



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

24-PPAC-00008

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, and possess individuals of the following threatened or endangered aquatic species listed on Schedule 1 of SARA:

Paxton Lake Benthic Threespine Stickleback (*Gasterosteus aculeatus*) - Endangered  
Paxton Lake Limnetic Threespine Stickleback (*Gasterosteus aculeatus*) - Endangered  
Vananda Creek Benthic Threespine Stickleback (*Gasterosteus aculeatus*) - Endangered  
Vananda Creek Limnetic Threespine Stickleback (*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 V6T 1Z4  
Phone: 604-822-2387  
Cellular: 604-418-5388  
Fax: 604-822-2416  
[schluter@zoology.ubc.ca](mailto:schluter@zoology.ubc.ca)

### Location of Proposed Activity

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

1) Nearest community (city, town, village): Van Anda, Texada Island  
Province: British Columbia  
Name of watercourse(s), waterbody(ies): Paxton Lake, Priest Lake, Emily Lake  
Specific location: Within collection zones identified 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, 2008) in the southern basin of Paxton Lake, in southeastern Priest Lake, and eastern Emily Lake.

2) Nearest community (city, town, village): Vancouver  
Province: British Columbia  
Name of watercourse(s), waterbody(ies): N/A  
Specific location: Laboratory and experimental facilities of the Department of Zoology, University of British Columbia

### Valid Permit Period

This permit is valid from 2024-04-22 until 2024-12-31

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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.

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### **Description of the Activity**

The activities authorized by this permit consist of:

- a) Capture of Paxton Lake Benthic Threespine Stickleback and Paxton Lake Limnetic Threespine Stickleback in Paxton Lake, and capture of Vananda Creek Benthic Threespine Stickleback and Vananda Creek Limnetic Threespine Stickleback in Priest and Emily lakes using minnow traps.
  - b) Lethal sampling of up to 20 juveniles from each species (Paxton Lake Benthic Threespine Stickleback, Paxton Lake Limnetic Threespine Stickleback, Vananda Creek Benthic Threespine Stickleback, and Vananda Creek Limnetic Threespine Stickleback) captured in Paxton and Priest lakes in activity a) for use in an age distribution study.
  - c) Collection of fin clipped tissue from adult Vananda Creek Benthic Threespine Stickleback (up to 25 males and 25 females) and adult Vananda Creek Limnetic Threespine Stickleback (up to 25 males and 25 females) captured in Emily Lake in activity a) for future genetic analyses on hybridization frequency.
  - d) Release of any live captured individuals in excess of the numbers specified in activity b) to the wild.
  - e) Possession and transport of fish euthanized in activity b) and fin clipped tissue collected in activity c) to the University of British Columbia.
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### **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. Activities shall be undertaken by or under the direct supervision of an appropriately qualified environmental professional.
  - 2.2. 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.
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- 2.3. The following measures shall be implemented to minimize the impact of the activity on individuals of the species:
- 2.3.1. All traps and sampling gear and equipment shall be cleaned, inspected and disinfected prior to transfer between different waterbodies to prevent the spread of invasive species and disease. Any of the following disinfectants are permitted: chlorine bleach (diluted concentration of 5000 ppm; exposure time of 15 minutes), Virkon<sup>TM</sup> Aquatic (diluted concentration 2:100; exposure time of 20 minutes), or QUAT Plus (diluted concentration of 1500 ppm for soaking or 3000 ppm for wiping/spraying; exposure time of 10 minutes).
  - 2.3.2. Work 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 2008).
  - 2.3.3. Minnow trap soak times shall not exceed 2 hours.
  - 2.3.4. Known nesting sites shall not be targeted for trapping, to reduce potential harm to the residence.
  - 2.3.5. Males expressing a high degree of nuptial coloration (indicating recent spawning and nest guarding) shall not be retained, and shall be released at the earliest opportunity.
  - 2.3.6. No more than 20% of the caudal fin shall be removed during fin clipping activities and fish shall be returned to the water immediately after the fin clip is collected.
  - 2.3.7. Euthanasia shall adhere to the University of British Columbia Animal Care protocol A20-0050: an overdose of tricaine methanesulfonate (MS-222) by introducing individuals to a buffered (pH 7.0) solution of MS-222 at a concentration of 250 mg/L.
  - 2.3.8. All sticklebacks not required for lethal sampling (maximum number of individuals of each species to be euthanized for age distribution study described in activity b) shall be released promptly near the point of capture.
  - 2.3.9. If the maximum number of incidental mortalities specified in this permit (1 Paxton Lake Benthic Threespine Stickleback; 1 Paxton Lake Limnetic Threespine Stickleback; 1 Vananda Creek Benthic Threespine Stickleback in Priest Lake; 1 Vananda Creek Limnetic Threespine Stickleback in Priest Lake; 3 Vananda Creek Benthic Threespine Stickleback in Emily Lake; or 3 Vananda Creek Limnetic Threespine Stickleback in Emily Lake) is exceeded, work must be discontinued immediately and the Species at Risk Program must be contacted at [DFO.PACSAR-LEPPAC.MPO@dfo-mpo.gc.ca](mailto:DFO.PACSAR-LEPPAC.MPO@dfo-mpo.gc.ca) to report the occurrence and to determine the potential for any further works that may affect Paxton Lake Benthic Threespine Stickleback, Paxton Lake Limnetic Threespine Stickleback, Vananda Creek Benthic Threespine Stickleback, and Vananda Creek Limnetic Threespine Stickleback.

### 3. Conditions that relate to monitoring and reporting:

- 3.1. By December 31, 2024, the Permit Holder shall provide a report to Fisheries and Oceans Canada at [DFO.PACSAR-LEPPAC.MPO@dfo-mpo.gc.ca](mailto:DFO.PACSAR-LEPPAC.MPO@dfo-mpo.gc.ca) detailing any activity which results in killing, harming, harassing, capturing or taking of any individuals of the affected species.
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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 Benthic Threespine Stickleback, Paxton Lake Limnetic Threespine Stickleback, Vananda Creek Benthic Threespine Stickleback, and Vananda Creek Limnetic Threespine Stickleback. 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 Benthic Threespine Stickleback, Paxton Lake Limnetic Threespine Stickleback, Vananda Creek Benthic Threespine Stickleback, and Vananda Creek Limnetic Threespine Stickleback;
- 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 Benthic Threespine Stickleback, Paxton Lake Limnetic Threespine Stickleback, Vananda Creek Benthic Threespine Stickleback, and Vananda Creek Limnetic Threespine Stickleback

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, or 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.

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Date of Issue:

Approved by: \_\_\_\_\_

Oliver Barker  
Acting Regional Manager, Species at Risk Program, Pacific Region  
Fisheries and Oceans Canada

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