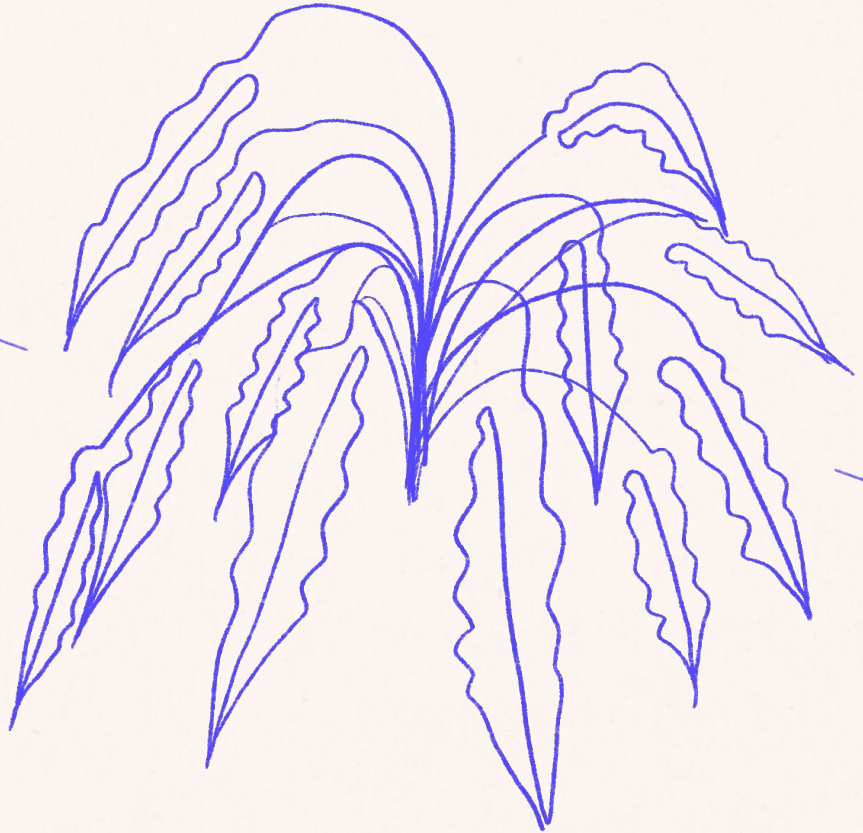
Nuisance Species



Data
Collection
Training

Points of Contact

Framework/GIS Contact:
Benjamin Silvernail

Benjamin.J.Silvernail@usace.army.mil

Field Expert:
Jessica Spencer

Jessica.E.Spencer@usace.army.mil

Starting in FY25, you can access these resources here:
corpslakes.erdc.dren.mil/employees/invasive/invasive.cfm
www.sdsfie.mil

Section 1

Expectations and Objectives for the Learner

Norway Maple

Learner Objectives

1. Why standardized data collection and data integrity is important
2. How to set up and collect data efficiently
3. How to prepare for a site visit
4. How to conduct a site visit with accurate data collection
5. What data should be added after visiting a site

Structure of the webinar

Section 1:
Expectations and Objectives for the Learner

Section 2:
Why is Standardized Data Collection Important?

Section 3:
Difference between Invasive and Nuisance Species

Section 4:
Introduction to Field Work Scenario

- Section 4.1
  Preparing for Field Work
- Section 4.2
  Collecting Data in the Field
- Section 4.3
  Post Processing

Section 5:
Conclusion

Section 2

Why is Standardized Data Collection Important?

Zebra mussels

What is the problem?

The previous ranger at your district office changes positions. The new hire to the position gets put in charge of the database, but the data is just point data for different species. There is no indication of what the points represent.

Without the larger context for the data, it is pure speculation to confirm what the data represents for annual reporting.

Joining data can help people in different regions and on a national scale better understand and respond to what's happening with nuisance species.
A common understanding of data collection protocol will lead to more trust in the accuracy and completeness of datasets.

What is the solution?

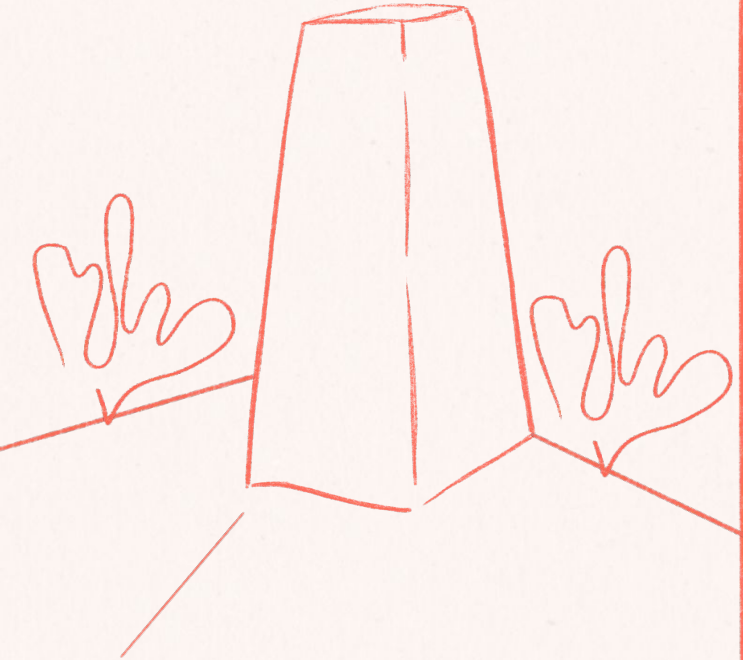
Data integrity will be strengthened and supported by following the **Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE).**

Today's Data Collection training will help you implement SDSFIE which standardizes data collection.

To supplement the SDSFIE standards, Motivf made a Field User Guide for Nuisance Species Data Collection.

This Guide is intended to serve as an in-field companion for data collection. You may reference this to remind yourself of the definition of each attribute both before, during and after field collection. Additionally, the Guide will instruct you on how to set up your data collection tool.

Learner Check in



Which of the following are examples of problems that may occur when data collection is not standardized?

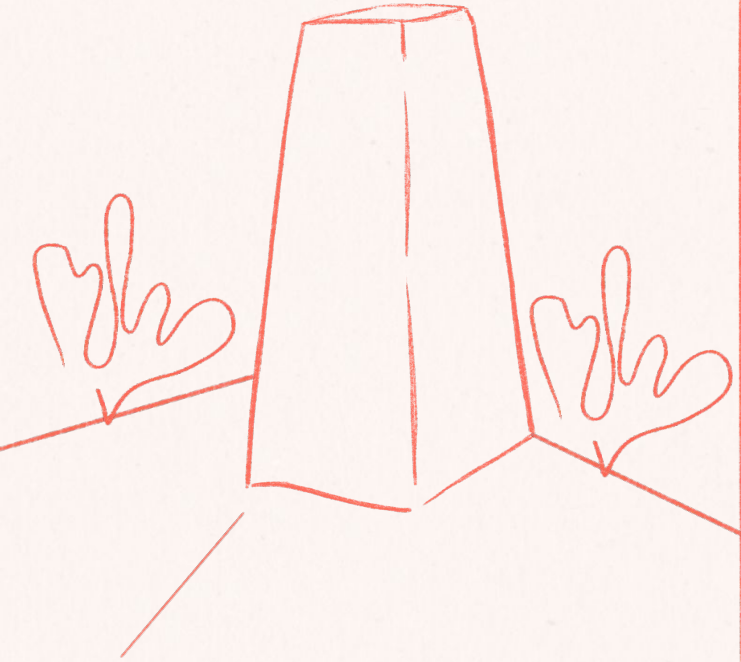
A. Field data may not translate across districts.

B. It may not be possible to combine data from different locations to be used for analysis.

C. Field data collection results from one area may not be trusted in another area if there are different methods for data collection.

D. All of the above.

Learner Check in - Answer



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C. Field data collection results from one area may not be trusted in another area if there are different methods for data collection.

D. All of the above.

Section 3


Sour Dock
Difference between Invasive and Nuisance Species

Invasive vs Nuisance

Nuisance

Cattail

Native in the United States

Invasive

Giant Reed

Non native in United States

Nuisance and Invasive species belong in your data collection if they are causing negative economic, environmental or human impacts.

For more information, head over to plants.usda.gov

Section 4.1

Preparing for Field Work

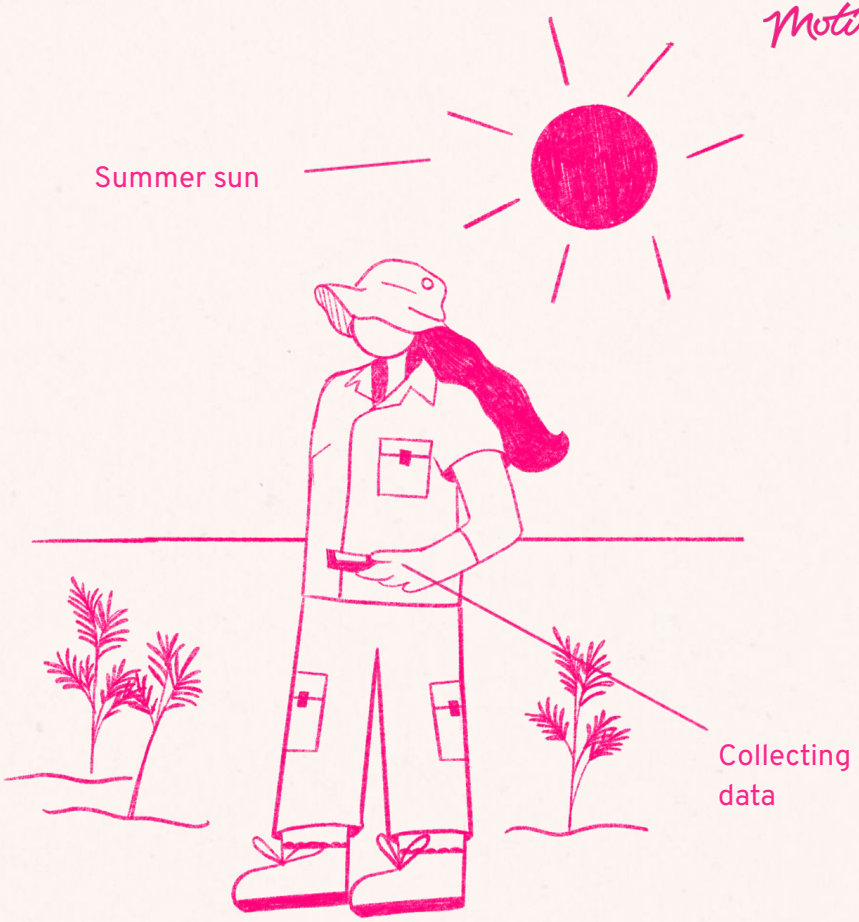
Giant Hogweed

Field Work Scenario

You are a biologist monitoring nuisance species in Connecticut in the hot summer.

When you are in the field, you want the collection to be as quick and easy as possible with minimal time spent inputting data. Everything you set up in advance of the field collection, will be motivated by the desire for efficiency in data collection.

The fewer data fields required for field collection, the more accurate the data will be.



Attribute Checklist

Consult the Attribute Checklist and figure out which attributes you need to collect in the field.

The attributes you need to collect in the field vs before or after will vary depending on what type of data collection you are conducting.

Refer to the Attribute Checklist on pages 4-5 in the Guide.

Make sure to fill it out so that you know which attributes to record at what time.

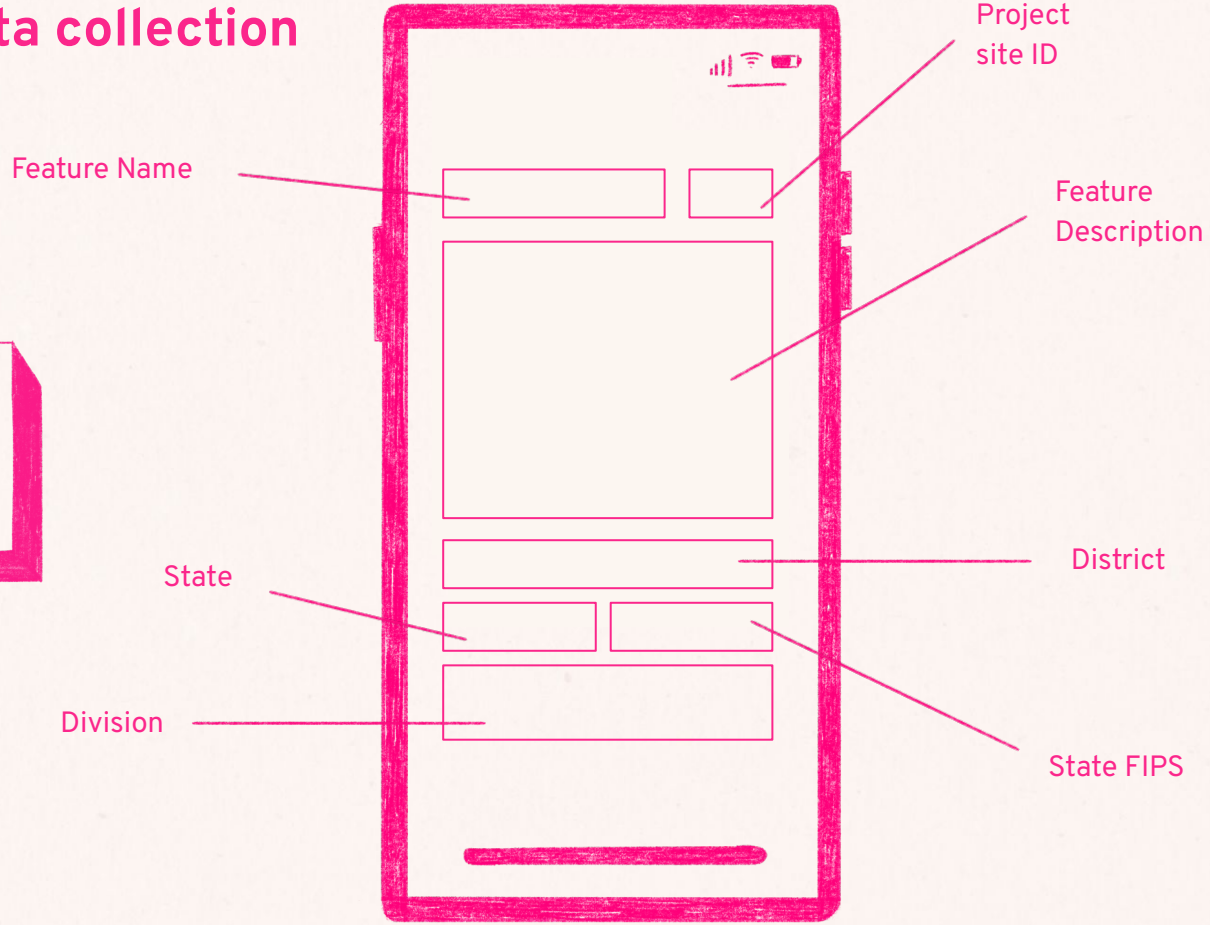
Set up your Data Collection Tool

The answers in your Attribute Checklist, should directly inform the data you decide to collect in your field data collection tool. It is very important for the field tool to be **quick, easy and user friendly.**

When setting up your field tool, it should:

- have minimal required fields
- have **six** to **eight** fields for data input
- have a **finite** list of drop down items

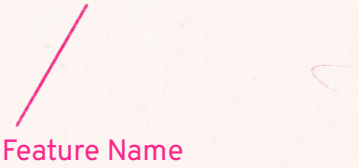
It’s the day of data collection



Question
What can be set ahead of time?

Feature Name

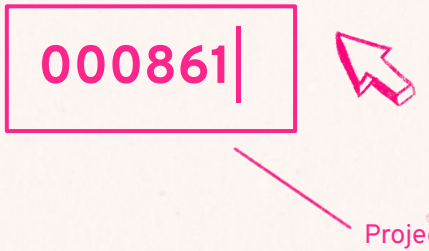
Lake Mead Aquatic Plant Survey



Make sure to create a name that provides context clues to determine the general location information, general type of species and the general effort of what is being done.

Your technical lead should advise on a consistent naming scheme for your district.
Example: You could include the Fiscal Year if it's relevant for you.

Project Site ID



“Project Site ID”, is the specific ID given by the Corps to your Project Site. If you are familiar with the site, you might already know the Project Site ID. If not, and the site is Corps Owned, you can find this information in CWBI-OPS.

If you are working on a site that is not Corps owned, you should skip this attribute by leaving it blank. Ask your supervisor if you are unsure.

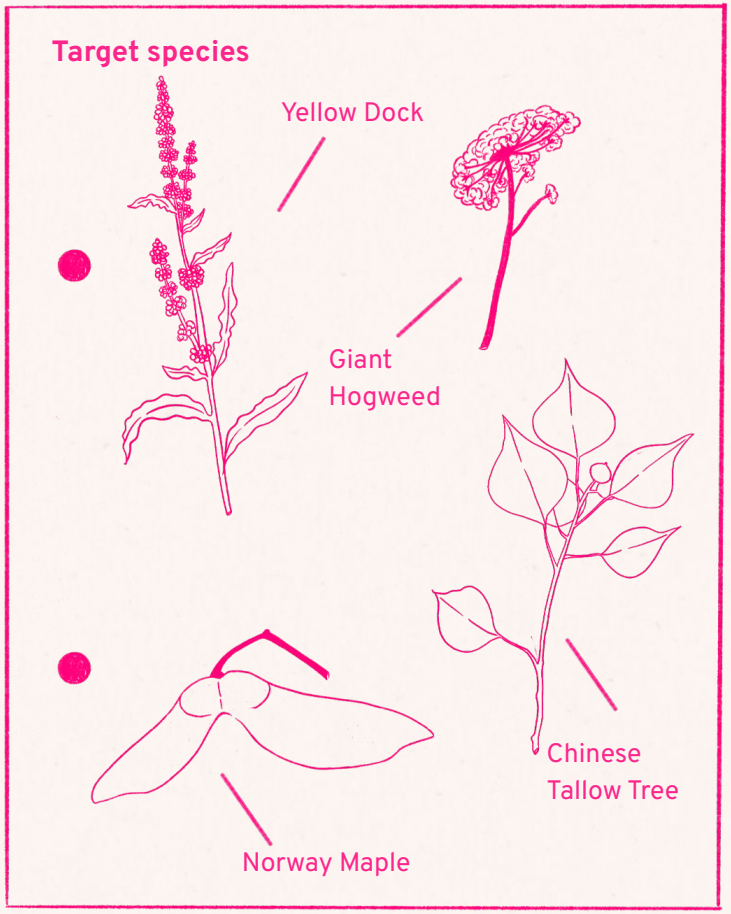
Preparing to go in the field:

Knowing your target species

You should work with your supervisor to make a plant ID sheet of the target species you will survey.

Your sheet should include pictures of the species and their common and/ or scientific name.

You can consult EDDmapS or the Corps website for more information on invasive species in your area.

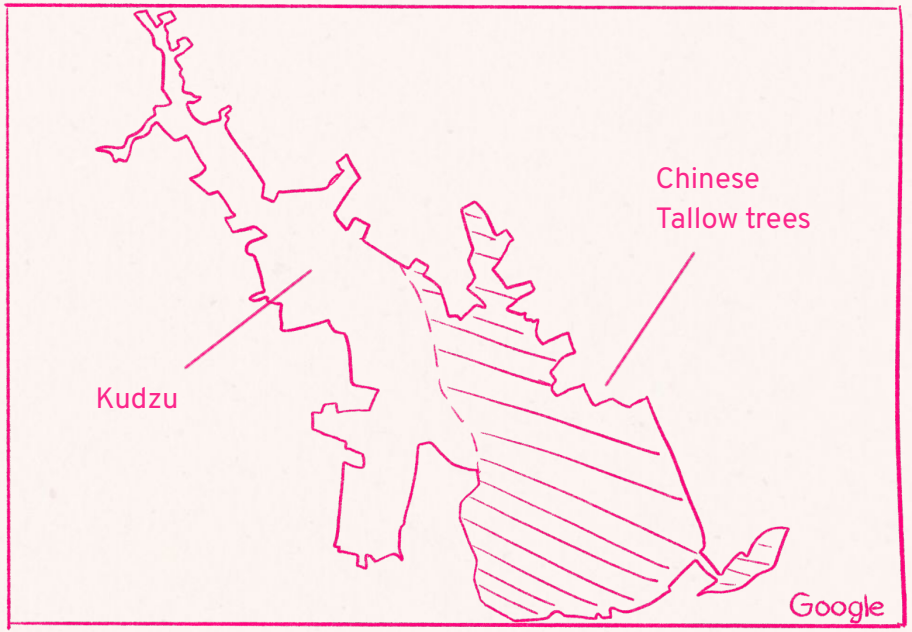


Preparing to go in the field:

Knowing your area

Learn about the area you are going to.

You or your field supervisor might consider putting together a map with areas highlighted and notes showing what species are in those areas.

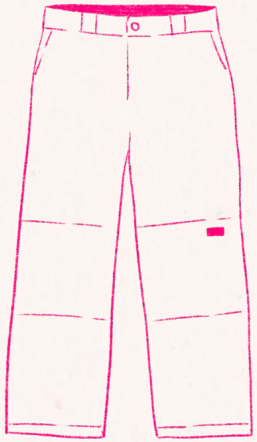


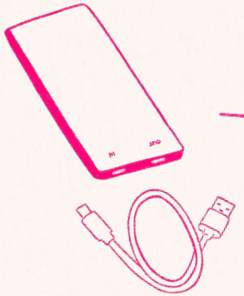
Preparing to go in the field: What you might need

Water bottle

Sunscreen

Long Pants



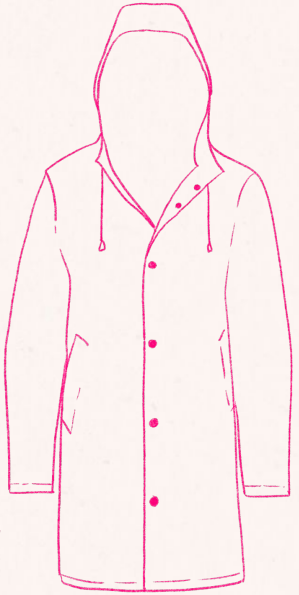


Portable charger

Hat

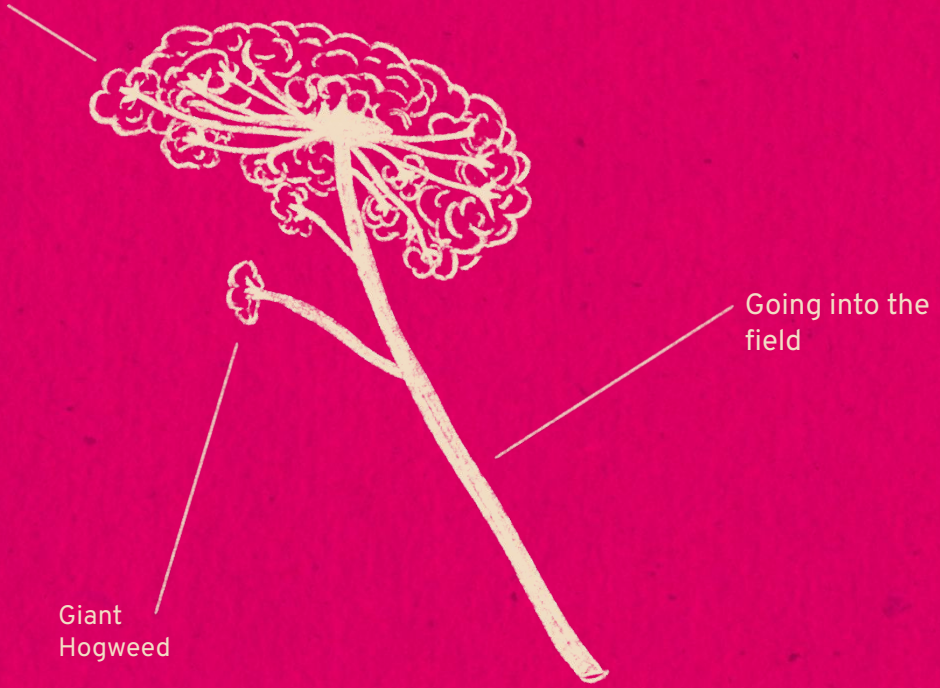
Download maps for offline use

Collect your tracks using Alltrails or Strava



Rain coat

Section 4.2



You are at the data collection site and see a species, what can be filled out?

Case dependent:

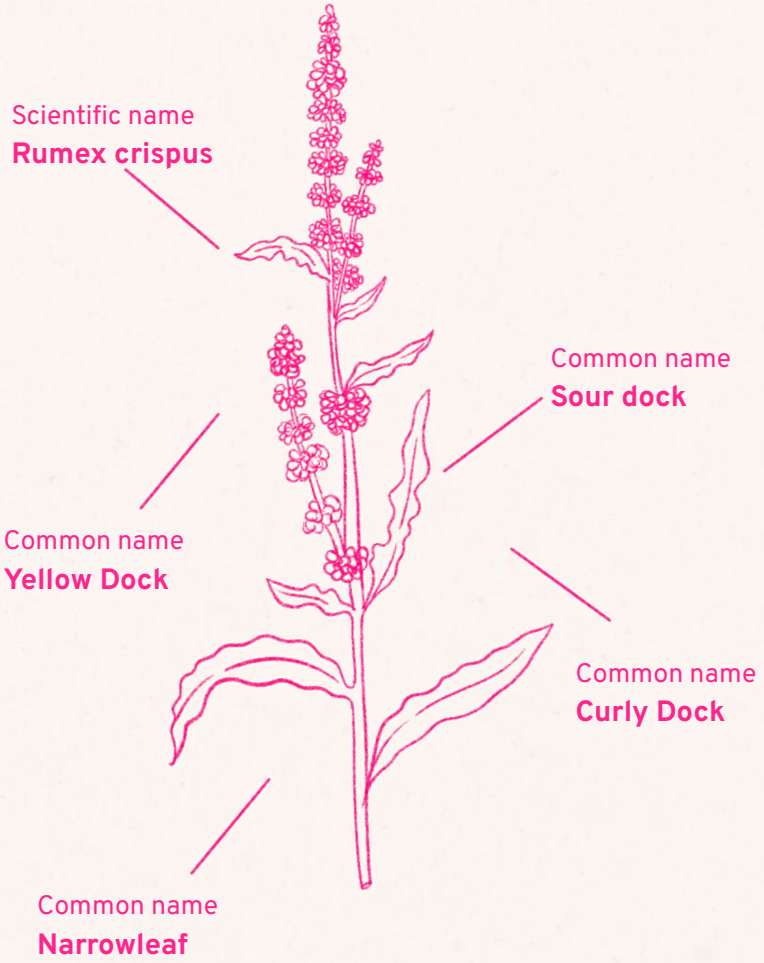
Abundance
Abundance Unit of Measure
Infestation Density
Infested Area
Infested Area Unit of Measure
Invasive Impact to Cultural Resources
Invasive Impact to Environment
Invasive Impact to Project
Management Action
BPR species control method type
Surveyed Area
Surveyed Area Unit of Measure

Species Common Name OR Species Scientific Name

Scientific Name	Common Names	X
Rumex crispus	Sour dock, Yellow Dock, Curly Dock, Narrowleaf	

It does not matter what common name you may choose but make sure to properly link it to the scientific name.

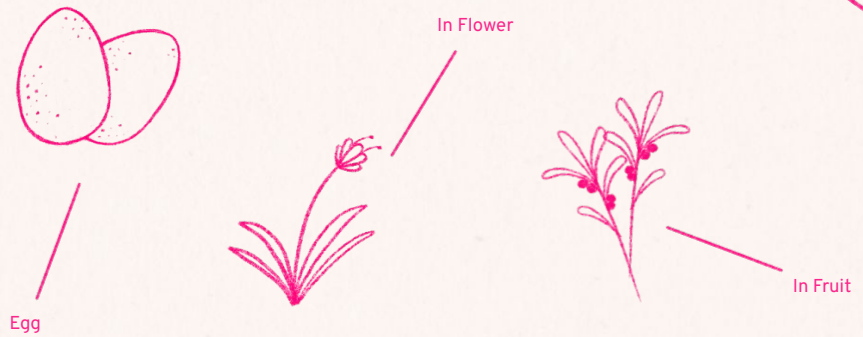
Go to **itis.gov/** and enter your common name, make sure it is the same species that you're referring to.



Life Stage / Indicators Observed

This is a space for you to indicate if you have any observations about the life stage of a plant species or any indicators of animals to provide more context clues.

You should only input accurate information. Leave this blank if you did not observe anything



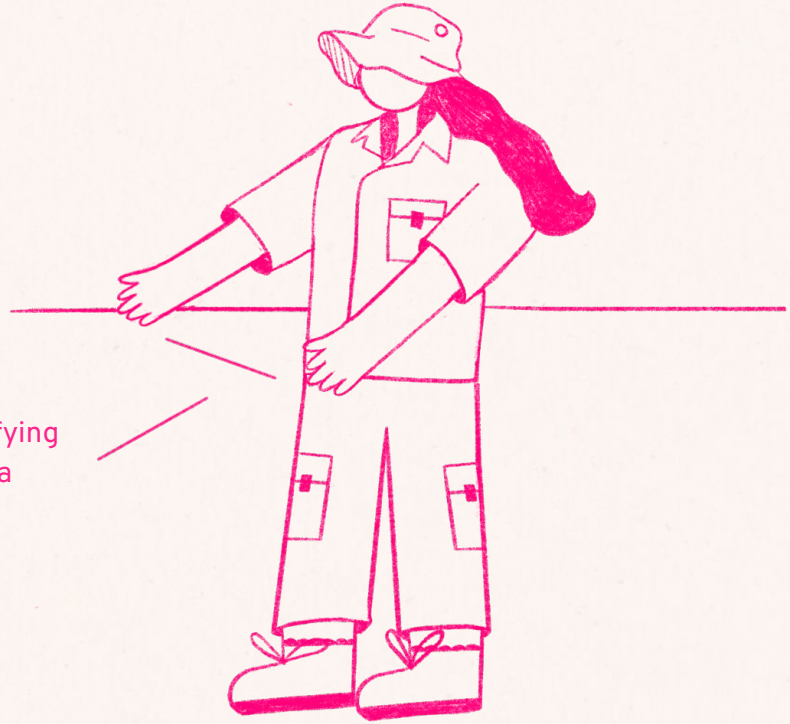
11:32

X

Life stage/Indicator	Description
Immature or Juvenile	Immature/Juvenile indicates that the plant/animal/insect has not reached sexual maturity and is unable to reproduce
In flower	Plant is producing flowers on the plant.
In Fruit	Fruits or seeds are present on the plant.
Eggs	Observation of eggs is enough to confirm the presence of species, even though there was no direct Observation of the animal/insect.

Abundance and Abundance Unit of Measure, Infestation Density, Infested Area, Surveyed Area

Once you have identified the nuisance species, you need to quantify the size of the problem. The next few attributes will help you capture this data in a few different ways



Abundance Unit of Measure and Abundance

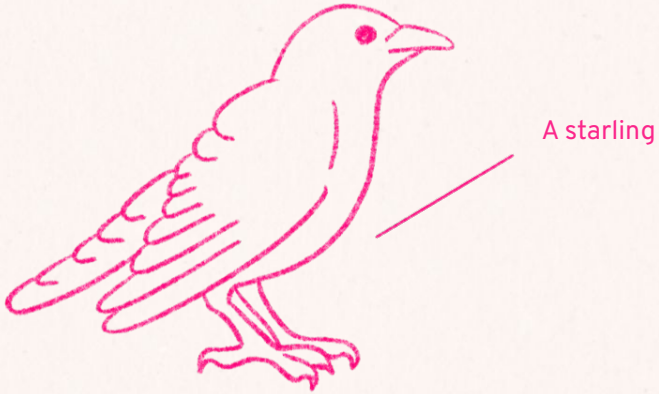
Abundance Unit of Measure X
Individuals

Abundance X
3

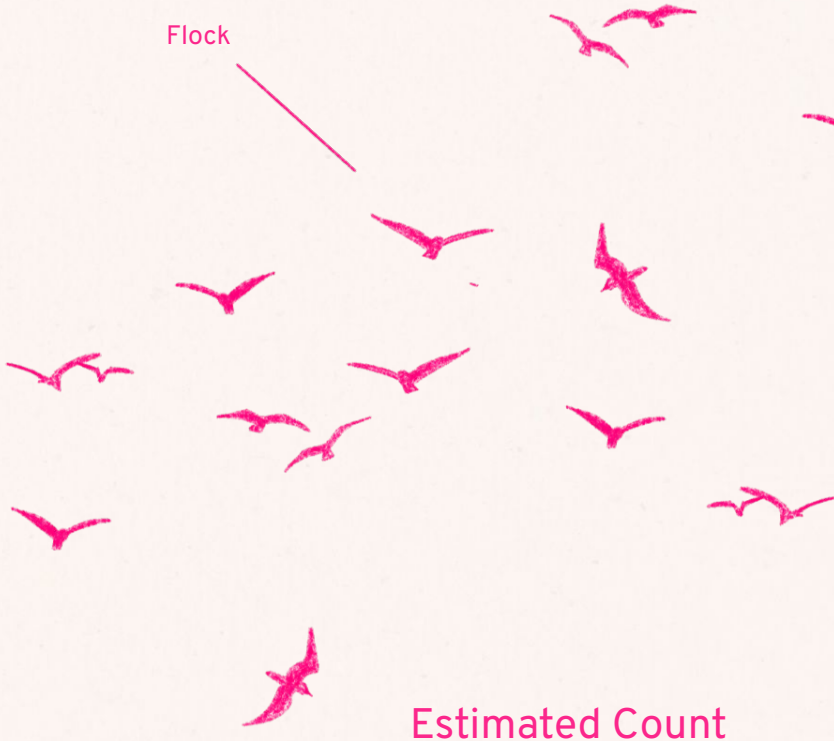
Pick List:

Abundance unit of Measure	Description X
Estimated Acres	Estimate the number of acres that population occupies.
Estimated Count	A best estimate of the total number of the species observed.
Estimated Hectares	Estimate of the number of hectares occupied by the species.
Estimated % cover	Estimate of the % cover of a species and in this case, should apply to the “infested area”.
Estimated square feet	An estimate of the number of square feet occupied by the species.
Estimated square meters	An estimate of the number of square meters occupied by the species.
Individuals	Count of individuals of the species.
To be determined	Has not been determined at date of record population, and should be revisited at a later date

Abundance Unit of Measure and Abundance



Individual



Estimated Count

Learner Check in

Question

What option from the list on the right would you choose for “Abundance Unit of Measure” and what number would you write for “Abundance”?

Abundance unit of Measure	Description	X
Estimated Acres	Estimate the number of acres that population occupies.	
Estimated Count	A best estimate of the total number of the species observed.	
Estimated Hectares	Estimate of the number of hectares occupied by the species.	
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Learner Check in - Answer

Abundance Unit of Measure X
Estimated Count

Abundance X
6

Abundance unit of Measure	Description X
~~Estimated Acres~~	~~Estimate the number of acres that population occupies.~~
Estimated Count	A best estimate of the total number of the species observed.
~~Estimated Hectares~~	~~Estimate of the number of hectares occupied by the species.~~
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~~Estimated square feet~~	~~An estimate of the number of square feet occupied by the species.~~
~~Estimated square meters~~	~~An estimate of the number of square meters occupied by the species.~~
~~Individuals~~	~~Count of individuals of the species.~~
~~To be determined~~	~~Has not been determined at date of record population, and should be revisited at a later date.~~

Infested Area

Infested Area X

10 Acres

If you could congregate all of the target pests into one area, that area would represent the Infested Area. For this attribute, you may enter the numeric value of your estimated infested area here, preferably in acres.

For example, if you had norway maple covering about 10 acres of land, you would input 10 acres for the Infested Area.

Norway maple

Infestation Density

This attribute allows you to give more context when putting in the total acreage.

You should write out the total acreage covered and give your best estimated percentage of how densely a species covers that acreage.

Infested Density X
10% (Low)

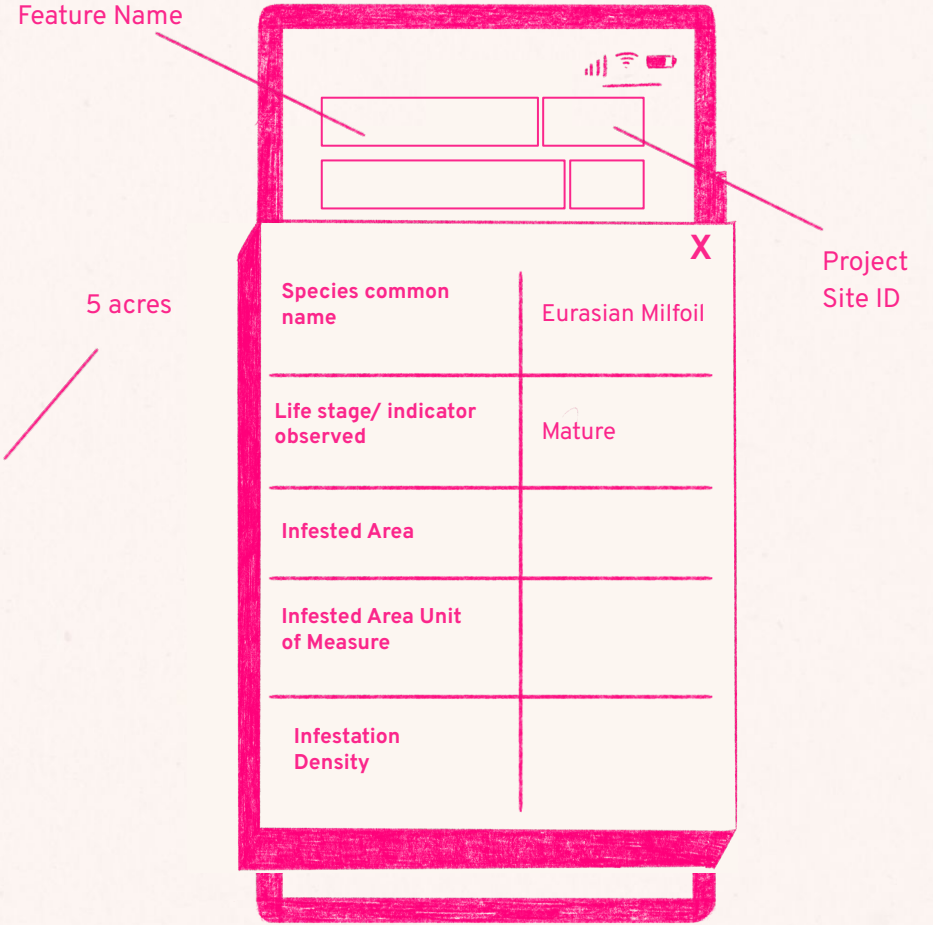
Density Designation	Description X
51 -95% (High)	Represents low density populations of scattered dense patches or continuous scattered individuals, constituting a range of 51-95% cover.
6 - 25% (Low)	Represents low density populations of scattered individuals or small patches, constituting a range of 6-25% cover.
<1% (Trace)	Represents a very small population that has more that one individual, but the total os still less than 1% cover.
To Be Determined	Has not been determined at date of record population, and should be revisited at a later date.

Learner Check in

Question

What would you input for the Infested Area and Infestation Density in this example?

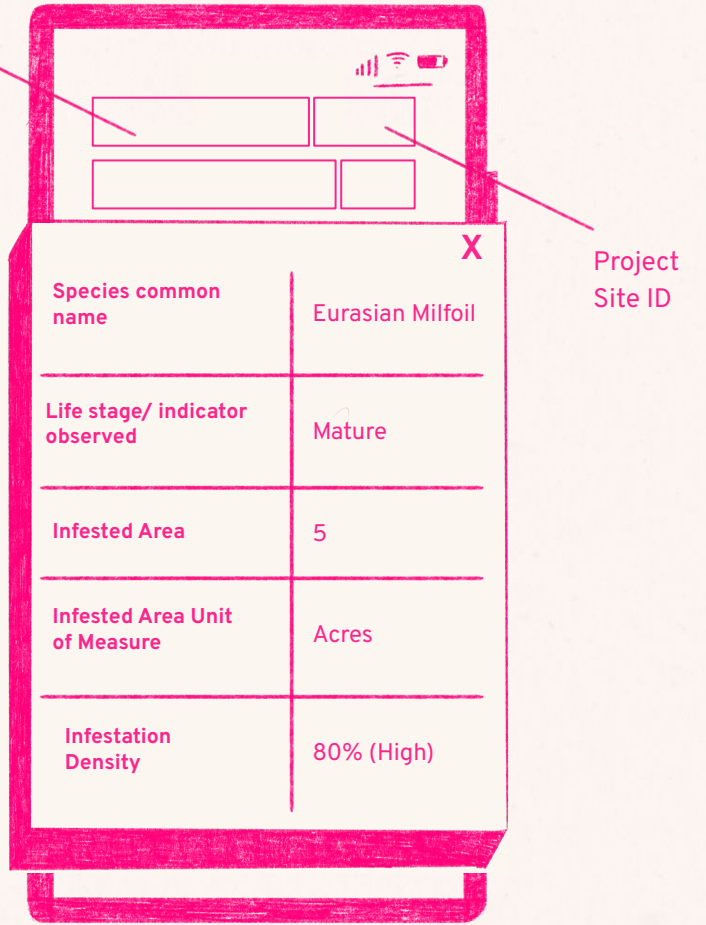
5 acres



Learner Check in - Answer

Infested Area X
5 Acres

Infestation Density X
80% (High)



Surveyed Area

Surveyed Area is an estimate of the total area that was surveyed, whether or not it contained the reported nuisance species.

For example, if you visited a field site area of 10 acres then you would input 10 acres as the “Surveyed Area”, regardless of if you found nuisance species during your survey.

Question

When do we use Surveyed Area, Abundance, Infestation Density and/or Infested Area?

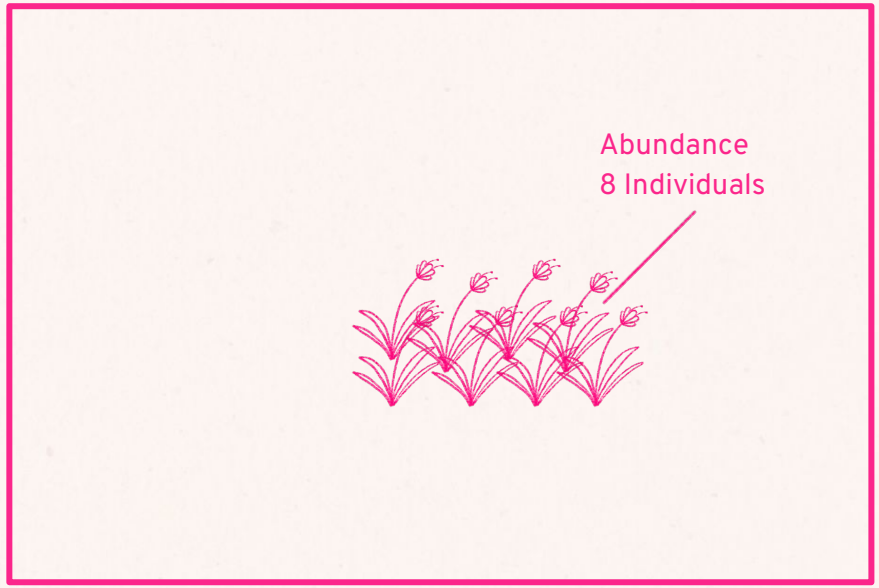
Question

When do we use Surveyed Area, Abundance, Infestation Density and/or Infested Area?

Surveyed Area
50 acres

Question

When do we use Surveyed Area, Abundance, Infestation Density and/or Infested Area?



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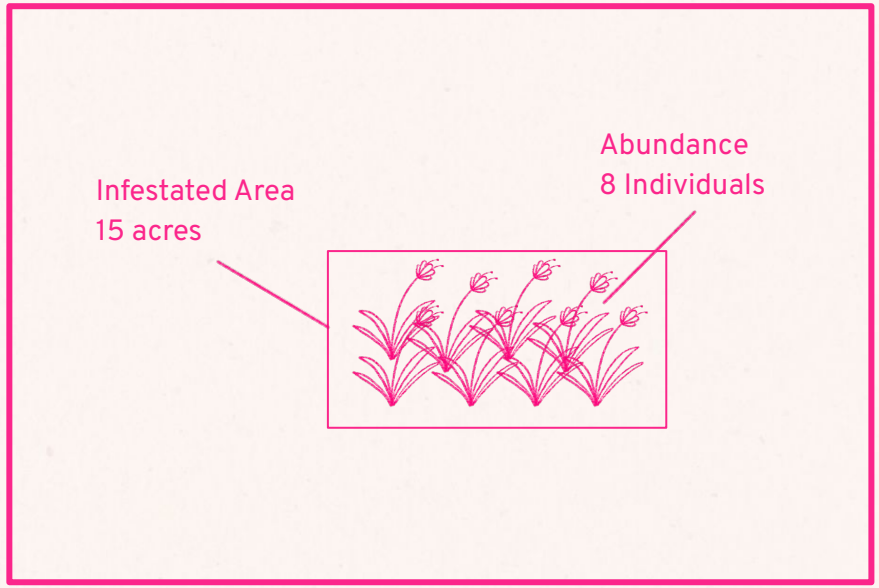

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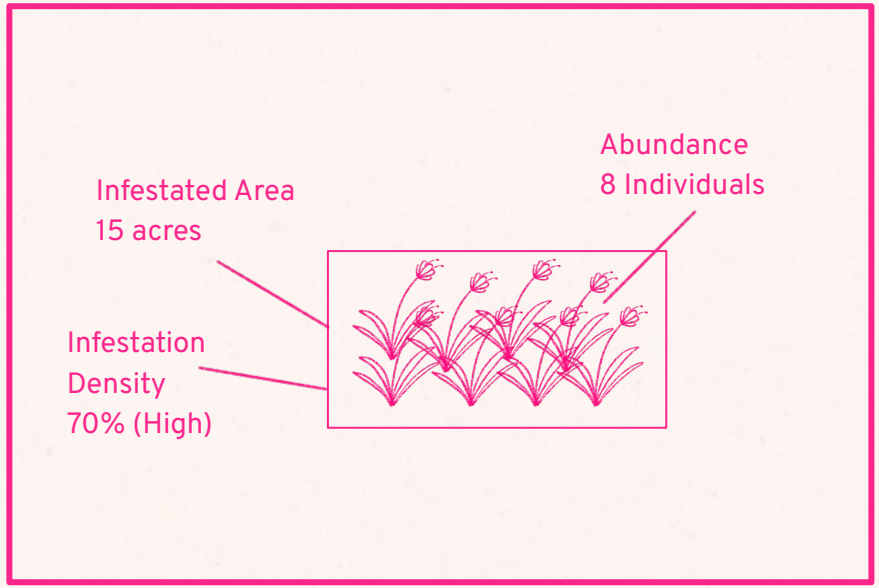


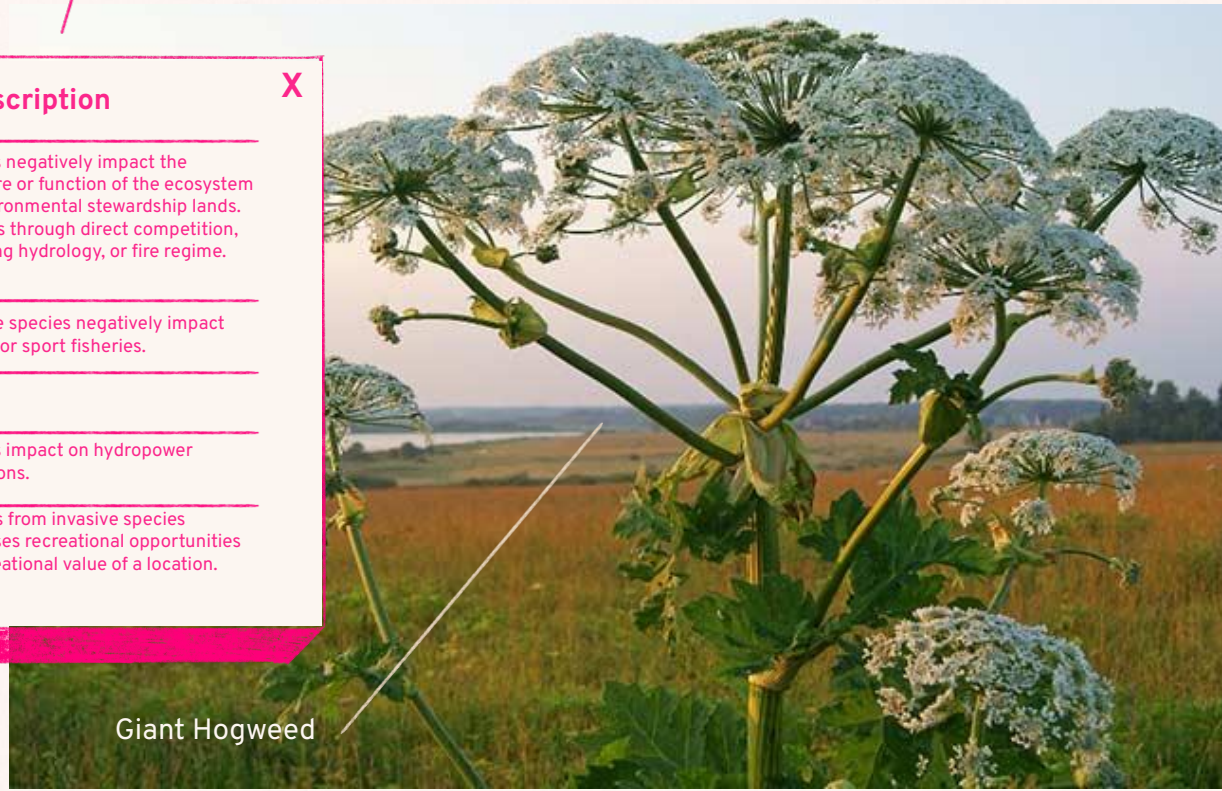
Invasive Impact to Project

Select the most accurate impact type for the feature you are surveying.

Project Impact Type	Description
Affect Environmental Stewardship lands and Mission	Species negatively impact the structure or function of the ecosystem on environmental stewardship lands. Perhaps through direct competition, changing hydrology, or fire regime.
Affect fish or wildlife	Invasive species negatively impact wildlife or sport fisheries.
TBD	**TBD**
Affect Hydropower	Species impact on hydropower operations.
Affect Recreation	Impacts from invasive species decreases recreational opportunities or recreational value of a location.

X

If you don't know what the impact type is then put "TBD".

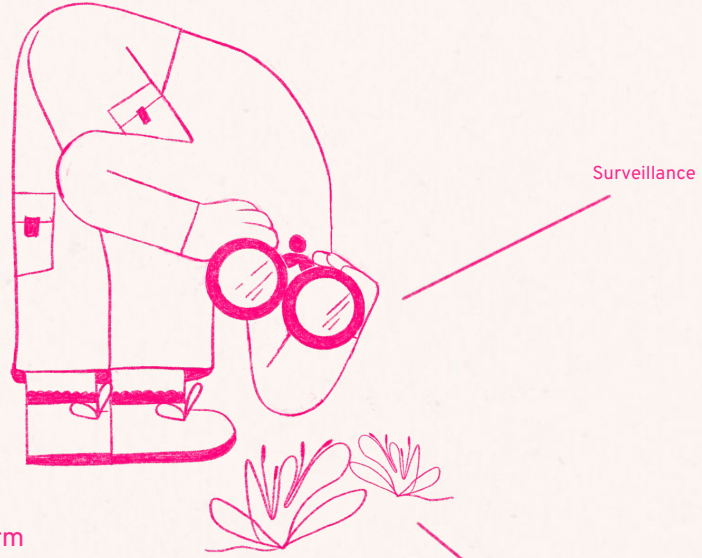


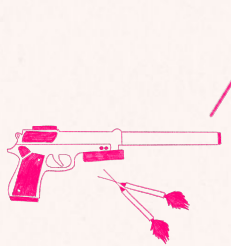
Giant Hogweed

Management Action

Select the type of management activity, if any, that manages the nuisance species at this feature. If you do not know the management type, you can select '**Surveillance**', which shows you positively identified a nuisance species at this feature and are recording it.

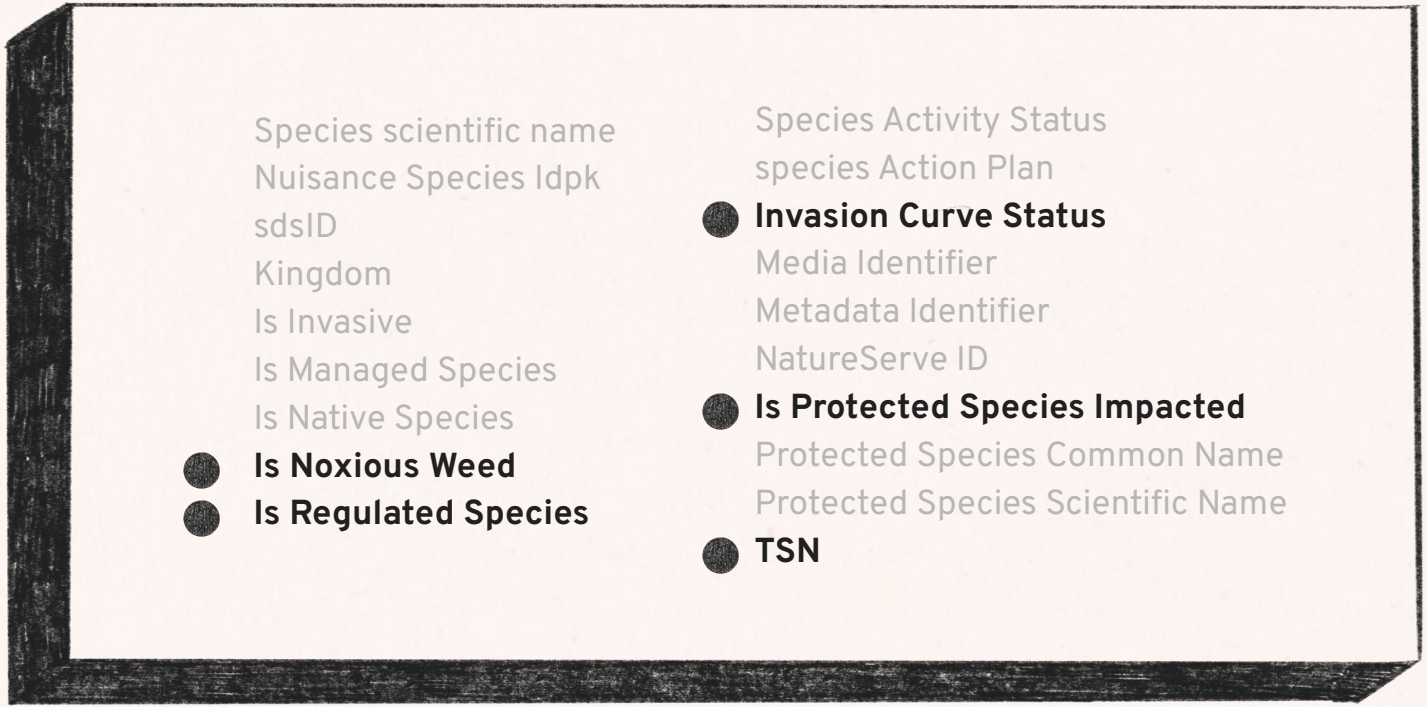
It should be "TBD" for BPR Species.





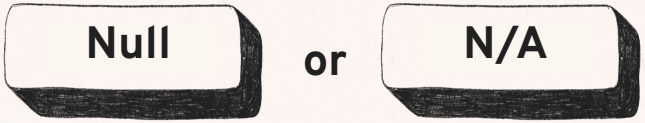
Section 4.3

Post-Processing



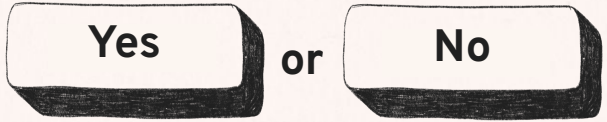
Is Noxious Weed

Highly encouraged to mark the fields with:



Or you can just skip the question entirely

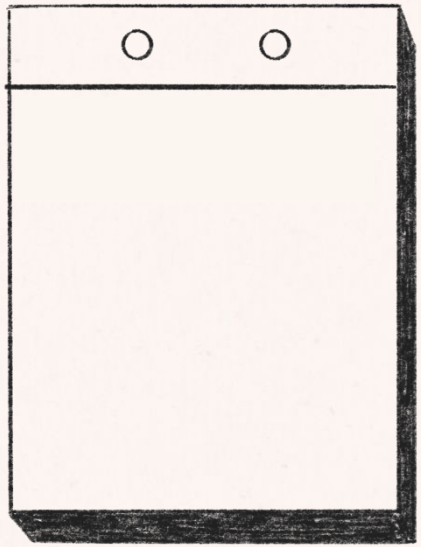
Is Regulated Species



If you choose Yes, it means that the species you are inputting is regulated and found on your State or Federal Noxious Weed list.
We recommend looking up the species scientific name on the lists linked on this attribute page in the Field User Guide for Nuisance Species Data Collection in order to determine the species status.

The State and Federal Noxious Weed legislative measures place restrictions on the species (whether it can be lawfully owned, whether it can be sold, whether it can be imported, etc.).

If you choose No, it means this species is not found on your state or federal lists.



Invasion Curve Status

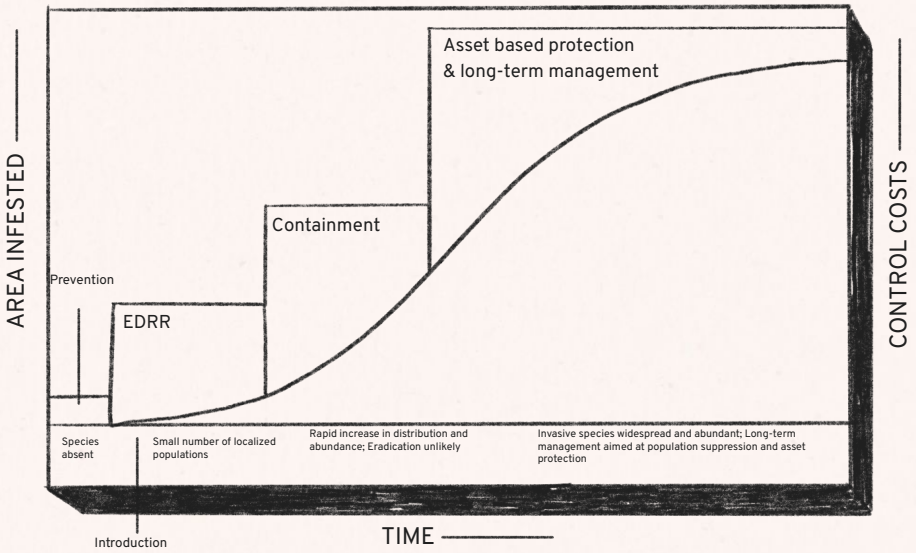
Early Detection Rapid Response: The population represents a newly established population which is still small in size and eradication is a feasible goal. Early Detection Rapid Response (EDRR) is the most cost effective phase of management with the greatest likelihood of success.

Containment: The population is at a level where eradication is not feasible, so the goal becomes limiting the spread of the population.

Long Term Management: The population is more widespread, at a level where containment is not feasible and the strategy shifts to long term management and asset protection.

To Be Determined: Has not been determined at date of record population, and should be revisited at a later date.

The Invasion Curve



Sourced from:
www.usace.army.mil/Media/Images/igphotò/2000809105/

Is Protected Species Impacted

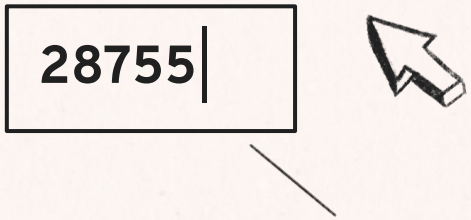
You will likely know the protected species that exist in your project area to watch for.

For example, if an invasive species is impacting the nesting of a migrating bird, you would choose “Yes”. If you don’t know, consult your most recent project work or CWBI-OPS data.

Ground Nesting Birds

Feral Hog

TSN



TSN stands for the Taxonomic Serial Number. Every species has an assigned TSN that gives it a unique identity. If you aren't sure about the TSN for your species, we recommend looking it up on itis.gov. The TSN links species to other data sources even if the scientific name changes or a different common name is being used.

Learner Check In

Question

Suppose you found an unexpected handful of zebra and quagga mussels (ZQM) in a lake located in Oregon.

If there are currently no ZQM in the water bodies of Oregon, which stage of the Invasion Curve Status would you select for your data input?

Early Detection Rapid Response: The population represents a newly established population which is still small in size and eradication is a feasible goal. Early Detection Rapid Response (EDRR) is the most cost effective phase of management with the greatest likelihood of success.

Containment: The population is at a level where eradication is not feasible, so the goal becomes limiting the spread of the population.

Long Term Management: The population is more widespread, at a level where containment is not feasible and the strategy shifts to long term management and asset protection..

To Be Determined: Has not been determined at date of record population, and should be revisited at a later date.

Learner Check In - Answer

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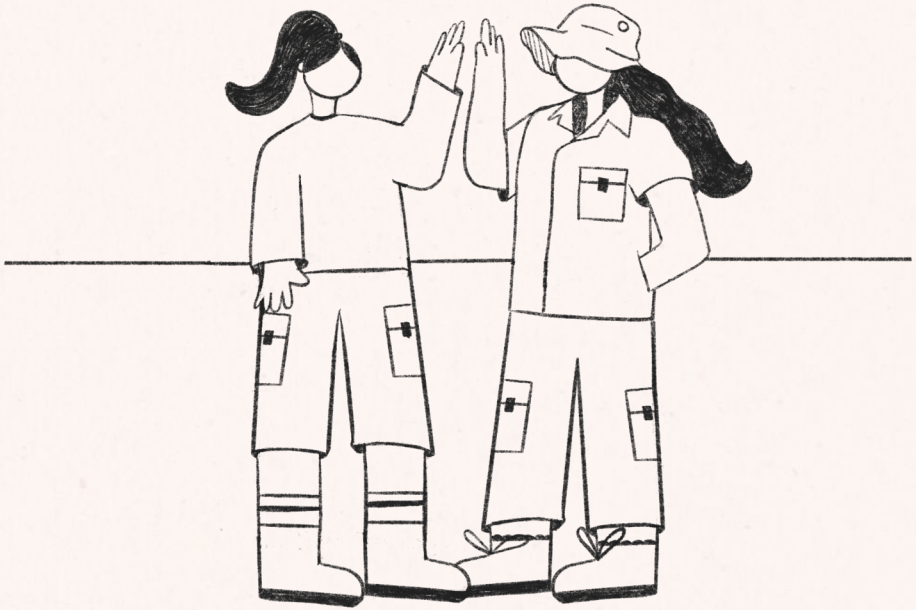
What's Next?

We hope that going through these attributes and explaining them further will now give you more confidence on making these decisions in the field. If you follow these directions, it means that data can be trusted at a more aggregated level.

Ultimately, this will lead to better information and communication regarding the management of invasive species across districts. Thank you for your help!



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Starting in FY25, you can access these resources here:
corpslakes.erdc.dren.mil/employees/invasive/invasive.cfm
www.sdsfie.mil

Thanks for watching!
Any questions?