



Invasives Strike Force Surveyor: Data Collection Webinar

May 28, 2020

Presented by

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Invasive Species Citizen Science Program Coordinator

New York – New Jersey Trail Conference
Coordinator, Lower Hudson Partnership for
Regional Invasive Species Management



**LOWER
HUDSON
PRISM**



**NEW YORK STATE
INVASIVE SPECIES
MANAGEMENT**



Up until this point....

1. You've taken an Invasives Strike Force Species Identification Webinar/Workshop

- Introduction to the Invasives Strike Force (ISF) Survey Program, Lower Hudson PRISM and the Trail Conference
- Invasive species 101: What are invasive species? Examples, impacts and importance of protecting native habitats
- General Plant ID features and categories
- ISF Standard (14 common) or Intermediate (11 less common) IDs

2. Received access to helpful ID resources

- YouTube links to webinars
- Link to QuickID and Detailed Color Guide (Invasives vs. Native lookalikes)
- My email address/contact information (invasives@nynjtc.org)

3. General Overview of Next Steps

- Link to this webinar!
- Sense of where data goes and what it's used for!



Today's agenda

1 Big Picture- Data Collection and Protocols

- What is your overall mission?
- What does a data sheet look like?
- What does a survey area look like?
- What data do I need to collect?
- Where does my data go?

2. Using Avenza Maps App

- How to upload your trail assignment into Avenza
- How to pin GPS points

3. Invasive Species Data Collection

- Review different data categories to collect

4. Helpful Tips and Next Steps

- What to pack/how to prepare for field work
- Returning data to us

Reminder: Please remember to stay muted to avoid background noise in the webinar. Please DO ask questions in chatbox!

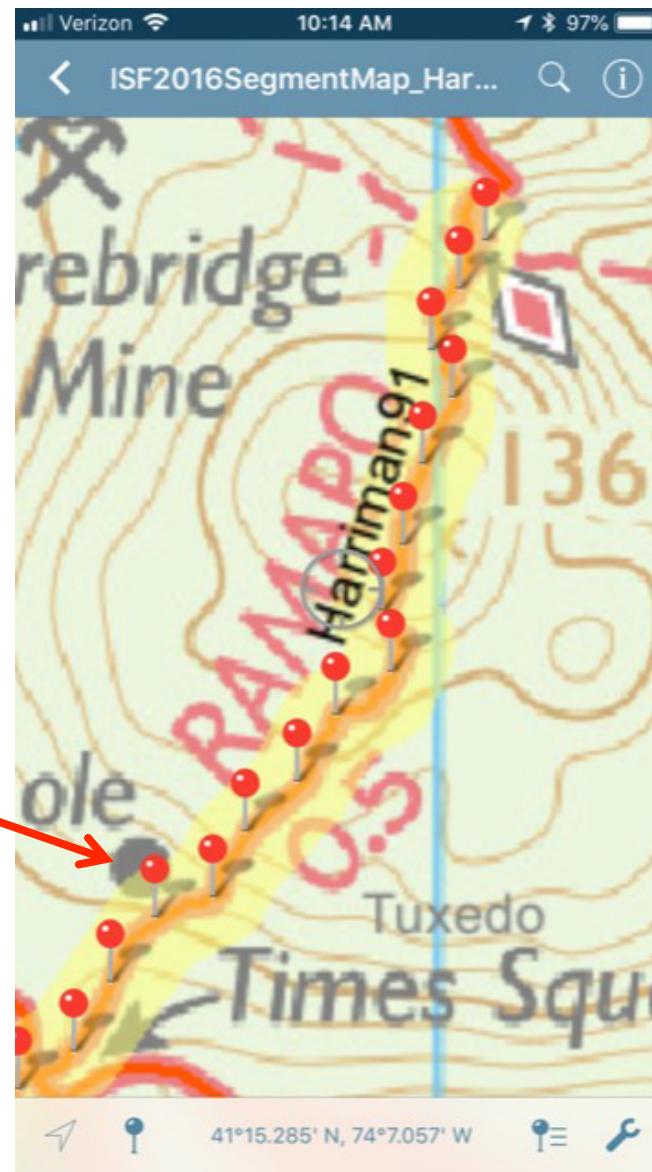
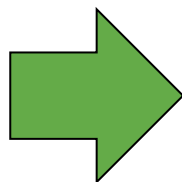
The Big Picture....



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Each of these little pinpoints represents a spot along the trail where you will stop and look for invasive species!

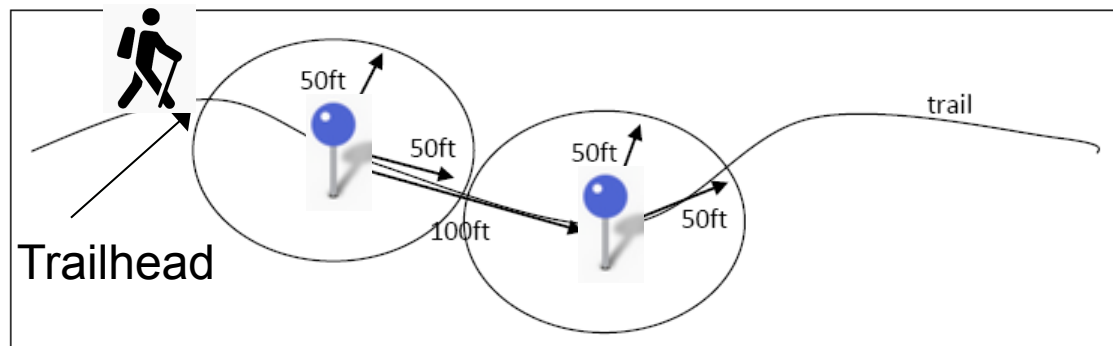


What do those pinpoint locations mean?



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- Invasive species data is recorded at each “pin”, which is essentially the center of an imaginary “survey circle”
- To get to the center of your first circle, you’ll walk 50 ft. into the trail
- The goal is to record the invasive species you see within that 50 ft. radius circle
- Once you’ve recorded the species in the first circle, you then walk to the center of the next circle and survey there and so on!



DATE: 7/7 TRAIL SEGMENT NAME: Pyramid 4 VOLUNTEERS: JOE P.
START TIME: 10:00 END TIME: 12:00 TOTAL SURVEY TIME: 2

What you will record at each pinpoint...

Keep recording like this until you have finished your trail segment!

GPS PT #	SPECIES CODE	DISTANCE	ABUNDANCE	HABITAT	NOTES
1	ROMV	T	M	2	
1	CEOR7	I	S	2	
2	ROMV	T	S	1	
2	BETH	I	S	1	
3	BETH	I	F	1	
4	BETH	I	F	5	
4	ROMV CEOR7	IT	P	5	
5	CEOR7	D	F	2	
6	I	TD	M	3	Mungworts
7	-	TD	M	3	Mungworts
8	BETH	TD	F	1	
9	-	T	M	3	Mungworts
10	0				
11	0				
12	MIVI	I	S	3	
13	MIVI	I	F	3	
14	MIVI	IT	M	3	
15	CEOR7	TD	F	1	
16	BETH	TD	S	2	
17	0				
18	0				
19	0				
20	0	T	S	3	Mungworts
21	0	T	M	3	Mungworts
22	CEOR7	D	S	3	
22	-	T	S	3	Mungworts
23	0				
24	0				
25	0				
26	0				
27	-	I	F	3	MW
28	-	I	S	3	MW
29	0				
30	0				
31	MIVI	D	M	1	
32	MIVI	I	M	1	dispersed
33	MIVI	I	X	1	
33	BETH	TD	M	1	

STANDARD SPECIES CODES	
Norway maple <i>Acer platanoides</i>	ACPL
Tree-of-heaven <i>Ailanthus altissima</i>	AIAL
Autumn olive <i>Elaeagnus umbellata</i>	ELUM
Japanese angelica <i>Aralia elata</i>	AREL8
Japanese barberry <i>Berberis thunbergii</i>	BETH
Multiflora rose <i>Rosa multiflora</i>	ROMU
Wineberry <i>Rubus phoenicolasius</i>	RUPH
Burning bush <i>Euonymus alatus</i>	EUAL13
Mile-a-minute vine <i>Persicaria perfoliata</i>	POPE10
Oriental bittersweet <i>Celastrus orbiculatus</i>	CEOR7
Japanese honeysuckle <i>Lonicera japonica</i>	LOJA
Japanese knotweed <i>Reynoutria japonica</i>	REJA2
Garlic mustard <i>Alliaria petiolata</i>	ALPE4
Japanese stilt grass <i>Microstegium vimineum</i>	MIVI

DISTANCE	
T = Trailside (15 ft)	
D = Distant (> 15 ft)	
TD = both	

ABUNDANCE	
F = Few (1-3)	
S = Some (4-11)	
M = Many (11-100)	
X = Extensive (>100)	

HABITAT CODE	
1 = Forest	
2 = Scrub	
3 = Meadow	
4 = Water	
5 = Edge	
6 = Planted (species)	

Choose only one per species at a data point.



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Type in your data on-line and submit!

Example_sheet_2019

File Edit View Insert Format Data Tools Add-ons Help Last edit was made 7 hours ago by Thomas Hobbick



Excel ribbon: Font (Calibri, 11), Bold, Italic, Underline, Paragraph, Styles, Tables, Lists, Sort, Filter, Sum, etc.

	A	B	C	D	E	F	G	H	I	J
1	NY-NJ Trail Conference Invasives Strike Force									
2	SURVEY NUMBER:				DATES COLLECTED:					
3	TRAIL SEGMENT/BLOCK:				TYPE OF SURVEY:					
4	VOLUNTEER 1 HOURS:				VOLUNTEER 1 NAME:					
5	VOLUNTEER 2 HOURS:				VOLUNTEER 2 NAME:					
6	VOLUNTEER 3 HOURS:				VOLUNTEER 3 NAME:					
7	IS DATA ENTRY COMPLETED? No									
8	GPSPointN	Species	Distance	Abundance	Habitat	Notes				
9	1	WISTE Japanese Chinese wisterias	TD Both	F Few	1 Forest					
10	2	CEOR7 Oriental bittersweet	D Distant	F Few	5 Edge					
11	3	CEOR7 Oriental bittersweet	D Distant	S Some	1 Forest					
12	3	MISI Chinese silver grass	TD Both	M Many	2 Scrub					
13	3	HUJA Japanese hops	T Trailside	X Extensive	3 Meadow					
14	4	0 NONE								
15	5	0 NONE								
16	6	REJA2 Japanese knotweed	TD Both	X Extensive	4 Water					
17										
18										
19										
20										
21										
22										
23										
24										
25										

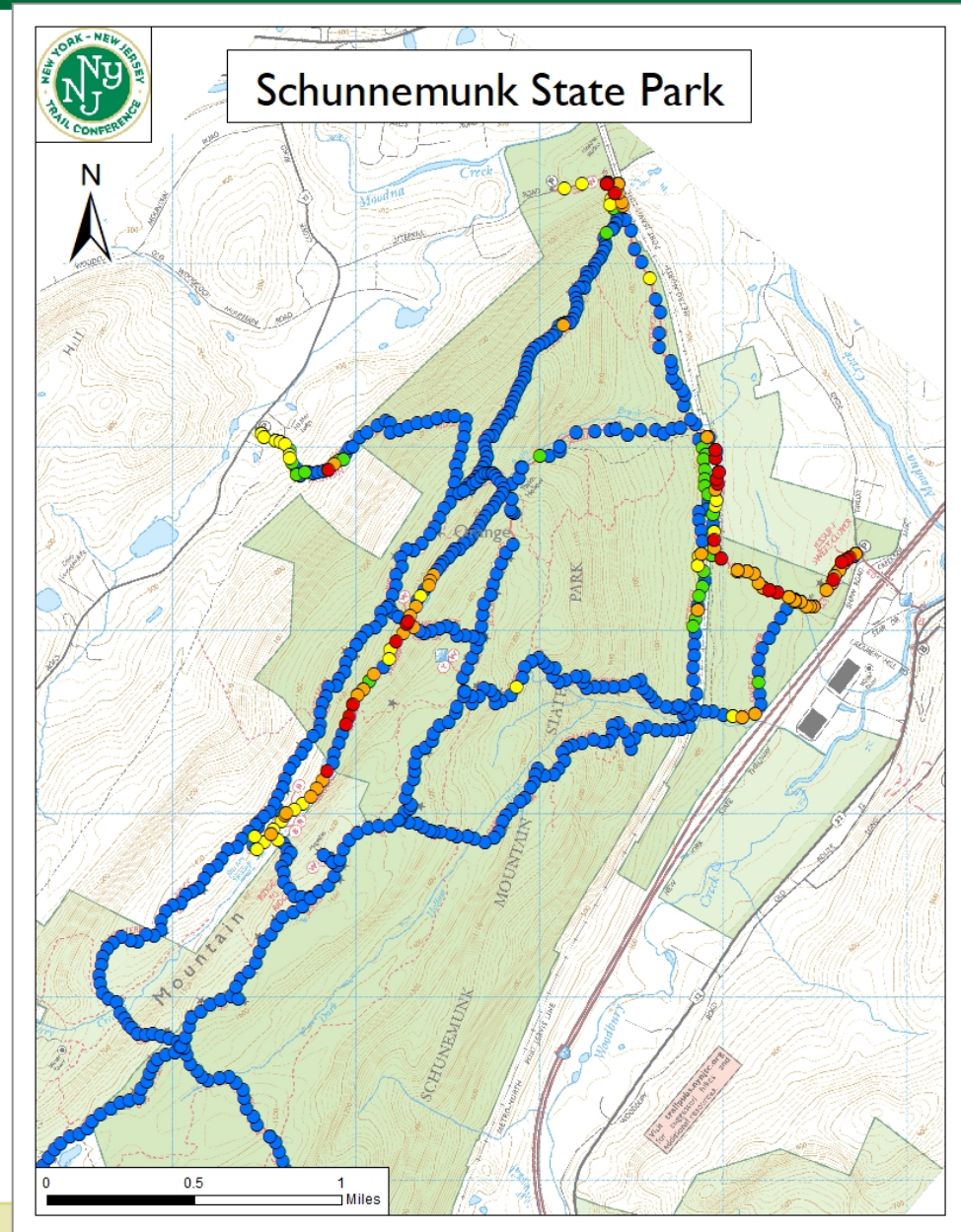
What do we do with the data you submit?



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ISF Standard surveys

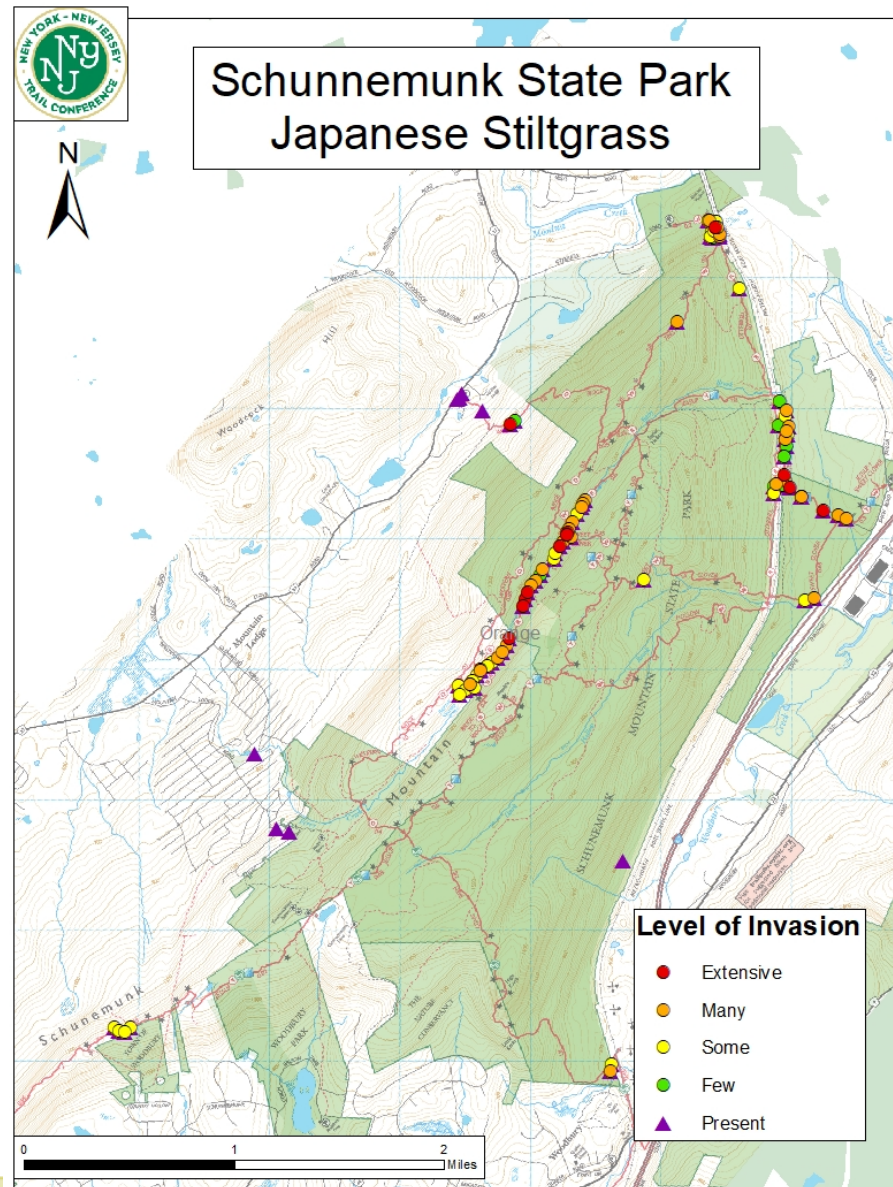
- Blue = None
- Green = Few
- Yellow = Some
- Orange = Many
- Red = Extensive



Break down down results by species...



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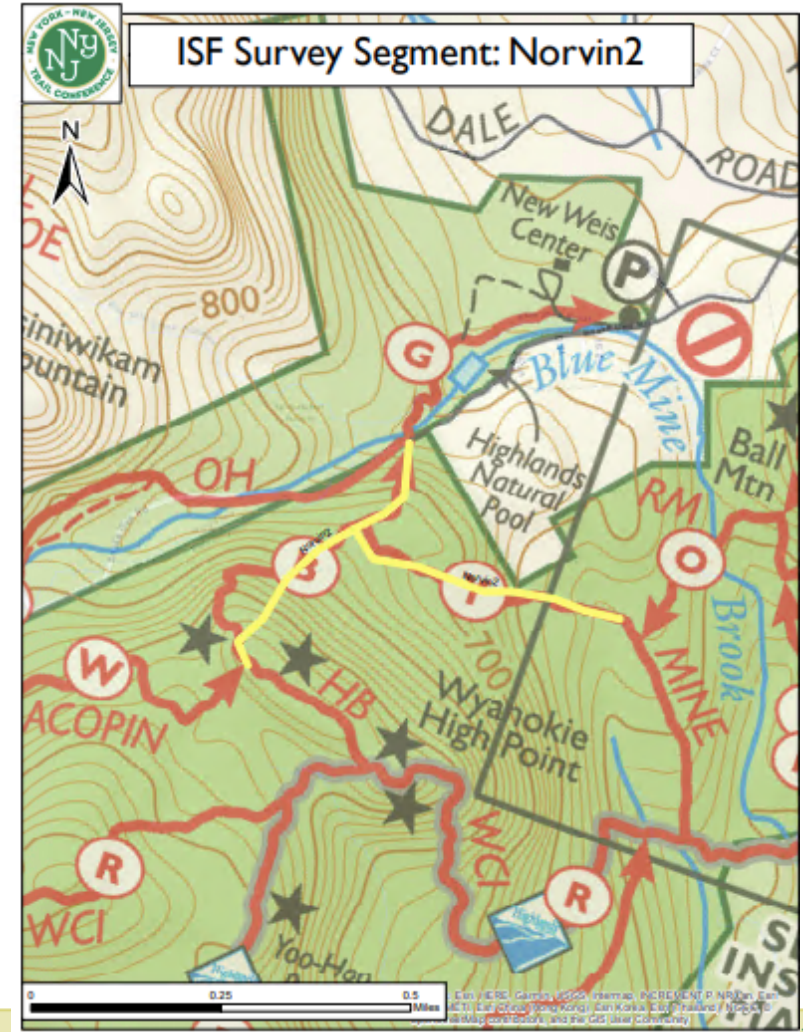




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Sounds good! Let's get started!

STEP 1: Receiving your Trail Assignment- what will it look like?- Some examples....



The example we'll use today...



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- Sometimes we only have a partial underlying map or no underlying map at all
- If that's the case, we can only show roads and underlying USGS or Google topo. maps
- In this scenario, we will describe in the email where parking is and how to access the trail





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STEP 2: Getting Your Trail Assignment Loaded into Avenza Maps

Avenza Maps

Almost a million maps for your mobile device

Use Avenza Maps® on your mobile devices to locate yourself without the Internet or network connections. Take Avenza Maps hiking, biking, climbing, camping and anywhere you need a map outdoors. Use your device's built-in GPS to stay safe, on track, on the trail, and aware of where you are on any map, even in the most remote places.

Available on the App Store and Google Play



Avenza Maps®



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Follow the Blue Dot!



The Avenza Maps[®] app uses your device's built-in GPS to locate you even when you are out of range of a network or internet connection.

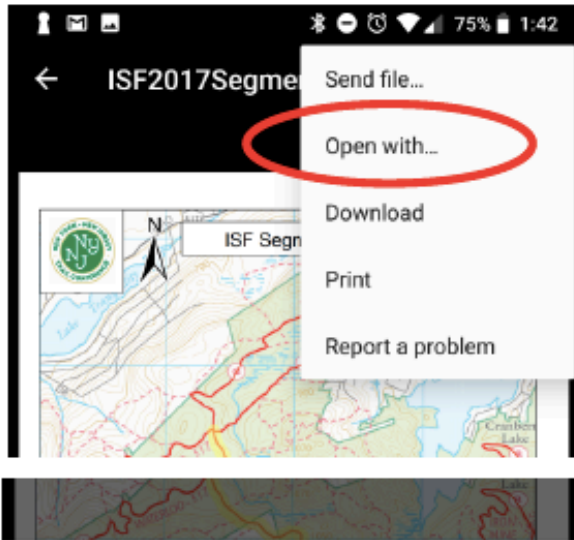
The blue dot follows you wherever you go so you always know where you are on the map. Zoom in and out, navigate from place to place, mark points of interest and easily attach photos exactly where they were taken.

Let's watch a video tutorial on what the trail assignment email will look like and how to import your map!



How to Import your map with an Android

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- Open the PDF from the email we send, and click the dropdown menu to select “Open with...”



- Select to Avenza icon, and the map will be loaded into your Avenza app for whenever you're ready to survey

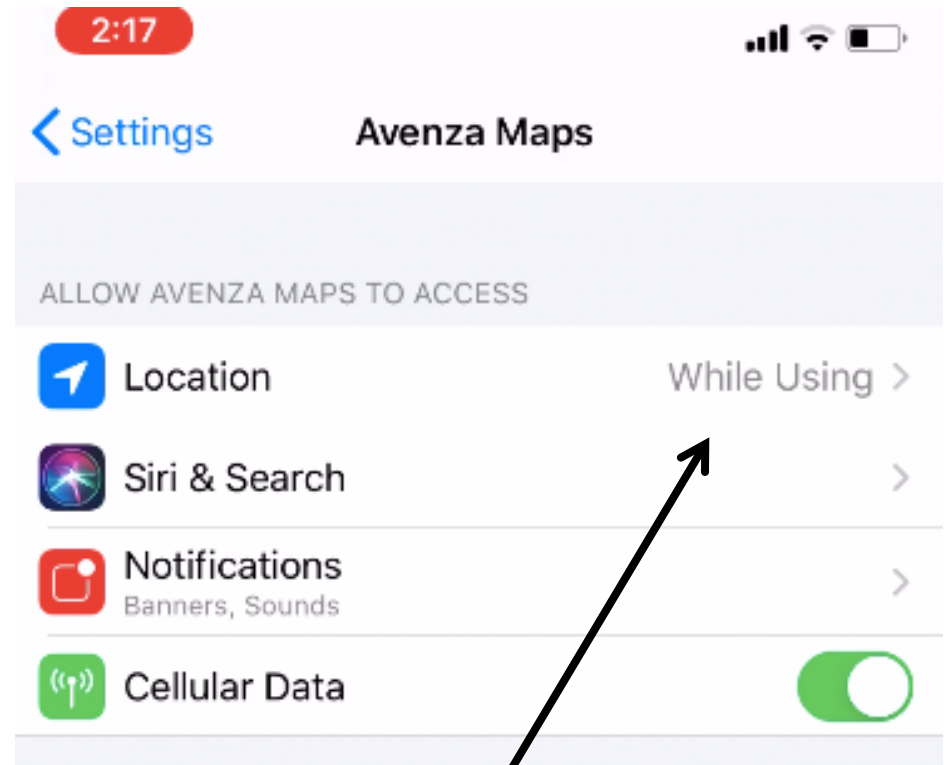


STEP 3: Ensure GPS on your phone is enabled!



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Once Avenza is downloaded and your map is uploaded, you need to ensure that your location services are enabled



Make sure location services are turned on to “while using”

If you are not going to use a SmartPhone...



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- There is an option to borrow a GPS Unit from us
- Requires that you provide us with a credit card # for deposit in case lost
- Limited number for rental, so Avenza is preferred option

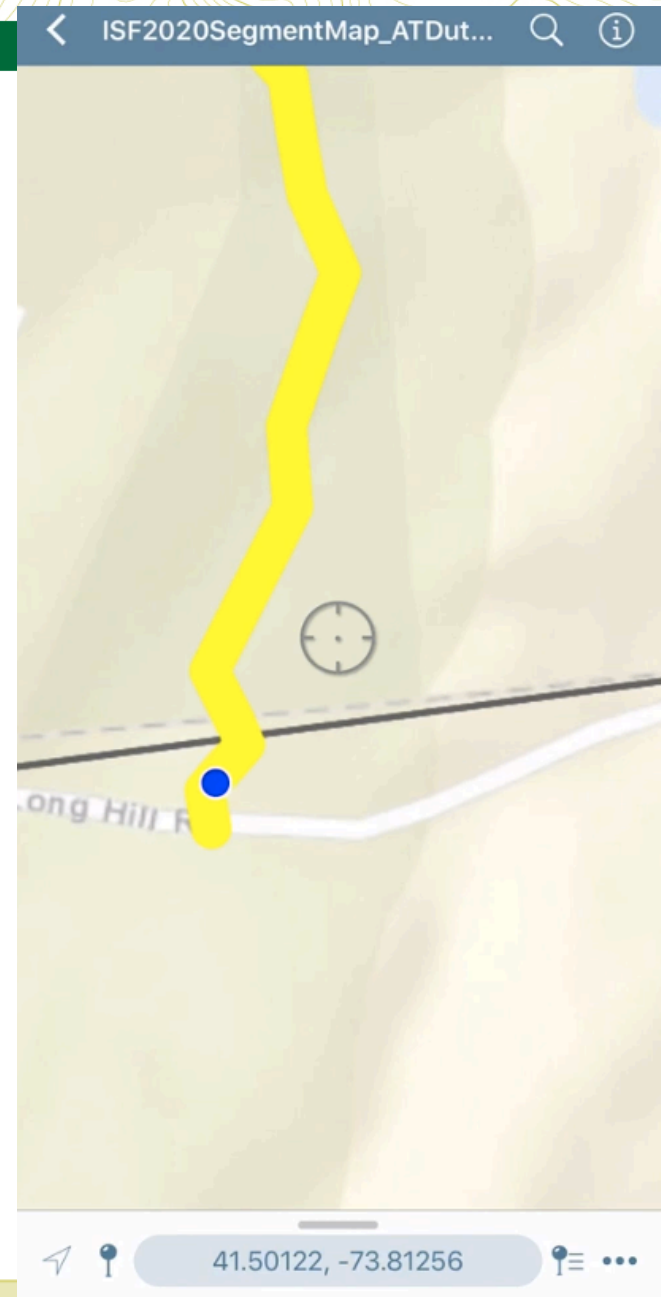


STEP 4: Figuring out where you are going!



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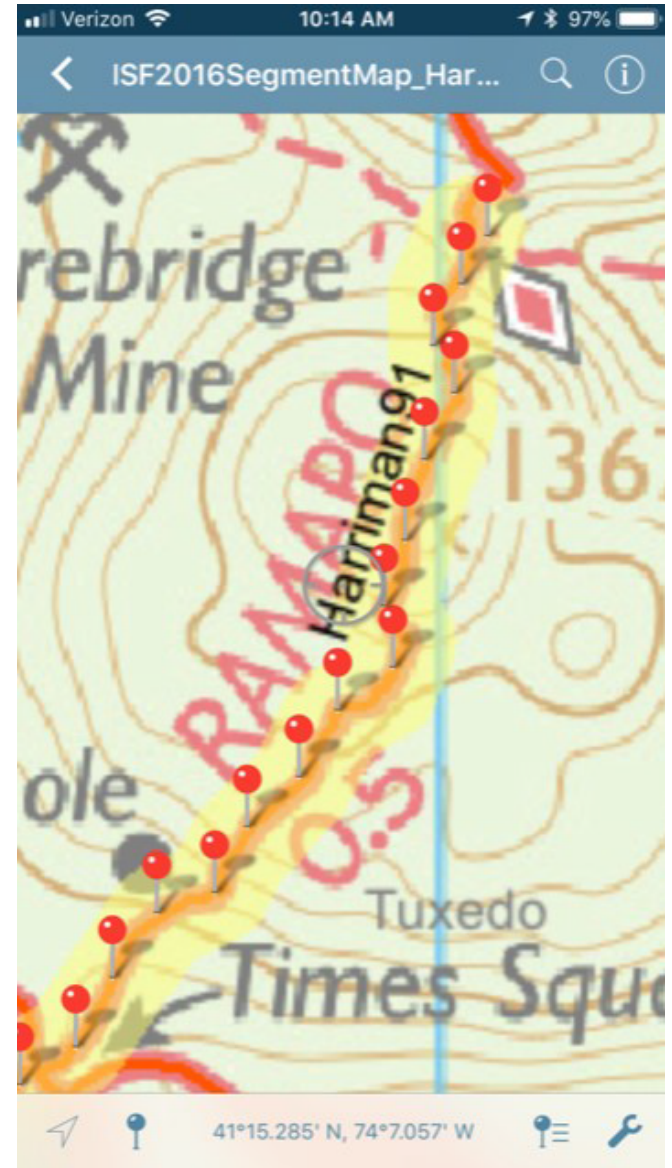
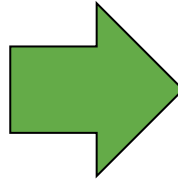
Look to follow the blue dot to make sure you are where you are supposed to be and moving in the right direction as you are walking!



STEP 5: Pinning Your Survey Points!



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Taking a GPS Waypoint

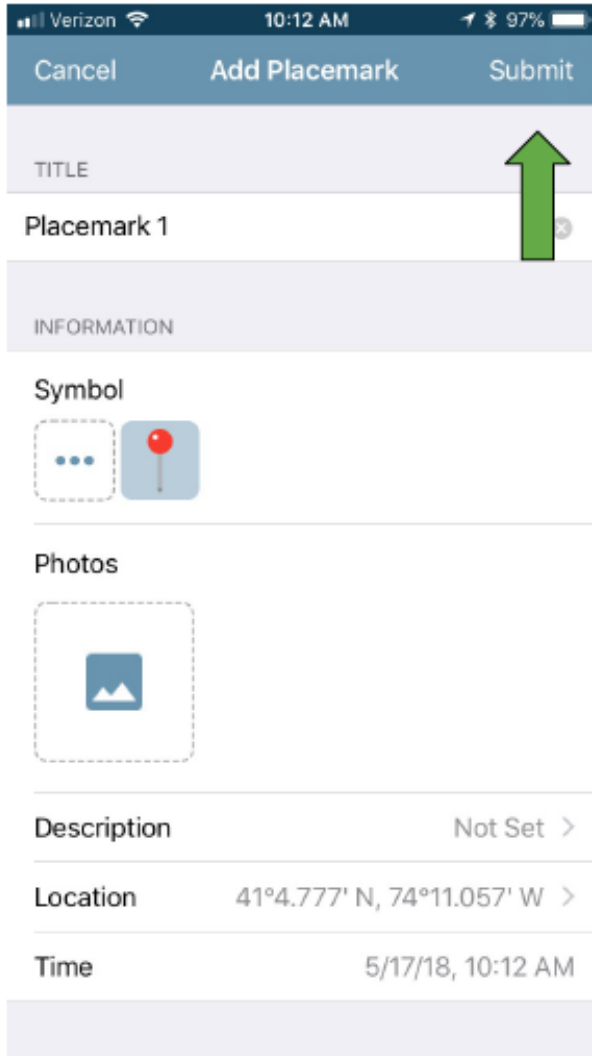


1. Touch Location triangle/target at bottom left (Apple) or top left (Android) to center your location
2. Touch Placemark pin at bottom left (Apple) or top left (Android)



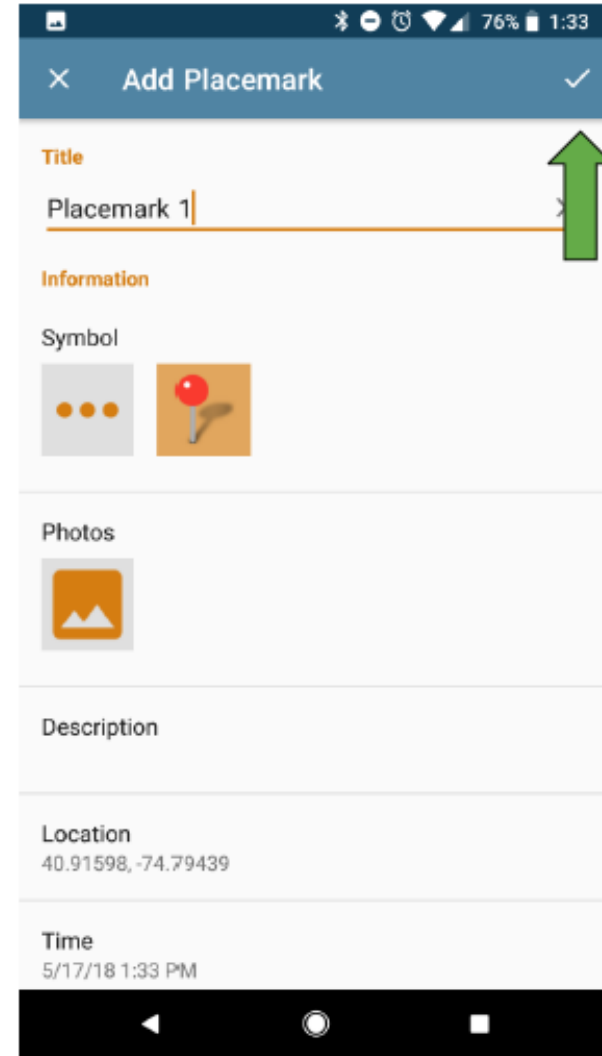


Taking a GPS Waypoint



Once you've put down a pin:

3. Touch "Submit" at top right (Apple) or the checkmark in the top right (Android)
4. You can delete points as well by clicking on them

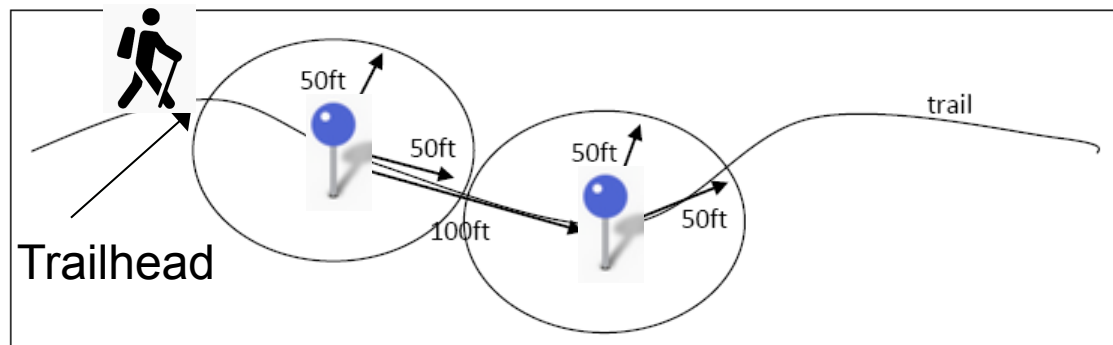




Remember the overview slide of the process...

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- Invasive species data is recorded at each “pin”, which is essentially the center of an imaginary “survey circle”
- To get to the center of your first circle, you’ll walk 50 ft. into the trail
- The goal is to record the invasive species you see within that 50 ft. radius circle
- Once you’ve recorded the species in the first circle, you then walk to the center of the next circle and survey there and so on!





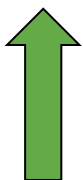
The GPS PT # and Species Code Columns

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In this column, you just put the # circle you're in (landmark)-
JUST WRITE 1, 2, 3, etc.



GPS PT #	SPECIES CODE	DISTANCE	ABUNDANCE	HABITAT	NOTES
1	ROMV	T	M	2	
1	CEOR7	T	S	2	
2	ROMV	T	S	1	
2	BETH	T	S	1	
3	BETH	T	S	1	
4	BETH	T	S	5	
5	BETH CEOR7	T	P	5	
5	CEOR7	D	F	2	
5	—	ID	M	3	Mugwort
5	—	ID	M	3	Mugwort
5	BETH	T	F	1	
5	—	T	M	3	Mugwort



- Here, you enter the code of the species you saw in your circle
- If no target species are here, **record a 0 in the Species Code** column next to GPS Point #.

STANDARD SPECIES CODES	
Norway maple <i>Acer platanoides</i>	ACPL
Tree-of-heaven <i>Ailanthus altissima</i>	AIAL
Autumn olive <i>Elaeagnus umbellata</i>	ELUM
Japanese angelica <i>Aralia elata</i>	AREL8
Japanese barberry <i>Berberis thunbergii</i>	BETH
Multiflora rose <i>Rosa multiflora</i>	ROMU
Wineberry <i>Rubus phoenicolasius</i>	RUPH
Burning bush <i>Euonymus alatus</i>	EUAL13
Mile-a-minute vine <i>Persicaria perfoliata</i>	POPE10
Oriental bittersweet <i>Celastrus orbiculatus</i>	CEOR7
Japanese honeysuckle <i>Lonicera japonica</i>	LOJA
Japanese knotweed <i>Reynoutria japonica</i>	REJA2
Garlic mustard <i>Alliaria petiolata</i>	ALPE4
Japanese stilt grass <i>Microstegium vimineum</i>	MIVI

The "Distance" Column



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GPS PT #	SPECIES CODE	DISTANCE	ABUNDANCE	HABITAT	NOTES
1	ROMV	T	M	2	
1	CEORT	T	S	2	
2	ROMV	T	S	1	
2	BETH	T	S	1	
3	BETH	T	S	1	
4	BETH	T	F	5	←
4	ROMV CEORT	T	P	5	
5	CEORT	D	F	2	
5	-	TD	M	3	Mushrooms
5	-	TD	M	3	Mushrooms
5	BETH	TD	F	1	
5	-	T	M	3	Mushroom

DISTANCE

T = Trailside 15 ft
 D = Distant (> 15 ft)
 TD = both



- Use the following codes to record the **distance away from the path you are walking (e.g. trail)** where that species occurs.
- **T** = Trail side - within 15 ft of the path
- **D** = Distant - between 15 and 50 ft from path
- **TD** = both trailside and distant



The "Abundance" Column

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GPS PT #	SPECIES CODE	DISTANCE	ABUNDANCE	HABITAT	NOTES
1	ROMV	T	M	2	
1	CEOR7	T	S	2	
2	ROMV	T	S	1	
2	BETH	T	S	1	
3	BETH	T	S	1	
4	BETH	T	F	5	
4	ROMV CEOR7	IT	P	5	
5	CEOR7	D	F	2	
5	-	ID	M	3	Mugworts
5	-	ID	M	3	Mugworts
5	BETH	T	F	1	
5	-	T	M	3	Mugwort



- The Abundance is an **estimate of how much of that species is at this location** *within your observation area*.
- One single estimate for that species regardless of if its trailside or distant, or to the left of the trail or right of the trail.



Abundance codes

- **F = few**
 - 1- 3 individual shrubs **OR**
 - a ~1x1 ft patch of the smaller herbs **OR**
 - **<5% of entire survey circle**
- **S = some**
 - 4-10 individuals
 - several **small scattered patches** of the smaller herbs
 - **<25% of entire survey circle**
- **M = many**
 - 11- 100 individuals
 - lots of patches
 - **Between 25 and 50% of patch area**
- **X = extensive**
 - more than 100 individuals
 - covers **more than half of the area**
 - It's everywhere!

ABUNDANCE

*F = Few (1-3); <5% coverage
S = Some (4-11); <25% coverage
M = Many (11-100); 25-50% cover.
X = Extensive (>100); > 50% cover..*



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Japanese barberry (BETH) abundance examples

Few



Some





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Japanese barberry (BETH) abundance examples

Many



Extensive





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Japanese stiltgrass (MIVI) abundance examples

Few





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Japanese stiltgrass (MIVI) abundance examples

Some



Extensive





Habitat column

GPS PT #	SPECIES CODE	DISTANCE	ABUNDANCE	HABITAT	HABITAT CODE
1	ROMV	T	M	2	
1	CEORT	T	S	2	1 = Forest
2	ROMV	T	S	1	2 = Scrub
2	BETH	T	S	1	3 = Meadow
3	BETH	T	FFS	1	4 = Water
4	BETH	T	FFS	5	5 = Edge
5	ROMV	cent T	P	5	6 = Planted (species)
6	CEORT	D	F	2	
7	—	ID	M	3	Mudwarts
8	—	ID	M	3	Mudwarts
9	BETH	T	F	1	
10	—	T	M	3	Mudwart

Choose only one per species at a data point.



- Record where most individuals of this species are found in your observation area



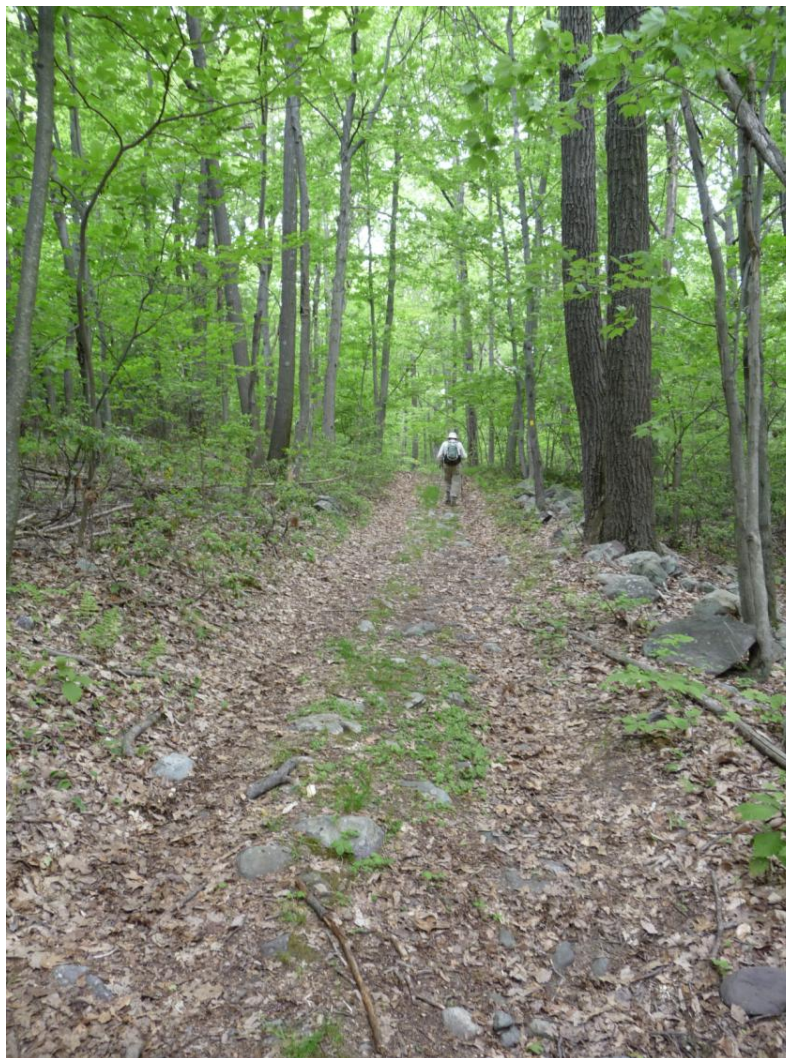
Habitat codes

- **1 = Forest** – mostly trees. Looking up, about 1/2 or more of the sky is obscured.
- **2 = Scrub** – this is an area that is mostly shrubs (woody plants) with possibly a few scattered trees.
- **3 = Meadow** – a field or meadow with mostly grasses and flowers, with possibly a few scattered shrubs or trees.
- **4 = Water** – in the water or very close to the water's edge (within 1-2ft)
- **5 = Edge** – this is the boundary between two of the above habitats.
- **6 = Planted** –rarely used. Only use when very clear that they were planted



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Examples of Habitat - Forest





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Examples of Habitat - Scrub





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Examples of Habitat - Scrub



<http://raccoonridgebirdobservatory.com>



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Examples of Habitat - Meadow





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Examples of Habitat - Edge

Meadow



Forest

<http://morequail.blogspot.com>



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Examples of Habitat - Planted



- Notice neat lines of trees

- Use the Notes field for
 - ID notes
 - Noting that you've taken a picture here
 - Anything else you feel the need to jot down!



When to Take Photographs



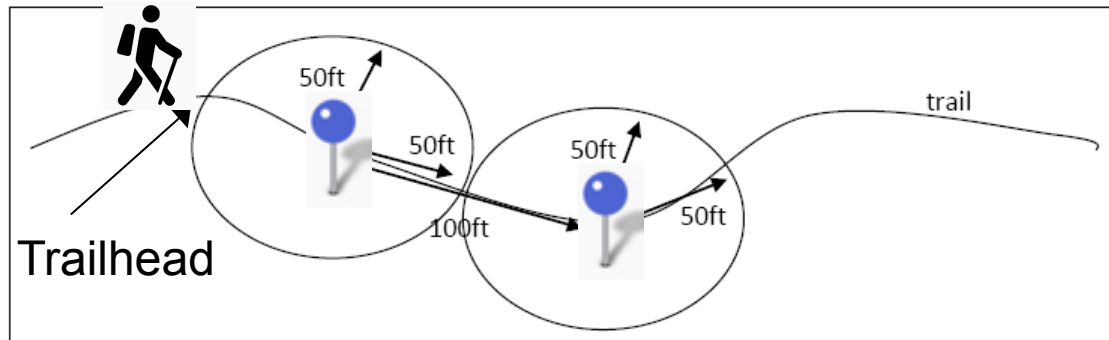
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- Take one photo of the first example of each Intermediate species you find and post to iNaturalist or send us pictures!
 - Include good views of the key id characteristic(s)
- Take a photo of any plant you are having trouble identifying that you think might be invasive
 - Email to invasives@nynjtc.org



Continuing to the next point

- After you have finished all observations at your first point
 - Continue 50 ft to the edge of your imaginary circle then start scanning for invasives again.
 - Stop after you have gone 50 ft more to take your next point. (100 ft from last obs.)





A quick note on survey points

- These 50 ft and 100 ft distances are *estimates*. **They don't have to be exact!**
- After two consecutive points of either
 - **highly invaded** (where you are recording multiple species of Many or Extensive abundances) or
 - **not invaded** at all and are recording **0** species
- ...increase your distance between observations to 200 ft. When conditions change - go back to 100 ft.

Let's see Brent in Action!





Some final notes...

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- Beware ticks; wear long pants and long sleeves and do a tick check
- Beware of moving vehicles in parking lots
- Watch your footing on steep or rocky terrain
- Be aware of private property
- Keep away from poison ivy!



Brett Marshall, Sault College, Bugwood.org





Packing Right

- Ensure you have everything you need to take
 - Multiple copies of Data sheets
 - Clipboard
 - Pencils
 - GPS unit with extra batteries, or fully charged phone
 - Trail map
 - Camera, binoculars (& maybe knife or clippers)
 - Plant ID guides, and Data Collection protocols
 - Plus your usual hiking gear such as water, snack, sunscreen / bug repellent.
 - Follow social distance rules; have mask



Ending your survey

- When you stop recording data (either you have finished your trail or ended for the day),
- Note the time and record your hours.

2019 NY-NJ Trail Conference Invasive Species Monitoring Data Sheet
STANDARD Species Survey

DATE: 7/7 TRAIL SEGMENT NAME: Pyramid 4 VOLUNTEERS: JOE P.
START TIME: 10:00 END TIME: 12:00 TOTAL SURVEY TIME: 2



Returning Your Data

- Once you have fully completed your trail section, please send us an email to let us know
- **We will then send you instructions on how to return your GPS coordinates as well as your data sheets**
- I don't want to overwhelm you with too much information on returning data just yet!



Eventually...type in your data on-line

Example_sheet_2019

File Edit View Insert Format Data Tools Add-ons Help Last edit was made 7 hours ago by Thomas Hobbick



Excel ribbon: Font (Calibri, size 11), Bold, Italic, Underline, Paragraph, Styles, Tables, Lists, Sort, Filter, AutoSum, Help

	A	B	C	D	E	F	G	H	I	J
1	NY-NJ Trail Conference Invasives Strike Force									
2	SURVEY NUMBER:			DATES COLLECTED:						
3	TRAIL SEGMENT/BLOCK:			TYPE OF SURVEY:						
4	VOLUNTEER 1 HOURS:			VOLUNTEER 1 NAME:						
5	VOLUNTEER 2 HOURS:			VOLUNTEER 2 NAME:						
6	VOLUNTEER 3 HOURS:			VOLUNTEER 3 NAME:						
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13	3	HUJA Japanese hops	T Trailside	X Extensive	3 Meadow					
14	4	0 NONE								
15	5	0 NONE								
16	6	REJA2 Japanese knotweed	TD Both	X Extensive	4 Water					
17										
18										
19										
20										
21										
22										
23										
24										
25										



IMPORTANT NOTE ABOUT AVENZA

- Make sure to send in your points as soon as you are done surveying
- If you lose or upgrade your phone, the points will be lost.
- If you delete the trail segment map from Avenza, the points will be lost.
- So send in your points right away!



Next Steps

- You've completed data collection on your assigned trail.
- You've typed up and submitted the data and your GPS points.

Now...

- You can ask for another trail segment or join a trail crew removal day!



FAQ

- **Q: When do I need to complete my survey?**
 - A: As soon as possible. Do it while the species are fresh in your mind and by the end of September to make sure the species are still recognizable.
- **Q: When should I submit my data?**
 - When your survey is completed! The sooner we have your data the better able we are to process it
- **Q: What happens to my data if I don't finish the survey?**
 - A: Even incomplete surveys give us valuable data. Please submit all surveys by the end of September.



Questions.....email us!—invasives@nynjtc.org

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Trail Conference's Recovery & Response Fund: www.nynjtc.org