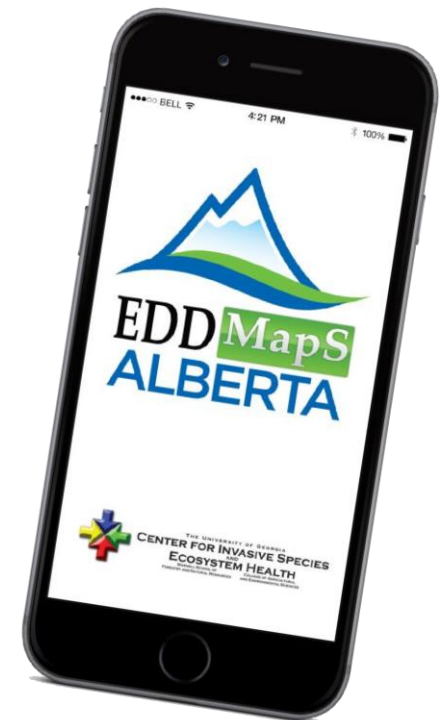




# A tool for managing invasive species for success

Megan Evans, Executive Director  
Alberta Invasive Species Council





## Outline:

- Download EDDMapS app!
- Overview of invasive species in Alberta
- Legal requirements
- About the Alberta Invasive Species Council
- EDDMapS Alberta app



Wikipedia



US Forest Service



Kim Lutz



Wikipedia



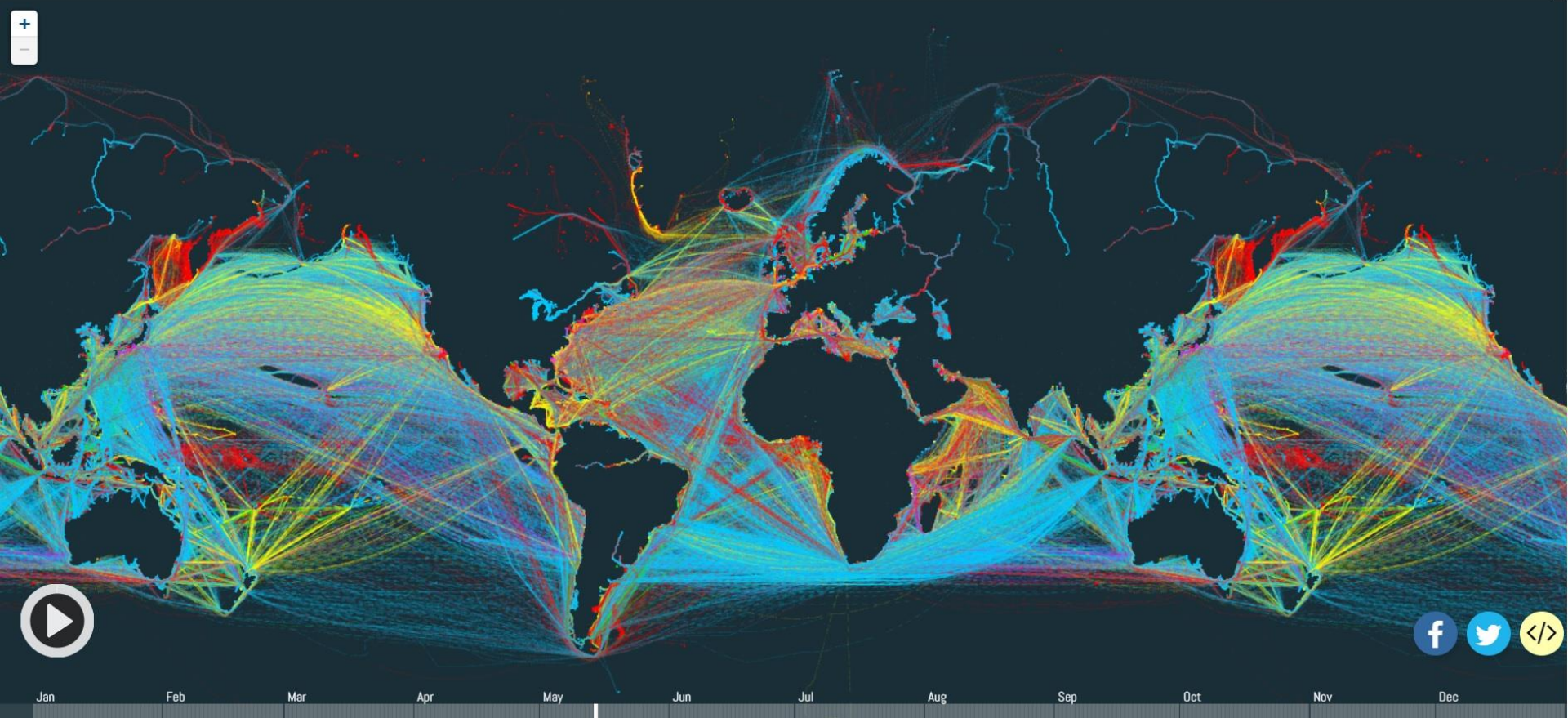
Amy Benson



Natural Resources Canada



George Chernilevsky



Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

<https://www.shipmap.org/>





# Legislation addressing invasive species in Alberta



Province of Alberta

## WEED CONTROL ACT

Statutes of Alberta, 2008  
Chapter W-5.1

Current as of December 15, 2017

Office Consolidation

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Province of Alberta

## FISHERIES (ALBERTA) ACT

Revised Statutes of Alberta 2000  
Chapter F-16

Current as of March 31, 2016

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Province of Alberta

## AGRICULTURAL PESTS ACT

Revised Statutes of Alberta 2000  
Chapter A-8

Current as of November 1, 2014

Office Consolidation

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## Alberta Invasive Species Council:

- Non-profit formed in 2006 as the Alberta Invasive Plant Council
- Name change in 2013 to the Alberta Invasive Species Council
- **Vision:** Prevention Inspired; Alberta Protected
- **Mission:** To provide leadership on invasive species management



## Alberta Invasive Species Council:

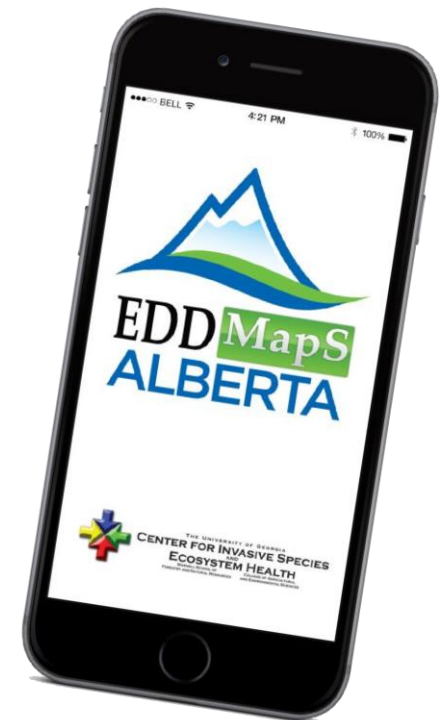
- Attend events throughout the year
- Annual conference (March 24 and 25 in Lacombe)
- Fact sheets for ~125 invasive species
- Administer the Alberta Biocontrol Operational Release program
  - Leafy spurge; spotted/diffuse knapweed; Russian knapweed; dalmatian toadflax; and hound's tongue
- Help facilitate invasive species research
- Early Detection and Distribution Mapping System (EDDMapS Alberta)





## History of EDDMapS:

- Focus was on early detection of new invaders
- Only a dozen species were included in the app
- Reports are verified and reported to authorities
- Citizen science





## Evolution to current state:

- Focus more on distribution mapping of invasive species
- A tool that can be used to map and record invasive species
- Tracks 153 invasive species
- Incorporation of invasive plant identification resource.
- Ability to record invasive species observations while out of cell service.
- Ability to bulk upload data





# How to get started

[www.eddmaps.org/alberta](http://www.eddmaps.org/alberta)



**EDDMapS** Early Detection & Distribution Mapping System

ALBERTA Invasive species COUNCIL

Username:  Password:  [Login](#)

[Join Now \(Free\)](#) [Lost your password?](#)

Report Sightings | Distribution Maps | Species Information | Tools & Training | My EDDMapS | About

### What are Invasive Species?

Any species that is non-native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. These non-native species aggressively compete with and displace the associated flora and fauna communities.

### Smartphone App

The EDDMapS alberta app brings the power of EDDMapS to your smartphone. Now you can submit invasive species observations directly with your smartphone from the field. These reports are uploaded to EDDMapS and e-mailed directly to verifiers for review.

Download on the App Store | ANDROID APP ON Google play

### Statistics

- 3,523 County Reports
- 3,522 Point Reports
- 51 Species

### Recent Reports in Alberta

- ✓ Himalayan balsam in City of Edmonton, Alberta
- ✓ Himalayan balsam in City of Edmonton, Alberta
- ✓ Himalayan balsam in City of Edmonton, Alberta
- ✓ common burdock in County of Two Hills No. 21, Alberta
- ✓ orange hawkweed in Municipal District of Lesser Slave River No. 124, Alberta
- ✓ More Reports

### Educational Resources

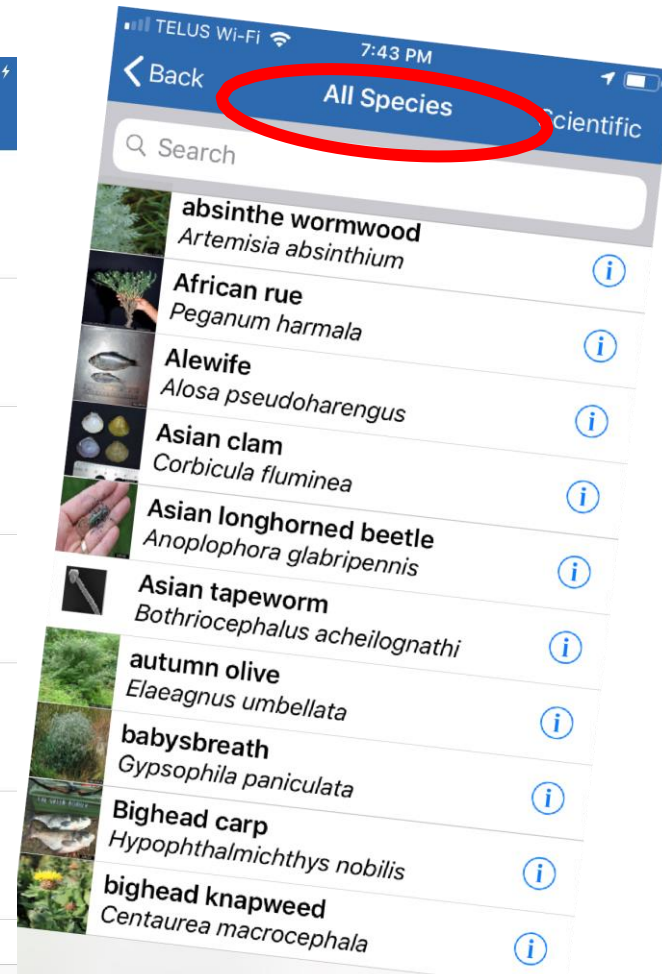
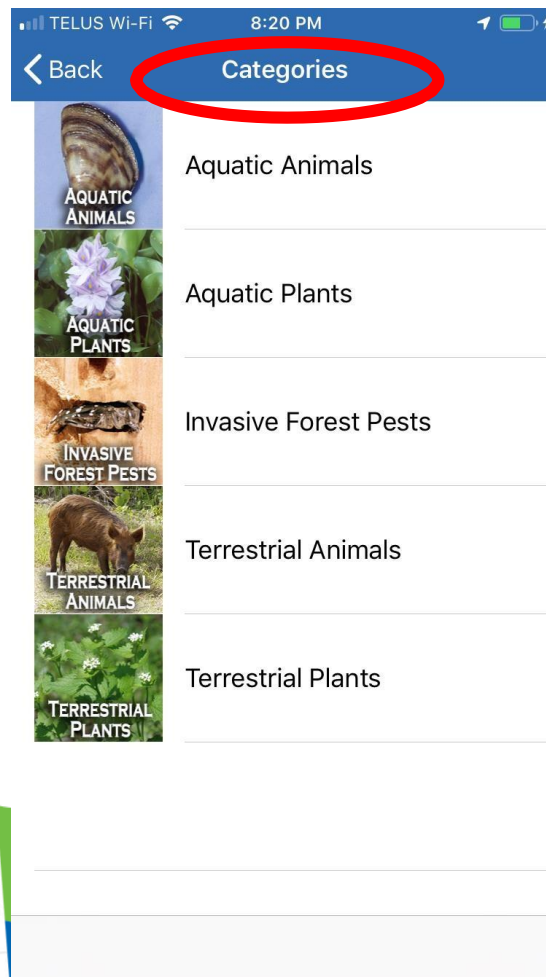
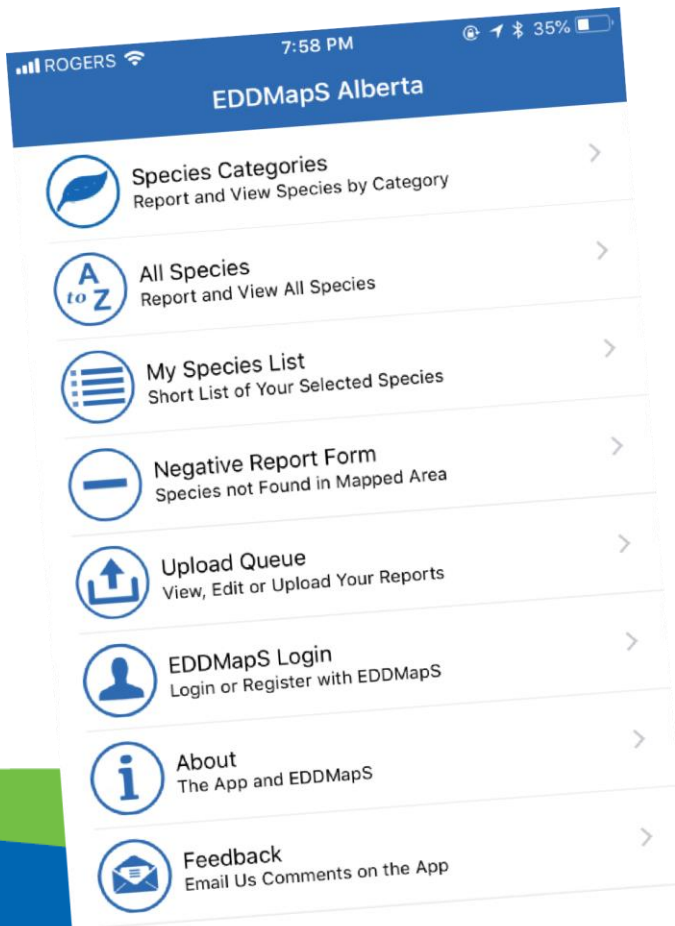
- ✓ EDDMapS Alberta - Invasive Plant Mapping Handbook - High Quality
- ✓ EDDMapS Alberta - Invasive Plant Mapping Handbook - Slow Connections
- ✓ Step-By-Step Instructions: Reporting an Invasive Plant to EDDMapS Alberta
- ✓ Reporting Form - Field Worksheet
- ✓ Target Species Information Page
- ✓ Key to the Identification of Invasive and Native Hawkweeds in the Pacific Northwest
- ✓ Alberta Weed Control Act - Hawkweed Leaf Comparisons
- ✓ Flowering Rush Removal Report
- ✓ Flatbed Scanners for EDDMapS Alberta Target Species Photos
- ✓ EDDMapS: Invasive Plant Mapping Handbook

Supporting Agencies and Organizations





## Download the EDDMapS Alberta smartphone app






TELUS Wi-Fi 8:36 PM

Spotted knapweed Cancel

Common Name Scientific Name

 **spotted knapweed**  
*Centaurea stoebe ssp. micranthos* ⓘ

q w e r t y u i o p  
a s d f g h j k l  
↑ z x c v b n m ↵  
123 😊 🗣️ space Search



TELUS LTE 10:47 PM

< All Species Save

*Centaurea stoebe ssp. micranthos*  
spotted knapweed  
2020-02-26 22:47:56

Report Images



Tap Here  
to Add Photo

GPS Location

Latitude Updating...  
Longitude Updating...  
Accuracy Updating...



Minutes Spent at Location

5 10 15 30 45 60

Observed Information

Area Acres Sq. Meters

Density Low Medium High

Notes

Additional information goes here. Do not include personal information. All information entered in this field will be displayed publicly.

Save



Photo By: Bonnie Million, National Park Service



Photo By: L.L. Berry

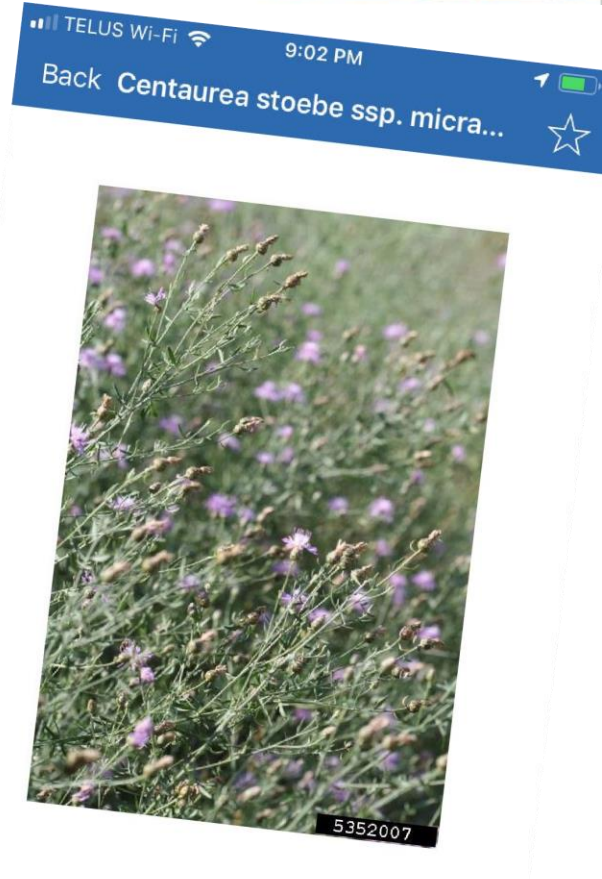
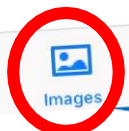


Photo By: Marisa Williams, University of Arkansas, Fayetteville



Images

Details

Sightings

Images

Details

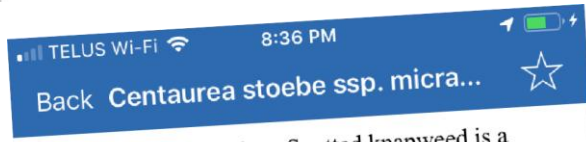
Sightings

Images

Details

Sightings





**Relative Information:** Spotted knapweed is a biennial weed. It prefers well drained soils; however, it thrives in fine-course grained soils as well. Seeds can last between 5-10 years and are usually distributed by the wind from tumbling, dry knapweed. It is also often spread through contaminated hay. Since knapweed seeds can last up to 10 years, control sites need to be revisited regularly.

**Problems:** Spotted knapweed will take over native plant communities that are undisturbed, which will cause depletion in wildlife and livestock foraging areas. Deep roots of the spotted knapweed will cause competition with other native plant species. Spotted knapweed causes degradation of the area it grows in. A chemical that is excreted from the root can prevent growth of other native plants surrounding it.

**Chemical Controls:**

\*all controls are shown in alphabetical order  
\*\*Read the label for ingredients, application rates, instructions and safety protocols  
<sup>1</sup>Overdrive can be mixed with Clearview, Navius, and Reclaim II

Industrial



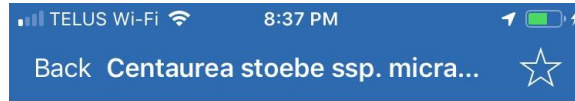
Images



Details



Sightings



Industrial

- Clearview
- Clearview Brush
- Clearview 2,4-D amine
- Milestone
- Milestone + 2,4-D amine
- Navius
- Overdrive<sup>1</sup>
- Sightline
- Tordon 22K
- Truvist

Range and Pasture

- Navius
- Overdrive<sup>1</sup>
- Restore II
- Reclaim II
- T22K

**Mechanical Controls:** Effective. Cutting and pulling before the plant can flower prevents seed production. However, it will take years using this technique to remove the species completely.

**Biological Controls:** *Cyphoscleonus Achates* (Knapweed root weevil); larvae feed on and kill



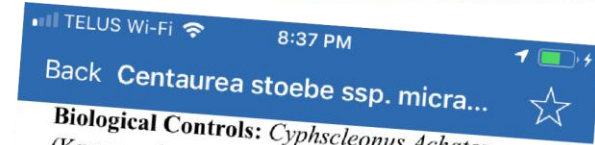
Images



Details



Sightings



**Biological Controls:** *Cyphoscleonus Achates* (Knapweed root weevil); larvae feed on and kill small weeds. When larvae occupy a root, they reduce biomass and density of knapweed populations. Root tunneling will expose weed to bacterial and fungal infections. *Larinus minutus* (Lesser knapweed flower weevil); adults feed on foliage causing growth stunt and possibly death. Larvae feed on seeds which reduces seed distribution.

**Cultivation:** Effective. Cultivated areas do not usually have a large spotted knapweed infestation.

**\*Grazing:** It is effective during the rosette stages of the weed. If livestock grazes on the seeds, seeds can be distributed through manure.

\*Any grazing on invasive species should not be considered.

Disclaimer:

This is for information purposes only. Please always read and follow the label of each chemical control used (herbicides). For more information on the local policies of chemical use in your area, contact your agricultural division.

This information was made possible by funding from the Southern Alberta Land Trust Society.

Other sponsors of this work include Bayer CropScience, Dow AgroSciences and Alberta Invasive Species Council.



Images



Details



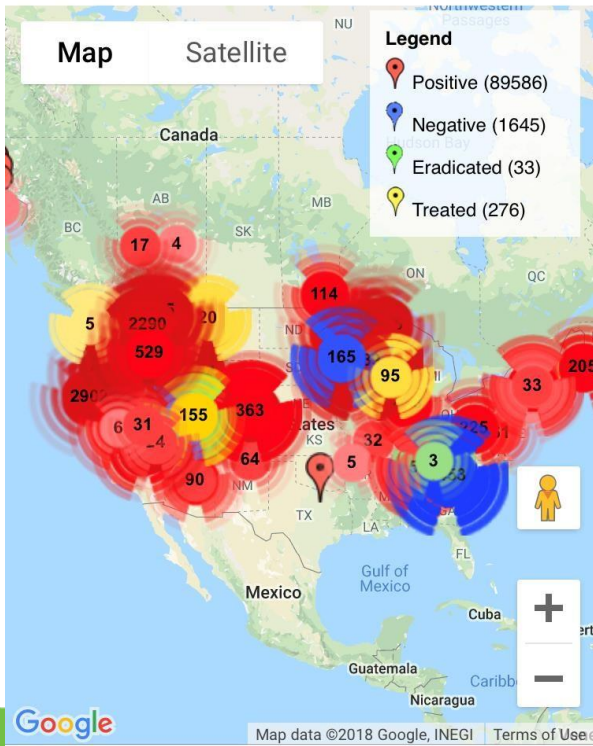
Sightings



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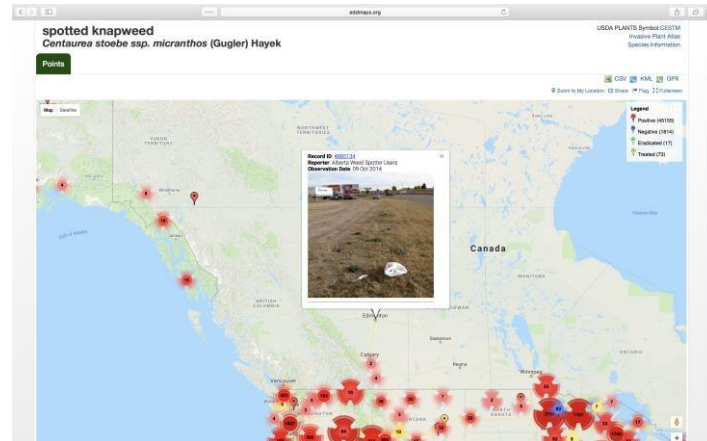
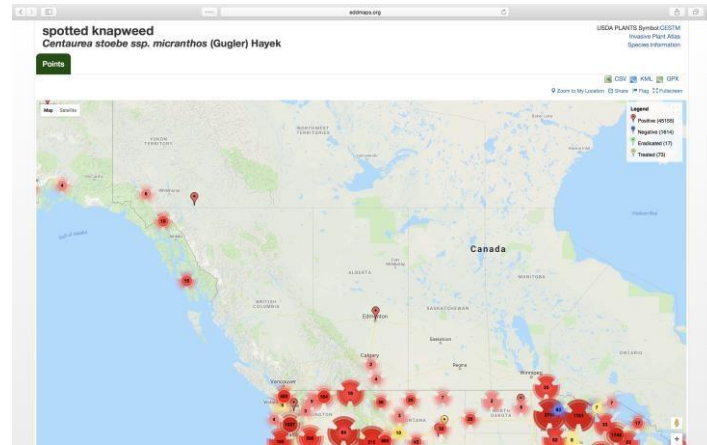
Back Centaurea stoebe ssp. micra... ☆

Zoom to My Location Share Flag Fullscreen



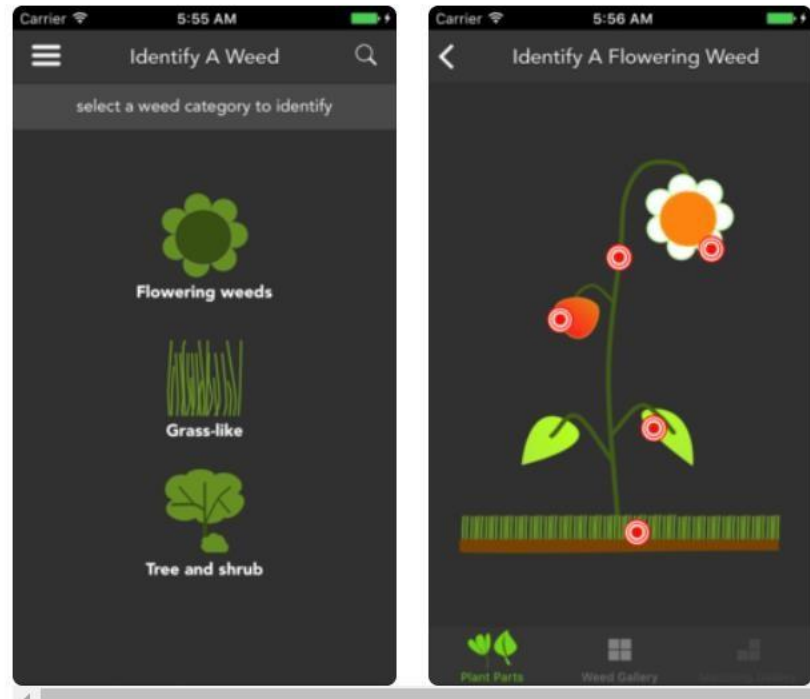
Back

Images Details **Sightings**





## Incorporating a key to assist in identifying species





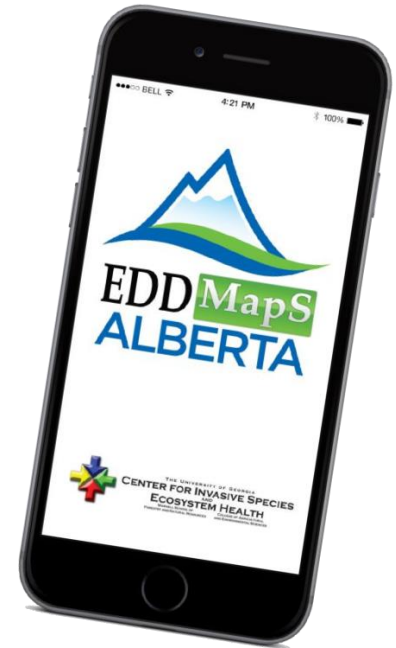
## Benefits of EDDMapS:

- Free, fast and easy to use, and no knowledge of GIS required.
- Authorities are notified unless you ask that they not be.
- The app can be used to record individual infestations OR to bulk upload an entire season of data.
- Individual reports are verified, and bulk data are coarsely verified.
- Can record invasive species data while out of cell service.
- Built in invasive species identification tool.
- Ability to download data OR view online.
- Data added to existing datasets.



## The future of EDDMapS:

- Potential for a nation-wide, more robust app.
- For use nation-wide.
- Ability to report more than one species at a time.
- Revisit feature.
- More robust use while out of cell service.
- Ability to tweak data once collected.
- This will take money and time.





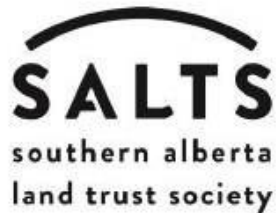
## Summary

- EDDMapS Alberta is a free app for reporting invasive species.
- Can be an effective tool to manage your invasive species database, set priorities and inform invasive species management plans.
- Possibility of an even more robust app in the future.





Thank you to our  
EDDMaps Alberta Partners!



Megan Evans, Executive Director  
Alberta Invasive Species Council  
[execdirector@Abinvasives.ca](mailto:execdirector@Abinvasives.ca)

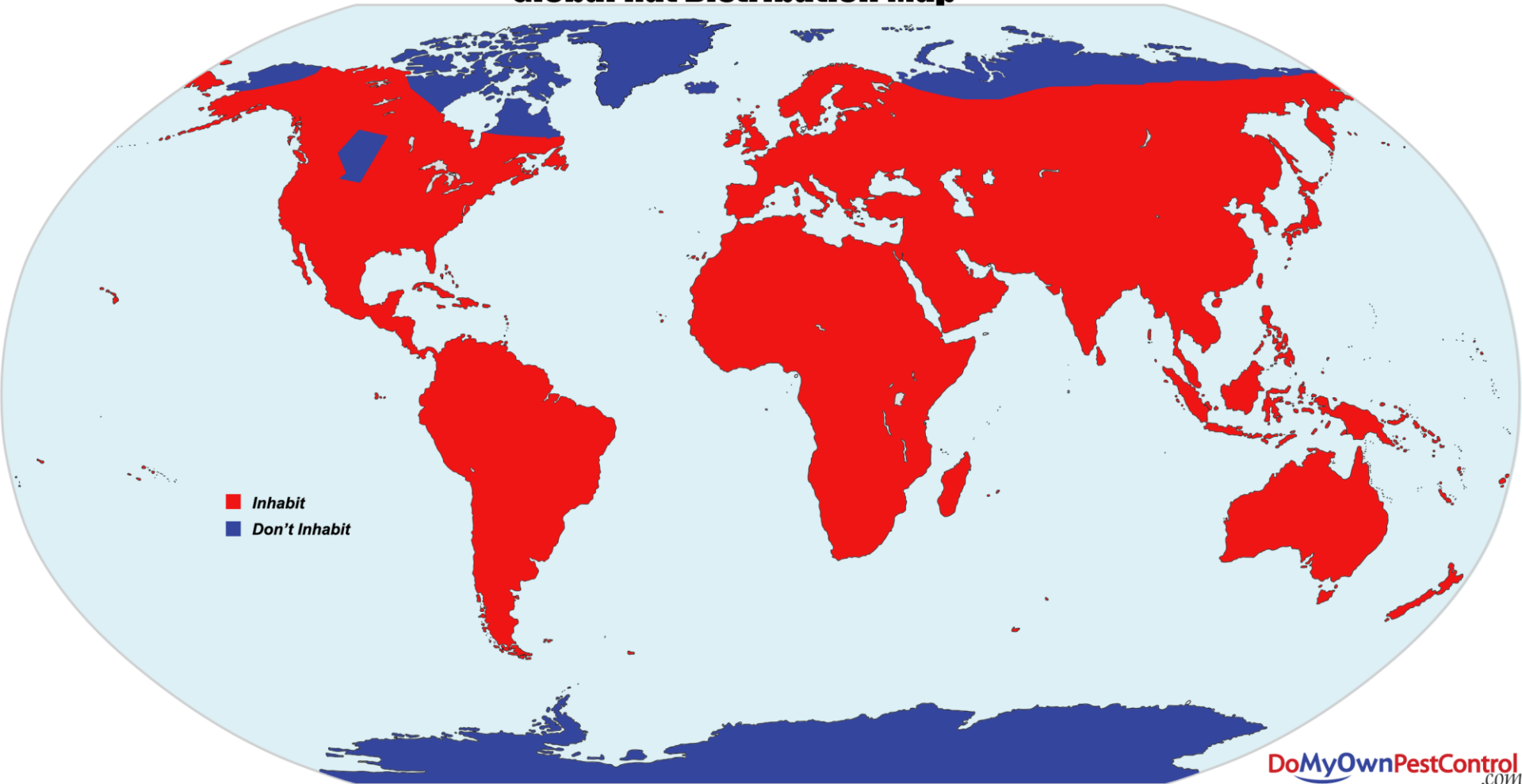


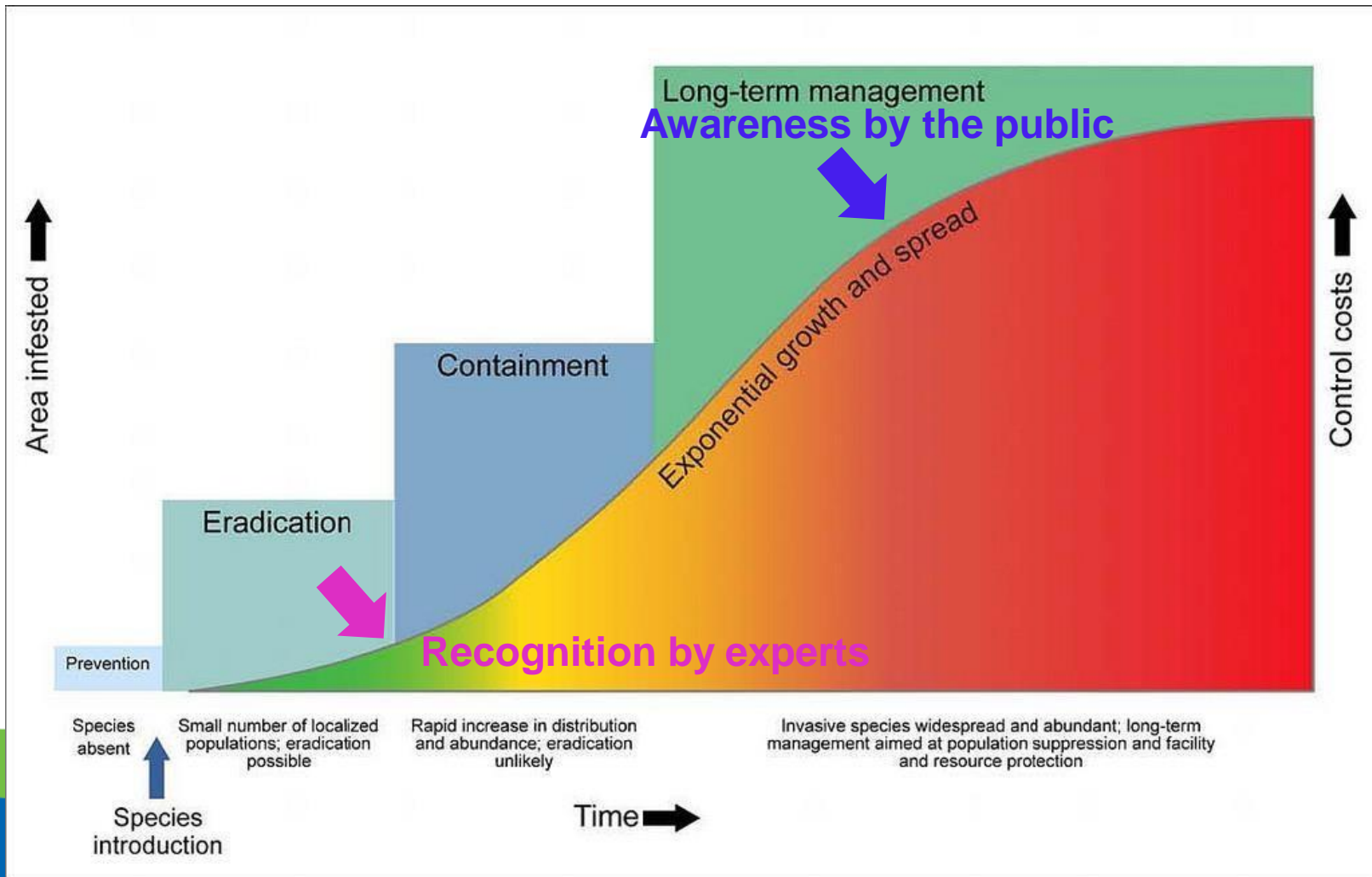
- Orange hawkweed is sometimes considered rare in its native range
- Burmese pythons are declining in their native range





## Global Rat Distribution Map







# EDDMapS States





## Bugwood apps





# EDDMapS.org

**wild pig**  
*Sus scrofa (feral type)* Linnaeus

States Counties **Points** List

Search by EDDMapS Record ID

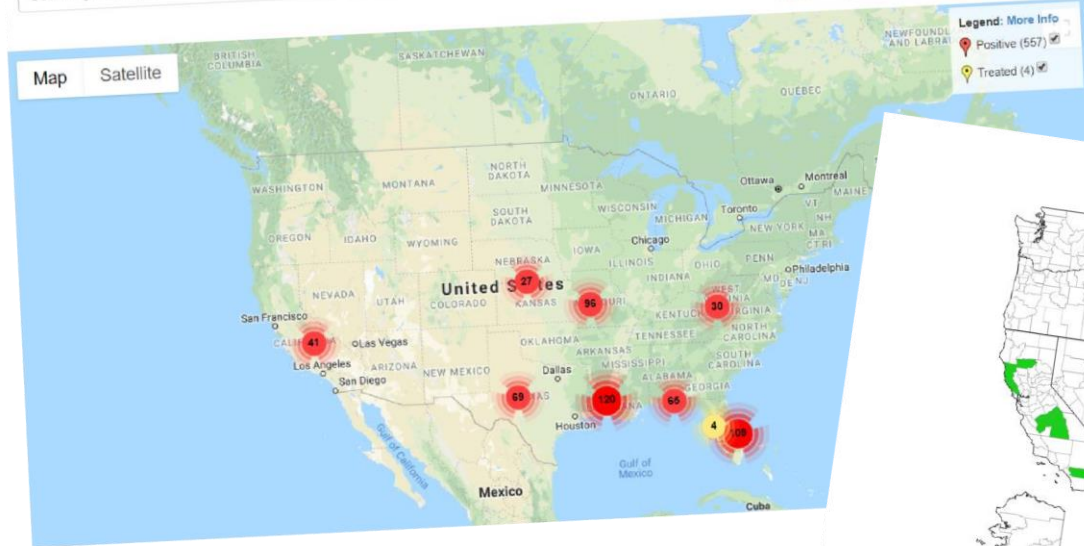
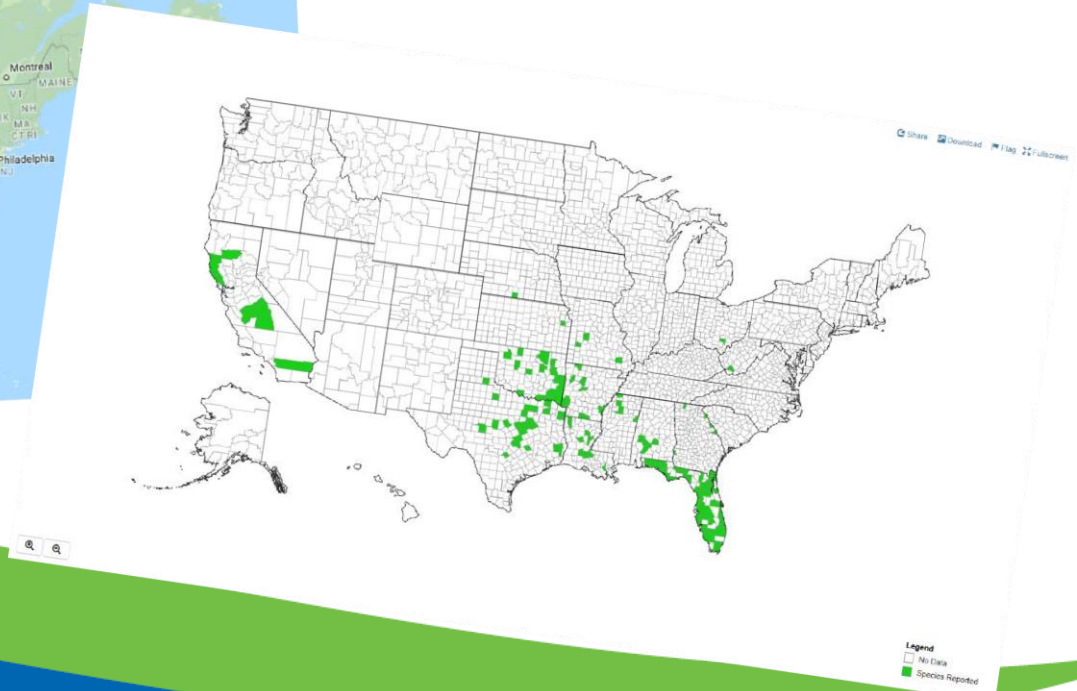
Species Information

Login to download data

Zoom to My Location Share Flag Fullscreen

Legend: More Info

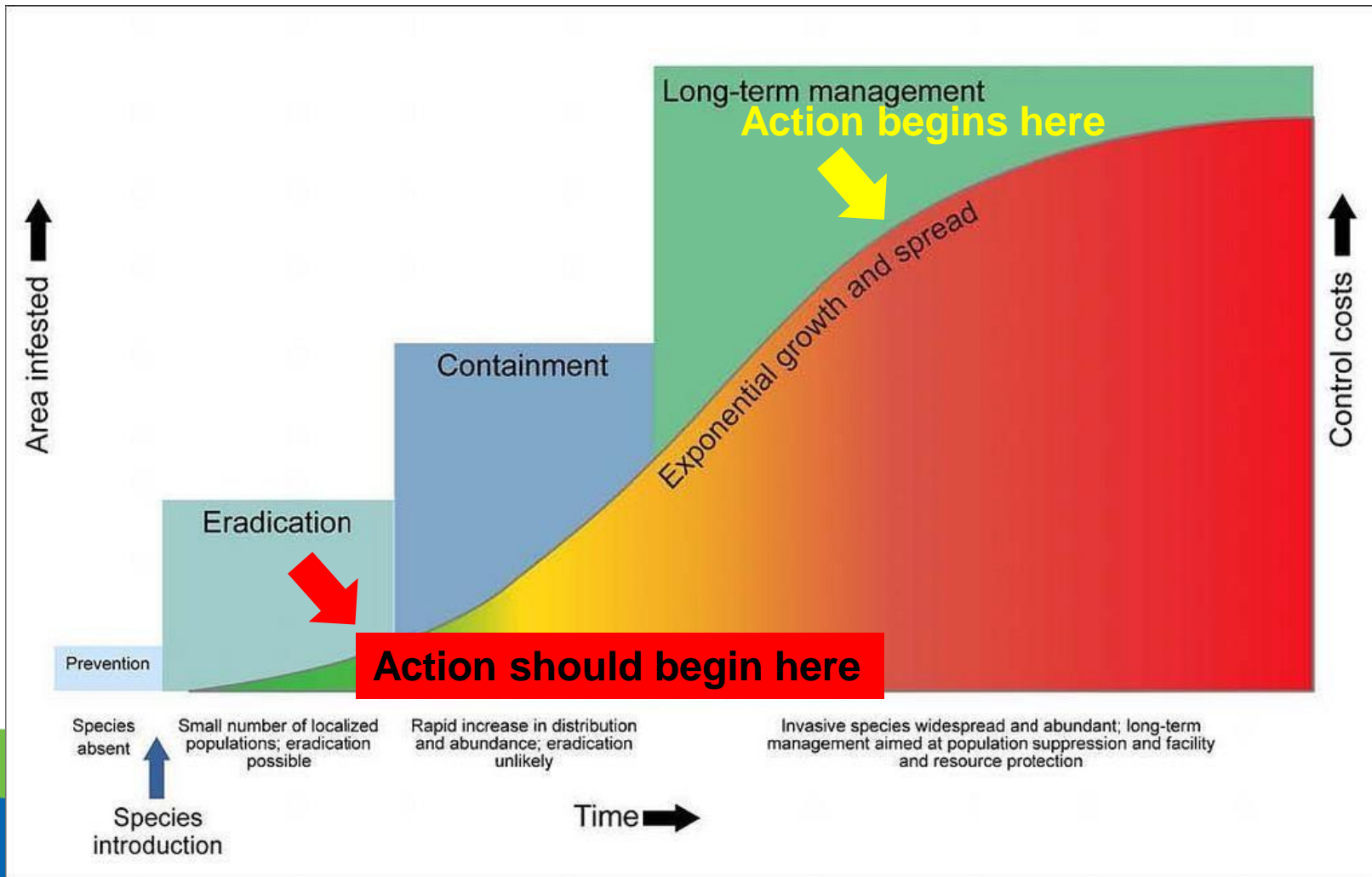
- Positive (557)
- Treated (4)

Share Download Flag Fullscreen

Legend

- No Data
- Species Reported





## **EDDMapS Alberta app downloads in 2018**

**iPhone: 2,958**

**Android: 208**

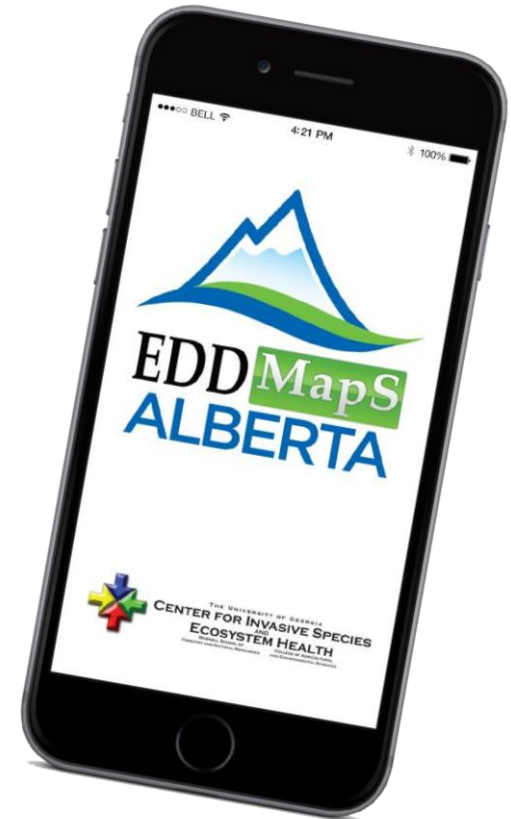
**Total records: 5,890**

**Website reports: 533**

**iPhone reports: 1,275**

**Android reports: 270**

**Bulk reports: 3,812**









## Register

**\*First name**

**\*Last Name**

**Organization**

**Email address**

**Verify Email address**

**\*Password**

**\*Verify Password**

**Unit / Department**

**Phone Number**