FHL SOP: a guide to using vertebrates in research at Friday Harbor Laboratories

Submitting a protocol for approval

The use of fish or other vertebrates at FHL is supervised by the University of Washington Institutional Animal Care and Use Committee (aka IACUC). This body must approve and oversee any vertebrate research. The approval process may take more than a month to complete, so it is essential for you as a researcher to submit your Protocol to the committee far in advance of your intended arrival at FHL. Go to the Animal Welfare web site at http://depts.washington.edu/oawhome/forms/to obtain application forms and basic information. Specific questions may be addressed to Dr. Nona Philips, UW Director of Animal Welfare.

IACUC requires that the Principal Investigator of any Protocol conducted at FHL be a faculty member of the University of Washington. If you are a visiting scientist from an outside institution you may choose to collaborate with a UW faculty member. If you have no familiarity with UW faculty, contact the FHL Animal Welfare Liaison, Pema Kitaeff, who will assist you in finding a faculty member willing to serve as your nominal PI.

The collection of fishes in the San Juan Islands is permitted under the aegis of the Director of Friday Harbor Laboratories. Pema Kitaeff can advise you on collecting procedures. If you intend to collect outside of this geographic area or if you are having fish sent to you from an outside source, you will need permits from the Washington Department of Fish and Wildlife. See our website for information regarding these permits, or contact Dr. Adam Summers, resident scientist. (see Contacts, below)

Before you arrive

In addition to submitting a Protocol for approval (above), you can prepare for you visit in a number of ways.

1. Go to http://depts.washington.edu/oawhome/forms/ and
submit an Animal Use Medical Screening Form. Notice that you may choose to not participate in the program.

2. Your approved protocol will include recommendations and requirements from the UW Occupational Health Nurse. Insure that all your colleagues and technicians or students fully understand these requirements. (They may be quizzed by IACUC inspectors during your stay.) If you are proscribed to use safety equipment (e.g., surgical gloves, lab coats) make sure that they are readily available from the FHL Stockroom, or bring them with you. Any required immunizations (e.g., if the Nurse requires a tetanus shot) should be obtained before your arrival, although there are two medical clinics and a Public Health Office in Friday Harbor.

3. All staff/students who will be handling vertebrates must successfully complete the on-line Animal Care training exam. Go to http://depts.washington.edu/auts/index.html. Select on "Online Courses," click on "Animal Use Laws and Regulations Training Course (PDF) to review this information." (Only exam chapters 1-13 and 25-27 are required for fish work.) Afterwards, click on the "Animal Use Laws and Regulations Training Exam," enter your contact information and take the exam. Once you have correctly answered all questions (required score of 100%) you will be emailed a confirmation of completion.

4. You may be able to take the UW Decentralized Facility Training in advance of your arrival, if you normally work on the Seattle Campus of UW. This class is offered by Dr. George Sanders, UW Veterinarian as demand warrants. If you cannot take this class prior to you arrival, please make arrangements through Pema Kitaeff to set up a class at FHL as soon as practical after your arrival.

5. Determine your lab assignment from our Facilities Coordinator, Bernadette Holthuis (holthuis@uw.edu). If this space has not been used for fish research in the past, the area will need to be inspected. Any such inspection requires coordination with the Seattle IACUC staff, and may cause delay. Lab benches and tanks in Labs 5 and 8 are routinely used in fish research and do not require further approval.

6. If collecting from within the research preserves of San Juan County, you must obtain permission from Megan Dethier, Associate Director of FHL.
Before you begin your research

Most visiting scientists must wait until they arrive to take the UW Decentralized Facility Training. This requires a visit by Dr. George Sanders from our Seattle campus, and is usually arranged for the first week of classes during those quarters when fish-related courses are being taught at FHL. Dr. Sanders will also train personnel in proper euthanasia techniques, if required by your protocol.

You must post an IACUC “tank card” on each tank that you intend to use in your research, or on the outer door of your room, if all tanks in a given room are under the same protocol. Below find a sample card, which you can modify as appropriate:

<table>
<thead>
<tr>
<th>Animal Care Cage/Tank Card</th>
<th>Friday Harbor Laboratories, University of Washington</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species/Stock:</td>
<td></td>
</tr>
<tr>
<td>Source:</td>
<td></td>
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<tr>
<td>Dates of use:</td>
<td></td>
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<tr>
<td>Protocol Number:</td>
<td></td>
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<tr>
<td>Notes:</td>
<td></td>
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</tbody>
</table>

___________________________________________________________

Responsible Investigator:

Method of Contact:

Back-up contact: Pema Kitaeff, 206-543-0876 or pema@uw.edu

ref: Guide to the Care and Use of Laboratory Animals, via D. Taylor, IACUC, 11 October 2002

Insure that a copy of your Protocol (with experimental SOPs) is available in your lab space where the vertebrates are to be kept.
Establish an Animal Care Log. This should be a loose-leaf with log sheets using the following format:

**ANIMAL AND ROOM CARE LOG**
*Fish (Single Pass/Flow Through) - Friday Harbor Labs*
*University of Washington*

**Decentralized Program Coordinator**
Phone: (206) 221-2396
Email: kerrik2@u.washington.edu

**Veterinary Services**
Phone: (206) 543-6257
Email: vs6floor@u.washington.edu

Room #: 
Investigator: 
Contact Person: 
Species: 
Facility: 
Phone #: 
Protocol #: 

**TASKS:**
<table>
<thead>
<tr>
<th>Animal Health / Behavior Check (daily)</th>
<th>MON</th>
<th>TUE</th>
<th>WED</th>
<th>THU</th>
<th>FRI</th>
<th>SAT</th>
<th>SUN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check and Record Water Flow Rate (daily)</td>
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<tr>
<td>Change Out / Clean Tanks (as necessary)</td>
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<tr>
<td>Sanitize tank with hot water when emptied</td>
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<tr>
<td>Disinfect Tank Accessories with hot water (after every use)</td>
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<tr>
<td>Disinfect Food Production Accessories (after production cycle)</td>
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<tr>
<td>Clean / Disinfect Area - (weekly)</td>
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<tr>
<td>Rinse with hot water and squeegee to drain</td>
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<td>Remove Standing Water (as necessary)</td>
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<tr>
<td>Clean / Disinfect Shelves - (weekly)</td>
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<td>Record Animal Mortality (number)</td>
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<td>Tank I.D. (update as necessary)</td>
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</tbody>
</table>

*Note that hot tap water is used as the disinfectant.*

**Check Environmental Controls:**
| Light/Dark cycle appropriate? |     |     |     |     |
| Reset High / Low Digital Thermometer (daily) |     |     |     |     |

**Technician (Initial)**
Time Completed

**Supervisor (Initial)**
Time Reviewed

As you complete a task, please place a check mark in the box corresponding to the day the task was completed. Please initial time completed at the bottom where indicated. Enter temperatures, and dead animals daily. Call Veterinary Services to examine any sick animals.

**Comments:**

Week Beginning Monday: 

GS & CPS, 25 Sep 2009

Note: this log must be retained for 6 years
In a similar manner, establish a Dead Animal Log. This is to record fish that may die from causes other than planned euthanasia as specified in your protocol.

Use the following format:

<table>
<thead>
<tr>
<th>DATE</th>
<th>PI</th>
<th>ANIMAL IDENTIFICATION / LOCATION</th>
<th>SURGERY / EXP</th>
<th>FOUND BY</th>
<th>COMMENTS</th>
</tr>
</thead>
</table>

* Did the animal have SURGERY or was it EXPERIMENTALLY USED? (YES OR NO)

**While conducting your research**

If sick fish are discovered, contact UW Veterinary Services for guidance. They will be able to contact UW Veterinarian Dr. George Sanders. Often this will require prompt euthanasia using methods outlined in your approved protocol.

Maintain a daily log of animal health and care. Besides a visual check of fish condition, the most useful parameter to measure is water temperature. The seawater system at FHL brings a constant supply of seawater to each lab building, pumped directly from the mouth of the harbor at a depth of about 15 feet. In this open circulation system, temperature is the best indicator of proper water flow. You may be able to take advantage of the remote temperature sensors (now deployed in Labs 6 and 8). These sensors can initiate an email to designated users when the water temperature reaches a critical threshold. A daily manual check of temperature should be sufficient. Also check whether the flow of seawater to each tank is adequate. Log this information along with fish condition, feeding, and other parameters in your Animal Care Log.
At the end of each month fill out a Population and Mortality Report for each room or lab where you are holding fish, using the following format:

******************************************************************************
CONTACT NAME / PHONE #:
PROTOCOL #:
BUILDING / ROOM #(S):
P.I.:
SPECIES:
TOTAL # OF ANIMALS HELD: (list multiple species separately)
TOTAL # OF NEW ANIMALS ACQUIRED:
SOURCE(S):
# OF DEATHS:
POSSIBLE CAUSE OF DEATH(S):
******************************************************************************

The total population for each room should be the highest number of animals held during the month. Please include any details you have regarding unexpected deaths. Send this information to Pema Kitaeff, who will summarize the data for Friday Harbor Labs and report to UW Veterinarian Technologist Gary Fye.

Chemical disinfectants are not appropriate for use in most FHL seatables and holding tanks, because other research involving sensitive invertebrate larvae may be jeopardized. Routine disinfecting can be performed by using hot tap water. Separate dip nets for each tank or procedure can minimize cross-contamination.

If your fish are of a type that is prone to jumping, fabricate and install a plastic mesh cover (from Stockroom or local hardware store) over your tanks. Outdoor tanks should be screened from raccoon activity when warranted. When transporting fish, they should be carried in a covered cooler or container.

Deal with sharps in accordance with FHL policy. Embed razor blades or scalpels in a piece of styrofoam while they are sitting on open counters. Insure that a red plastic Sharps container is located in your lab (available from the Stockroom). This is used for METAL sharps only (e.g., razor blades and syringes). DO NOT RECAP syringes before disposal in this container. GLASS sharps should be placed in a cardboard box which is identified by special “Laboratory Glass” packaging tape (available from the Stockroom). Full metal sharps containers should be taken to the Stockroom, while full glass sharps boxes should be securely sealed with additional Lab Glass tape and placed in the outdoor dumpster.
If you discover a need to change the details of your protocol (e.g., personnel, species, or procedures) you must submit a Request for Significant Change of Animal Use Protocol [http://depts.washington.edu/oawhome/forms/] and obtain approval BEFORE initiating the change.

**When you leave FHL**

When you leave, report the number of fish (or other vertebrates) actually used in your research to the Animal Welfare Office. E-mail the total numbers of fish, classified according to species or type utilized, the corresponding protocol number and Principle Investigator, and the dates during which the fish were used to Dr. Nona Phillips ([nonap@u.washington.edu](mailto:nonap@u.washington.edu)), and send copies the PI and to Pema Kitaeff, FHL IACUC Liaison.

You must retain your animal care logs for 6 years. Please leave a copy of those logs with Pema Kitaeff on your departure.

Animals collected in the research preserves must also be reported to FHL via this online form: [http://tinyurl.com/FHLcollectingreport](http://tinyurl.com/FHLcollectingreport) Each organism type/species requires a separate submission. If you need help reporting your collecting, contact Kristy Kull.

Before your next visit to FHL, be sure to renew your Protocol in advance of its expiration.

**Contacts**

Pema Kitaeff, FHL IACUC Liaison: 206-543-0876, [pema@uw.edu](mailto:pema@uw.edu)

Megan Dethier, FHL Associate Director: 206-543-8096, [mdethier@uw.edu](mailto:mdethier@uw.edu)

Dr. Adam Summers, resident scientist at FHL: 206-685-6256, [fishguy@uw.edu](mailto:fishguy@uw.edu)

Dr. Nona Philips, UW Director of Animal Welfare: (206) 543-3818, [nonap@uw.edu](mailto:nonap@uw.edu)

UW Veterinary Services, (206) 543-6257, [vs6floor@uw.edu](mailto:vs6floor@uw.edu)

Dr. George Sanders, UW Veterinarian & Fish Pathologist, (206) 526-6282
Gary Fye, LVT, UW Veterinary Technologist, (206) 543-6257, gfye@uw.edu

Deb Taylor, Office of Animal Welfare, (206) 543-9678, debet@uw.edu

Judy Cashman, Occupational Health Nurse (206) 221-3025, (206) 543-7388, judym@uw.edu

Kristy Kull, FHL: 206-543-0876, kjkull@uw.edu

References


revised Feb 2015 CPS, GS, KK