

FISH COLLECTION PERMIT
Research

File: 34770-20

Permit No.: MRSU15-163200 Amended

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, Shannan May-McNally,
Robert Devlin.

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: June 24, 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

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



Date: June 24, 2015

Permit Fee \$25

This permit supersedes permit MRSU15-163200 issued on February 5, 2015.

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

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

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

South Coast Region

- The permit holder must notify Iain Lunn, MoE at 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.
- 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
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

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

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

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). For listed non-game freshwater fish the contact is Jordan Rosenfeld (jordan.rosenfeld@gov.bc.ca).

Appendix C: List of Sampling Locations

ACTIVITY	WATERBODY	WATERSHED CODE
REGION 1 – WEST COAST REGION		
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
REGION 2 – SOUTH COAST REGION		
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
REGION 1 – WEST COAST REGION			
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
REGION 2 – SOUTH COAST REGION			
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
REGION 2 – SOUTH COAST REGION			
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

