

Using ESRI ArcGIS Collector Applications for Resource Inventories

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MWA Conference

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Overview

- What is a resource inventory?
- What is ArcGIS Collector?
- Drain inspection app
- Soil erosion app
- Wetland inspection app
- Reporting capabilities

What is a Resource Inventory?

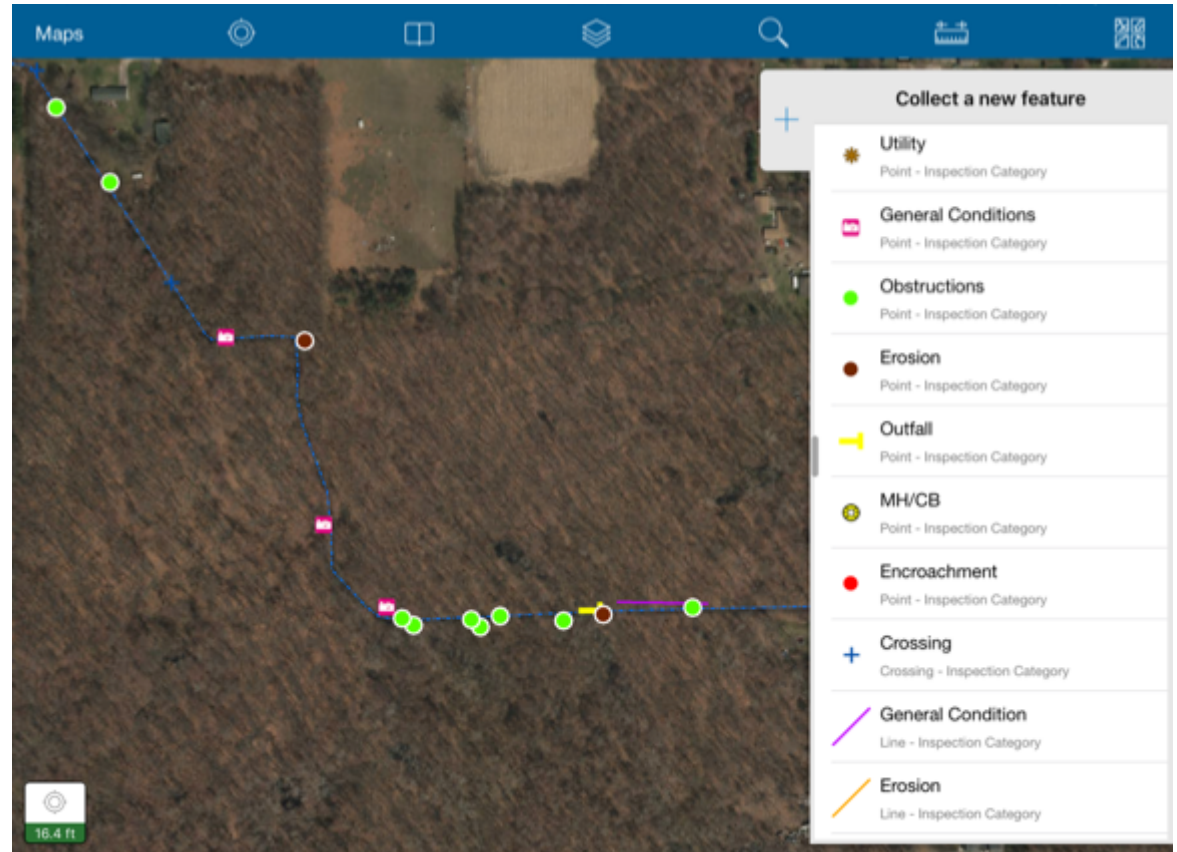
- Resources
- Spatial location
- Photos
- Measurements
- Documentation of condition
- Data storage
- Reporting

What is ArcGIS Collector?

- ESRI product
- Resource inventory tool
- Driven by spatial data
- Can create lines, polygons, or points
- One item contains all information
 - Capable of collecting photos and notes
 - Location, time, and date stamps all items

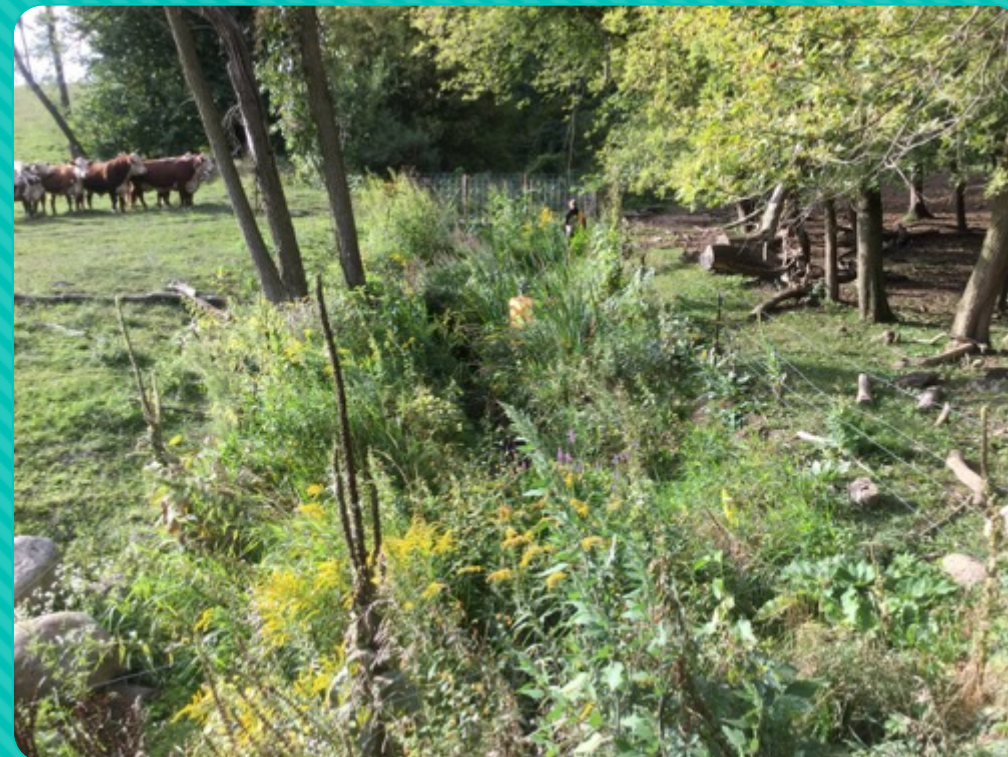
Drain Inspection

- Collect information along drain
- Categorize observations
- Condition rating
- Drop down options
- Add notes to each photo





Erosion



Encroachments



Obstructions

Photo Report

- Displays all collected data
- All photos with notes
- Single page per point
- Organized by geographic location

Name:	Sandstone Creek Dr
Number of Barrels:	3
Type:	Culvert
Material:	Metal
Span:	72
Rise:	72
Sediment Depth:	0
Entrance:	Bag_RR_Headwall
Condition:	Poor
Crossing Surface:	Bituminous
Notes:	1 - 72" RCP (75% blocked, separated joint), 2 - 72" CMP (50% blocked, rusted bottom, deformed)



Direction: Looking Upstream



Direction: Looking Downstream



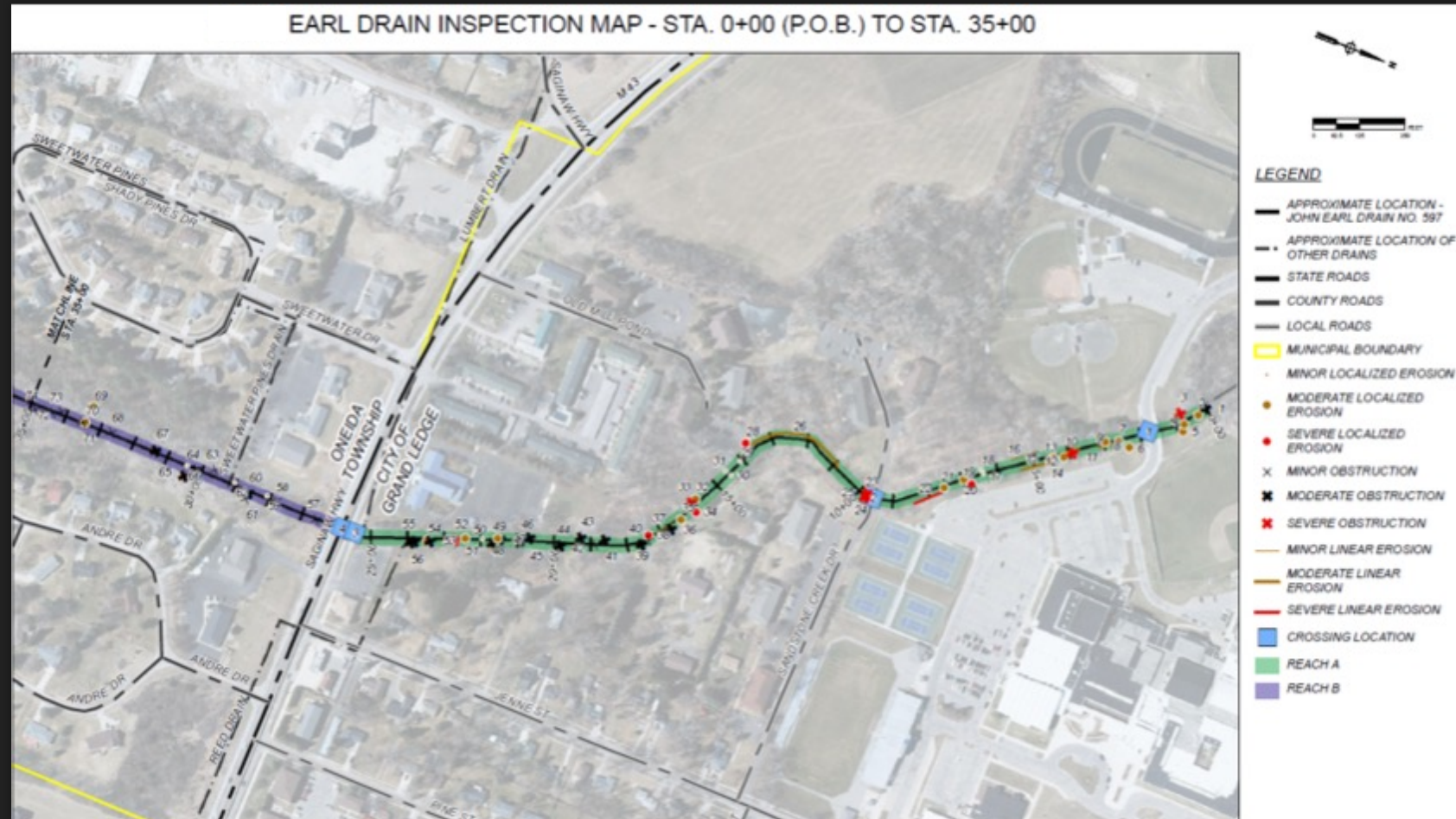
Direction: Upstream Face



Direction: Downstream Face

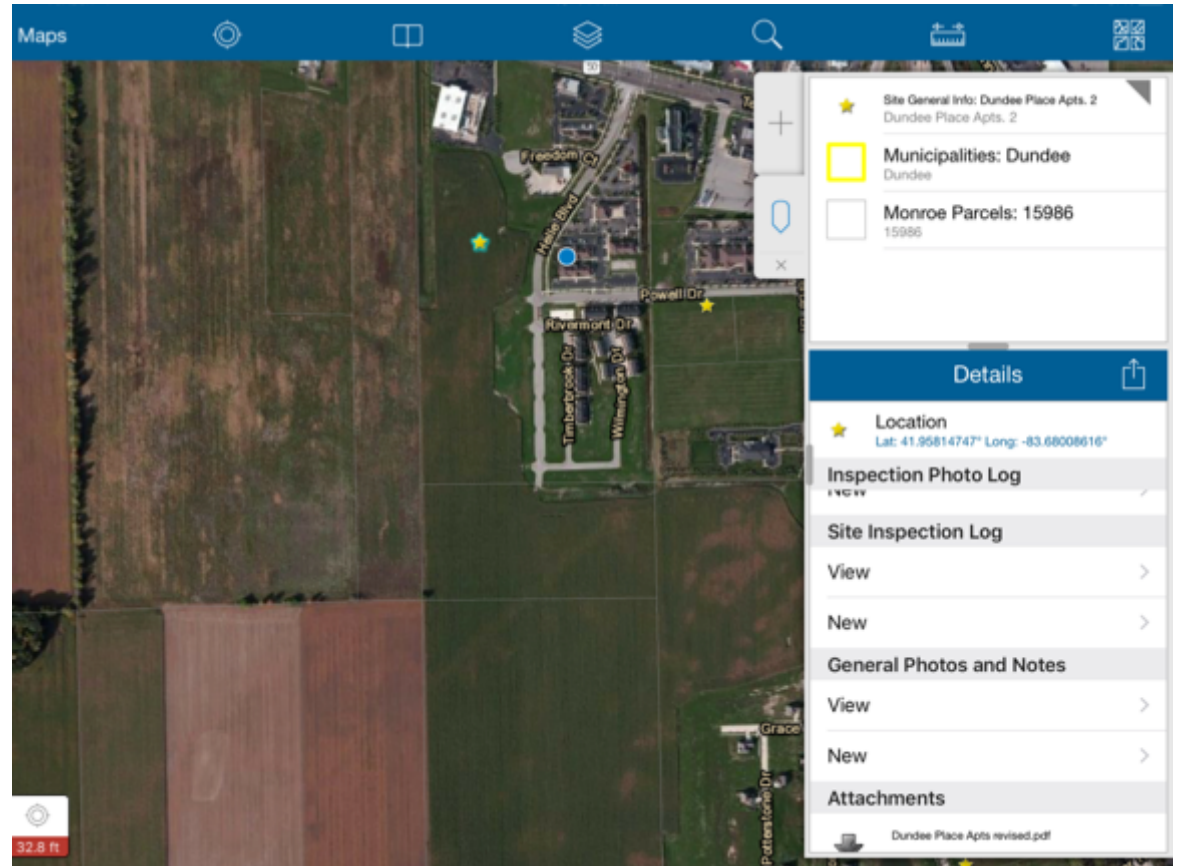
Map Output

- Inspection points along drain centerline
- Displays different levels of severity
- Design
- Public outreach



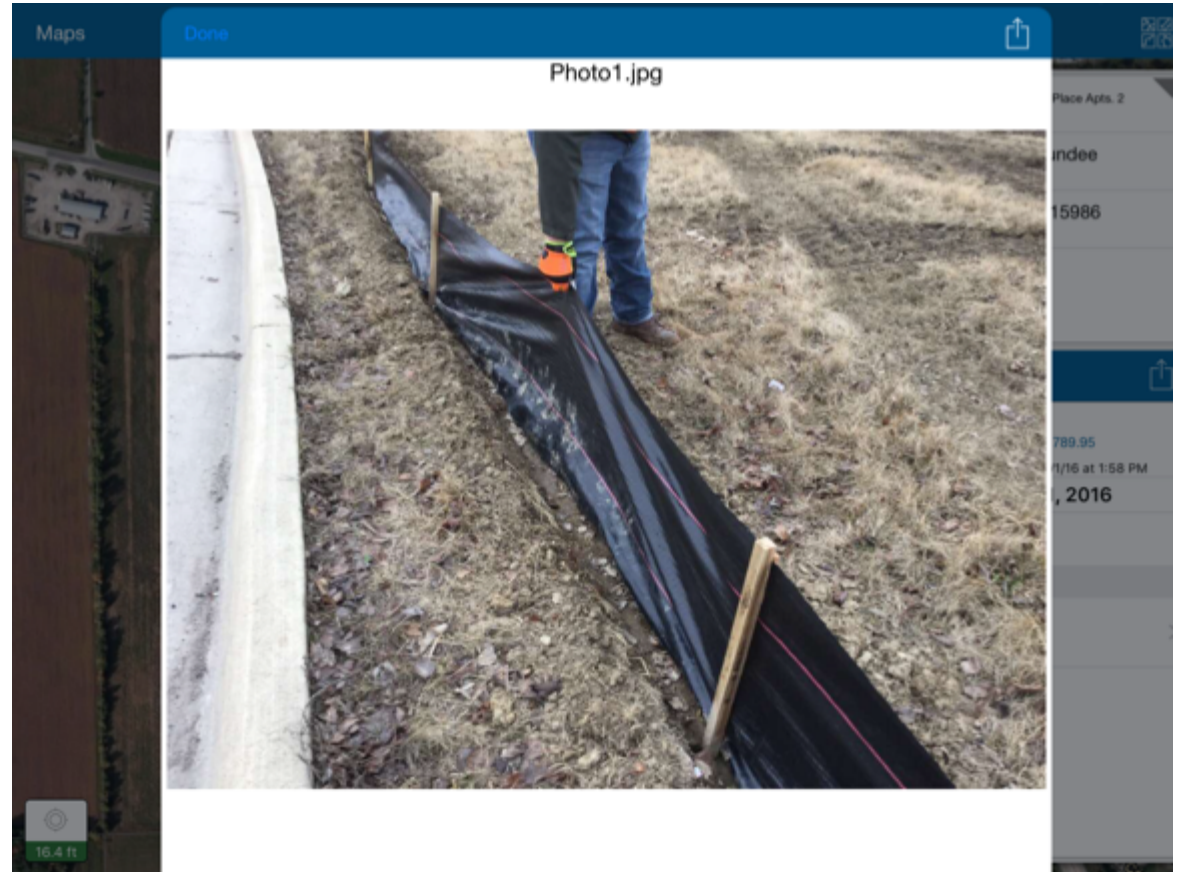
Soil Erosion (Part 91)

- Site inspection log
- Photo log
- Notes
- Attach SESC plans
- Multiple inspections in single point
- All data in one place



SESC Example

- Document corrections
- Capture photos and add notes
 - Attach to SESC report



Soil Erosion Inspection Report

- Single document
- Meets DEQ requirements
- Includes inspection report and photos
- Easily exported

MCDC SESC INSPECTION REPORT			
Date of Inspection:	07/20/2017	Site Type:	Commercial
Permit Number:	4006	Temperature (°F):	79
Inspection Type:	Routine	Weather Condition:	Cloudy Overcast
Project Name:	Dundee Place Apts. 2		
Address:	Helle Blvd.		
Municipality:	Village of Dundee		
Contact E-mail:	jard@salenbiereexcavating.com		
Anyone Attend:	Subs on site		
General			
Is the permit posted on site?	Not that I could see. Where did you post it?		
Are approved plans available on site?	No.		
Are the earth change activities confined to the area(s) specified on the plans?	Yes, they are within the silt fence perimeter as indicated on the plan set.		
Is sediment properly contained on the project site?	Yes, it is.		
If not properly contained, where is the issue? (check all that apply)	<input type="checkbox"/> Skip to the next question, everything is properly contained on the site. <input type="checkbox"/> The silt fence is falling down/in need of repair and is not functioning properly. <input checked="" type="checkbox"/> The catch basins are not protected adequately with Dandy Bags or equivalent measures. <input checked="" type="checkbox"/> The catch basins are protected with Dandy Bags, but they need to be cleaned and reinstalled. <input type="checkbox"/> The gravel drive is not in place per the plan set. Tracking is noted. <input type="checkbox"/> The street is in need of sweeping as tracking has been noted. <input type="checkbox"/> Other (specified in comments section).		
SESC Control Measures			
Is the silt fence installed per the plan set?	Yes it is installed per the plan set and in good shape.		
Is the storm inlet (storm sewers) protection installed per the plan set?	Yes, there is storm inlet protection in place. However, it needs to be cleaned out and reinstalled so it functions properly.		
Is the gravel construction entrance installed per the plan set?	An existing, paved entrance is being used.		
Is the rip rap installed per the plan set?	N/A		
Are the rock check dams installed per the plan set?	N/A		
Is street sweeping being done daily or as needed per the plan set?	N/A		
Are dust control measures needed?	N/A		
Is the detention / sedimentation pond(s) properly installed per the plan set?	N/A		
If the SESC controls are not properly maintained, what needs to be done to bring them back into compliance?			
Are the SESC controls adequate for this site?	No, refer to the plan set for adequate measures / controls.		
Site Restoration			
Temporary Seeding/Mulching?	N/A		
Permanent Seeding/Mulching?	Yet to come		
DET / SED Pond Stabilization?	N/A		
Other?	Site restoration is yet to come		
Inspector's Section			
Give any comments, recommendations, or corrections?	The Dandy Bags desperately need to be cleaned and reinstalled. The whole site is messy and flooded. Sweeping the site roads would help. The dirt is staying on site and off of the public roads. Please clean and reinstall the Dandy Bags to help the water drain and keep the sediment out of the storm sewers. Your permit is expiring and will need to be renewed. Renewal letter is in the mail.		
Action Taken			
If corrections are to be made, by what date must they be made?	7/31 clean and reinstall dandy bags, 8/7 renew per		
Have any violations been noted in this inspection report?	See above comments		
Send this report to:	The owner and the contractor		
Inspected by:	Jenna Morse		



CURRENT CONDITIONS

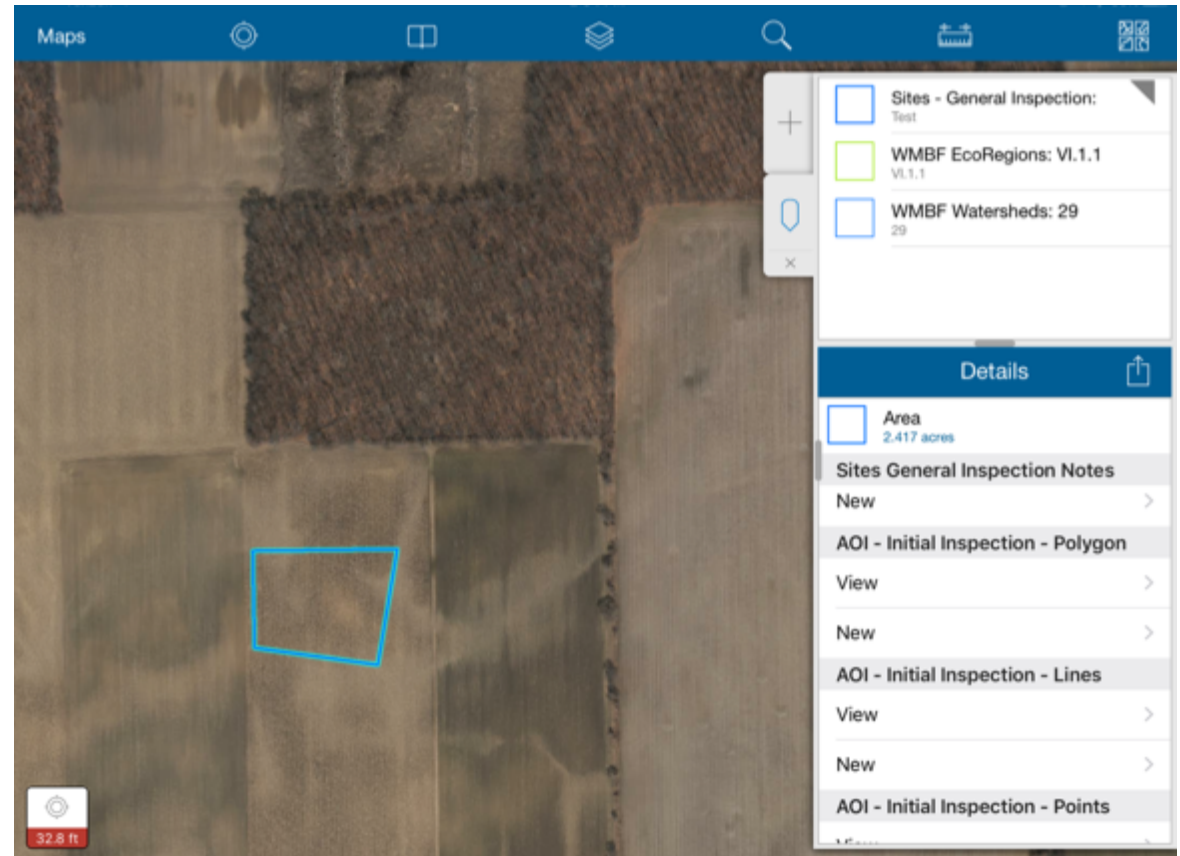
INSPECTION DATE: 07/20/2017

Putting It All Together

- Michigan Municipal Wetland Alliance (MMWA) & DNR
- Swampbusters MMWA app
 - Developed for reporting
 - Meets DEQ requirements for reporting
 - Easy long-term monitoring wetland mitigation banks

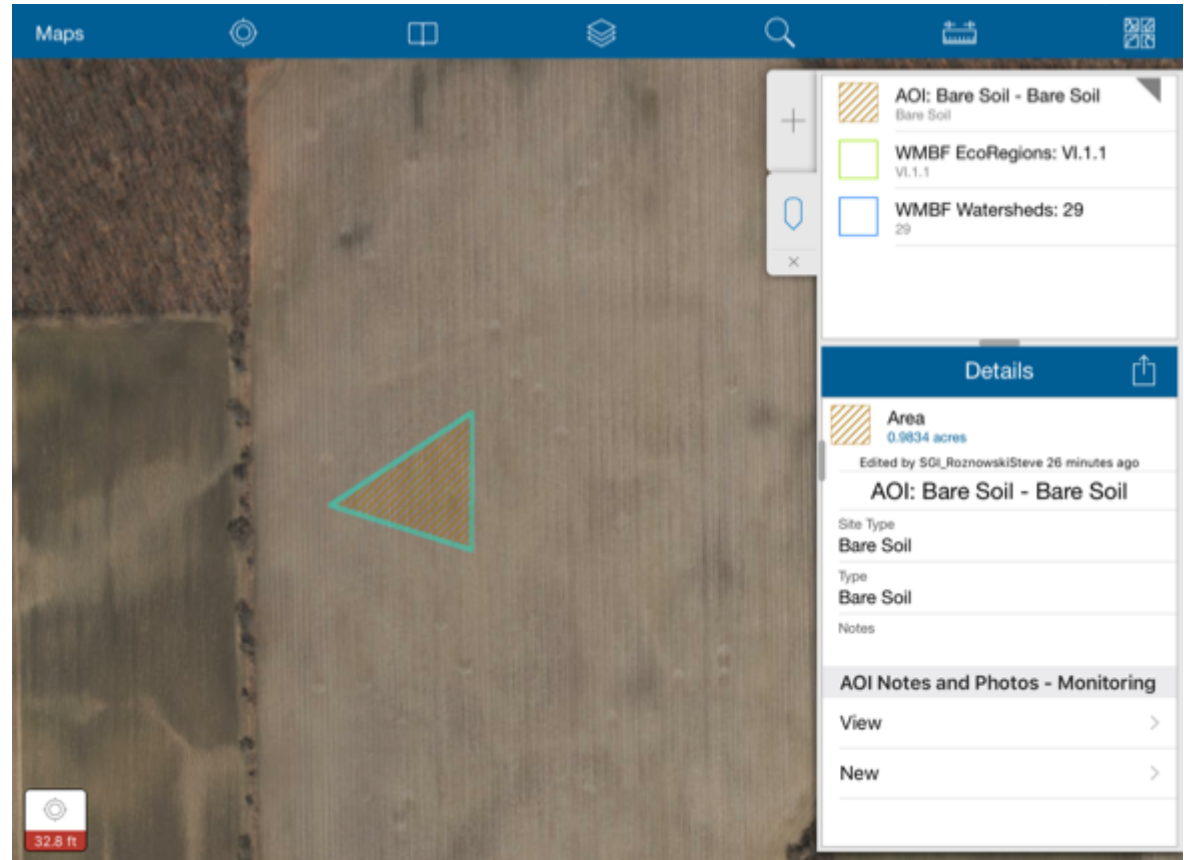
Wetland Inspection

- General Inspection
 - Areas of interest
 - General notes
- Wetland Monitoring
 - Water levels
 - Soil borings
 - Create areas of interest
 - Transects
 - Quadrats
 - Wildlife
 - Plant meander



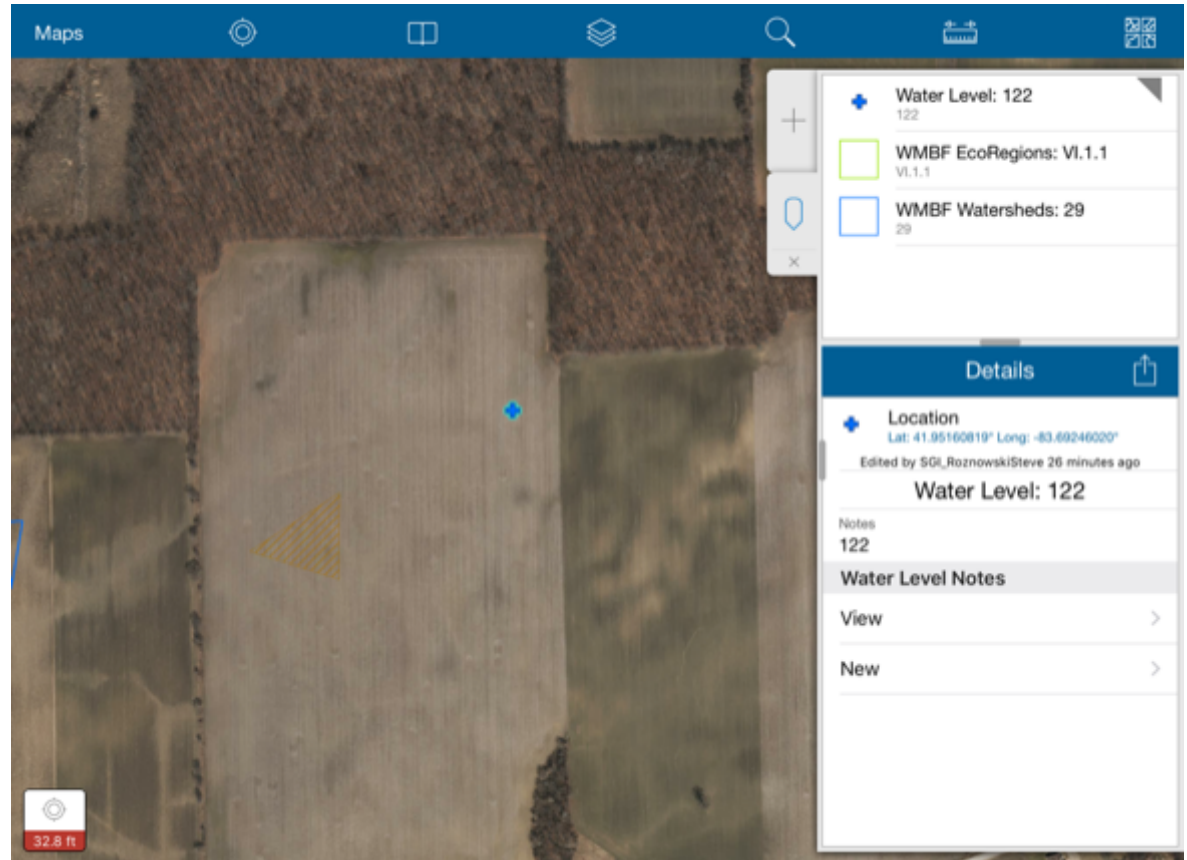
Areas of Interest

- Multiple input options
 - Polygon
 - Line
 - Point
- Multiple categories
 - Wetland
 - Invasive
 - Other



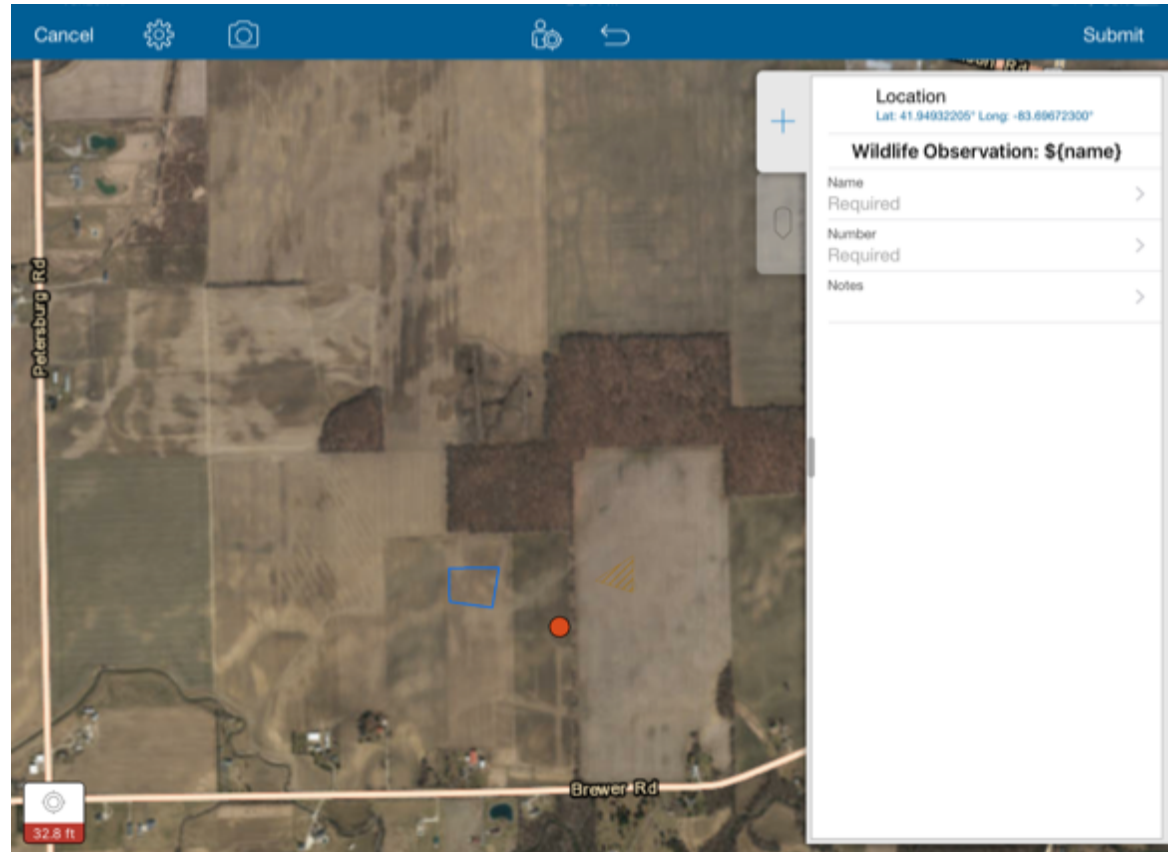
Water Levels

- Record water levels
- Take photos
- Add notes to photo



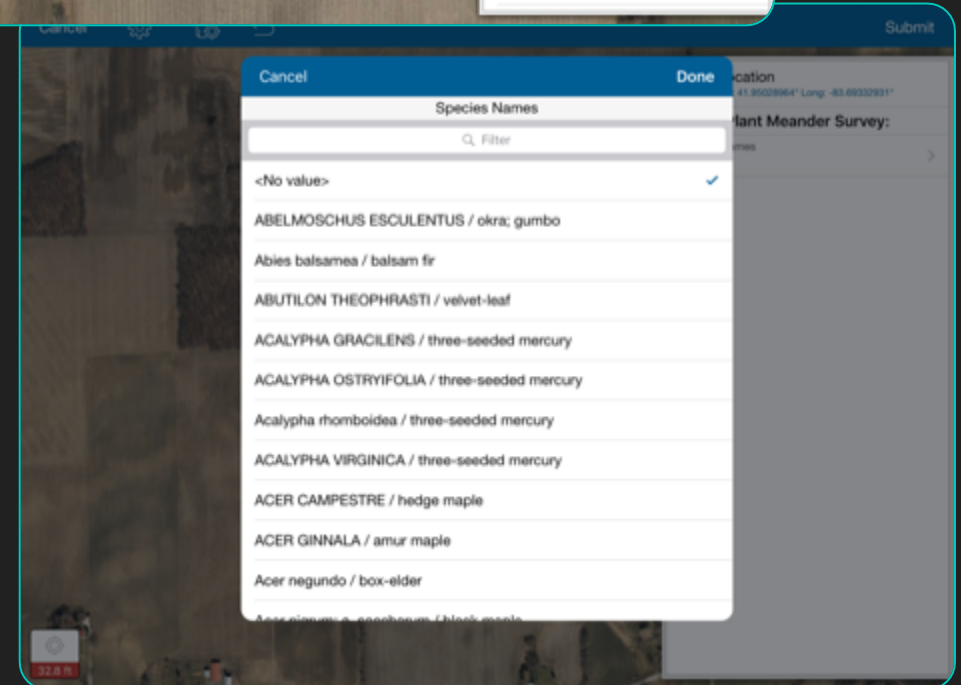
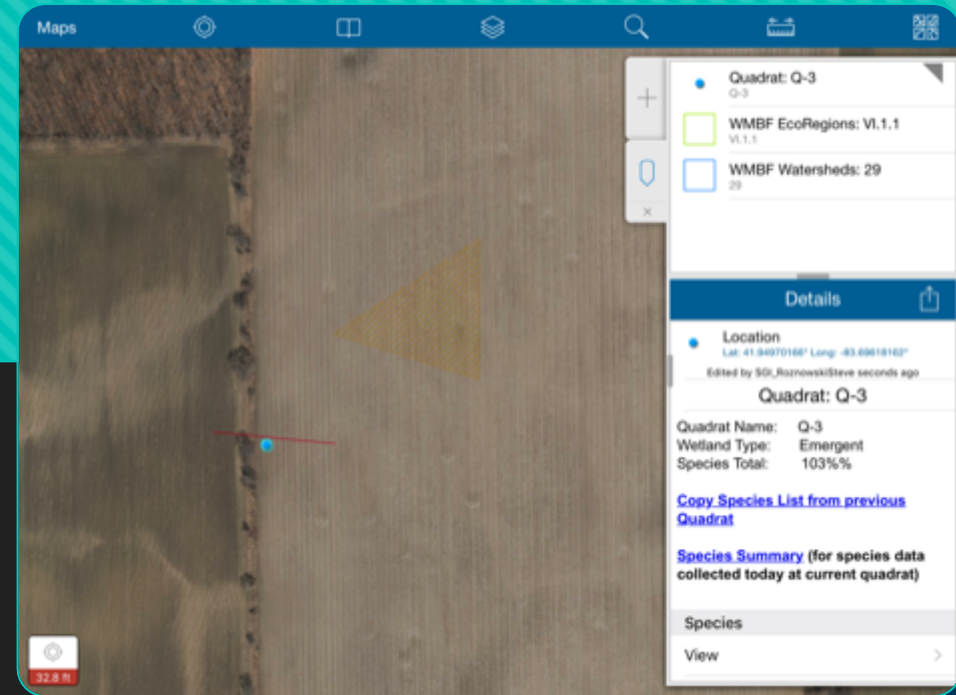
Wildlife

- Name and number of species
- Geolocation for each photo



Transects & Quadrats

- Geolocated
- Species list
 - Search function
- Species percentage
 - Percentage calculator
- Contaminants
- Corrective measures
- General notes



Quadrat

- Easy documentation of photographs
- Notes with each photograph
- Date and time stamped



Overall

- Benefits
 - Spatial information
 - Paperless on site
 - Variety of options for collection of information
- Reporting and Data
 - Different reports possible to highlight specific information
 - Long-term data storage

Takeaways

- Think about how your information will be used BEFORE going in the field
- Tools are available
 - Slightly more field time
 - Substantially less office time
- Consider
 - Long-term data storage
 - Ease of data access
- Find a solution that works for your situation

Questions

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