

GIS and Community Science: The BC Parks iNaturalist Project

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Chair, Committee on the Status of Endangered
Wildlife in Canada - COSEWIC



There are many community science programs where anyone can upload records and photos



**Saskatchewan
Breeding Bird Atlas**

Bumble Bee Watch





Millions of Observations

60

40

20

0

2016

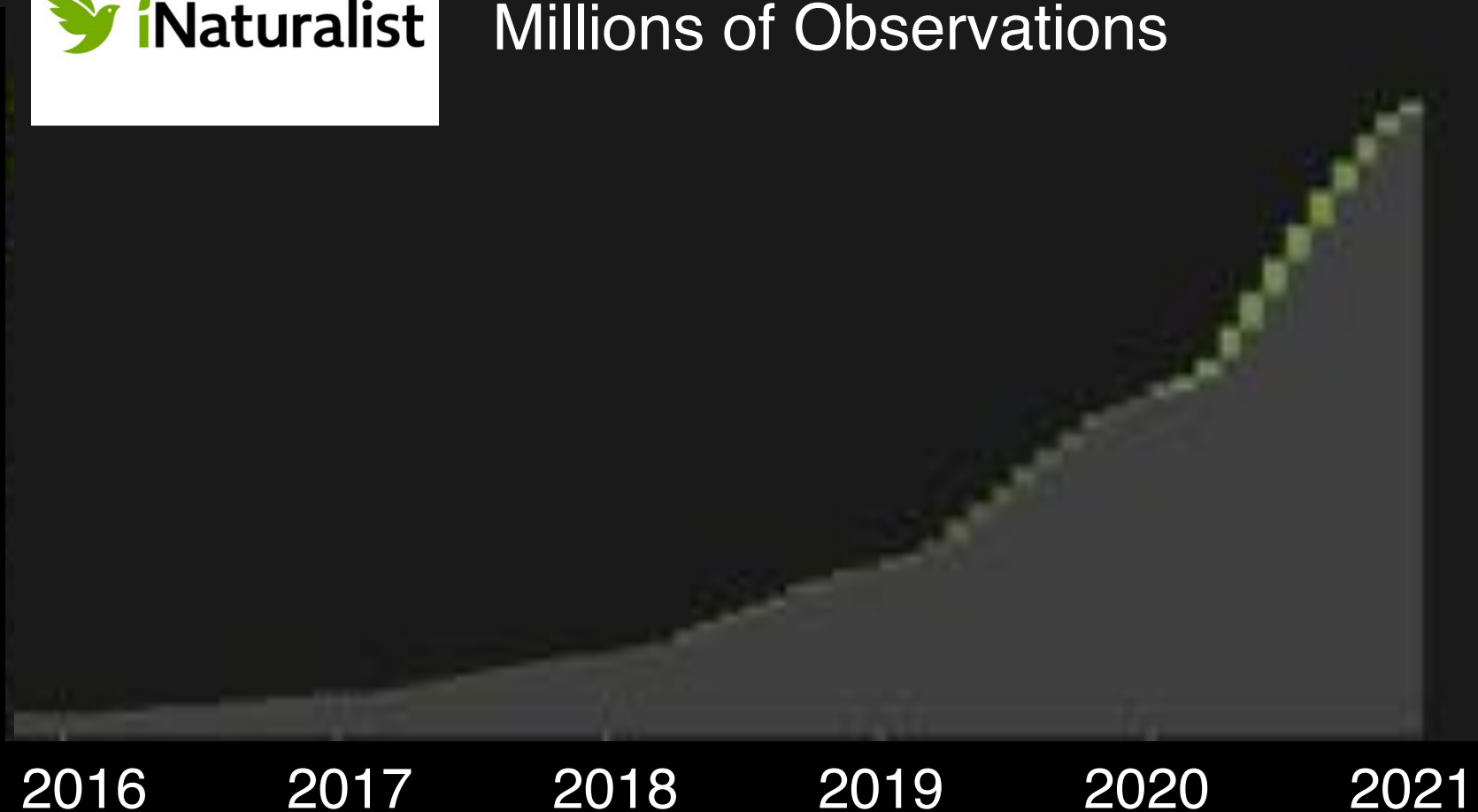
2017

2018

2019

2020

2021





SIMON FRASER
UNIVERSITY



BC Parks



The BC Parks iNaturalist Project

A project that I am co-leading with Brian Starzomski from University of Victoria in partnership with BC Parks. Harnessing power of iNaturalist to compile mapped records of flora and fauna uploaded by anyone.

Objectives of BC Parks iNaturalist Project:

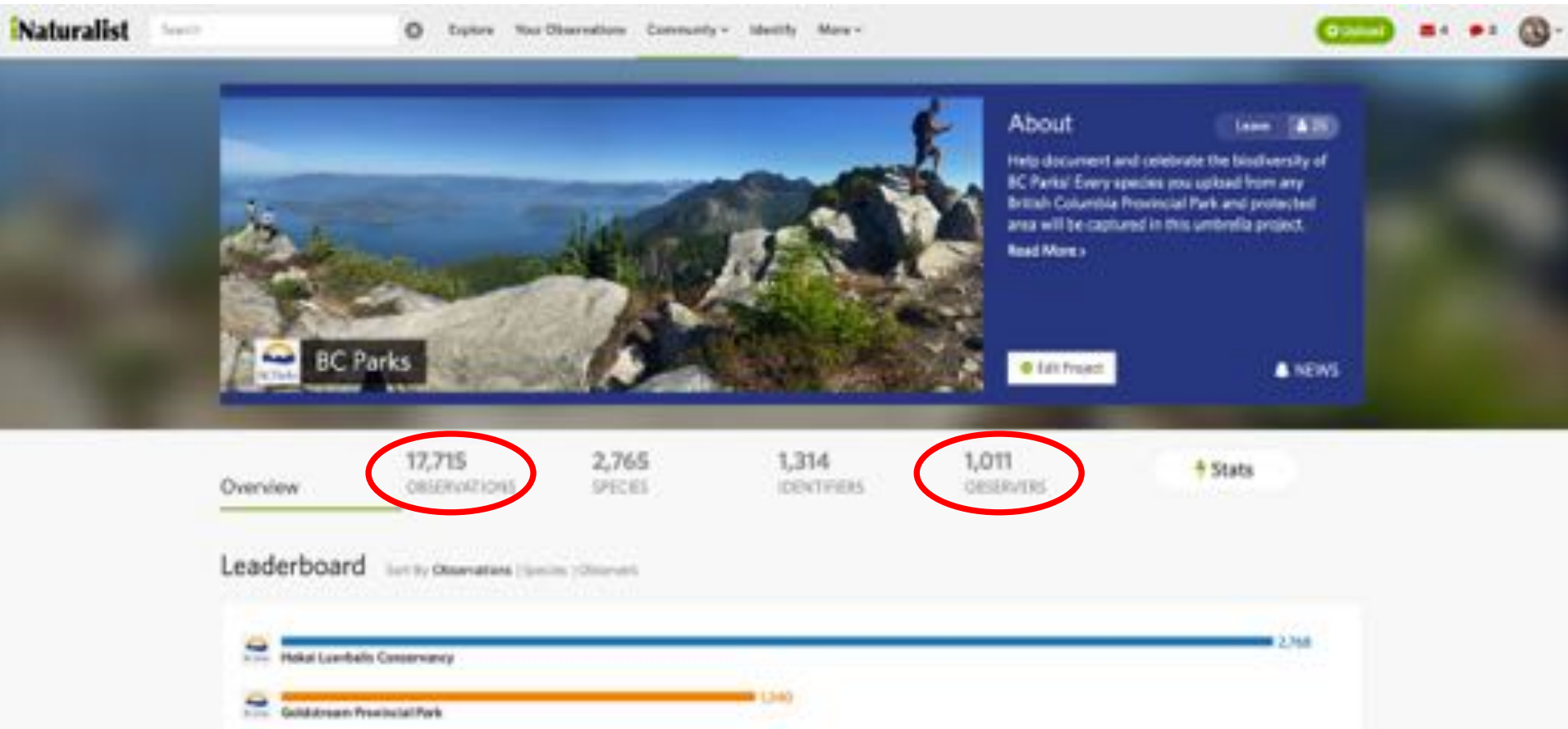
- Improving inventory of > 1000 provincial parks
- Document
 - range shifts
 - threatened species
 - invasive species
- Public engagement



Thousands of hikers and other visitors are uploading photos to iNaturalist. Far more data than professional biologists can collect. Free app, fun to use.

Improving Inventories

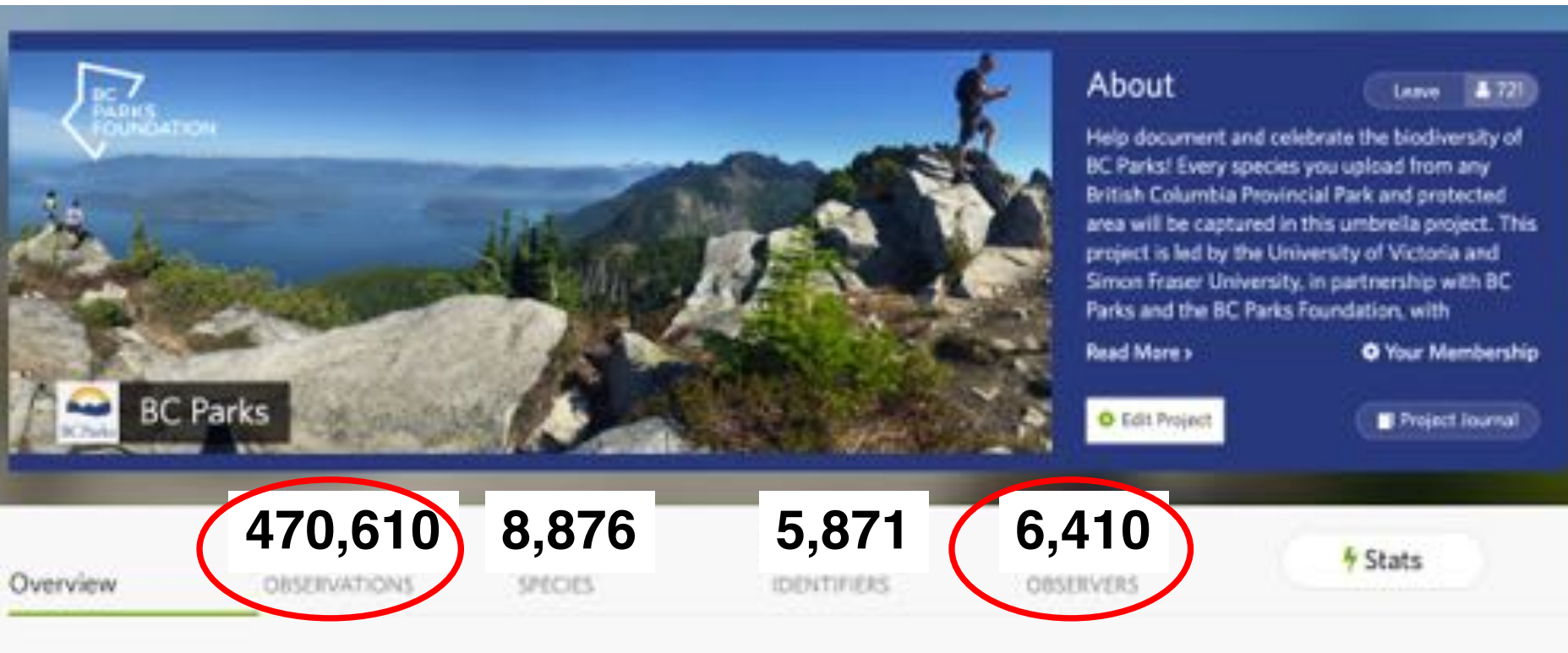
May 2019 - before our first field season



Improving Inventories

Nov 2021

Grown by 453,000 observations in 2.5 years



Example of increase in observations of a common species

Common Script Lichen (*Graphis scripta*)

Nov 9, 2021

127
OBSERVATIONS

1
SPECIES



May 1, 2019

1
OBSERVATION

1
SPECIES



Grigs

(funky grasshopper things)

May 1, 2019

4
OBSERVATIONS

2
SPECIES



Nov 9, 2021

83
OBSERVATIONS

2
SPECIES



Butterflies & Moths

Nov 9, 2021

17,373
OBSERVATIONS

836
SPECIES



May 1, 2019

1,065
OBSERVATIONS

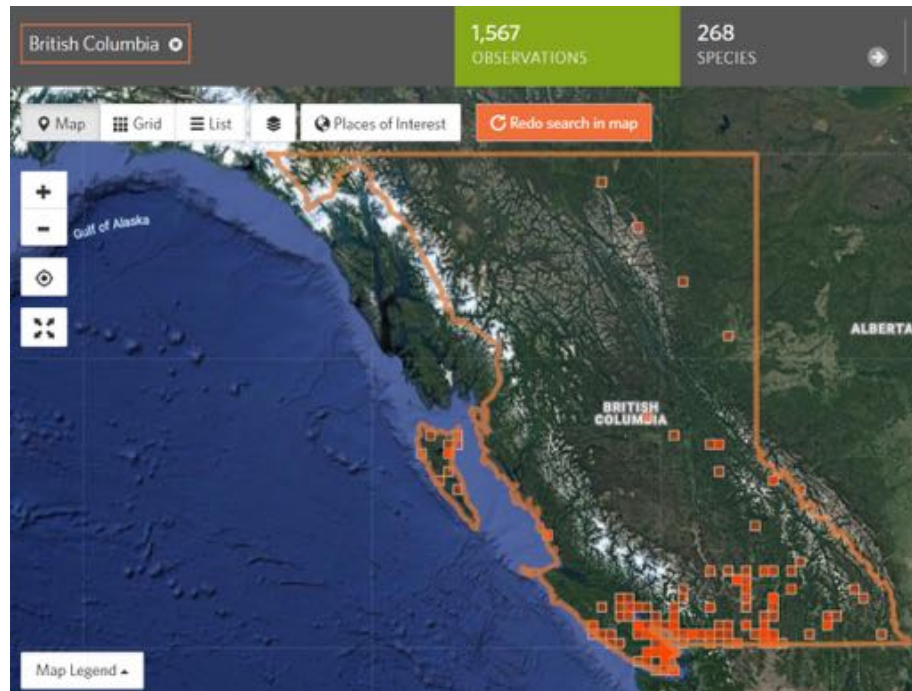
219
SPECIES



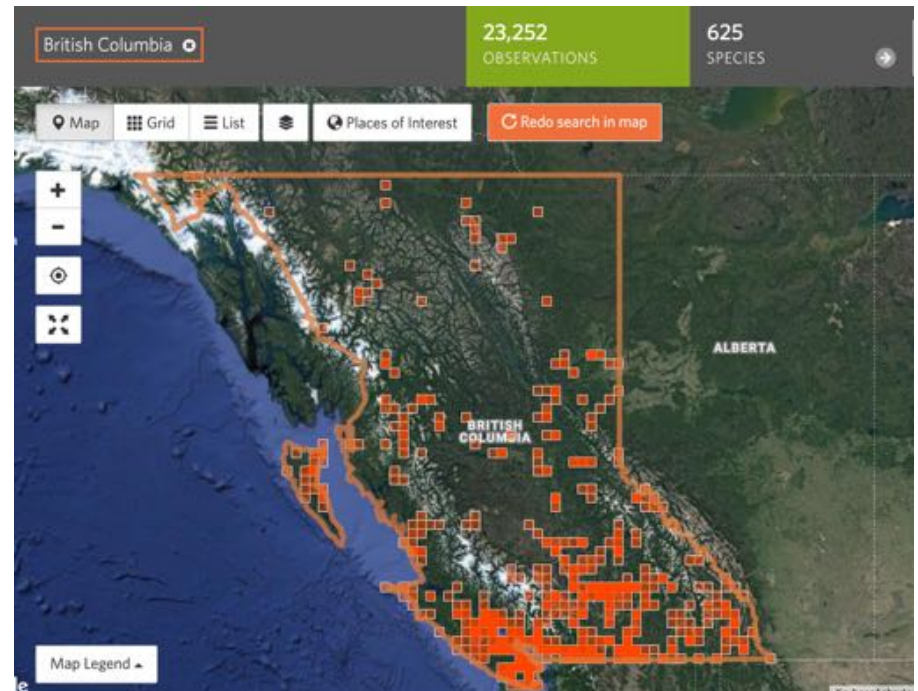
Invasive species are a huge concern for conservation. iNaturalist's database knows which species are non-native in which area; just a few clicks to generate these maps.

Introduced Species in BC Parks

May 1, 2019

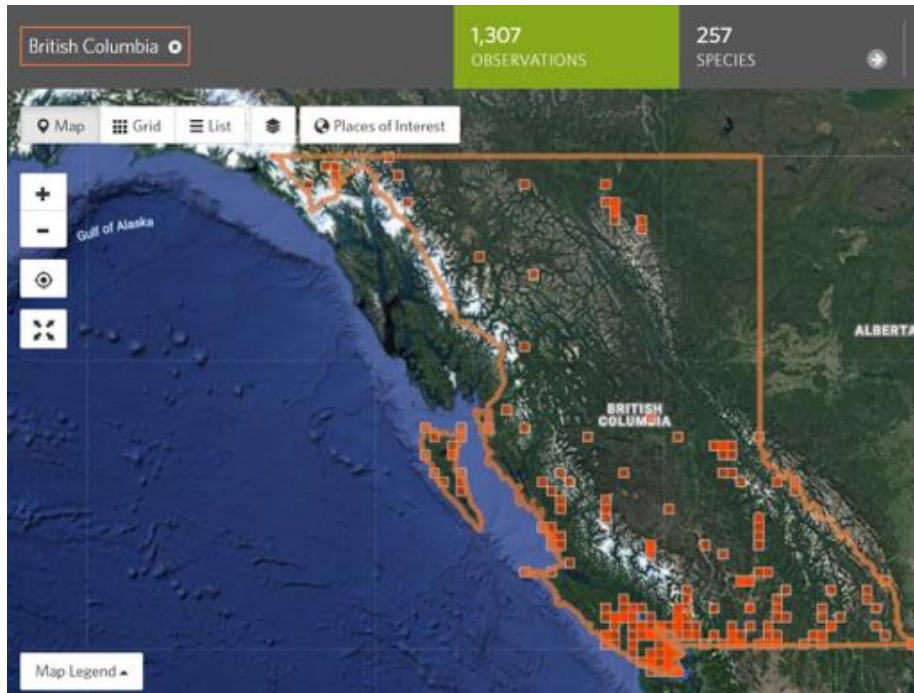


Nov 9, 2021

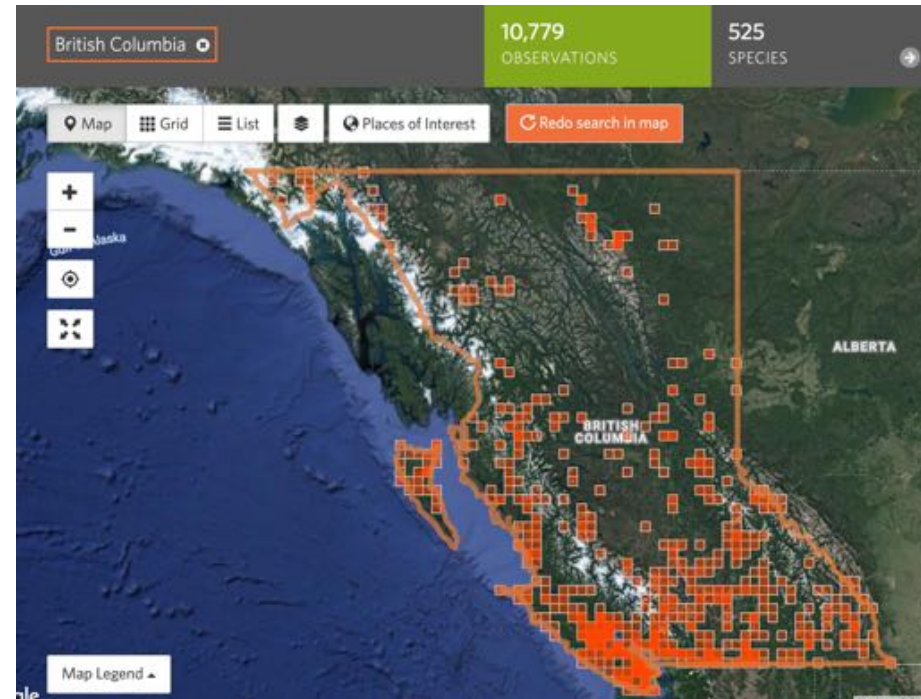


Threatened Species in BC Parks

May 1, 2019



Nov 9, 2021



Again, iNaturalist “knows” which species are at risk of extinction. Note, it obscures locations of species that may be susceptible to poaching or persecution.

What can we do with this information?



Rugose Stag Beetle
Kate McKeown
in Main Lake PP



Pinto Abalone
Lena Dietz Chiasson
in Read Island PP



Mourning Cloaks
Jason Headley
in Steelhead PP



Bald Eagle
Jason Headley
in Cape Scott PP



Mountain Goat
Lena Dietz Chiasson
in Purcell Wilderness Conservancy



Habronattus sansoni
Thomas Barbin
in Flat Lake PP



Oak Treehoppers
Thomas Barbin
in Mt. Tzuahalem ER



**Chocolate Tube
Slimes**
Thomas Barbin
in Small Inlet Marine PP

Community Science and Threatened Species



Grappletail

COSEWIC Status Report

on

Grappletail

Octogomphus specularis

The Committee on the Status of Endangered Species in Canada, which I Chair, was about to assess this rare dragonfly.



Photo by John D. Reynolds

We found this record in iNaturalist



Grappletail (*Octogomphus specularis*)

EN Research Grade

igatten
944 observations

Observed:
Jul 27, 2020 - 12:18 PM PDT

Submitted:
Jul 27, 2020 - 11:01 PM PDT

Map Satellite

Mission, BC, Canada

Be the first to save this observation!

Activity

igatten suggested an ID

Improving Amo

Grappletail
Octogomphus specularis

Compare Agree

Community Taxon

Grappletail (*Octogomphus specularis*) EN

Cumulative IDs: 2 of 2

0 2/3rds 2

I organized a search in areas north of Mission, BC, based on the record in iNaturalist and other records. We found it! Including a site where it hadn't been seen for 40 years. Here we are photographing one in the photo on the right. That was a new site for Canada



Now, there are 67 records of this rare insect in iNaturalist, as other people searched for it after seeing or records in iNaturalist.

67
OBSERVATIONS

1
SPECIES

Grappletail

(*Octogomphus specularis*)







University
of Victoria



Pacific Wildlife
Foundation