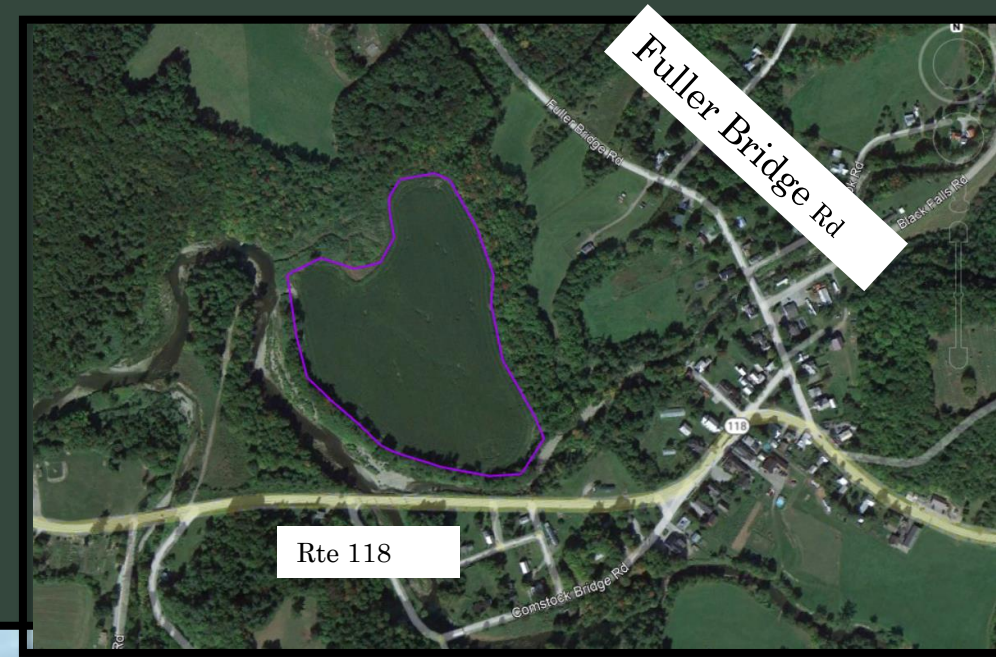


# Town Land~ Jewett Property

Floodplain & Wetland



# Initial Assessment April 2022

- Mapped Flood Hazard
- Ground Water Source Protection Area
- Wetland Delineation
- Historical Imagery: 1941, 1964, 1985, 2006, 2008, 2009, 2011 used to look at past land use and field hydrology
- Soil Erosion and estimated quantity of loss



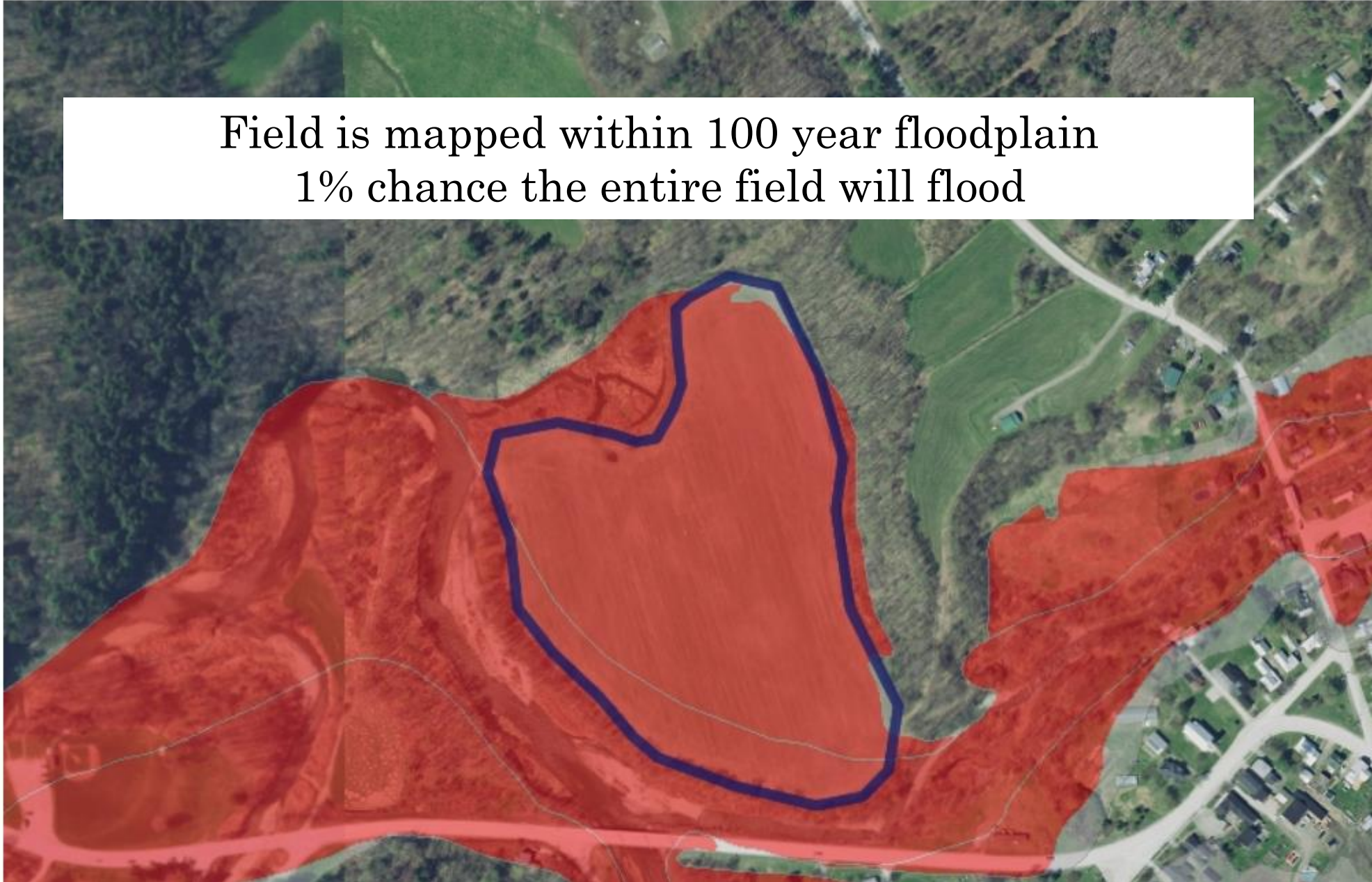
Field is mapped within 100 year floodplain  
1% chance the entire field will flood



### LEGEND

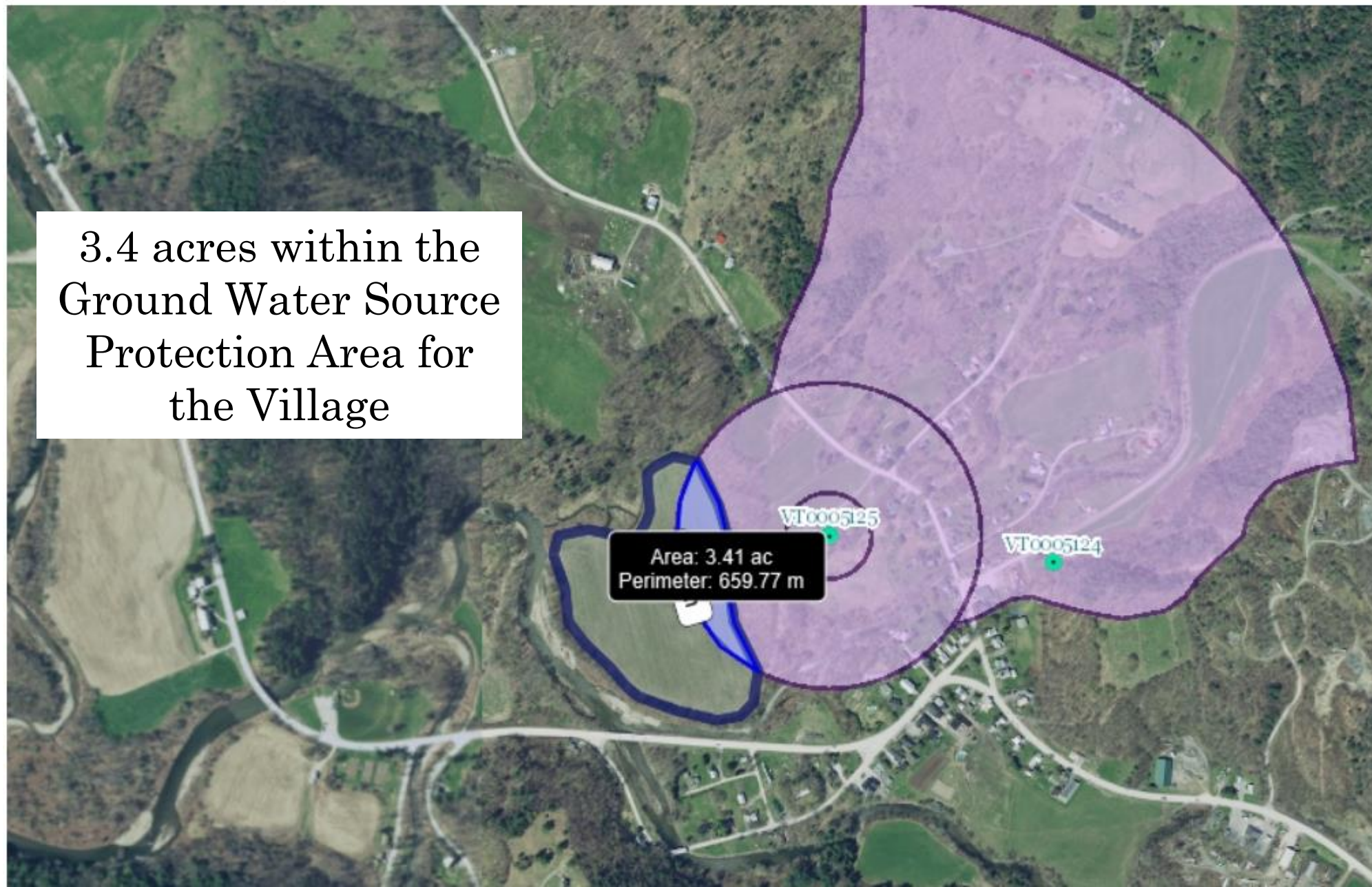
Flood Hazard Areas (Only FEM)

- AE (1-percent annual chance flood)
- A (1-percent annual chance floodpl)
- AO (1-percent annual chance zone feet)
- 0.2-percent annual chance flood ha





3.4 acres within the  
Ground Water Source  
Protection Area for  
the Village



## LEGEND

### Public Water Sources

- Active
- Proposed
- Inactive

### Ground Water SPA

- Active/Shared SPA; SHARED
- Proposed
- Inactive



1941



2019

Historical imagery indicated this field had a confluent creek in the past.



1962

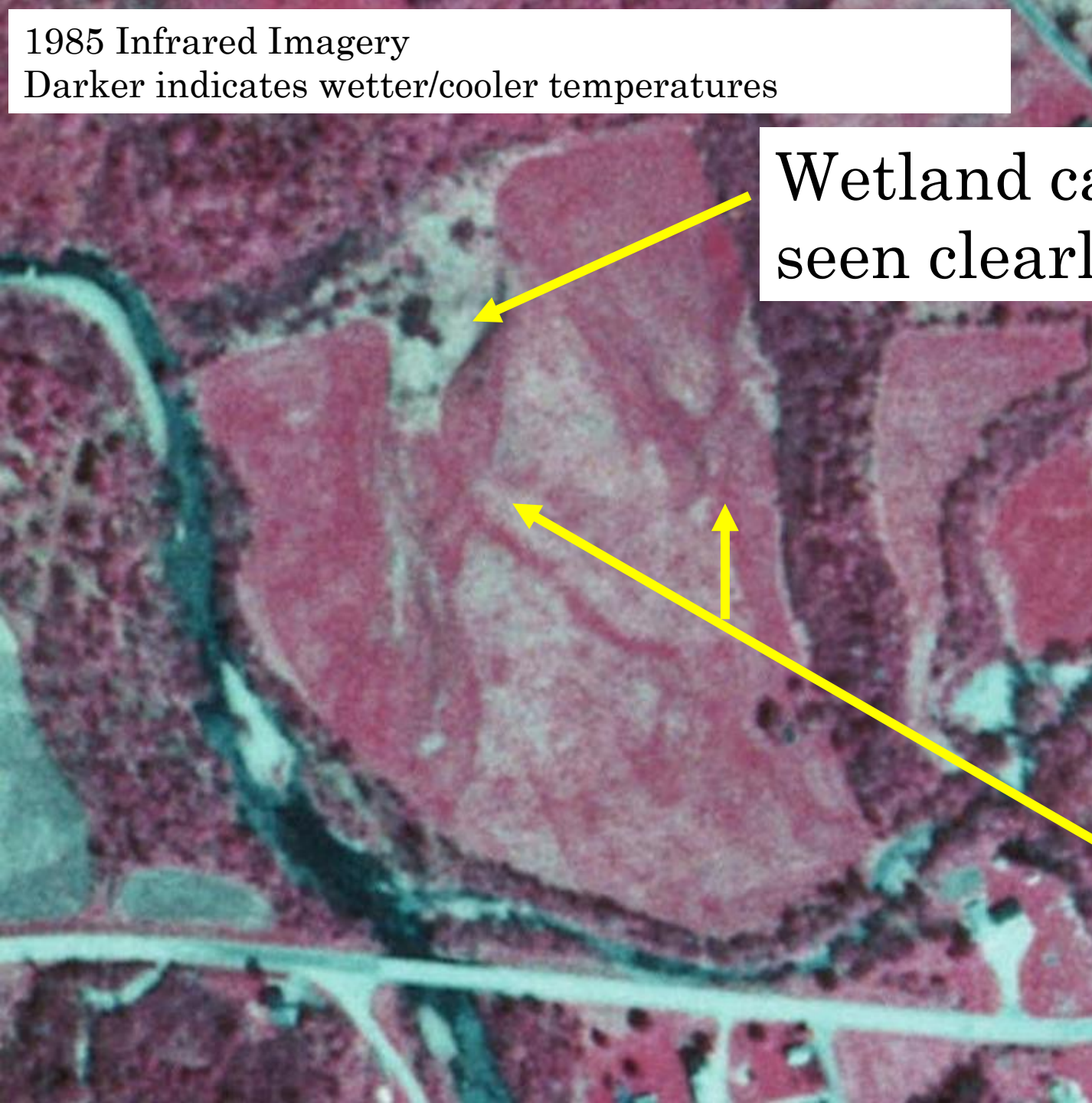


2019



1962 image shows  
natural drainage  
pattern









Class 2 wetland mapped in Northwest corner



**LEGEND**

Wetland - VSWI

Class 1 Wetland

Class 2 Wetland

Buffer

Wetlands Advisory Layer





2006



2008



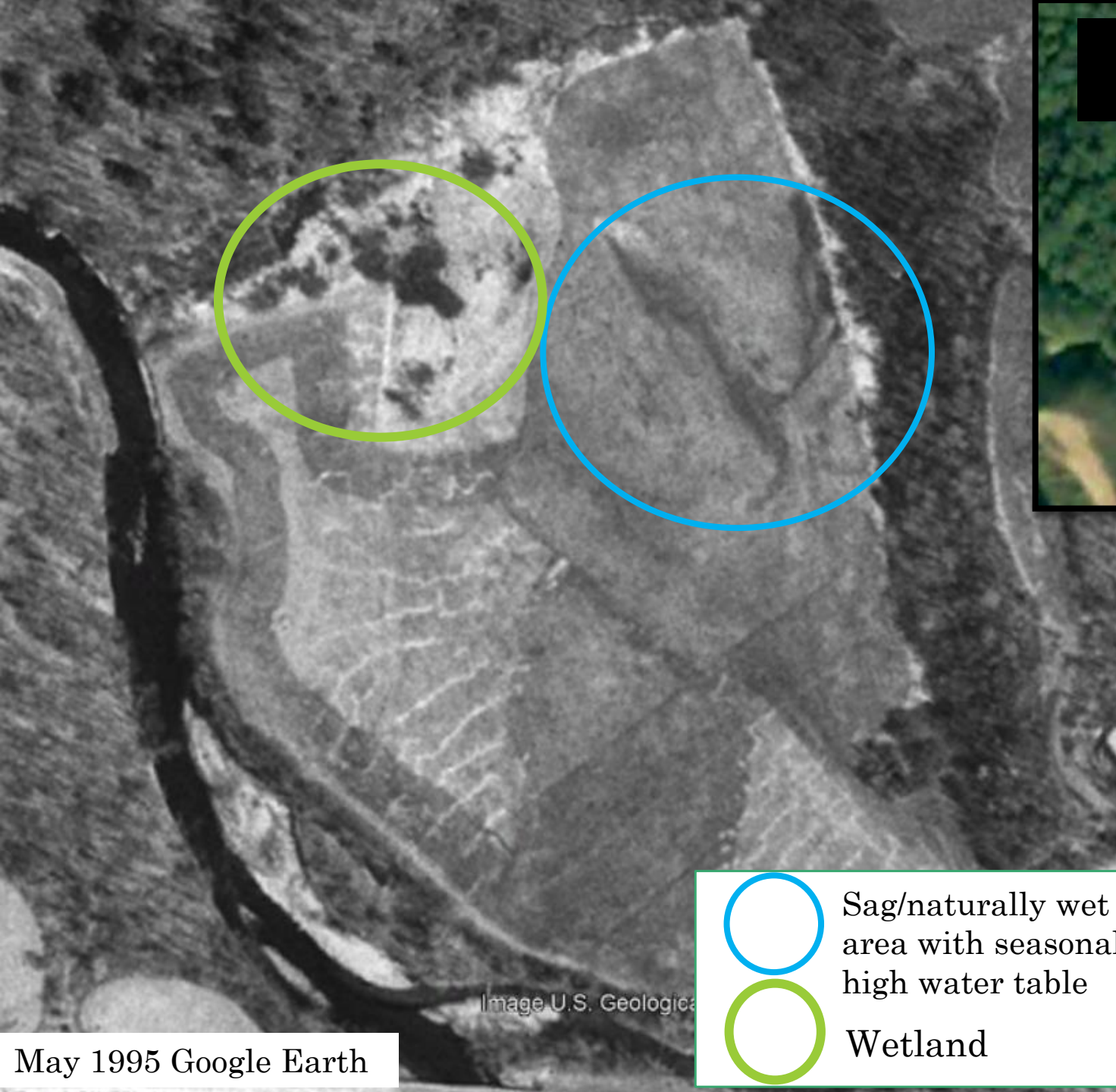
2009



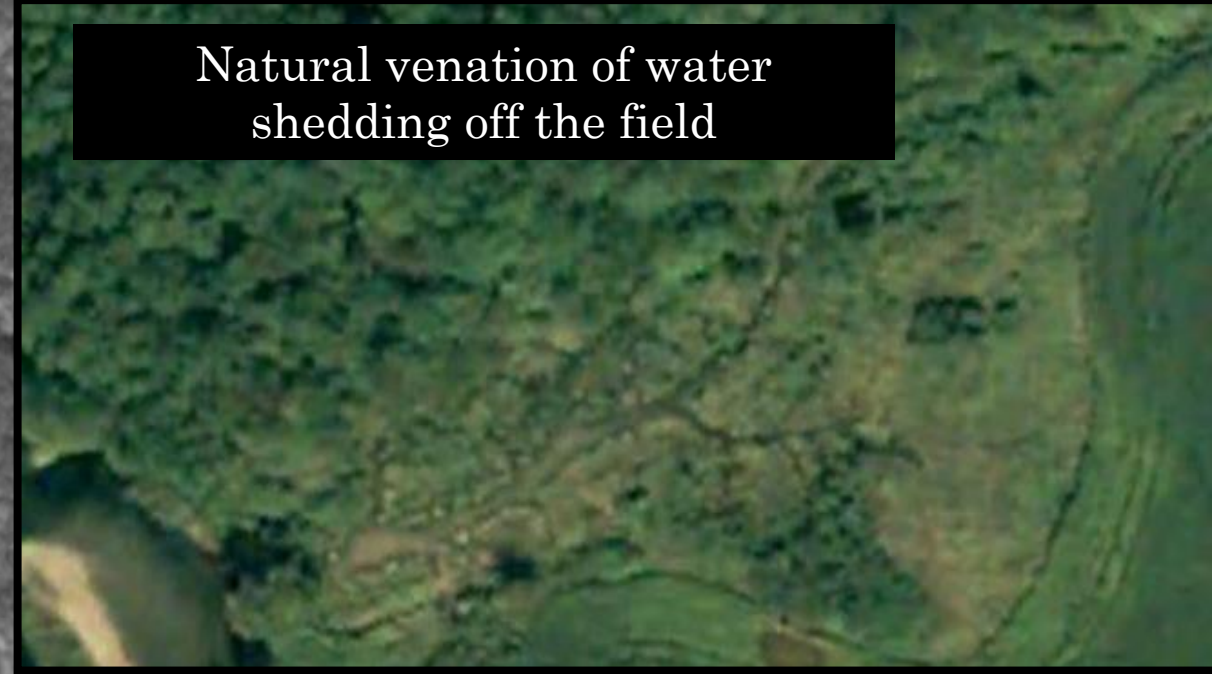
2011 Google Earth

- Crop discoloration is indicating wetness (no oxygen in the soil) or lack of what is needed in the soil to grow crops.
- This can also indicate compacted soil.





Natural venation of water  
shedding off the field



Ditched/drained



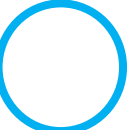

-  Sag/naturally wet  
area with seasonal  
high water table
-  Wetland

Image U.S. Geological





Spoil Piles from Ditching

# Ditched Wetland

Invasives:

Japanese Knotweed~

This plant thrives on disturbance

Native Plants Observed:

Willow, Alder,

Sumac, Elderberry,

Red-Osier Dogwood, Elm





Same location about 15ft back

Erosion from field moving off of Field into wetland



Picture taken to show  
sediment moving off-field





- Sediment is soupy and untethered, moves freely off the land with rain and thawing
- Sediment has no structure – indicates lack of organic matter
  - 1% Organic Matter increase helps soil hold 20,000 gallons of water/acre
  - $15\text{ acres} \times 20000 = 300,000 \text{ gal}$
- Cover crop not sufficient – not enough residue to keep soil in place
- Sheet and rill erosion present on entire field

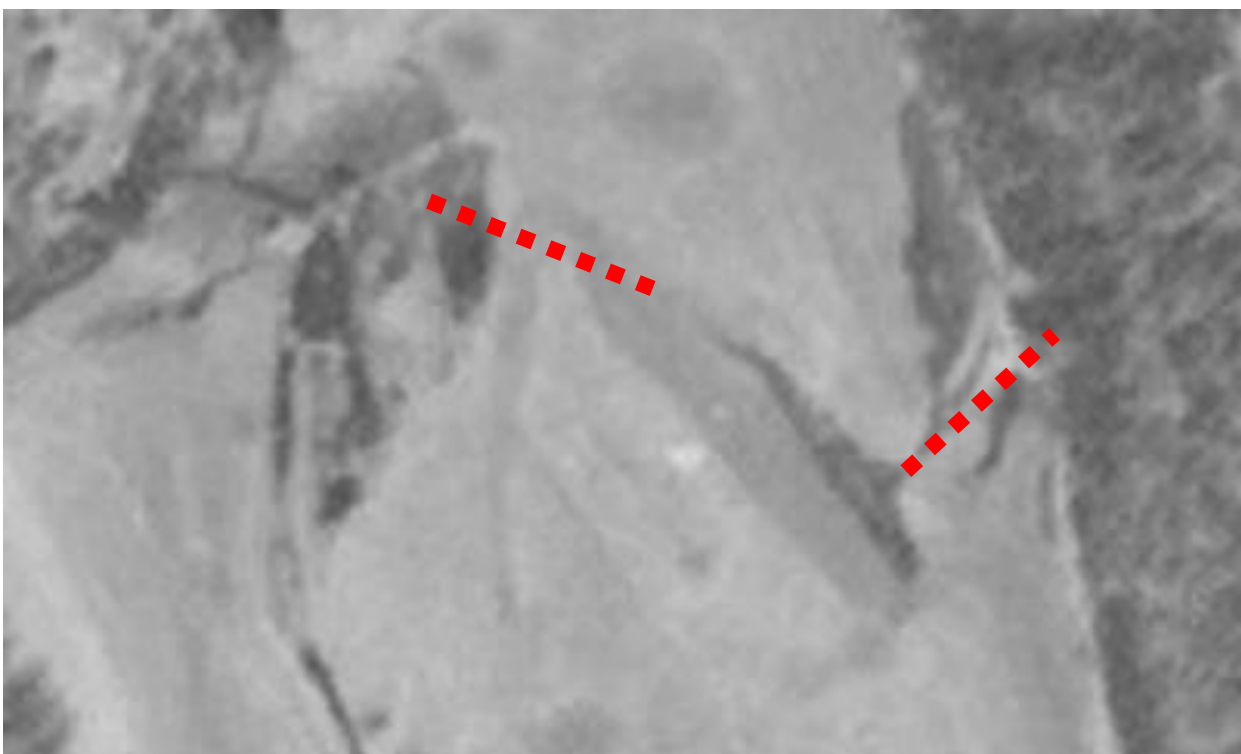
[\\*https://www.nrdc.org/experts/lara-bryant/organic-matter-can-improve-your-soils-water-holding-capacity](https://www.nrdc.org/experts/lara-bryant/organic-matter-can-improve-your-soils-water-holding-capacity)



**present at wetland & sag:**

**(An ephemeral gully erodes to tilled depth)**

~estimated to be at least 1360 lbs sediment runoff/year



<i>Field Number</i>	<i>Ephemeral Gully (EG)</i>	<i>Gully Length (Feet)</i>	<i>Gully Average Width (Feet)</i>	<i>Gully Average Depth (Inches)</i>	<i>Volume (FT<sup>3</sup>) Eroded Estimate</i>	<i>Soil Texture</i>	<i>Pounds of Soil per FT<sup>3</sup> Estimate</i>	<i>Number of Similar EGs In Field</i>	<i>Soil Loss (Tons per Occurrence) Estimate</i>	<i>Number of Occurrences per Year Estimate</i>	<i>Total EG Soil Loss per Year Estimate</i>
	1	8.0	1.0	12	8.0	Silt Loam	85	2	0.7	1	0.68

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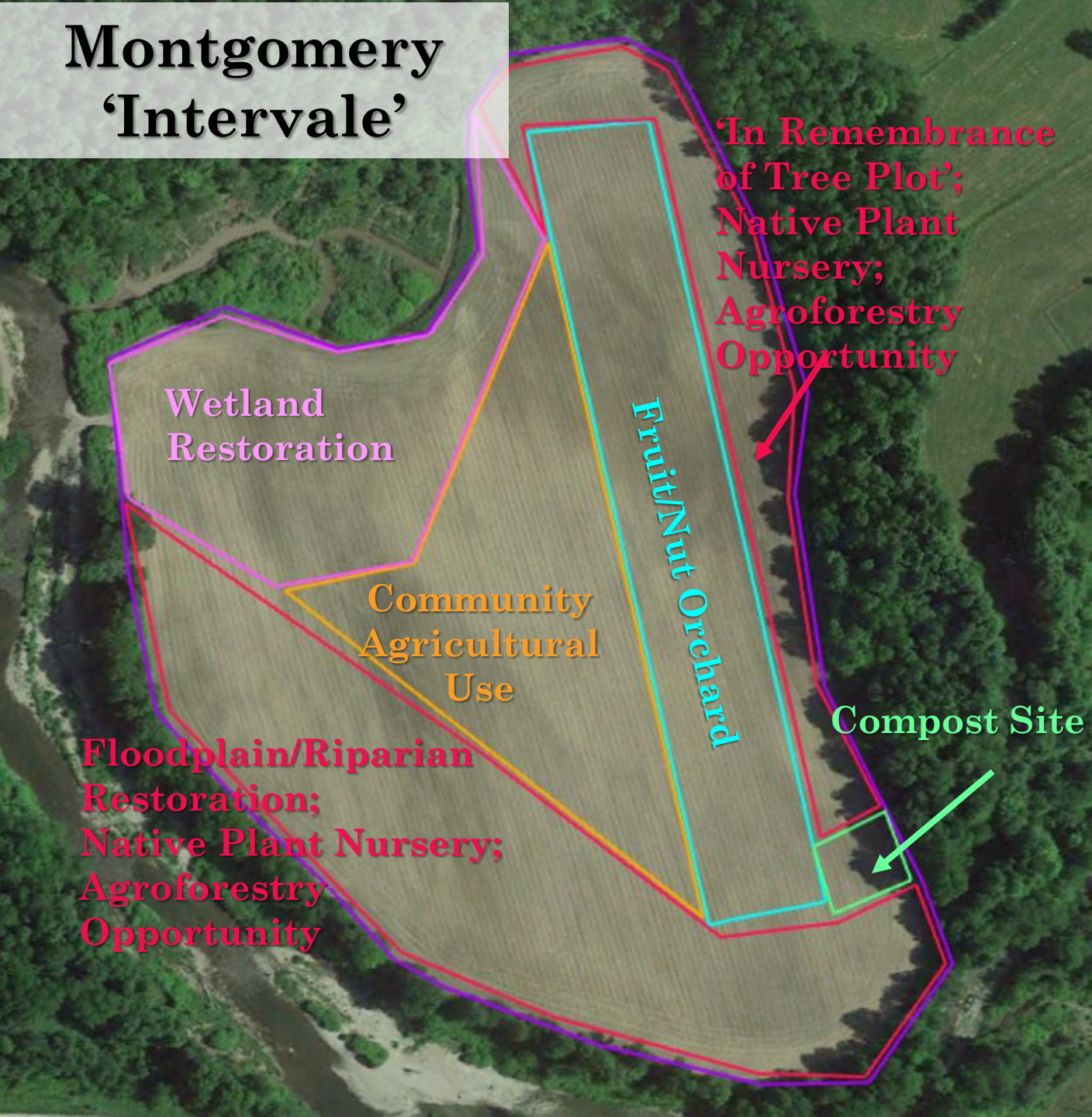
# Future Vision Concept Plan

Town Land~ Jewett Property  
Floodplain & Wetland





# Montgomery 'Intervale'



- Wetland Restoration
- Community Use: recreation, can be food plots for community farming, can be a learning area for cultivating food security for the community
- Fruit/Nut Orchard
- Community 'In Remembrance of' Tree Plot
- Compost Site
- Floodplain/Riparian Restoration
- Native Plant Nursery
- Agroforestry



Town Land had Acuron applied last year for corn crop - can have up to an 18 month residual which could effect new plantings

“Acuron is to be used for preemergence use for control of most annual grass and broadleaf weeds in field corn, seed corn, silage corn, sweet corn and yellow popcorn.

Acuron may also be applied early postemergence for the control of broadleaf weeds in field corn, seed corn and silage corn. Do not apply Acuron to emerged sweet corn or yellow popcorn or severe crop injury will occur.”

Crop	Replant/Rotational Interval
Field corn Seed corn Silage corn Sweet corn Yellow popcorn	Anytime <sup>1</sup>
Small grain cereals including wheat, barley and rye	4 Months
Cotton Dry beans <sup>2</sup> Peanuts Potato Rice Soybeans <sup>3,4</sup> Sorghum (all types)	10 Months <sup>5,6</sup>
All other rotational crops	18 Months

<sup>1</sup>Do not reapply Acuron.

<sup>2</sup>This rotational interval applies only to areas west of US highway 83 in the states of Colorado and Nebraska: If Acuron was applied to ground that was under center pivot irrigation and the soil pH is greater than 6.5, dry beans can be planted 10 months following application.

<sup>3</sup>Injury may occur to soybeans planted the year following application on soils having a calcareous surface layer if additional atrazine or atrazine-containing products are used.

<sup>4</sup>In eastern parts of the Dakotas, KS, western MN, and NE, do not rotate to soybeans for 18 months following application if the combined atrazine rate applied was more than 2.0 lb ai/A, or equivalent band application rate, or soybean injury may occur.

<sup>5</sup>If applied after June 1, rotating to crops other than corn (all types) may result in crop injury.

<sup>6</sup>In the High Plains and Intermountain areas of the West, where rainfall is sparse and erratic or where irrigation is required, use only when corn (all types) or sorghum is to follow corn, or a crop of untreated corn (all types) or sorghum is to precede other rotational crops.



# What will be done while the Acuron subsides...

- ✓Determine the soil type and water table for growing conditions ~ Done
- ✓Montgomery Conservation Commission allocated funds for Soil Tests~ Done
- ✓Take Soil samples based off of soil type, future plan for planting (fruit/nut/veggies)/Submit Samples ~Done
- ✓Meet with Program Specialists and Organizations about Support and Funding Potential



# Soil Analysis on 6/10/2022

Sampled the field to determine water table, soil type and soil conditions





# Site Soil Analysis:

- #1 + 2: Silt Loam – Seasonal High Water Table, approximately 12”
- #3: Silt Loam with >5% rock; Seasonal High Water Table > 12”
- #4: Silt Loam – Seasonal High Water Table approximately <6”
- #5: Loam – Seasonal High Water Table approximately <6”
- #6: Sandy Loam – Deposition of Sand and Larger sediment and rock
- #7: Sandy Loam – Higher topographically
- #8 Sandy Loam – Similar to #7



**Edge of Field  
taken to look at  
Soil Potential:**

**Darker soil  
indicates higher  
organic matter;**

**Soil has structure;**

**Rooting depth  
deeper than  
cropped field;**

**Structure allows  
for air space which  
also allows for  
drainage and  
infiltration**



**#4 Site Cropped  
Field:**

**Organic matter  
depleted, very little  
carbon/roots  
visually observed**

**Soil has little  
structure;**

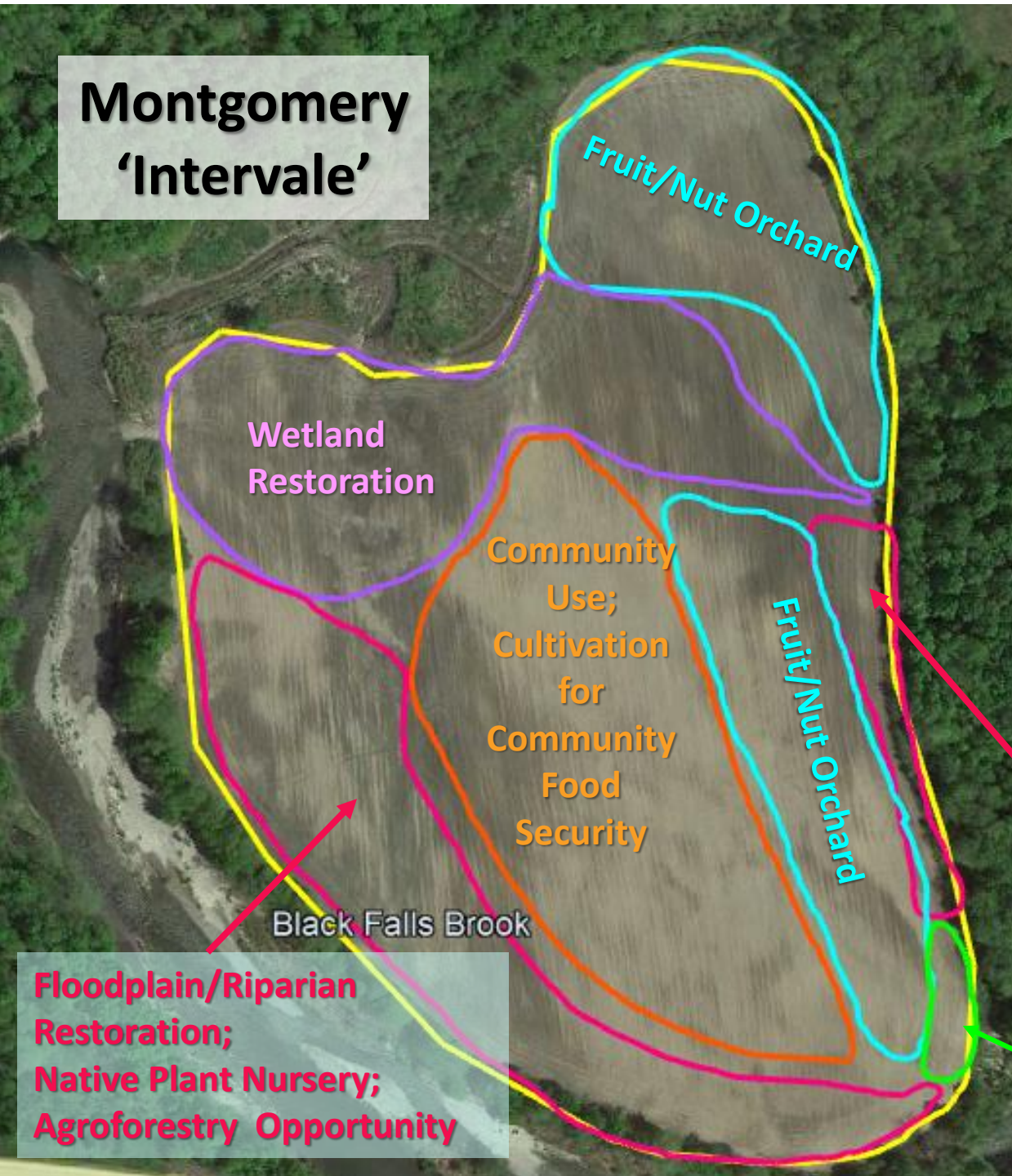
**Roots absent;**

**Lacks structure,  
reduces infiltration  
and ability to serve  
as a medium for  
plant growth;**

**Minimal Organisms**



## Montgomery 'Intervale'

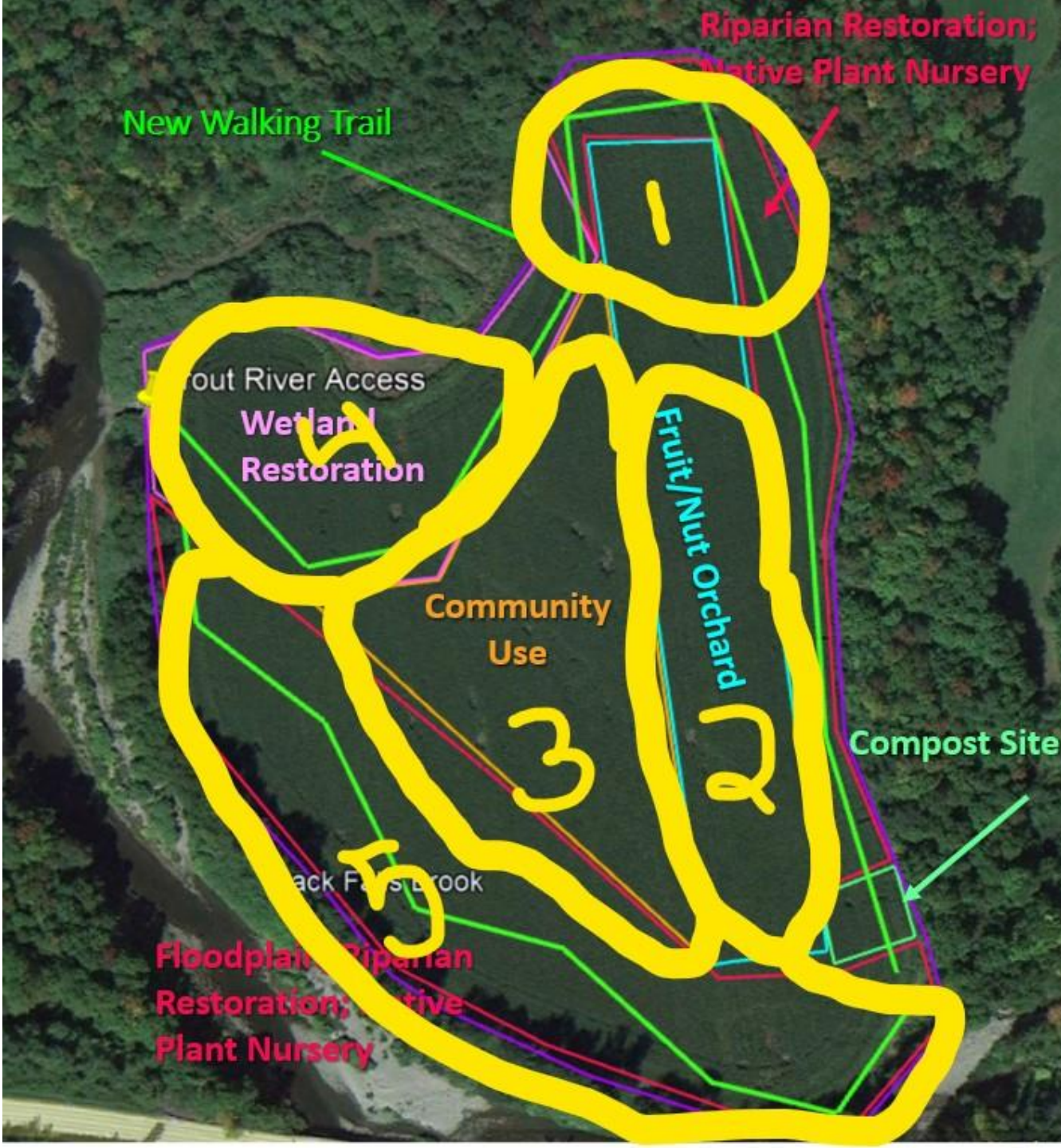


## Delineation of Land Use ~ Based on the Site Soil Analysis

- Factors Assessed
  - Water Table
  - Proximity to water
  - Capability of Soil
  - Aspect
  - Topography

'In Remembrance of  
Tree Plot';  
Native Plant Nursery;  
Agroforestry  
Opportunity  
Compost





6/17/22

## 5 Soil Samples Taken

Samples were taken with potential uses in mind:

- Wetland Restoration
- Community Use: recreation, can be food plots for community farming, can be a learning area for cultivating food security for the community
  - Fruit/Nut Orchard
  - 'In Remembrance of' Tree Plot
  - Compost Site
- Floodplain/Riparian Restoration
  - Native Plant Nursery



# Big Picture~ 'Long-View'

## Restoration & Recreation Potential

Re-routing of Trout River  
through River Dynamics



Potential Recreation Trail



Future Wetland when river  
eventually re-routes



## New Walking Trail

- Walking Trail would interface around the field, length depending on lay out can be .5 to .8 mile long
- Trout River Access Point for Recreation in northwest corner
- Wetland Restoration area great location for Birders and Wildlife Viewing

Long Term  
Natural River  
Dynamics and  
Montgomery  
Recreation



# Next~ Potential Partners in Funding:

- MRBA/Wild and Scenic/UMATR
- Agency of Natural Resources
  - Department of Environmental Conservation
    - River Restoration
    - Wetland Restoration
- Nature Conservancy
- Franklin County Conservation District
- Food Security Promoters: 350VT
- Agroforestry
- Native plant nursery: U.S. Fish and Wildlife
- Easements
- Others?