Shipping Standard Operating Procedure (SOP)

How to package the sample

In the field

1. Transfer samples and add the propylene glycol-based antifreeze (e.g., Absolute Zëro™ RV Waterline Antifreeze from Canadian Tire*) or ethanol (90%+).

2. Secure sample jar(s) with the lid, being sure **lid is tightly sealed** (Figure 1)**.**

3. Label the side and lid of the sample* jar according to Table 1 (e.g., a wax pen may be used since the label will not be dissolved by propylene glycol-based antifreeze—a sharpie marker and masking tape can also be used).

** Note that DNA samples **DO NOT include a label inside** of the sample jar to minimize the potential of DNA contamination.*

4. Complete the 'Sample Spreadsheet' information according to Table 1. **Include a copy of this with the samples shipped.**

5. Use parafilm* (apply when sample jar is dry) to properly seal the sample jar lids and to prevent leakage during transportation of sample(s) (Figure 2).

** Parafilm can be purchased at: http://www.dynamicaqua.com/labware.html#parafilm —pull tight to seal*

6. Immediately place samples in labeled sealable plastic bags (e.g., Ziplocs) into a cooler with ice packs or in a portable freezer. The Ziplocs prevent leakage during transportation. Samples should be placed in a freezer until they are shipped to a sequencing facility at the University of Guelph.

* Antifreeze with ANY traces of ethanol have not been tested and **do not meet the requirements**. Approved antifreeze can be purchased at Canadian Tire (Figure 5). *If the approved antifreeze is not available, please contact Michael Wright (mwrigh06@uoguelph.ca) for queries regarding other brands of antifreeze.*

When shipping

7. Use cardboard box for shipping—fill around sample jars with crumpled newspaper to ensure samples are not jostled around. Do not ship samples in coolers as they cannot be returned. **Shipping with ice is not necessary.**

***Remember to include completed sampling spreadsheet (see Step 3) with samples and email a copy to Michael Wright at mwrigh06@uoguelph.ca.**

8. Shipping information is included on page 3. Indicate which side is up on the shipping box using stickers or sharpie arrows. The cooler/shipping container ***does NOT*** require TDG labelling if you are using propylene glycol-based antifreeze. If you use ethanol, the cooler/shipping container ***DOES*** require TDG labelling.

9. Complete the Shipping Review checklist.

Shipping Review checklist

- ☐ Samples are labelled (in accordance with Table 1), lids are tightly closed and secured with parafilm and placed in sealable plastic bags.
- ☐ Sampling spreadsheet (in accordance with Table 1) is included with the samples, and a copy is emailed to mwrigh06@uoguelph.ca to inform that samples are coming.
- ☐ Stickers or sharpie arrows indicate which side is up using stickers or sharpie arrows.

Shipment

Please use Purolator if it is available in your area.

Contact Michael Wright (University of Guelph) to inform samples are being shipped or to inform if arrangements have previously been made for shipping. This helps to ensure the lab prepares and plans accordingly.

Michael Wright
mwrigh06@uoguelph.ca
1-647-971-6551

If assistance with shipping is necessary, when informing Michael of pending shipment, **please include the following information** in your call or email:

- Shipping return address
- Weight of package(s)
- Dimensions (length, width, height) of package(s)
- Whether the samples are stored in ethanol (hazardous good) or antifreeze
- Shipping package material (carboard preferred)

Shipping Address:

Michael Wright
Centre for Biodiversity Genomics
Biodiversity Institute of Ontario
University of Guelph
50 Stone Road E
Guelph
Ontario
N1G 2W1

Label on Sample and Bag	Sample Spreadsheet
Sampling date: date sample was collected in format MM/DD/YYYY **(e.g., 10/23/2019)**	**Sampling date:** date sample was collected in format MM/DD/YYYY **(e.g., 10/23/2019)**
Basin name: Basin name of where the sample was collected **(e.g., Turtle Creek)**	**Basin name:** Basin name of where the sample was collected **(e.g., Turtle Creek)**
River/Stream Name: the river/stream in which the sample was collected **(e.g., Colpitts Brook)**	**River/Stream Name**: the river/stream in which the sample was collected **(e.g., Colpitts Brook)**
CABIN code of site: known CABIN code of the site sampled **(e.g., RAP001)**	**CABIN code of site:** known CABIN code of the site sampled **(e.g., RAP001)**
Sample preservative: what was used for the sample preservation **(e.g., propylene glycol-based antifreeze: Absolute Zëro™ RV Waterline antifreeze or ethanol 90%+)**	**Sample preservative**: what was used for the sample preservation **(e.g., propylene glycol-based antifreeze: Absolute Zëro™ RV Waterline antifreeze or ethanol 90%+)**
Sample number: sample number out of total samples collected **(e.g., 1 of 3, 2 of 3 etc.)**	**Sample jar number:** sample number out of total samples collected **(e.g., 1 of 3, 2 of 3 etc.)**
Replicate letter: replicate letter **IF** replicates were collected **(e.g., A, B, C)**	**Replicate letter:** replicate letter **IF** replicates were collected **(e.g., A, B, C)**
	GPS latitude coordinates (N): the latitude of the collection location, as recorded by the collector (reported in decimal; **e.g., 45.895622)**
	GPS longitude coordinates (W): the longitude of the collection location, as recorded by the collector (reported in decimal; **e.g., -64.802017)**
	Province: the province or state of where the sample was collected **(e.g., Ontario)**
	CABIN site status: the CABIN status of the site the sample(s) were/was collected from **(e.g., Ref/Potential Ref/Test/Unknown)**
	Sampling information: any extra information relating to samples collected **(e.g., wetland sample, repeat of 2017)**
	Sent by: name and contact email/phone number of sender **(e.g., John Doe, johndoe@gmail.com)**

Table 1. Sample Spreadsheet Information: essential information required on both the physical sample and the sample spreadsheet for sample submission.

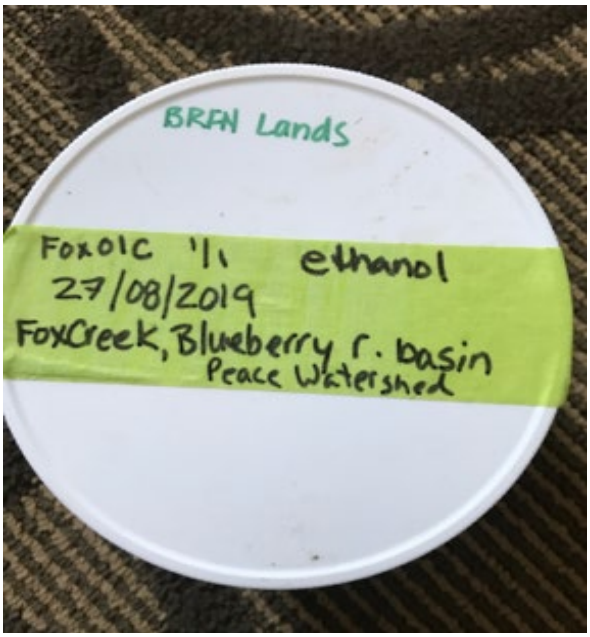

Figure 1: Correctly labeled sample

Label the side and lid of the sample jar accordingly (e.g., a wax pen may be used, as the label will not be dissolved by propylene glycol-based antifreeze with the required labels for DNA sampling).

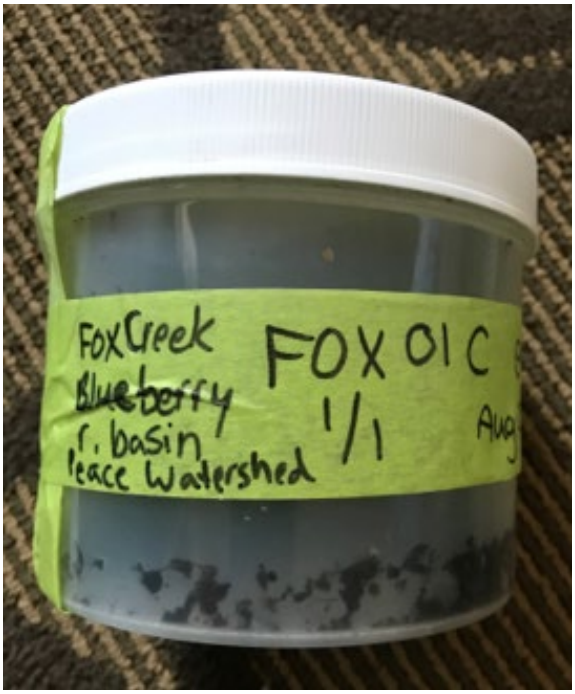

Figure 2: Correctly sealed sample

Use parafilm to properly seal the sample jar lids to prevent leakage during the transportation of the sample.

Figure 3: Sample storage during transportation in the field and during shipping

Upon leaving the site, place samples in sealable, labelled plastic bags (same labels as on sample) to further prevent leakage during transportation. Samples can be shipped in a cardboard box with newspaper.

Figure 4: Label indicating which side is up and TDG labelling

Indicate which side up on the shipping box to ensure that samples remain in good condition. *If using ethanol: Make sure the container has TDG labelling.*

Figure 5: Recommended propylene glycol-based antifreeze

Can be purchased at: https://www.canadiantire.ca/en/pdp/absolute-zero-waterline-antifreeze-60-c-3-78-l-0639926p.html