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# Citizen Science Tools Webinar

10 – 11 a.m.

HOSTED BY:



# INTRODUCTIONS

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BC Parks iNaturalist project – Kelly Fretwell, Citizen Science Project Coordinator  
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Biodiversity Squamish iNaturalist – Judith Holm, Project Lead [biodiversity.squamish@gmail.com](mailto:biodiversity.squamish@gmail.com)



Report-A-Weed – Michael Shasko, Invasive Species Database Specialist, Forests, Lands, Natural Resource Operations and Rural Development. *Product Owner, InvasivesBC Application Development* - [Michael.Shasko@gov.bc.ca](mailto:Michael.Shasko@gov.bc.ca)



Ministry of Forests,  
Lands & Natural  
Resource Operations

# THE TOOLS



<https://inaturalist.ca/>

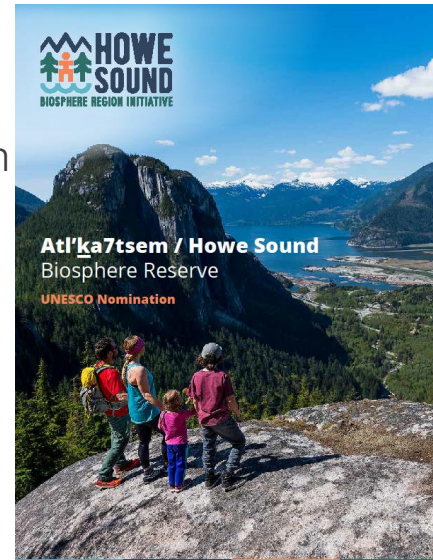


<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/invasive-species>



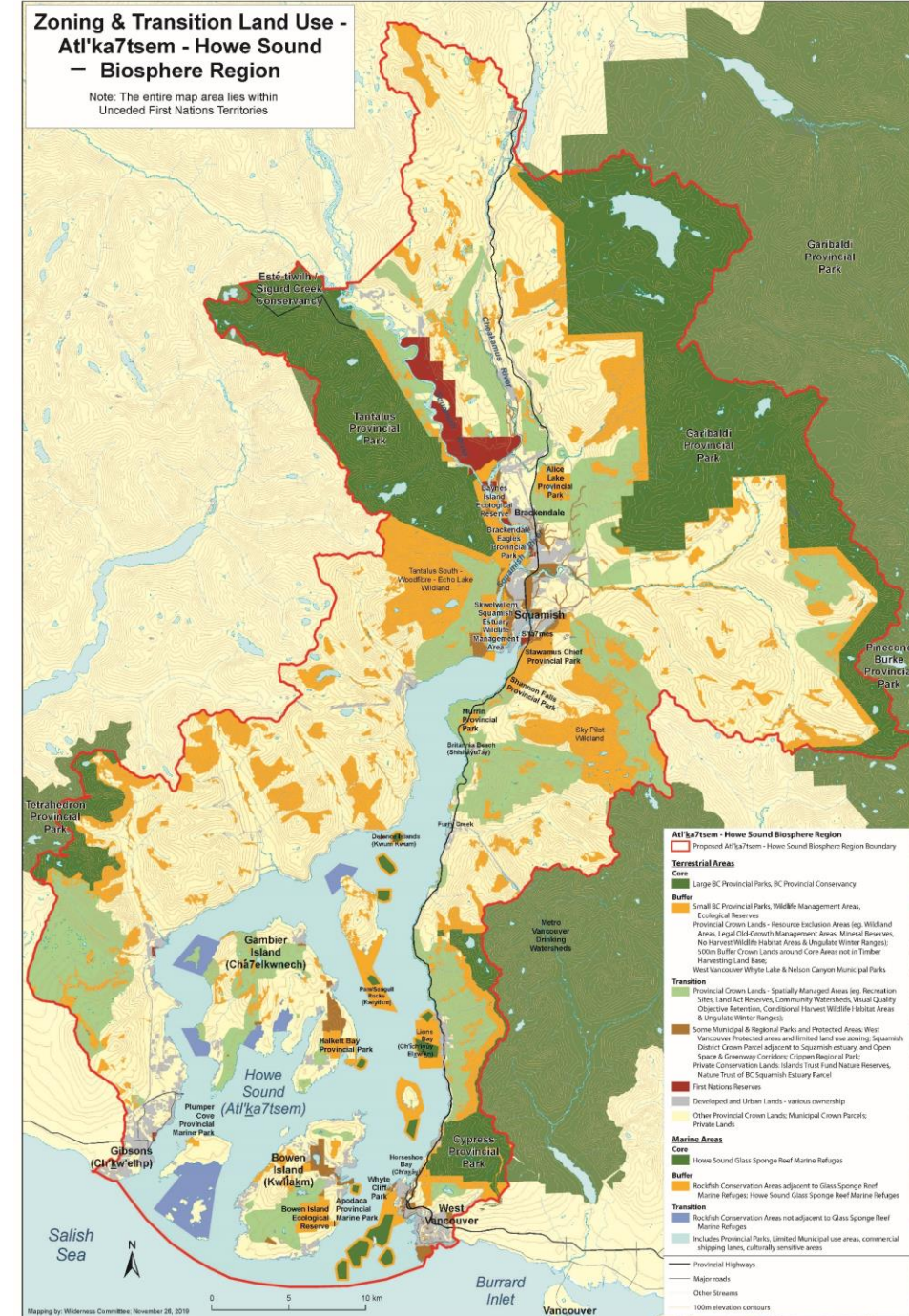
# BIODIVERSITY CONSERVATION

- UNESCO Biosphere Reserves connect people with nature
- Education, learning, research and monitoring
- Biodiversity Conservation goals start with the baseline.
- Collaborating for a Sustainable Atł'ka7tsem/Howe Sound.
- [www.howesoundbri.org](http://www.howesoundbri.org)



4/2/2020

4





# The BC Parks iNaturalist Project

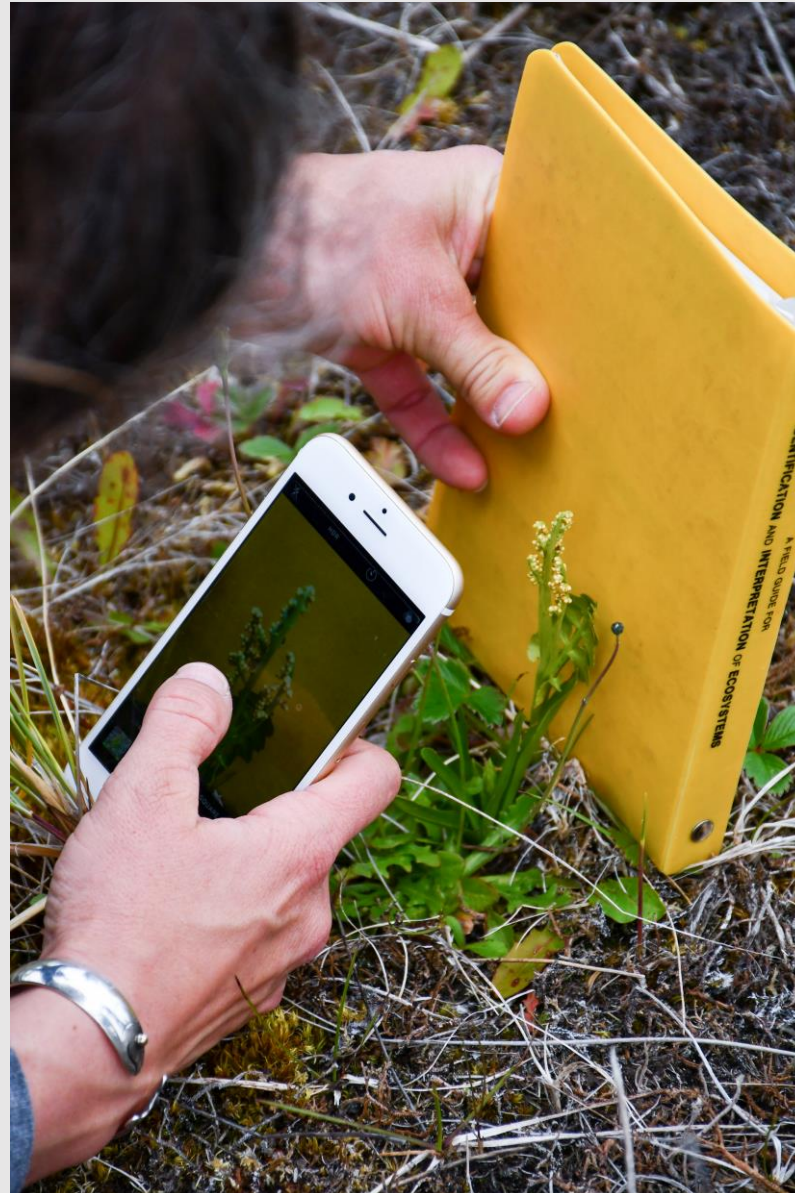
Documenting and celebrating BC's biodiversity with the citizen science tool iNaturalist

- About iNaturalist
- Using iNaturalist
- iNaturalist data
- BC Parks Project



# About iNaturalist

- Website and free app used worldwide
- Share photo observations of wild plants, animals, and fungi
- Learn about species identification
- Explore species found in areas near and far





# Observations



Vancouver Island

120,196  
OBSERVATIONS

4,080  
SPECIES

3,996  
IDENTIFIERS

3,810  
OBSERVERS

Map

Grid

List



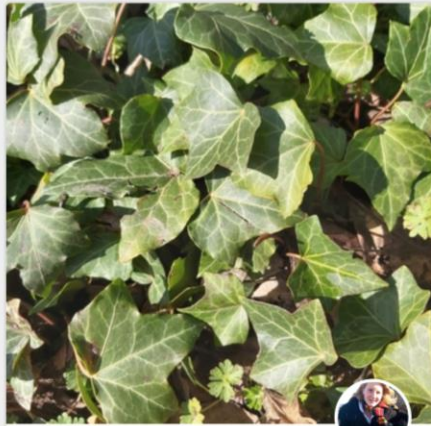
3

Harbour Seal

(*Phoca vitulina*)

Research Grade

1y

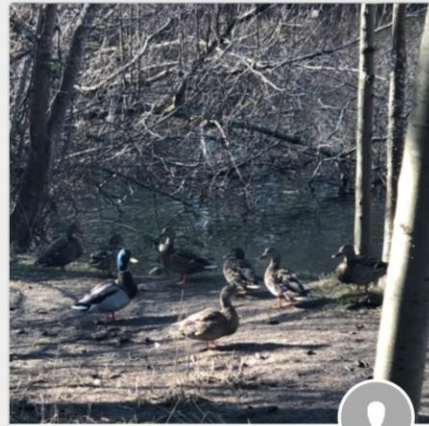


Common Ivy

(*Hedera helix*)

Research Grade

2h

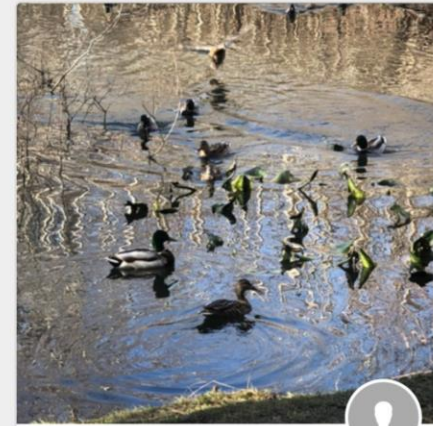


Mallard

(*Anas platyrhynchos*)

Research Grade

10h

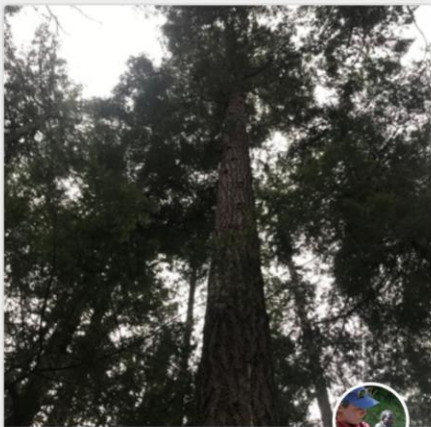


Mallard

(*Anas platyrhynchos*)

Research Grade

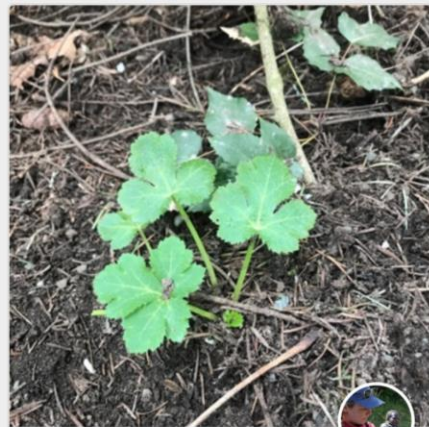
10h



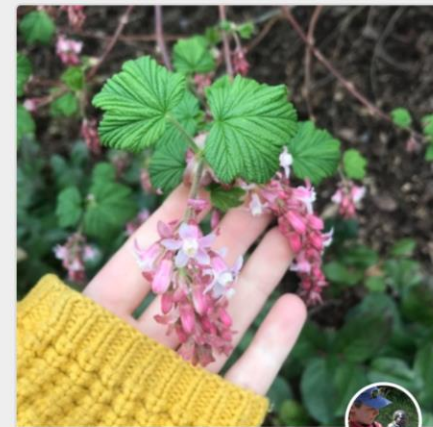
Common Douglas-Fir



Common Ivy



Pacific Sanicle



Red-flowering Currant



# Observations

2

Vancouver Island

1,036  
OBSERVATIONS

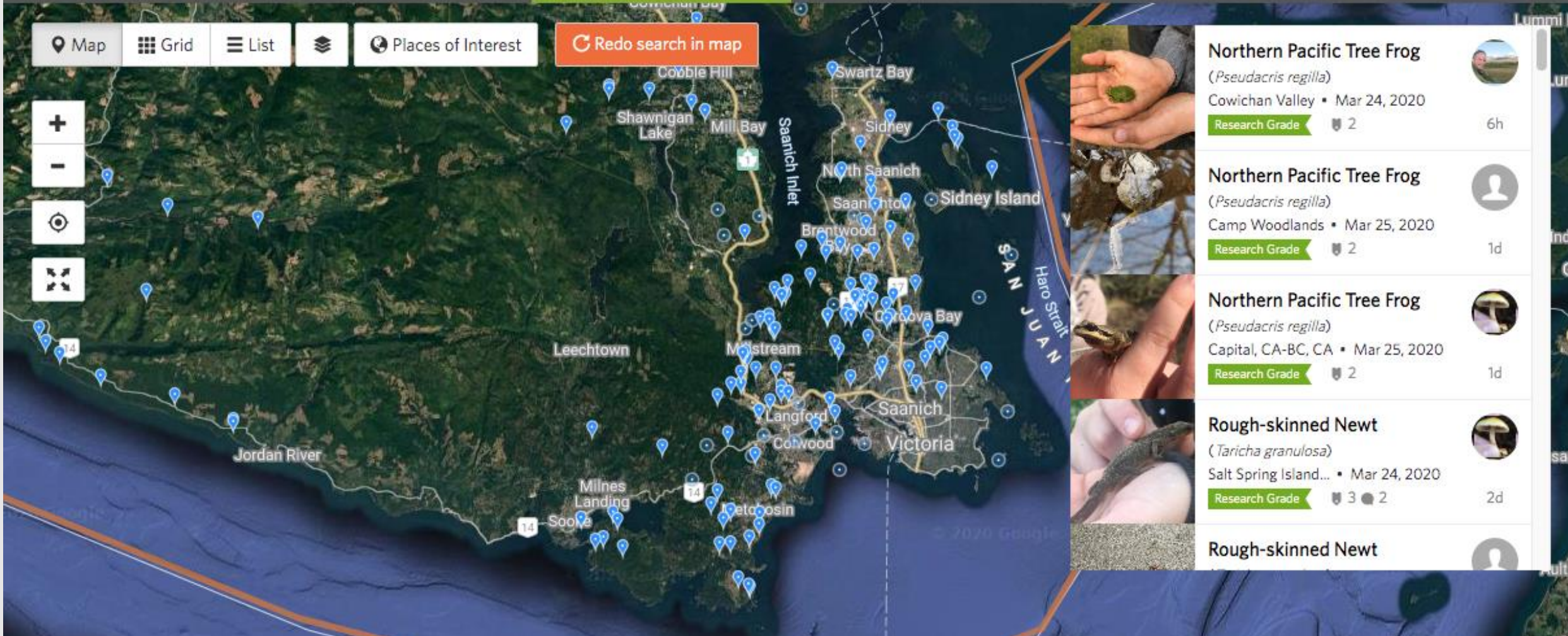
11  
SPECIES

216  
IDENTIFIERS

425  
OBSERVERS

Map Grid List Places of Interest

Redo search in map



- Northern Pacific Tree Frog**  
(*Pseudacris regilla*)  
Cowichan Valley • Mar 24, 2020  
Research Grade 2 6h
- Northern Pacific Tree Frog**  
(*Pseudacris regilla*)  
Camp Woodlands • Mar 25, 2020  
Research Grade 2 1d
- Northern Pacific Tree Frog**  
(*Pseudacris regilla*)  
Capital, CA-BC, CA • Mar 25, 2020  
Research Grade 2 1d
- Rough-skinned Newt**  
(*Taricha granulosa*)  
Salt Spring Island... • Mar 24, 2020  
Research Grade 3 2 2d
- Rough-skinned Newt**



# iNaturalist projects

A great way to create ready-made species lists!

- BC Parks iNaturalist Project
- Biodiversity Squamish
- Howe Sound Proposed Biosphere Reserve



Overview    1,397 OBSERVATIONS    322 SPECIES    294 IDENTIFIERS    108 OBSERVERS    [Stats](#)



24 observations

Oval-leaf Blueberry  
*Vaccinium ovalifolium*



24 observations

Deer-Cabbage  
*Nephrophyllidium crista...*



22 observations

Bride's Bonnet  
*Clintonia uniflora*



21 observations

Five-leaf Dwarf Bra...  
*Rubus pedatus*



20 observations

Salmonberry  
*Rubus spectabilis*



20 observations

Mountain Hemlock  
*Tsuga mertensiana*



20 observations

White-flowered Rho...  
*Rhododendron albiflorum*



19 observations

Canada Jay  
*Perisoreus canadensis*



19 observations

Green False Hellebore  
*Veratrum viride*



19 observations

Copperbush  
*Elliottia pyroliflora*





# Using iNaturalist





## Adding observations: with the iNaturalist app

- Great for on-the-spot species ID suggestions (with data/wifi)
- Easily geotagged (turn on location services)
- Good for uploading small numbers of photos as observations





71% 10:00 AM

### My Observations

388 OBSERVATIONS | 246 SPECIES | 49 IDENTIFICATIONS

- Onchidella 1w  
Skeena-Queen Charlotte D, BC, Ca... 1
- Pacific trillium May 7  
Capital, BC, Canada 2
- Western Star Flower May 7  
Capital, BC, Canada 2
- false Solomon's seal May 7  
Capital, BC, Canada 2
- Pileated Woodpecker May 7  
Capital, BC, Canada 4

Take Photo  
Choose Image  
No Photo

67% 10:08 AM

### Details

1st

spotted coralroot *Corallorhiza maculata*

Notes

2 Jul 2019 4:04 PM PDT

Skeena-Queen Charlotte D, BC, Canada  
Lat: 54.04451485... Lon: -131.8610238... Acc. 2789

Location Visibility: Open

It is captive or cultivated

Add to project(s)

67% 10:08 AM

### Observation

kmfret Jul 2 • 04:04PM

spotted coralroot *Corallorhiza maculata*

Leave a comment or suggest an identification...

Comment Suggest ID



## Adding observations directly to the website via computer

- Better for uploading larger numbers of photos as observations
- More functionality than the app
- Add old photos!
- Geotagging options for cameras
  - e.g. gps4cam app







+ Add   ✕ Remove   ✕ Combine    Select All



## Editing 1 observation:



### Details


Location is public

Captive / Cultivated

 Tags 

 Projects 

 Fields 

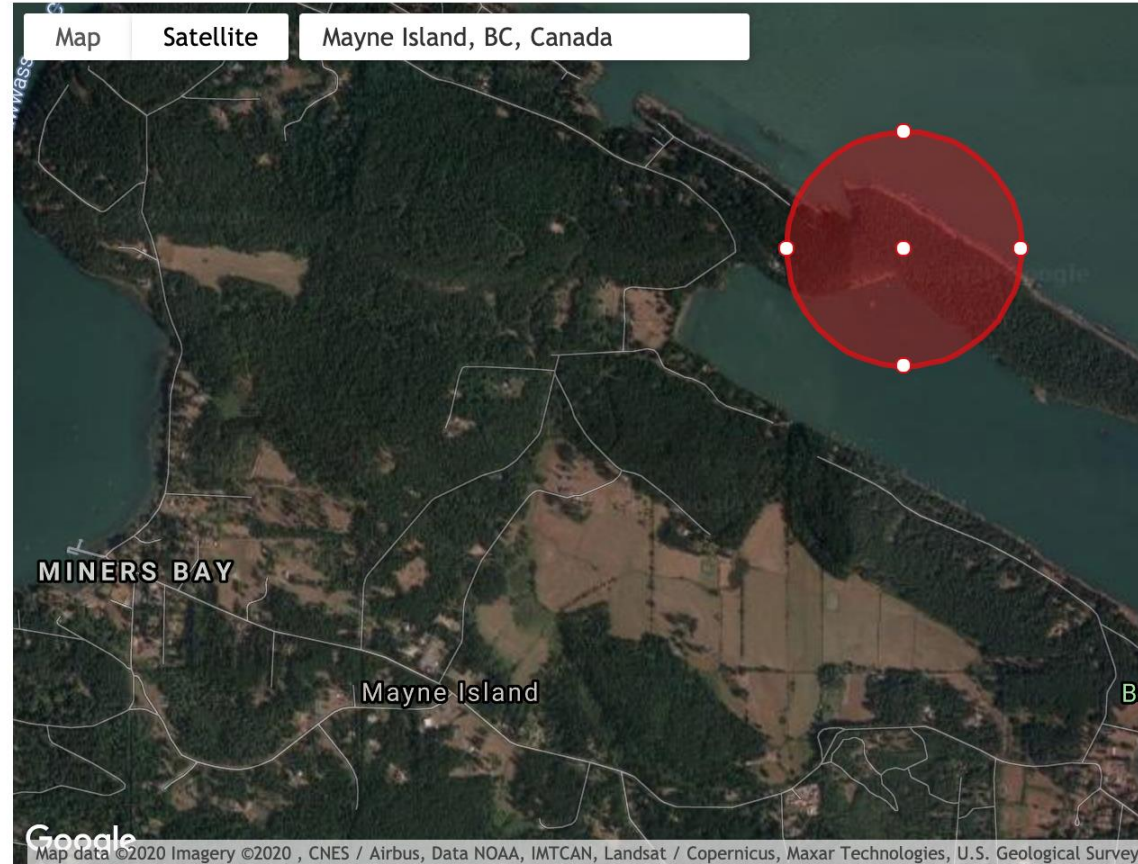


+ Add

Select Observation

## Mayne Island, BC, Canada

Map   Satellite   Mayne Island, BC, Canada



Latitude	Longitude	Acc (m)	Geoprivacy	Locali
<input type="text" value="48.8615029996"/>	<input type="text" value="-123.26221938"/>	<input type="text" value="410.284940138"/>	<input type="text" value="Open"/>	<input type="text" value="May"/>

Cancel

Update Observations



# iNaturalist's ID system

## Step 1: computer vision (AI)



iNaturalist.ca

+ Add ✕ Remove ✂ Combine  Select All

Editing 1 observation:

**Details**

Species name

2019/06/04 7:06 PM PDT

Location

Description

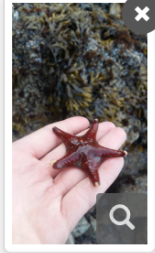
Location is public

Captive / Cultivated

Tags


Projects

Fields


 1/2


Species name


We're pretty sure this is in the genus:


 **Dermasterias**  
Genus [View](#)


Here are our top species suggestions:


 **Leather Star**  
*Dermasterias imbricata*  
Visually Similar [View](#)

 **Bat Star**  
*Patiria miniata*  
Visually Similar [View](#)

 **Ochre Sea Star**  
*Pisaster ochraceus*  
Visually Similar [View](#)

 **Callopatiria**  
Genus [View](#)  
Visually Similar

 **Panamic Cushion Star**  
*Pentaceraster cumingi*  
Visually Similar [View](#)

 **Dwarf Mottled Henricia**  
[View](#)



# iNaturalist's identification system step 2: Community ID

Shaggy Mane (*Coprinus comatus*) Research Grade

Follow ▾



hydaticus

🌿 14,900 observations



Observed:

Jul 17, 2019 · 1:41 PM CDT

Submitted:

Jul 18, 2019 · 11:49 AM PDT



📍 North Okanagan, BC, Canada

Details ▾

★ You faved this!



# Activity



hydaticus suggested an ID

Improving 8mo |



**Inky Caps**

Genus *Coprinus*

Compare

Agree



felix75 suggested an ID

Improving 8mo |



**Shaggy Mane**

*Coprinus comatus*

Compare

Agree

These shaggy mane specimens are very late in their lifecycle. After a couple of days, all that's left is the stipe and the top of the cap which is the case here.



joshdneufeld suggested an ID

6mo |



**Shaggy Mane**

*Coprinus comatus*



svg52 suggested an ID

5mo |



**Shaggy Mane**

*Coprinus comatus*

# Community Taxon

[What's this?](#)

**Shaggy Mane** (*Coprinus comatus*)



Cumulative IDs: 4 of 4



Agree

Compare

About

## Projects (1)

Add to a Project



KKL JH BMS JDR GR AN RD

## Observation Fields

Choose a field

## Top Identifiers of Shaggy Mane



johnplischke

8224



else

648



pdvmushroom



noah\_siegel



## Why join iNaturalist?

- ID species for your own interest
- Create interactive record of explorations
- Share your expertise
- Somewhere to put all your nature photos
- **Help improve the understanding of biodiversity!**





# More eyes on the ground = a more accurate picture of biodiversity

## Diversity: April 2019

- 1,087 plant species
- 475 insects
- 401 fungi
- 235 “other animals”
- 223 birds
- 119 molluscs
- 62 mammals
- 58 fishes
- 51 arachnids



Most observed species- April



Most observed species- February  
(Arbutus is now 40th)

768 observations

## Diversity: February 2020

- 2,038 plant species
- 1,164 insects
- 733 fungi
- 295 birds
- 287 “other animals”
- 147 molluscs
- 86 mammals
- 78 fishes
- 102 arachnids



## Origin

- 2,515 native
- 201 introduced

## Origin

- 4,589 native
- 418 introduced



# How can iNaturalist data be used?

- Documenting range expansions
- Documenting spread of invasive species
- Disease monitoring
- Detecting threatened species
- Complement species inventories





# Document range expansions - Sea palm (*Postelsia palmaeformis*)

Sea Palm

Location

Go

Filters

1 SPECIES

134 IDENTIFIERS

334 OBSERVERS

Redo search in map

Sea Palm (*Postelsia palmaeformis*)  
Curry • Aug 19, 2019  
Research Grade 1 15d

Sea Palm (*Postelsia palmaeformis*)  
Mendocino County, CA • Jan 6, 2020  
Research Grade 1 19d

Sea Palm (*Postelsia palmaeformis*)  
Bean Hollow State Park • Jan 5, 2020  
Research Grade 1 23d

Sea Palm (*Postelsia palmaeformis*)  
Capital, BC, Canada • Aug 1, 2010  
Research Grade 1 25d

Map data ©2020 Google. INEGI Imagery ©2020 TerraMetrics | Te

622 OBSERVATIONS

1 SPECIES

Places of Interest

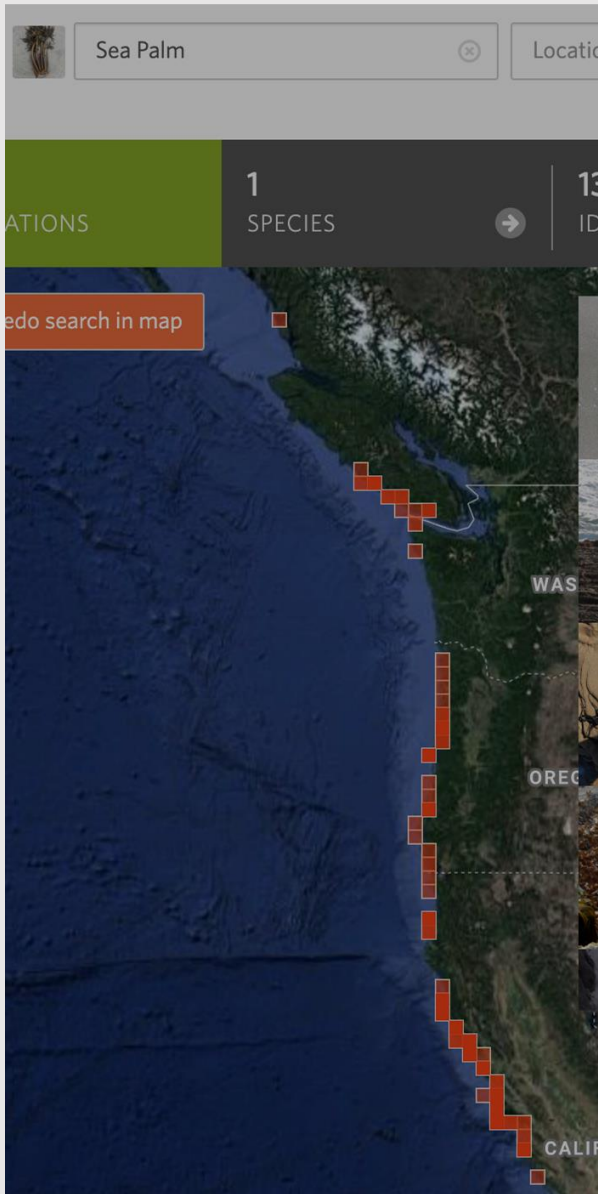
Redo search in map

Sea Palm (*Postelsia palmaeformis*)  
Hakai Protected Area • Jul 27, 2019  
Research Grade 1 6mo


Map data ©2020 Google. INEGI Imagery ©2020 TerraMetrics | Te



# Document range expansions - Sea palm (*Postelsia palmaeformis*)

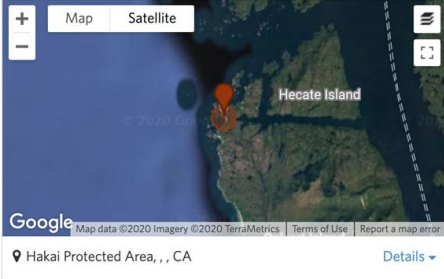


## Sea Palm (*Postelsia palmaeformis*) Research Grade Follow



**carolynprentice**  
1 observation

Observed: Jul 27, 2019 · 8:00 PM PDT  
Submitted: Aug 5, 2019 · 8:35 PM PDT



Map Satellite  
Hakai Protected Area, , CA  
Details

Be the first to save this observation!

### Description

Washed up on West Beach, Calvert Island

### Activity

- carolynprentice** suggested an ID Improving 6mo
- leah** suggested an ID 6mo
- kmfret** suggested an ID 1s

Attribute	Value	Agree	Disagree
Sex	Select		

### Community Taxon

**Sea Palm (*Postelsia palmaeformis*)**  
Cumulative IDs: 3 of 3

0 2/3rds 3

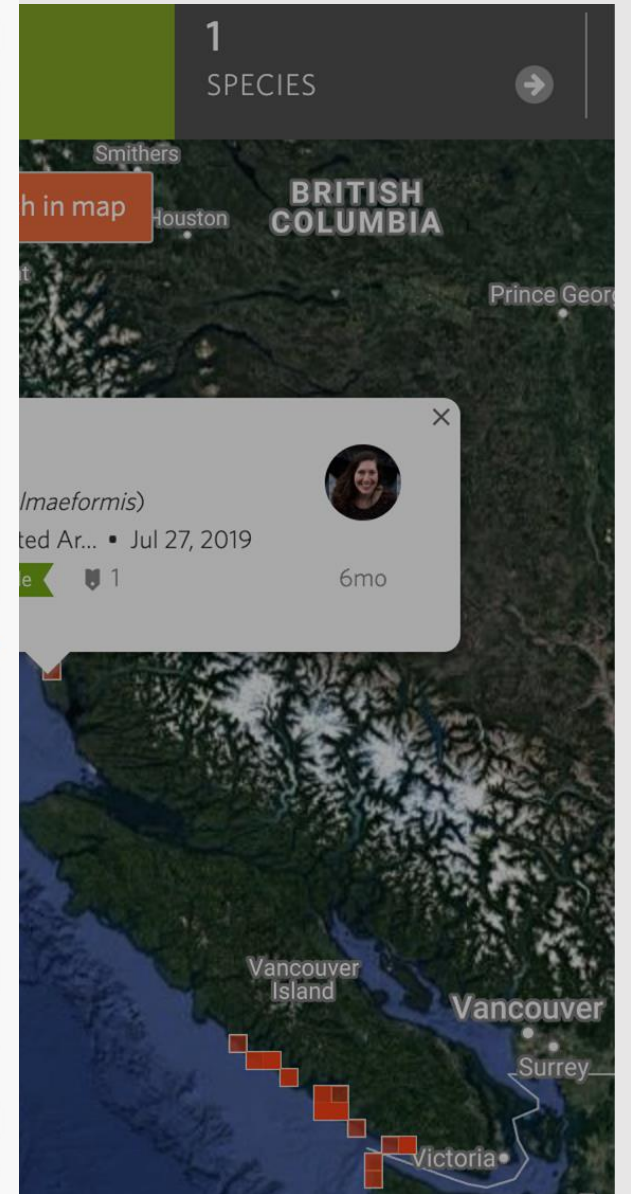
Agree Compare About

### Annotations

Attribute	Value	Agree	Disagree
Sex	Select		

### Projects

Add to a Project





# Disease monitoring – sea star wasting disease



## Tracking Starfish Wasting and Recovery

### Stats

#### Totals

20353

Observations »

116

Species »

4564

People »

#### Most Observations



kestrel

749 observations



anudibranchmom

451 observations



rebeccafay

424 observations



dpom

407 observations



hawnzd

391 observations

#### Most Species



lemurdillo

19 species



kljinsitka

16 species



jeffgoddard

15 species



anudibranchmom

15 species



paul\_norwood

15 species

#### Most Observed Species



Ochre Sea Star

9317 observations



Bat Star

2870 observations



Leather Star

1703 observations



Mottled Star

937 observations



Six-rayed Star

510 observations



# Threatened species

*Cicindela decemnotata ssp. meriwetheri*

EN

Research Grade

Follow



benkeen

5,139 observations



Observed:

Mar 23, 2019 · 6:44 PM PDT

Submitted:

Mar 23, 2019 · 6:57 PM PDT



★ kmfret and alex\_cicindela\_guy faved this observation

## Description

Looks a heck of a lot like *c. sexguttata* to me, but that's obviously well out of range. There were a lot of them on the hillside.

## Community Taxon

[What's this?](#)

*Cicindela decemnotata ssp. meriwetheri* EN

Cumulative IDs: 3 of 3





# Threatened species

*Cicindela dece*




## Description

Looks a heck of a lot like *c. sexgutta* were a lot of them on the hillside.

fboetzl commented 1y

@alex\_cicindela\_guy @daverogers

alex\_cicindela\_guy suggested an ID ID Withdrawn 1y


 Common Tiger Beetles  
Genus *Cicindela*

Shape/color looks pretty close to *denverensis*, but that's also far out-of-range. Maybe an odd *tranquebarica* population, or perhaps some really green *decemnotata* with reduced maculations?


daverogers commented 1y

Pretty beetle - I don't have a clue.

fboetzl suggested an ID ID Withdrawn 1y

 Common Tiger Beetles  
Genus *Cicindela*


alex\_cicindela\_guy suggested an ID Improving 1y

 *Cicindela decemnotata* ssp. *meriwetheri*

A member of Tiger Beetles (Subfamily Cicindelinae)

Seems to be the consensus of Barry Knisley and Todd Lawton.


fboetzl suggested an ID 1y

 *Cicindela decemnotata* ssp. *meriwetheri*

A member of Tiger Beetles (Subfamily Cicindelinae)

Follow

Submitted:  
Mar 23, 2019 · 6:57 PM PDT

 South Okanagan Grasslands Protected Area


opaka

Data Terms of Use Report a map error

BC, Canada Details

alex\_cicindela\_guy faved this observation

What's this?

*ssp. meriwetheri* EN 

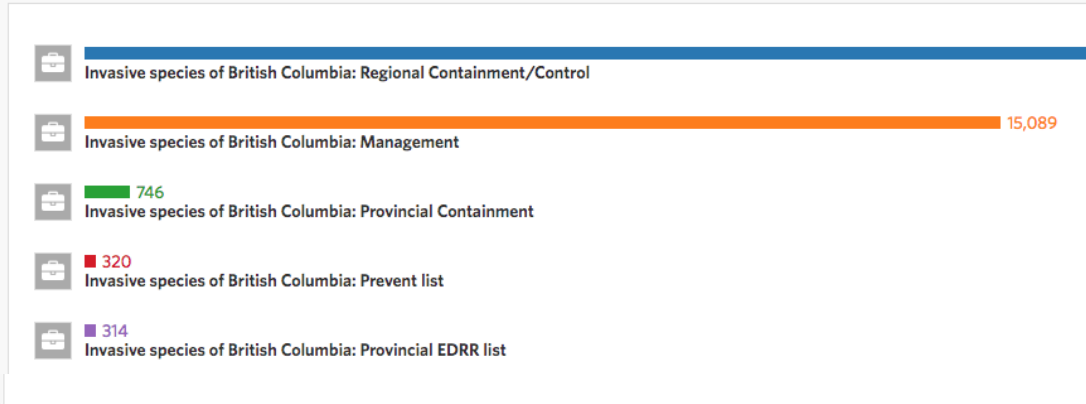


# Invasive Species – tracking provincial priority invasive species

## Provincial Priority Invasive Species BC Inter-Mi... [Read More >](#)

Overview **33,198** OBSERVATIONS **181** SPECIES **3,031** IDENTIFIERS **7,728** OBSERVERS [Stats](#)
















### Leaderboard Sort By: Observations | Species | Observers



### Map of Observations



Overview **33,198** OBSERVATIONS **181** SPECIES **3,031** IDENTIFIERS **7,728** OBSERVERS [Stats](#)

 <p>3182 observations</p> <p><b>Armenian Blackberry</b> <i>Rubus armeniacus</i></p>	 <p>2592 observations</p> <p><b>Eastern Grey Squirrel</b> <i>Sciurus carolinensis</i></p>	 <p>1655 observations</p> <p><b>Common Broom</b> <i>Cytisus scoparius</i></p>	 <p>1632 observations</p> <p><b>European Starling</b> <i>Sturnus vulgaris</i></p>	 <p>1584 observations</p> <p><b>Common Wall Lizard</b> <i>Podarcis muralis</i></p>
 <p>1559 observations</p> <p><b>House Sparrow</b> <i>Passer domesticus</i></p>	 <p>1337 observations</p> <p><b>Rock Pigeon</b> <i>Columba livia</i></p>	 <p>1066 observations</p> <p><b>Tansy</b> <i>Tanacetum vulgare</i></p>	 <p>912 observations</p> <p><b>Spurge-Laurel</b> <i>Daphne laureola</i></p>	 <p>881 observations</p> <p><b>Himalayan Blackberry</b> <i>Rubus bifrons</i></p>
 <p>863 observations</p>	 <p>855 observations</p>	 <p>701 observations</p>	 <p>664 observations</p>	 <p>608 observations</p>



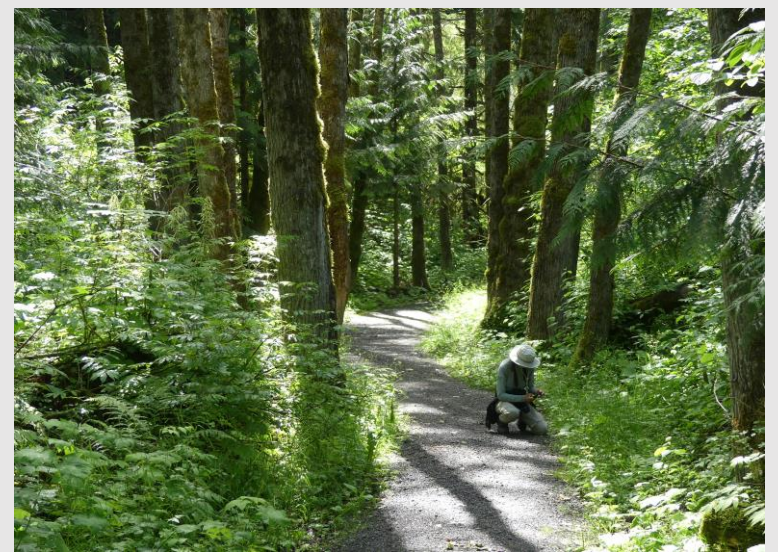
# The BC Parks iNaturalist Project

## The BC Parks “Big Summer”

- Daily bioblitzes throughout BC Parks
- 3 Teams traveling all over province
- 100s of observations per day
- Engage with people in parks
- Visited over 150 parks all over BC







# Diverse Ecosystems





# Diverse Ecosystems






Collaboration





Cool Species





**Check out the project:**  
[inaturalist.ca/projects/bc-parks](https://inaturalist.ca/projects/bc-parks)

**BC Parks Foundation  
How-To Guide & Toolkit:**  
[Bcparksfoundation.ca/inaturalist](https://Bcparksfoundation.ca/inaturalist)

**Contact:**  
[citizenscience@bcparksfoundation.ca](mailto:citizenscience@bcparksfoundation.ca)

[@kmfret](#) on iNaturalist.ca

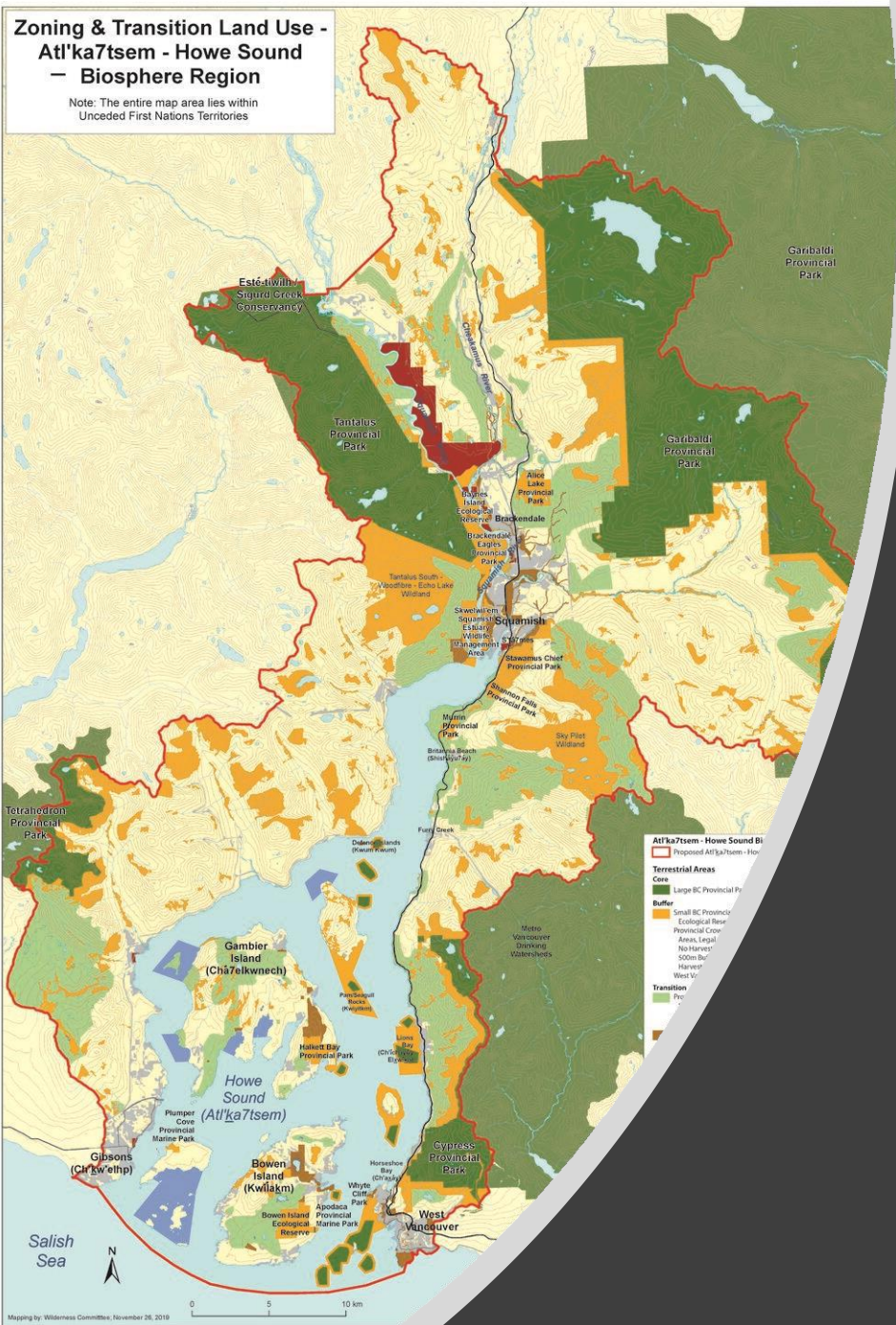




Moonglow anemone, photo: Ben Keen

1. Biodiversity Squamish
2. Easy to sort the site
3. Tips for observations
4. Amazing responses!
5. Exciting collaborations!





collaboration

BIODIVERSITY SQUAMISH  
(iNaturalist)

Documenting species

within

**At'ka7tsem**

Howe Sound Watershed

&

Working in partnership

With other groups



# How to search Biodiversity Squamish for what you want to find



**Northern Pygmy-Owl**  
(*Glaucidium gnoma*)  
Research Grade 1 1mo



**Pacific Wren**  
(*Troglodytes pacificus*)  
Research Grade 20d



**Pacific Wren**  
(*Troglodytes pacificus*)  
Research Grade 20d



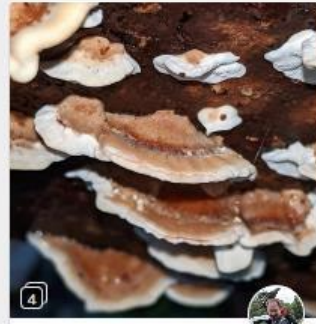
**Northwestern Salaman...**  
(*Ambystoma gracile*)  
Research Grade 15d



**Narrow-collared Snail-e...**  
(*Scaphinotus angusticollis*)  
Research Grade 1 15d



**Western Maidenhair Fern**  
(*Adiantum aleuticum*)  
Research Grade 1 15d



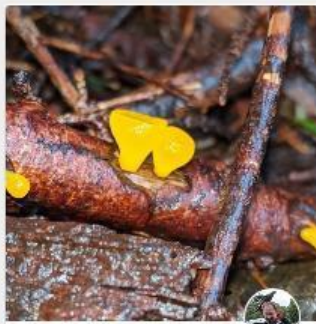
**Fungi Including Lichens**  
(Kingdom Fungi)  
15d



**Trametes ochracea**  
15d



**Labrador Tea**  
(*Rhododendron groenlandicum*)  
Research Grade 1 6 15d



**Alpine Jelly Cone**  
(*Guepiniopsis alpina*)  
Research Grade 15d



**Fungi Including Lichens**  
(Kingdom Fungi)  
15d



**Bonnets**  
(Genus *Mycena*)  
15d

It's Easy





### Stats

[Click on the observations](#)

Totals

**7890**  
Observations »

**1755**  
Species »

**72**  
People »

#### Most Observations

-  **benkeen**  
3179 observations
-  **judithofsquamish**  
1829 observations
-  **hillanddale**  
544 observations
-  **keeganjd**  
357 observations
-  **sea2skynaturebc**  
246 observations

#### Most Species

-  **benkeen**  
868 species
-  **judithofsquamish**  
585 species
-  **hillanddale**  
352 species
-  **sea2skynaturebc**  
162 species
-  **gwenlh**  
153 species

#### Most Observed Species

-  **Western Toad**  
39 observations
-  **Salal**  
28 observations
-  **Western Sword Fern**  
27 observations
-  **Badhamia utricularis**  
27 observations
-  **Western Hemlock**  
26 observations



Enter an English or Latin name, as specific or general a category as you wish

# Observations



Slime Molds

Location

Go

Filters <sup>3</sup>



The World **60** OBSERVATIONS 10 SPECIES 19 IDENTIFIERS 9 OBSERVERS

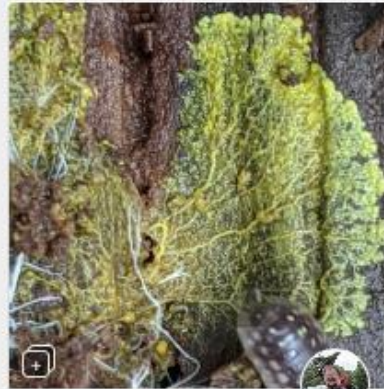
Map Grid List



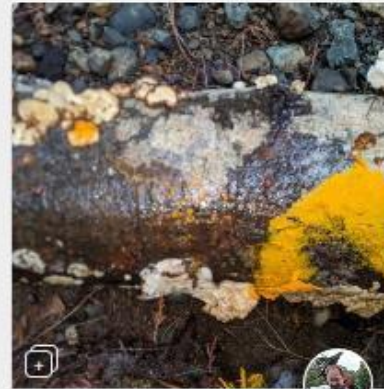
*Badhamia utricularis*  
Research Grade 1 4d



*Badhamia utricularis*  
Research Grade 6d



Order Physarales 3 7d



*Badhamia utricularis* 7d



*Badhamia utricularis* 11d



*Badhamia utricularis* 13d



*Badhamia utricularis* 14d



*Badhamia utricularis* 1mo





One species

Take several photographs

Different angles - show key features

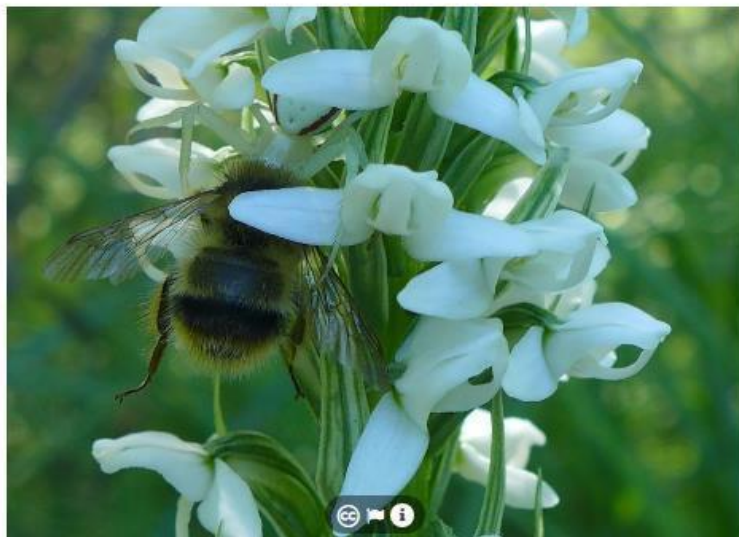
Cropping is good

Hand lens can enable macro using phone



# White Bog Orchid (*Platanthera dilatata*) Research Grade

Edit

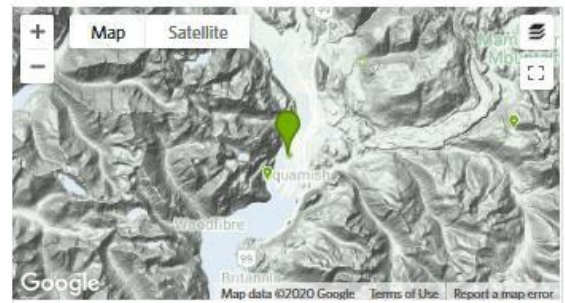


 **judithofsquamish**  
2,657 observations



Observed:  
Jun 7, 2015 - 3:59 PM PDT

Submitted:  
Oct 20, 2016 - 4:36 PM PDT



Squamish, BC, Canada Details

☆ Be the first to fave this observation!







## Description

moist habitat close to a fish channel in the central delta of the Squamish Estuary.

See also separate observations for the *Misumena vatia* (goldenrod crab spider) and *Bombus mixtus* (fuzzy-horned bumble bee) in this photo.

## Activity

-  **judithofsquamish** suggested an ID Improving 3y
  -  **White Bog Orchid**  
*Platanthera dilatata* Compare
-  **seanblaney** suggested an ID 3y
  -  **White Bog Orchid**  
*Platanthera dilatata*
- 

## Community Taxon

[What's this?](#)

**White Bog Orchid** (*Platanthera dilatata*) 

Cumulative IDs: 2 of 2

0 2/3rds 2

## Annotations

Attribute	Value	Agree	Disagree
Plant Phenology	Select		
Sex	Select		

## Projects (2)

Add a Project



When photographing with phone  
use CAMERA. Crop if needed.  
Choose best photos.

THEN open iNaturalist app.

Click on CAMERA ROLL.

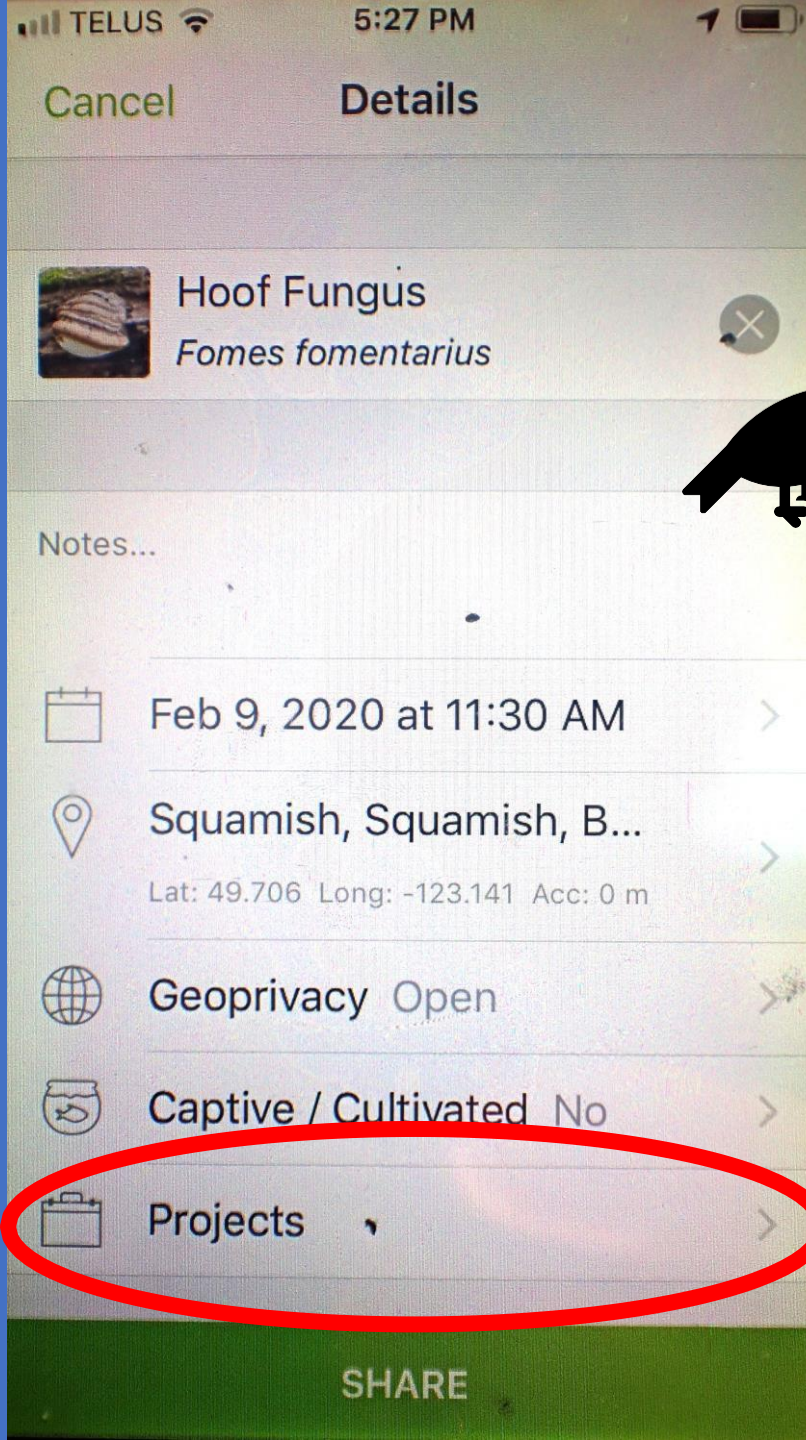
This enables you to upload several  
photos of this observation.

Here  
it is

NO  
PHOTO







**REMEMBER  
TO "ADD  
TO  
PROJECT!"**

Also true  
when  
uploading  
from your  
own site



**BIODIVERSITY SQUAMISH**



Would you prefer to photograph with your camera and upload your photos at home, in your own time? That's fine!





# Hybrid Pacific Northwest Strawberry (*Fragaria × ananassa* ssp. *cuneifolia*)

Research Grade

Edit



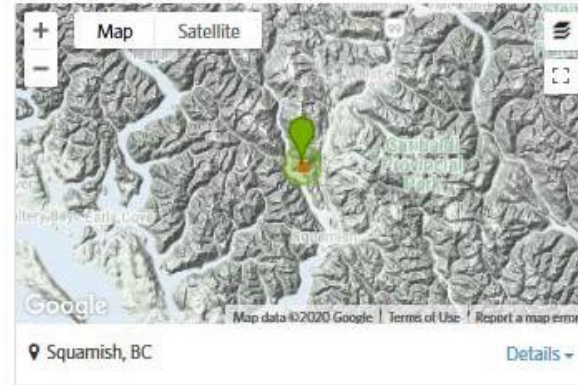
judithofsquamish

2,640 observations



Observed:  
Oct 9, 2018

Submitted:  
Oct 31, 2018 - 10:10 PM PDT



chlorophilia faved this observation

## Activity



judithofsquamish suggested an ID

ID Withdrawn 1y



Virginia Strawberry  
*Fragaria virginiana*



aaronliston suggested an ID\*

Improving 1y



Hybrid Pacific Northwest Strawberry  
*Fragaria × ananassa* ssp. *cuneifolia*

Compare

Relatively thick, bright green leaves, reticulate veins on lower surface & location.

\* aaronliston disagrees this is Virginia Strawberry (*Fragaria virginiana*)

## Community Taxon

What's this?

Hybrid Pacific Northwest Strawberry (*Fragaria × ananassa* ssp. *cuneifolia*)

Cumulative IDs: 3 of 3



0 2/3rds 3

Agree

Compare

About

## Annotations

Attribute	Value	Agree	Disagree
Plant Phenology	Select		

LOOK WHO RESPONDED!





Observations	1383
Species	712
Identifications	13097
Journal Posts	0
Lists	2
Followers	80

## Aaron Liston Curator [?](#)

Joined: Jun 29, 2016 Last Active: Mar 05, 2020

I lived the first 17 years of my life in Phoenix, Arizona. I then moved to Israel, where I discovered the wonders of botany and completed a B.Sc. and M.Sc. at the Hebrew University in Jerusalem. I then moved back to the US and completed a PhD at Rancho Santa Ana Botanic Garden in Claremont, California. After a short post-doc at UC Davis, I arrived at Oregon State University in 1991, and have been here ever since! I study plant evolution using genomic data, and my current research focus is the strawberry genus.

I studied Astragalus for my PhD and am now enjoying the diversity of the genus on iNaturalist. I use Rupert Barneby's 1964 monograph as my guide. You can view my Astragalus identifications here:

[https://www.inaturalist.org/observations?ident\\_user\\_id=aaronliston&place\\_id=any&subview=grid&taxon\\_id=49370&view=species](https://www.inaturalist.org/observations?ident_user_id=aaronliston&place_id=any&subview=grid&taxon_id=49370&view=species)

My knowledge of Astragalus is broad but shallow, and I sometimes make mistakes. If you have questions about an identification, please don't hesitate to ask. I welcome corrections, and enjoy learning from people with expertise in their local flora.

<https://orcid.org/0000-0002-3020-6400>

### Following 23 People

- coylec 184
- kimhummer 14
- dgermandt 183
- annwillyard 43
- milkweedguy 1618
- amykslr80 208
- alex\_abair 4425
- cpfeuille 305

[View All](#)

### Favorite Taxa



Hypochaeris sessiliflo...




Milkvetches




Strawberries

This iNaturalist community member is a university professor at Oregon State. His current research focus is the strawberry genus.




 judithofsquamish commented 1y

This observation was made a good one and a half hour drive from any garden. There is one dirt road north along the Squamish River, then you drive up a logging road. This is a huge, wild area, with grizzlies, black bears, wolves etc. and a glacier on the nearby mountain.

 aaronliston commented 1y


I should have clarified that this is the natural hybrid between *F. chiloensis* and *F. virginiana*.

 judithofsquamish commented 1y

Oh. In British Columbia the Conservation Data Centre currently lists *F. x ananassa* ssp. *cuneifolia* as an exotic, with the common name garden strawberry.

Where I saw the *Fragaria* is up the hillside at the transition from Squamish's wet temperate rain forest over to the drier Interior climate that further east will be in the rainshadow of the Cascade Range. Not far away from this *Fragaria* was an *Acer glabrum* var. *douglasii*, another native species that prefers a drier climate and is typical of the transition.

At our latitude *F. chiloensis* (and *F. virginiana*) are rather common out by the Coast on the drier side of Vancouver Island and in the Gulf Islands etc. but we are too far inland for *F. chiloensis* to grow here above the end of the fjord. Therefore the only possibility I can think of is that the hybrid seeds were introduced on the wheels of a logging truck (the most common vehicle) or other vehicle (occasional), which in this location seems to me to be rather unlikely. On the other hand *F. virginiana* is plentiful in BC in the drier interior just east of this location. I write out of genuine curiosity and welcome the complexity of trying to understand.


 aaronliston commented 1y


I am happy to answer your questions, and appreciate your interest. There is no reason to think the plant is introduced at your location - your description of transitional habitat fits well with my impression of where the hybrid grows. It is certainly native, and the CDC is incorrect. It is perhaps unfortunate that Staudt named this as a subspecies of *F. ananassa*; it clearly has an independent origin from the cross made between NE N. American *F. virginiana* and S. American *F. chiloensis*. They were both introduced into France and hybridized in the 1750s. It is fascinating to think if the indigenous peoples of the Pacific Northwest had developed agriculture, they could have domesticated the hybrid thousands of years earlier! I agree this is well outside the current habitat of *F. chiloensis*, but I hypothesize that *F. chiloensis* was more widely distributed in the past, and had ample opportunity to hybridize with *F. virginiana*. Note that in southern Chile and Argentina the species grows from the coast to 1000 meters in elevation in the Andes. Here is a distribution map of the hybrid and *F. virginiana* ssp. *platypetala*:  
<https://www.dropbox.com/s/8xbtrjeu423r7e6/Fragaria%20ananassa%20cuneifolia%20distribution%20map%20Staudt%201999.pdf?dl=0>  
 You can also read about the genetic and morphological evidence for the hybridization here:  
<https://onlinelibrary.wiley.com/doi/full/10.3732/ajb.1200624>  
 Please let me know if you have more questions.

Sex Select ▾

✓ Projects (2)

Add to a Project

 Salish Sea Biodiversity ⚙

 BIODIVERSITY SQUAMISH  
Observation Fields ⚙

✓ Tags

Add Tag











✓ Observation Fields (2)

**habitat, ecology:**  
open, drier than most of Squamish, mid elevation

**nearest placename - where seen:**  
Branch 200


Choose a field

✓ Top Identifiers of Hybrid Pacific Northwest Strawberry

 aaronliston 16	 eralverson 9
 sedgequeen 3	 birdwhisperer 2
 rmcinds 2	 chlorophilia 1
 ajwright 1	 judithofsquamish 1
 alex_abair 1	 stewartwechsler 1

✓ Copyright Info

Observation © judith holm - some rights reserved



The texting format of iNaturalist enabled a productive discussion.

The end result was that the BC Conservation Data Centre has updated their database.



A scenic view of a rocky coastline with shallow water and a blue sky with scattered clouds. The foreground shows numerous dark, moss-covered rocks partially submerged in clear, shallow water. The middle ground features a calm sea extending to a distant shoreline with some buildings and trees. The sky is a deep blue with a few white, fluffy clouds on the right side.

The Salish Sea Biodiversity project is an international initiative to document the biodiversity of the Salish Sea.

Atl'ka7tsem Howe Sound watershed is within the Salish Sea watershed. Biodiversity Squamish is actively part of this incredibly exciting initiative!



Event cancelled (coronavirus).  
Stay tuned. Workaround  
strategies in progress.



**Six leaders of Salish Sea Biodiversity (iNaturalist) each presenting**



***“Networking Biodiversity Projects within the Salish Sea”***  
**Andrew Simon (U Victoria), creator and visionary behind  
the Salish Sea Biodiversity project**



***“Building Bridges between biodiversity projects with  
diverse standards”*** international, London, UK  
**Antranig Basman, computer programmer of sustainable  
open source development for the academic sector**





QUESTIONS?



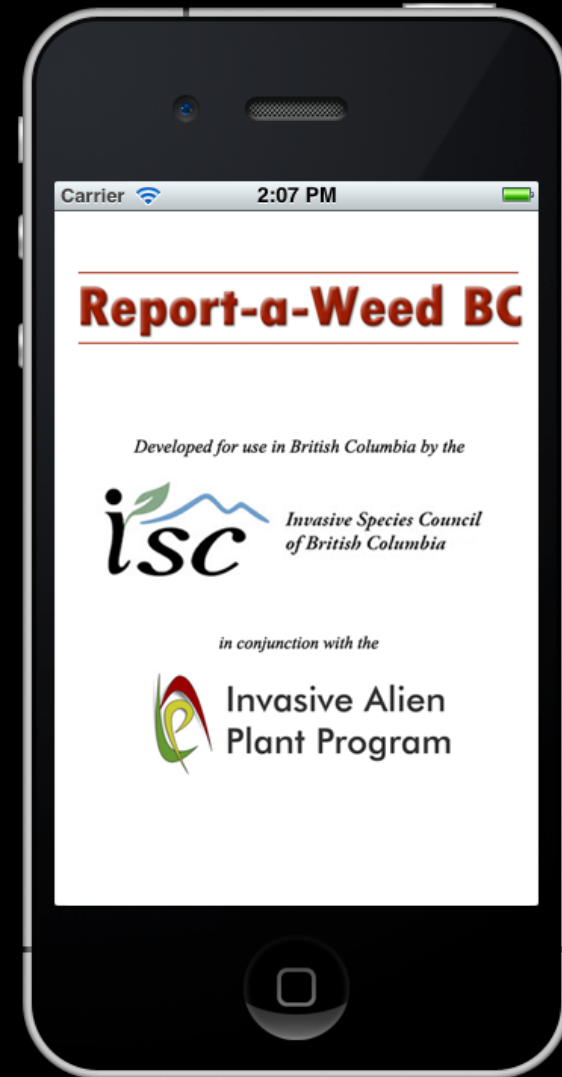
# Overview of current Report-a-Weed phone app





# Report-a-Weed Mobile App

- Download free of charge
- Available to anyone in BC
- Works on iPhone, iPad, and Android platforms
- Intuitive, easy to use interface





# Report-a-Weed Mobile App

- Submissions saved in online database
- Invasive plant specialists will coordinate

follow-up activities

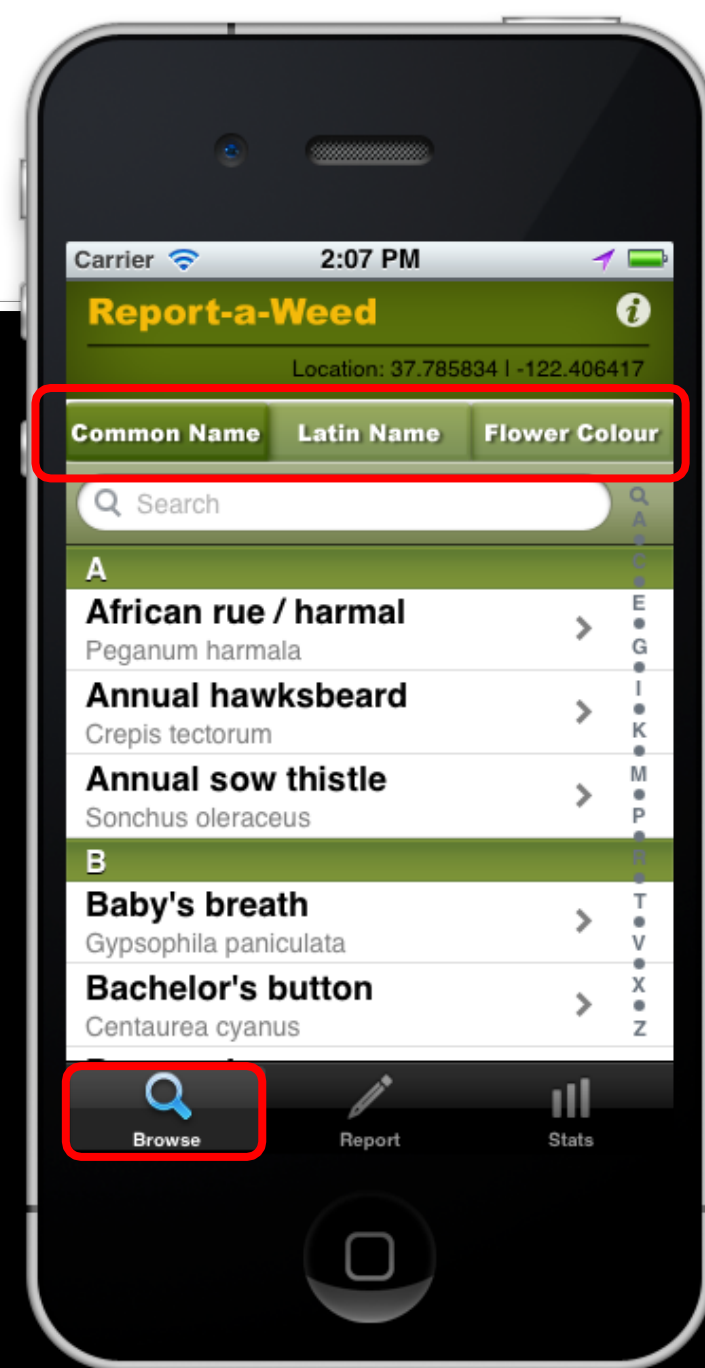
- Confirmed reports are entered into IAPP

937	2013-09-12 04:40:31	Fallopia japonica	10	<a href="#">49.514006</a>	<a href="#">-123.911370</a>	Rand Rudland	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>		<a href="#">IMAGE LINK</a>
938	2013-09-13 08:12:29	Ulex europaeus	10	<a href="#">49.469476</a>	<a href="#">-123.764012</a>	Rand Rudland	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	Water's edge with scotch broom	<a href="#">IMAGE LINK</a>
939	2013-09-13 08:15:13	Ulex europaeus	10	<a href="#">49.469682</a>	<a href="#">-123.765057</a>	Rand Rudland	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>		<a href="#">IMAGE LINK</a>
940	2013-09-13 08:22:36	Ulex europaeus	10	<a href="#">49.470972</a>	<a href="#">-123.765074</a>	Rand Rudland	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	Extensive area along ditch towards HWY 101 at least 40 meters in length with separated plants	<a href="#">IMAGE LINK</a>
941	2013-09-13 09:34:32	Fallopia japonica	10	<a href="#">49.505251</a>	<a href="#">-123.891548</a>	Rand Rudland	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	Treated once but is regrowing	<a href="#">IMAGE LINK</a>
942	2013-09-13 09:37:35	Fallopia japonica	10	<a href="#">49.512218</a>	<a href="#">-123.901792</a>	Rand Rudland	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	Massive area along HWY 101 and spreading downslope	<a href="#">IMAGE LINK</a>
943	2013-09-13 01:09:18	Fallopia japonica	10	<a href="#">49.490383</a>	<a href="#">-123.736290</a>	Rand Rudland	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>		<a href="#">IMAGE LINK</a>
944	2013-09-13 01:11:56	Fallopia japonica	10	<a href="#">49.491678</a>	<a href="#">-123.743824</a>	Rand Rudland	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	Entrance to District of Sechelt works yard	<a href="#">IMAGE LINK</a>
945	2013-09-13 03:00:35	Centaurea biebersteinii	500	<a href="#">49.502543</a>	<a href="#">-115.059593</a>	Kori vernier	<a href="mailto:Kori.vernier@canfor.com">Kori.vernier@canfor.com</a>	<a href="mailto:Kori.vernier@canfor.com">Kori.vernier@canfor.com</a>		<a href="#">IMAGE LINK</a>
946	2013-09-13 02:25:23	Fallopia japonica	10	<a href="#">49.470825</a>	<a href="#">-123.759328</a>	Rand Rudland	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>	<a href="mailto:randrudland@dccnet.com">randrudland@dccnet.com</a>		<a href="#">IMAGE LINK</a>
947	2013-09-14 05:51:11	Hedera helix	10	<a href="#">49.330992</a>	<a href="#">-123.155998</a>	dan wood	<a href="mailto:danwood2442@gmail.com">danwood2442@gmail.com</a>	<a href="mailto:danwood2442@gmail.com">danwood2442@gmail.com</a>	Chocking the tree	<a href="#">IMAGE LINK</a>
948	2013-09-15 07:24:37	Heracleum mantegazzianum	10	<a href="#">49.309339</a>	<a href="#">-124.341587</a>	Sam walker	<a href="mailto:mistaken_island1@hotmail.com">mistaken_island1@hotmail.com</a> 250 240-4347	<a href="mailto:mistaken_island1@hotmail.com">mistaken_island1@hotmail.com</a> 250 240-4347		<a href="#">IMAGE LINK</a>
949	2013-09-17 11:03:33	Fallopia japonica	650	<a href="#">50.599816</a>	<a href="#">-127.579898</a>	Jason Hutchinson	<a href="mailto:Jason.hutchinson@sfini.ca">Jason.hutchinson@sfini.ca</a>	<a href="mailto:Jason.hutchinson@sfini.ca">Jason.hutchinson@sfini.ca</a>		<a href="#">IMAGE LINK</a>
	2013-09-17 11:03:33	Fallopia japonica				Jason Hutchinson				



# Features

- Ability to search for plants by Latin name, Common name, or Flower Colour
- Scroll through images of plants of the same flower colour
- Add photograph to report





# Step 1 – only necessary once

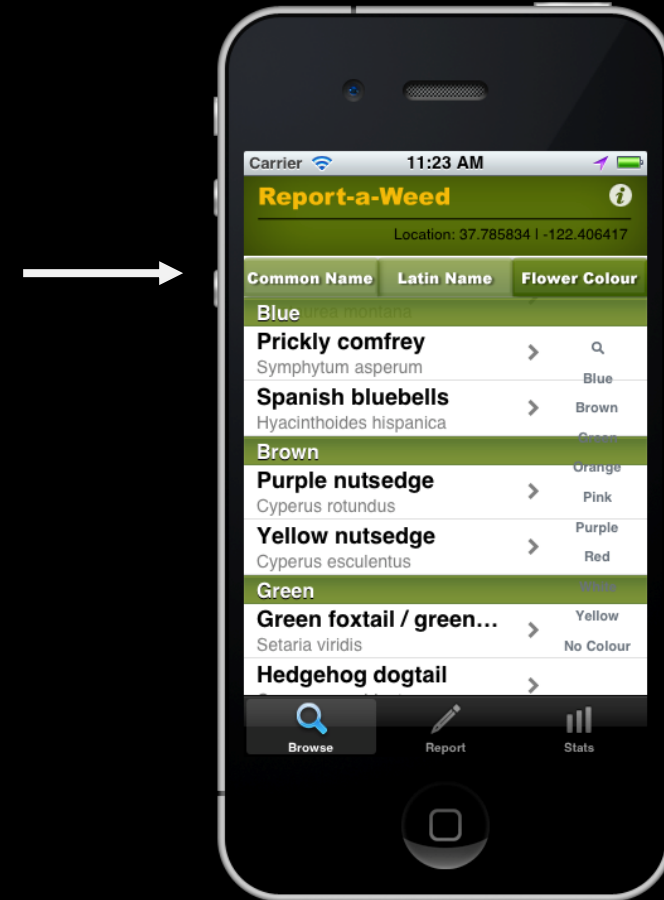
- The app uses the GPS in your phone to send the exact location in the report. If you choose 'Don't Allow', then there will be no Lat/Longs submitted with your report (that makes it hard to find! 😊)





# Step 1 – Choose plant

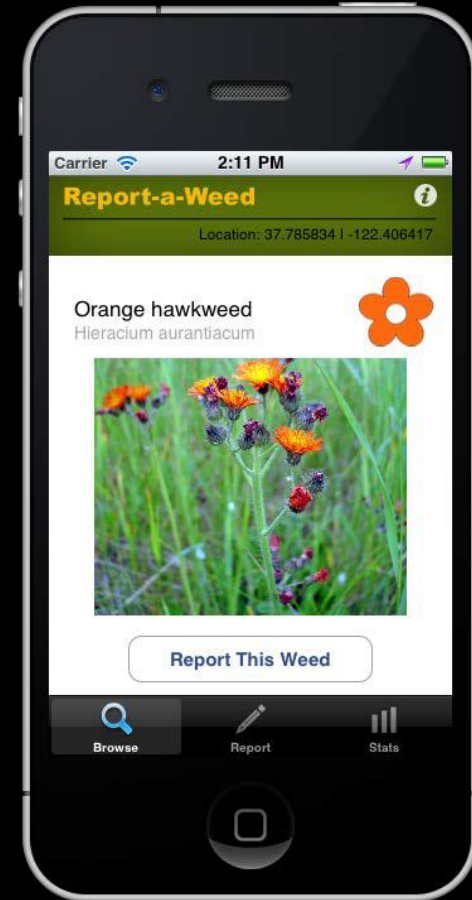
- Choose the plant you want to report.
  - Alphabetically - using Latin name or Common name, or flower colour





# Step 2 – Start Report

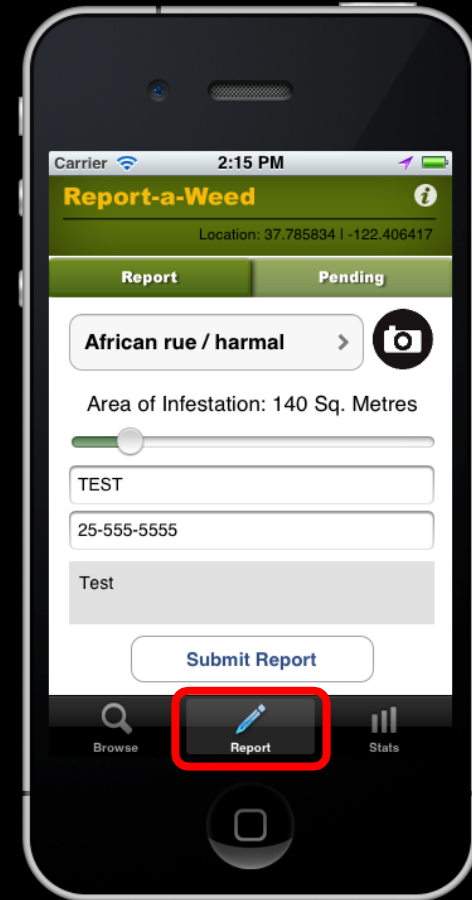
- Once you find and select your plant, click 'Report This Weed'
- From this screen, you can also slide the image to scroll through plants of the same colour





# Step 3 – Enter specifics

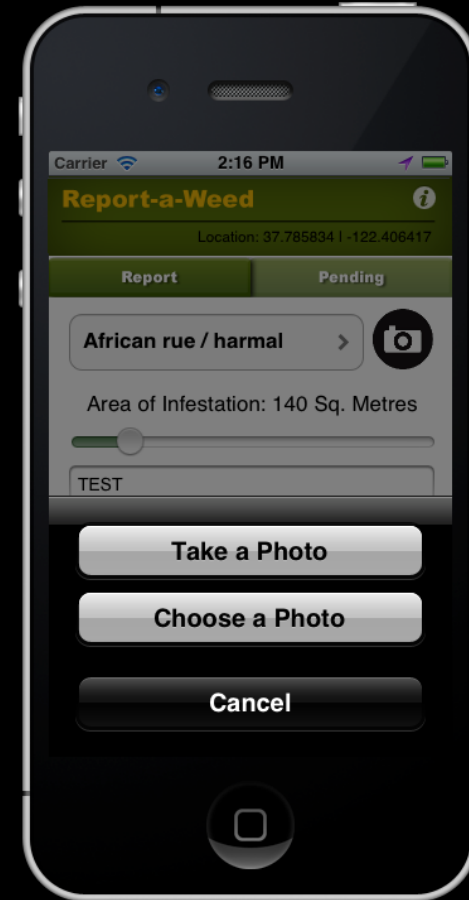
- Use the slider to select the approximate square footage of the infestation
- Enter your name and/or phone, email contact (only needs to be done once)
- If you like, you can add a comment





# Step 3b – Optional photo

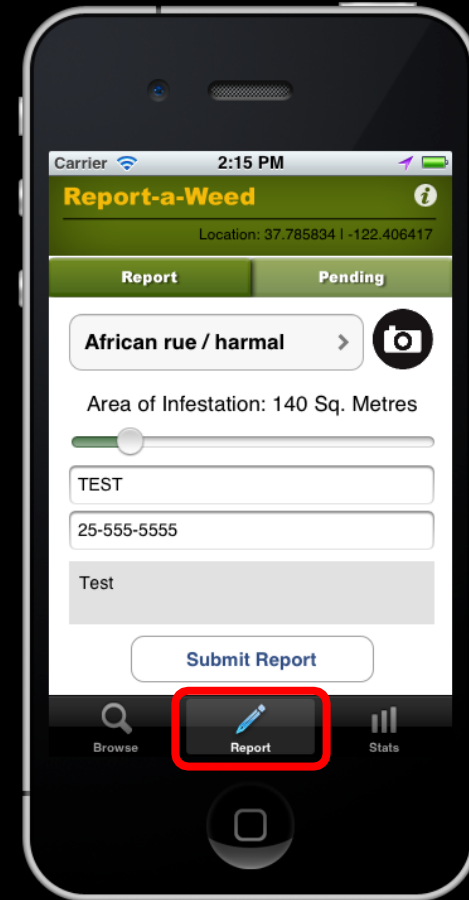
- You can take a picture and add it to your submission; or you may choose an existing photo





# Step 4 – Send

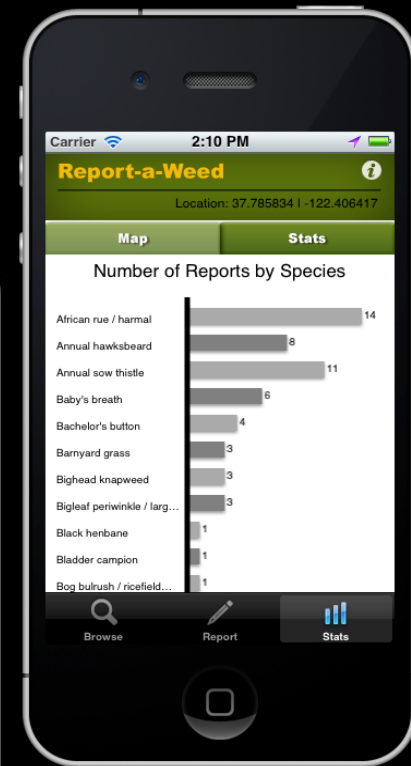
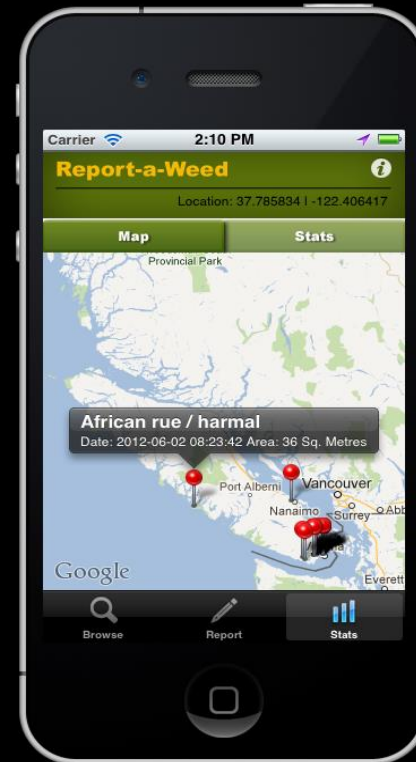
- Once you are happy with your submission, click '**Submit Report**'
- You're done!





# Other Features

- At any time, you can also view the Stats tab items, which include
  - A Google map with the 500 most recent submissions,
  - A Table with the most recent 500 submissions, by species





# Questions?

- Please feel free to review the information at <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/invasive-species/reporting-invasive-species>
- Contact the invasive database specialist at Ministry of Forests, Lands and Natural Resource Operations and Rural Development):
  - [Invasive.Plants@gov.bc.ca](mailto:Invasive.Plants@gov.bc.ca)



# QUESTIONS?



- Ruth Simons, Project Lead, Howe Sound Biosphere Region Initiative. [howesoundbri@gmail.com](mailto:howesoundbri@gmail.com)
- BC Parks iNaturalist project – Kelly Fretwell, Citizen Science Project Coordinator  
BC Parks Foundation, [citizenscience@bcparksfoundation.ca](mailto:citizenscience@bcparksfoundation.ca)
- Biodiversity Squamish iNaturalist – Judith Holm, Project lead  
[biodiversity.squamish@gmail.com](mailto:biodiversity.squamish@gmail.com)
- Report-A-Weed – Michael Shasko, Invasive Species Database Specialist, Forests, Lands, Natural Resource Operations and Rural Development. *Product Owner, InvasivesBC Application Development* - [Michael.Shasko@gov.bc.ca](mailto:Michael.Shasko@gov.bc.ca)