

Memorandum to: Sally Thompson-Iritani
From: Institutional Animal Care and Use Committee
Subject: Semiannual Report of the Program Review and Facility Inspection
Date: January 31, 2023

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.](#)):

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*:

- 60 protocols with prolonged restraint (bats, birds, fish, mice, non-human primates, pigs)
- 13 protocols with housing at non-standard temperatures (8 mice, 1 rats, 1 mice and rats, 3 zebrafish)

The following IACUC approved general departures remain in place

- **1 general cage height variance for infant non-human primates**
- **1 general cage floor-area variance, with added vertical space, for juvenile non-human primates**
- **1 general exception for placing NHP feed on compound floors**
- **1 general L-shaped housing variance for NHPs to provide flexibility in configurations of combined cages**
- **1 general cage change frequency variance for singly housed gerbils**

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:

- 14 protocols with cage size variances (10 for mice, 3 rats, 1 mice and rats)
- 6 protocols with wire bottom cages (4 mice, 2 rats)
- 44 protocols with weaning variances (43 mice, 1 rats)
- 1 protocol with a non-AVMA endorsed euthanasia method (frogs)
- 60 protocols with multiple major surgeries (21 non-human primates, 11 rats, 11 rats and mice, 9 mice, 4 pigs, 1 birds, 1 fish, 1 frogs, 1 rabbits)
- 10 protocols with other policy variances (8 mice, 1 rats, and 1 mice and 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 through December 2023

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

Over the past six months, 8 adverse events or non-compliances were reported to the IACUC and, as required, to OLAW, AAALAC, or USDA. See [Appendix A](#) for details.

Teams of IACUC members recently reviewed all elements of the University's animal care and use program, guided by the OLAW-provided checklist. They found the program to be strong, but identified one minor deficiency concerning the maintenance and logging of some anesthetic drugs. Specific comments and suggestions for improvement are detailed in [Appendix D](#). The IACUC and OAW will pursue the suggestions in the coming year.

III. Deficiencies in the Institution’s Animal Facility

Animal Facility Inspection Date(s): January through June 2022

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

Over the past six months 140 deficiencies were identified during IACUC facility inspections or self-reported. None were considered significant. Counts by type are shown below.

Type	Minor	Significant	Type	Minor	Significant
Facility and Furnishings	21	0	Personnel Precautions	15	0
Sanitation	10	0	Feed	3	0
Husbandry	8	0	Use of Space	1	0

Equipment	13	0	Signage and Information	39	0
Drugs	10	0	Research Chemicals	11	0
Supplies	4	0	Protocol/Procedures	5	0

See [Appendix B](#) for deficiency details.

IV. Minority Views

Select A or B:

A. No minority views were submitted or expressed.

B. The following minority views were expressed:

V. Status of AAALAC Accreditation

Reference Assurance: #000523
 Most Recent AAALAC Site Visit: 05/31/2019 through 06/07/2019
 Most Recent Full Accreditation issued: 11/01/2019
 Per AAALAC request, the next scheduled site visit will be Summer 2023

VI. Signatures (via signed and dated note of concurrence – see attached images)

IACUC Members	concurrence	date
A.B.	Abstain	
A.P.	Abstain	
A.W.	Concur	1/20/23
Christina Cruzen	Concur	1/28/23
D.M.	Concur	1/30/23
D.T	Abstain	
E.S.	Concur	1/30/23
G.L.	Concur	1/30/23
G.S.	Concur	1/19/23
J.F.I.	Concur	1/24/23
J.M.	Concur	1/19/23

J.P.V.H.	Concur	1/25/23
Jane Sullivan	Concur	1/24/23
K.G.	Concur	1/19/23
M.B.	Concur	1/19/23
M.K.	Concur	1/31/23
M.R.B.	Abstain	
M.R.K.	Abstain	
M.S.	Concur	1/31/23
S.P.	Concur	1/20/23
S.R.H.	Concur	1/30/23

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

Severity	Repeat?	Location	Deficiency and Corrective Action Plan	State	Date Complete
Significant	No	SLU 3.1	<p>Administration of an unapproved substance: 5 mice were given a substance that was not approved on their IACUC protocol. Four of the five mice died within 8 hours of the injection, which was an unexpected outcome. The 5th mouse was euthanized. The group was attempting to perform a follow-up experiment with the same conditions reported in a previous publication by the group but realized after the fact that the DMXAA injections were approved on a collaborating PI's protocol.</p> <p>The group acknowledged that it should have reviewed the protocol more carefully before initiating the experiment. To avoid confusion with collaborations, they will no longer perform experiments that are not on their protocol (in other words, an experiment will either be on your their protocol, or the animals will be transferred to the care of the collaborating lab).</p>	Complete	9/13/22
Significant	No	SLU 3.1 ABSL3	<p>Unapproved Training Procedures: One cage of mice (5 mice) was used to train a new lab member how to perform several basic husbandry and laboratory procedures within the ABSL3 facility (e.g., cage changes, handling with forceps, IP injections, euthanasia). All mice were euthanized over the two-day period following the training procedures. It was realized after-the-fact that the mice had not been transferred to the training protocol, and use of mice for training procedures was not approved on the experimental protocol to which the animals were assigned.</p> <p>As a corrective action, the PI is planning to add training animals to its IACUC protocol to reduce the risk of a similar noncompliance in the future.</p>	Complete	9/13/22
Significant	No	HSB	<p>Adverse Event: A cage of five mice succumbed to hyperthermia. The cage was placed under a heat lamp to warm the animals in preparation for a tail vein injection. The research technician left the mice unattended and when they returned to perform the procedure, all five mice had expired. This incident was self-reported to the Office of Animal Welfare.</p> <p>PI re-enforced training and standards for correct handling of animals: All lab technicians involved on</p>	Complete	1/3/23

the protocol have attended the Advanced Mouse Handling Lab for specific training and/or refreshers on proper tail vein injection (TVI) procedures. PI submitted an amendment to the protocol on 9/6/22 to add mice for TVI training to allow for further practice of which was approved on 9/29/2022. The importance of animal supervision has been discussed with lab technicians with a new policy that if someone needs to leave the room where the animals are located for any reason, they are responsible to ensure another lab tech will supervise in their absence. PI is continuing to work with new staff to develop a collaborative and team oriented working model, including the sense of shared responsibility for all projects in the lab. PI has changed the standard practice for keeping the mouse warm per applicable approved procedures as well as for warming the tail for tail vein injections.

The lab has stopped the use of the heat lamps and solely utilizes recirculating hot water pads for maintenance of mouse body temperature. If the tail needs to be warmed for a tail vein injection the tail is now placed in warm water or a Space Gel pad is used.

Significant	No	ARCF	<p>Administration of Unapproved Dose: Two macaques received a dose of antibody that was higher than the dose approved in the IACUC protocol. The incorrect dose resulted from a calculation error during the conjugation of the antibody to a radio-isotope, resulting in double the concentration of antibody, but the correct concentration of radio-isotope. The conjugation, and related calculations, were performed by an affiliate lab. The two macaques experienced clinical side effects that required veterinary intervention, but it is unclear if the side effects were impacted by the calculation error since the "extra" antibody would presumably be unconjugated. Both animals reached their pre-determined experimental endpoints in mid-September and were euthanized.</p> <p>The affiliate lab has modified their procedures. Dosages will first be calculated and verified by an excel spreadsheet. Additionally, a verification step was added to the calculation such that all calculations will be double-checked by a second individual.</p>	Complete	1/3/23
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Significant	No	Brotman	<p>Animals Not Monitored In Accordance With Protocol: Complete 10/20/22</p> <p>A cage of 5 wild-type mice were found dead by a husbandry technician. The cage had adequate food present, and water was available. These mice were enrolled in a study looking at the impact of high fat or low-fat diet on adipose tissue cells. The mice arrived in the vivarium on August 3rd. On August 5th, the mice were weighed by the group and then started on a low fat diet. The animals underwent all routine husbandry procedures, including daily assessments and scheduled cage changes, but the lab staff did not monitor or weigh the animals between August 5th when low fat diet was started and when the mice were found on August 26th. This was not in alignment with the approved protocol which states that mice will be monitored by the lab at least once a week and weighed at least every other week. The cause of death is not known.</p> <p>Since this incident occurred, the group has had several discussions with its Office of Animal Welfare (OAW) liaison about the importance of monitoring animals on study and following what is approved in the IACUC protocol. The group is following the approved monitoring plan for the mice that remain on study.</p>	10/20/22
Significant	No	SLU 3.1	<p>Tailing of Adult Mice w/o Anesthesia or Analgesia: Complete 1/3/23</p> <p>Tail samples for genotyping were collected from 4 mice older than 28 days of age. This procedure was performed without the use of anesthesia or analgesia, as required by the IACUC'S policy on "Genotyping of Laboratory Mice". Tailing of adult mice was also not approved on the lab's IACUC protocol. The individual that performed the procedure had completed the required University of Washington's on-line and hands-on training, had observed someone performing the procedure, and had performed the procedure under observation on mice younger than 28 days without incident, but was not aware of the age limitation in the IACUC policy.</p> <p>The genotyping procedure was reviewed with all lab members. All lab members were trained on how to access and review the IACUC protocol in the electronic protocol management system. The IACUC policy on "Genotyping of Laboratory Mice" was shared with all members of the lab who work with mice, and all members have also been asked to take the "Tissue Collection from Mice for Genotyping" e-learning module. The IACUC protocol was updated to add ear punch as an option for genotyping mice over 28 days of age.</p>	1/3/23

Significant	No	HSB	<p>Water Regulated NHP Did Not Receive Daily Water Ration: According to the approved IACUC protocol, animals may be water regulated while performing behavioral tasks. On 10/31, it was discovered that a rhesus macaque did not receive his daily ration of water on the preceding Friday (10/28). The animal was not noted to have any abnormalities on Saturday or Sunday, and was provided produce and water on both Saturday and Sunday. Upon discovering the missed water, the animal was assessed by a veterinarian, sedated for bloodwork, and provided fluids. No abnormalities were noted on exam or in the bloodwork. All animals on study were placed on ad lib water while the process for providing water was reviewed.</p> <p>Revised processes include 1) a document indicating the provision of fluid posted on the door for each day including weekends and holidays 2) reminder notices posted throughout the laboratory and on all exit doors 3) contact information and a phone tree (student, lab manager, PI) for husbandry (and other lab members) should information about the provision of fluid be unclear for any reason 4) if no one can be contacted husbandry will be instructed to provide fluid</p>	In Process
Minor	No	Field Study	<p>Unapproved Restraint and Tagging Method: At the time of the reported incident, the group's IACUC protocol was approved to briefly hand restrain birds in order to attach a telemetry tag via an elastic leg harness. Starting in September of this year, the group refined its tagging method to utilize a restraint cylinder (rather than manual restraint) and replaced the leg harness with a temporary tail feather tag. This tagging method is known to have fewer behavioral impacts on the animals and falls off without intervention after a few weeks. However, the group implemented this change without first acquiring IACUC approval. Fifteen birds were tagged using this method before the oversight was detected.</p> <p>The group promptly submitted an amendment to add the option to tag animals using this glue method. The group is also in communication with its OAW liaison.</p>	In Process

Appendix B: Deficiencies in the Institution's Animal Facility

Severity	Repeat?	Location	Room	Deficiency and Corrective Action Plan	Correction Due Date	Date Complete
Minor	no	Foegen	N053	Date of last biosafety cabinet inspection is missing, although it appears to have been performed. Please add the missing information on the latest inspection of BSC #799.	8/25/2022	7/28/2022
Minor	no	Brotman	431	Fume hood needs to be serviced.	8/25/2022	8/1/2022
Minor	no	Brotman	431	Euthanasia chamber is cracked and taped in several places. Please replace with a chamber that is in good repair.	8/25/2022	8/9/2022
Minor	yes	Brotman	447	Previous deficiency: Expired DEA license. PI has started the application process to renew her DEA license.	2/28/2023	1/30/2023
Minor	no	Brotman	447	Isoflurane vaporizer is due for annual servicing. Have it serviced before next use, and place a sign on the vaporizer in the meantime indicating that it should not be used until serviced.	2/28/2023	1/12/2023
Minor	no	Roosevelt	264	Guillotine sharpening SOP and sharpening log need to be created and posted near the guillotine. Until guillotine can be tested for sharpness (and this test logged), a sign should be placed on the guillotine stating 'DO NOT USE'.	8/25/2022	8/25/2022
Minor	no	Roosevelt	264	Remove all tape that cannot be sanitized (e.g. any older tape that is curling up and exposing the sticky surface)	8/25/2022	7/26/2022
Minor	no	Brotman	P128A	Expired hardness and alkalinity water testing kits. Replace	8/25/2022	7/26/2022
Minor	no	Brotman	P125A	Emergency shower needs testing.	8/25/2022	8/1/2022
Minor	no	Harborview R&T	513	Anesthesia service due on isoflurane machine.	10/3/2022	8/12/2022
Minor	no	HSB	AA025	Eye wash needs to be tested and logged weekly	9/1/2022	7/18/2022
Minor	no	HSB	AA025	Bare paper posted on walls needs to be encased in plastic	9/1/2022	7/18/2022

				sleeves or laminated		
Minor	no	HSB	AA025	Old tape with sticky surfaces exposed needs to be removed as a potential source of contamination	9/1/2022	7/18/2022
Minor	no	HSB	G617	Isoflurane machine is overdue for service. "Do not use" sign had fallen off machine and was on the floor, under the cart where the machine is kept, where it could not be seen. Secure the signage to the machine and be sure the vaporizer is not used until it is recalibrated.	9/1/2022	8/29/2022
Minor	no	CHDD	40	Remove long non-sanitizable strip of tape hanging from shelf.	9/2/2022	8/8/2022
Minor	no	CHDD	056E	Ensure the non-sanitizable cork tile is removed from the table and replaced with a non-porous, sanitizable alternative	9/2/2022	8/8/2022
Minor	no	HSB	C603	Remove old tape.	9/2/2022	8/17/2022
Minor	no	Brotman	P160	Mouse drug mix is made up in the group's main lab and brought into this vivarium space for use. Any mix that is left over is stored in the drug safe in P160. 1) Always label tube with the date the drug mix was made up. 2) Either label the tube with the expiration date or post a note in or near the drug safe clearly stating how long the mix is good for after it is made up (may need to check with Vet Services). 3) Create a drug log for P160 that includes up-to-date information about the volume of mouse drug mix that is being stored in the drug safe. 4) When mouse drug mix expires, please clearly label tubes EXPIRED DO NOT USE and sequester them in a bag or box that is also clearly labeled EXPIRED DRUGS DUE FOR RETURN DO NOT USE (store this bag or box in the	9/14/2022	9/14/2022

				drug safe). 5) Contact Vet Services or the OAW liaison for help returning expired drugs.		
Minor	no	SLU	S173	Chairs with damaged surfaces that expose their non-sanitizable foam interior must be removed from the room before animals can enter, even if animal work is being done far across the room from the chairs.	9/14/2022	8/16/2022
Minor	no	SLU	S173	All gas tanks must be well-secured at all times, even if pick up is expected soon. The lab is encouraged to keep some extra chains and clips on hand, in case of an unexpected extra tank.	9/14/2022	8/16/2022
Minor	no	SLU 3.1	E021B	Airflow indicator ball needs to be repaired	9/22/2022	9/1/2022
Minor	no	SLU 3.1	E043	Biosafety Cabinet (BSC) logs need to be encased in plastic sleeves	9/30/2022	9/1/2022
Minor	no	SLU 3.1	E045A	Expired Clidox. Discard	9/30/2022	8/27/2022
Minor	no	SLU 3.1	E068	DO NOT USE sign had fallen off the BSC. Repost in a more secure manner.	9/30/2022	9/1/2022
Minor	no	SLU 3.1	E068	Isoflurane vaporizer is overdue for calibration. Recalibration needs to be scheduled. A sign needs to be clearly posted on the machine 'DO NOT USE UNTIL RECALIBRATED'	9/30/2022	11/11/2022
Minor	no	SLU 3.1	E082	Expired Clidox (2 spray bottles). Discard	9/30/2022	8/26/2022
Minor	no	SLU 3.1	E061	Expired Clidox. Discard	10/3/2022	9/1/2022
Minor	no	SLU 3.1	E055	Chair in room has damaged surface, needs to be replaced	10/3/2022	11/29/2022
Minor	no	HSB	H610	Expired scrub kit outside room. Replace	10/13/2022	9/26/2022
Minor	no	HSB	I445	Eye wash not checked/logged since June 2022.	10/17/2022	10/4/2022
Minor	no	HSB	I455	Expired Betadine solution. Discard.	10/17/2022	9/16/2022
Minor	no	HSB	I735	Expired Enzymatic Cleaning Solution (2). Discard	10/17/2022	9/23/2022
Minor	no	HSB	I013, I021	Bare paper signage, including Post-It notes, must be encased	10/20/2022	9/23/2022

				in plastic sleeves or laminated		
Minor	no	HSB	I013, I021	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets may be a good alternative.)	10/20/2022	9/23/2022
Minor	no	HSB	I013, I021	Expired bottles of dextrose on the shelves need to be removed or labelled "Not for Use in Live Animals"	10/20/2022	9/23/2022
Minor	no	HSB	516C	Bare paper signage, including Post-It notes, must be encased in plastic sleeves or laminated	10/20/2022	10/4/2022
Minor	no	HSB	516C	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets may be a good alternative.)	9/20/2022	9/20/2022
Minor	no	HSB	C525	Expired mouse mix from 2020 found in drug safe needs to be marked EXPIRED, placed in a bag marked EXPIRED DO NOT USE IN LIVE ANIMALS before pick up for disposal	11/30/2022	11/21/2022
Minor	yes	HSB	C525	Update drug log. Expired drug needs to be appropriately logged under Waste before pick up. New drugs should be added to the log when they are put in the drug safe.	11/30/2022	11/21/2022
Minor	no	HSB	C525	Bare paper signage, including Post-It notes, must be encased in plastic sleeves or laminated	10/31/2022	10/20/2022
Minor	no	HSB	RR715	Guillotine needs cleaning, and testing for sharpness. Until it can be tested, it may not be used and a sign must be placed on the guillotine stating 'DO NOT USE UNTIL TESTED FOR SHARPNESS'.	10/31/2022	10/13/2022
Minor	no	HSB	RR715	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets	10/31/2022	9/30/2022

				may be a good alternative.)		
Minor	no	HSB	RR715	Animals cannot be temporarily housed in RR715B unless/until it is added to the protocol via an amendment. Unless/until RR715B is added, animals must be temporarily housed in RR715, the approved room on the protocol.	10/31/2022	9/30/2022
Minor	no	HSB	H330/B/C/E/F	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets may be a good alternative.) Bare paper signage, including Post-It notes, must be encased in plastic sleeves or laminated.	10/31/2022	10/31/2022
Minor	no	HSB	J429	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets, zip ties or adhesive-backed hooks may be a good alternative.)	10/31/2022	9/29/2022
Minor	no	HSB	J429	All containers should be clearly labeled to indicate contents and date made up (e.g. 70% Ethanol)	10/31/2022	9/29/2022
Minor	no	HSB	J429	Bare paper signage, including Post-It notes, must be encased in plastic sleeves or laminated	10/31/2022	9/29/2022
Minor	no	HSB	K084	Bare paper signage, including Post-It notes, must be encased in plastic sleeves or laminated	10/31/2022	9/26/2022
Minor	no	HSB	K084	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets may be a good alternative.)	10/31/2022	9/26/2022
Minor	no	HSB	K084	Wall over the microscope has some peeling paint and damage that must be repaired by facilities. There were	11/30/2022	9/26/2022

				several overhead ceiling tiles that were also peeling and could be a source of contamination. Work with UW facilities team to submit work orders for these infrastructure repairs.		
Minor	no	SLU	N527	Update CO2 signage to indicate that total gas exposure time must be at least 5 minutes for mice and 10 minutes for rats, and that gas flow must be maintained for at least 1 minute after apparent clinical death.	10/31/2022	10/5/2022
Minor	no	SLU	N527	The dose of anesthetic and analgesic administered to mice should be included in the surgical records. Update surgical template to include this information.	10/31/2022	10/27/2022
Minor	no	SLU	N527	Post-operative monitoring needs to be documented, even if just a visual check. Develop a template or system to ensure this is appropriately documented.	10/31/2022	10/27/2022
Minor	no	SLU	N527	Expired scalpels found in drawer. Dispose of or mark 'Not For Use in Live Animals'.	10/31/2022	10/5/2022
Minor	no	Brotman	Hall C	Weekly tasks not documented on care log during the week of 8/22/22. Be sure that all daily and weekly tasks are completed and documented as appropriate. If a task is not applicable, please enter "N/A" rather than leaving blank.	11/7/2022	8/31/2022
Minor	no	Brotman	A41	Some but not all weekly tasks were marked as complete the week of 8/22/22. Be sure that all daily and weekly tasks are completed and documented as appropriate. If a task is not applicable, please enter "N/A" rather than leaving blank.	11/7/2022	8/31/2022
Minor	no	Brotman	B28	The door to this room is sticky, preventing it from being shut completely. Repair to ensure the proper functioning of the	12/30/2022	9/6/2022

				door.		
Minor	no	Brotman	B36	The Automated Water Acidification System log indicates that the pH of the water should be tested twice per week. Discussion with the facility supervisor suggests that pH is only being tested when a batch of water bottles is made (approximately 1x/week based on data in the log). Update the instructions on the log to reflect current practices.	11/7/2022	10/6/2022
Minor	no	Brotman	B36	Daily temperature logs for rack and tunnel washers – Rack washer is not run every day. For clarity, indicate that this field is not applicable on the log with a dash or “N/A” on days that the rack washer is not run (rather than leaving the field blank).	11/7/2022	8/31/2022
Minor	no	Brotman	B42	Water pooling near clogged drain in center of room presents an occupational health hazard. Fix to ensure proper drainage of water.	12/30/2022	9/6/2022
Minor	no	Brotman	B42	Paint on floor is chipped and peeling. Work order in process to repair/patch/paint.	12/30/2022	11/4/2022
Minor	no	Brotman	B45	The mill date and open date of special diet are not labeled correctly on the secondary container (mill date: 12/2021, open date: 8/2020). Be sure that labels on secondary containers are clear and accurate.	11/7/2022	8/29/2022
Minor	no	Brotman	B50	SSR present in the room indicates that the lab will perform cage changes for some of their animals, however, there was no log indicating when cages have been changed. Be sure to document when cages are changed by the lab.	11/7/2022	10/6/2022
Minor	no	Brotman	B50	There appeared to be a special diet log in the room indicating	11/7/2022	10/6/2022

				that the lab was providing food to some of their animals, however, there was not an SSR for the special diet. Be sure to complete a SSR whenever lab personnel are providing food.		
Minor	no	Brotman	C34	Daily tasks not documented regularly on care log during the week of 8/22/22. Be sure that all daily and weekly tasks are completed and documented as appropriate. If a task is not applicable, indicate such with "N/A" or a dash.	11/7/2022	9/21/2022
Minor	no	Brotman	C37	Expired syringes in lab supply box. Dispose of or mark "Not for use in live animals."	11/7/2022	8/29/2022
Minor	no	Brotman	C37	SSR present in the room for enrofloxacin water, however, no log present to indicate when medicated water was provided/refreshed (SSR suggests treatment started 8/26/22). Be sure that the administration of medicated water is documented as described in the related SSR and that documentation is available for review.	11/7/2022	8/31/2022
Minor	no	Brotman	C37	Two cages had a medicated water log indicating that mice are receiving ibuprofen in their water starting 8/26/22. There was no SSR present in the room or indication that the ibuprofen was related to a veterinary concern. Be sure to submit a SSR when providing special/medicated water to animals.	11/7/2022	9/5/2022
Minor	no	Brotman	P164A	Coating is peeling off the floor making it non-sanitizable in this pig housing room. All surfaces in the animal housing rooms must be in good condition and able to be sanitized.	1/31/2023	12/26/2022
Minor	no	Brotman	P164B	Multiple areas of the floor	12/30/2022	11/27/2022

				have large areas of peeling surfaces. Many areas of the wall are also peeling significantly. All surfaces in the animal housing rooms must be in good condition and able to be sanitized.		
Minor	no	Brotman	P168	Many small defects in the flooring surface noted. Repair	12/30/2022	11/26/2022
Minor	yes	Brotman	P169	Multiple divets in wall that require repair.	12/30/2022	11/18/2022
Minor	no	Brotman	P170	Small, minor defects in flooring noted. Peeling/missing paint on back wall of room. Repair.	12/31/2022	12/4/2022
Minor	no	Brotman	Vet Services	Staff present was unclear on policy surrounding peel pack expiration dates and some variability was noted in labelling of peel packs in storage cabinets. Ensure a policy exists to guide both labelling of and expiration of sterilized surgical instruments and ensure staff are trained on that policy.	11/7/2022	11/8/2022
Minor	no	HSB	I726/I728C/ I728D	Ensure juice is labelled with correct expiration date if bottles are being re-used.	11/7/2022	10/10/2022
Minor	no	HSB	I726/I728C/ I728D	No process for verification of sanitation of restraint chairs. Work with the DVM to develop process for verification of effective sanitation for the restraint chairs.	11/30/2022	11/8/2022
Minor	no	HSB	I726/I728C/ I728D	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces.	11/7/2022	10/11/2022
Minor	no	HSB	I534N	All 'loose' tape on the rig needs to be replaced between animals. Any old damaged/curling tape in the room needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces.	11/7/2022	10/7/2022
Minor	no	HSB	I534Q	Eye wash needs to be tested	11/7/2022	10/7/2022

				and logged weekly, not every other week which is the current practice.		
Minor	no	HSB	I441	There is a missing ceiling tile in the room that needs to be replaced. A work order is in for this. There is a missing section of vinyl baseboards that need to be replaced as well. Some of the ceiling vents were exceedingly dirty and should be cleaned.	11/7/2022	1/1/2023
Minor	no	HSB	I553	Expired Hydrogen Peroxide spray. Discard.	11/7/2022	10/8/2022
Minor	no	HSB	I356B	There are several defects in the floor that make it non-sanitizable; workorder has already been submitted for this problem.	12/30/2022	11/28/2022
Minor	no	HSB	RR Vivarium	Elevator #288 has a large defect in the floor that renders it non-sanitizable as well as creating a safety hazard for staff. Repair.	12/30/2022	12/12/2022
Minor	no	HSB	RR Vivarium	Bedding must be at least 6 inches away from the wall on all sides. Move the stored bedding away from the wall.	11/17/2022	9/29/2022
Minor	no	HSB	RR Vivarium	Repair uncovered electrical outlet on the wall near the floor.	11/30/2022	11/29/2022
Minor	no	HSB	RR Vivarium	Safety signage for the cage washer is lacking. Appropriate signage more clearly indicating hazard present and safety features needs posting. There is an uncovered electrical outlet that needs to be covered for safety.	12/31/2022	11/21/2022
Minor	no	HSB	BB857	Eye wash needs to be tested and logged every week.	11/17/2022	11/17/2022
Minor	no	HSB	D218	There are many bottles of expired ketamine that need to be disposed of properly.	11/17/2022	10/7/2022
Minor	no	HSB	D218	Drug log has not been well maintained and needs to be updated for clarity and accuracy.	11/17/2022	10/10/2022
Minor	no	HSB	D218	Chair with rips and exposed foam needs to be removed	11/17/2022	10/7/2022

				from work space whenever animals are present.		
Minor	no	HSB	D218	All bare paper signage (including Post-It notes) needs to be encased in plastic sleeves or laminated.	11/17/2022	10/7/2022
Minor	yes	HSB	G406A	CO2 signage continues to be out-of-date.	11/17/2022	10/19/2022
Minor	yes	HSB	G406A	Eye wash needs to be tested and logged every week.	11/17/2022	10/18/2022
Minor	no	HSB	H231	Eye wash needs to be tested and logged every week.	11/17/2022	10/6/2022
Minor	no	HSB	H502/H506	All bare paper signage (including Post-It notes) needs to be encased in plastic sleeves or laminated.	11/17/2022	10/7/2022
Minor	no	HSB	J083B	There is a hole in the floor that is being plugged with a rag by Facility Services. Repair hole properly.	11/17/2022	10/7/2022
Minor	no	Chemistry Library	66	The room needs to be cleaned.	11/17/2022	11/10/2022
Minor	no	Guthrie	369G	The scale used for weighing animals is dirty (bedding and possible fecal matter present in weigh boat). Clean scale.	11/21/2022	10/24/2022
Minor	no	Guthrie	364	Expiration date label on Clidox bottle is full and it is unclear when the current solution expires. Place a new label on the bottle and clearly label with the current expiration date.	11/21/2022	11/3/2022
Minor	no	Guthrie	355	Paint is thin/chipping along edges and seams of behavioral chamber, exposing raw wood. Paint or seal these areas to ensure that the equipment can be properly cleaned and sanitized.	11/21/2022	10/24/2022
Minor	yes	Guthrie	028D	Eyewash log is not consistently checked weekly. Be sure that eye wash is tested weekly.	11/21/2022	11/10/2022
Minor	no	HSB	E426	Within the collection of gas tanks, a second (lower) chain was not present on all canisters. Be sure that gas tanks are properly secured with two chains.	11/21/2022	10/14/2022

Minor	no	HSB	H404	Bare paper signage, including Post-It notes, must be encased in plastic sleeves or laminated	11/21/2022	10/21/2022
Minor	no	HSB	H404	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets may be a good alternative.)	11/21/2022	10/21/2022
Minor	no	HSB	H404	Eyewash needs to be tested and logged every week.	11/21/2022	10/21/2022
Minor	no	HSB	H404	Remove cardboard boxes from spaces above bench where animals are used.	11/21/2022	10/21/2022
Minor	no	HSB	H413/H418/ H426	Bare paper signage, including Post-It notes, must be encased in plastic sleeves or laminated	11/21/2022	10/21/2022
Minor	no	HSB	H413/H418/ H426	Remove cardboard boxes from spaces above bench where animals are used	11/21/2022	10/21/2022
Minor	no	HSB	H413/H418/ H426	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets may be a good alternative.)	11/21/2022	10/21/2022
Minor	no	HSB	G530/G530A/ G434A/I501	Bare paper signage, including Post-It notes, must be encased in plastic sleeves or laminated.	11/21/2022	10/31/2022
Minor	no	HSB	G530/G530A/ G434A/I501	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets may be a good alternative.)	11/21/2022	11/18/2022
Minor	no	HSB	G530/G530A/ G434A/I501	MS222 solution needs to be made up in a fume hood (MS222 container should not be open outside the fume hood.)	11/21/2022	10/21/2022
Minor	no	HSB	G530	Wall is damaged next to the door at the end of the room, needs to be patched by Facilities Services.	12/30/2022	11/2/2022
Minor	no	HSB	K522	Eyewash needs to be tested and logged every week.	11/21/2022	10/20/2022
Minor	no	HSB	H073	Bare paper signage, including	11/21/2022	10/19/2022

				Post-It notes, must be encased in plastic sleeves or laminated		
Minor	no	HSB	H073	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets may be a good alternative.)	11/21/2022	10/19/2022
Minor	no	HSB	H073	Damaged spots in wall need to be patched by Facilities Services.	12/31/2022	11/15/2022
Minor	no	HSB	NW141A	Ripped chair needs to be replaced by one whose surface is 'sound, sealed and sanitizable'.	11/28/2022	10/28/2022
Minor	no	HSB	NW141A	Used F/AIR canisters need to be stored in an airtight container until they are disposed of	11/28/2022	10/28/2022
Minor	no	HSB	NW143J	Bare paper signage must be encased in plastic sleeves or laminated.	11/28/2022	10/28/2022
Minor	no	HSB	H428/H428A/ H428B	All old damaged/curling tape needs to be replaced with intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets may be a good alternative.)	11/28/2022	10/26/2022
Minor	no	HSB	H428B	Replace diaper pad on surgery set up after each animal (could be a Kimwipe placed over pad)	11/28/2022	10/26/2022
Minor	no	HSB	J611K	Containers holding sucrose pellets should be marked with expiration date in each behavioral chamber	11/28/2022	11/2/2022
Minor	no	HSB	J611K	Enter a work order with Facilities to clean vent in room.	11/28/2022	11/29/2022
Minor	no	HSB	J611L	Secure gas tanks with a second chain to prevent slippage in event of an earthquake	11/28/2022	11/2/2022
Minor	no	HSB	J611L	Bare paper signage, including Post-It notes, must be encased in plastic sleeves or laminated	11/28/2022	11/2/2022
Minor	no	HSB	J611L	All old damaged/curling tape needs to be replaced with	11/28/2022	11/2/2022

				intact, plasticized lab tape with no exposed sticky surfaces. Tape use should be kept to a minimum (magnets may be a good alternative.)		
Minor	no	HSB	J631D	Drug log needs to be updated to include unopened bottles of morphine (2) and PCP and expired Beuthanasia. Expired Beuthanasia needs to be labelled and placed in a bag or other container indicating it should not be used in animals before it is returned.	11/28/2022	11/2/2022
Minor	no	HSB	J106	Secure gas tanks (in hallway outside the room) with a second chain to prevent slippage in event of an earthquake	11/28/2022	11/9/2022
Minor	no	ARCF	B141B	Expired ethanol and Vet Bond should be discarded or marked 'Expired, not for use in live animals'	11/28/2022	10/27/2022
Minor	no	ARCF	B141D	CO2 Euthanasia signage is dated 2018. New AVMA guidelines came out in 2020. Signage needs to be updated to current version.	11/28/2022	11/21/2022
Minor	no	ARCF	B141D	B141D: Expired Clidox in euthanasia hood. Discard.	11/28/2022	10/27/2022
Minor	no	ARCF	B245	Sevoflurane vaporizer hasn't been calibrated recently since it isn't in use. Place a sign on the vaporizer saying not to use until it is re-calibrated.	11/28/2022	11/28/2022
Minor	no	LSB	B116	The cages inside the acoustic chambers appear rusty. Surfaces that come in direct contact with animals need to be able to be sanitized effectively and rust is considered non-sanitizable. Please replace or re-seal the rusty surfaces.	11/30/2022	11/30/2022
Minor	no	ARCF	B151C	Expired food and napa nectar in space. Discard.	11/30/2022	11/30/2022
Minor	no	ARCF	B151E	There is a small fridge in this space that was described as for animal carcasses. However, there was no label to indicate that the fridge was	11/30/2022	11/1/2022

				for dead animals. Add label.		
Minor	no	Guthrie	354A	Fume hood has not had an inspection since September 2021. Request EH&S perform an annual check.	12/1/2022	12/1/2022
Minor	no	Guthrie	354D	Space for mostly storage now, but it is rather untidy and likely not well-suited to animal use at this time. If it will not be used for animals, remove from the protocol. Otherwise clean up the space.	12/1/2022	11/2/2022

Appendix C Departures

Prolonged restraint

Active protocols with approved prolonged restraint are as follows:

- Wild bats, held in cloth bags for transport – 2 protocols
- Farm Pigs, suspended in a sling to change dressings – 2 protocols
- Wild Birds, held and hooded for transport or equipment attachment – 5 protocols
- Wild fish, captured in gill or tow nets – 3 protocols
- Zebrafish, glued to glass coverslip or held in matrix for imaging – 3 protocols
- Mice, held in tubes for various procedures – 19
- Mice, held by head restraints – 9 protocols
- Nonhuman primates, held in chairs, tubes, and cloth jackets – 17 protocols

Housing at Non-standard Temperature

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

- Zebrafish following human cell transplantation or for heat-shock gene activation – 3 protocols
- Mice and Rats housed under cold stress or at thermo-neutral temperatures during metabolic experiments – 8 mice protocols, 1 rat protocol, 1 mice and rat protocol

Others

- 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 15" to 20" 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 has 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.
- The IACUC has approved a L shaped housing variance combining cages together in configurations that provide increased vertical space for the animals and more than standard floor space but with part of the space <36 inches (but at least 32 inches) high. This will offer more choice in housing configurations to encourage species-typical behavior such as locomotion and exploration.
- The IACUC has approved scattering food on the floor of NHP housing compounds to minimize contamination and ensure access to food and foraging opportunities for all animals.
- The IACUC has approved to allow for 28 day cage changes for singly housed gerbils.

Appendix D IACUC Program Review

The Animal Care and Use Program was found to be acceptable with no suggestions for improvement.

Disaster Planning and Emergency Preparedness was found to be acceptable

It is noted that significant progress has been made by OAW over the past year to ensure that disaster plans are in place for lab-managed spaces. During outreach efforts, OAW staff provided animal users with APHIS form 7093 Contingency Planning Program for use as an optional template.

IACUC site visitors are encouraged to ask about contingency/disaster plans during site visits.

Suggestion for improvement: Additional training for IACUC members regarding what should be included in a contingency plan, and what questions to ask on site visits.

IACUC: This section was found to be acceptable.

The group feels that we have a strong, multifaceted, interdepartmental program for Post-Approval Monitoring. However, this program is not formalized or documented in a clear, concise manner. It is recommended that there be consideration of the formalization of the PAM program to ensure we capture everything we already do.

The group unanimously felt that the animal training program is robust and complete, but struggled with establishing metrics to evaluate the effectiveness of the program and did consider that, although there is confidence in the program, the committee as a whole may wish to seek more frequent and regular updates. After discussion, it was learned that several changes are in process that may be beneficial in this goal – in particular, course evaluations have been revised and implemented for all required basic training that assess both the content of course and the presentation of the materials. The training department is also creating an evaluation to be sent several months after the course to determine if trainees have additional feedback after beginning their animal work. This information could serve as a direct method to assess training effectiveness from the trainee-perspective. In addition, the committee already does, and should continue to, monitor non-compliances and adverse events as an indirect method of assessing the effectiveness of the training program.

IACUC Protocol Review was found to be acceptable.

The group noted that the official checklist refers to written records for food or fluid restricted animals, even though electronic versions of those these records are now common. There is currently a Special Note at the bottom of all IACUC Site Visit Schedules reminding visitors to check Food/Fluid restriction logs and this should continue. Research teams that maintain electronic logs should make them readily accessible to site visitors. It is recommended that the check list related to logs for food or fluid restricted animals be updated to indicate written or electronic logs should be made available to site visitors. If no written or electronic logs are available, this should be noted as a deficiency on the site visit report.

IACUC Membership and Functions were found to be acceptable.

IACUC Training was found to be acceptable.

The group reached out to new committee members and it was reported that each of them felt that their initial onboarding was complete and mentors were made available for their ongoing learning. As such, it felt that our training program met all requirements and was 'Acceptable' for the purposes of this review. However, in discussion with longer term members, there does seem to be a desire for even more learning opportunities. At the last program review, it was recommended that we consider enhancing the training program for IACUC members to include things like mock protocol review and mock site visit inspections. We have recreated a room for mock site visits which will be "open" beginning in January for all IACUC members and will be an ongoing part of IACUC member training. The development of mock protocol review sessions for interested members is encouraged. In addition, some members feel it would be helpful to have more guided, specific discussions

regarding the existing policies and more information about pertinent regulations. The incorporation of these types of training exercises as appropriate is recommended. The continued support/involvement of workshops and conferences such as NWABR and other IACUC trainings/webinars for interested members is also encouraged.

IACUC Records and Reporting Requirements was found to be acceptable

Veterinary Care was found to be acceptable with one exception noted below

A minor deficiency was found in the following: "Anesthetics and analgesics are acquired, stored, and their use and disposal are recorded legally and safely." Overall, the veterinary care program at the University of Washington offers exemplary care of research animals including robust clinical management, preventative medicine, and training programs. The minor deficiency in the category listed above stems from findings during IACUC inspections that took place on the Seattle campus. There were several instances of deficiencies noted in how investigators are maintaining and logging anesthetic drugs. This is mostly noted in solutions where anesthetics have been mixed and/or diluted and are not being properly labelled with their new expiration dates. While we recognize that these incidents are isolated to specific labs, we believe that the institution could implement better training to investigators who maintain their own anesthetic drugs.

Personnel Qualifications and Training was found to be acceptable.

Prior recommendations related to the development of lab-specific and/or species-specific checklists or trainings for facility inspections are reviewed and endorsed.

Prior recommendations related to improvements of IACUC training are reviewed and endorsed, including potential return of Mock IACUC facility inspections and other such peer-learning opportunities.

Regular IACUC training opportunities at convened during meetings and are endorsed.

As previously discussed, a mentor or buddy system for protocol review may be beneficial for new members and is currently endorsed.

The importance of promoting involvement of more IACUC members in protocol review and Designated Member Review has been discussed previously and is endorsed

As noted on the previous semi-annual program review, additional methods, or metrics for determining impact and effectiveness of training across the program may be beneficial in evaluating this aspect of the program. Consider IACUC pulse surveys.

Occupational Health & Safety of Personnel was found to be acceptable.

Prior recommendations related to OHS of personnel has been reviewed and endorsed, No suggestions for improvement.

Personnel training is provided based on risk (e.g., zoonoses, hazards, personal hygiene, special precautions, animal allergies)

Occupational safety and health of field studies is reviewed by OSH committee or office

Special precautions for personnel who work with nonhuman primates, has been reviewed and endorsed

Personal Protective Equipment for the work area is appropriate and available

Committee addition to item 10: "Mental wellness support is available to all personnel, including regular screening and resources (e.g., occupational health screen, UW CareLink, Dare2Care Program). Resources are available to both internal and external personnel associated with the animal care and use program."

Personnel Security: Acceptable. No recommendations for improvement.

Investigating Animal Welfare and Concerns: Acceptable. No recommendations for improvement.

Concurrence Letters

Concurrence Image – M.B. |

Concurrence Image – K.G. |

Concurrence Image – G.S. |

Concurrence Image – J.M. |

Concurrence Image – S.P. |

Concurrence Image – A.W. |

Concurrence Image – Jane Sullivan |

Concurrence Image – J.P.V.H. |

Concurrence Image – J.F.I. |

Concurrence Image – S.H.H. |

Concurrence Image – G.L. |

Concurrence Image – E.S. |

Concurrence Image – M.K. |

Concurrence Image – M.S. |

Minority Views

None

