Using ESRI ArcGIS Collector Applications for Resource Inventories

Steve Roznowski, P.E.

MWA Conference

September 28, 2017

Spicer group

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
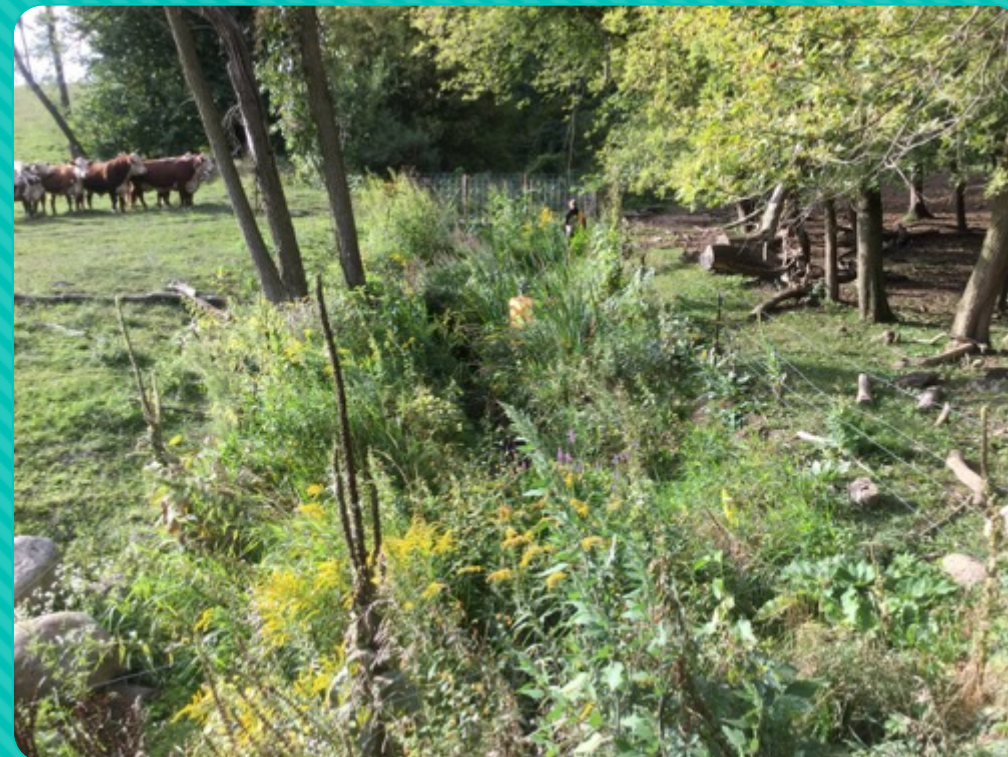 - Location, time, and date stamps all items

Drain Inspection

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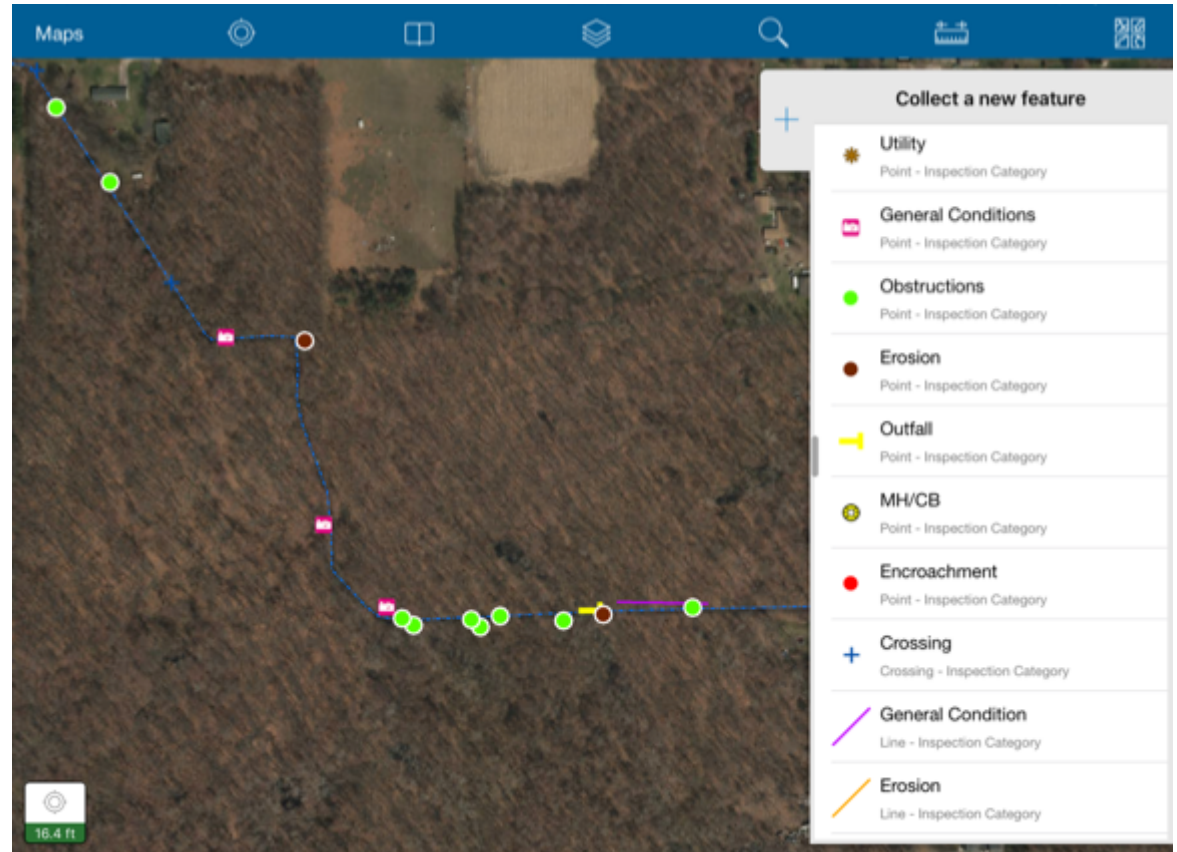
Erosion

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

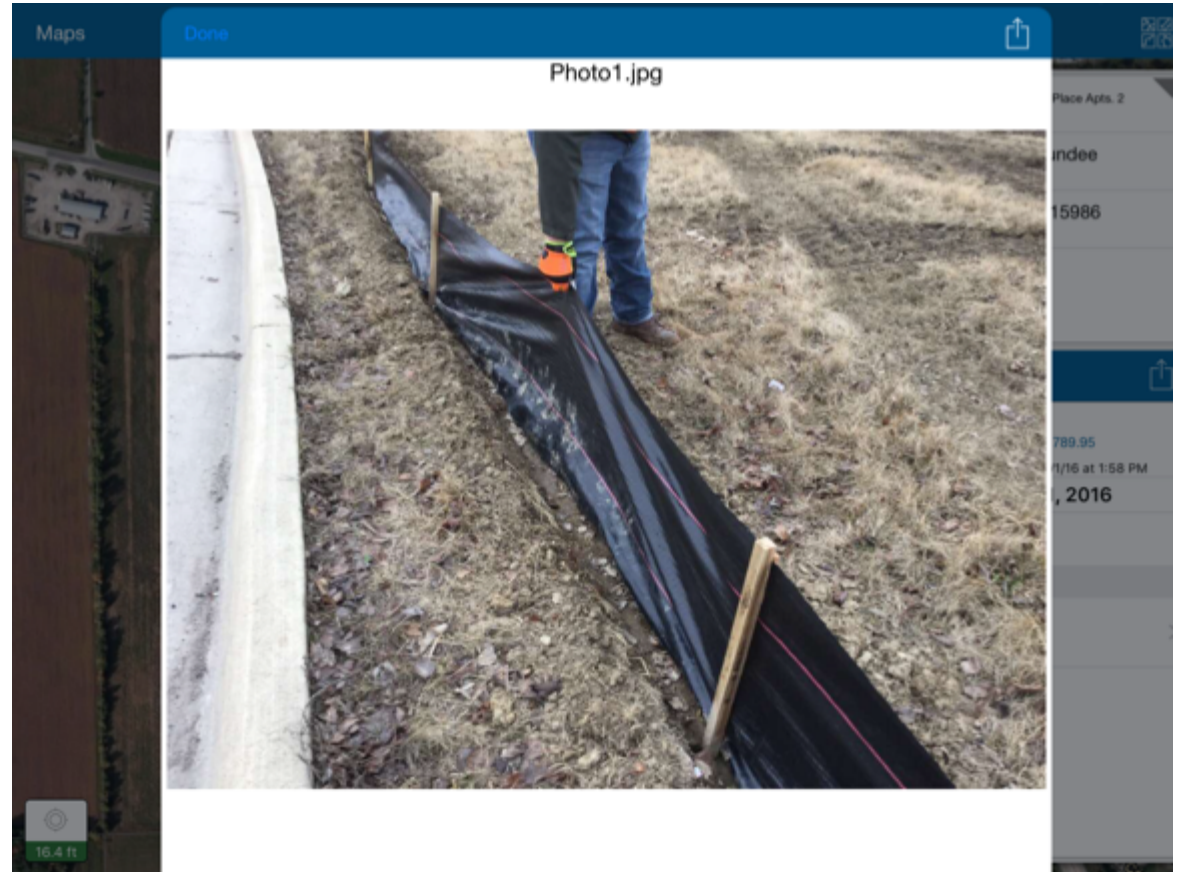- Displays different levels of severity

- Design

- Public outreach
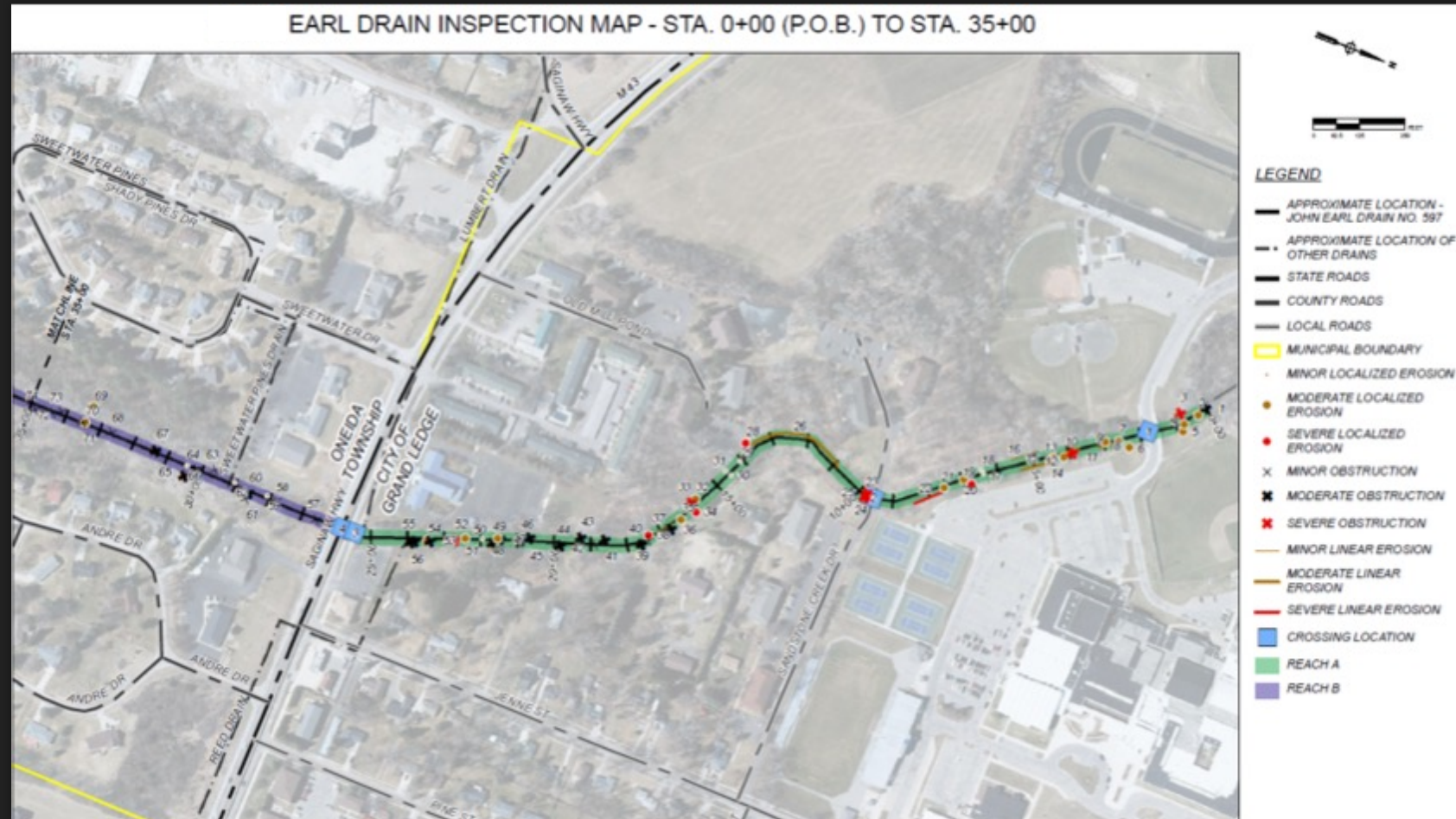
Soil Erosion (Part 91)

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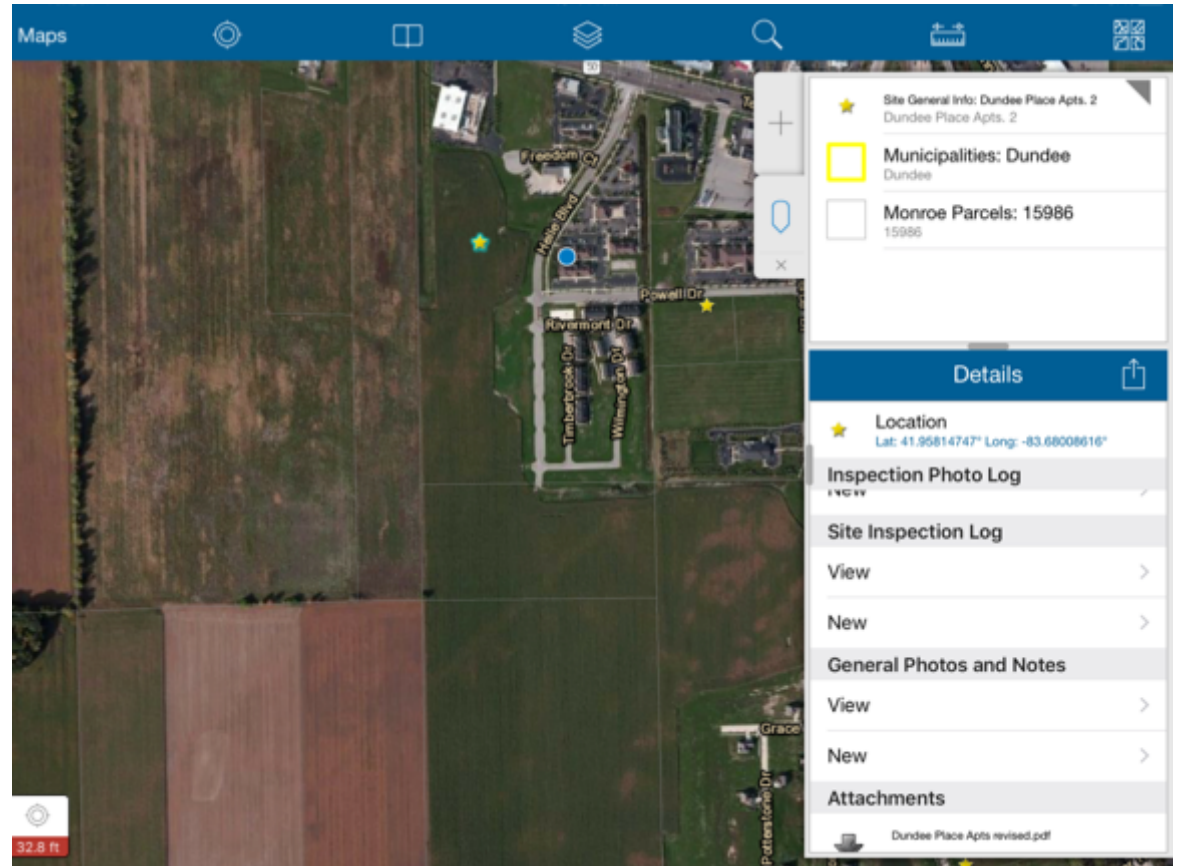
SESC Example

- 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

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
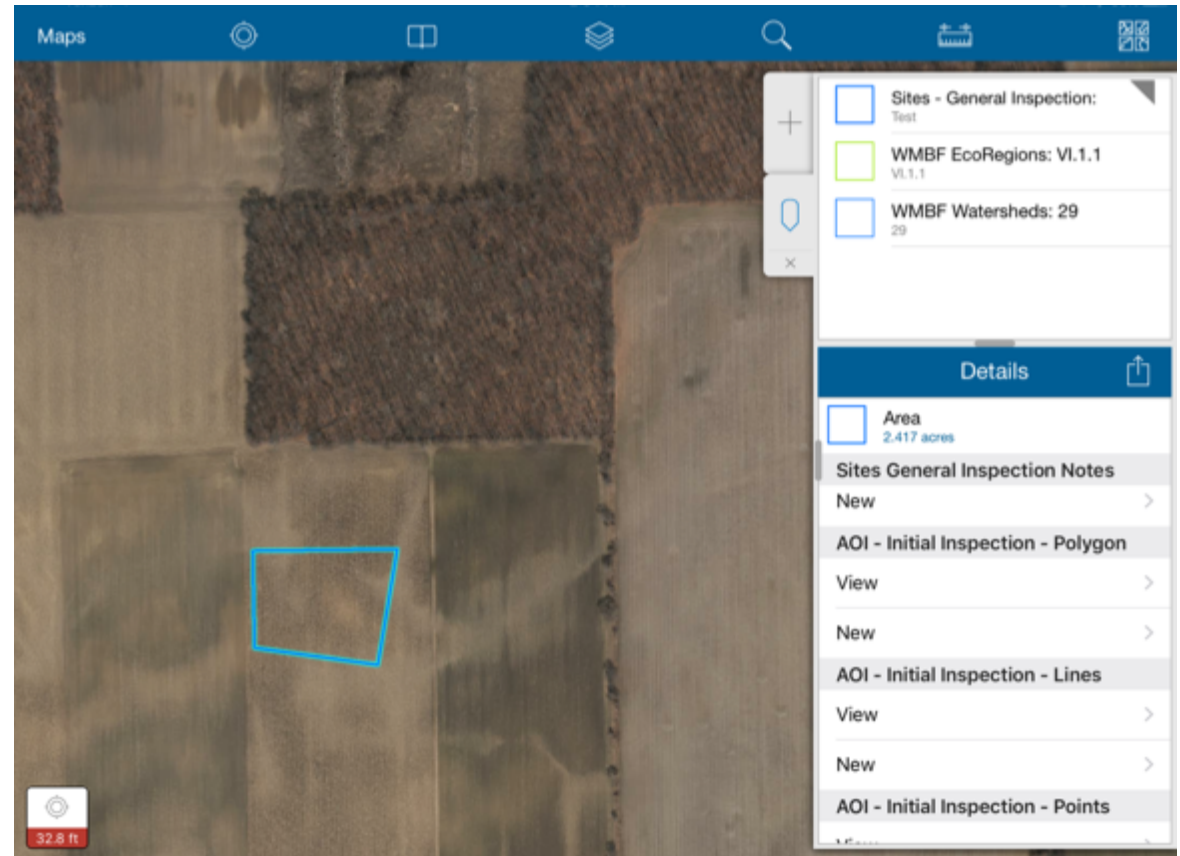
Areas of Interest

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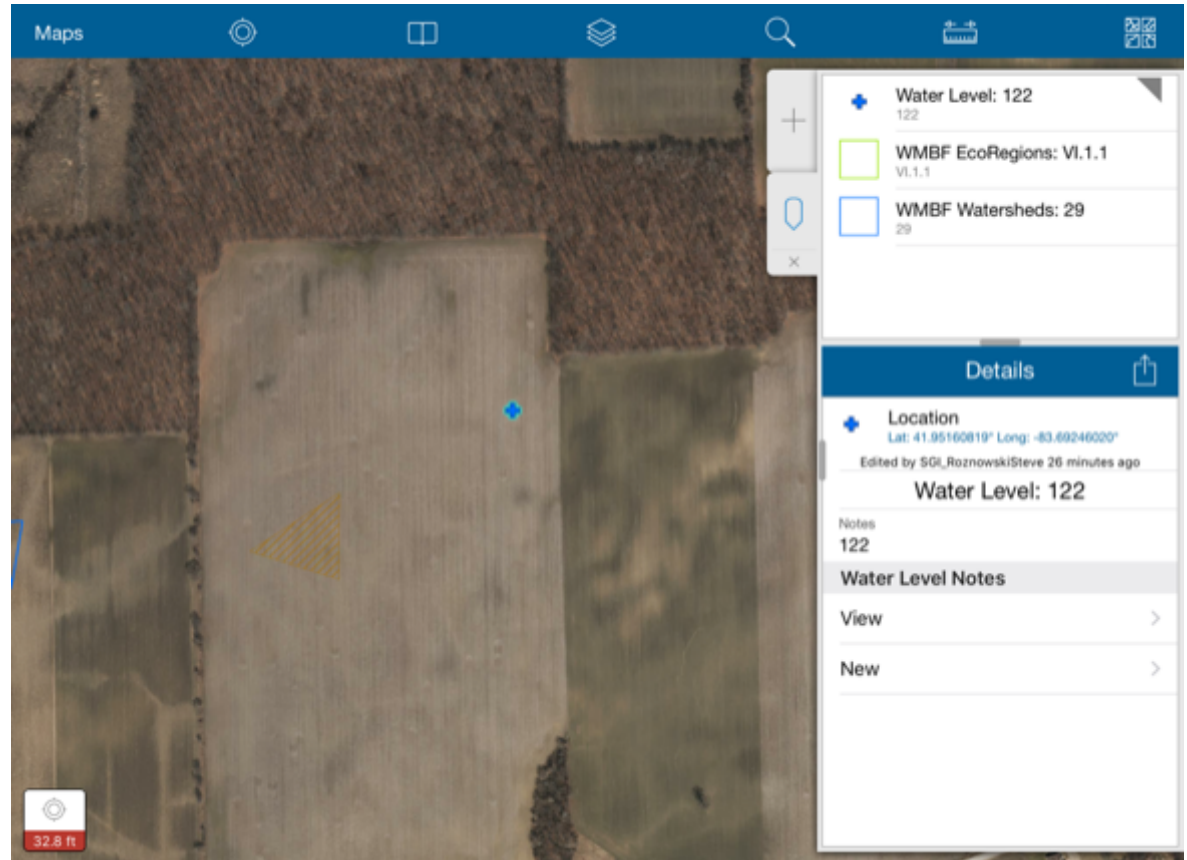   - Point
- Multiple categories
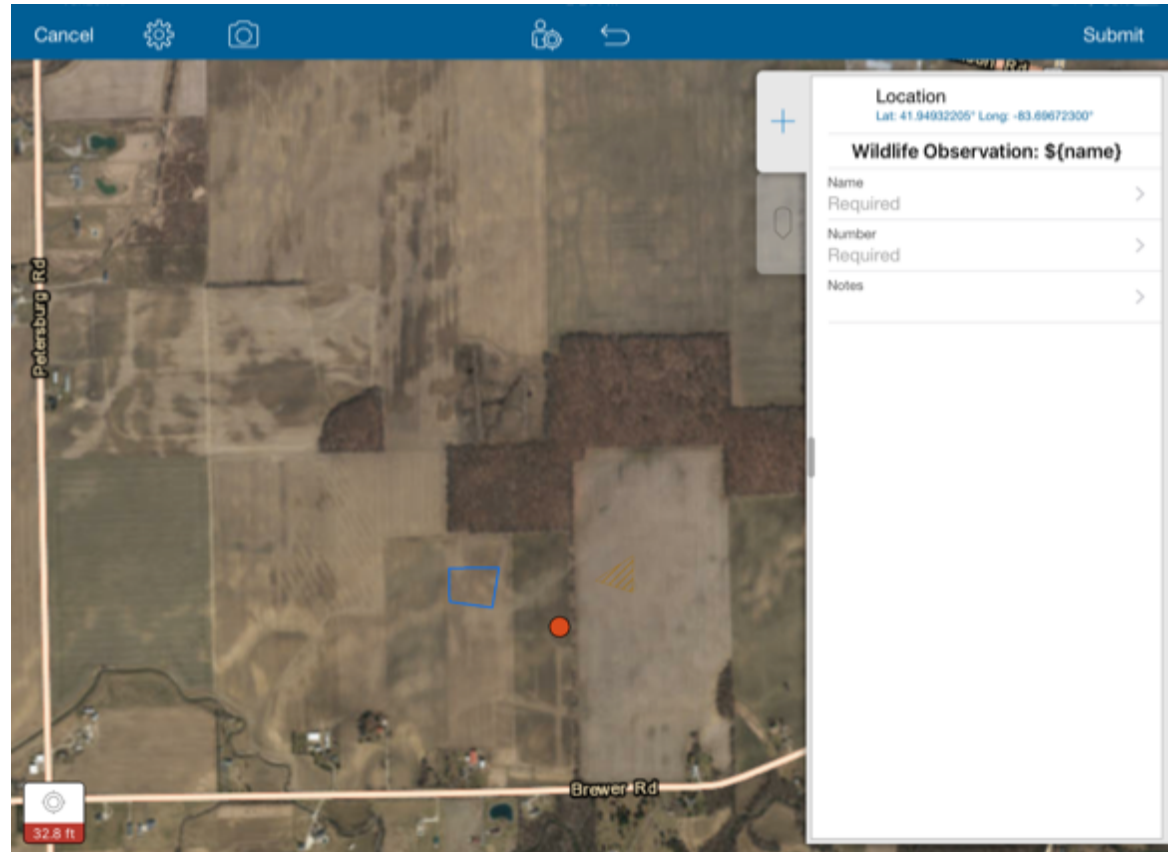   - Wetland
    - Invasive
    - Other
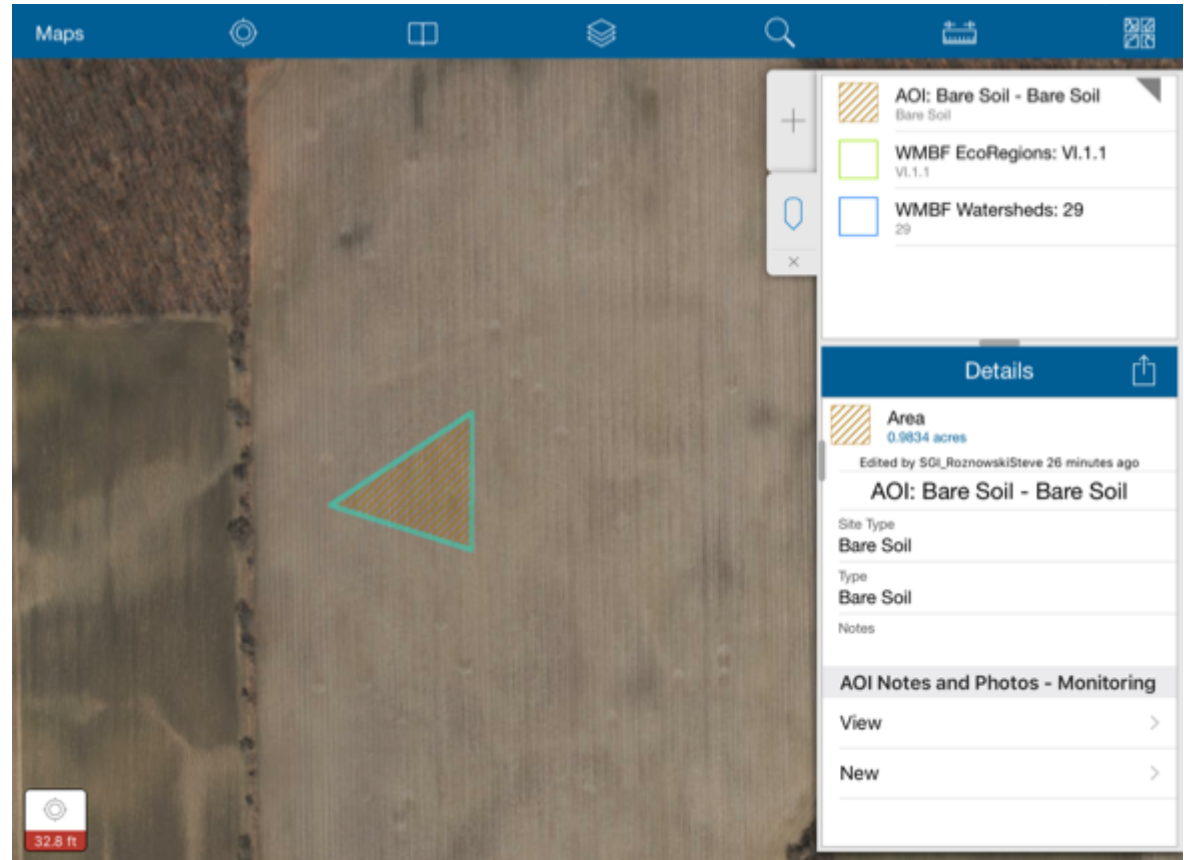
Water Levels

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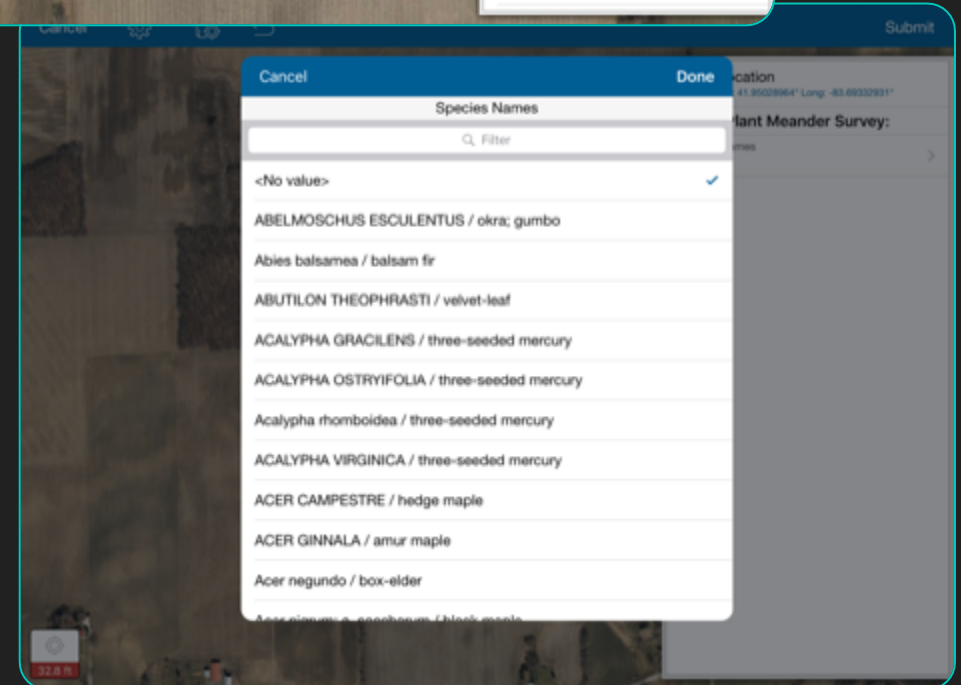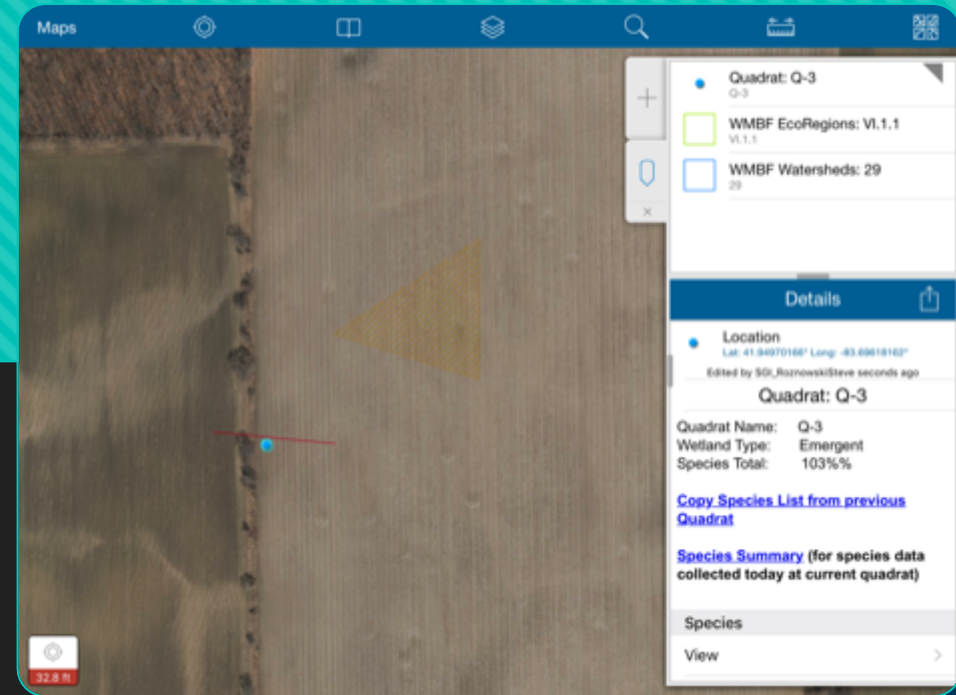- Add notes to photo

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

Steve Roznowski, P.E.

MWA Conference

September 28, 2017

Spicer group