

Quorum Requirement = 10

Animal Care & Use Committee  
May 20, 2021

**Members Present:**

[REDACTED]

**Members Absent:**

[REDACTED]

**Guests Present:**

[REDACTED] Administrative Assistant, \*Denise Yee, Research Compliance Staff; \*\*Ms. Diana Talerico Blanco, Program Manager, Animal Welfare and Biosafety Programs  
\*In person, \*\*via teleconference

**A. Call to Order**

A quorum of members was present when the IACUC meeting was called to order by Chairman Dr. Axel T. Lehrer, in the Office of Research Services Honu Conference Room via teleconference at 1:36 PM. The first order of business was the approval of the April 15, 2021 IACUC meeting notes. The committee unanimously voted to approve the meeting notes.

**B. New Business:**

**1. Semiannual Facility Inspections**

The committee approved the subcommittee reports for the following facilities:

- National Wildlife Research Center - Hilo
- QMC Center for Biomedical Research
- Mari's Garden
- Hawaii Institute of Marine Biology
- Waimanalo Research Station Lizard Behavior Project
- Waimanalo Research Station Aquaponics Project

A majority of members voted for approval, disapproval, or abstention. No minority opinions were noted or filed as of this meeting.

**C. Old Business: None**

**D. Other Business:**

**1. Veterinary Report:**

**a. Veterinary Inspections**

- **Aquaculture Technologies of the Marshall Islands (Virtual Inspection)** – all staff have completed training. No other concerns.

- **USDA NWRC (Virtual Inspection) – 1)** Post emergency contact information prior to start of the project; **2)** complete written documentation of UHH staff's rat handling proficiency before working independently; **3)** UHH staff compliant with enrolling in OHSP.
- **Waimanalo Research Station Aquaponics and Lizard Behavior Projects – no concerns**
- **Hawaii Institute of Marine Biology - no concerns**
- b. Veterinary Cases**
  - A newborn calf was injured by its mother, incurring a broken leg (reported on 5/3/2021). The veterinarian that examined the leg advised that it may heal on its own. The facility staff have been bottle feeding the calf and reported (5/19/2021) he is moving about the pen on his own and starting to put a little weight on the leg.
- c. Transfer of Waikiki Aquarium (WAQ) Hawaiian Monk Seal (HMS)**
  - The HMS Hoa will remain at the WAQ until transfer to UCSC the week of August 20, 2021 or sooner pending HDOA approval to return a HMS currently at UCSC back to Hawaii. Hoa will be temporarily relocated to a pool in the back of the WAQ once the plumbing has been fixed and tested. A temporary monk seal trainer has been hired.
- d. AVS**
  - 1. Incidents (2)**
    - A mouse cage at Kaka'ako was found without a water bottle. The mother died but seven (7) weanlings survived. The water bottles had been changed on 4/15/21 and the incident was not discovered until 4/18/21. The AVS staff was reminded during their staff meeting on 5/14/21 to carefully check the cages to prevent this type of mistake. Double checks of all cages are ongoing Mondays through Fridays at Kaka'ako.
    - AVS staff discovered live mouse pups in a bag in IBR. A PI had euthanized the pups with CO<sub>2</sub> for 30 minutes and thought the pups were dead. After being discovered the pups were humanely euthanized by decapitation. The AVS veterinarian reminded the PI that decapitation, not CO<sub>2</sub>, is the appropriate euthanasia method for pups less than 10 days of age. Additionally, the PI was reminded to follow the euthanasia method listed in his protocol.
  - 2. Cagewash**
    - The Manoa cagewash has been down for most of 2021. On the average it is down 3 months per year. During these times the cages are handwashed. About 400-500 water bottles were transported to Kaka'ako for washing. Technicians have fixed the immediate problems so the cagewash is functional. A more permanent fix is pending with the vendor Techniplast in July 2021.
  - 3. Kaka'ako Animal Waste Dumpster and Sprinkler Vandalized**
    - A Kaka'ako animal waste dumpster and a nearby sprinkler were vandalized on 4/26/21 and was reported to a Kaka'ako administrator. The UH Dept. of Public Safety will conduct property checks more frequently.

**e. IACUC 101**

- The committee was reminded of the upcoming IACUC 101 training on June 21 and 22 from 8 AM to noon each day. A final program will be forwarded when the agenda is confirmed.

**2. Feral Cat Policy**

- a. The committee discussed options for a campus policy for privately owned animals including feral cats:
  - Unauthorized animals should not be allowed on facility sites used for IACUC approved vertebrate animal research, teaching, and management activities, unless IACUC approval is received.
  - If animals are used as working animals on facility sites approved for UH IACUC activities, they should conform to guidance documents, such as, but not limited to the *Guide for the Care and Use of Agricultural Animals in Agriculture Research and Teaching* (most current version). The 4<sup>th</sup> Edition of the *Guide* does not allow the use of cats for vermin control.
  - Amend the UH Animal Welfare Assurance to exclude activities using privately owned animals not in conjunction with research, testing/experimentation, or teaching/instruction, e.g. participation in colony management in conjunction with the UHM Feral Cat Management Program, Pet Therapy, Service Animals, UH supported Clubs on Campus for non-invasive, non-painful teaching observations or demonstrations. These activities would not require an approved UH IACUC protocol.
  - Refer to the UH IBC Working Policy on Service Animals in Facilities Overseen by the IBC.

Options for the feral cats residing at the UHH Agricultural Farm:

- Remove the cats from the farm, feed them outside of the farm gates.
- Keep the cats on the farm but feed them away from the animal barns.
- Add cats to a protocol as pets and require veterinary care.

Further discussion to follow review of a draft policy that will be distributed prior to the next meeting.

**3. Fish Advisory Committee (FAC) Update – Tabled**

**E. Review of New Protocols, Renewals, and Revisions:**

**Description of Protocols – Full Approval**

02-023-19 [3518], 04-049-18 [3362], 05-066-15 [3630], 06-067-13 [3624], 07-024-14 [3375], 10-1016-10 [3377], 12-1519-8 [3058], 14-1702-6 [2991], 14-1908-8 [3373], 16-2375-6 [3117], 16-2449-5 [3196], 17-2605-5 [3292], 17-2616-5 [3360], 17-2733-4 [3619], 18-2862-4 [3616], 18-3036-3 [3614], 19-3128-2 [3615], 19-3175-3 [3175], 20-3148-2 [3148], 20-3365-2 [3365], 21-3499 [3499], 21-3569 [3569] and 21-3606 [3606] were granted full approval.

02-023-19 [3518] (Amendment) Application Title – “*Captive Husbandry and Biological Research Protocols for the Hawaiian Monk Seal*”. Vertebrate species – Hawaiian Monk Seal. Project Description – Amendment to temporarily relocate the resident monk seal to a holding tank at the aquarium during renovations and/or prior to relocating the monk seal to UC Santa Cruz for participation in

**E. Review of New Protocols, Renewals, and Revisions:**

a research project. The Waikiki Aquarium's enhancement programs for its captive Hawaiian monk seal increases public awareness of the status of the Hawaiian monk seal through a variety of educational programs; and also includes a training program for voluntary husbandry and veterinary procedures. **No discussion.**

**04-049-18 [3362]** (Annual Renewal) Application Title – *"Function of Sperm DNA Structure"*. **Vertebrate species** – Mice. **Project Description** - Continuation of a project to identify the function of the sperm DNA structure, how its folded and how it unfolds after fertilization. **No discussion.**

**05-066-15 [3630]** (Full Renewal) Application Title - *"Breeding Protocol to Expand Mouse Colony"*. **Vertebrate species** – Mice. **Project Description** – Continuation of a project to transport newly available transgenic animals from vendors and institutions to JABSOM in order to establish new breeding colonies. **No discussion.**

**06-067-13 [3624]** (New-Previously Expired) Application Title - *"Animal Physiology Laboratory, Zoology 430L"*. **Vertebrate species** – Toads. **Project Description** – Continuation of a protocol that covers the upper division undergraduate course Zoology 430L. **No discussion.**

**07-024-14 [3375]** (Annual Renewal) Application Title - *"Mauna Kea Forest Restoration"*. **Vertebrate Species** – Rat, cat, mongoose. **Project Description** – Continuation of a project that assists in the recovery of endangered palila by reducing the threat from introduced predators. **No discussion.**

**10-1016-10 [3377]** (Amendment) Application Title - *"Tissue Calcification in Association with Genetic Disorder"*. **Vertebrate species** – Mice. **Project Description** – Amendment to measure levels of pyrophosphate and phosphate in the plasma and urine of C57BL/6J and Abcc6<sup>-/-</sup> mice treated with potassium pyrophosphate and lysine pyrophosphate and controls. This project studies the role of altered expression or mutations in a gene (ABCC6) which has been linked to calcification in certain diseases such as *pseudoxanthoma elasticum* and dystrophic calcification after injury to the heart. **No discussion.**

**12-1519-8 [3058]** (Annual Renewal) Application Title - *"Kure Atoll (Moku Papapa) Ecological Research Field Station Project"*. **Vertebrate species** – Monk seals and birds. **Project Description** - Continuation of the Kure Atoll Ecological Research Field Station Project to conduct comprehensive wildlife habitat restoration and natural resource management that supports management actions needed to protect and maintain ecosystem function. **No discussion.**

**14-1702-6 [2991]** (Annual Renewal) Application Title – *"Ocean Acidification: Coral Reef Adaptation and Acclimatization to Global Change: Resilience to Hotter, More Acidic Oceans (NSF #1416889)"*. **Vertebrate Species** – Fish. **Project Description** – Continuation of a project to explore biologically diverse, replicated coral reef aquariums to different levels of temperature and pH and examine the responses of organisms and the ecosystem as a whole to the temperature and pH treatments. **No discussion.**

**14-1908-8 [3373]** (Annual Renewal) Application Title - *"Maui Bird Predator Control"*. **Vertebrate Species** – Cats, rats, mongoose. **Project Description** – Continuation of a project that assists in the recovery of endangered and threatened birds by reducing the threat from introduced predators. **No discussion.**

**16-2375-6 [3117]** (Annual Renewal) Application Title – *"Tissue Specific Effects of Various Selenoprotein Knockout Models"*. **Vertebrate Species** – Mice. **Project Description** – Continuation of a project that investigates how the loss of selenoproteins in specific tissues may or may not affect the development of metabolic syndrome, diabetes and obesity. **No discussion.**

**16-2449-5 [3196]** (Amendment) Application Title – *"COBRE-DIABETES - Impact of Modulated Exocyst Activity on GLUT4 Trafficking in Metabolic Tissues"*. **Vertebrate species** – Mice. **Project**

**E. Review of New Protocols, Renewals, and Revisions:**

**Description** – Amendment to add a langendoff procedure under TBE anesthesia on a project that studies the consequences of disruption of the Sec10 gene, which makes a protein important for trafficking within the cells. This project will reveal crucial mechanisms leading to the development of type-2 diabetes.

**Discussion** – The protocol will be edited to correct the room number of the lab

**17-2605-6 [3292]** (Annual Renewal) Application Title – *"Analysis of Female Reproductive Tract Functions"*. **Vertebrate Species** – Chickens. **Project Description** – Continuation of a project that studies the effects of nutrition and environmental heat stress on reproductive outcome of laying hens. **No discussion.**

**17-2616-5 [3360]** (Annual Renewal) Application Title – *"Dietary Selenium Interventions in Mouse Models of Obesity and Diabetes"*. **Vertebrate Species** – Mice. **Project Description** – Continuation of a project that investigates the role of dietary selenium, its metabolism and selenoproteins in energy metabolism, glucose homeostasis and endocrine physiology in mice. **No discussion.**

**17-2733-4 [3619]** (Full Renewal) Application Title – *"Nesting Success and Habitat Use of Hawaiian Waterbirds"*. **Vertebrate Species** – Birds. **Project Description** – Continuation of a project that studies the impact of predation and flooding on Hawaiian stilt nesting success, as well as diet and impacts to fledging success. Diet and foraging behavior are studied for the black-crowned night herons. **No discussion.**

**18-2862-4 [3616]** (Full Renewal) Application Title – *"Long-term Seabird Monitoring"*. **Vertebrate species** – Birds. **Project Description** – Continuation of a study that evaluates the impact of human disturbance (lights, trampling, other human impacts) on nesting success in seabirds. Results of the study are used to improve threat abatement for seabirds. **No discussion.**

**18-3036-3 [3614]** (Significant Revision/Renewal) Application Title – *"Kauai Goat Extension Demonstration, Outreach, and Applied Research"*. **Vertebrate species** – Goats. **Project Description** – Significant revision to change the PI for a project that continues to maintain a breeding and finishing herd of meat goats for outreach and teaching programs for new small ruminant producers. The herd is also used for training 4-H youth and available for applied research to meet industry needs. **No discussion.**

**19-3128-2 [3616]** (New – Previously Expired) Application Title – *"Lizard Sampling and Collections Methods"*. **Vertebrate species** – Lizards. **Project Description** – This new project seeks to identify the source and introduction pathways of two lizard species to Hawai'i and gain insight into the adaptive evolutionary response of lizards introduced to Hawai'i. **No discussion.**

**19-3175-3 [3176]** (Annual Renewal) Application Title – *"Nutritional Reprogramming for the Improvement of Transgenerational Obesity"*. **Vertebrate species** – Mice. **Project Description** – Continuation of a project that studies the development of dietary fiber-based interventions to treat or prevent transgenerational obesity in humans, to test the hypothesis whether dietary supplementation of oat  $\beta$ -glucan (OBG) and konjac glucomannan (KGM) will improve the obesity-related parameters. **No discussion.**

**20-3148-2 [3148]** (Annual Renewal) Application Title – *"Modified Diet in Monogenic Mouse Models of Inflammatory Bowel Disease"*. **Vertebrate Species** – Mice. **Project Description** – Continuation of a study to better understand how one defective gene (called Hnf4a) leads to Inflammatory Bowel Disease (IBD), and to determine if changes in diet relieve inflammation due to the loss of this gene. **No discussion.**

**20-3365-2 [3365]** (Annual Renewal) Application Title – *"The Effect of Fibroblast Ablation on Airway Remodeling and Inflammation in Murine Asthma"*. **Vertebrate species** – Mouse. **Project Description** – Continuation of a project that establishes two murine models of allergic airway disease to determine the effect of fibroblast ablation on airway remodeling and inflammation. **No discussion.**

**E. Review of New Protocols, Renewals, and Revisions:**

**21-3499 [3499]** (Amendment) Application Title – “*Diabetic Heart Failure and Cardioprotection by Parasympathetic Neuron Activation*”. **Vertebrate species** – Rats. **Project Description** – Amendment to add several procedures to a project that investigates a new therapy targeting the autonomic nerves to learn, on a cellular and genetic level, how it helps improve cardiac function and restore insulin sensitivity in patients with type 2 diabetes. **No discussion.**

**21-3569 [3569]** (New) Application Title – “*East Maui Stream Survey Support – Year 3*”. **Vertebrate species** – Fish. **Project Description** – This new project for current freshwater species data collection helps to provide the research needed for the water commission to set sustainable standards that will not compromise the health of native stream life. **No discussion.**

**21-3606 [3606]** (New) Application Title – “*Examining Rainfall as a Migratory Cue for Oopu Nakea (Hawaiian Goby; *Awaous stamineus*)*”. **Vertebrate species** – Fish. **Project Description** – This new project examines rainfall as a migratory cue by oopu nakea larvae for recruitment back to freshwater. **No discussion.**

**IACUC Vote** – unanimous vote for 02-023-19 [3518], 05-066-15 [3630], 06-067-13 [3624], 07-024-14 [3375], 10-1016-10 [3377], 12-1519-8 [3058], 14-1702-6 [2991], 14-1908-8 [3373], 16-2375-6 [3117], 16-2449-5 [3196], 17-2605-5 [3292], 17-2733-4 [3619], 18-2862-4 [3616], 19-3128-2 [3615], 19-3175-3 [3175], 20-3148-2 [3148], 20-3365-2 [3365], 21-3499 [3499], 21-3569 [3569] and 21-3606 [3606].

- Majority vote for 04-049-18 [3362]. Member N abstained. Member N is related to the PI.
- Majority vote for 17-2616-5 [3360]. Member A abstained. Member A is related to the PI.
- Majority vote for 18-3036-3 [3614]. Member J abstained. Member J is an associate on the protocol.

**Description of Protocols - Not Approved until Additional Information or Clarification is Provided:**

**11-1141-11 [3374], 13-1636-9 [3145], 17-2640-3 [2640] and 20-3376-2 [3376]** were not approved until additional information or clarification is provided.

**11-1141-11 [3374]** (Annual Renewal) Application Title - “*Big Island Wildlife Action Plan*”. **Vertebrate Species** – Goat, deer, sheep, small mammals, and reptiles. **Project Description** – Continuation of a project working with partners at the Mauna Kea Forest Reserve, Puu Waawaa Forest Bird Sanctuary and greater Ahupuaa, Puu Mali, and key dryland and wetland areas, to continue habitat recovery efforts on Hawaii. **Discussion** – To be more consistent, the committee requested additional information on the air rifles used to euthanize small mammals.

**A. Section 12 X. Euthanasia. #12.1.2.1.12.1 Type of Firearm.**

- Provide specific information about the type of air rifle used to for euthanizing small mammals on this protocol:
  - Brand and model.
  - Caliber and weight of ammunition used.
  - Ballistics information such as muzzle velocity and foot pounds of force generated.

**IACUC Vote** – Unanimous vote for nonapproval.



**E. Review of New Protocols, Renewals, and Revisions:**

**13-1636-9 [3145]** (Annual Renewal) Application Title – *"Ko'olau Mountains Watershed Partnership"*. **Vertebrate Species** – Goats, pigs. **Project Description** – Continuation of a project to reduce the ungulate population in the Ko'olau Mountains Watershed and work with landowners to determine the best management strategies for future ecosystem conservation. **Discussion** – the protocol was not approved because recertification training for one project personnel has not been completed.

**A. Section II. Personnel Qualifications.**

**1. Review of Regulations.**

- One project staff members is required to complete the CITI training module, *"Refresher Course for Investigators Conducting Research With Lab Animals"*.

IACUC Vote – Unanimous vote for nonapproval

**17-2640-3 [2640]** (Amendment) Application Title – *"Predator Control at Pacific Missile Range Facility on Kauai"*. **Vertebrate Species** – Rats and cats. **Project Description** – Amendment to use air rifles for euthanasia of swine. This project seeks to eliminate or significantly reduce the number of alien predators (primarily cats and rats) living in the vicinity of a federally listed seabirds at the Pacific Missile Range Facility on Kauai. **Discussion** – The protocol was not approved because more information is needed to verify that criteria for humane euthanasia using air rifles is the same for regular firearms.

**A. Section 12 X. Euthanasia. #12.1.2.1.12.1 Type of Firearm.**

- Provide more specific information about the type of air rifles currently used (22 caliber) and those proposed for use (50 caliber):
  - Brand/model, caliber and weight of ammunition and ballistics information (muzzle velocity, foot pounds of force generated).
  - Provide references that describe acceptable use of air rifles to dispatch swine

IACUC Vote – Unanimous vote for nonapproval.

**20-3376-2 [3376]** (Annual Renewal) Application Title – *"Maui Nui Nene Predator Control"*. **Vertebrate species** – Rat, Cat, Dog, Mongoose, Birds. **Project Description** – Continuation of a project to assist in the recovery of Hawaiian goose (Nene, *Branta sandvicensis*), a protected bird species in Hawai'i under Federal and State law. It involves research on the recovery of Nene through predator control and habitat management at the Nene recovery pen on private land near Makawa. Ultimately, this project will assist in the recovery of the Nene throughout Maui County. **Discussion** - To be more consistent, the committee requested additional information on the air rifle used to euthanize small mammals and birds.

**A. Section 12 X. Euthanasia. #12.1.2.1.12.1 Type of Firearm.**

- Provide specific information about the type of air rifle used to for euthanizing cats and cattle egrets on this protocol:
  - Brand and model.
  - Caliber and weight of ammunition used.

**E. Review of New Protocols, Renewals, and Revisions:**

- Ballistics specific information such as muzzle velocity and foot pounds of force generated.

IACUC Vote – Unanimous vote for nonapproval.

**F. Previously Reviewed Protocols and Project Personnel Changes - Approved**

Approved protocols – None

Approved Personnel Changes – 06-032-15 [2986], 18-2763-4 [3453] and 18-2782-4 [3538]

Approved protocols (DMR approved) – 12-1399-8 [3131] and 19-3200-2 [3200]

Approved protocols (VVC approved) – None

**G. Adjournment:** The meeting was adjourned at 3:15 PM.

**LEGEND**

Approved - research or training/teaching can begin or continue.

Not Approved - research or training/teaching cannot begin until additional information or clarification required by the committee is reviewed and approved by the chairperson.

Deferred - research or training/teaching cannot begin as the protocol has serious defects that require significant justification and review by the full committee.

**IACUC Decision on Reviewed Protocols May 20, 2021**

Approval	Not Approved	Deferral	Withdrawn	Tabled
23	4	0	0	0