



South Coast: An update on Invertebrates at Risk Initiatives

Jennifer Heron

Invertebrate Conservation Specialist

BC Ministry of Land, Water and Natural Resource Stewardship, Surrey

South Coast Conservation Program

Conservation Connections Meeting - September 27, 2022

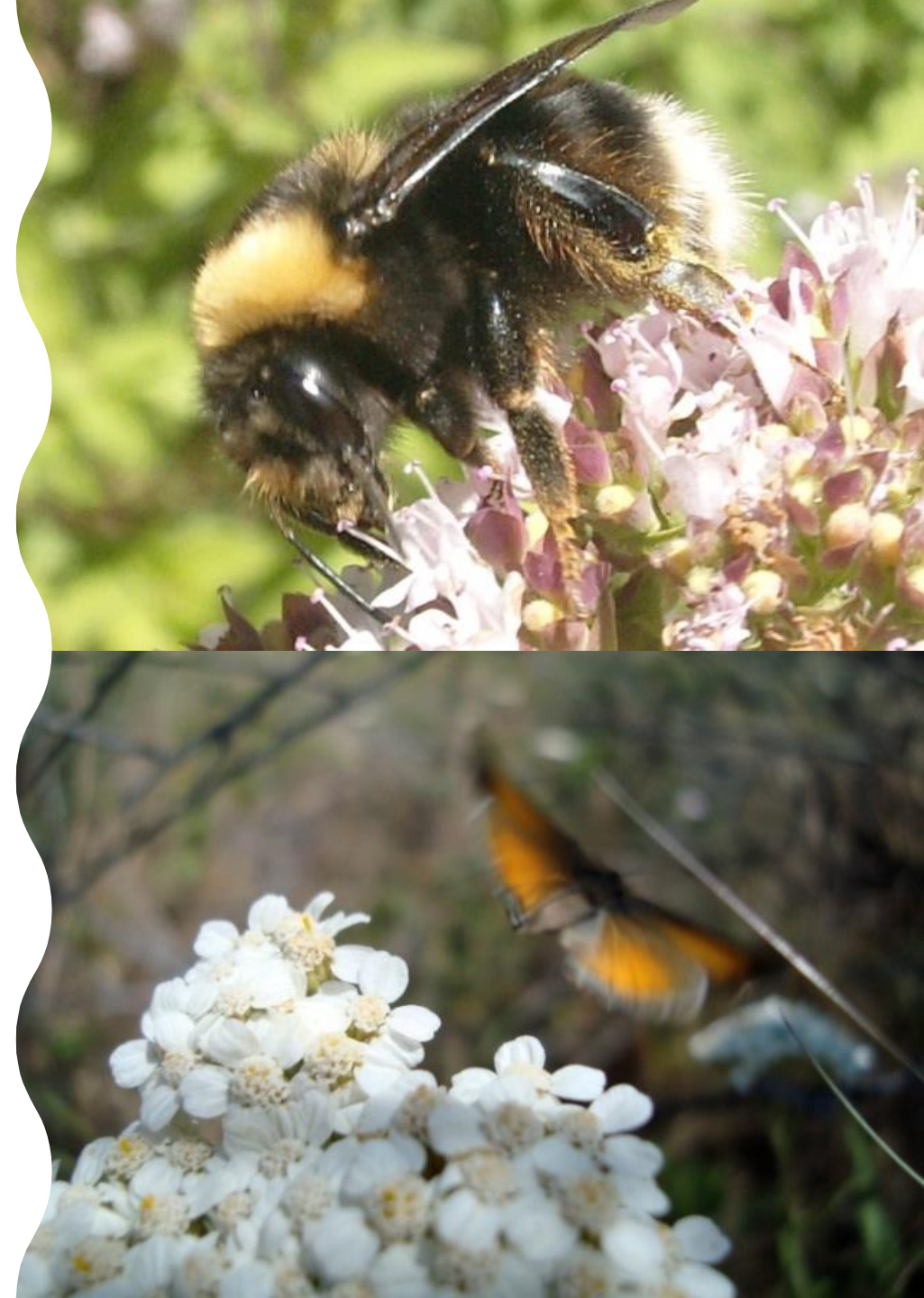


Outline

- Invert SAR Best Management Practices Guidelines
- COSEWIC Invert SAR
 - Recent assessments
 - Reports in progress
- Inventory for invert SAR in the south coast region
 - BC Parks inventory
 - Bumble bee community monitoring project
- Recovery planning
 - Documents completed / planned

Project BMP

- Primary Goal: create BMP/stewardship options for invert SAR
 - Started with Western Bumble Bee (this is a hard one though)
- Started in 2020
- To date: assembled all the data, did surveys (using other funding), BMP outline/background text & mapping
- Finish draft document(s) & send out for first review (Nov 2022 – March 2023)
- Challenges: BMPs are not 'easy' to develop
- Provincial learnings: seek advice from regional specialists to make BMPs regionally relevant as needs in different regions are different



BMP's

Deliverables

- Written BMP's
- Spatial files with potential habitat of the target invert SAR – for use by developers/regional districts
- **Species List – lower mainland**
 - Audouin's Night-stalking Tiger Beetle
 - Vivid Dancer (springs habitat)
 - Western Bumble Bee & other bumble bee SAR
- **And depending how far we get....**
 - Dun Skipper
 - Monarch (mainly because it's not in the lower mainland and yet people want to plant milkweed)



Preface.....

Introduction.....

Purpose/Scope.....

Background.....

 3.1 Importance of Bumble Bees.....

 3.2 Description of Western Bumble Bee.....

 3.3 Species Description.....

 3.4 Other Species of Bumble Bee.....

 3.5 Habitat and Biological Needs.....

 3.6 Movements and Dispersal.....

 3.7 Biologically Limiting Factors to Western Bumble Bee.....

4. Key Issues of Concern - Threats to Western Bumble Bee.....

5. Objectives

6. Standards & Legal Requirements

7. Best Management Practices

 7.1 Importance of Bumble Bees.....

 7.2 Description of Western Bumble Bee.....

 7.3 Species Description.....

 7.4 Survey Methodology.....

 7.5 Identification and Vouchers.....

 7.6 BMPs for Land Development and Clearing.....

 7.7 BMPs for Roadside and Right-of-way Maintenance.....

 7.8 BMPs for Invasive Species Management.....

 7.9 BMPs for Recreational Activities.....

 7.10 BMPs for Agriculture.....

 7.11 BMPs for Landscaping and Gardening and Golf Courses.....

 7.12 Additional Guidelines.....

8. Monitoring and Reporting.....



Behr's Hairstreak (example of habitat)

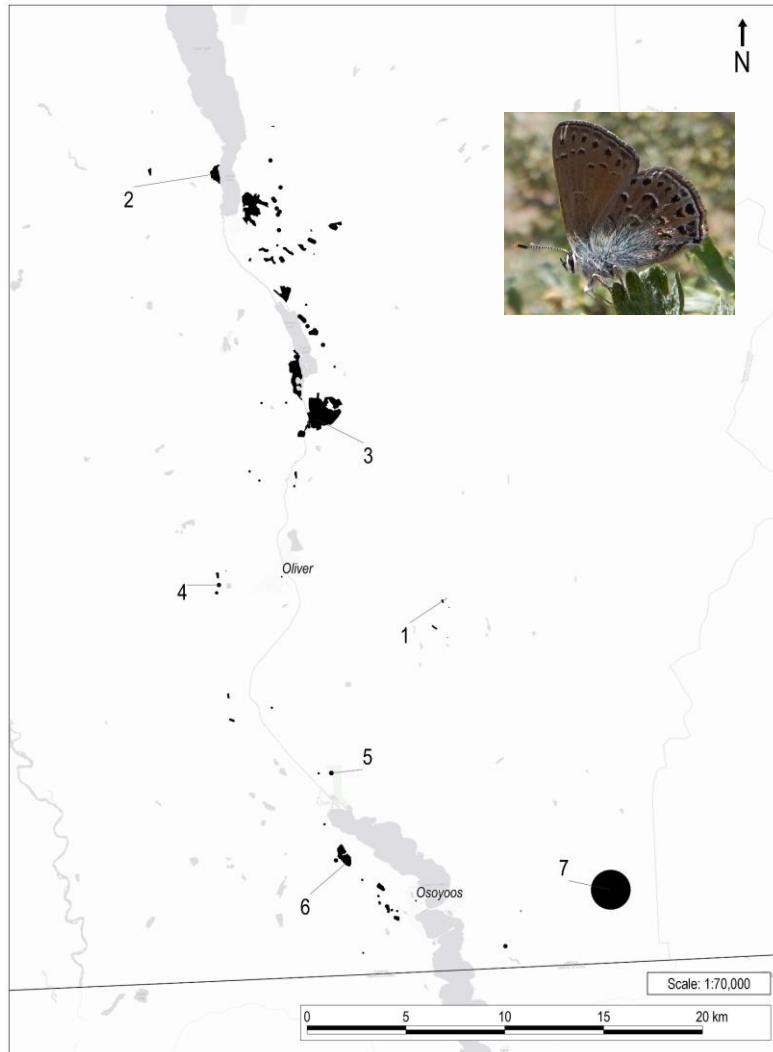


Figure 1. Map of Behr's Hairstreak subpopulations in the South Okanagan

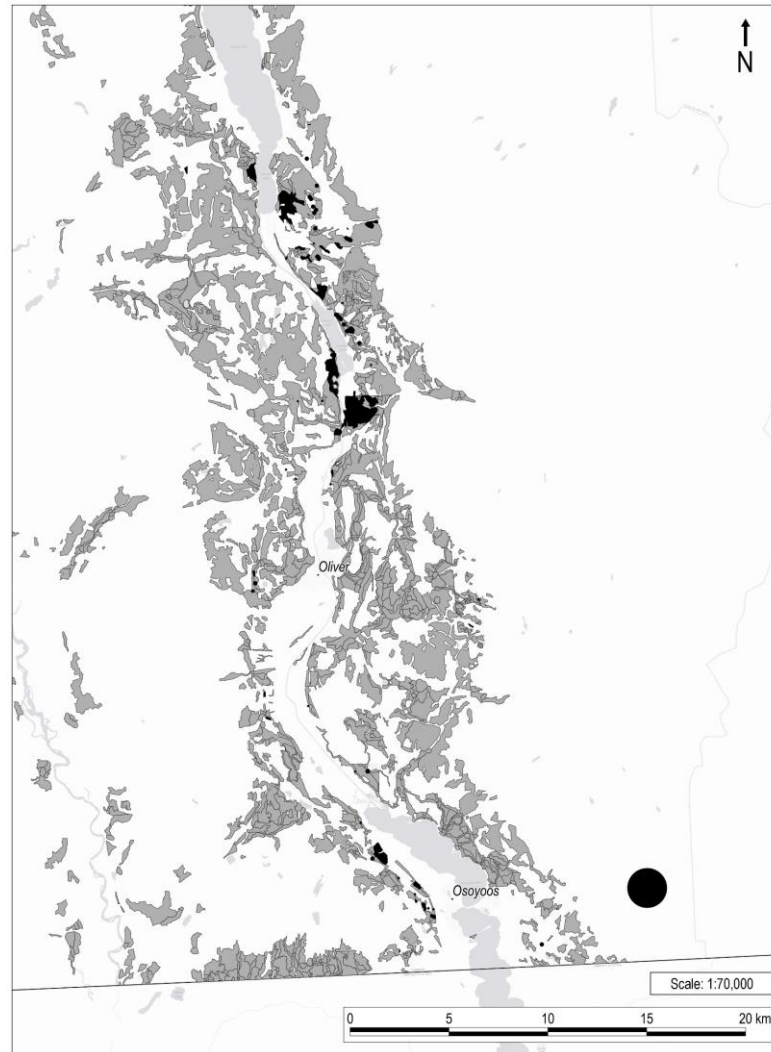


Figure 2. Map of Antelope-brush habitats and Behr's Hairstreak

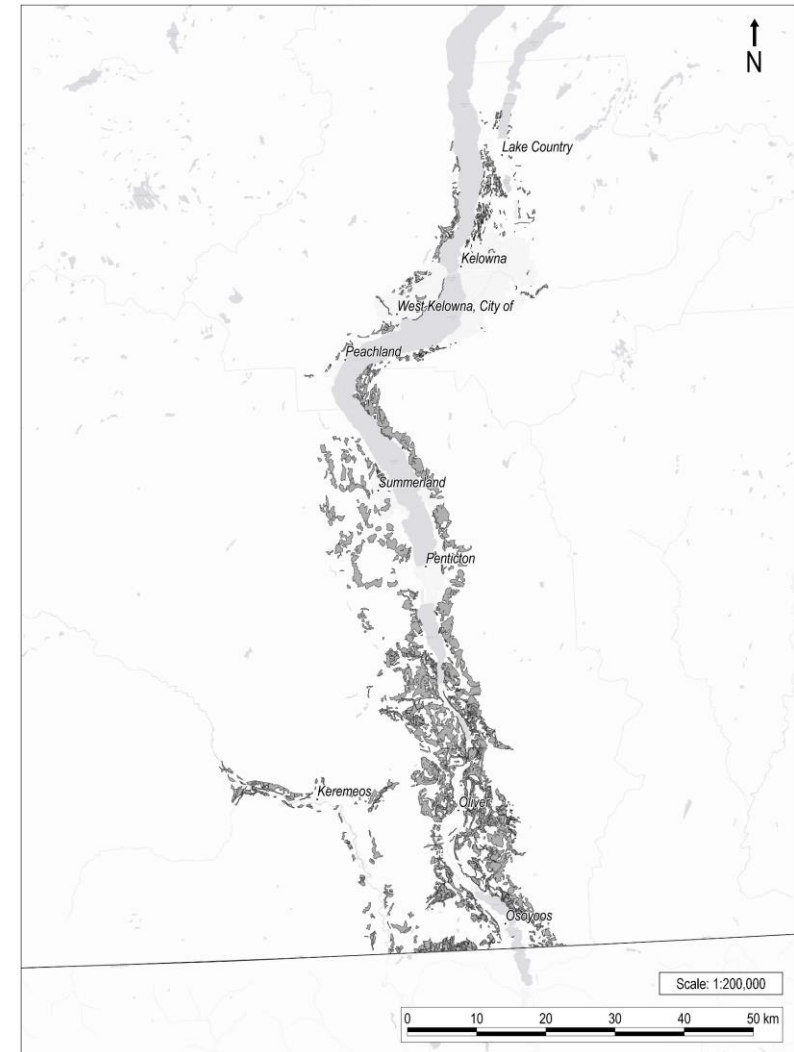
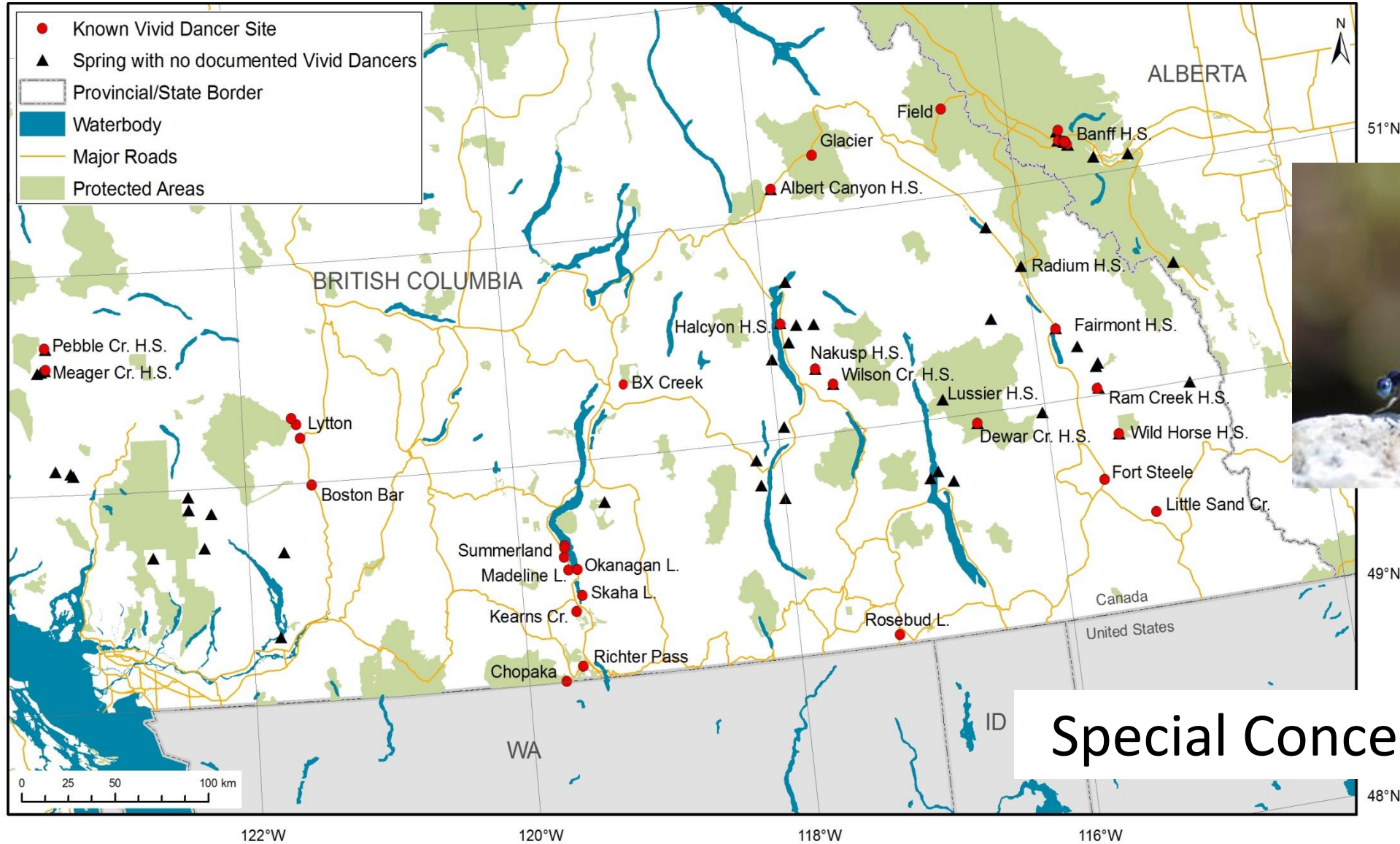


Figure 3. Map of Antelope-brush habitats in the Okanagan-Similkameen, beyond the range of Behr's Hairstreak

Vivid Dancer

wildlife habitat features

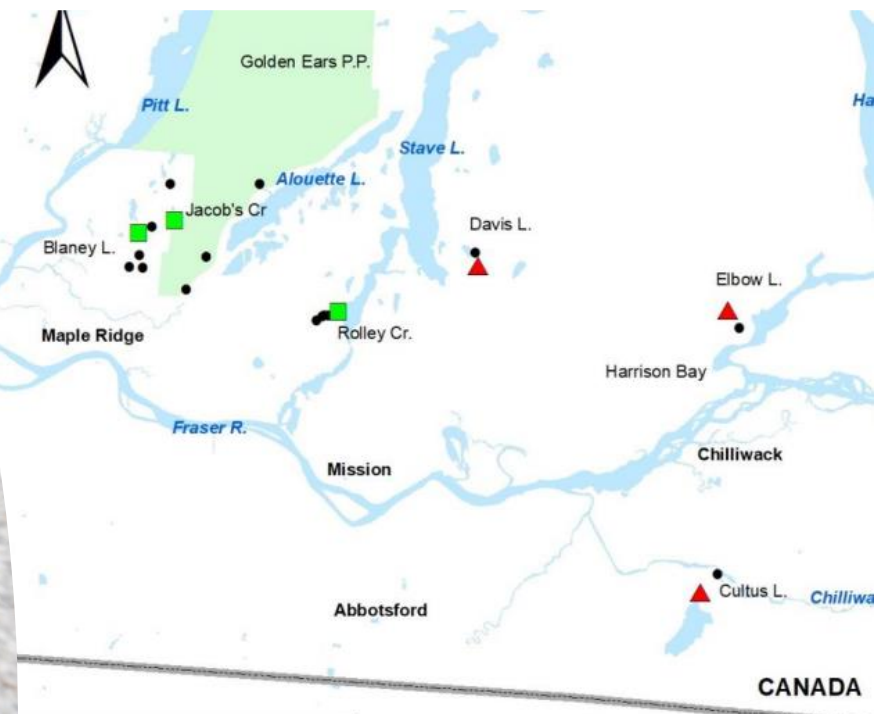


Special Concern

Recent COSEWIC Assessments

Grappletail

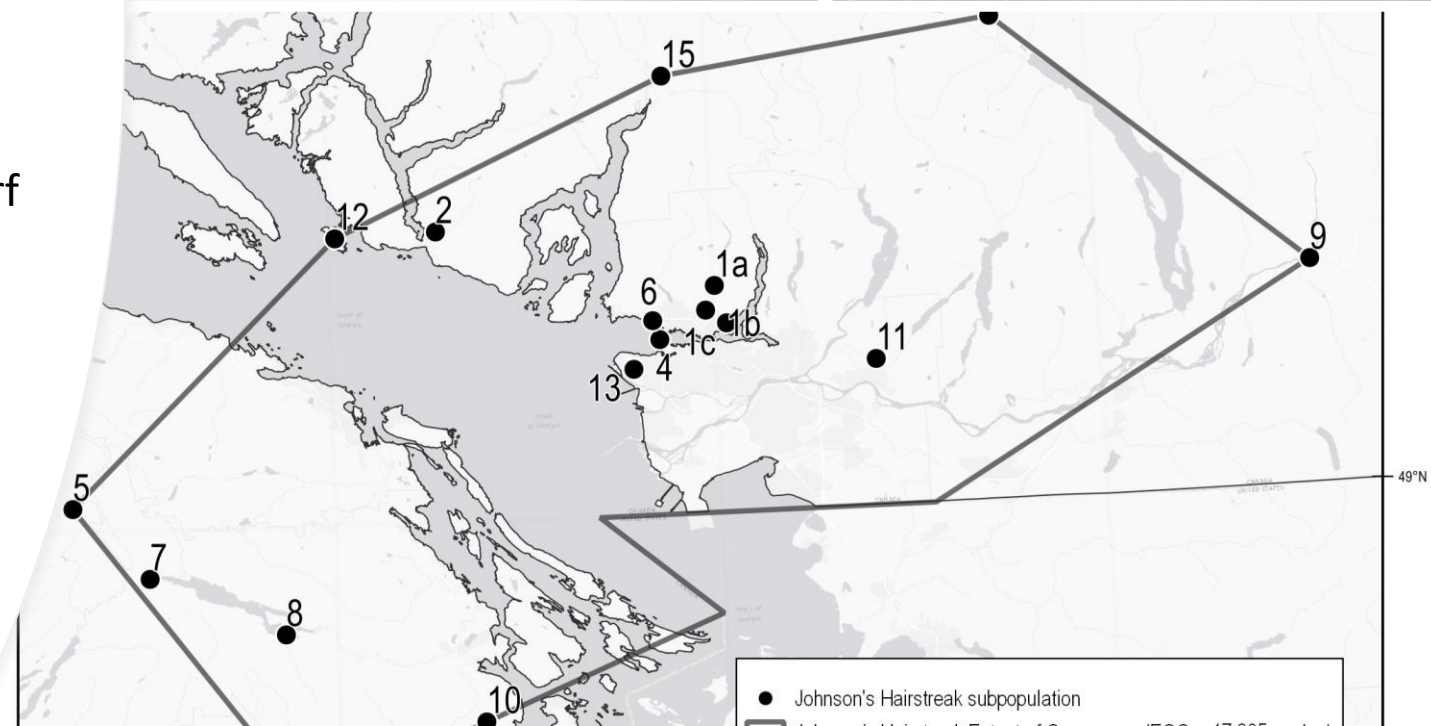
- COSEWIC – Special Concern (November 2021)
- Nymphs associated with outflows of larger streams



Recent COSEWIC Assessments

Johnson's Hairstreak

- COSEWIC - Special Concern (May 2022)
- Larvae dependent on Hemlock Dwarf Mistletoe (hemiparasitic plant)
- Impacts from forestry
 - Harvesting & management of Hemlock Dwarf Mistletoe
 - IWMS list





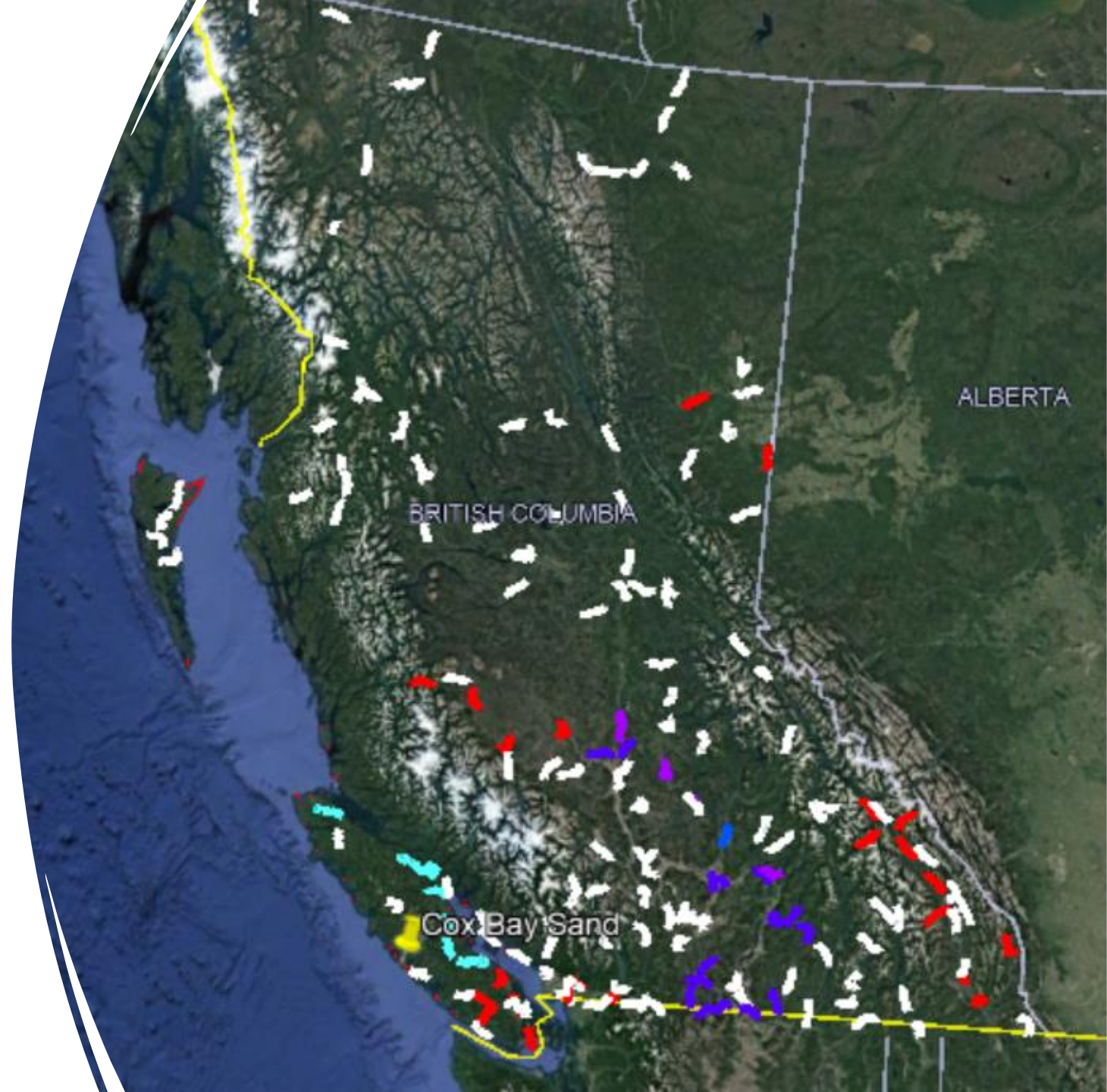
COSEWIC reports in progress

Pacific Lasiopogon Robber Fly

- Sandy river/stream shoreline habitats & forested areas adjacent to these shoreline habitats
- Look at the COSEWIC candidate lists – online

Bumble Bee Community Monitoring Program

- Train a community of ‘volunteers’ to monitor bumble bees along a set route.
 - This year - government employees (to start)
 - Next/future years – other groups (need to test methods & build capacity)
- Route surveyed once per year
- Routes are throughout the province and traverse through different habitats and landcover.



Bumble bee survey routes are modified from the existing

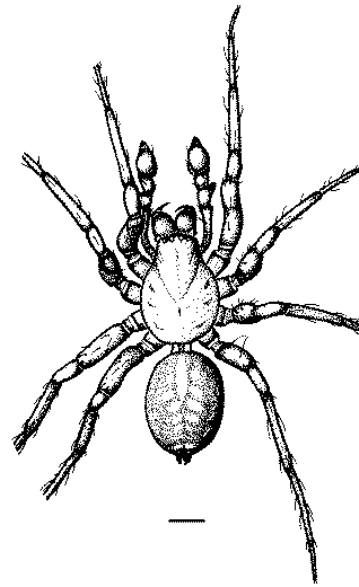
North American Breeding Bird Survey Program routes

- Approx. 100 of the North American Breeding Bird Survey program routes (surveyed for birds) in BC are potential bumble bee monitoring routes (BBRs)
- 2022 completed > 60 routes



Inventory

- Focused on
 - BC Parks
 - Metro Vancouver Parks
 - Burns Bog
- Species & taxa
 - Audouin's Night-stalking Tiger Beetle
 - Oregon Forestsnail
 - Moths – David Holden (CFIA)
 - Butterflies (all)
 - Native bees – species list in parks



Recovery Planning

- Audouin's Night-stalking Tiger Beetle
- Gypsy Cuckoo Bumble Bee (public review)
- Vivid Dancer
- Oregon Forestsnail (updated)
- Western Bumble Bee (in progress)



Thank You



Questions: Jennifer.Heron@gov.bc.ca