



**FISH COLLECTION PERMIT**  
**Research**

File: 34770-20

Permit No.: MRSU15-163200

Permit Holder: University of British Columbia – Dolph Schluter  
6270 University Boulevard  
Vancouver BC V6T 1Z4

Authorized Persons: Dolph Schluter, Catherine Peichel, Jacquelin deFaveri, Andrew MacColl,  
Joseph Sisneros, Tracy Larson, Isabel Magalhaes, Marius Roesti,  
Monica Yau, Kieran Samuk, Seth Rudman, Diana Rennison, Sara Miller,  
Dan D'Agostino, Ashwin Bhandiwad, Saun McCann.

Pursuant to section 19 of the *Wildlife Act*, RSBC 1996, Chap. 488, and section 18 of the Angling and Scientific Regulations, BC Reg. 125/90, the above named persons are hereby authorized to collect fish for scientific purposes from non-tidal waters subject to the conditions set forth in this Permit:

**Permitted Sampling Period:** February 5, 2015 to December 31, 2015

**Permitted Waterbodies:** South Coast and West Coast Regions – See *Appendix C*.

**Permitted Sampling Techniques:** MT, SN, DN (subject to permit terms and conditions)

**Potential Species:** CAS, SB12, SB13, SBB SBP, TSB (subject to permit terms and conditions)

**Permitted Lethal Sampling:** See *Appendix D*. (subject to permit terms and conditions)

**Provincial Conditions:** (Permit holders must be aware of all terms and conditions):

See Appendix A.

**Region Specific Conditions:**

See Appendix A.

**Authorized by:**

Michael Stalberg  
Deputy Regional Manager  
Recreational Fisheries & Wildlife Programs  
West Coast Region

Iain Lunn, Fisheries Biologist  
A Person Authorized by the Regional Manager  
Recreational Fisheries & Wildlife Programs  
South Coast Region

Date: February 5, 2015

Permit Fee \$25

**Any contravention or failure to comply with the terms and conditions of this permit is an offense under the *Wildlife Act*, RSBC 1996, Chap. 488 and B.C. Reg. 125/90.**

## Appendix A: Fish Collection Permit Conditions

*Any Variation of the following terms and conditions will require explicit authorization by the appropriate regional Fish & Wildlife Section Head.*

### Provincial Conditions

1. This collecting permit is not valid
  - in national parks,
  - in provincial parks unless a Park Use Permit is also obtained,
  - in tidal waters,
  - for eulachon or for salmon\* other than kokanee, or
  - for collecting fish by angling unless the permit holder and crew members possess a valid angling licence.

This collecting permit is **only** valid for species listed as threatened, endangered or extirpated under the Species at Risk Act (SARA) **in conjunction with a permit issued under Section 73 of SARA from Fisheries and Oceans Canada.**

\*Contact the Department of Fisheries and Oceans for fish collecting permits for salmon, eulachon or SARA listed species (see Appendix B).

2. The permit holder (or the project supervisor) named on the application for a scientific collection permit will carry a copy of this permit while engaged in fish collecting and produce it upon request of a conservation officer, fisheries officer or constable.
3. Any specimens surplus to scientific requirements and any species not authorized for collection in this permit shall be immediately and carefully released at the point of capture.
4. Fish collected under authority of this permit shall not be used for food or any purpose other than the objectives set out in the approved application for a scientific collection permit. The permit holder shall not sell, barter, trade, or give away, or offer to sell, barter, trade or give away fish collected under authority of this permit. Dead fish shall be disposed of in a manner that will not constitute a health hazard, nuisance or a threat to wildlife.
5. No fish collected under authority of this permit shall be
  - transported alive unless authorized by this permit, or
  - transplanted unless separately authorized by the Federal/Provincial Fish Transplant Committee.
6. The permit holder shall, within 90 days of the expiry of this permit, submit a report of fish collection activities. Interim reports may also be required and shall be submitted as required by the permit issuer. All submissions must be filed electronically to: [http://www.env.gov.bc.ca/fish\\_data\\_sub/index.html](http://www.env.gov.bc.ca/fish_data_sub/index.html)

Reporting specifications, information and templates are available from this website and outline the mandatory information requirements. Prior notification of submission or questions regarding data report standards can be made to: [fishdatasub@gov.bc.ca](mailto:fishdatasub@gov.bc.ca)

7. This collecting permit is subject to cancellation at any time and shall be surrendered to a conservation officer on demand or to the issuer upon written notice of its cancellation.
8. This permit is valid only for the activities approved on the application form and in accordance with any restrictions set out therein.
9. This permit is valid only for trained, qualified staff named in the Application. The permit holder will comply with all Worker's Compensation Board requirements and other regulatory requirements. Permit holders are responsible for ensuring staff members listed on the permit are properly certified for specific sampling methods or activities (e.g. electroshocking).
10. Any workers not listed on the permit must be supervised by the permit holder or one of the additional persons as named on the permit.

## Appendix A: Fish Collection Permit Conditions Continued

11. All sampling equipment that has been previously used outside of B.C. must be cleaned of mud and dirt and disinfected with 100mg/L chlorine bleach before using in any water course to prevent the spread of fish pathogens (e.g. Whirling disease) and / or invasive plant species. Any washed off dirt or mud must be disposed of in a manner such that it cannot enter a watercourse untreated.
12. No electrofishing is to take place in waters below five degrees C.
13. Electrofishing may not be conducted in the vicinity of spawning gravel, redds, or spawning fish, or around gravels which are capable of supporting eggs or developing embryos of any species of salmonid at a time of year when such eggs or embryos may be present.
14. Angling must only occur in accordance with the regulations specified in the current BC Freshwater Fishing Regulations Synopsis.

### Region Specific Conditions

#### West Coast Region

- Within the boundaries of Management Units 1-1 through 1-13, there shall be no electrofishing in streams above 630 meters in elevation, in anadromous waters, or in lake tributaries from January 1 to June 30.
- All sampling gear follow Association of Professional Biologists' advisory practice bulletin #5. Practice Advisory – Didymo, see: <https://www.professionalbiology.com/sites/default/files/pdfs/Didymo.pdf>
- The permit holder must advise the West Coast Region of sampling activities 48 hrs prior to field operations. Please complete the following notification form: [http://www.env.gov.bc.ca/pasb/reports/fish/permit\\_notify1.html](http://www.env.gov.bc.ca/pasb/reports/fish/permit_notify1.html)

#### South Coast Region

- The permit holder must notify Iain Lunn, MoE at [Iain.Lunn@gov.bc.ca](mailto:Iain.Lunn@gov.bc.ca) with the following information at least 24 hours prior to undertaking work:
  - approved SFC permit number
  - report number (where applicable)
  - company
  - contact
  - address
  - phone
  - fax
  - water body
  - watershed code
  - purpose of collection
  - start date
  - end date
- All streams sampled, for which a watershed code does not presently exist, will require a map showing the location of the stream and sampling location with the map scale identified at time of reporting.
- Electrofishing and minnow trapping can harm or kill non-target species of management concern such as the endangered Coastal Giant Salamander (within the Chilliwack River drainage system) and Pacific Water Shrew (within the lower Fraser River Valley). Any incidental captures (alive or dead) of any red- or blue-listed wildlife species must be reported to the Ministry of Environment, Lower Mainland Region. For further information on these species or to report incidental captures, please call Kym Welstead, Species at Risk Biologist, MOE, Surrey at (604) 582-5200 or by e-mail at [Kym.Welstead@gov.bc.ca](mailto:Kym.Welstead@gov.bc.ca).
- Please refer to the following website for the least risk in-stream work windows: [http://www.env.gov.bc.ca/wsd/water\\_rights/licence\\_application/section9/index.html](http://www.env.gov.bc.ca/wsd/water_rights/licence_application/section9/index.html)  
Where possible, collection should be conducted during the least risk work windows identified. The exception is seasonal or ephemeral streams where sampling may not be possible during the prescribed window due to flow conditions.
- The permit holder must refer to the following when sampling Salish Sucker, Nooksack Dace and Stickleback species.

## Appendix A: Fish Collection Permit Conditions

Salish sucker sampling guidelines -

[http://www.zoology.ubc.ca/~schluter/stickleback/Salish\\_sucker/Guidelines%20for%20collection%20of%20Salish%20sucker.pdf](http://www.zoology.ubc.ca/~schluter/stickleback/Salish_sucker/Guidelines%20for%20collection%20of%20Salish%20sucker.pdf)

Nooksack dace sampling guidelines – [http://www.zoology.ubc.ca/~schluter/stickleback/Nooksack\\_dace/non-password%20protected%20files/Guidelines%20for%20the%20Collection%20of%20Nooksack%20Dace.pdf](http://www.zoology.ubc.ca/~schluter/stickleback/Nooksack_dace/non-password%20protected%20files/Guidelines%20for%20the%20Collection%20of%20Nooksack%20Dace.pdf)

Stickleback species pairs sampling guidelines -

[http://www.zoology.ubc.ca/~schluter/stickleback/stickleback\\_species\\_pairs/other%20stickleback%20files/Guidelines%20for%20the%20Collection%20and%20In%20Situ%20Scientific%20Study%20of%20Stickleback%20Species%20Pairs.pdf](http://www.zoology.ubc.ca/~schluter/stickleback/stickleback_species_pairs/other%20stickleback%20files/Guidelines%20for%20the%20Collection%20and%20In%20Situ%20Scientific%20Study%20of%20Stickleback%20Species%20Pairs.pdf)

## Appendix B: Table 1 - Species at Risk

The following are species at risk that have been listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as either endangered, threatened or a species of special concern. Species also listed under the Species at Risk Act (SARA) are identified with an asterisk, and are subject to additional permitting requirements through the Federal Department of Fisheries and Oceans (DFO).

| Common Name                               | Scientific Name                     |
|---|-------------------------------------|
| Benthic Paxton Lake Stickleback           | * <i>Gasterosteus sp.</i>           |
| Benthic Vananda Creek Stickleback         | * <i>Gasterosteus sp.</i>           |
| Limnetic Paxton Lake Stickleback          | * <i>Gasterosteus sp.</i>           |
| Limnetic Vananda Creek Stickleback        | * <i>Gasterosteus sp.</i>           |
| Nooksack Dace                             | * <i>Rhinichthys sp.</i>            |
| Morrison Creek Lamprey                    | * <i>Lampetra richardsoni</i>       |
| Vancouver Lamprey (Cowichan Lake Lamprey) | * <i>Lampetra macrostoma</i>        |
| Cultus Pygmy Sculpin                      | * <i>Cottus sp.</i>                 |
| Shorthead Sculpin                         | * <i>Cottus confusus</i>            |
| Hotwater Physa                            | * <i>Physella wrighti</i>           |
| Limnetic Enos Lake Stickleback            | <i>Gasterosteus sp.</i>             |
| Benthic Enos Lake Stickleback             | <i>Gasterosteus sp.</i>             |
| Salish Sucker                             | <i>Catostomus sp.</i>               |
| Speckled Dace                             | <i>Rhinichthys osculus</i>          |
| Charlotte Unarmoured Stickleback          | <i>Gasterosteus aculeatus</i>       |
| Columbia Mottled Sculpin                  | <i>Cottus bairdi hubbsi</i>         |
| Giant Stickleback                         | <i>Gasterosteus sp.</i>             |
| Green Sturgeon                            | <i>Acipenser medirostris</i>        |
| Umatilla Dace                             | <i>Rhinichthys umatilla</i>         |
| West Slope Cutthroat Trout                | * <i>Oncorhynchus clarki lewisi</i> |
| White Sturgeon                            | <i>Acipenser transmontanus</i>      |

Applications for permits to specifically collect and retain listed species must be reviewed by the appropriate provincial expert, who will screen permits to ensure that any impacts on listed species are acceptable. For white sturgeon the contact is Steve McAdam ([steve.mcadam@gov.bc.ca](mailto:steve.mcadam@gov.bc.ca)). For listed non-game freshwater fish the contact is Jordan Rosenfeld ([jordan.rosenfeld@gov.bc.ca](mailto:jordan.rosenfeld@gov.bc.ca)).

**Appendix C: List of Sampling Locations**

| <b>ACTIVITY</b>                      | <b>WATERBODY</b>   | <b>WATERSHED CODE</b>  |
|--------------------------------------|--------------------|------------------------|
| <b>REGION 1 – WEST COAST REGION</b>  |                    |                        |
| RESEARCH                             | BEAVER LAKE        | 920-257700-60800       |
| RESEARCH                             | BLACKBURN LAKE     | 925-258500-75600       |
| RESEARCH                             | BLENKINSOP LAKE    | 920-079700-24800-82100 |
| RESEARCH                             | BOOT LAKE          | 920-627900-35700-05100 |
| RESEARCH                             | BRANNEN LAKE       | 920-395400             |
| RESEARCH                             | BULLOCKS LAKE      | 925-258500-65900       |
| RESEARCH                             | CHEMANIUS LAKE     | 920-312500             |
| RESEARCH                             | DOUGAN LAKE        | 920-257700-02300-16000 |
| RESEARCH                             | GRAHAM LAKE        | 905-124500-86600       |
| RESEARCH                             | HOGGAN LAKE        | 925-380000-26400       |
| RESEARCH                             | HORNE LAKE         | 920-490700             |
| RESEARCH                             | KENNEDY LAKE       | 930-306400             |
| RESEARCH                             | KWASSIN LAKE       | 920-257700-58200       |
| RESEARCH                             | LAKE MAXWELL       | 925-258500-20000       |
| RESEARCH                             | OGDEN LAKE         | 905-119500-09100       |
| RESEARCH                             | PRIEST LAKE        | 920-354500             |
| RESEARCH                             | ROBERTS LAKE       | 920-700700-58100       |
| RESEARCH                             | SAYWARD CREEK      | 920-130800             |
| RESEARCH                             | SPROAT LAKE        | 930-137400-99100       |
| RESEARCH                             | LAKE STOWELL       | 925-258500-90300       |
| RESEARCH                             | WOLF LAKE          | 920-553200-94100-43300 |
| <b>REGION 2 – SOUTH COAST REGION</b> |                    |                        |
| RESEARCH                             | AMBROSE LAKE       | 900-147300-93700       |
| RESEARCH                             | BROWN LAKE         | 900-154100             |
| RESEARCH                             | CAMPBELL RIVER     | 900-000500             |
| RESEARCH                             | CRANBY LAKE        | 905-126000-31000       |
| RESEARCH                             | LAKE ERROCK        | 110-036900             |
| RESEARCH                             | GARDEN BAY LAKE    | 900-147300-18900       |
| RESEARCH                             | HOTEL LAKE         | 900-147300-18900       |
| RESEARCH                             | KIRK LAKE          | 905-126000-61600-75600 |
| RESEARCH                             | KLEIN LAKE         | 900-147300-79800       |
| RESEARCH                             | LILY LAKE          | 900-141100             |
| RESEARCH                             | LITTLE QUARRY LAKE | 905-145000-08500       |
| RESEARCH                             | NORTH LAKE         | 900-152008             |
| RESEARCH                             | PAXTON LAKE        | 905-126000-66000-97900 |
| RESEARCH                             | PRIEST LAKE        | 905-126000-61600       |
| RESEARCH                             | RUBY LAKE          | 900-147300             |
| RESEARCH                             | SAKINAW LAKE       | 900-147300             |
| RESEARCH                             | TOM LAKE           | 905-323000-55100       |
| RESEARCH                             | TROUT LAKE         | 900-126800             |
| RESEARCH                             | WEST LAKE          | 905-145000-81800       |

**Appendix D: Permitted Lethal Sampling**

| TARGET SPECIES                       | # OF FISH | WATERBODY          | WATERSHED CODE         |
|--------------------------------------|-----------|--------------------|------------------------|
| <b>REGION 1 – WEST COAST REGION</b>  |           |                    |                        |
| THREESPINE STICKLEBACK               | 40        | BEAVER LAKE        | 920-257700-60800       |
| THREESPINE STICKLEBACK               | 40        | BLACKBURN LAKE     | 925-258500-75600       |
| THREESPINE STICKLEBACK               | 40        | BLENKINSOP LAKE    | 920-079700-24800-82100 |
| THREESPINE STICKLEBACK               | 100       | BOOT LAKE          | 920-627900-35700-05100 |
| THREESPINE STICKLEBACK               | 200       | BRANNEN LAKE       | 920-395400             |
| THREESPINE STICKLEBACK               | 200       | BULLOCKS LAKE      | 925-258500-65900       |
| THREESPINE STICKLEBACK               | 40        | CHEMANIUS LAKE     | 920-312500             |
| THREESPINE STICKLEBACK               | 40        | DOUGAN LAKE        | 920-257700-02300-16000 |
| THREESPINE STICKLEBACK               | 40        | GRAHAM LAKE        | 905-124500-86600       |
| THREESPINE STICKLEBACK               | 200       | HOGGAN LAKE        | 925-380000-26400       |
| THREESPINE STICKLEBACK               | 40        | HORNE LAKE         | 920-490700             |
| THREESPINE STICKLEBACK               | 40        | KENNEDY LAKE       | 930-306400             |
| THREESPINE STICKLEBACK               | 40        | KWASSIN LAKE       | 920-257700-58200       |
| THREESPINE STICKLEBACK               | 40        | LAKE MAXWELL       | 925-258500-20000       |
| THREESPINE STICKLEBACK               | 40        | OGDEN LAKE         | 905-119500-09100       |
| THREESPINE STICKLEBACK               | 40        | PRIEST LAKE        | 920-354500             |
| THREESPINE STICKLEBACK               | 100       | ROBERTS LAKE       | 920-700700-58100       |
| N/A                                  | N/A       | SAYWARD CREEK      | 920-130800             |
| THREESPINE STICKLEBACK               | 200       | SPROAT LAKE        | 930-137400-99100       |
| THREESPINE STICKLEBACK               | 40        | LAKE STOWELL       | 925-258500-90300       |
| THREESPINE STICKLEBACK               | 40        | WOLF LAKE          | 920-553200-94100-43300 |
| <b>REGION 2 – SOUTH COAST REGION</b> |           |                    |                        |
| THREESPINE STICKLEBACK               | 150       | AMBROSE LAKE       | 900-147300-93700       |
| THREESPINE STICKLEBACK               | 150       | BROWN LAKE         | 900-154100             |
| THREESPINE STICKLEBACK               | 400       | CAMPBELL RIVER     | 900-000500             |
| THREESPINE STICKLEBACK               | 40        | CRANBY LAKE        | 905-126000-31000       |
| THREESPINE STICKLEBACK               | 40        | LAKE ERROCK        | 110-036900             |
| THREESPINE STICKLEBACK               | 40        | GARDEN BAY LAKE    | 900-147300-18900       |
| THREESPINE STICKLEBACK               | 40        | HOTEL LAKE         | 900-147300-18900       |
| THREESPINE STICKLEBACK               | 70        | KIRK LAKE          | 905-126000-61600-75600 |
| THREESPINE STICKLEBACK               | 40        | KLEIN LAKE         | 900-147300-79800       |
| PRICKLY SCULPIN                      | 30        | LILY LAKE          | 900-141100             |
| THREESPINE STICKLEBACK               | 100       | LILY LAKE          | 900-141100             |
| THREESPINE STICKLEBACK               | 60        | LITTLE QUARRY LAKE | 905-145000-08500       |
| PRICKLY SCULPIN                      | 30        | NORTH LAKE         | 900-152008             |
| THREESPINE STICKLEBACK               | 70        | NORTH LAKE         | 900-152008             |
| PAXTON LAKE BENTHIC STICKLEBACK      | 130       | PAXTON LAKE        | 905-126000-66000-97900 |
| PAXTON LAKE LIMNETIC STICKLEBACK     | 130       | PAXTON LAKE        | 905-126000-66000-97900 |

**Appendix D: Permitted Lethal Sampling**

| TARGET SPECIES                       | # OF FISH | WATERBODY    | WATERSHED CODE   |
|--------------------------------------|-----------|--------------|------------------|
| <b>REGION 2 – SOUTH COAST REGION</b> |           |              |                  |
| PRIEST LAKE BENTHIC STICKLEBACK      | 130       | PRIEST LAKE  | 905-126000-61600 |
| PRIEST LAKE LIMNETIC STICKLEBACK     | 130       | PRIEST LAKE  | 905-126000-61600 |
| THREESPINE STICKLEBACK               | 60        | RUBY LAKE    | 900-147300       |
| THREESPINE STICKLEBACK               | 40        | SAKINAW LAKE | 900-147300       |
| THREESPINE STICKLEBACK               | 20        | TOM LAKE     | 905-323000-55100 |
| THREESPINE STICKLEBACK               | 100       | TROUT LAKE   | 900-126800       |
| THREESPINE STICKLEBACK               | 40        | WEST LAKE    | 905-145000-81800 |

