



FISH COLLECTION PERMIT
NON-PROFIT SCIENTIFIC RESEARCH

File: 34770-20

Permit No.: **SU24-844441**

Permit Holder: Dolph Schluter
6270 University Boulevard
Zoology Department, UBC
Vancouver BC V6T 1Z4

Authorized Persons: Dr. Catherine Peichel, Carling Gerlinsky, Lucia Combrink, Kung-Ping Lin ,
Jiaxu Han, Ella Menzies, Juliana Rodriguez Fuentes, Nicole Nesvadba

Pursuant to section 18 of the Angling and Scientific Collection Regulation, B.C. Reg. 125/90, the
above-named persons are authorized to collect fish for scientific purposes (from non-tidal
waters) subject to the terms set forth in this Permit:

Permitted Sampling Period: April 29, 2024 – December 31, 2024

Permitted Waterbodies: See Appendix C – PERMITTED WATERBODIES

Permitted Sampling Techniques: DN, MT (subject to permit terms)

Potential Species: TSB, SBB, SBP, SB12, SB13 (subject to permit terms)

**Permitted Lethal Sampling, Tagging or Marking: See Appendix D – LETHAL
SAMPLING, TAGGING, AND MARKING (subject to permit terms)**

Provincial Terms: (Permit holder and authorized persons must be aware of all terms):

See Appendix A.

Region Specific Terms:

See Appendix A.

Authorized by:

Elizabeth Shebib
A person authorized by the Regional Manager
Recreational Fisheries & Wildlife Programs
South Coast Region

Date: April 29, 2024

Permit Fee Exempt

APPENDIX A FISH COLLECTION PERMIT TERMS

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

PROVINCIAL TERMS

1. 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.**

NOTE: Contact the Department of Fisheries and Oceans for fish collecting permits for salmon or eulachon <https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/forms/licence-sci-permis-eng.pdf> or for SARA listed species <https://www.dfo-mpo.gc.ca/species-especes/sara-lep/permits-permis/index-eng.html#apply>.

2. Any specimen's surplus to scientific requirements and any species not authorized for collection in this permit must be immediately and carefully released at the point of capture.
3. Fish collected under authority of this permit must not be used for food or any purpose other than the objectives set out in this permit. Dead fish must be disposed of in a manner that will not constitute a health hazard, nuisance, or a threat to wildlife.
4. No fish collected under authority of this permit must be transplanted unless separately authorized by the Federal/Provincial Introductions and Transfers Committee.
5. The permit holder must, within 90 days (120 days for the Kootenay/Boundary region and Peace region) of the expiry of this permit, submit a report of fish collection activities. Interim reports may also be required and must be submitted as required by the permit issuer. All submissions must be filed electronically to: <https://www2.gov.bc.ca/fish-data-submission-process>.

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

6. The permit holder must comply with all Workers' Compensation Board requirements and other regulatory requirements. The permit holder is responsible for ensuring authorized persons listed on the permit are properly certified for specific sampling methods or activities (e.g., electroshocking).
7. Any workers not listed on the permit must be supervised by the permit holder or one of the authorized persons named on the permit.
8. 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.
9. No electrofishing is to take place in waters having a temperature less than five degrees C.
10. No sampling of fish in waters having a temperature greater than twenty degrees C.
11. Electrofishing must 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.
12. When work requires de-watering or isolation of the worksite in the stream, a permit for the salvage of fish and wildlife (Scientific Fish Collection permit) must be obtained prior to commencing work. All required salvage permits must be obtained from FrontCounter BC: <https://portal.nrs.gov.bc.ca/web/client/home>.

PROVINCIAL TERMS CONTINUED

13. Any fish or wildlife salvage must be carried out by a qualified environmental professional registered with a professional association (such as an RPBio). The qualified professional conducting salvage work must adhere to the conditions below in addition to those required in the Scientific Fish Collection permit.

- Salvage activities must be conducted to the Provincial Resource Information Standards Committee (RISC) standards for capture, data collection, handling, and release:

STREAM ISOLATION

- The QP must follow the standards and practices outlined in the Work Area Isolation Appendix found in the Standards and Best Practices for Instream Works.
<http://www.env.gov.bc.ca/wld/documents/bmp/iswstdsbpsmarch2004.pdf>
- A QP must ensure that the worksite has been substantively isolated to prevent any fishes from entering the work area and efforts must be made to exclude fish from entrapment during installation of isolation works. (See section 14.2 of the Standards and Best Practices for Instream Works (MWLAP 2004).
- Dewatering must not result in HADD to fish habitat or the death of fish unless authorized by Fisheries and Oceans Canada.
- While dewatering the work site and dewatering during fish capture, all pump intakes are required to meet the federal COP for fish intake screening guidelines <https://www.dfo-mpo.gc.ca/pnw-ppe/codes/screen-ecran-eng.html>.

FISH CAPTURE

- Qualified professionals must determine appropriate sampling methods from the RISC standards based on water body type and habitat conditions <https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nr-laws-policy/risc/fishml04.pdf>.
- Qualified professionals must use a risk hierarchy of passive to active and low risk to higher risk in collection methods (e.g., minnow traps, fyke nets, beach pole seines, electroshocking, angling).
- Qualified professional must conduct a **minimum of three** non-lethal collection methods in all fish salvages.
- For active collection methods a minimum of two consecutive passes of each method that produces a zero catch must be completed as per total population removal methodology (at a minimum 95% fish removal must be achieved). (<https://www.wildsalmoncenter.org/resources/field-protocols-best-monitoring-practices/>).
- Where work site isolation cannot be fully achieved (e.g., fast flowing streams, imperfect seal due to substrate) additional efforts are needed to prevent harm to fish. At the end of each workday, a passive form of fish capture (e.g., baited minnow traps) are to be placed in the isolation site. If fish are captured overnight, you must restart isolation procedures at the start of the workday.
- If species at risk are captured, work must stop until proper permits are obtained.

DATA COLLECTION

- Sampling/data collection is a requirement of the Scientific Collection Permit. Sample size requirements are listed in the table below.
- Scientific Fish Collection Permits require a Fish Data Submission Template to be completed. Step 4 (Stream Site Data) of the Fish Data Submission Template must be filled out for the location where fish are salvaged from. <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/fish/fish-and-fish-habitat-data-information/fish-data-submission/submit-fish-data>.

FISH RELEASE

- Fish must be released following RISC standards.
- All species are to be released in the same watercourse downstream of the work areas or a sufficient distance upstream (5 channel widths to a maximum of 100 meters) into waters of equivalent baseline quality and habitat type (pool, riffle, run).

Minimum Standards During Salvage for Fish Collection Sampling Effort*

Fish Species	Age Class	Size range	Minimum Sampling Size for lengths	Sample column required (from Individual Fish Data form)	Notes
Salmonids, including RB, CT(CCT), DV, BT, GR, LT, KO	fry	20 to 80 mm	up to 30 after 30 count	J (if possible), K	
	juvenile	81 mm-250 mm	Measure all fish caught	J, K, L	
	adult	greater than 250 mm	Measure all fish caught	J, K, L, M, N	
Coarse Fish (cyprinids, stickleback, dace, shiner, carp, pikeminnow)		under 200 mm	up to 30 after 30 count	J, K	
	Adult	over 200 mm	All	J, K, L, M	
Sport other (bass, perch, sunfish, walleye, northern pike)		all	up to 30 after 30 count	J, K, L	
Sculpin sp.		0-150mm (total length)	up to 30 after 30 count	J, K	
		Over 150mm	All	J, K, L	
Burbot, Lamprey		0-150 mm (total length)	All	J, K, L, N	
Listed Species (salish sucker, sturgeon, etc.)		All	All		Refer to SAR permit for conditions
All fishes not listed above		All	minimum 10 of each then count only	J, K, L	

Abbreviations for salmonids

- RB-Rainbow
- CT(CCT)-Cutthroat
- DV-Dolly Varden
- BT- Bull Trout
- GR- Arctic Grayling
- LT- Lake Trout
- KO- Kokanee

REGION SPECIFIC TERMS

South Coast Region

1. 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.
2. 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), Oregon Spotted Frog, and Pacific Water Shrew (within the lower Fraser River Valley). Any incidental captures (alive or dead) of any red-listed or blue-listed wildlife species must be reported to the Ministry of Water, Land, and Resource Stewardship, South Coast Region. For further information on these species or to report incidental captures, please contact the Fish and Wildlife Branch by e-mail at SCFishandAquaticWildlife@gov.bc.ca.
3. All non-native fish species captured under this permit are to be humanely euthanized and disposed of appropriately. Within 48 hours of capture, a record of the species, capture location, date, waterbody, number, size range (mm) and digital imagery must be submitted to the Fish and Wildlife Branch by email at SCFishandAquaticWildlife@gov.bc.ca. Non-native fish species include but are not limited to: American Shad; Black Catfish; Black Crappie; Brown Catfish; Carp; Goldfish; Largemouth or Smallmouth Bass; Pumpkinseed Sunfish; and Weather-fish.
4. Please refer to the following website for the least risk in-stream work windows: <https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/working-around-water/regional-terms-conditions-timing-windows>. 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.
5. The permit holder must refer to the following when sampling Salish Sucker, Nooksack Dace, and Stickleback species.
Salish sucker sampling guidelines - <https://portal.nrs.gov.bc.ca/documents/10184/0/SalishSuckerCollectionGuidelines2015.pdf/5893755c-1c3f-b85b-419c-a4ce50ffac71>
Nooksack dace sampling guidelines – <https://portal.nrs.gov.bc.ca/documents/10184/0/NooksackDaceCollectionGuidelines2015.pdf/339d65e0-23b5-10bb-b33f-a7dbf74d5d39>
Stickleback species pairs sampling guidelines - <http://www.dfo-mpo.gc.ca/species-especies/publications/sara-lep/stickleback-epinoches/index-eng.html>
6. To prevent the spread of invasive species and disease organisms it is required that all sampling equipment (traps, seines, dip nets, boats, boots, etc.) be cleaned and sterilized using appropriate methods prior to moving gear from one waterbody to another. All equipment should be rinsed or cleaned with local water, followed by disinfectant, and drying all items completely. See Equipment Disinfection Procedures to Prevent the Accidental Spread of Aquatic Invasive Species for guidance (See Email Attachment)
7. The permit holder must check deployed gee/minnow traps and retain or release any fish caught every two hours during the Stickleback Species Pairs (*Gasterosteus* spp.) breeding season.
8. The permit holder must adhere to the "no take zones" as defined in the 2008 Guidelines for the Collection and In Situ Scientific Study of Stickleback Species Pairs (*Gasterosteus* spp.):
 - a. Paxton Lake: Collecting should occur only within the southern basin. The no-take area includes the northern basin from the midway point in the narrows between the two main basins. Approximate UTM's of boundary: 10 U 390009 5507563 to 10 U 390065 5507550.
 - b. Priest Lake: The lake does not have distinct basins and a boundary has been defined to divide the lake into approximate halves. Approximate UTM's of the boundary are: 10 U 387105 5511354 to 10 U 387422 5511533. Collecting should occur only within the southeastern half of the lake. The no-take area includes the northwestern half.
 - c. Balkwill Lake: The other common name for this lake is Spectacle Lake, and as this name implies there are two distinct basins. However, one basin is considerably smaller so we have defined a boundary dividing the entire lake into approximate halves. Approximate UTM's of the boundary are: 10 U 385675 5511863 to 10 U 385725 5511970. Collecting should occur only within the eastern half of the lake. The no-take area includes areas west of the boundary.
 - d. Emily Lake: This lake is small and roughly circular. We have defined a boundary dividing the entire lake into approximate halves. Approximate UTM's of the boundary are: 10 U 388655 5511709 to 10 U 388666 5511405. Collecting should occur only within the eastern half of the lake. The no-take area includes all areas west of the boundary.
 - e. Little Quarry Lake: The lake does not have distinct basins so a boundary has been defined that divides the lake into approximate halves. Approximate UTM's of the boundary are: 10 U 419904 5501814 to 10 U 420101 5501615. Collecting should occur only within the northeastern half of the lake. The no-take area includes all areas southeast of the boundary.

APPENDIX B ADVISORY

GENERAL

- It is the permit holder's responsibility to be aware of all applicable laws and the limits of this permit. For example,
 - This permit **does not** authorize the collection of fish in national or provincial parks.
 - This permit does not authorize the collection of fish in tidal waters.
 - This permit does not authorize the collection of eulachon or for salmon, other than kokanee.
 - This permit is NOT authority to angle for fish without a valid angling licence.
- It is the responsibility of the permit holder to obtain proper authorization.
- The Province is not liable for any illness contracted through fish handling. It is the responsibility of the permit holder to inform themselves of possible health hazards, and to ensure that all reasonably necessary safety measures are undertaken.
- If applicable, the permit holder is responsible for renewing this permit. The issuer is not obliged to send a reminder notice.

LEGISLATION

Below is a non-exhaustive list of provisions under the *Wildlife Act* and regulations that are relevant to this permit. It is the permit holder's responsibility to be aware of any provisions under the *Wildlife Act* or regulations that may apply to this permit.

Wildlife Act

Suspension and cancellation of permits

- 25** (1) A regional manager, for any cause he or she considers sufficient, and after providing an opportunity for the person to be heard, may suspend or cancel a permit held by a person, may order that the person is ineligible to obtain or renew a permit for a period and, if he or she does make an order, must inform the person of the period of ineligibility.
- (2) An officer may, without the necessity of holding a hearing, exercise the powers of a regional manager under this section to suspend a permit and, if a permit is suspended by an officer, the matter must be referred to the regional manager, who may confirm, reduce, extend or terminate the suspension.

Documents not transferable

- 81** Except as authorized by regulation or as otherwise provided under this Act, a licence, permit or limited entry hunting authorization is not transferable, and a person commits an offence if the person
- (a) allows his or her licence, permit or limited entry hunting authorization to be used by another person, or
 - (b) uses another person's licence, permit or limited entry hunting authorization.

Failure to pay fine

- 85** (1) This section applies if a person
- (a) fails to pay, within the time required by law, a fine imposed as a result of the person's conviction for an offence under this Act or the *Firearm Act*, and
 - (b) has been served with notice of this section.
- (2) In the circumstances referred to in subsection (1),
- (a) the person's right to apply for or obtain a licence, permit or limited entry hunting authorization under this Act is suspended immediately and automatically on the failure to pay the fine,
 - (b) all licences, permits and limited entry hunting authorizations issued to that person under this Act are cancelled immediately and automatically on the failure to pay the fine,
 - (b.1) the person must not apply for employment as an assistant guide,
 - (b.2) the person must not guide as an assistant guide, and
 - (c) the person commits an offence if, before that fine is paid, the person
 - (i) applies for, or in any way obtains, a licence, permit or limited entry hunting authorization under this Act,
 - (ii) does anything for which a licence, permit or limited entry hunting authorization under this Act is required,
 - (iii) applies for employment as an assistant guide, or
 - (iv) guides as an assistant guide.

Proof of identity and authorization

97 (1) In this section, “**authorization**” means a licence, permit or limited entry hunting authorization issued under this Act.

- (2) Subject to subsection (5), a person who is required to hold an authorization must, on the request of an officer,
 - (a) state the person’s name and address,
 - (b) produce prescribed photo identification, and
 - (c) demonstrate in accordance with subsection (3) that the person holds the authorization.
- (3) A person may demonstrate that the person holds an authorization by
 - (a) producing the authorization, or
 - (b) unless the regulations require that the original authorization be produced,
 - (i) producing a legible copy of the authorization, or
 - (ii) if authorized by the regulations, stating a number assigned to the person by the director as an identification number for the person.
- (4) Subject to subsection (5), a person who would be required to hold a licence or permit issued under this Act were the person not exempt under section 11 (9) or 12 (b) must, on the request of an officer,
 - (a) state the person’s name and address, and
 - (b) produce prescribed photo identification.
- (5) Subsections (2) (b) and (4) (b) do not apply to a person in a prescribed class of persons.
- (6) A person who contravenes subsection (2) or (4) commits an offence.

Wildlife Act General Regulation

Proof of identity

21.01 (1) For the purposes of section 97 (2)(b) and (4)(b) of the Act, the following photo identification is prescribed:

- (a) valid photo identification issued to a person by any of the following:
 - (i) the government of Canada;
 - (ii) the government of a province or territory, or an agent of the government of a province or territory, in which the person has a current address;
 - (iii) the Nisga’a Nation, if the person is a Nisga’a citizen;
 - (iv) a treaty first nation, if the person is a treaty first nation member of the treaty first nation;
- (b) in the case of a person who is a non-resident alien,
 - (i) valid photo identification in the form of
 - (A) a passport, or
 - (B) a driver’s licence issued to the person by a foreign jurisdiction in which the person has a current address, or
 - (ii) a copy of a photo identification referred to in subparagraph (i) that has been certified as a true copy by
 - (A) a lawyer, or
 - (B) a notary who is a member in good standing under the *Notaries Act*
 - (c) in any case, a valid NEXUS card.
- (2) For the purposes of section 97 (5) of the Act, persons under 16 years of age are prescribed as exempt from the requirement to produce photo identification.

Freshwater Fish Regulation

Offences

- 2** A person commits an offence where the person
 - (a) has in possession,
 - (b) transports, or
 - (c) traffics inlive fish unless authorized by a permit or a licence.

**APPENDIX C
PERMITTED WATERBODIES**

Ministry of Environment Region	Waterbody	Watershed Code	UTM Zone	Northing	Easting
2	AMBROSE LAKE	900-147300-93700	10	5509358	426454
2	CRANBY LAKE	905-126000-31000	10	5505699	391719
2	EMILY LAKE	905-126000-61600	10	5511713	388535
2	KLEIN LAKE	900-147300-79800	10	5508605	430143
2	CAMPBELL RIVER	900-000500	10	5428935	516201
2	LITTLE QUARRY LAKE	905-145000-08500	10	5501516	419604
2	MIKE LAKE	100-026700-06000-38500	10	5457922	533567
2	NORTH LAKE	900-152008	10	5511095	429628
2	LILY LAKE	900-141100	10	5496459	426078
2	PAXTON LAKE	905-126000-66000-97900	10	5507797	390347
2	PRIEST LAKE	905-126000-61600	10	5511150	387959
2	SALMON RIVER	100-038800	10	5447266	530138
2	Second Lake	905-126000-26900-55300	10	5499214	402628
2	TOM LAKE	905-323000-55100	10	5568860	362248



**APPENDIX D
LETHAL SAMPLING, TAGGING, AND MARKING**

Target Species	# of Fish	Sample Waterbody	Code
Threespine Stickleback	50	AMBROSE LAKE	900-147300-93700
Threespine Stickleback	400	CAMPBELL RIVER	900-000500
Threespine Stickleback	50	CRANBY LAKE	905-126000-31000
Threespine Stickleback	30	KLEIN LAKE	900-147300-79800
Threespine Stickleback	50	LILY LAKE	900-141100
Threespine Stickleback	60	LITTLE QUARRY LAKE	905-145000-08500
Threespine Stickleback	50	MIKE LAKE	100-026700-06000-38500
Threespine Stickleback	50	NORTH LAKE	900-152008
Paxton Lake Benthic Stickleback	20	PAXTON LAKE	905-126000-66000-97900
Paxton Lake Limnetic Stickleback	20	PAXTON LAKE	905-126000-66000-97900
Vananda Creek Benthic Stickleback (Priest Lake)	20	PRIEST LAKE	905-126000-61600
Vananda Creek Limnetic Stickleback (Priest Lake)	20	PRIEST LAKE	905-126000-61600
Threespine Stickleback	200	SALMON RIVER	100-038800
Threespine Stickleback	100	Second Lake	905-126000-26900-55300
Threespine Stickleback	50	TOM LAKE	905-323000-55100



BRITISH
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