FIELD AND LABORATORY
POLICIES AND PROCEDURES

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The purpose of this section is to provide required/recommended policies and procedures for field and laboratory work performed by students, faculty and temporary employees of the Department of Fisheries and Wildlife at Michigan State University. The Department is committed to maintaining a safe and healthful work environment for students, faculty and temporary employees performing field and laboratory work for the Department. Each individual participating in Departmental activities will share the responsibility of working in a safe and conscientious manner and shall follow the recommended policies at all times.

Key Personnel

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Point of contact for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Chairperson</td>
<td>Michael Jones</td>
<td><a href="mailto:Jonesm30@msu.edu">Jonesm30@msu.edu</a></td>
</tr>
<tr>
<td>Associate Chairperson</td>
<td>Scott Winterstein</td>
<td><a href="mailto:winterst@msu.edu">winterst@msu.edu</a></td>
</tr>
<tr>
<td>Chair’s Administrative Assistant</td>
<td>Sharon Reasoner</td>
<td><a href="mailto:reasoner@msu.edu">reasoner@msu.edu</a></td>
</tr>
<tr>
<td>Chief Financial Officer (CFO)</td>
<td>Julie Traver</td>
<td><a href="mailto:traverje@msu.edu">traverje@msu.edu</a></td>
</tr>
<tr>
<td>Bookkeeper</td>
<td>Mary Witchell</td>
<td><a href="mailto:Witchel1@msu.edu">Witchel1@msu.edu</a></td>
</tr>
<tr>
<td>Tech Support</td>
<td><a href="mailto:fwhelp@msu.edu">fwhelp@msu.edu</a></td>
<td></td>
</tr>
<tr>
<td>Graduate Secretary</td>
<td>Jill Cruth</td>
<td><a href="mailto:cruth@msu.edu">cruth@msu.edu</a></td>
</tr>
<tr>
<td>Main Office Secretary</td>
<td>Marcia Baar</td>
<td><a href="mailto:baar@msu.edu">baar@msu.edu</a></td>
</tr>
<tr>
<td>Department EHS Officer</td>
<td>Jen Owen</td>
<td><a href="mailto:owenj@msu.edu">owenj@msu.edu</a></td>
</tr>
</tbody>
</table>
I. General safety requirements:

The Department recommends that individuals performing field and laboratory work for the Department be trained and certified by the Red Cross or American Heart Association in cardiopulmonary resuscitation (CPR) and First Aid. At a minimum, two individuals (regardless of rank) per field location should be certified.

*CPR and First Aid training* must be re-certified every two years. It is the responsibility of the individual and/or PI to maintain current CPR and First Aid certifications. The training is paid by the individual or by the PI of the particular research project. Multiple training options are available, including in-person, online, and hybrid in-person / online courses. The Michigan Department of Education maintains a list of CPR / First Aid providers (http://www.michigan.gov/mde/0,1607,7-140-6530_5683_14795-118868--,00.html).

II. Department and University Vehicle Safety

It is the policy of the Department that all Department and University vehicles be used for Department and University business only; there is to be no personal use of the Department or University vehicles. All individuals operating Department or University vehicles must have a valid driver’s license. **Operators and all occupants must be authorized to use the vehicle through a travel authorization.** Further, vehicles must be operated legally and in a manner which does not detract from the public image of the University. Proof of insurance and registration are required to be kept in the vehicle’s glove compartment.

Before traveling in a Department or University vehicle, all individuals should familiarize themselves with the forms and procedures to follow in the case of an accident. An accident form, vehicle registration, and proof of insurance are located in the glove box of each vehicle. In all cases of sickness, accident, or emergency which occur during authorized Departmental travel, the following procedures should be followed: Notify police. The driver of a Department or University vehicle involved in an accident must immediately report the accident to the Police Department in the enforcement jurisdiction.

Students should notify their major professor as soon as possible by telephone at work or home. If the major professor cannot be reached, the individual should contact the Department Chairperson at work or home. If neither person can be reached, the individual should inform the on-duty University telephone operator (Phone: 517-355-1855) and have the message forwarded to both the major professor and the Department Chairperson. The University switchboard is open at all times.

Notify the Office of Risk Management (517-355-5022) on the day of the accident or as soon as possible. The driver of a Department or University vehicle must fill out the “Michigan State University Automobile Accident or Loss Notice Report” found in the glove compartment of the vehicle. [http://www.ctlr.msu.edu/download/forms/RMI5.pdf](http://www.ctlr.msu.edu/download/forms/RMI5.pdf)
This report must be delivered to the Office of Risk Management (Room 113 Olds Hall, Phone: 517-355-5022). Drivers involved in accidents should obtain the name, address and telephone number of insurance companies or agents covering the other vehicles involved.

Any damage to a Department vehicle, regardless of severity, should be immediately reported to the Department Truck Coordinator (see page 2) who will report it to the Department Chairperson. In the case of vehicles maintained by individual laboratories, damage should be reported to the major professor. **Any accidents or traffic violations should be reported directly and immediately to the Department Chairperson.**

Any traffic violations received while on Department business are the responsibility of the individual operating the vehicle.

University policy prohibits transporting hitch-hikers or others not authorized to travel in a Department or University vehicle while on Department business or in a Department or University vehicle.

**III. Firearm Policy**

**NO firearms** are to be in one’s possession during any Departmental field research or within any Department or University vehicle, office or laboratory. **Exceptions to this policy must be authorized by the Department Chairperson prior to conducting any activity.**

**IV. Permits and Protocols**

Prior to engaging in any research activities both in field and in the laboratory all individuals must make sure they have procured the required permits. Any work with vertebrate animals will require an MSU approved *Animal Use Form* (AUF) by the MSU IACUC. To find the relevant requirements and forms refer to the following MSU website: [http://www.iacuc.msu.edu/index.html](http://www.iacuc.msu.edu/index.html)

Any research involving human subjects requires approval from the Institutional Review Boards (IRB). The relevant requirements and forms can be found on the following MSU website: [http://www.humanresearch.msu.edu/](http://www.humanresearch.msu.edu/)

Further permits may be required for the research (e.g. State and Federal Scientific Collection permits, USDA export permits, Special Use permits, etc), and it is the responsibility of the individual graduate student and/or the faculty PI to make sure all necessary permits are obtained prior to beginning data collection.
V. Laboratory Safety (Chemical, Radiation, Biological, Occupational, and Hazardous Waste Safety).

This section applies to all individuals in the Fisheries and Wildlife Department performing work in a laboratory area where chemical, biological, hazardous, and/or radioactive materials are used or stored. It is the policy of the Department that all individuals carrying out laboratory experiments or working in a laboratory perform their work in a safe fashion. All Principal Investigators who have a laboratory as described above are responsible for making sure they adhere to all university regulations regarding the use, storage, and disposal of all materials as indicated on the MSU Environmental Health & Safety (EHS) website: http://www.orcbs.msu.edu/. In addition, they are responsible to make sure they and any individual (regardless of rank) working in their laboratory have taken all the required trainings as indicated on the EHS website. It is important to note that most EHS trainings are required on an annual basis for all individuals working in the laboratory. Questions regarding Department safety and requirements may also be directed to the FW Department EHS Officer. Labs are inspected for compliance by EHS annually and any deficiencies found will need to be addressed by the PI.

VI. Field Safety

It is the policy of the Department that all individuals will perform fieldwork in a safe fashion. Further, the Department recommends that no individual be in the field alone at any time unless required by the research activity (e.g. bird surveys). In this case, the individual should have an operational cell phone with them at all times. In addition, it is imperative that someone who is not with you in the field (graduate advisor, Department Chair, or lab member) knows your location and timeline of fieldwork. In addition, you should check in with this same person when you have safely returned from the field.

All individuals performing fieldwork must familiarize themselves with the natural hazards they may face (e.g., dangerous animals, potential disease vectors or pathways) and appropriate responses to such hazards. They should also familiarize themselves with the closest human community to the area where their fieldwork is located, as well as locations of the nearest hospital, police department or other emergency center.

The Department recommends that all individuals involved in fieldwork familiarize themselves with potential weather-related hazards and all EHS requirements and guidelines on chemical and bio-hazardous materials.

VII. Boat Safety

The Department requires that individuals operating small boats (including canoes) for research abide by state and federal boating regulations. Boat operators should be cognizant of boat operation, boating regulations and safety, and boat towing. Michigan regulation requires that personal flotation devices (PFDs) be readily accessible for all personnel on-board. FW recommends that the PFDs be worn at all times. For boats 16
feet or longer, one USCG–approved Type IV PFD (throwable device as a ring buoy or cushion) must be on board and be readily accessible.

Boat registration – All boats larger than 16 feet must be registered with the Secretary of State office and have a validation decal and title. The decal should be displayed on both sides of the boat three inches beyond the last letter of the assigned number. Registration is valid for three years and expires on March 31 of the third year. Watercrafts may be renewed online at: https://onlineservices.michigan.gov/ExpressSOS/RenewRegistration/EligibilityRequirements. Non-motorized canoes, kayaks and boats less than 16 feet are exempt from registering with the State. A copy of the registration should be submitted to the Department bookkeeper. A copy of the registration should also be kept in the boat in a waterproof bag.

Boat trailers – A state license plate can be obtained for boat trailers through MSU’s Transportation Services. Take the title for the trailer and bill of sale to the Motor Pool office. They will then register your trailer and provide a vehicle number. License plates can be picked up at the Service Garage. Calling ahead of time (353-5280) to ensure appropriate personnel are in the office and to check paperwork requirements is recommended. License plate should be properly secured on the trailer.

Research boats should be equipped with all required gear (e.g., navigation lights, horns) and safety equipment (e.g., personal flotation devices, fire extinguisher) according to state regulations. These regulations vary according to boat length. Regulations for state and federal navigable waters can be acquired at:

Michigan Department of Natural Resources
http://www.michigan.gov/dnr

Michigan Boating Guide

Boating in Michigan
http://michigan.gov/dnr/0,4570,7-153-10365_10884---,00.html

United States Coast Guard
http://www.uscgboating.org/regulations

The following equipment may prove useful on-board depending on the situation: electronic equipment, oars, dock or mooring lines, anchor, extra fuel in approved container, tool kit, hand held radio, boat ladder, foul weather gear, compass or GPS, spot lights, batteries, first aid kit, boat log, navigation charts, distress signals, sea sickness remedies, change of clothes. Survival suits are recommended for all occupants of Great Lakes research vessels 18 ft. or larger.
All boat operators should be aware of all federal, state and/or local boating laws and experienced in boat handling, basic seamanship, and boat trailering and towing. Federal and state boating laws can be found at the websites provided above for the Michigan DNR, Michigan Boating Guide, Boating in Michigan and US Coast Guard.

All inland boat operators are recommended to read the *Michigan Boating Basics: a Guide to Responsible Boating* (http://www.boat-ed.com/michigan/handbook/). It is also suggested that all inland boat operators view the United States Power Squadron’s Boating Course video and review Session 1, Session 2, Session 3 (inland boating), Session 4 (engine trouble shooting), and Session 6 (trailer boating) in the U.S. Power Squadron workbook.

Great Lakes boat operators should be trained in the following: basic navigation, piloting, navigational chart use, aids to navigation, marine radio usage. All individuals operating on the Great Lakes with a vessel 18 ft. or larger should complete the United States Power Squadron Boating Course (http://www.lansingpowersquadron.org).

Signals and lights should be working properly. LED signal lights are preferred over halogen lights on trailers because they are more durable, last longer, and fail less frequently.

Individuals are highly encouraged to practice towing and backing their boat on campus prior to heading to field sites. A few important considerations when towing include: do not exceed the maximum towing capacity for the trailer, ball and hitch setup, or towing vehicle; check that trailer safety chains are attached, trailer lights function properly, wheel bearings have sufficient grease, trailer tires are inflated, and there is a spare tire; secure boat engine and lower radio antennas.

**VIII. Motorcycle, Off-road Vehicle (ORV), and Snowmobile Safety.**

It is the policy of the Department that individuals operating or riding on motorcycles, ORV’s or snowmobiles are required to wear Department of Transportation approved motorcycle helmets and protective eyewear or goggles. Individuals operating motorcycles, ORV’s, or snowmobiles while performing Departmental activities must have a valid driver’s license (a special license is required for motorcycle use). Individuals must familiarize themselves with the State of Michigan Secretary of State (http://www.michigan.gov/sos) guidelines for operating these vehicles. All headlights and tail lights must be in working order and on at all times during operation. Individuals must familiarize themselves with the State of Michigan guidelines for operating a snowmobile and are encouraged to attend a snowmobile safety training course. For information on snowmobile training contact the Michigan Department of Natural Resources, Law Enforcement Division (phone: 373-1230) or http://www.michigan.gov/dnr. Please refer to Michigan Off-Road Vehicle Guide, Michigan Department of Natural Resources (http://www.michigan.gov/dnr)
Registration. Motorcycles operated in Michigan must be registered with the Secretary of State and must display a current license plate. Titles for ORV’s must be obtained through the Secretary of State. ORV’s must be licensed with the Michigan Department of Natural Resources, License Control (phone: 335-3272); [http://www.mdnr-elicence.com](http://www.mdnr-elicence.com).

Snowmobiles operated in Michigan must be registered with the Secretary of State ([http://www.michigan.gov/sos](http://www.michigan.gov/sos)). Snowmobiles are registered for a three-year period. Registration decals must be displayed on the forward half of the snowmobile. Snowmobile trail permit stickers, which are valid for one year, must be purchased. Permits are available from the Secretary of State and must be permanently affixed to the forward half of the snowmobile.

IX. SCUBA and Snorkeling Safety

MSU is not an AAUS affiliate and, therefore, does not support the use of SCUBA for scientific research. Any SCUBA needed for research must be conducted through an organization other than MSU.

X. Electrofishing

Electrofishing is an inherently hazardous activity – electrical energy used in electrofishing is sufficient to cause electrocution. Thus, it is the policy of the Department that all individuals using electrofishing for Departmental activities will make safety their primary concern. The PI will ensure that all individuals involved in electrofishing are familiar with the safe use of electrofishing gear being operated and with the risks involved in using this technique and have taken all the relevant safety training. All individuals will be instructed on how to respond if someone falls in the water while electrofishing is in progress. Individuals with a pacemaker or similar device should NOT be involved in electrofishing.

Prior to the field season, anyone planning to use electrofishing as a sampling tool is required advised to review the chapter on electrofishing in *Fisheries Techniques* by Murphy and Willis 1996.

Field personnel using electrofishing are required to be certified in CPR, which is enforced by the project PI. Any exposure of the skin to water while electrofishing may result in an electrical shock that may stop the heart. Knowledge of a nearby location housing a defibrillator is recommended (portable ones can be found at the local hospital or fire department or contact EHS). Shoes with rubber soles (rubber boots or waders are recommended, as is waterproof clothing) should be worn at all times and checked for leaks prior to electrofishing. Insulated rubber gloves should be worn by all personnel (netters and probe handlers) involved in electrofishing. At the field site, personnel should never electrofish alone. All members of an electrofishing crew should understand the electrofishing equipment being used (including location and use of kill switches), the safe use of the equipment, and what to do if someone falls in or feels the electric current. Make sure that one person has control of the power source.
Communication between crew leader (usually the boat driver) and crew is crucial to electrofishing safety. Generators on-board electrofishing boats are loud, and thus the crew leader should give short, simple commands and notices that crew members can hear, for example, ‘Power is on’ , ‘Dippers ready?’ , ‘Step on pedal’. Similarly, dippers should give similar notices to the driver, as they can often see obstructions that the driver cannot. Dippers should turn completely around to alert the driver of any obstruction or safety concern. Notices from the dippers should be short and clear, e.g. ‘Log’, ‘Rock’, or other short remark.

When using backpack shockers, use sealed batteries that are the correct voltage for the unit being used. When charging batteries, be careful to follow instructions for the batteries and the chargers.

Make a checklist of all required equipment before loading the truck and heading into the field. The checklist should include: electrofishing unit; generator or batteries; probes; insulated gloves; fiberglass handled nets—rubberized if possible; approved gasoline container; first aid kit; fire extinguisher (ABC type); aerator, anesthetic (MS-222 or other approved by IACUC), tool kit, including necessary tools for minor equipment repairs.

Further reading on electrofishing safety can be found online at http://www.usgs.gov/usgs-manual/handbook/hb/445-2-h/ch42.html