide</i> , p 14) must					
• Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol (<i>Guide</i> , p 5) must	✓				
• Veterinarian provides consultation when interventional control is not possible (<i>Guide</i> , p 5) must	✓				
• If part time /consulting veterinarian, visits meet programmatic needs (<i>Guide</i> , p 14)	✓				
• Regular communication occurs between veterinarian and IACUC (<i>Guide</i> , p 14)	✓				
• Veterinarian(s) have experience and training in species used (<i>Guide</i> , p 15) must	✓				
• Veterinarian(s) have experience in facility administration/management (<i>Guide</i> , p 15)	✓				
9. Personnel Qualifications and Training	A*	M	S	C	NA
• All personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science. Personnel included: must	✓				
o Veterinary/other professional staff (<i>Guide</i> , p 15-16)					
o IACUC members (<i>Guide</i> , p 17)	✓				
o Animal care personnel (<i>Guide</i> , p 16)					
o Research investigators, instructors, technicians, trainees, and students (<i>Guide</i> , pp 16-17)	✓				
• Continuing education for program and research staff provided to ensure high quality care and reinforce training (<i>Guide</i> , pp 16-17)	✓				
• Training is available prior to starting animal activity (<i>Guide</i> , p 17)					
• Training is documented (<i>Guide</i> , p 15)	✓				
• Training program content includes: (<i>Guide</i> , p 17)	✓				
o Methods for reporting concerns (<i>Guide</i> , p 17)	✓				
o Humane practices of animal care (e.g., housing, husbandry, handling) ^{xii}	✓				
o Humane practices of animal use (e.g., research procedures, use of anesthesia)					

pre- and post-operative care, aseptic surgical techniques and euthanasia (Guide, p 17) ^{xiii}					
o Research/testing methods that minimize numbers necessary to obtain valid results (PHS Policy, IV.A.1.g.)	✓				
o Research/testing methods that minimize animal pain or distress (PHS Policy, IV.A.1.g.)	✓				
o Use of hazardous agents, including access to OSHA chemical hazard notices where applicable (Guide, p 20)	✓				
o Animal care and use legislation (Guide, p 17)					
o IACUC function (Guide, p 17)	✓				
o Ethics of animal use and Three R's (Guide, p 17)					

10. Occupational Health and Safety of Personnel

A* M S C NA

o Program is in place and is consistent with federal, state, and local regulations (Guide, p 17) must	✓				
o Program covers all personnel who work in laboratory animal facilities (Guide, p 18)					
o Changing, washing, and showering facilities are available as appropriate (Guide, p 19)					
o Hazardous facilities are separated from other areas and identified as limited access (Guide, p 19)	✓				
o Personnel training is provided based on risk (e.g., zoonoses, hazards, personal hygiene, special precautions, animal allergies) (Guide, p 20)					
o Personal hygiene procedures are in place (e.g., work clothing, eating/drinking/smoking policies) (Guide, p 20)					
o Procedures for use, storage, and disposal of hazardous biologic, chemical, and physical agents are in place (Guide, p 21)	✓				
o Personal Protective Equipment for the work area is appropriate and available (Guide, p 21)					
o Program for medical evaluation and preventive medicine for personnel includes:	✓				
o Pre-employment evaluation including health history (Guide, p 22)					
o Immunizations as appropriate (e.g., rabies, tetanus) and tests as appropriate (Guide, p 22)					
o Zoonosis surveillance as appropriate (e.g., Q-fever, tularemia, Hantavirus, plague) (Guide, p 23)	✓				
o Procedures for reporting and treating injuries, including accidents, bites, allergies, etc. (Guide, p 23)					
o Promotes early diagnosis of allergies including preexisting conditions (Guide, p 22)	✓				
o Considers confidentiality and other legal factors as required by federal, state and local regulations (Guide, p 22) must					
o If serum samples are collected, the purpose is consistent with federal and state laws (Guide, p 22) must	✓				
o Waste anesthetic gases are scavenged (Guide, p 21)	✓				
o Hearing protection is provided in high noise areas (Guide, p 22)					
o Respiratory protection is available when performing airborne particulate work (Guide, p 22)	✓				
o Special precautions for personnel who work with nonhuman primates, their tissues or body fluids include:					
o Tuberculosis screening provided for all exposed personnel (Guide, p 23)					
o Training and implementation of procedures for bites, scratches, or injuries associated with macaques (Guide, p 23)	✓				
o PPE is provided including gloves, arm protection, face masks, face shields, or goggles (Guide, p 21)					
o Injuries associated with macaques are carefully evaluated and treatment implemented (Guide, p 23)					
o Occupational safety and health of field studies is reviewed by OSH committee or office (Guide, p 32)					✓

11. Personnel Security ^{HEW}

A* M S C NA

o Preventive measures in place include pre-employment screening, and physical and IT security (Guide, p 23)	✓				
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12. Investigating & Reporting Animal Welfare Concerns <small>NEW</small>		A*	M	S	C	NA
• Methods for investigating and reporting animal welfare concerns are established (<i>Guide, p 23</i>) 12/15/12		✓				
• Reported concerns and corrective actions are documented (<i>Guide, p 24</i>)						
• Mechanisms for reporting concerns are posted in facility and at applicable website with instructions (<i>Guide, p 24</i>)		✓				
o Includes multiple contacts (<i>Guide, p 24</i>)						
o Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection (<i>Guide, p 24</i>)		✓				

* **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

NOTES:

Veterinary Care

Date:

1. Clinical Care and Management <small>NEW</small>		A*	M	S	C	NA
• Veterinary program offers high quality of care and ethical standards (Guide, p 105)	must	✓				
• Veterinarian provides guidance to all personnel to ensure appropriate husbandry, handling, treatment, anesthesia, analgesia, and euthanasia (Guide, p 106)		✓				
• Veterinarian provides oversight to surgery and perioperative care (Guide, p 106)		✓				
• Veterinary care program is appropriate for program requirements (Guide, pp 113-114)		✓				
• Veterinarian(s) is familiar with species and use of animals and has access to medical and experimental treatment records (Guide, p 114)		✓				
• Procedures to triage and prioritize incident reports are in place (Guide, p 114)						
• Procedures are in place to address:						
o Problems with experiments to determine course of treatment in consultation with investigator (Guide, p 114)		✓				
o Recurrent or significant health problems with the IACUC and documentation of treatments and outcomes (Guide, p 114)						
o Veterinary review and oversight of medical and animal use records (Guide, p 115)						
• Procedures established for timely reporting of animal injury, illness, or disease (Guide, p 114)	must	✓				
• Procedures established for veterinary assessment, treatment, or euthanasia (Guide, p 114)	must	✓				
• Veterinarian is authorized to treat, relieve pain, and/or euthanize (Guide, p 114)	must	✓				
2. Animal Procurement and Transportation / Preventive Medicine		A*	M	S	C	NA
• Procedures for lawful animal procurement are in place (Guide, p 106)	must	✓				
• Sufficient facilities and expertise are confirmed prior to procurement (Guide, p 106)		✓				
• Procurement is linked to IACUC review and approval (Guide, p 106)						
• Random source dogs and cats are inspected for identification (Guide, p 106)						✓
• Population status of wildlife species is considered prior to procurement (Guide, p 106)						
• Appropriate records are maintained on animal acquisition (Guide, p 106)		✓				
• Animal vendors are evaluated to meet program needs and quality (Guide, p 106)		✓				
• Breeding colonies are based on need and managed to minimize numbers (Guide, p 107)		✓				
• Procedures for compliance with animal transportation regulations, including international requirements, are in place (Guide, p 107)	must	✓				
• Transportation is planned to ensure safety, security and minimize risk (Guide, p 107)		✓				
• Movement of animals is planned to minimize transit time and deliveries are planned to ensure receiving personnel are available (Guide, pp 107-108)		✓				
• Appropriate loading and unloading facilities are available (Guide, p 109)		✓				
• Environment at receiving site is appropriate (Guide, p 109)		✓				
• Policies in place on separation by species, source, and health status (Guide, pp 109, 111-112)		✓				
• Procedures in place for quarantine to include zoonoses prevention (Guide, p 110)		✓				
• Quarantined animals from different shipments are handled separately or physically separated (Guide, p 110)		✓				
• Procedures in place for stabilization/acclimation (Guide, pp 110-111)		✓				
• Policies in place for isolation of sick animals (Guide, p 112)		✓				
• Program is in place for surveillance, diagnosis, treatment and control of disease to include daily observation (Guide, p 112)		✓				
• Diagnostic resources are available for preventive health program (Guide, p 112)		✓				
3. Surgery		A*	M	S	C	NA
• Surgical outcomes are assessed and corrective changes instituted (Guide, p 115)		✓				
• Researchers have appropriate training to ensure good technique (Guide, p 115)	must	✓				

<ul style="list-style-type: none"> Pre-surgical plans are developed and include veterinary input (e.g., location, supplies, anesthetic and analgesic use, peri-operative care, recordkeeping) (<i>Guide, p 116</i>) Aseptic surgery is conducted in dedicated facilities or spaces, unless exception justified and IACUC approved (<i>Guide, p 116</i>) Surgical procedures including laparoscopic procedures are categorized as major or minor (<i>Guide, pp 117-118</i>) 	✓				
<ul style="list-style-type: none"> For nonsurvival surgery, the site is clipped, gloves are worn and instruments and area are clean (<i>Guide, p 118</i>) Aseptic technique is followed for survival surgical procedures (<i>Guide, pp 118-119</i>) 	✓				
<ul style="list-style-type: none"> Effective procedures for sterilizing instruments and monitoring expiration dates on sterile packs are in place (<i>Guide, p 119</i>) Procedures for monitoring surgical anesthesia and analgesia are in place (<i>Guide, p 119</i>) For aquatic species, skin surfaces are kept moist during surgical procedures (<i>Guide, p 119</i>) 	✓				
<ul style="list-style-type: none"> Post-operative monitoring and care are provided by trained personnel and documented (e.g., thermoregulation, physiologic function, analgesia, infection, removal of skin closures) (<i>Guide, pp 119-120</i>) 	✓				
4. Pain, Distress, Anesthesia and Analgesia	A*	M	S	C	NA
<ul style="list-style-type: none"> Guidelines for assessment and categorization of pain, distress and animal wellbeing are provided during training (<i>Guide, p 121</i>) Selection of analgesics and anesthetics is based on professional veterinary judgment (<i>Guide, p 121</i>) Painful procedures are monitored to ensure appropriate analgesic management (<i>Guide, p 122</i>) Nonpharmacologic control of pain is considered as an element of postprocedural care (<i>Guide, p 122</i>) Procedures are in place to assure antinociception before surgery begins (<i>Guide, p 122</i>) Guidelines for selection and use of analgesics and anesthetics are in place and regularly reviewed and updated (<i>Guide, p 122</i>) Special precautions for the use of paralytics are in place to ensure anesthesia^{xiv} (<i>Guide, p 123</i>) 	✓	✓	✓	✓	✓
5. Euthanasia	A*	M	S	C	NA
<ul style="list-style-type: none"> Methods are consistent with AVMA Guidelines on Euthanasia unless approved by the IACUC (<i>Guide, p 123</i>) Standardized methods are developed and approved by the veterinarian and IACUC that avoid distress and consider animal age and species (<i>Guide, pp 123-124</i>) Training is provided on appropriate methods for each species and considers psychological stress to personnel (<i>Guide, p 124</i>) Procedures and training are in place to ensure death is confirmed (<i>Guide, p 124</i>) 	✓	✓	✓	✓	✓
6. Drug Storage and Control ^{NEW}	A*	M	S	C	NA
<ul style="list-style-type: none"> Program complies with federal regulations for human and veterinary drugs (<i>Guide, p 115</i>) Drug records and storage procedures are reviewed during facility inspections (<i>Guide, p 115</i>) Procedures are in place to ensure analgesics and anesthetics are used within expiration date (<i>Guide, p 122</i>) Anesthetics and analgesics are acquired, stored, and their use and disposal are recorded legally and safely (<i>Guide, p 122</i>) 	✓	✓	✓	✓	✓

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NOTES:

Semiannual Checklist

v3/8/2012

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Obtained by Rise for Animals.

Uploaded to Animal Research Laboratory Overview (ARLO) on 09/09/2020

Signature Page – OLAW Checklist

IACUC Members

Shanna Ivey, Chair

Tim Wright

Trey Miller

Clint Löest

Colleen Caldwell

Scott Eschenbrenner

Erin Weich

Signatures

