

Noxious Weeds

“To pull, or not to pull... that is the question!”

Kayla Malone
Chaffee County Noxious Weed Program
Supervisor



Outline

- Ecosystem Functions
- Plant Life Cycles
- Noxious Weeds on Public Lands
- Mapping Program and Procedure

Ecosystem Function





Dozens of plant species

Six unique habitat types

Many food sources for
wildlife

Habitat for wildlife

Surface water for wildlife

Nutrient input for soil

Water holding capacity

Adaptable to
environmental conditions

Very Complex Food Web

Ecosystem Function



Moderate stage of invasion.

Leafy Spurge has not yet excluded other vegetation from the site.

Biodiversity is impacted.

Some effects on ecosystem functions.

Alter grazing regimes of wild ungulates.

More cost-effective to control than full-invasion.

Less complex food web.

Ecosystem Functions



Leafy spurge has taken over!

Limited, or no other vegetation.

Elimination of ecosystem functions.

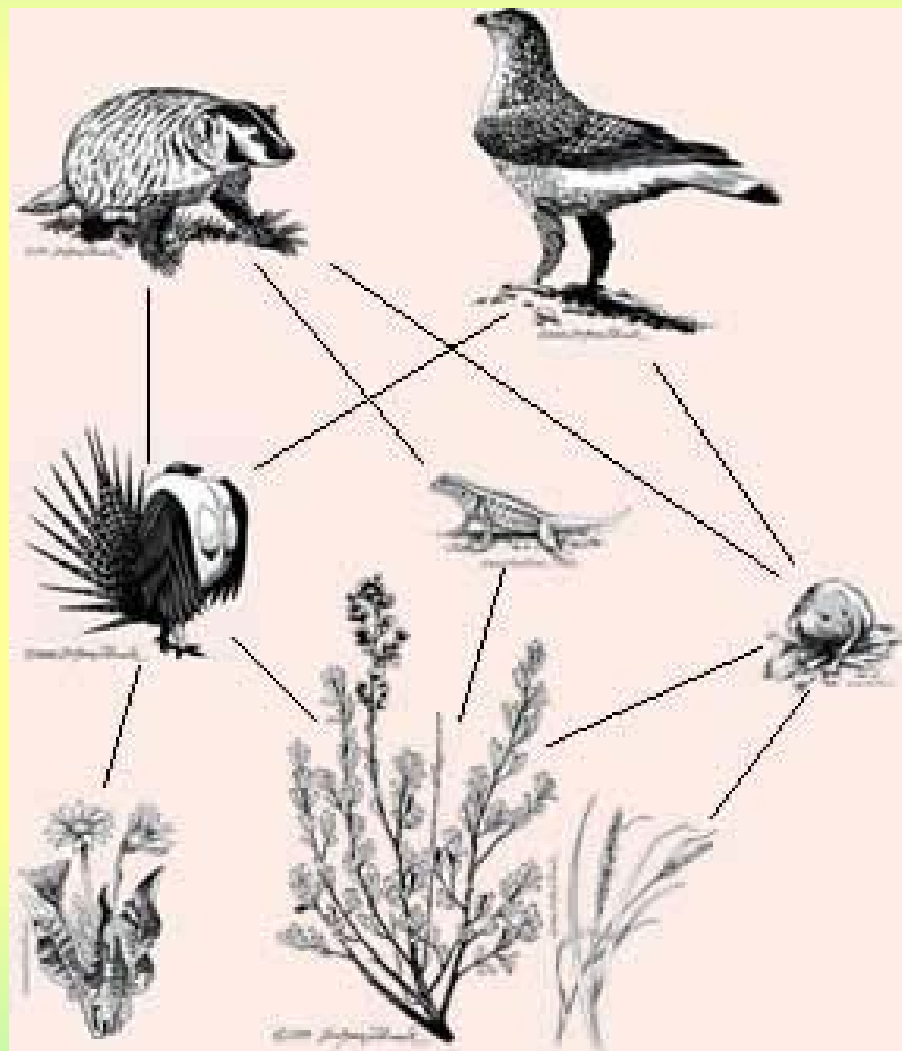
Loss of food for wildlife.

Loss of habitat.

Elimination of wildlife.

Very simple food web.

Food Web Impact





Objectives of Noxious Weed Management

- Protect ecosystem functions.
- Reduce the negative impacts of noxious weeds on natural, semi-natural, and human-manipulated lands.
- Match land-use goals with appropriate treatment efforts.
- Manage the risks associated with noxious weed infestations and treatments.

Plant Life Cycles

- Annual – Plant germinates, matures, flowers, and produces seed in a single year.
 - Summer Annuals germinate in the spring, mature, flower, produce seed, and dies by fall.
 - Winter annuals – germinate in the fall, overwinters, and then matures, flowers, produces seeds, and dies by early summer.



Puncturevine



Russian Thistle



Kochia

Plant Life Cycles

- Biennial – Plant germinates, grows for a year (generally in a rosette form), overwinters, then matures, flowers, and sets seeds in the second growing season, then dies.



Common Mullein



Houndstounges



Bull Thistle

Control of Annuals and Biennials

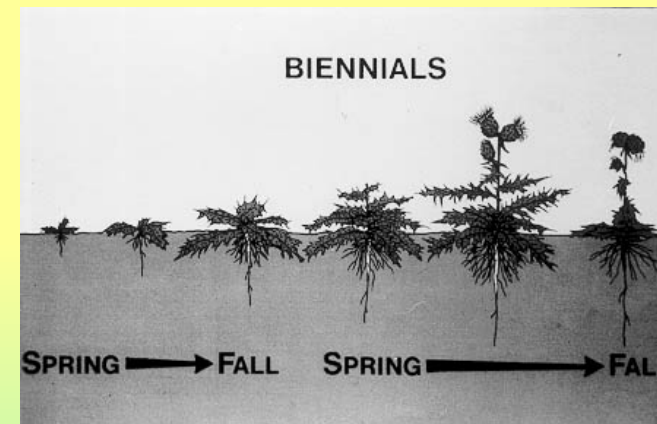
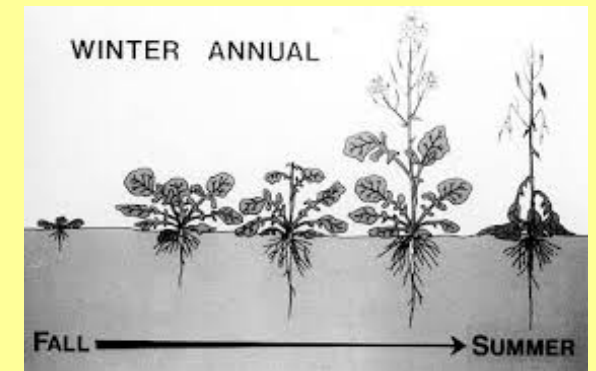
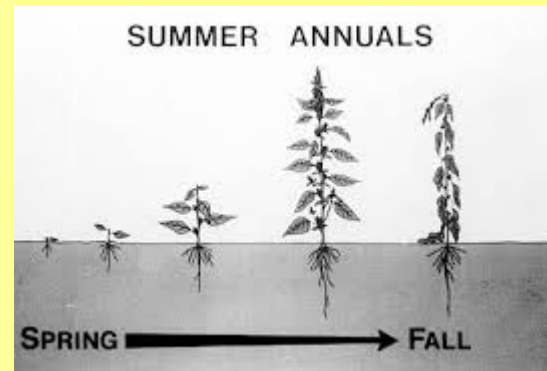
Relatively easy to control compared to creeping perennials; persistence pays off!!!

PREVENT SEED PRODUCTION

- Remove plants before allowing to go to seed.

DEplete THE SEEDBED

- Create ideal conditions for germination and control plants before they set seed.



Training Manual
for Right-of-Way
Vegetation
Management.
University of
Kentucky

Plant Life Cycles

- Perennials – Plant germinates and grows. Individual plants may or may not set seed during first year of growth. Does not die back after maturing, flowering, and producing seeds.



Field Bindweed



Diffuse Knapweed



Yellow
Toadflax



Hoary Cress

Perennial Life Cycles

- Simple Perennials – reproduces and spreads by seed only. Most have taproots.



Spotted
Knapweed



Dandelion



Broadleaf
Plantain

- Creeping perennials – reproduce from root fragments, runners, rhizomes, or stolon as well as by seeds.



Canada
Thistle



Dalmatian
Toadflax



Leafy Spurge

Control of Simple Perennials

Similar to annual and biennial control.

PREVENT SEED PRODUCTION

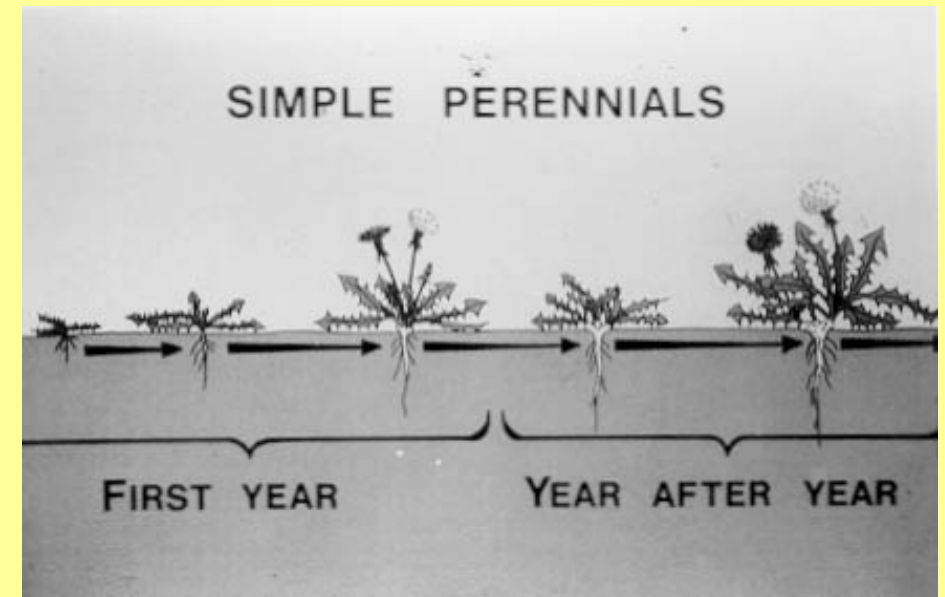
- Key to preventing new plants

KILL EXISTING PLANTS

- Necessary to prevent future seed production.

DEplete THE SEEDBED:

- Create ideal conditions for germination and control plants before they set seed.



Training Manual for Right-of-Way
Vegetation Management. University of
Kentucky

Control of Creeping Perennials

- Most difficult types of plants to control.
- Can regrow from tiny root fragments left in the soil.
- Early detection and rapid responses are most cost-effective.
- Well established populations will require intensive controls to mitigate the infestation.



El Paso County



Utah State University

Control of Creeping Perennials

PREVENT SEED PRODUCTION:

- Key to preventing new plants

KILL EXISTING PLANTS:

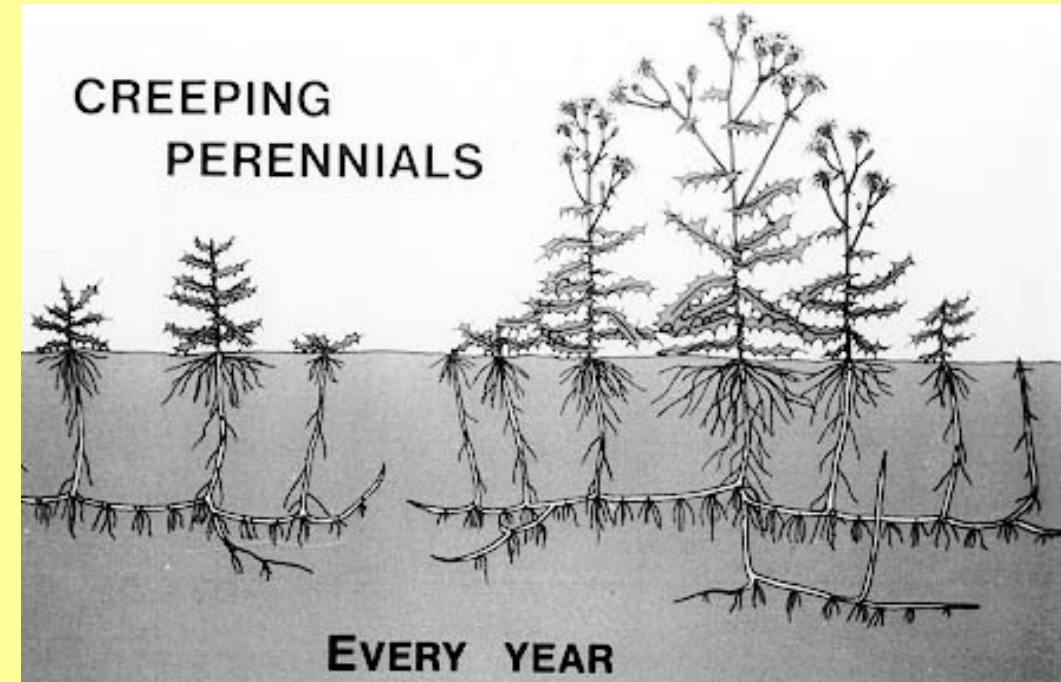
- Necessary to prevent future seed production

DEplete THE ROOT SYSTEM:

- Necessary to kill existing plants.

DEplete THE SEED BED

- Create ideal conditions for germination and control plants before they set seed.



Training Manual for Right-of-Way Vegetation Management. University of Kentucky

Noxious Weeds on Public Lands

- **Identify.**

- If you are unsure, but are suspicious that you have a noxious weed, map it and take photos! I have the ability to edit the data base later!

- **Map.**

- EDDMapS West, EDDMaps.com
- Map them all, whether controls were conducted or not.

- If Annual, Biennial, or Simple Perennial – **Pull it!!**

- If a Creeping Perennial – **Do not pull it!** Be sure to map it!!

- If unsure of species identity – **DO NOT PULL IT!** Many desirable native species can appear similar to noxious weeds!

Biennial Thistles

- 4 Species.
- Rosette year 1, stem and flowers year 2.
- Sharp spines present along stem.
- Large blooms ranging from purple to pink in color.
- If you see stems, look for rosettes!
- **Mechanical controls are recommended.**
- Cut shoots and flowering stems back to the ground.
- Sever the tap root.





Musk
Thistle

Bull
Thistle





Plumeless
Thistle



Scotch
Thistle



Canada Thistle

- Riparian areas, open space, pasture, range, forests, right-of-way's.
- Up to 4 feet tall.
- Creeping perennial.
- Smooth stem.
- Light purple to pink flowers.
- **Mechanical controls are not recommended!!**
- Most common noxious weed in Colorado.



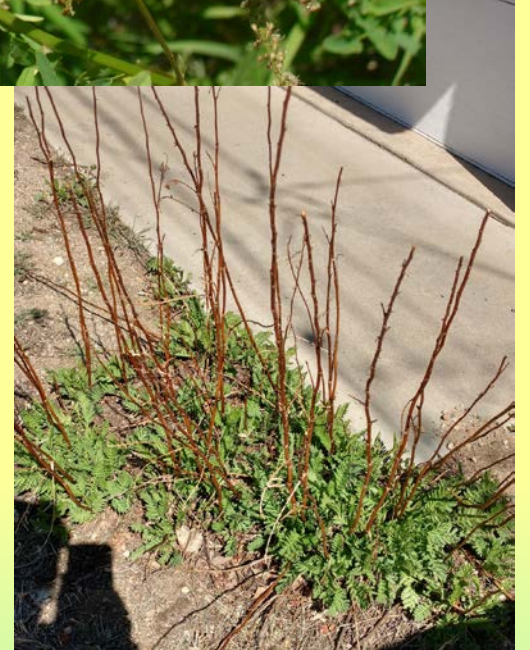
Common Mullein

- Open spaces, roadsides, trail sides, edges of habitat, forest, range.
- Up to 6 feet tall in our region.
- Biennial species.
- Large, soft, fuzzy leaves.
- Detrimental to vegetative recovery after forest fires.
- **Mechanical controls are recommended, and effective!**
- Cut down flowering stems.
- Sever taproot of rosettes.



Common Tansy

- Roadsides, right-of-ways, forests, meadows, disturbed sites.
- 3-4 Feet tall.
- Upright creeping perennial.
- Button-like yellow flowers.
- Strong fragrance when leaves are damaged.
- Spread from seeds and from rhizomes.
- No known escaped populations in Chaffee County.
- **Do not attempt mechanical controls.**



Knapweeds

- Open space, forests, range, right of ways, trails, dryland, riparian habitat.
- 2-3 feet tall.
- 3 species; Spotted, Diffuse, and Russian
- Tap rooted, simple perennials.
- Flowers can be white to pink to purple.
- Can cause skin reactions.
- **Mechanical controls can be effective if the tap root is severed.**



Diffuse



Spotted



Russian

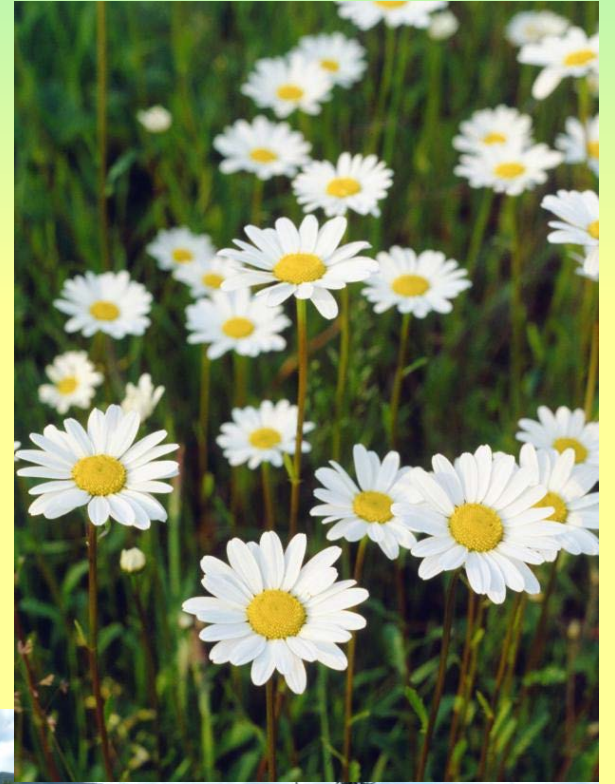
Orange Hawkweed (*Hieracium aurantiacum*)

- Creeks, roadways, meadows, pastures, forests, riparian areas.
- 1 foot tall at flowering.
- Creeping perennial.
- Reproduces by runners and seeds.
- List A species designated for eradication whenever found.
- No known populations in Chaffee County, limited populations in Lake County.
- Creates dense mono-culture patches.
- **Do not attempt mechanical controls!**



Oxeye Daisy

- Open spaces, meadows, pastures, forests, rangeland, right-of-ways, riparian areas.
- 2-3 feet tall when flowering.
- Erect, creeping perennial species.
- Prolific seed producer.
- Crowds out other vegetation.
- Huge problem in Lake County.
- Negative impacts are often ignored because it is “pretty”.
- **Mechanical control can be effective for individual plants.**



Scentless Chamomile

- Right of ways, ditches, urban areas, pastures, trails.
- Up to 2 feet tall.
- Seeds will be viable as soon as flowers are present!!!
- One plant can produce up to a million seeds.
- Seeds remain viable for up to 15 years.
- Very prevalent in Lake County, two known locations in Chaffee County in 2016.
- **Hand pull this species as they emerge.**
- **Do not move plant materials.**



Yellow Toadflax

- Rangelands, pastures, meadows, forests, rights-of-way, riparian.
- Creeping perennial.
- Reproduces from seeds and creeping roots.
- All soil types, many moisture regimes.
- Well established in Lake County, local infestations in southern Chaffee County.
- Large genetic variability.
- **Do not attempt mechanical controls!**



Weed Management

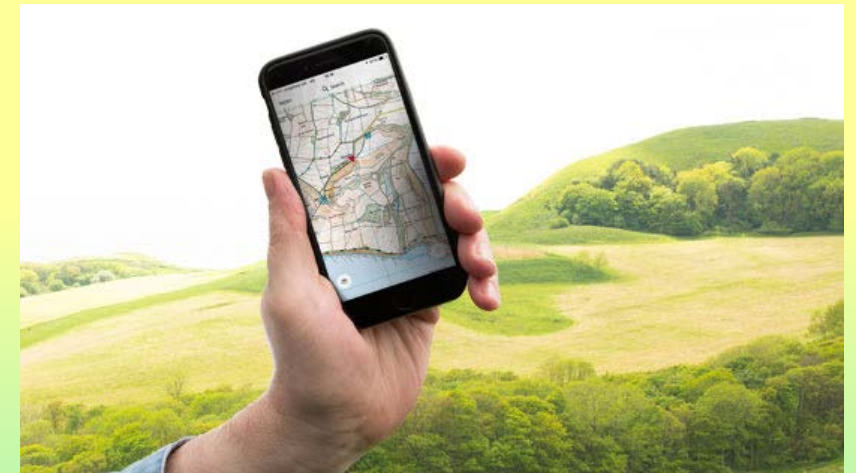
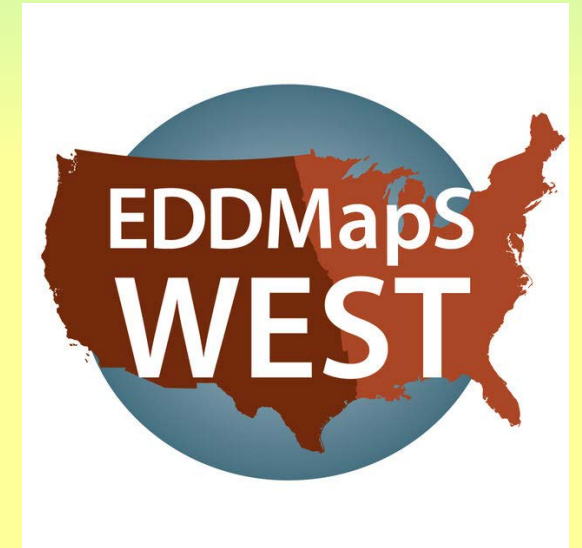
- Prevent seed production of Annuals, Biennials and Simple Perennials.
 - Hand pull stems and shoots to prevent flowers (ALWAYS WEAR GLOVES!!!)
 - Dig out roots with small spade or shovel.
 - Dispose of material within the infested area, but away from trails, paths, camp sites or other areas where humans and pets may come into contact.
- Dispersal Prevention:
 - Clean your shoes, gear, pets, and equipment frequently; Especially before leaving infested sites!!
 - If using stream or other natural water source, be sure to haul water away from the waters edge to rinse equipment.

Backcountry Weed Management Equipment

- **Smart Phone with EDDMapS West.**
- or -
- **Printed report form, camera, and GPS.**

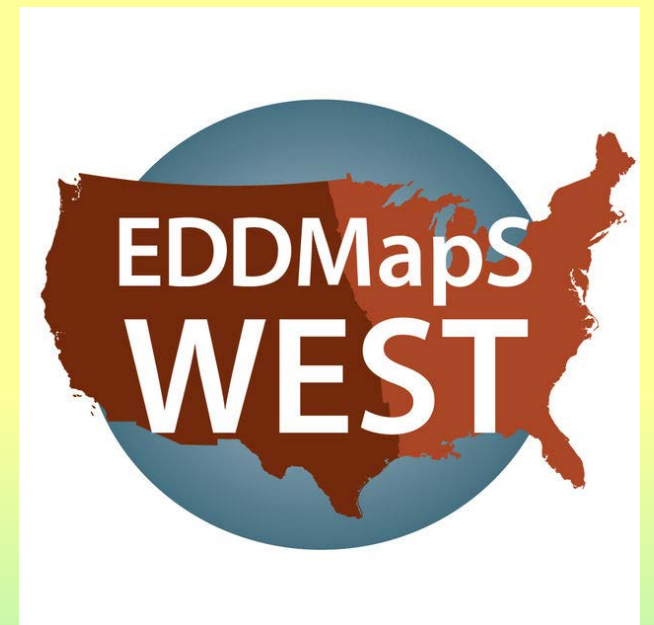
Optional:

- **Gloves (Do not attempt mechanical controls without gloves!!!!)**
- **Small shovel or spade.**
- **Clippers.**
- **Water (For washing/rinsing equipment)**
- **Colorado Noxious Weed Booklet.**



EDDMapS & EDDMapS West

- Free, accessible, easy to use mapping software.
- NEW – Colorado State Wide Mapping System!!!
- Identification tools, pictures, distribution maps.
- State-specific species lists!
- Control and management reporting tools.
- Training tools, guides, walk-throughs, demos.
- Mobile Data and WIFI only upload options.
- Notifications for local managers.



EDDMapS

Early Detection & Distribution Mapping System

Home

Report Sightings

Distribution Maps

Species Information

Tools & Training

My EDDMapS

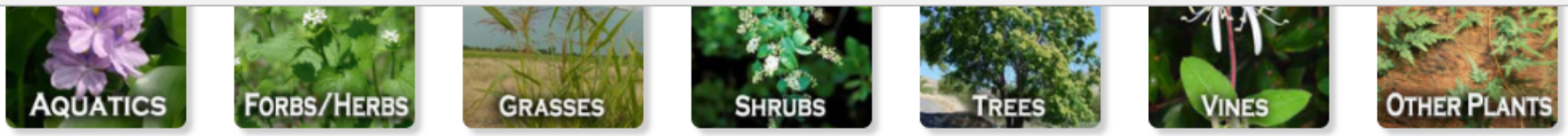
About

sign out



Projects

- ✓ Southeast Early Detection Network
- ✓ EDDMapS West
- ✓ EDDMapS Midwest
- ✓ Mid-Atlantic Early Detection Network
- ✓ Invasive Plant Atlas of New England
- ✓ Florida Invasive Species Partnership
- ✓ EDDMapS Alberta - Alberta Invasive Plants Council
- ✓ EDDMapS Ontario
- ✓ EDDMapS Prairie Region - Manitoba and Saskatchewan
- ✓ Biological Control Agents of Weeds
- ✓ What's Invasive
- ✓ National Wildlife Refuge Early Detection Network for New England
- ✓ Appalachian Trail Conservancy
- ✓ Invaders of Texas
- ✓ Alaska Exotic Plant Information Clearinghouse
- ✓ New Invaders Watch Program
- ✓ Outsmart Invasive Species
- ✓ ReportIN - Indiana



Search:

Subject Name	Scientific Name	Records	View
Canada thistle	<i>Cirsium arvense</i>	41,902	State County Point List
Dalmatian toadflax	<i>Linaria dalmatica</i>	38,877	State County Point List
squarrose knapweed	<i>Centaurea virgata</i>	34,352	State County Point List
Scotch broom	<i>Cytisus scoparius</i>	23,426	State County Point List
bull thistle	<i>Cirsium vulgare</i>	22,621	State County Point List
musk thistle	<i>Carduus nutans</i>	21,202	State County Point List
common St. Johnswort	<i>Hypericum perforatum</i>	20,180	State County Point List
hoary cress	<i>Lepidium draba</i>	19,312	State County Point List
tansy ragwort	<i>Jacobaea vulgaris</i>	16,689	State County Point List
Scotch thistle	<i>Onopordum acanthium</i>	16,620	State County Point List
Himalayan blackberry	<i>Rubus armeniacus</i>	16,533	State County Point List
yellow starthistle	<i>Centaurea solstitialis</i>	14,815	State County Point List
spotted knapweed	<i>Centaurea stoebe ssp. micranthos</i>	14,528	State County Point List

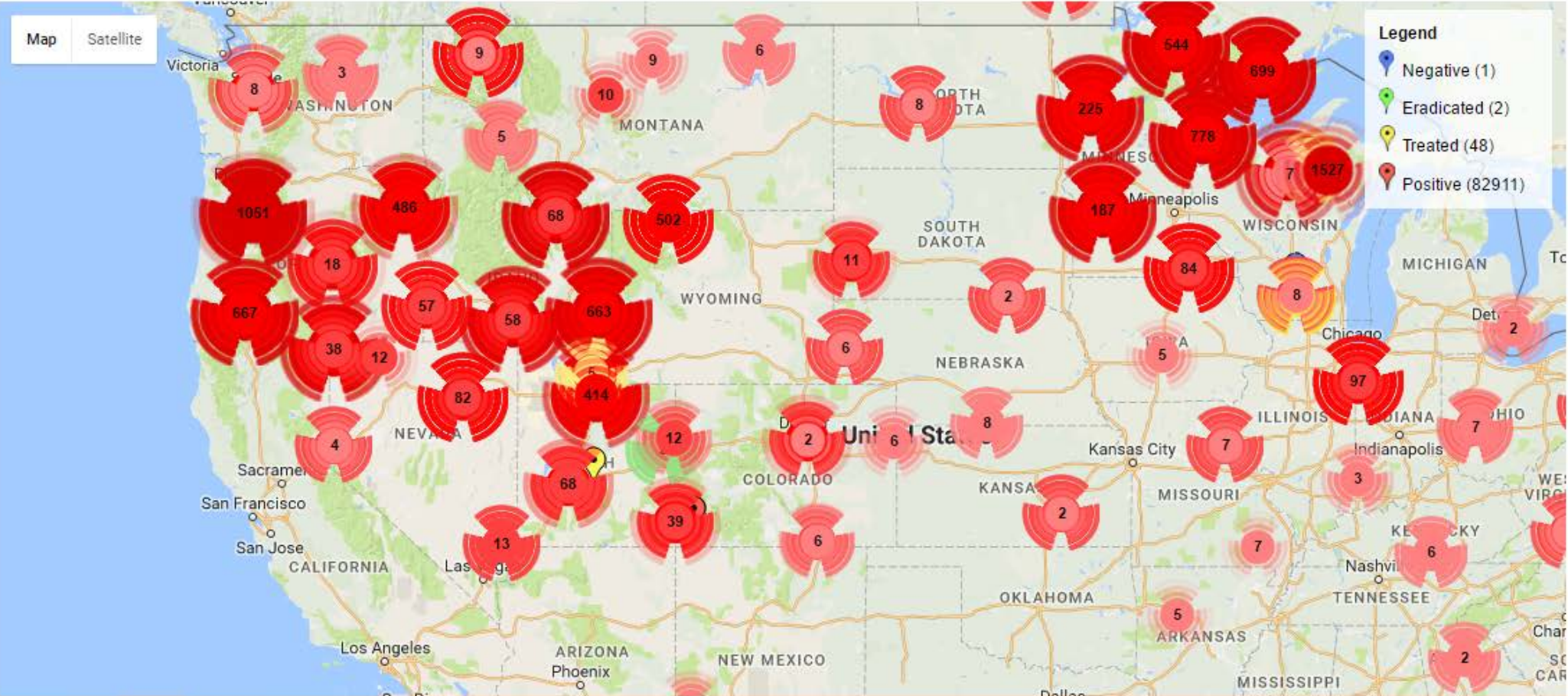
Cirsium arvense (L.) Scop.

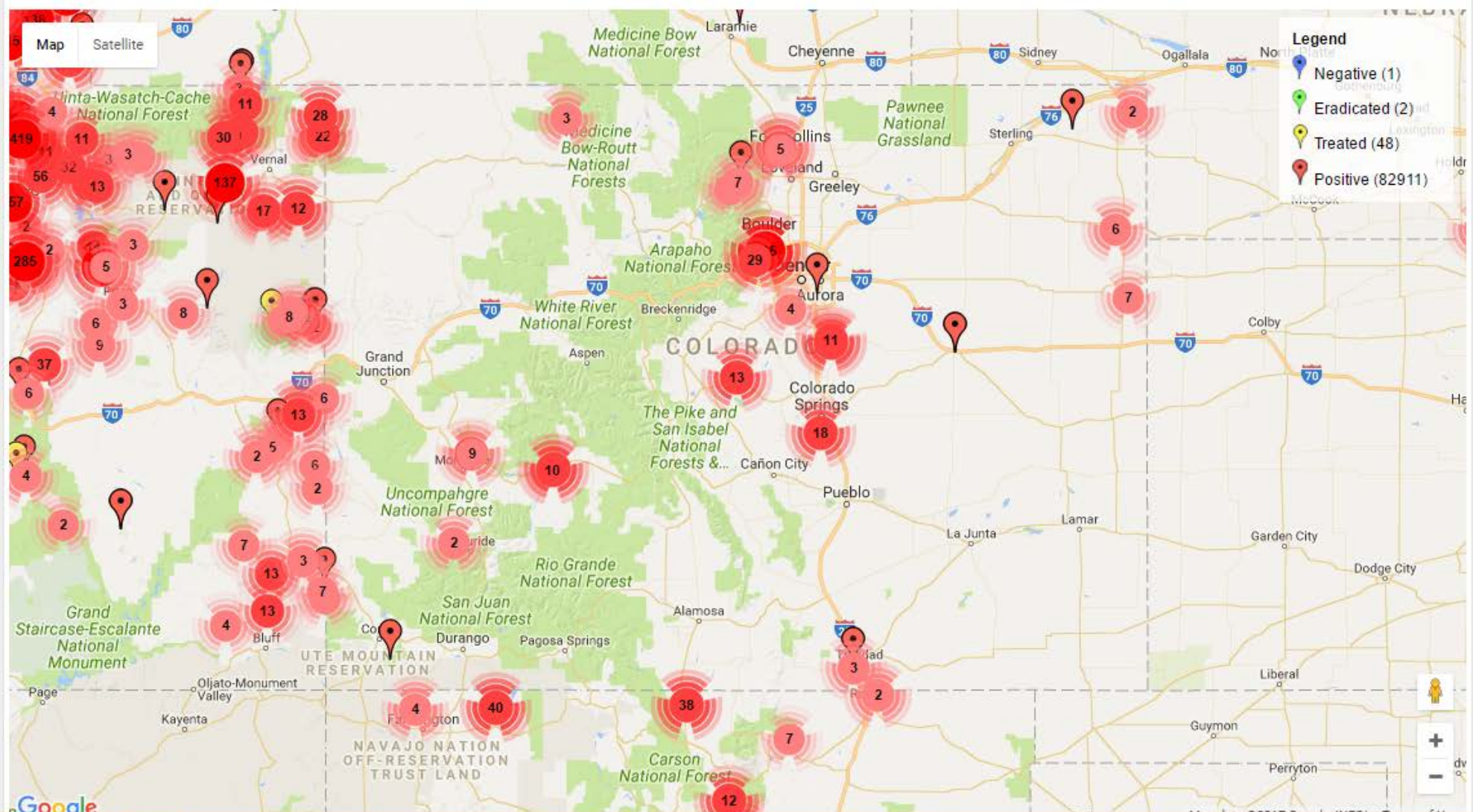
Species Information

States Counties **Points** List

CSV KML GPX Shapefile

Zoom to My Location Share Download Flag Fullscreen

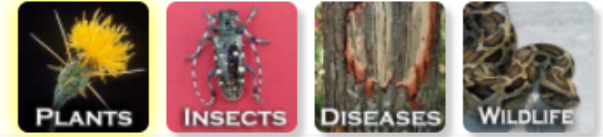






Projects

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Report an Invasive Plant Occurrence

Red fields are required.

Species

Pest (?):

Infestation

Status: Positive (?) Treated (?)

Observation Date (?):

Infested Area (?):

Gross Area (?):

Habitat (?):

Observation Date (?):

05/12/2017

Infested Area (?):

Select One

Gross Area (?):

Select One

Habitat (?):

Select One

Canopy Closure (?):

Select One

Abundance:

Select One

Plant Description:

- Mature
- Sapling/Immature
- Seedling/Rosette
- In Flower
- In Fruit
- Seeds
- Dormant/Dead
- Unknown

Location

State:

Colorado

County:

Latitude (?):

Must be expressed in Decimal Degrees (XX.XXXX), and DATUM NAD83/WGS84.

Longitude (?):

Must be expressed in Decimal Degrees (XX.XXXX), and DATUM NAD83/WGS84.

- lat/long conversion tools
- place marker at position
- clear map

Location Description/Nearest Address:



Latitude (?):

Must be expressed in Decimal Degrees (XX.XXXX), and DATUM NAD83/WGS84.

Longitude (?):

Must be expressed in Decimal Degrees (XX.XXXX), and DATUM NAD83/WGS84.

Location Description/Nearest Address:

Ownership:

* If reporting infestation on private land, be sure to have landowner's permission.

Private (?): Yes No

Images

Image 1:

(.jpg)

Caption:

Image 2:

(.jpg)

Caption:



EDDMapS West Application








- Android or Apple.
- Same login information.
- Save species to a quick access list.
- Automatically records: Date, Time, Location, Accuracy.
- Attach photos to records.
- Saves records in a queue until internet is available.
- Easy to use reporting system!
- I receive notifications of new records and reports!

EDDMapS West

- Download in Google Play or Apple Stores – FREE – created by bugwood.
- Sign up or sign in with existing account information.



EDDMapS West

-  Species Categories
Report and view species by category
-  All Species
Full list of all species available for reporting
-  My Species List
Short list of your selected species
-  **State Species List**
List of species by state
-  Montana Noxious Weed Key
Identify a species using key descriptors
-  Negative Survey
Submit a negative survey report
-  Upload Queue
View, edit, or upload your reports















← State Species List

- Arizona
- Colorado**
- Idaho
- Kansas
- Missouri
- Montana
- Nebraska
- Nevada



← Colorado

LIST A

-  **Alhagi maurorum**
camelthorn 
-  **Centaurea nigrescens**
alpine knapweed 
-  **Centaurea solstitialis**
yellow starthistle 
-  **Centaurea virgata**
squarrose knapweed 
-  **Chondrilla juncea**
rush skeletonweed 
-  **Crupina vulgaris**
common crupina 

LIST A



Alhagi maurorum
camelthorn



Centaurea nigrescens
alpine knapweed



Centaurea solstitialis
yellow starthistle



Centaurea virgata
squarrose knapweed



Chondrilla juncea
rush skeletonweed



Crupina vulgaris
common crupina



9:16 62% 3G

← Chondrilla juncea
rush skeletonweed ☆ REPORT

INFO IMAGES MAP

General Description

Chondrilla juncea, Rush skeletonweed is an erect perennial forb that is native to Eurasia. It commonly invades range lands, where it can severely reduce crop yields and forage for livestock and wildlife. Rush skeletonweed can be identified by its overall skeleton-like appearance. It reproduces by seeds and lateral root buds. Rosettes develop one or more flowering stems, up to 4 ft. (1.2 m) tall, with numerous wiry branches that exude a milky, white sap when broken. Stems are nearly leafless and highly branched, with the lowest 4–6 in. (10.2-15.2 cm) covered in coarse, bristly, downward-pointing hairs. Rigid stems with downward-pointing hairs persist long after flowering, with reddish leaves and clusters of old flower heads. Lower stems are covered with coarse, downward-pointing, reddish-brown hairs. Upper stems are usually hairless and have very few leaves. An extensive, deep taproot produces short, creeping, lateral roots. Plants grow as basal rosettes until flowering stems develop. Family: Asteraceae (aster, composite).

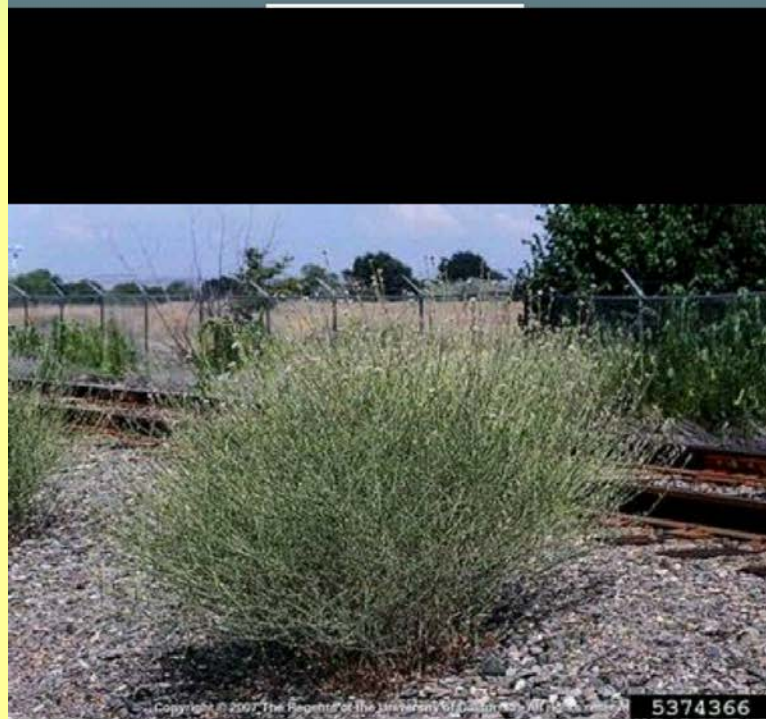
Leaves

Rosette leaves are dandelion-like, 1.5–5 in. (3.8–12.7

9:16 62% 3G

← Chondrilla juncea
rush skeletonweed ☆ REPORT

INFO IMAGES MAP



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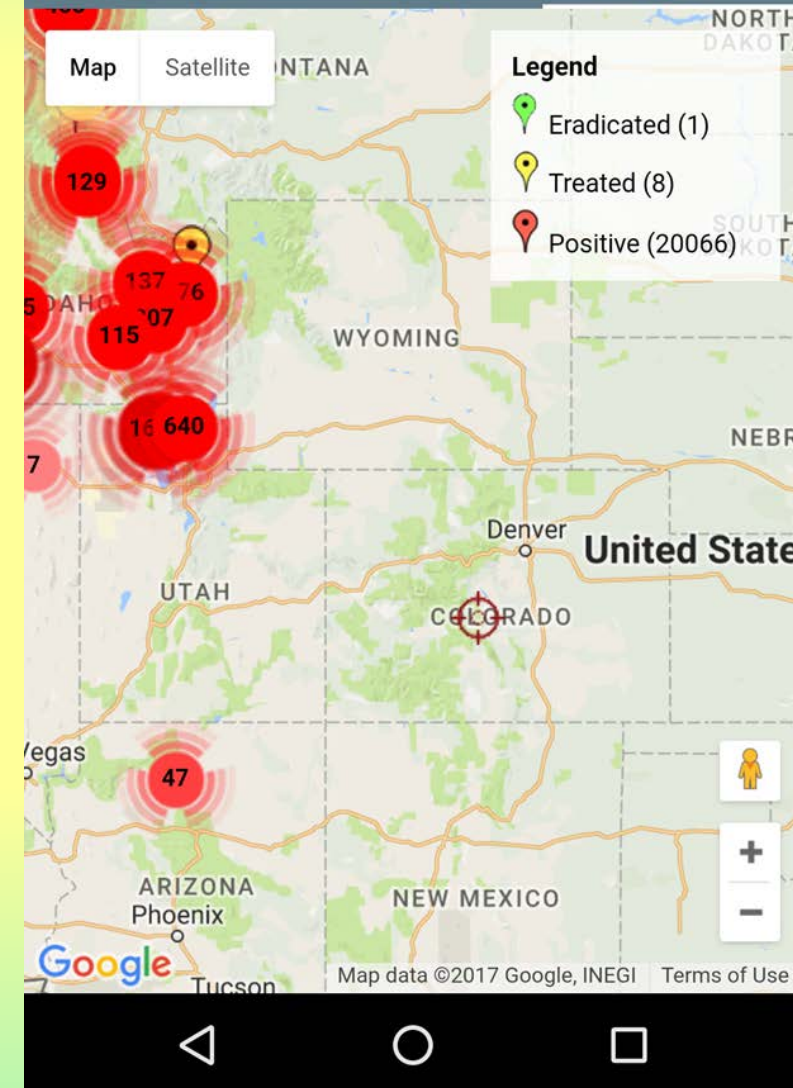
HD

Joseph M. DiTomaso, University of California - Davis

9:17 62% 3G

← Chondrilla juncea
rush skeletonweed ☆ REPORT

INFO IMAGES MAP

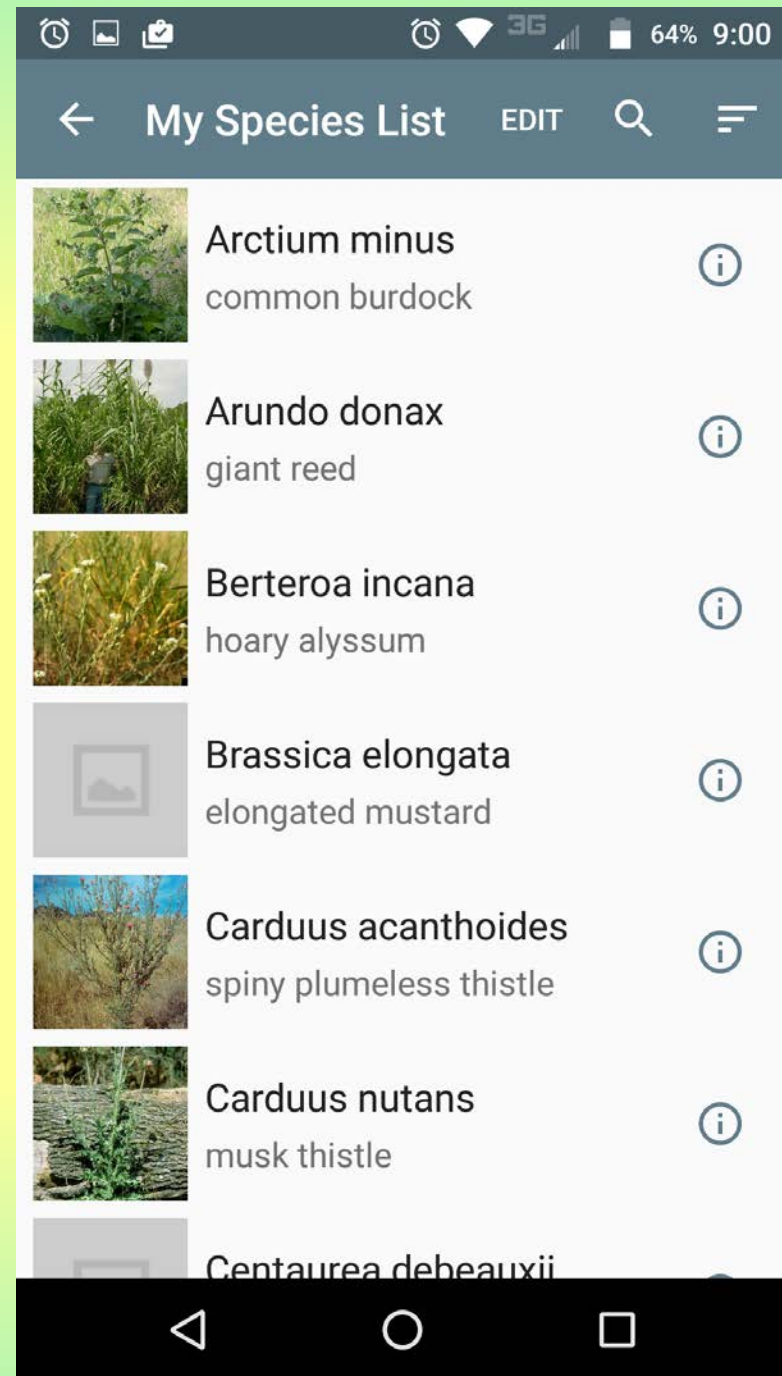
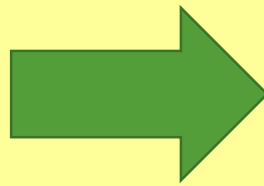
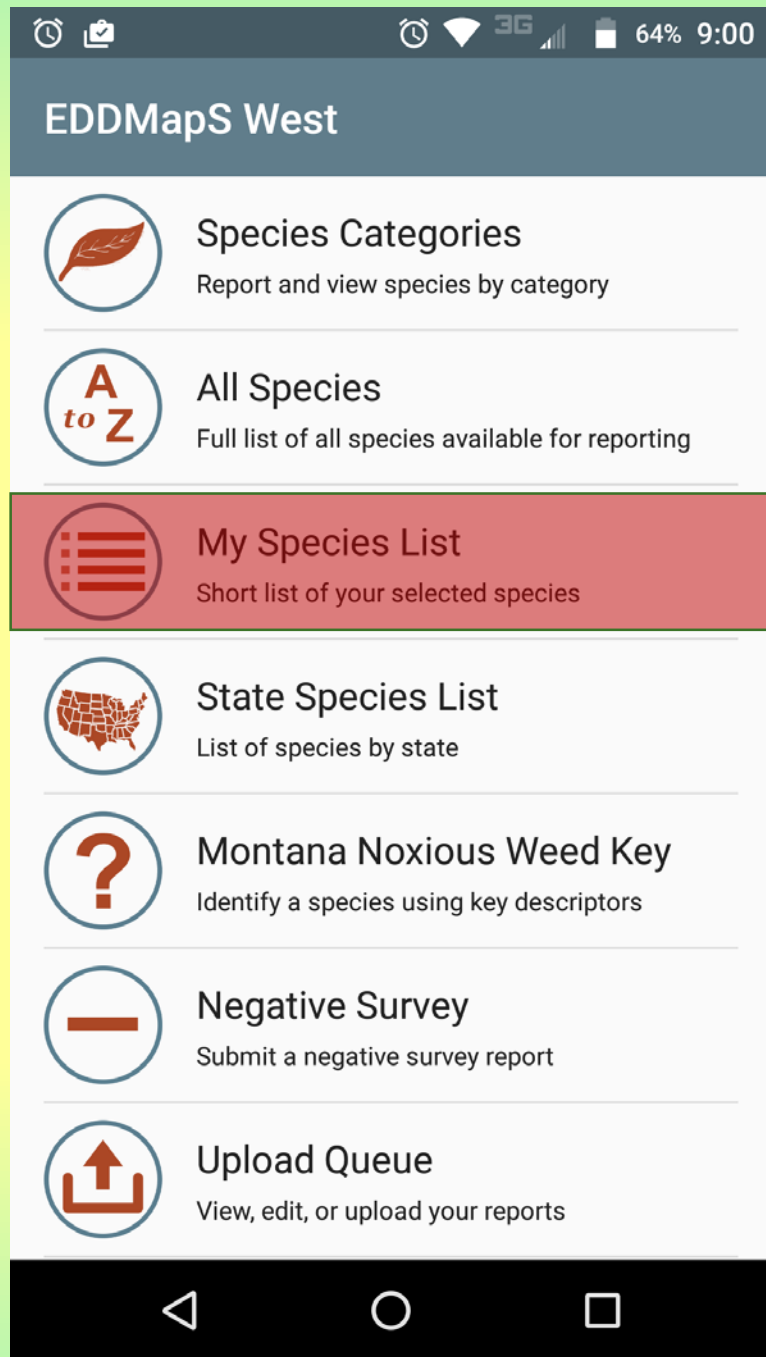


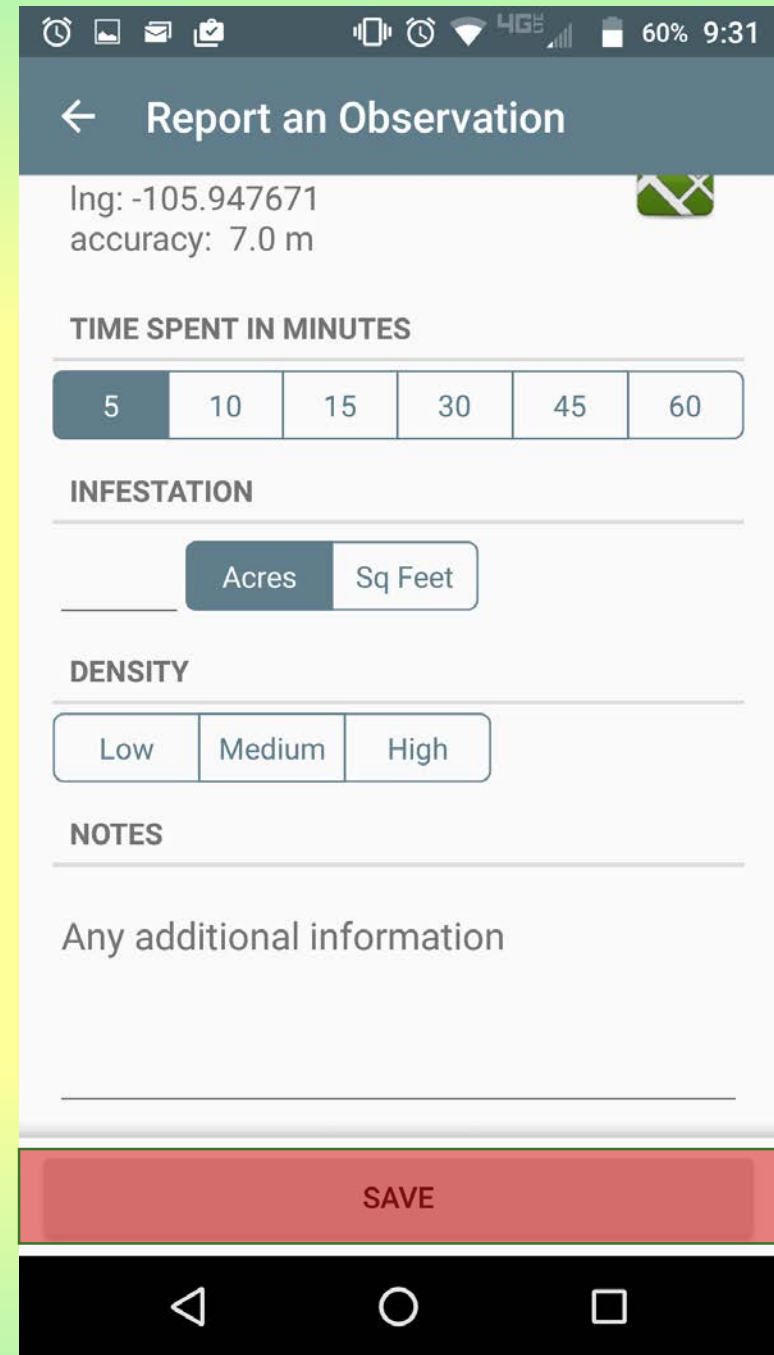
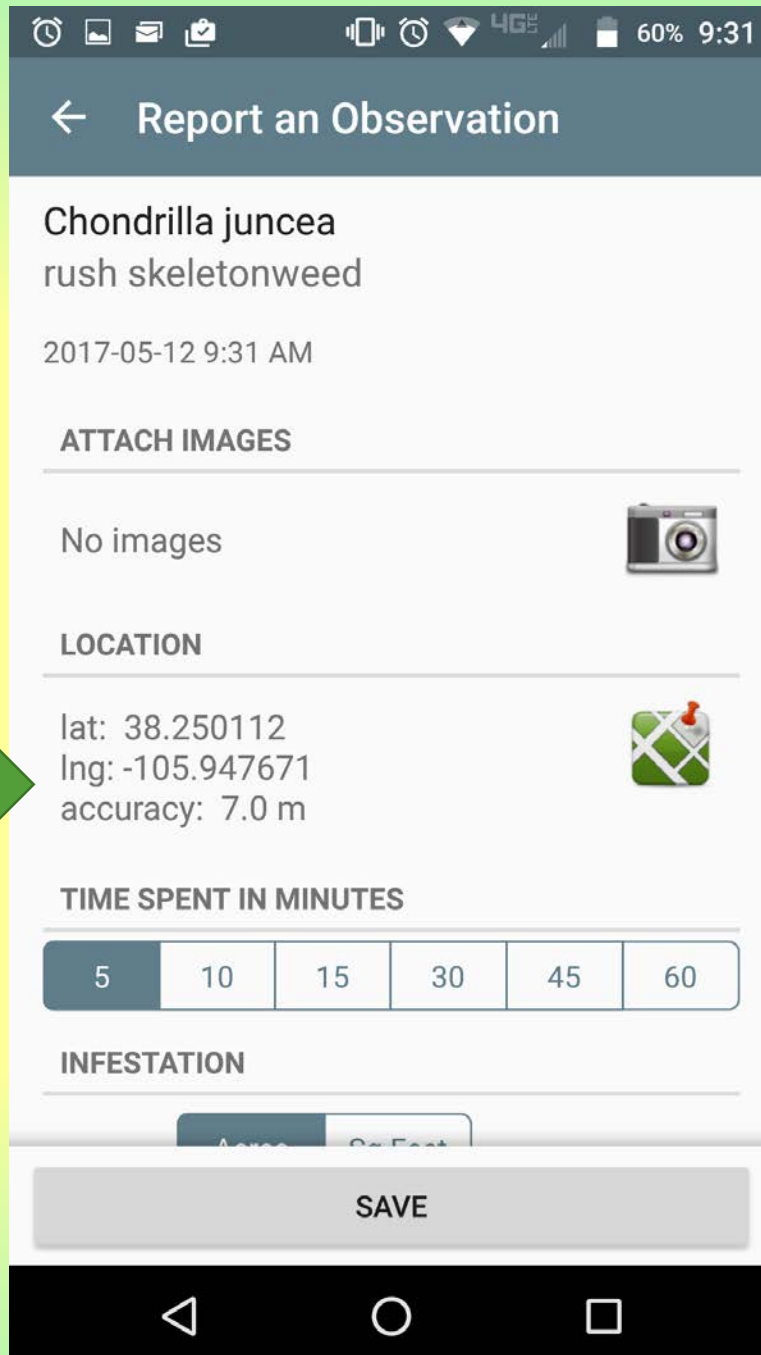
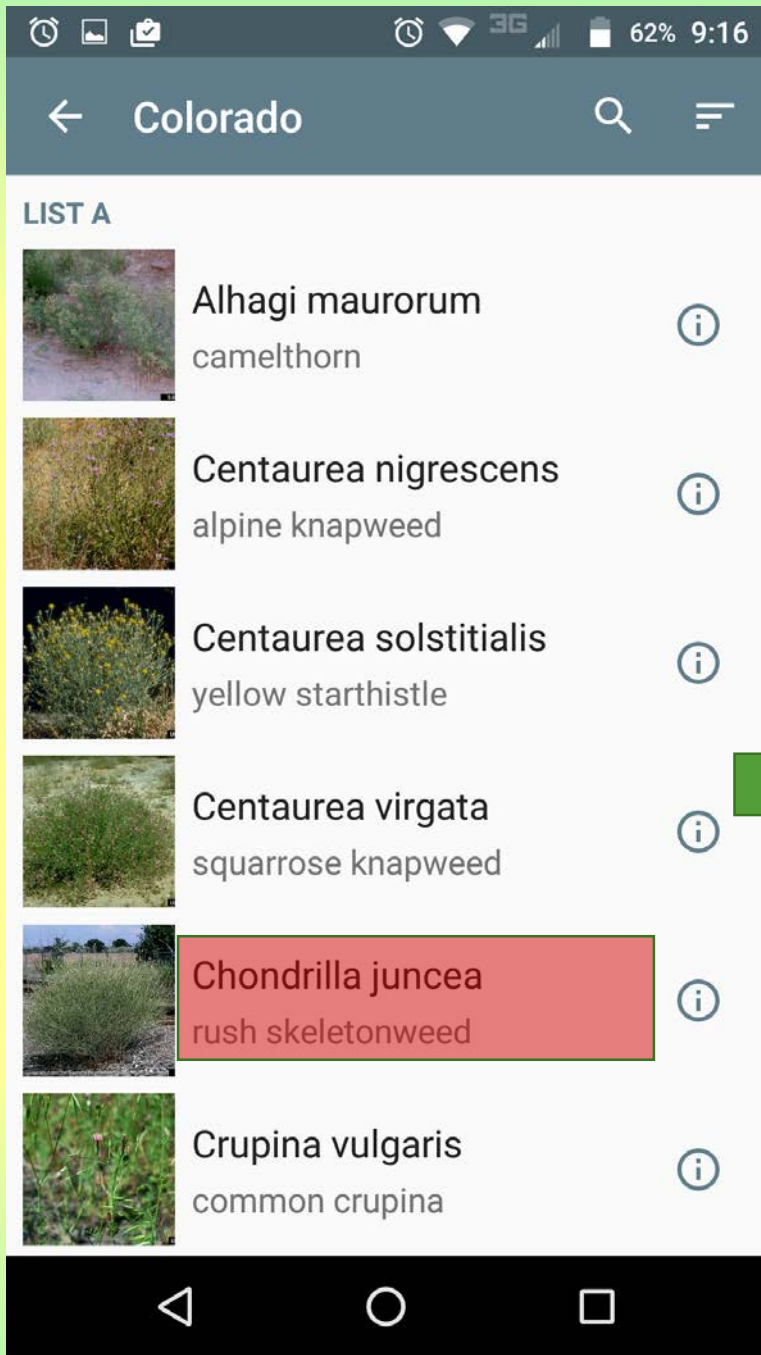
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Leaves

Rosette leaves are dandelion-like, 1.5–5 in. (3.8–12.7





EDDMapS West



Species Categories

Report and view species by category



All Species

Full list of all species available for reporting



My Species List

Short list of your selected species



State Species List

List of species by state



Montana Noxious Weed Key

Identify a species using key descriptors



Negative Survey

Submit a negative survey report



Upload Queue

View, edit, or upload your reports

That's it! Your
done, and I have
received a copy
of your report!

Keys to Noxious Weed Work

- Always, always, always map what you are working on.
- Take pictures of the site and the plant!
- Remember, not all species can be effectively controlled with mechanical efforts.
- Positively identify the species you are mapping before engaging in control activities.
- If an annual, biennial, or simple perennial – TO PULL!!
- If a creeping perennial – NOT TO PULL!!
- If you are unsure of the species – NOT TO PULL!!

Questions? Comments?

Kayla Malone

Chaffee County Noxious Weed Program Supervisor

kmalone@chaffeecounty.org

719-539-3455

Follow the program on facebook – “Chaffee County Noxious Weeds”

THANK YOU!!!!