# **Species at Risk**

## **Pacific Water Shrew**

Sorex bendirii



#### **STATUS**

The Pacific Water Shrew is protected under the federal Species at Risk Act.

#### **HABITAT DESCRIPTION**

The Pacific Water Shrew is generally found in riparian and wetland habitats near water, though individuals have been found in forests as far as 25 to 350 m from a stream. In British Columbia, the species is also found in non-forested grassy habitats bordering ditches and sloughs. This species is associated with skunk cabbage (*Lysichiton americanus*) marshes, red alder (*Alnus rubra*) riparian habitat, and dense, wet forests of western redcedar (*Thuja plicata*). There are no specific data on habitat trends for this species, but there has been a significant loss of wetlands and forests habitats since the early 1900s.

#### **HABITAT FEATURES (BIOPHYSICAL ATTRIBUTES)**

Pacific Water Shrews require habitat with the following biophysical attributes:

- Coniferous or deciduous forest or dense marsh/wetland vegetation to provide cover and maintain a moist microenvironment;
- An area of water (natural stream, wetland, or channelized watercourse, whether permanent, ephemeral, or intermittent) to support foraging and provide a moist microenvironment; and
- Downed wood to provide cover and nesting and foraging substrate.

#### **CRITICAL HABITAT RANGE**



### **CRITICAL HABITAT FEATURE LINK TO BC AGRICULTURAL BMPs**

This table identifies which Environmental Farm Plan (EFP) Beneficial Managment Practices (BMPs) may be applicable; other stewardship actions may also be possible.

Habitat biophysical attributes	Activity that would destroy critical habitat	Agricultural BMP for protection or enhancement of habitat
<ul> <li>Intact riparian vegetation cover</li> <li>Coniferous or deciduous forest stands within 100 m<sup>1</sup> of a watercourse</li> </ul>	<ul> <li>Partial or total riparian vegetation removal (e.g., forest harvesting, urban or agricultural conversion, linear developments, livestock grazing/trampling).</li> <li>How activity would destroy critical habitat: <ul> <li>Vegetation removal (tree/canopy removal, understory alteration) leads to elimination of cover needed for nesting and dispersal</li> <li>Warming/drying of the microclimate, debris deposition, and bank erosion (causing sedimentation of the water course) lead to loss of water quantity/quality required to support foraging on aquatic invertebrates</li> </ul> </li> </ul>	<ul> <li>Protect and enhance riparian vegetation</li> <li>Protect and enhance forest stands adjacent to riparian areas</li> <li>BMPs</li> <li>2006-0601</li> <li>2006-1003</li> <li>2006-2001</li> <li>2006-2101</li> <li>2006-2104</li> <li>2006-2107</li> <li>2006-203</li> <li>2018/2019-3001</li> <li>2018/2019-1002</li> <li>2018/2019-1004</li> <li>2018/2019-1005</li> <li>2018/2019-2202</li> <li>2018/2019-2204</li> <li>2018/2019-2205</li> <li>2018/2019-3501</li> </ul>
<ul> <li>Downed woody debris in riparian understorey</li> </ul>	Removal of woody debris in riparian understorey. How activity would destroy critical habitat: • Removal of woody debris leads to loss of nesting, foraging, and cover structures	<ul> <li>Protect or create woody debris in riparian understory</li> <li>BMPs 2006-2107 2018/2019-1002 2018/2019-1101 2018/2019-3501</li> </ul>
<ul> <li>An area of water (natural stream, wetland, or channelized watercourse, whether permanent, ephemeral, or intermittent) unaltered by ditching/channeling, culverting, ditch clearing or impassable barrier</li> </ul>	<ul> <li>Alteration of water courses/wetted areas (e.g., ditching/channeling, culverting, ditch cleaning).</li> <li>How activity would destroy critical habitat: <ul> <li>Alteration of water courses leads to changes in water quantity and in the flow rate and pattern that are required to support foraging on aquatic invertebrates</li> <li>Loss of water/wetted areas leads to drying of the riparian microclimate</li> </ul> </li> <li>Installation of impassable barriers (e.g., multi-lane roads with no culverts).</li> <li>How activity would destroy critical habitat: <ul> <li>Installation of impassable barriers (e.g., multi-lane roads with no culverts).</li> </ul> </li> <li>How activity would destroy critical habitat: <ul> <li>Installation of impassable barriers leads to elimination of access between foraging, dispersal, and breeding habitats, which results in loss of habitat function and reduced gene flow</li> </ul> </li> </ul>	<ul> <li>Protect watercourses; avoid any alteration that will affect water quantity or flow or create an impassable barrier</li> <li>BMPs</li> <li>2006-1005</li> <li>2006-1006</li> <li>2006-1001</li> <li>2006-2103</li> <li>2006-2103</li> <li>2006-2103</li> <li>2006-2103</li> <li>2006-2103</li> <li>2006-2107</li> <li>2006-2002</li> <li>2018/2019-3001</li> <li>2018/2019-2001</li> <li>2018/2019-2201</li> <li>2018/2019-2203</li> <li>2018/2019-2205</li> <li>2018/2019-3501</li> </ul>
<ul> <li>No alterations of water chemistry (e.g. by herbicide/pesticide application, road or agricultural run-off)</li> </ul>	<ul> <li>Release of pollutants into or adjacent to water courses (e.g., herbicide/pesticide application, road and agricultural run-off).</li> <li>How activity would destroy critical habitat: <ul> <li>Changes in water chemistry lead to loss of water quality required to support foraging on aquatic invertebrates</li> </ul> </li> </ul>	<ul> <li>Ensure agricultural activities do not lead to leaching or runoff of chemicals, contaminants or sediment into watercourses</li> <li>Carry out erosion and sediment control measures for any activity where there is a risk of sediment entering a watercourse</li> <li>Apply pesticides according to provincial best management practices</li> <li>BMPs 2006-0501 2006-1301 2006-2102 2006-2102 2006-2201 2018/2019-0704 2018/2019-1601 2018/2019-1701 2018/2019-3501</li> </ul>

<sup>1</sup> Represents interpretation of the recovery strategy information



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