

Memorandum to: David M. Anderson
From: Institutional Animal Care and Use Committee
Subject: Semiannual Report of the Program Review and Facility Inspection
Date: 31 January 2019

This report summarizes results of the IACUC's 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 (PHS Policy [IV.A.1.a.-i.](#)):

Three new members joined the IACUC and three left the committee.
Review and consolidation/revision of IACUC policies and SOPs, to provide clarity and consistency for researchers while ensuring animal welfare, has been completed.

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

All animal care and use at the University of Washington adheres to PHS Policy, the Guide, and the AWA, as described in our Assurance. Within that framework, the IACUC has approved the following departures from PHS Policy, the AWA and the Guide:

- 33 protocols with prolonged restraint (birds, zebrafish, mice, pigs, and nonhuman primates)
- 4 protocols with housing at non-standard temperatures (mice, rats, zebrafish)
- 1 general cage height variance for infant non-human primates
- 1 general cage floor-area variance for juvenile non-human primates

Details are included in [Appendix C](#).

While not departures, the IACUC has also approved the following exceptions to its policies that implement PHS Policy, the AWA and the Guide:

- 11 protocols with cage size variances (9 for mice, 2 for chicks)
- 5 protocols with wire bottom cages (all mice)
- 46 protocols with multiple major surgeries (7 species)
- 1 protocol with a non-AVMA endorsed euthanasia method (small birds)
- 30 protocols with weaning variances (29 mice, 1 rats)
- 14 protocols with other policy variances (12 mice, 2 rats)

Details of these can be reviewed via reports in HoverBoard.

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

Animal Care and Use Program Review Date(s): July-December 2018

- A. There were no deficiencies in the program during this reporting period.
 B. The following deficiencies have been identified:

11 adverse events were reported to the IACUC and, as required, to OLAW, AAALAC, or USDA. See [Appendix A](#) for details.

In the previous semi-annual report the IACUC made suggestions for program improvement. Action on these suggestions are indicated below in *italic russet*:

1. Disaster Planning and Emergency Preparedness

Recommendation:

- a. Ready ability for IACUC to see and review emergency plans (currently not directly accessible by the IACUC when in DCM and WaNPRC internal shared drives).
 - i. *Will have appropriate individuals report annually to the IACUC on current emergency plans. Do not post emergency plans or expect IACUC members to review them.*

2. IACUC

Recommendations:

- a. Develop process for continuing IACUC oversight on all approved pilot projects; perhaps semi-annual update on success/results/decisions by the PI.
 - i. *Process in place: create future meeting agenda item in HB and OAW will follow up with the group prior and report at that meeting.*
- b. Change wording in HoverBoard re: goals and objectives of annual reviews, to better reflect intent and process
 - i. *To be changed with next HB patch in Q1 2019.*
- c. Review for the IACUC the back office OAW steps in annual reviews (prior to what the committee sees)
 - i. *Presentation to IACUC scheduled for February 2019.*
- d. The Chair be encouraged to appoint as DMR someone who did not lead pre-review of the item.
 - i. *Implemented.*

3. IACUC Protocol Review

Recommendations:

- a. Possible inconsistency in labeling major versus minor surgery.
 - i. *Discussion led to conclusion that each situation should be decided individually.*
- b. For wild species, add examples of final disposition alternatives.
 - i. *OAW will evaluate how to provide example alternatives to field researchers.*
- c. Can we discern any patterns in non-compliances based on the training/certifications of the researchers?
 - i. *No patterns based on number of trainings or time since training/certification.*

4. IACUC Membership and Functions

Recommendations:

- a. Wording regarding site visits should match new policy that permits some being annual rather than semi-annual.
 - i. *Reported to OLAW already, will be incorporated into next revision of our Assurance.*
- b. Ensure adequate representation covering taxa and academic units
 - i. Issue of 'volunteer' status not receiving recognition for service – should be a requirement (e.g., SAFS, SEFS). Have units required to appoint someone.
 - ii. *Discussion led to conclusion that voluntary membership is the best way to ensure that all members are committed to serving on the IACUC.*

5. IACUC Training

Recommendations:

- a. Get new members' perspectives on new member training – will vary by their background
 - i. *New members are being asked their impressions and suggestions*
 - b. Consider outside speakers at meetings to augment training – once or twice per year, in person or via teleconference
 - i. *Is being done; e.g., Ed Kelly: Kidney on a Chip.*
 - c. Consider using "New IACUC Member information for Reviewing protocols", Jerald Silverman, DVM, U Mass.
 - i. *As we update and improve training for new IACUC members, we will consider this and other references.*
 - d. Consider reading requirements/recommendations, e.g., Larry Carbone "What Animals Want".
 - i. *As we update and improve training for new IACUC members, we will consider this and other references.*
 - e. Are there efficiencies we could consider for our monthly meetings to give more time for speakers/discussions?
- 6. Veterinary Care; Vet Care Sections 03 Surgery; 04 Pain, Distress, Anesthesia and Analgesia; 05 Euthanasia; 06 Drug Storage and Control**
- Recommendations:
- a. WanPRC veterinary orientation and animal observation training being redone (online and in-person)
 - i. *Done*
 - b. Provide IACUC training about what vet services does - how problems are reported and how cases are managed.
 - i. *Presentation to IACUC scheduled for January 2019.*
- 7. Vet Care Sections 01 Clinical Care and Management; 02 Animal Procurement and Transportation/Preventive Medicine**
- Recommendations:
- a. Review how staffing challenges may affect veterinary operations, services and existing staff.
- 8. General**
- a. Dare-2-Care site needs completion
 - i. *Completed. <https://sites.uw.edu/d2c/>*
- 9. Minority View regarding categorization and reporting of prolonged restraint.**
- a. *Categorizing: All extant Physical Restraint procedures have been reviewed and categorized as prolonged or not.*
 - b. *The "Physical Restraint" procedure type will be reserved for prolonged restraint; restraint that is not prolonged (per UW IACUC policy) will be described within the experiment or by using an "Other" procedure type. OAW will work to normalize all protocols to this standard.*
 - c. *In coming months, Capture/Trapping procedures will be reviewed for possible prolonged restraint.*

III. Deficiencies in the Institution's Animal Facility

Animal Facility Inspection Date(s): July-December 2018

- A. There were no deficiencies in the animal facility during this reporting period.
- B. The following deficiencies have been identified

241 deficiencies were identified during facility inspections over the past six months, summarized in the table below; one was considered significant, the rest minor. 221 have been resolved while 20 are pending corrective action. There are also 14 deficiencies from previous periods pending corrective action. See [Appendix B](#) for deficiency details.

The one significant deficiency was a "Push to Open" sign needing to be re-posted within a rack washer. It was corrected quickly.

	M	S		M	S
Drugs	32		Personnel Precautions	26	1
Environment	7		Protocol and procedures	5	
Equipment	28		Research Chemicals	11	
Facility and furnishings	44		Sanitation	32	
Feed	11		Signage and information	7	
Husbandry	25		Supplies	12	

IV. Minority Views

Select A or B:

A. No minority views were submitted or expressed.

B. The following minority views were expressed:

[See attached.](#)

V. Status of AAALAC Accreditation

Reference Assurance: #000523

Most Recent AAALAC Site Visit: 11/17/2015 through 11/20/2015

Most Recent Full Accreditation issued: 03/22/2016 – 03/21/2019

VI. **Signatures** ([see attached emails](#))

Names of IACUC Members	Signatures
A.B. (Andrew)	Concurrence attached
A.S. (Aubrey)	
C.G. (Chris)	Concurrence attached
C.H. (Charlotte)	
F.R.R. (Ric)	Concurrence attached
J.B. (Jacqui)	Concurrence attached
J.E (Jane)	
J.M. (Jeanot)	Concurrence attached
J.P.V.H. (Preston)	
J.S. (Jane)	Concurrence attached
K.G. (Ken)	Concurrence attached
K.L. (Kristen)	Concurrence attached
K.S. (Kim)	Concurrence attached
L.J.E. (Lisa)	Concurrence attached; minority view attached
M.L. (Molly)	
M.S. (Mei)	Concurrence attached
S.H. (Scott)	Concurrence attached
S.L. (Steve)	Concurrence attached
T.H. (Tess)	Concurrence attached

Appendix A Deficiencies in the Institution's Animal Care and Use Program

Severity	Repeat?	Location	Deficiency and Corrective Action Plan	Correction Due Date or Status	Date Complete
Significant	no	lab space	Mice used for unapproved training. Sent a letter of counsel to the PI. Additional training for the individual.	Complete	8/16/2018
Minor	no	vivarium	Mouse caught in wire cage top. No action.	Complete	8/23/2018
Significant	no	vivarium	Dead finch caught behind pan liner. Cages altered, new process for liner changes, retraining.	Complete	8/16/2018
Significant	no	vivarium	3 frogs escaped. Sent a letter of concern.	Complete	8/16/2018
Minor	no	lab space	Use of expired euthanasia solution in a rat; animal successfully euthanized. Sent a letter of concern.	Complete	10/22/2018
Significant	no	lab space	Improper euthanasia of a mouse. Sent a letter of reprimand.	Complete	11/15/2018
Significant	no	NOAA Mukilteo Research Station	Coho and sablefish died when power failed. NOAA installing separate breakers for water pumps, air supply, and alarms; new pumps and power to them; redundant alarm system. Retraining on response to alarms.	No UW action	11/15/2018
Significant	no	vivarium	Flooding of cages at SLU 3.1 due to issues with the Automatic Watering System (AWS). Re-evaluating alarming of and alarm response within this system.	Complete	11/15/2018
Minor	no	vivarium	Mice not monitored until fully recovered from anesthesia. Sent a letter of counsel to the PI.	Complete	12/26/2018
Minor	no	lab space	Rat surgery by uncertified individual without supervision. Reviewed aseptic technique with the group. The lab member will become certified. Sent a letter of counsel to the PI.	Complete	12/26/2018
Significant	no	lab space	Unapproved behavioral research procedures with captive wild birds. Halted the training until an amendment including this work has been reviewed and approved. Sent a letter of reprimand to the PI and grad student.	Pending Corrective Action 1/17/2019	

Appendix B Deficiencies in the Institution's Animal Facility

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Significant	no	HSB: 6th Floor Vivarium -	E607 (clean side cagewash): Inside door of cage washer needs a sign that says "Push to Open" posted (used to be one but no longer there).	09/28/2018 Complete	9/19/2018
Minor	no	ARCF (Animal Research & Care Facility) -	B279: Bottle of sterile water without preservatives has been used, but not labeled with the date it was opened or the expiration date.	10/26/2018 Complete	10/26/2018
Minor	no	ARCF (Animal Research & Care Facility) -	B255: Pump #33590 needs to be re-certified before use or removed from room (sticker on pump says it should not be used after 11/1/17).	10/26/2018 Complete	10/29/2018
Minor	no	ARCF (Animal Research & Care Facility) -	B259: List of contacts posted on the wall should be in a plastic sleeve.	10/26/2018 Complete	10/29/2018
Minor	no	ARCF (Animal Research & Care Facility) -	B278B: Feed barrel is overdue for sterilization (according to due date that was written on the sticker on the barrel).	10/26/2018 Complete	10/25/2018
Minor	no	ARCF (Animal Research & Care Facility) -	DCM Transport Truck: Left side washable wall covering has slits in it. Need to be sealed to be sanitizable. DCM to submit a work order.	02/28/2019 Pending Corrective Action	
Minor	no	ARCF (Animal Research & Care Facility) -	B171: Broken glass in right hand door of upper, far left cabinet. Needs repair ASAP. Cabinet had no contents. DCM to submit a work order.	12/31/2018 Complete	10/16/2018
Minor	no	ARCF (Animal Research & Care Facility) -	B171: Sign on refrigerator was non-sleeved, non-laminated. This was replaced during the visit.	09/21/2018 Complete	9/21/2018
Minor	no	ARCF (Animal Research & Care Facility) -	B145C: Adjust door latch strike plate currently prevents door from closing without slamming or forcing. Needs to be adjusted or repaired. DCM to submit a work order.	12/31/2018 Complete	10/10/2018
Minor	no	ARCF (Animal Research & Care Facility) -	DCM Transport Truck: Right side washable wall covering has large gouge along bottom. Needs repair to be sanitizable. DCM to submit a work order.	02/28/2019 Pending Corrective Action	
Minor	no	ARCF (Animal Research & Care Facility) -	DCM Transport Truck: Hygro-thermometer battery was dead; switched out for a working hygro-thermometer during visit.	09/21/2018 Complete	9/21/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	ARCF (Animal Research & Care Facility) - B141A	B141A: Expired isoflurane. This was marked 'Expired' and segregated from other drugs during visit.	09/21/2018 Complete	9/21/2018
Minor	no	ARCF (Animal Research & Care Facility) - B151C	B151C: Airflow in Optimice rack registering at almost zero and not in 'green' range. Need to check for adequate airflow.	12/31/2018 Complete	10/15/2018
Minor	no	ARCF (Animal Research & Care Facility) - B174	B174 (Chamberlain): One cage had cage card listing a female with pups, which jibed with animals in the cage, but no date of birth was noted on the card. The pups appeared near to weaning size.	10/26/2018 Complete	10/15/2018
Minor	no	ARCF (Animal Research & Care Facility) - B241	B241: Fluid bag labelled "opened 08-31-18" but doesn't have an expiration date. The bag itself expires on 12-01-18.	10/19/2018 Complete	9/28/2018
Minor	no	ARCF (Animal Research & Care Facility) - B265	B265 (Cagewash clean side): ARCF autoclave safety instruction card is appropriately displayed, but posted instructions are not being followed. Be sure to put the restraining bolt in place when autoclave doors are being kept open.	10/26/2018 Complete	9/21/2018
Minor	no	Brotman Laboratory Spaces - 347	347: Reminder that open-toed shoes are not permitted in lab spaces.	08/24/2018 Complete	8/8/2018
Minor	no	Brotman Laboratory Spaces - 347	347: Expired bottles of Clidox found in room. Please dispose of.	08/24/2018 Complete	8/8/2018
Minor	no	Brotman Laboratory Spaces - 347	347: Eyewash needs to be tested and logged weekly. Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	08/24/2018 Complete	8/8/2018
Minor	no	Brotman Laboratory Spaces - 348	In one of their 4 C fridges they had a couple little bags of tamoxifen chow that they were storing to be disposed of by EHS. These bags were not labeled in any way as to what they were or that they were not usable.	07/27/2018 Complete	7/13/2018
Minor	no	Brotman Laboratory Spaces - 446	446: Eyewash needs to be tested and logged weekly. Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	08/24/2018 Complete	8/17/2018
Minor	no	Brotman Vivarium -	B36 (Dirty side washroom): Broken automatic door. DCM submitted work order request to McKinstry.	08/31/2018 Complete	8/7/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	Brotman Vivarium - P153B	P153B: Host assured that the Schwartz group was approved for *remote* monitoring of animals for daily health/food/water checks in this space when metabolic or temperature regulation experiments are being performed (Schwartz group is exclusively responsible for daily monitoring of their animals, although DCM checks the temp and humidity in the room). That is, on some days, no human being (either from the Schwartz group or DCM) actually enters the room to look at the animals unless the remote monitoring computer suggests there might be a problem. Recommended group write up a description of the monitoring, and make sure it's okay before being added to the Husbandry Exceptions for each relevant experiment.	10/19/2018 Complete	9/19/2018
Minor	no	CHDD Vivarium -	Bedding in one mouse cage appeared to be quite wet (perhaps due to leaky water bottle?) Reported to the facility supervisor and to group's contact. They will take a look and will change the cage early if needed (next cage change due 7/19).	08/09/2018 Complete	7/27/2018
Minor	no	Foege Laboratory Spaces - N415A	415A: Induction chamber in fume hood had some mouse feces in it. Chamber should be cleaned after each use.	08/10/2018 Complete	7/25/2018
Minor	no	Foege Laboratory Spaces - N423D	Working solution of Avertin is expired (was made in 2/2018). Working solution should be used within 28 days.	08/10/2018 Complete	7/31/2018
Minor	no	Foege Laboratory Spaces - N423D	Floor is dirty and should be cleaned.	08/10/2018 Complete	7/31/2018
Minor	no	Foege Vivarium -	N058: Chow mill date is 1/8/18 and should be discarded if expired.	08/03/2018 Complete	7/13/2018
Minor	no	Foege Vivarium -	N058: Cages looked fine, but cage change not recorded.	08/03/2018 Complete	7/19/2018
Minor	no	Friday Harbor Laboratories - LAB 6 (Flume Lab)	Lab 6 (Flume Lab): Resolve trip hazard posed by floor location of wiring for wall mounted Sensaphone Air temperature monitor by removing this and planning to surface mount the necessary cable to either the ceiling or walls of the interior of building. Also, address relocation of connecting wiring between Labs # 6 & 5 so it's current configuration is no longer a trip hazard.	03/31/2019 Pending Corrective Action	
Minor	no	Friday Harbor Laboratories - LAB 8 (Outdoor tanks)	Lab #8: Animal Care Logs beginning 7/16/2018 for summer Qtr #2; multiple issues noted: Are recorded numbers in "Record Animal Mortality" actually animal numbers captured or actually fish mortality? Why are there no entries in the reviewed logs for the weeks of for the following days: 7/16 (Wed - Fri, & Sun), 7/23 (Sun), 8/6 (Sun), 8/13 (Sat & Sun). One these dates it is not indicated that fish are NOT present, especially since fish were present the days before. Need to clarify when fish are brought into the labs and those numbers separate from recorded mortality information. Consult with GS to review & update logs.	10/31/2018 Complete	10/23/2018
Minor	no	Friday Harbor Laboratories - LAB 8 (Outdoor tanks)	Lab #8: Plan in place for dealing with surface corrosion noted on freezers present inside the lab?	12/31/2018 Complete	12/20/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	Guthrie Laboratory Spaces - 28D	028D: Expired povidone iodine swabs and suture discarded at time of visit.	10/04/2018 Complete	10/4/2018
Minor	no	Guthrie Laboratory Spaces - 28D	028D: Isoflurane equipment is overdue for annual inspection (09/18), scheduled for calibration in next 2 weeks. Please label "Do Not Use Until Calibrated."	10/31/2018 Complete	10/16/2018
Minor	no	Guthrie Laboratory Spaces - 342A	342A: Drug log indicates that Beuthanasia D was used after expiration date (8/18). Drug was marked as expired during visit. Please arrange drug disposal through the Drug Services website: https://depts.washington.edu/drugsvcs/home/	10/04/2018 Complete	10/4/2018
Minor	no	Guthrie Laboratory Spaces - 351B	351B (Housing): Tables need to be sealed for proper cleaning and sanitizing. Edges of the table are chipped. Group was advised to using plastic contact paper or some method to seal the edges.	12/31/2018 Complete	12/17/2018
Minor	no	Guthrie Laboratory Spaces - 354A	354A: Floor looks clean, but log for mopping floor after surgery has not been filled out recently.	11/16/2018 Complete	11/16/2018
Minor	no	Guthrie Laboratory Spaces - 354A	354A: Eyewash has low pressure, and drains on the floor. Recommend marking it "Do Not Use". There is a good eyewash in 354, but according to the log sheet it has not been flushed recently.	11/16/2018 Complete	11/16/2018
Minor	no	Guthrie Laboratory Spaces - 355	355 (Housing): Chips and push-pin holes in the wall needs to be painted. DCM to submit a work order.	03/31/2019 Pending Corrective Action	
Minor	no	Guthrie Laboratory Spaces - 409	409: Cardboard window cover is degrading from dampness. Is there an alternate window cover you could use? OAW can provide black window film.	11/09/2018 Complete	11/13/2018
Minor	no	Guthrie Laboratory Spaces - 409	409: For items without expiration date, please add date frozen or date opened.	11/09/2018 Complete	11/14/2018
Minor	no	Guthrie Laboratory Spaces - 409	409: Unclear if date labeled on zebrafish food is expiration date or date opened.	11/09/2018 Complete	11/14/2018
Minor	no	Guthrie Laboratory Spaces - 414	Guthrie 414: Eyewash log not updated. Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	11/09/2018 Complete	10/15/2018
Minor	no	Guthrie Laboratory Spaces - 418	418 (cagewash/clean): Room is being mopped once a week, but the form says it will be mopped twice a week. Change form if room is only being used once a week.	11/09/2018 Complete	10/22/2018
Minor	no	Guthrie Laboratory Spaces - 418	418: Biological indicator log has no entries since May.	11/09/2018 Complete	11/30/2018
Minor	no	Guthrie Laboratory Spaces - 419A	419: Eyewash log not up-to-date. Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	10/26/2018 Complete	10/4/2018
Minor	no	Guthrie Vivarium - 368 (Feed only)	368 (Feed only): Food and supplies stored against the wall. Feed must be stored at least 6 inches away from the wall.	11/16/2018 Complete	10/18/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	Guthrie Vivarium - 368 (Feed only)	368 (Feed only): Chips on wall need repair. DCM to submit a work order.	03/31/2019 Pending Corrective Action	
Minor	no	Guthrie Vivarium - 368 (Feed only)	368 (Feed only): Temperature was too high in the room 73F. High temperature should be investigated by Facilities Services.	12/31/2018 Complete	10/18/2018
Minor	no	Guthrie Vivarium - 368 (Feed only)	368 (Feed only): Cardboard boxes on the floor are not sanitizable. Boxes should be removed or replaced with plastic containers.	11/16/2018 Complete	10/18/2018
Minor	no	Guthrie Vivarium - 369E	369E: Cages appeared clean, however, cage log in didn't reflect a clean date for the wire top cages. Facility Supervisor thought the tech had forgotten to log the cleaning.	11/16/2018 Complete	11/5/2018
Minor	no	Guthrie Vivarium - 369H	369H: Surgery logs/ post procedure monitoring logs are not completed entirety. There are fields on the PPM sheets, which require entries which have been left blank.	11/16/2018 Complete	11/16/2018
Minor	no	Guthrie Vivarium - 369H	369H: SSR appear to be missing for fasting some of the animals.	11/16/2018 Complete	11/8/2018
Minor	no	Guthrie Vivarium - 369H	369H: Some cage cards from the Gire group do not contain a both an age/weight along with a delivery date in lieu of a birth date. Cards need to contain a birth date or age/weight and delivery date.	11/16/2018 Complete	11/16/2018
Minor	no	HR&T Laboratory Spaces -	B004: Expired drugs present; removed and disposed of.	07/23/2018 Complete	7/23/2018
Minor	no	HR&T Laboratory Spaces - 312	312: Human food stored in laboratory work space; removed and disposed of.	07/23/2018 Complete	7/23/2018
Minor	no	HR&T Laboratory Spaces - 320D	320D: Expired drugs present, removed and disposed of during visit.	07/23/2018 Complete	7/23/2018
Minor	no	HR&T Laboratory Spaces - 326	326: Cardboard storage under work area is not sanitizable. Cardboard box must be removed or replaced with plastic containers.	08/09/2018 Complete	8/10/2018
Minor	no	HR&T Laboratory Spaces - 327	327: Expired drugs/fluids present; removed and disposed of.	07/23/2018 Complete	7/23/2018
Minor	no	HR&T Laboratory Spaces - 520E	520E: Diluted Buprenorphine solution found out on bench, returned to drug safe during visit.	07/17/2018 Complete	7/17/2018
Minor	no	HR&T Laboratory Spaces - 520E	520E: Incomplete information on diluted drug solution containers; in addition to the contents and concentration, labels for diluted drugs should include date prepared and expiration date (usually one month after preparation).	08/09/2018 Complete	8/1/2018
Minor	no	HR&T Laboratory Spaces - 520E	520E: Expired lidocaine, marked as expired during visit.	07/17/2018 Complete	7/17/2018
Minor	no	HR&T Laboratory Spaces - 718	718: Expired buprenorphine, marked as expired during visit; please provide Martin Darvas with information on drug pick up options for Harborview.	07/17/2018 Complete	7/17/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	HR&T Laboratory Spaces - B016A	B016A: Expired fluids; removed and disposed of.	07/23/2018 Complete	7/23/2018
Minor	no	HR&T Laboratory Spaces - B029B	B029B: External room sign needs repair. Please submit a work order to HR&T Physical Plant.	10/31/2018 Complete	7/27/2018
Minor	no	HR&T Vivarium -	SB036A (small surgery room): Exhaust grates need to be cleaned.	09/28/2018 Complete	10/1/2018
Minor	no	HR&T Vivarium -	SB074: Rusty drains. Please remove rust.	09/28/2018 Complete	10/2/2018
Minor	no	HR&T Vivarium -	SB048: Insects seen in dirty cage wash. Please have pest control evaluate processes.	10/31/2018 Complete	10/29/2018
Minor	no	HR&T Vivarium -	SB048: Paint around floor drains near cage wash equipment in back needs sealing. Deep clean of floor and walls needed.	11/09/2018 Complete	11/3/2018
Minor	no	HR&T Vivarium -	SB072, SB074, SB076, SB078 (Pig rooms): All rooms need a deep cleaning. Cage bars are dirty, floors are not clean-still with wood chips and some feces still there. Several of the floor grates and surrounds are rusty. Paint sealant on the floors and walls need general attention, lots of chips and worn areas on the floors.	10/31/2018 Complete	7/25/2018
Minor	no	HR&T Vivarium -	SB036B (large surgery room): Filters in exhaust fans in ceiling need to be cleaned.	09/28/2018 Complete	9/10/2018
Minor	no	HR&T Vivarium -	SB072, SB074, SB076: Rooms need more thorough cleaning.	08/31/2018 Complete	8/10/2018
Minor	no	HR&T Vivarium -	SB031: Clean cages were sitting on the floor uncovered in two stacks. Cages were not due to be changed for 2 days. This is not in alignment with the SOP.	08/09/2018 Complete	7/17/2018
Minor	no	HR&T Vivarium -	SB011: There is a soldering iron (Ladiges Lab equipment) that is rusty.	08/09/2018 Complete	8/9/2018
Minor	no	HR&T Vivarium -	SB048: Cleaning implements not hung up (squeegees). Equipment must be hung up and off the floor.	08/09/2018 Complete	7/17/2018
Minor	no	HR&T Vivarium -	SB078: There was a bag of unidentified bedding.	08/09/2018 Complete	7/17/2018
Minor	no	HSB Laboratory Spaces - BB1502	BB1502: Parafilm covering the breathing cone of the isoflurane machine is dirty and needs to be replaced.	11/16/2018 Complete	11/16/2018
Minor	no	HSB Laboratory Spaces - BB1502	BB1502: Expired aliquoted and non-aliquoted drugs in the refrigerator must be disposed of. The drug log must be updated to reflect this fact.	11/16/2018 Complete	11/16/2018
Minor	no	HSB Laboratory Spaces - BB628	BB628: Expired gloves and empty bottle of EtOH. Both items were disposed of during visit.	10/05/2018 Complete	10/5/2018
Minor	no	HSB Laboratory Spaces - C525	C525: Floor needs general cleaning. Please develop a cleaning schedule.	09/21/2018 Complete	9/7/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	HSB Laboratory Spaces - C525	C525: Eyewash is not up-to-date. Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	09/21/2018 Complete	9/7/2018
Minor	no	HSB Laboratory Spaces - C525	C525: Animal cages, whether occupied or not, need to be draped both for travel to the lab and back to the animal husbandry facility.	09/21/2018 Complete	9/7/2018
Minor	no	HSB Laboratory Spaces - D218	D218: Eyewash log had not been completed since August 2018. Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	11/02/2018 Complete	10/16/2018
Minor	no	HSB Laboratory Spaces - D218	D218: Bottles of Ketamine and Xylazine had been opened and used but there was no log of the use. Last log entry said "new bottled opened 9/10/2018".	11/02/2018 Complete	10/8/2018
Minor	no	HSB Laboratory Spaces - D418	D418: Lower chain on compressed gas tank was not secured. Tanks must be secured with a second lower set of chain to ensure the tank cannot slide forward.	10/31/2018 Complete	10/16/2018
Minor	no	HSB Laboratory Spaces - D626	D626: Please arrange chemical waste collection on the EH&S website: https://www.ehs.washington.edu/chemical/hazardous-chemical-waste-disposal	09/28/2018 Complete	9/28/2018
Minor	no	HSB Laboratory Spaces - G406A	G406A: Floor needs cleaning. Please develop a floor cleaning schedule.	10/19/2018 Complete	10/15/2018
Minor	no	HSB Laboratory Spaces - G406A	HSB G406A: Pads on bench needs to be replaced.	09/28/2018 Complete	9/26/2018
Minor	no	HSB Laboratory Spaces - H310J	H310J: Vinyl chair cushion is torn and needs to be repaired/sealed.	09/28/2018 Complete	9/13/2018
Minor	no	HSB Laboratory Spaces - H514	H514: Gas tank was not appropriately secured; this was corrected during the visit (the group simply forgot to attach the second chain when setting up the tank).	09/11/2018 Complete	9/11/2018
Minor	no	HSB Laboratory Spaces - J106	Currently no CO2 tanks inside J106 (the tanks for the tissue culture incubators are in the hallway just outside the room, and there is only one dedicated line in to the room, and this is already hooked up to two incubators). Lab to submit a work order to Facilities Services to install two-chain restraint for a CO2 tank within J106.	11/30/2018 Complete	10/25/2018
Minor	no	HSB Laboratory Spaces - K087	K087: Expired artificial tears (June 2018). Removed and disposed during the inspection.	09/24/2018 Complete	9/24/2018
Minor	no	HSB Laboratory Spaces - K092	K092: Cloth chair is not sanitizable. Replace with waterproof chair or replace tape on chair arm. Chair was removed during the visit.	09/24/2018 Complete	9/24/2018
Minor	no	HSB Laboratory Spaces - K107	K107: Expired Betadine solution. This was corrected during the visit.	09/24/2018 Complete	9/24/2018
Minor	no	HSB Laboratory Spaces - K107	K107: Cloth chair is not sanitizable. Chair was removed during the visit.	09/24/2018 Complete	9/24/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	HSB Laboratory Spaces - K122	K122: Eyewash needs to be tested and logged weekly. Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	10/19/2018 Complete	10/3/2018
Minor	no	HSB Laboratory Spaces - K561	K561: Animal and room care log was not complete from 8/6 to 8/25, including eyewash on 8/13.	10/19/2018 Complete	8/26/2018
Minor	no	HSB Laboratory Spaces - NW141A	NW141A: Isoflurane vaporizer due for calibration (Augusts). Please label "Do Not Use Until Calibrated."	12/07/2018 Complete	12/5/2018
Minor	yes	HSB: 6th Floor Vivarium -	Throughout (Repeat): Wire/filter top changes are being done monthly, not necessarily every 28 days as stated in the DCM SOP. Please consider changing the SOP to say "monthly" rather than "every 28 days", to avoid ongoing noncompliance.	08/24/2018 Complete	9/28/2018
Minor	no	HSB: 6th Floor Vivarium -	D607 (feed room): Floor is dirty. What is schedule for cleaning this floor?	08/24/2018 Complete	9/11/2018
Minor	no	HSB: 6th Floor Vivarium -	C613: Bag of sugar pellets in box need a label and expiration date.	08/24/2018 Complete	9/13/2018
Minor	no	HSB: 6th Floor Vivarium -	C613: Bottles on injectable NaCl in box are expired and need to be removed.	08/24/2018 Complete	9/13/2018
Minor	no	HSB: 6th Floor Vivarium -	D604: Bottle of 1% acetic acid expired in 2013. Must be disposed of.	08/24/2018 Complete	9/12/2018
Minor	no	HSB: 6th Floor Vivarium -	G612A (mice housing special dark room): Room inspected using red flashlight, but the outside door handle (to the inside room) didn't work to enter the room. Had to push door open with a lot of force since handle didn't turn. DCM will submit a work order to Facilities Services for maintenance.	10/31/2018 Complete	10/29/2018
Minor	no	HSB: 6th Floor Vivarium -	C613: One bin of bedding was labeled as sterilized 4/6/2017. Is this still ok to use?	08/24/2018 Complete	9/13/2018
Minor	no	HSB: 6th Floor Vivarium -	D606: Structures made of corrugated board and tape. If these are used with animals, consider a different construction that can be adequately sanitized.	08/24/2018 Complete	9/11/2018
Minor	no	HSB: 6th Floor Vivarium -	D606: Expired lidocaine and saline found. Please go through all storage containers and remove expired items.	08/24/2018 Complete	9/12/2018
Minor	no	HSB: 6th Floor Vivarium -	C613: Spray bottles were unlabeled. Please label the contents on the bottles.	08/24/2018 Complete	9/13/2018
Minor	no	HSB: 6th Floor Vivarium -	C613: Silly putty being used as a tube holder adjacent to the injection pump is not sanitizable and needs to be removed.	08/24/2018 Complete	9/13/2018
Minor	no	HSB: 6th Floor Vivarium -	D605 (carcass freezer): Floor is dirty. What is schedule for cleaning this floor?	08/31/2018 Complete	9/14/2018
Minor	no	HSB: 6th Floor Vivarium -	C621: Expired suture material in cabinet needs to be removed or labeled for non-animal use.	08/24/2018 Complete	9/12/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	HSB: 6th Floor Vivarium -	C615: ISO machine is past its labeled next service date of May 2018. Needs to be serviced before use.	08/31/2018 Complete	9/12/2018
Minor	no	HSB: 6th Floor Vivarium -	E603, E605 (clean cage storage): Clean cages are on racks but pushed against the wall. Please keep cages ~6 inches from the walls.	08/24/2018 Complete	9/11/2018
Minor	yes	HSB: 6th Floor Vivarium -	C613 (Repeat): Repeat: Weekly rack pre-filter change log says last change was 7/6/2018. Pre-filter change should be done per SOP, i.e., at least every 7 days.	08/24/2018 Complete	9/13/2018
Minor	no	HSB: 6th Floor Vivarium -	C615: Used F/AIR canisters must be in ziploc bags and stored in the hood prior to proper disposal.	08/24/2018 Complete	9/12/2018
Minor	no	HSB: 6th Floor Vivarium -	E607 (clean side cagewash): Rust on lower shelf of bottle washer stand. DCM will submit a work order to Facilities Services.	10/31/2018 Complete	10/29/2018
Minor	no	HSB: 6th Floor Vivarium -	D604: Lights in this room were very dim. If this is not as designed, need fixing.	08/31/2018 Complete	9/11/2018
Minor	no	HSB: 6th Floor Vivarium -	C613: Notes posted on walls need to be covered in plastic.	08/24/2018 Complete	9/10/2018
Minor	no	HSB: 6th Floor Vivarium -	C621: ISO machine is past its labeled next service date. Needs to be serviced before use.	08/31/2018 Complete	9/12/2018
Minor	no	HSB: 6th Floor Vivarium -	D604: Structures made of corrugated board and tape. If these are used with animals, consider a different construction that can be adequately sanitized.	08/24/2018 Complete	9/12/2018
Minor	no	HSB: 6th Floor Vivarium - G617	G617 (procedure room): Iodine expired 6/18, the Lin Lab was contacted to get rid of it.	07/26/2018 Complete	7/26/2018
Minor	no	HSB: K-Wing Vivarium -	K017C: Expired N95 masks. Please label expired and discard.	08/02/2018 Complete	7/11/2018
Minor	no	HSB: K-Wing Vivarium -	I015M: Cage bottom and Wire Change Forms that are posted on the end of the racks are not being filled out correctly. Facility staff will talk with the techs in that room to get them sorted out (note: there is no indication that the changes are not being completed, rather, the way they are filling out the forms is not correct).	08/09/2018 Complete	7/12/2018
Minor	no	HSB: K-Wing Vivarium -	K017F: A breeder cage belonging to the Crispe group appeared to contain a litter with DOB indicated as 6.14 on the cage card. The IACUC protocol is not approved for a weaning variance. Per IACUC Policy, animals must be weaned by the research group on or before 21 days of age unless an IACUC variance is approved.	08/02/2018 Complete	8/1/2018
Minor	no	HSB: K-Wing Vivarium -	K018E: A few breeder cages belonging to the DePaulo group appeared to contain litters with DOB indicated as 6.11 and 6.12 on the cage cards. The IACUC protocol, 4401-02, is approved for a weaning variance allowing weaning up to 28 days of age, but these DOBs put the litters over 28 days of age.	08/02/2018 Complete	7/17/2018
Minor	no	HSB: K-Wing Vivarium -	I015N: IVIS machine inspection date is noted as 6/28/2017. Please have research group double check and update the inspection date.	08/31/2018 Complete	8/17/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	HSB: K-Wing Vivarium -	I015D: Care Logs are not updated, but the room is not currently in use. Please indicate room is not in use.	08/02/2018 Complete	7/11/2018
Minor	no	HSB: K-Wing Vivarium -	K017B: Multiple boxes of expired Lidocaine and Prilocaine creams, dressings and eye lubricants were noted in the lab.	08/09/2018 Complete	8/9/2018
Minor	no	HSB: K-Wing Vivarium -	K007C: A few cages belonging to the Catterall group appeared to house aged animals (>18 months of age), with the DOB on the cages indicated as 2016.12.14, 2016.11.22, 2016.11.01. The IACUC protocol does not appear to be approved for the housing and use of aged mice. If mice are going to be maintained past 18 months of age, that must be described and approved in the associated IACUC protocol.	08/02/2018 Complete	7/23/2018
Minor	no	HSB: K-Wing Vivarium -	K017F: Some cage cards did not contain a wean date or clearly indicate that a previous litter had been weaned, although the litter did not appear to be present in the cage. It's recommended that cage cards clearly indicate if/when a litter has been weaned.	08/02/2018 Complete	8/1/2018
Minor	no	HSB: T-Wing Vivarium -	T145B (clean cagewash): Expired high range chlorine dioxide strips. Please discard.	08/31/2018 Complete	9/11/2018
Minor	no	HSB: T-Wing Vivarium -	T135: Fruit Loop and Cocoa Puffs are not labeled with expiration dates. Please label the expiration dates on the secondary containers.	08/31/2018 Complete	9/12/2018
Minor	no	HSB: T-Wing Vivarium -	T123: Rusty tools must be discarded.	08/31/2018 Complete	8/27/2018
Minor	no	HSB: T-Wing Vivarium -	T123: Expired bottles of betadine. Please discard.	08/31/2018 Complete	8/23/2018
Minor	no	HSB: T-Wing Vivarium -	T123: Expired gloves and catheters must be discarded.	08/31/2018 Complete	8/23/2018
Minor	no	HSB: T-Wing Vivarium -	T131: Medicated water change is not logged.	08/31/2018 Complete	8/15/2018
Minor	no	Kincaid Hall - 302D	302D: Small gas tank needs to be better secured. Tanks must be secured with a second lower set of chain to ensure the tank cannot slide forward.	10/26/2018 Complete	10/10/2018
Minor	no	Kincaid Hall - 302D	302D: Eyewash log not up-to-date. Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	10/26/2018 Complete	10/4/2018
Minor	no	Kincaid Hall - 307A	307A: Small gas tank needs to be better secured. Tanks must be secured with a second lower set of chain to ensure the tank cannot slide forward.	10/26/2018 Complete	10/10/2018
Minor	no	Kincaid Hall - 307A	307A: Eyewash log not up-to-date. Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	10/26/2018 Complete	10/4/2018
Minor	no	Kincaid Hall - 507	507: Isoflurane equipment is past due for annual inspection (08/18).	11/30/2018 Complete	11/29/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	Kincaid Hall - 603A	Chair is not in good repair and should be removed.	11/16/2018 Complete	11/13/2018
Minor	no	Kincaid Hall - 603A	Floor is dirty and needs to be cleaned.	11/16/2018 Complete	11/13/2018
Minor	no	Kincaid Hall - 603A	Caution sign should be posted on outer door to the anteroom when crows are present in the behavioral testing room (to ensure an escaped bird could not get out to elevator area where it could be hard to recapture).	11/16/2018 Complete	11/13/2018
Minor	no	Kincaid Hall - 603A	Holes on wall behind door to room should be covered with opaque laminated sheets.	11/16/2018 Complete	11/13/2018
Minor	no	Manchester Field Station -	12-3A: Develop plan to replace rusted trench floor drain covers on both sides of the Marine Fish Feed preparation room. Level of surface corrosion is severe enough to prevent adequate sanitation.	04/30/2019 Pending Corrective Action	
Minor	no	Manchester Field Station -	12-1A: Three rusted wall mounted light fixture covers will need to be replaced or repaired. Level of surface corrosion is severe enough to prevent adequate sanitation.	04/30/2019 Pending Corrective Action	
Minor	no	Ninth & Jefferson Building - 3NJ383.2	3NJ383.2: Mop in bucket, needs to be hung on wall. Install mop holder. Please purchase a mop holder and submit a work order request for HR&T Physical Plant to install.	11/30/2018 Complete	11/27/2018
Minor	no	Pack Forest - Pack Forest	Monthly care log not recorded. This was corrected during the visit.	09/17/2018 Complete	9/17/2018
Minor	no	Roosevelt Laboratory Spaces - 264	264: Expired water found and discarded during visit.	07/10/2018 Complete	7/10/2018
Minor	no	Roosevelt Laboratory Spaces - 264	264: Excellent room care plans (checklists) were posted on wall, but actual room care log was missing from room. Room care log needs to be returned to plastic sleeve on wall.	08/07/2018 Complete	7/11/2018
Minor	no	Roosevelt Vivarium -	253 (Procedure Room): Recapped needle found in sharps container; an orange recapper was found in another room in the vivarium that isn't being used, and it was moved to room 253 during visit.	07/10/2018 Complete	7/10/2018
Minor	no	SLU 2 Laboratory Spaces - N117	Expired artificial tears discarded during visit.	08/07/2018 Complete	8/7/2018
Minor	no	SLU 2 Laboratory Spaces - N117	Error discovered in drug log for Buprenorphine--~96mL that was noted as having been injected into a carcass for disposal had not been subtracted from the 'on hand' volumes. The most recent drug log entry was corrected during the visit and site visitor Jane Sullivan signed off on the correction (all done in red pen); Dr. Wang will correct other earlier entries and get someone else to witness the corrections as soon as possible.	08/31/2018 Complete	8/7/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	SLU 2 Laboratory Spaces - N117	1.182 mL of diluted Buprenorphine from 2017 entry in drug log was NOT found in the drug safe; Dr. Wang will see if he can find additional information in his surgical logs to correct the drug log.	08/31/2018 Complete	8/7/2018
Minor	no	SLU 2 Laboratory Spaces - S443	S443: Floor needs to be cleaned.	11/02/2018 Complete	10/1/2018
Minor	no	SLU 2 Laboratory Spaces - S443	S443: Develop an SOP as to how to transport fish from the vivarium up to the lab.	11/02/2018 Complete	10/1/2018
Minor	no	SLU 2 Laboratory Spaces - S509	S509: Items to address for new lab space: clean out room, move in a new table, move things away from front of the safety shower.	11/16/2018 Complete	11/8/2018
Minor	no	SLU 3.1 Laboratory Spaces - E154A	E154A: Small carpet in front of the fume hood used for perfusions. It is not a carpet that can be decontaminated and would likely soak up any chemicals that spilled on it. Please remove the carpet.	08/31/2018 Complete	8/10/2018
Minor	yes	SLU 3.1: 0 Level Vivarium -	E062 (Repeat): In the fridge, two vials of IL-2 included a date on the label, however, it's unclear what this date represents. Please be sure that secondary containers are clearly labelled with the name of the contents, date prepared and/or expiration date as appropriate. Note: This was also identified on the February 2018 site visit.	09/21/2018 Complete	9/5/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E085C: Room care log showed low temperatures and temperature variances >4 degrees on Monday and Tuesday. These events were not noted as a comment on the log or reported to the facility supervisor. Please be sure that out of range temperature events and temperature variances 4 degrees (F) or greater are properly reported.	10/12/2018 Complete	8/10/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E062: Room care log showed high temperatures and temperature variances >4 degrees on Monday and Wednesday. These events were not noted as a comment on the log or reported to the facility supervisor. Please be sure that temperature variances 4 degrees (F) or greater are properly reported.	10/12/2018 Complete	8/10/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E064, E065, E078, E085D: Room care log showed temperature variances >4 degrees (F) this week. These events were not noted as a comment on the log or reported to the facility supervisor. Please be sure that temperature variances 4 degrees (F) or greater are properly reported.	10/12/2018 Complete	8/10/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E082 (Pepper lab): Expired tobramycin found in box of lab supplies. Removed during site visit. Group will be contacted to dispose of expired item.	08/08/2018 Complete	8/8/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E044: Expired RPMI was removed to supervisors office. If the media is not for use with animals, group should clearly note that fact on the bottle.	08/08/2018 Complete	8/8/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E087A: Room door does not close completely and requires adjustment.	10/12/2018 Complete	8/9/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E083: Room care log showed a low temperature (below 68F) this week. This event was not noted as a comment on the log or reported to the facility supervisor. Please be sure that out of range temperature events are properly reported.	10/12/2018 Complete	8/10/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	SLU 3.1: 0 Level Vivarium -	E071: When not in use, brooms and squeegees should be stored up off the floor.	10/12/2018 Complete	8/10/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E020: Reagent grade DSS should not be used when higher quality grades are available. Also, the reagent grade DSS requires an expiration date.	10/12/2018 Complete	8/17/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E088C: Styrofoam board/box with needles which is being used for dissection of mice is fouled with blood and needs to be replaced. Please dispose of styrofoam after use or clean well for reuse.	09/21/2018 Complete	9/5/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E026: Cage cards missing DOB or age. Pls are responsible for providing the Protocol #, contact information, animal source, date of birth or arrival date on cage cards.	09/21/2018 Complete	9/12/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E073 (clean side cagewash): Door between the dirty side and clean side of the cage wash was propped open. This door should remain closed to ensure that the clean side remains clean.	10/12/2018 Complete	9/21/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E087A: Large glass jar was being used by group for transport of items. Please find a different non-breakable container for transporting tubes in and out of the BSL2+.	10/12/2018 Complete	8/14/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E083: All monthly tasks were not completed in April and May 2018. Please be sure that all monthly tasks are completed and recorded appropriately.	10/12/2018 Complete	8/17/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E061: In the upper cabinet, there were several unlabeled conical tubes with clear liquid (not clear who they belonged to). Please be sure that secondary containers are clearly labelled with the name of the contents, date prepared and/or expiration date as appropriate.	10/12/2018 Complete	10/8/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E028: Cage cards should contain a method (phone #) by which a contact person can be reached, not just a general lab phone #.	10/12/2018 Complete	8/22/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E023: Unable to determine the age of mice with some of the cage cards. Pls are responsible for providing the Protocol #, contact information, animal source, date of birth or arrival date on cage cards.	10/12/2018 Complete	8/10/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E085B: Host assured that the Schwartz group was approved for *remote* monitoring of animals for daily health/food/water checks in this space when metabolic or temperature regulation experiments are being performed (Schwartz group is exclusively responsible for daily monitoring of their animals, although DCM checks the temp and humidity in the room). That is, on some days, no human being (either from the Schwartz group or DCM) actually enters the room to look at the animals unless the remote monitoring computer suggests there might be a problem. Recommended group write up a description of the monitoring, and make sure it's okay before being added to the Husbandry Exceptions for each relevant experiment.	10/19/2018 Complete	9/18/2018
Minor	no	SLU 3.1: 0 Level Vivarium -	E042: Eyewash needs to be tested and logged weekly. Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	08/29/2018 Complete	8/29/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	SLU 3.1: 7 Level Vivarium -	E759: Entry/exit from this room currently leads to an errant alarm being triggered (which leads to a visit from security). Group is aware of this malfunction, and is currently working with the alarm manufacturer to resolve the issue.	10/31/2018 Complete	8/31/2018
Minor	yes	SLU 3.1: 7 Level Vivarium -	(Repeat): Monthly task log for the facility was incomplete. Per facility supervisor, some of this is due the expected frequency being listed incorrectly on the log (e.g., listed as monthly, but is only performed as needed). Please update the log to accurately reflect the expected frequency for completing all tasks, and ensure that they are completed as expected. This issue was noted on the February 2018 site visit as well.	08/31/2018 Complete	8/31/2018
Minor	no	SLU 3.1: 7 Level Vivarium -	E749: No expiration date or mill date on container of rodent chow. It is okay to store chow in a secondary container, however, the mill date or expiration date should be legibly written on the container.	08/31/2018 Complete	8/31/2018
Minor	no	SLU 3.1: 7 Level Vivarium -	E729: Eyewash log was not current. Eye washes need to be checked weekly.	08/31/2018 Complete	8/31/2018
Minor	no	SLU 3.1: 7 Level Vivarium -	E719A (North autoclave room): The door sweep to this space is currently being held together with tape. Group is aware of this issue, and is planning to update all door sweeps at the next facility shut down (March 2019).	03/31/2019 Complete	9/3/2018
Minor	no	SLU 3.2 Laboratory Spaces - F634	F634: One of two isoflurane machines in room needs to be certified, and a sign needs to be placed on the machine stating 'Do Not Use Until Re-calibrated'.	12/21/2018 Complete	12/3/2018
Minor	no	SLU 3.2 Laboratory Spaces - F734	F734: Expired sutures, surgical gloves, dental cement present. These were removed and put into a drawer labeled 'expired supplies', so it was corrected at the time of visit.	10/09/2018 Complete	10/9/2018
Minor	no	SLU 3.2 Laboratory Spaces - F745	F745 is the being set up for animal work (e.g., adding required ABSL sign, supplies/equipment being moved over, needs first aid kit, shelving, and drug box needs to be installed). These items need to be completed for approval.	08/31/2018 Complete	8/31/2018
Minor	no	SLU 3.2: Vivarium - F715	F715: Red flashlight must be available in the room before animals are housed.	12/21/2018 Complete	12/5/2018
Minor	no	SLU 3.2: Vivarium - F717	F717: Red flashlight must be available in the room before animals are housed.	12/21/2018 Complete	12/5/2018
Minor	no	WaNPRC: Arizona -	AA102: Cracked Plexiglass panels on nursery cages need to be replaced or repaired.	03/31/2019 Pending Corrective Action	
Minor	no	WaNPRC: Arizona -	AA142: Hole in drywall. Paint damaged in "GH" area behind cages.	03/31/2019 Complete	10/15/2018
Minor	no	WaNPRC: Arizona -	AA102: Expired Flayl and naloxone. Please discard.	09/28/2018 Complete	9/7/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	WaNPRC: Arizona -	Secondary food storage room (in old barn) above 70 degrees F.	03/15/2019 Pending Corrective Action	
Minor	no	WaNPRC: Arizona -	AA203: Expired culture plates. This was discarded during the visit.	09/07/2018 Complete	9/7/2018
Minor	no	WaNPRC: Arizona -	Kitchen: Enrichment items not labeled consistently, and don't always include year in expiration date. Recommend working with Seattle BMS to update/simplify food labeling SOP.	01/31/2019 Pending Corrective Action	
Minor	no	WaNPRC: Arizona -	AA222: Rusty bolts on perch. Most bolts have been replaced with stainless steel bolts, but a few were missed. Please check all compounds and replace as needed.	03/31/2019 Pending Corrective Action	
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I013	I013: Conical tubes in cabinet above sink not properly labeled.	10/19/2018 Complete	10/1/2018
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I021	I021: Expired sutures and surgical blades (bottom drawer under micropipette puller).	10/19/2018 Complete	10/8/2018
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I021	I021: Mouse sedative drug (chlorprothixene) present should be discarded if mice study has discontinued.	10/19/2018 Complete	10/1/2018
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I021	I021: Tubes with drugs, in refrigerator, need expiration date.	10/19/2018 Complete	10/1/2018
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I355	I355: Eyewash needs to be tested and logged weekly. Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	01/31/2019 Complete	12/18/2018
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I355	I355: Please refer to the First Aid Kit Contents Guide provided by Labor & Industries: http://wisha-training.lni.wa.gov/training/presentations/FirstAidKitContentsGuide.pdf	01/31/2019 Complete	12/26/2018
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I361	I361: Bite kit is needed by the sink.	01/31/2019 Complete	12/14/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I361	I361: Develop an SOP for cleaning out the juice delivery lines in the chambers.	01/31/2019 Complete	12/17/2018
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I361	I361: Privacy film for the window in the door to the vivarium (material should be non-porous).	01/31/2019 Complete	1/1/2019
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I553	I553: Patch and paint wall defects by sink; cabinets are also in need of repair. OAW to submit work order to Facilities Services.	tbd Status: Pending Corrective Action	
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I553	I553: Lab does not maintain records of cleaning the booths. Suggested implementing a process to document that booths have been cleaned.	09/21/2018 Complete	9/6/2018
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I719	I719, I721, I725, I727: Paint chipped on doors to booths. OAW to submit work order to Facilities Services.	10/6/2018 Status: Complete	10/6/2018
Minor	no	WaNPRC: I-Wing Laboratory Spaces - I723	I723: Dusty ceiling vents and outside of I725. Group reports only facilities staff can clean them.	11/30/2018 Complete	10/4/2018
Minor	no	WaNPRC: I-Wing Vivarium -	I047: Expired drugs marked as such and separated during visit.	09/17/2018 Complete	9/17/2018
Minor	no	WaNPRC: I-Wing Vivarium -	I023 (outside hallway): Paint peeled away (sign removed?) needs repainting. OAW to submit work order to Facilities Services.	tbd Status: Pending Corrective Action	
Minor	no	WaNPRC: I-Wing Vivarium -	I089A: Conduit for computer cables not in use, but hanging off wall with end open and pull-line extruding. Remove or seal off.	2/28/2018 Pending Corrective Action	
Minor	no	WaNPRC: I-Wing Vivarium -	I089E: Room care logs difficult to interpret. It appears only to be marked when room used, but for instance, not all daily tasks marked each day, and weekly tasks do not align with logged daily tasks. Please use consistent method that will indicate when room is used and tasks done.	10/26/2018 Complete	10/29/2018
Minor	no	WaNPRC: I-Wing Vivarium -	I089D (necropsy): Paper signs and checklist on walls and clipped to shelves need to be in plastic sleeves or laminated.	10/26/2018 Complete	10/29/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	WaNPRC: I-Wing Vivarium -	I089D (necropsy): Faucet in left-hand sink does not turn off completely, so small stream of water runs constantly. Also, not clear how to turn this faucet on or off. Fix to stop the water flow. OAW to submit work order to Facilities Services.	tbd Status: Pending Corrective Action	
Minor	no	WaNPRC: I-Wing Vivarium -	I047: Sterilization log unclear. July and August missing on monthly log. But is the monthly log or the separate log of use (on the machine) indicative of required checks? Please use consistent method to indicate what is done when.	10/26/2018 Complete	10/29/2018
Minor	no	WaNPRC: I-Wing Vivarium -	I053: Expired drugs marked as such and separated during visit.	09/17/2018 Complete	9/17/2018
Minor	no	WaNPRC: I-Wing Vivarium -	I089E: Four vials with samples (dated 20 September no year, so old?) in the refrigerator. Find owner and store appropriately.	10/26/2018 Complete	10/25/2018
Minor	no	WaNPRC: I-Wing Vivarium -	I089H: Hallway side of door needs repainting. OAW to submit work order to Facilities Services.	tbd Status: Pending Corrective Action	
Minor	no	WaNPRC: I-Wing Vivarium -	I065A: Door latch strike plate is bent and loose, not allowing door to close without forcing. OAW to submit work order to Facilities Services.	tbd Status: Pending Corrective Action	
Minor	no	WaNPRC: I-Wing Vivarium -	I061: Edge of door badly dinged needs filling and repainting. OAW to submit work order to Facilities Services.	tbd Status: Pending Corrective Action	
Minor	no	WaNPRC: I-Wing Vivarium -	I089L: Dripping faucet, unresponsive to turning knobs harder. Fix to stop dripping. OAW to submit work order to Facilities Services.	tbd Status: Pending Corrective Action	
Minor	no	WaNPRC: I-Wing Vivarium -	I049: Lower strap for compressed gas tank is unusable because mounting screw is detached. OAW to submit work order to Facilities Services.	tbd Status: Pending Corrective Action	

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	WaNPRC: I-Wing Vivarium -	I089D (necropsy): Expired drugs marked as such and separated during visit.	09/17/2018 Complete	9/17/2018
Minor	no	WaNPRC: I-Wing Vivarium - UW Vehicle - Lic. # 943A (Transportation Van)	Transportation Van: Temperature in van was 61F. The van should be warmed up to at least 65F prior to loading animals into the van.	10/26/2018 Complete	9/18/2018
Minor	no	WaNPRC: RR-Wing Vivarium -	RR160: Need to install a wall hanger for brooms/mops.	12/31/2018 Complete	12/14/2018
Minor	no	WaNPRC: Western -	W305 and W309: Floor drains emitting sewer gas. This was corrected by adding water to the drains.	09/19/2018 Complete	9/19/2018
Minor	no	WaNPRC: Western -	W231 (housing): Unclear if the cages had been sanitized with the 14 day time-period.	10/26/2018 Complete	10/25/2018
Minor	no	WaNPRC: Western -	W223 (necropsy): Mop not hung up (needs an extra position on the mop/broom holder).	12/31/2018 Complete	10/16/2018
Minor	no	WaNPRC: Western -	W239 (surgery prep): Expired betadine (7/2017) removed during visit.	09/19/2018 Complete	9/19/2018
Minor	no	WaNPRC: Western -	W223 (necropsy): Eyewash log is missing date(s). Eyewash station requires flushing once per week to protect personnel from potential build-up of contaminants in the water line and must be recorded in a log.	10/26/2018 Complete	10/25/2018
Minor	no	WaNPRC: Western -	W239 (surgery prep): Multiple sterile packs past 1 year expiration date (the 1 year expiration date is a WaNPRC veterinary staff internal standard according to the host).	10/26/2018 Complete	10/26/2018
Minor	no	WaNPRC: Western -	W241 (procedure): Expired heparin removed during visit.	09/19/2018 Complete	9/19/2018
Minor	no	WaNPRC: Western -	W327: Several expired substances present in this procedure room. This was corrected during the visit.	09/19/2018 Complete	9/19/2018
Minor	no	WaNPRC: Western -	Outside W212 (dirty cagewash): Multiple wall chips to the left and right and some at the beginning of the hallway heading down to clean cagewash.	03/31/2019 Complete	12/3/2018
Minor	no	WaNPRC: Western -	W217 (procedure): Electronic display in the procedure room, but for the animal room (218) was flashing and showing incorrect environmental parameters (e.g., was saying the room temperature was -98F). The panel or sensor needs repair.	12/31/2018 Complete	12/21/2018
Minor	no	WaNPRC: Western -	W235 (endoscopy support): Broom holder needs to be installed.	12/31/2018 Complete	11/29/2018
Minor	no	WaNPRC: Western -	W223 (necropsy): Multiple expired drugs (e.g., heparin) removed at time of inspection.	09/19/2018 Complete	9/19/2018

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	WaNPRC: Western -	W223 (necropsy): Emergency shower not being tested annually.	12/31/2018 Complete	10/16/2018
Minor	no	WaNPRC: Western -	W213 (clean cagewash): Flooring/walls was difficult to assess because of a large amount of equipment.	11/30/2018 Complete	11/27/2018
Minor	no	WaNPRC: Western -	W110: Food barrel lid wasn't labeled.	10/26/2018 Complete	10/25/2018
Minor	no	Brotman Vivarium -	P154B (empty mouse room): Chips in wall (blue painted wall).	05/31/2019 Pending Corrective Action	
Minor	no	Brotman Vivarium -	C37: Gouges on the wall.	05/31/2019 Pending Corrective Action	
Minor	no	Brotman Vivarium -	P167A (Biohazard): Paint cracks around door frame.	05/31/2019 Pending Corrective Action	
Minor	no	Brotman Vivarium -	Entry door: Wall chips present directly to the left of the entry door inside the room.	05/31/2019 Pending Corrective Action	
Minor	no	Brotman Vivarium -	A39: Walls need repairs.	05/31/2019 Pending Corrective Action	
Minor	no	Brotman Vivarium -	B42: Floor has numerous cracks and chipping spots/surfaces.	05/31/2019 Pending Corrective Action	
Minor	no	Brotman Vivarium -	B46: Wall repairs needed – left side.	05/31/2019 Pending Corrective Action	

Severity	Repeat	Location	Deficiency and Corrective Action Plan	Correction Due Date and Status	Date Complete
Minor	no	Brotman Vivarium -	P169 (Mice room): There are some significant divots/gouges in the walls on the left side of the room. These are likely related to the cage racks being moved around.	05/31/2019 Pending Corrective Action	
Minor	no	Brotman Vivarium -	B28 (Hallway outside of cage washer room). Immediately outside of B28 are 3 foot long cracks in the floor.	05/31/2019 Pending Corrective Action	
Minor	no	Brotman Vivarium -	P154 (Procedure): Paint cracks on ceiling.	05/31/2019 Pending Corrective Action	
Minor	no	WaNPRC: I-Wing Vivarium -	I463: Large hole on the floor between monkey cages (possible a former drain that has lost it cover) was pointed out by the tech.	2/28/2018 Pending Corrective Action	
Minor	no	WaNPRC: I-Wing Vivarium -	J025A (Dirty cagewash): Paint on walls and ceiling peeling, plastic edging is cut and damaged, concrete exposed and crumbling, visitors were told that repairs are pending, but another room needs to be fixed first before this one can be closed for approximately one month for needed repairs.	05/31/2019 Pending Corrective Action	
Minor	no	Guthrie Laboratory Spaces - 44 C	044C: Chips on floor need repair. Please repair so that the floor can be properly cleaned and sanitized. OAW has submitted a Work Order and Facilities Services will contact to schedule the work.	05/31/2019 Pending Corrective Action	
Minor	no	Guthrie Laboratory Spaces - ROOF	Guthrie aviary: Floors within aviaries are extremely slippery, particularly when wet, presenting an occupational hazard. Researchers report several near misses even when wearing flat, rubber soled shoes. Possible to resurface these areas to be less slippery? OAW has submitted a Work Order and Facilities Services will contact to schedule the work.	05/31/2019 Pending Corrective Action	

Appendix C Departures

Prolonged restraint

Based on questions that arose during the previous semi-annual program review, a subcommittee of the IACUC reviewed the policy on prolonged restraint and the classification of Physical Restraint procedures under that policy. This has led to additional procedures being considered prolonged restraint. Active protocols with approved prolonged restraint are as follows:

- Wild Birds, held and hooded for transport or equipment attachment – 3 protocols
- Zebrafish, held in a matrix for imaging – 2 protocols
- Mice, held in tubes for various procedures – 12 protocols
- Mice, held by head posts – 2 protocols
- Nonhuman primates, held by head posts or in chairs – 12 protocols
- Nonhuman primates, constrained in squeeze cages – 2 protocols
- Pigs, held in slings – 1 protocol

The IACUC will in the next six months look at Capture/Trapping procedures to determine which, if any, might be considered prolonged restraint.

Housing at Non-standard Temperature

Active protocols with approved housing at non-standard temperatures are:

- Zebrafish at 33°C following human cell transplantation – 1 protocol
- Rats under heat or cold stress during metabolic experiments – 1 protocol
- Mice under cold stress or at thermo-neutral temperatures during metabolic experiments – 1 protocol
- Mice under cold stress during metabolic experiments – 1 protocol

Cage variances

- The IACUC approved an exemption to house infant monkeys (age 2 weeks to a body weight of 1 kg) in cages that meet floor space requirements but are only 24" high. These animals climb up well, but are not adept at climbing down. The lower cage height reduces the risk of injury if an animal should fall.
- The IACUC approved co-housing 4 juvenile nonhuman primates (up to 5 kg body weight) as a group in a Group 3 sized 4-cage rack with both vertical dividers and one horizontal divider removed. This innovative configuration meets the volume regulations for Group 3 animals and, while being shy of the floor area standard, provides the animals increased opportunity to express species-typical behavior.

Concurrence Letters



FW Semiannual
report concurrence



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report concurrence



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report concurrence



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Minority Views



Minority Opinion
JonesEngel July_Dec

To: University of Washington, IACUC

From: Lisa Jones-Engel, PhD IACUC Member 2017- to present

Re: Minority Opinion

I. Importance of Reviewing Study Design for Animal Usage and Welfare

II. Identification of Prolonged Physical Restraint in Free-Ranging Taxa

Date: January 29, 2019

I.

During the committee review period in early October 2018 I requested that the full IACUC discuss an amendment to protocol 4266-12: NHP Model for SIV-ZIKV Co-infection. My concerns centered on the lack of study rigor (selection and matching of experimental and control animals, lack of randomization) and its overall impact on animal usage and welfare.

During the period that the amendment was in committee review I had posted several questions in Hoverboard relating to concerns that I had about how the investigators were controlling for variability in their study animals. The AV/Director of OAW responded in Hoverboard with the following comment:

Asking for "information on how these animals are to be selected and how you will ensure that these 'contemporary controls' are matched for age, sex, MHC, early rearing condition, experimental, housing and husbandry histories, etc with your current study animals" is not within the IACUC's oversight as the lab group are the people who can best determine the appropriate animals to include in these studies.

At the IACUC meeting on Oct 18th, during an on-point exchange between myself and the IACUC chair I raised concerns over the multitude of variables that were not explicitly controlled across the groups in this NHP Model for SIV-ZIKV Co-infection study. The IACUC chair insisted that the UW IACUC does not weigh in on experimental design. I emphasized that in this protocol, (as well as others that we had previously approved, also without being able to raise study design concerns) subject selection and uncontrolled variables could impact the balance between animal welfare and potential research benefits.

At the meeting the investigator acknowledged that the 6 monkeys on the study could not be randomized into different arms due to issues with their MHC haplotype, specifically there were not a sufficient number of matched MHC animals available. Without an adequate number of matched MHC monkeys available other variables such as early rearing condition, experimental, housing and husbandry histories could not be considered by the investigator when they designed this study.

The UW IACUC can support reproducibility and scientific rigor by ensuring rigorous experimental design. *The Guide* states that "While the responsibility for scientific merit review normally lies outside the IACUC, the committee members should evaluate scientific elements of the protocol as they relate to the welfare and use of the animals. For example, hypothesis testing, sample size, group numbers, and adequacy of controls can relate directly to the prevention of unnecessary animal use or duplication of experiments." (pg 26) The Guide then goes on to state that "the IACUC is obliged to weigh the objectives of the study against potential animal welfare concerns." (pg. 27)

II.

At the January 17, 2019 IACUC meeting we reviewed our July-December 2018 Semi-Annual report. I noted that over the past 6 months we have made significant progress in resolving the inconsistencies in our identification and reporting of protocols that have been approved for 'prolonged physical restraint', of laboratory animals. However, we are still not reporting in our Semi-Annual several field-based studies that contain approved prolonged physical restraint of corvids, bobcats, cougars, coyotes, ungulates, snow leopards, wolves, Arctic marine mammals, snowshoe hares, voles, ground squirrels, free-ranging nonhuman and other free-ranging animals.

Our investigators have reported that the methods they use in the field to physically restrain animals include modified Aldrich foot snares, leg-hold traps, deep mesh nets, clover leaf traps, live catch traps, custom made traps, etc. Investigators report that animals may be physically restrained in the traps, snares, nets for up to 12 hours, though many of the protocols report removing the animals within a few hours of capture.

The University of Washington IACUC defines prolonged physical restraint as physical restraint of an unanesthetized animal for:

1. 30 minutes or longer in a natural body position in which no body parts are completely immobilized (e.g. pig sling, primate chair restraint without head or limb fixation)
2. 15 minutes or longer in an unnatural body position and/or one or more body parts are immobilized (e.g. most rodent restraint devices, primate chair restraint with head fixation)

As members of the IACUC we are entrusted with the ongoing assessment of animal care and use, therefore it is critical that we have accurate information on the number and types of protocols that have been approved for prolonged restraint as we reflect on our program. I do note that historically, the UW IACUC has focused on prolonged physical restraint in captive laboratory animals; this is reflected even in the examples of prolonged restraint listed above. However, our animal use program has a significant component of field research and it is incumbent upon us to recognize and report prolonged physical restraint in these free-ranging taxa. Prolonged physical restraint can lead to physiological reactions and potential physical impairment, which in addition to having significant animal welfare implications may also skew the results of scientific experiments.