



PERMIT ISSUED UNDER SECTION 73 OF THE *SPECIES AT RISK ACT*

19-PPAC-00006

Subject to the conditions described in this permit, the holder of this permit ("Permit Holder"), or any qualified person acting under the authority of the Permit Holder, is authorized under the authority of subsection 73(1) of the *Species at Risk Act*, S.C. 2002. c.29 (SARA) to engage in activities (as described in this permit) that kill, harm, harass, capture, take or possess individuals of the following threatened or endangered aquatic species listed on Schedule 1 of SARA:

Stickleback, Paxton Lake Benthic Threespine (*Gasterosteus aculeatus*), Endangered
Stickleback, Paxton Lake Limnetic Threespine (*Gasterosteus aculeatus*), Endangered
Stickleback, Vananda Creek Benthic Threespine (*Gasterosteus aculeatus*), Endangered
Stickleback, Vananda Creek Limnetic Threespine (*Gasterosteus aculeatus*), Endangered

Permit issued to:

University of British Columbia (UBC; "Permit Holder"):
Attention to: Dolph Schluter
Zoology Department, University of British Columbia
6270 University Boulevard
Vancouver, BC V6K 4G4
604-822-2387
schluter@zoology.ubc.ca

Location of Proposed Activity

This permit is only valid at the following location(s):

Nearest community (city, town, village): Van Anda

Province: British Columbia

Name of watercourse(s), waterbody(ies): Emily, Paxton and Priest lakes on Texada Island

Valid Permit Period

This permit is valid from 2019-April-01 until 2019-October-31.

If the Permit Holder cannot complete the activity during this period, Fisheries and Oceans Canada (DFO) must be notified in advance of the expiration of the time period. DFO may, where appropriate, provide written notice that the valid permit period to complete the permitted activity has been extended.

The period during which other conditions of this permit must be complied with are provided in their respective sections below. DFO may, where appropriate, provide written notice that these periods have been extended.

Description of the Activity

The activities authorized by this permit consist of:

- a) capturing Threespine Sticklebacks from Paxton, Priest, and Emily lakes using seine nets, dip nets, or minnow traps;
- b) transporting Paxton Lake Threespine Sticklebacks to the University of British Columbia for the purposes of monitoring phenotype and genotypes;
- c) transporting Priest Lake Threespine Sticklebacks to the University of British Columbia for use in a study of the evolutionary forces acting on "solitary" stickleback populations, the first stage in the origins of stickleback species pairs;
- d) transporting Paxton Lake, Priest Lake, and Emily Lake Threespine Sticklebacks to the University of British Columbia for use in a study of the genetic distinctiveness of the different species pairs; and
- e) release of any live individuals not required for planned removals (described in 2.2.7.1) to the wild following recovery.

Terms and Conditions of Permit

The activity must be carried on in accordance with the following conditions:

1. General Conditions

- 1.1. A copy of this permit shall be kept on site at all times in the possession of the Permit Holder or a person acting under the Permit Holder's authority.
- 1.2. All persons undertaking the activity under the authority of the Permit Holder shall do so under the direction and oversight of the Permit Holder and shall be made familiar with the conditions of this permit.
- 1.3. Activities shall comply with the conditions identified within this permit. Activities that affect individuals of species at risk other than those specifically identified within this permit are not authorized under this permit.
- 1.4. Adverse effects on the habitat of the species at risk identified in this permit or other fish, and activities that adversely affect fish habitat, are not authorized under this permit.

2. Conditions to avoid or minimize the impact of the activity on individuals of the species:

- 2.1. To the extent possible, activities shall be conducted in a manner whereby any individuals of the species shall be handled only in the circumstances authorized under this permit and with the least amount of harm.
- 2.2. The following measures shall be implemented to minimize the impact of the activity on individuals of the species:
 - 2.2.1. With the exception of "lethal sampling limits," proposed works shall be conducted using the techniques outlined in the "Guidelines for the Collection and In Situ Scientific Study of Stickleback Species Pairs (*Gasterosteus* spp.)" (Recovery Team for Non-Game Freshwater Fish Species in BC [RTNFFSBC], 2008).
 - 2.2.2. Minnow traps shall not be set for more than 2 hours at a time.
 - 2.2.3. Known nesting sites shall not be targeted for trapping.
 - 2.2.4. Males expressing a high degree of nuptial coloration shall not be retained, and shall be released at the earliest opportunity.
 - 2.2.5. Individuals to be sampled shall be temporarily placed in holding containers with fresh lake water, changed frequently to maintain temperature and oxygen close to ambient levels for the duration of transport to the research facility.

- 2.2.6. All sticklebacks not required for planned removals (described in 2.2.7.1) shall be released to the wild following recovery.
- 2.2.7. Work shall be discontinued immediately and the Species at Risk Program shall be contacted at sara@pac.dfo-mpo.gc.ca to report the occurrence and to determine the potential for any further works that may affect Paxton Lake or Vananda Creek Threespine Sticklebacks (Benthic or Limnetic) in the event that:
 - 2.2.7.1. the maximum number of planned removals (30 female, 30 male Limnetics from Paxton Lake, 20 female, 20 male Benthics from Paxton Lake; 35 female, 35 male Benthics from Priest Lake, 40 female, 40 male Limnetics from Priest Lake; 15 female, 15 male Benthics from Emily Lake, 15 female, 15 male Limnetics from Emily Lake) specified in this permit is exceeded; or,
 - 2.2.7.2. the maximum number of incidental mortalities (2 Benthics from Emily Lake; 2 Limnetics from Emily Lake; 2 Benthics from Paxton Lake; 3 Limnetics from Paxton Lake; 4 Benthics from Priest Lake; 4 Limnetics from Priest Lake) specified in this permit is exceeded.

3. Conditions that relate to monitoring and reporting:

- 3.1. By December 31, 2019 the Permit Holder shall provide a report to Fisheries and Oceans Canada detailing any activity which results in killing, harming, harassing, capturing, possessing or taking of any individuals of the affected species. The completed report shall be sent to the following email address:
sara@pac.dfo-mpo.gc.ca
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Authorization Limitations and Application Conditions

This permit cannot be transferred or assigned to another party. If the activity authorized under this permit is sold or transferred to another party, or if other circumstances arise that result in another party taking over the activity, the Permit Holder shall advise DFO in advance if the ownership or responsibility for the activity is expected to change.

The failure to comply with any condition of this permit may result in an offence under section 97 of SARA and may result in charges being laid under the *Species at Risk Act*.

This permit may be revoked or amended to ensure the survival or recovery of Paxton Lake or Vananda Creek Threespine Sticklebacks (Benthic or Limnetic). Without limiting the generality of the foregoing, DFO may:

- suspend any permitted activities to avoid or mitigate additional adverse direct or indirect effects to the Paxton Lake or Vananda Creek Threespine Sticklebacks (Benthic or Limnetic);
- amend or revoke this permit; and
- direct the Permit Holder to carry out at the Permit Holder's expense any modifications or actions deemed necessary by DFO to avoid or mitigate existing impacts or to avoid further adverse direct and indirect impacts to Paxton Lake or Vananda Creek Threespine Sticklebacks (Benthic or Limnetic).

This permit is valid only with activities and species listed herein and for no other purposes. It does not authorize the Permit Holder to buy, sell, trade, damage the residence of, destroy the residence of, destroy part of the critical habitat of an individual of a wildlife species that is listed as extirpated, endangered or threatened, or any part or derivative of such an individual. This permit does not purport to release the Permit Holder from any obligation to obtain permission from or to comply with the requirements of any other regulatory agencies.

Date of Issue: 4 March 2019

Approved by: P. Shepherd
Pippa Shepherd
A/Regional Manager, Species at Risk Program
Fisheries and Oceans Canada
