

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

File: 34770-20

Permit No.: NA/SU10-68002

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

Client No.: 205

Authorized Persons: Dr. Matt Arnegard, Dr. Catherine Peichel, Dr. Kerry Marchinko, Patrick Tamkee, Seth Rudman, Anne Dalziel, Gina Conte, Shaun McCann, Travis Ingram, Diana Rennison and Sara Miller

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: January 4, 2011 to January 31, 2011**

**Permitted Waterbodies: West Coast & South Coast – See Appendix C**

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

**Targeted Species: TSB, SB12, SB13, SBB, SBP, SB6/7 and CAS (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.

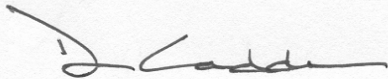
**Specific Conditions:**

See Appendix A.

**Authorized by:**

**Don Cadden**  
**Regional Manager**  
**Recreational Fisheries & Wildlife Programs**  
**West Coast**

**Jon Van Hove**  
**Deputy Environmental Stewardship Manager**  
**A person authorized by the Regional Manager**  
**Recreational Fisheries & Wildlife Programs**  
**South Coast**



Date: January 4, 2011

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).

## Appendix A: Fish Collection Permit Conditions Continued

10. 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.
11. No electrofishing is to take place in waters below five degrees C.
12. 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.
13. Angling must only occur in accordance with the regulations specified in the current BC Freshwater Fishing Regulations Synopsis.

### Specific Conditions

#### West Coast

- 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: <http://www.apbbc.bc.ca/files/Didymo.pdf>

#### South Coast

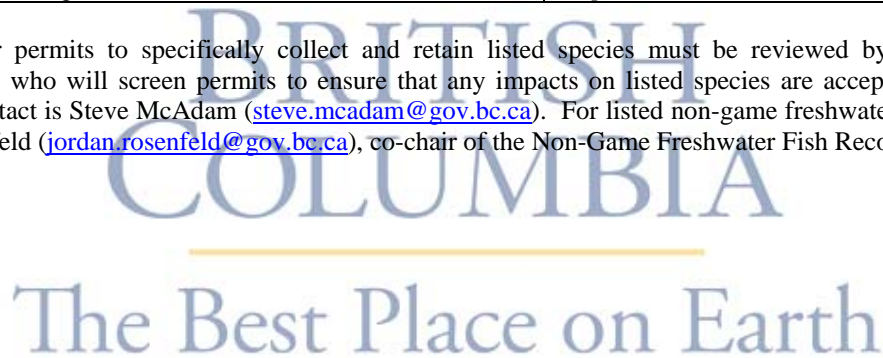
- All streams sampled, for which a watershed code does not presently exist, will require a map showing the location of the stream and sampling location with the map scale identified at time of reporting.
- Electrofishing and minnow trapping can harm or kill non-target species of management concern such 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.  
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>
White Sturgeon	<i>Acipenser transmontanus</i>

Applications for permits to specifically collect and retain listed species must be reviewed by the appropriate Recovery Team, 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)), co-chair of the Non-Game Freshwater Fish Recovery Team.



**APPENDIX C: Permitted Waterbodies**

<b>Activity</b>	<b>MOE Regions</b>	<b>Water Body</b>	<b>Watershed Code</b>
Minnow traps & seine	Lower Mainland	Ambrose Lake	900-147300-93700
Minnow traps & seine	Vancouver Island	Blackburn Lake	925-258500-75600
Minnow traps & seine	Lower Mainland	Brown Lake	900-154100
Minnow traps & seine	Vancouver Island	Bullock Lake (Salt Spring)	925-258500-65900
Minnow traps & seine	Vancouver Island	Cedar Lake	920-700700-84700-22300
Minnow traps & seine	Lower Mainland	Cranby Lake	905-1260-310-000
Minnow traps & seine	Vancouver Island	Dougan Lake	920-257700-02300-16000
Minnow traps & seine	Lower Mainland	Enos Lake	920-440400
Minnow traps & seine	Vancouver Island	Graham Lake	905-124500-86600
Minnow traps & seine	Vancouver Island	Hoggan Lake	925-380000-26400
Minnow traps & seine	Vancouver Island	Kennedy Lake	930-306400
Minnow traps & seine	Lower Mainland	Kirk Lake (Texada Isl.)	905-126000-61600-75600
Minnow traps & seine	Lower Mainland	Klein Lake	900-147300-79800
Minnow traps & seine	Lower Mainland	Little Campbell River	900-0005-000
Minnow traps & seine	Lower Mainland	Little Quarry Lake (Nelson Isl.)	905-145000-08500
Minnow traps & seine	Lower Mainland	North Lake (Sechelt)	900-152008
Minnow traps & seine	Lower Mainland	Paq (Lily) Lake	900-141100
Minnow traps & seine	Lower Mainland	Paxton Lake	905-1260-660-979
Minnow traps & seine	Lower Mainland	Paxton Lake	905-1260-660-979
Minnow traps & seine	Lower Mainland	Priest Lake	905-1260-616-000
Minnow traps & seine	Lower Mainland	Priest Lake	905-1260-616-000
Minnow traps & seine	Vancouver Island	Priest Lake (Vanc. Isl.)	920-354500
Minnow traps & seine	Lower Mainland	Sakinaw Lake	900-147300
Minnow traps & seine	Vancouver Island	Stowell Lake (Salt Spring)	925-258500-90300
Minnow traps & seine	Lower Mainland	Trout Lake	900-126800

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**APPENDIX D: Permitted Lethal Sampling**

TARGET SPECIES	# FISH SAMPLED	WATERBODY/CODE	
Threespine stickleback	50	Ambrose Lake	900-147300-93700
Threespine stickleback	50	Blackburn Lake	925-258500-75600
Threespine stickleback	50	Brown Lake	900-154100
Threespine stickleback	50	Bullock Lake (Salt Spring)	925-258500-65900
Threespine stickleback	50	Cedar Lake	920-700700-84700-22300
Threespine stickleback	50	Cranby Lake	905-1260-310-000
Threespine stickleback	50	Dougan Lake	920-257700-02300-16000
Enos Lake stickleback (hybrids)	600	Enos Lake	920-440400
Threespine stickleback	50	Graham Lake	905-124500-86600
Threespine stickleback	50	Hoggan Lake	925-380000-26400
Threespine stickleback	200	Kennedy Lake	930-306400
Threespine stickleback	50	Kirk Lake (Texada Isl.)	905-126000-61600-75600
Threespine stickleback	50	Klein Lake	900-147300-79800
Threespine stickleback	200	Little Campbell River	900-0005-000
Threespine stickleback	350	Little Quarry Lake (Nelson Isl.)	905-145000-08500
Threespine stickleback	50	North Lake (Sechelt)	900-152008
Threespine stickleback	50	Paq (Lily) Lake	900-141100
Paxton Lake Benthic stickleback	250	Paxton Lake	905-1260-660-979
Paxton Lake Limnetic stickleback	350	Paxton Lake	905-1260-660-979
Priest Lake Benthic stickleback	100	Priest Lake	905-1260-616-000
Priest Lake Limnetic stickleback	150	Priest Lake	905-1260-616-000
Threespine stickleback	50	Priest Lake (Vanc. Isl.)	920-354500
Threespine stickleback	50	Stowell Lake (Salt Spring)	925-258500-90300
Threespine stickleback	50	Trout Lake	900-126800
Prickly sculpin	20	Ambrose	900-147300-93700
Prickly sculpin	20	Brown Lake	900-154100
Prickly sculpin	20	Cedar	920-700700-84700-22300
Prickly sculpin	20	Little Campbell River	900-0005-000
Prickly sculpin	20	North Lake	900-152008
Prickly sculpin	20	Paq (Lily) Lake	900-141100
Prickly sculpin	20	Sakinaw Lake	900-147300