



## **ABEL Fish Care and Lab Practices Guide**

### **OVERVIEW**

Within this package, we have outlined everything you need to know to survive as an ABEL member! Overall, we wish to highlight the importance of taking responsibility - ABEL is your lab and your home away from home at McMaster! If you move something, put it back. If you break something, try to fix it. If you make something dirty, clean it up. If something needs to be improved, suggest an alternative. If supplies are low, let the ABEL lab manager know so that more can be ordered (it can take time to replace things!).

If you have questions at any point please do not hesitate to connect with the ABEL lab manager or with Sigal!

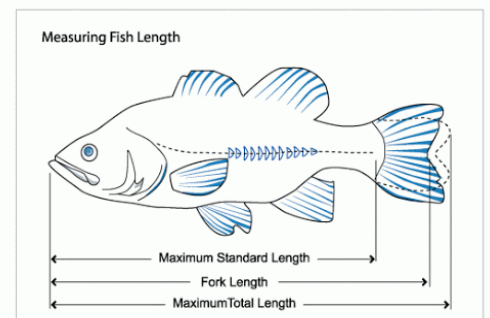
### **FISH CARE**

#### **General Fish Care**

- Water changes are usually conducted every week resulting in the replacement of 20% of water using room temperature reservoir water. Take care to observe which tanks require water changes each week. Before a tank stabilizes (can take up to 3 months) expect that you may have to have more frequent water changes.
- Scrubbing of tanks and cleaning of filters are also conducted every week. Take care to observe which tanks require scrubbing and which specific filters need to be cleaned.
- Before and after placing anything in a fish tank make sure to sanitize it in the provided Sani-Dip for approximately 10 seconds.

#### **Tank Cards**

- Tank cards can be found attached to all the tanks within the lab. The tank card outlines the AUP number, the species inside the tank, and any important observations regarding the tank (deaths, spawning events, etc).
- Observations including:
  - Presence of eggs and where they are located
  - Presence of free swimming fry (FSF)
  - If a fish needs to be basketed due to bullying
- If a fish is found dead or euthanization is required, record the following information on the tank card: weight, total length (cm), standard length (cm)



- Note - ensure all comments are documented with the date and observers initials on both the health sheets and the tank cards.

### Health Checks

- Whenever you are in the lab to feed or clean the tanks it is important to conduct health checks on all the fish to ensure that nothing is amiss.
- Concerning signs to look out for:
  - Skin lesions
  - Missing scales
  - Loss of equilibrium
  - Respiratory rate changes
  - Appearance of fungus
  - Tattered fins
  - Serious bodily injury
- If a fish is sick:
  - If a fish looks like it has reached an endpoint, ask a supervisor their opinion to euthanize the fish.
  - Alternatively, if the fish does not require euthanization try to resolve the problem (i.e. treat the water for fungal infections, place sick fish in a basket so it can recover).
  - Place the fish into the benzocaine solution, WEAR GLOVES, and do not get benzocaine on any other equipment (i.e. nets). Benzocaine should only be used with the designated Benzocaine Net.
  - Once the fish has gone to fish heaven, please place them in a plastic bag.
  - Record: Date, Length, Weight, Tank # on the bag, on the tank card, endpoint sheet, and on the feeding log for that day.
  - Place the dead fish in the freezer in Room 118.
- If a fish is dead:
  - Use a net to scoop out the deceased fish.
  - If it is possible weigh, measure and sex the dead fish
  - Place in a plastic bag.
  - Record: Date, Length, Weight, Tank # on the bag, on the tank card and on the feeding log for that day. (If fish is completely decomposed just write “decomposed” on the bag and skip Length and Weight)
  - Place fish in the freezer in Room 118.
- If a fish appears to be bullied or injured (torn fins, hiding behaviour) but can still swim:
  - Catch the victim with a clean net.

- Place in a clean, Sani-dipped basket and leave the basket in the tank. Record the reasoning for basketing on the tank card.
- Make sure to clean the net with Sani-Dip afterwards

### **Fish Care - Cichlids (Room 119)**

- Whenever you enter the room make sure that the room temperature is 76 and the air pressure is at 20. Listen for any dry/not working motors, and disconnected air hosing. Address the problem.
- All fish are fed daily Monday to Friday and once on weekends.
  - *N. pulcher*, *T. temporalis*, *N. multifasciatus*, *N. tetraodon*, *A. compressiceps* and *J. ornatus* are to be fed with enough fish flakes to be consumed within 3-5 minutes.
  - *L. kendalli* are to be fed pellets one at a time.
  - Any food not consumed should be removed using a Sani-Dipped net.

### **Fish Care - Goby (Room 117)**

- Whenever you enter the room make sure that the room temperature is 68 and the air pressure is at 20. Listen for any dry/not working motors, and disconnected air hosing. Address the problem.
- All fish are fed daily Monday to Friday and once on weekends. Fish are to be fed with enough fish flakes to be consumed within 3-5 minutes.
  - Any food not consumed should be removed using a Sani-Dipped net.

### **Fish Care - Red Side Dace (Room B113)**

- Whenever you enter the room make sure that the room temperature and air pressure matches the sticker placed above as it will vary depending on experiments. Listen for any dry/not working motors, and disconnected air hosing. Address the problem.
- All fish are fed using cubes of blood worms dissolved in water. Fish are fed Monday, Tuesday, Wednesday, Friday, and once on weekends. Andy will let you know exactly how many they require.
- For any specific concerns reach out to Andy Turko (519-803-5903).

## FISH EXPERIMENTATION PRACTICES

### Fish Usage

- Overall, the lab has a policy to use as few fish as possible and to sample terminally only if absolutely necessary. Within ABEL in regards to fish we follow the rule of the 3 R's: replacement, reduction, and refinement.
- Attempt to recycle fish across experiments whenever possible

### Marking

- Fish can be marked with an injection of non-toxic acrylic paint or with Elastomer into a scale pocket on the body cavity.
- By using one of 18 predetermined locations on the body cavity and a number of different colours, a large number of unique marks can be generated.
- Fish do not need to be anaesthetized for this technique as it is quick and does not pierce the body cavity in any way.
- It is good to replace the needle on the syringe every 3-6 fish and to keep the fish wet on a moist towel or sponge during marking.

### Fin Clipping

- Fin clipping allows researchers to differentiate and identify individual members in a group, as each clip is a unique mark.
- Fish are captured using a hand net and temporarily removed from the water. Throughout the procedure, they are constantly kept wet by placing them on a wet paper towel.
- A small amount of member between the dorsal or anal fin rays is removed with a sharp pair of dissecting scissors.
- Membrane removal does not adversely affect the fish in any way as they immediately manage to raise and lower their cut fins and the membrane grows back in 2 to 3 weeks.

### Euthanization

- Within the lab we use 2 main methods of euthanasia.
- The most common method is through a benzocaine overdose (containers available in Room 116, 117, 119 and in the field backpack).
  - Fish submerged in a solution of benzocaine, ethanol, and water lose balance extremely quickly, and death occurs within 5-30 seconds of the fish being submerged in the solution.
- In studies where chemical euthanization is not possible, euthanization will occur via submersion in ice water followed by a quick cephalic blow. Once the fish stops breathing

in the ice water (typically around 30-60 seconds), deliver a cephalic blow, and then the fish is quickly decapitated, and the spinal cord severed with a sharp scalpel.

## ADMINISTRATIVE INFORMATION

### Accessing Balshine Serve

- Balshine Serve is an online platform where all ABEL members can upload their research for backup and view the research and work of others.
- All members of the lab should have their own access and a folder labelled with their name and year(s) in the lab to deposit all of their ABEL related work. Each lab member should write a ReadMe File with instructions about where everything is located within the folder.
- In order to access Balshine Serve:
  - You will be given access and a password from RHPCS.
  - To log in from home you require a VPN internet connection (secure way to get Data from and to McMaster).
    - Here's the link to the VPN instructions:  
<https://www.mcmaster.ca/uts/network/vpn/index.html>
  - To enter Balshine Serve click the following keys
    - From Mac OS X:
      - \* Finder -> Go -> Connect to Server ...
      - (or press Command-K)
      - smb://balshineserv/balshinelab
    - From Windows
      - \* click Start, go to search/command field
      - (or press WinKey-R)
      - \\balshineserv\balshinelab
  - Once in Balshine Serve you will see folders for Project Students, Grad Students, Thesis Students, Postdocs etc. Upload your files to your respective folder and make sure you label documents with your full name and year in the lab.

### New Hires

- All new hires must complete the following training
  - General Psychology orientation including
    - Online lecture
    - Quiz
    - Site specific tour (either from CAF or Sigal)
    - Document of Training
  - Fish Course including

- Online lecture
- Quiz
- Document of Training
  - All information can be found here: <https://afmtrain.mcmaster.ca/course/index.php>
- Fill out and return 3 forms - NSERC form, New Student form, and the JHE summary form.
- Submit resume and unofficial transcript to Sigal
- Have read relevant AUPs available on Balshine Serve or within the Fish Wing

### Reference Letter Request

- Sigal requires a 2 week notice for any letter to get written.
- Drop off any hardcopy forms in Sigal's mailbox. These days, many schools contact the letter writer directly and the forms are mostly all e-fillable.
- Fill out as much of the form as you can including all applicant information. Ensure that you have Sigal's contact information inputted correctly.
- Outline clear deadlines.
- Provide Sigal with the following information
  - Name of school and name of the program/scholarship/award you are applying for
  - Person who the letter is to be addressed to
  - Due date of reference letter
  - A copy of your transcript (unofficial is fine), and your resume/CV.
  - Point form list of things you wish to be included in the letter such as:
    - Statement about why you want to go to grad school, med school etc.
    - Outline how you were involved in ABEL and/or which courses you took from Sigal and what marks you obtained including dates for each of these items.
    - Specific research skills you acquired in Sigal's lab.
    - Something outstanding you did in Sigal's course.
    - Any employment or volunteer experience you have that is PARTICULARLY RELEVANT to your application.
    - Note - don't just list everything on your CV. You should have already included a CV.
  - This is a chance for you to highlight any other information you think might be relevant and helpful in writing a well informed letter.



**Pay**

- Every 2 weeks Wendy Selbie emails all employees asking for your hours. You have to respond with the total number of hours you worked in that time period and include a breakdown of your hours and what you did.
- Ensure that Sigal is cc'd on all emails directed to Wendy.
- Example:

Date	Time	Hours	Description
Nov 4	12:30 pm - 2:30 pm	2	Training for water changes w Mellisa
Nov 20	11:00 am - 2:00 pm	3	Training for setting up Zone of impact (ZOI) field work w Mellisa
Nov 22	12:00 pm - 3:00 pm	3	ZOI setup (labeling)
Nov 28	3:00 pm - 5:00 pm	2	ZOI setup (all field equipment)
Dec 4	7:00 pm - 8:00 pm	1	washed ZOI field equipment (traps, ropes)
Dec 5	10:00 am - 11:30 am	1.5	Set up for ZOI dissections
<b>TOTAL</b>			<b>12.5</b>

**Finances**

- It is essential that you keep track of any purchases made on behalf of the lab in order to remain organized.
- This includes photographing or printing receipts for any purchases made for the lab with their date and associated names. We keep all receipts in chronological order in a bag labelled “Receipts” in the drawer underneath the Mac desktop in Room 118.

**COVID**

- In light of COVID-19 all ABEL members are expected to follow a set of guidelines to ensure that everyone is remaining safe and healthy through this pandemic.
- Measures include:
  - Wearing at least one face mask at all time
  - Maximum of two people in one room at a time
  - Frequently washing your hands either with soap and water or hand sanitizer
  - Reduced number of passengers in field vehicle and windows must be down
- Full list of ABEL COVID policies can be found on Balshine Serve or here: <https://docs.google.com/document/d/1mxxp04KHUJIyTS3zSfVqiGvu24JVOqfgJITMiCeVbaGU/edit?usp=sharing>

In the event that you ever feel unsafe or wish to air a complaint please contact the following people:

- If an ABEL member makes you feel uncomfortable please contact Sigal at [sigal@mcmaster.ca](mailto:sigal@mcmaster.ca)
- If Sigal makes you feel uncomfortable please contact the Psychology, Neuroscience and Behaviour Chair Dr. Mel Rutherford [rutherm@mcmaster.ca](mailto:rutherm@mcmaster.ca)
- If a Psychology, Neuroscience and Behaviour staff member makes you feel uncomfortable please contact the Psychology, Neuroscience and Behaviour Administrator Milica Pavlica at [pavlica@mcmaster.ca](mailto:pavlica@mcmaster.ca)
- To report cases of harassment please contact the Equity and Inclusion Office at <https://equity.mcmaster.ca/contact-us/> or call 905-525-9140, ext. 27581

#### **Current ABEL Phone List**

- <https://docs.google.com/document/d/14cFVn7EiAXH0roCvahkRzq4WxRffWM5w3hCnFL7XZyk/edit?usp=sharing>

#### **McMaster Campus Security**

- <https://security.mcmaster.ca/contact-us/>
- 905-525-9140 ext 24281
- 905-522-4135
- Any University Phone – Dial 88



### Important Contact Information

Front Office extensions: (905) 525-9140

<b>Name</b>	<b>Role</b>	<b>Extension</b>	<b>Email</b>
Milica Pavlica	Administration	x24346	pavlica@mcmaster.ca
Ann Hollingshead	Academic Advisor	x23005	hollings@mcmaster.ca
Wendy Selbie	Pay, expenses under \$100	x23027	selbie@mcmaster.ca
Sally Presutti	Expenses over \$100	x23026	pnb@mcmaster.ca
Miroslav Cika	All things computers/tech	x23010	cikam@mcmaster.ca
Dave Thompson	All things workshop	x26509	thompsdc@mcmaster.ca

### CAF

<b>Name</b>	<b>Role</b>	<b>Extension</b>	<b>Email</b>
Main Office	---	x22365	recepaf@mcmaster.ca
Dawn Graham	Head CAF	x27063	dgraham@mcmaster.ca
Marion Corrick	Pathology Veterinarian	x22812	corricm@mcmaster.ca
Kathy Delaney	Pathology Veterinarian	x22812	delaneyk@mcmaster.ca
Tim Ryan	Clinical Veterinarian	---	ryant7@mcmaster.ca