

Ulster County Culvert Assessment Project

a Presentation by

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Coordinator, Ulster County Department of the Environment

Part of:

Understanding Our Changing Environment

Woodstock Land Conservancy

Woodstock Elementary School

September 24, 2018



Ulster County Culvert Assessment Project



- Assessing over 400 stream/road culvert crossings on county/town roads following the NAACP aquatic organism passage protocol.
- Evaluating condition and other indicators relevant to flood mitigation and emergency preparedness.
- Using habitat cores as a way of putting aquatic passage in larger landscape connectivity context.

Project funded in part by a grant from:



It's just a culvert....



It's just a culvert....



It's just a culvert....



It's just a culvert....



It's just a culvert....



It's just a culvert....



It's just a culvert....



It's just a culvert....



It's just a culvert....



It's just a small stream...

- Make up a large percentage of stream miles
- Cumulatively provide more habitat than large rivers
- Support species not found in larger streams and rivers
- High productivity
- Provide important spawning & nursery habitat for fish



North Atlantic Aquatic Connectivity Collaborative (NAACC)

UMASS
AMHERST



North Atlantic Aquatic Connectivity Collaborative (NAACC): Objectives

- Reconnect streams & rivers to support healthier populations of fish & wildlife
- Proactively identify and prioritize sites for stream crossing upgrades/replacements
- Facilitate communication and information sharing among partners





AQUATIC CONNECTIVITY Stream Crossing Survey DATA FORM

DATE/NAME ENTERED BY: _____ ENTRY DATE: _____
DATA ENTRY REVIEWED BY: _____ REVIEW DATE: _____

CROSSING DATA

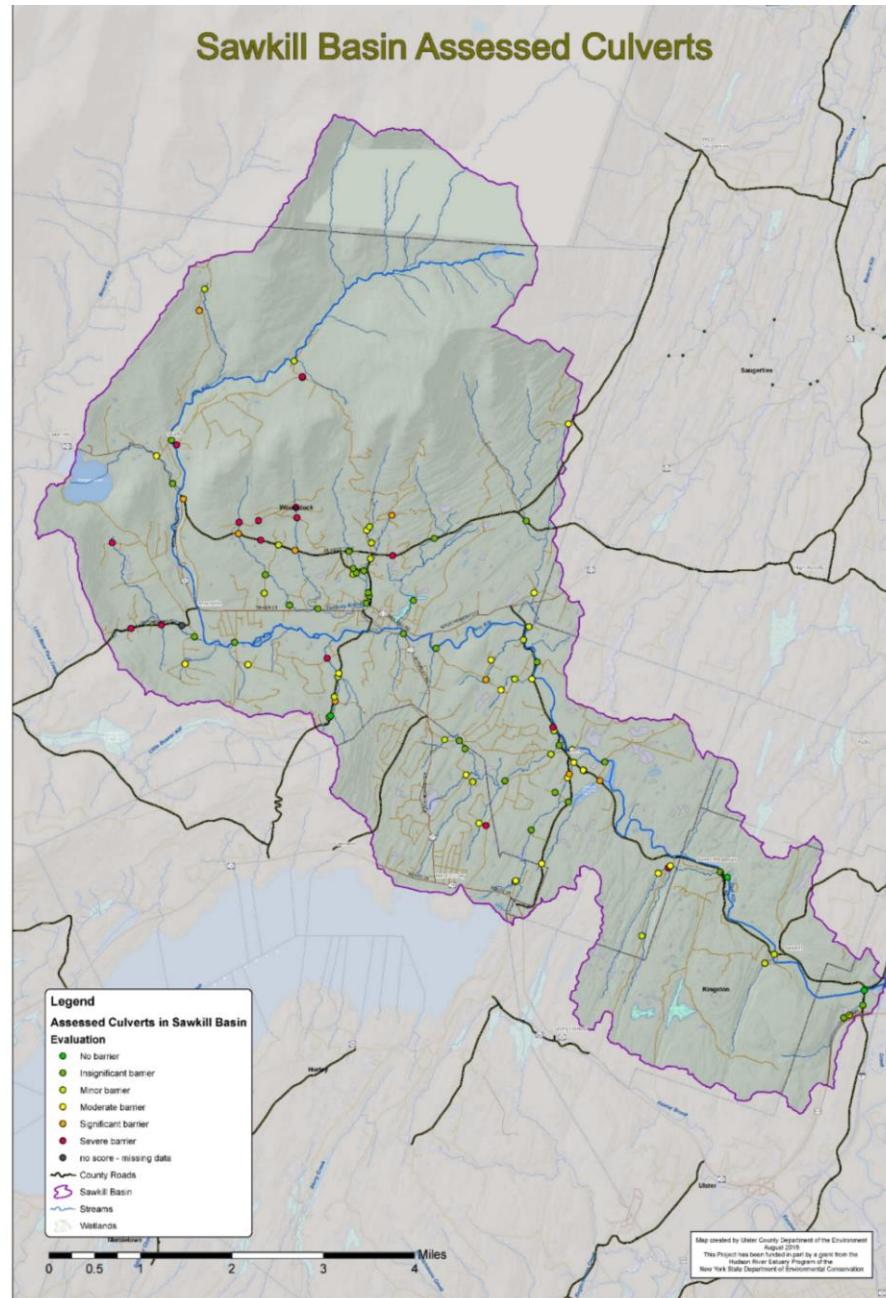
Crossing Code	Local ID (Optional)
Date Observed (mm/dd/yyyy)	Lead Observer
Town/County	Stream
Road	Type <input type="checkbox"/> MULTILANE <input type="checkbox"/> PAVED <input type="checkbox"/> UNPAVED <input type="checkbox"/> DRIVEWAY <input type="checkbox"/> RAIL <input type="checkbox"/> RAILROAD
GPS Coordinates (decimal degrees)	N Latitude <input type="text"/> W Longitude <input type="text"/>
Location Description	
Crossing Type <input type="checkbox"/> BRIDGE <input type="checkbox"/> CULVERT <input type="checkbox"/> MULTIPLE CULVERT <input type="checkbox"/> FORD <input type="checkbox"/> NO CROSSING <input type="checkbox"/> REMOVED CROSSING	Number of Culverts/ Bridge Cells
<input type="checkbox"/> BUILT-UP STREAM <input type="checkbox"/> INACCESSIBLE <input type="checkbox"/> PARTIALLY INACCESSIBLE <input type="checkbox"/> NO UPS/REAS CHANNEL <input type="checkbox"/> BRIDGE ADEQUATE	
Photo IDs <input type="checkbox"/> INLET <input type="checkbox"/> OUTLET <input type="checkbox"/> UPSTREAM <input type="checkbox"/> DOWNSTREAM <input type="checkbox"/> OTHER	
Flow Condition <input type="checkbox"/> NO FLOW <input type="checkbox"/> TYPICAL-LOW <input type="checkbox"/> MODERATE <input type="checkbox"/> HIGH	Crossing Condition <input type="checkbox"/> OK <input type="checkbox"/> POOR <input type="checkbox"/> NEW <input type="checkbox"/> UNKNOWN
Tidal Site <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN	Alignment <input type="checkbox"/> FLOW-ALIGNED <input type="checkbox"/> SKEWED >45°
Bankfull Width (Optional)	Road Fill Height (ft) of culvert to road surface/bridge deck
Confidence <input type="checkbox"/> + GH <input type="checkbox"/> LOW/MODERATE	Constriction <input type="checkbox"/> SEVERE <input type="checkbox"/> MODERATE <input type="checkbox"/> SPANS FULL CHANNEL & BANKS
Tailwater Scour Pool <input type="checkbox"/> NONE <input type="checkbox"/> SMALL <input type="checkbox"/> LARGE	<input type="checkbox"/> SPANS ONLY BANKFULL/ACTIVE CHANNEL
Crossing Comments	

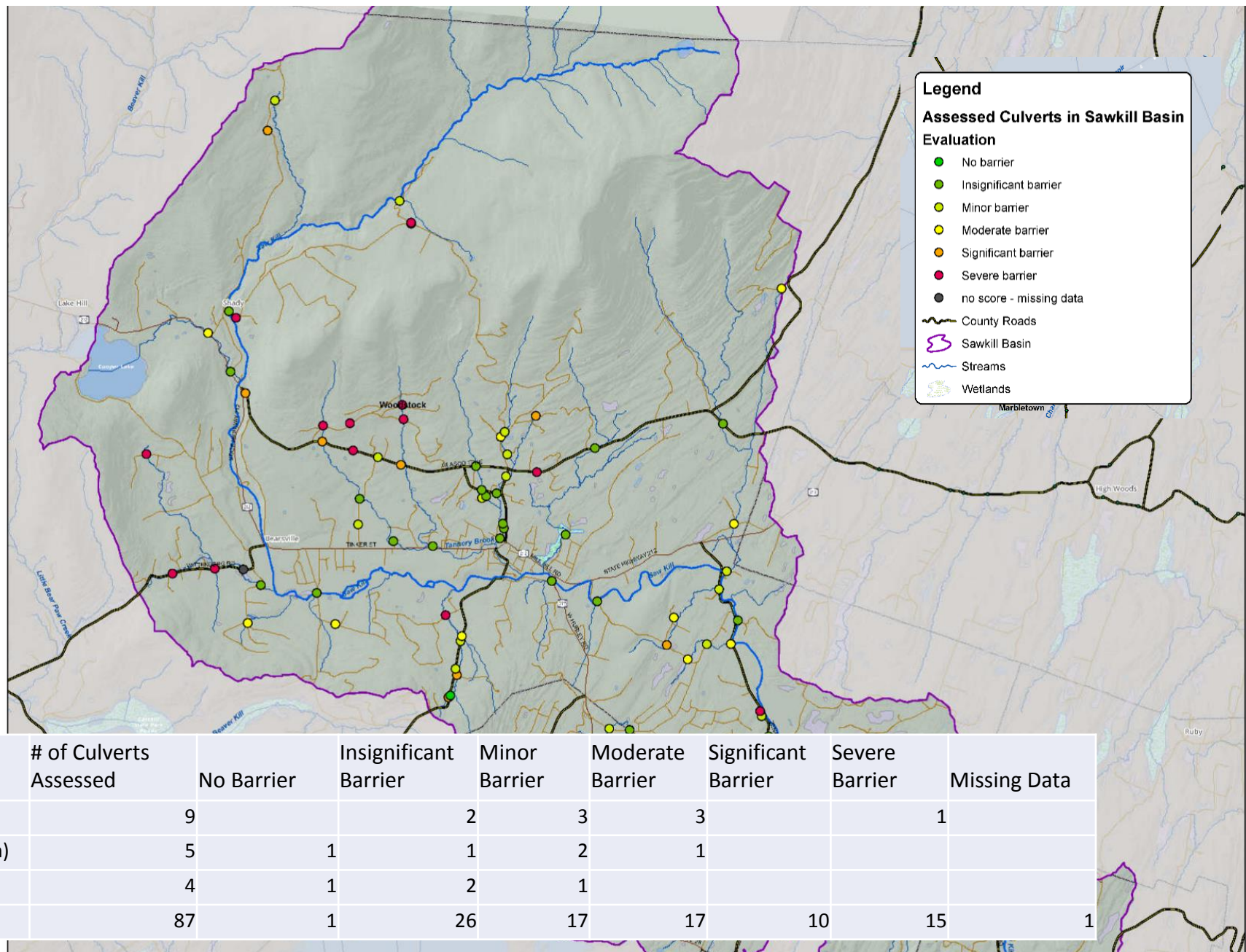
STRUCTURE 1

Structure Material <input type="checkbox"/> METAL <input type="checkbox"/> CONCRETE <input type="checkbox"/> PLASTIC <input type="checkbox"/> WOOD <input type="checkbox"/> ROCK/STONE <input type="checkbox"/> FIBERGLASS <input type="checkbox"/> COMBINATION	
Outlet Shape <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> FORD <input type="checkbox"/> UNKNOWN <input type="checkbox"/> REMOVED	Outlet Armoring <input type="checkbox"/> NONE <input type="checkbox"/> NOT EXTENSIVE <input type="checkbox"/> EXTENSIVE
Outlet Grade (pick one) <input type="checkbox"/> AT STREAM GRADE <input type="checkbox"/> PIPE FALL <input type="checkbox"/> CASCADE <input type="checkbox"/> PIPE FALL ONTO CASCADE <input type="checkbox"/> CLOGGED/COLLAPSED/SUBMERGED <input type="checkbox"/> UNKNOWN	
Outlet Dimensions A. Width <input type="text"/> B. Height <input type="text"/> C. Substrate/Water Width <input type="text"/> D. Water Depth <input type="text"/>	
Outlet Drop to Water Surface <input type="text"/> Outlet Drop to Stream Bottom <input type="text"/> E. Abutment Height (type 7 bridges only) <input type="text"/>	
L. Structure Length (Overall length from inlet to outlet) <input type="text"/>	
INLET	
Inlet Shape <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> FORD <input type="checkbox"/> UNKNOWN <input type="checkbox"/> REMOVED	
Inlet Type <input type="checkbox"/> PROJECTING <input type="checkbox"/> HEADWALL <input type="checkbox"/> WING WALLS <input type="checkbox"/> HEADWALL & WING WALLS <input type="checkbox"/> MITERED TO SLOPE <input type="checkbox"/> OTHER <input type="checkbox"/> NONE	
Inlet Grade (pick one) <input type="checkbox"/> AT STREAM GRADE <input type="checkbox"/> INLET GRADE <input type="checkbox"/> POINCHED <input type="checkbox"/> CLOGGED/COLLAPSED/SUBMERGED <input type="checkbox"/> UNKNOWN	
Inlet Dimensions A. Width <input type="text"/> B. Height <input type="text"/> C. Substrate/Water Width <input type="text"/> D. Water Depth <input type="text"/>	
Slope % (optional) <input type="text"/> Slope Confidence <input type="checkbox"/> + GH <input type="checkbox"/> LOW	Internal Structures <input type="checkbox"/> NONE <input type="checkbox"/> BAFFLES/WEIRS <input type="checkbox"/> SUPPORTS <input type="checkbox"/> OTHER
Structure Substrate Matches Stream <input type="checkbox"/> NONE <input type="checkbox"/> COMPARABLE <input type="checkbox"/> CONTRASTING <input type="checkbox"/> NOT APPROPRIATE <input type="checkbox"/> UNKNOWN	
Structure Substrate Type (pick one) <input type="checkbox"/> NONE <input type="checkbox"/> SILT <input type="checkbox"/> SAND <input type="checkbox"/> GRAVEL <input type="checkbox"/> COBBLE <input type="checkbox"/> BOULDER <input type="checkbox"/> BEDROCK <input type="checkbox"/> UNKNOWN	
Structure Substrate Coverage <input type="checkbox"/> NONE <input type="checkbox"/> 25% <input type="checkbox"/> 50% <input type="checkbox"/> 75% <input type="checkbox"/> 100% <input type="checkbox"/> UNKNOWN	
Physical Barriers (pick all that apply) <input type="checkbox"/> NONE <input type="checkbox"/> DEBRIS/SEDIMENT/ROCK <input type="checkbox"/> DEFORMATION <input type="checkbox"/> FREE FALL <input type="checkbox"/> FENCING <input type="checkbox"/> DRY <input type="checkbox"/> OTHER	
Severity (Choose carefully based on barrier(s) listed above) <input type="checkbox"/> NONE <input type="checkbox"/> MINOR <input type="checkbox"/> MODERATE <input type="checkbox"/> SEVERE	
Water Depth Matches Stream <input type="checkbox"/> YES <input type="checkbox"/> NO-SHALLOWER <input type="checkbox"/> NO-DEEPER <input type="checkbox"/> UNKNOWN <input type="checkbox"/> DRY	
Water Velocity Matches Stream <input type="checkbox"/> YES <input type="checkbox"/> NO-FASTER <input type="checkbox"/> NO-SLOWER <input type="checkbox"/> UNKNOWN <input type="checkbox"/> DRY	
Dry Passage through Structure? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN	Height above Dry Passage <input type="text"/>
Comments	

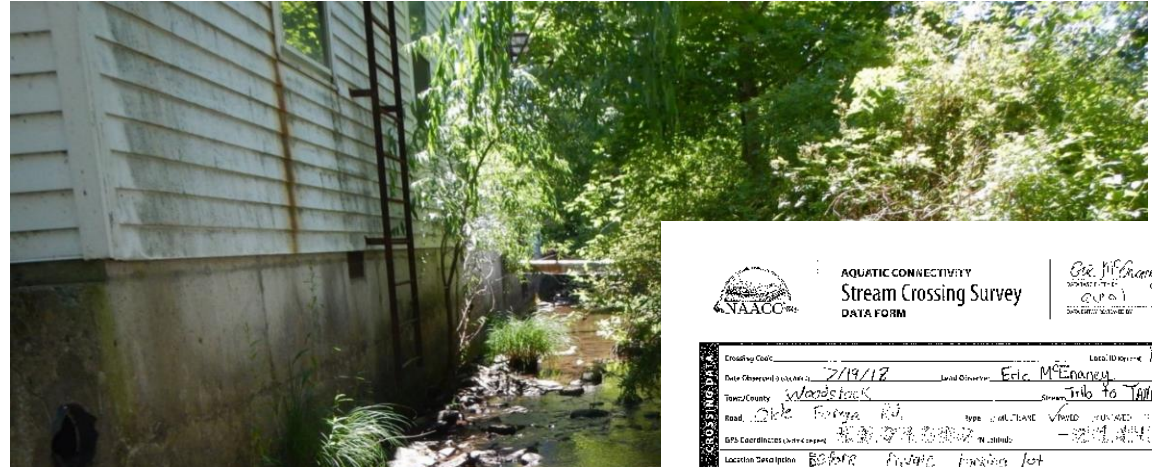


Sawkill Basin Assessed Culverts





Ferguson Creek- Insignificant Barrier



NAACQ		AQUATIC CONNECTIVITY Stream Crossing Survey DATA FORM		Eric McEnaney 7/19/18 7/19/18	
Crossing Code: <u>7/19/18</u>		Lead Observer: <u>Eric McEnaney</u>		Lead to Report: <u>FOR-01</u>	
Date Observed: <u>7/19/18</u>		Time/County: <u>Woodstock</u>		Site Name: <u>Info to James Brook</u>	
Road: <u>Old Forge Rd</u>		Type: <u>Concrete</u>		Structure: <u>Concrete</u>	
GPS Coordinates: <u>43.783333 N 72.833333 W</u>		Location: <u>Private Property</u>		Number of Outlets: <u>1</u>	
Crossing Type: <u>Stream</u>		Crossing Type: <u>Stream</u>		Number of Outlets: <u>1</u>	
Flow Condition: <u>Flowing</u>		Flow Condition: <u>Flowing</u>		Flow Condition: <u>Flowing</u>	
Tidal Site: <u>Yes</u>		Tidal Site: <u>Yes</u>		Tidal Site: <u>Yes</u>	
Bankfull Width: <u>12.69</u>		Bankfull Width: <u>12.69</u>		Bankfull Width: <u>12.69</u>	
Tailwater Depth: <u>1.26</u>		Tailwater Depth: <u>1.26</u>		Tailwater Depth: <u>1.26</u>	
Crossing Comments: <u>Concrete bridge over stream</u>		Crossing Comments: <u>Concrete bridge over stream</u>		Crossing Comments: <u>Concrete bridge over stream</u>	
Structure Material: <u>Concrete</u>		Structure Material: <u>Concrete</u>		Structure Material: <u>Concrete</u>	
Outlet Shape: <u>Rectangular</u>		Outlet Shape: <u>Rectangular</u>		Outlet Shape: <u>Rectangular</u>	
Outlet Dimensions: <u>13.0</u>		Outlet Dimensions: <u>13.0</u>		Outlet Dimensions: <u>13.0</u>	
Outlet Drop to Water Surface: <u>0.5</u>		Outlet Drop to Water Surface: <u>0.5</u>		Outlet Drop to Water Surface: <u>0.5</u>	
Inlet Shape: <u>Rectangular</u>		Inlet Shape: <u>Rectangular</u>		Inlet Shape: <u>Rectangular</u>	
Inlet Dimensions: <u>13.0</u>		Inlet Dimensions: <u>13.0</u>		Inlet Dimensions: <u>13.0</u>	
Inlet Drop to Water Surface: <u>0.5</u>		Inlet Drop to Water Surface: <u>0.5</u>		Inlet Drop to Water Surface: <u>0.5</u>	
Structure Substrate: <u>Concrete</u>		Structure Substrate: <u>Concrete</u>		Structure Substrate: <u>Concrete</u>	
Structure Substrate Coverage: <u>Concrete</u>		Structure Substrate Coverage: <u>Concrete</u>		Structure Substrate Coverage: <u>Concrete</u>	
Physical Barriers: <u>None</u>		Physical Barriers: <u>None</u>		Physical Barriers: <u>None</u>	
Flowing: <u>Yes</u>		Flowing: <u>Yes</u>		Flowing: <u>Yes</u>	
Water Depth: <u>1.26</u>		Water Depth: <u>1.26</u>		Water Depth: <u>1.26</u>	
Water Velocity: <u>0.5</u>		Water Velocity: <u>0.5</u>		Water Velocity: <u>0.5</u>	
Dry Passage: <u>Yes</u>		Dry Passage: <u>Yes</u>		Dry Passage: <u>Yes</u>	
Comments: <u>Concrete bridge over stream</u>		Comments: <u>Concrete bridge over stream</u>		Comments: <u>Concrete bridge over stream</u>	

Bellows Lane- Minor Barrier



AQUATIC CONNECTIVITY		CROSSING: Johnson 7/18/18	
Stream Crossing Survey			
DATA FORM			
Location Code		Land to Project: B21-01	
State Observed: 7/18/18		Lead Observer: Christopher Johnston	
Project Name: Redwood		Stream: Trill of San Gabriel Tenaya Pass	
Road: Redwood Lane		Type: <input checked="" type="checkbox"/> Vertical <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Bridge <input type="checkbox"/> Culvert	
Local Coordinates (NAD 83): 434200 424000		UTM: 18QUC 424000 424000	
Location Description: 1/2 mile west of Tenaya Pass		Number of Culverts: Bridge Cuts: 1	
Crossing Type: <input checked="" type="checkbox"/> Bridge <input type="checkbox"/> Culvert <input type="checkbox"/> Trench <input type="checkbox"/> Stream		Material: <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial <input type="checkbox"/> Concrete <input type="checkbox"/> Steel <input type="checkbox"/> Other	
Photo ID: B21-01		UTM: 18QUC 424000 424000	
How Located: <input checked="" type="checkbox"/> Field <input type="checkbox"/> Aerial <input type="checkbox"/> Map		Construction: <input checked="" type="checkbox"/> New <input type="checkbox"/> Existing <input type="checkbox"/> Other	
Material: <input checked="" type="checkbox"/> Wood <input type="checkbox"/> Steel <input type="checkbox"/> Concrete <input type="checkbox"/> Other		Height: <input checked="" type="checkbox"/> 10' <input type="checkbox"/> 12' <input type="checkbox"/> 14' <input type="checkbox"/> 16' <input type="checkbox"/> 18' <input type="checkbox"/> 20' <input type="checkbox"/> 22' <input type="checkbox"/> 24' <input type="checkbox"/> 26' <input type="checkbox"/> 28' <input type="checkbox"/> 30' <input type="checkbox"/> 32' <input type="checkbox"/> 34' <input type="checkbox"/> 36' <input type="checkbox"/> 38' <input type="checkbox"/> 40' <input type="checkbox"/> 42' <input type="checkbox"/> 44' <input type="checkbox"/> 46' <input type="checkbox"/> 48' <input type="checkbox"/> 50' <input type="checkbox"/> 52' <input type="checkbox"/> 54' <input type="checkbox"/> 56' <input type="checkbox"/> 58' <input type="checkbox"/> 60' <input type="checkbox"/> 62' <input type="checkbox"/> 64' <input type="checkbox"/> 66' <input type="checkbox"/> 68' <input type="checkbox"/> 70' <input type="checkbox"/> 72' <input type="checkbox"/> 74' <input type="checkbox"/> 76' <input type="checkbox"/> 78' <input type="checkbox"/> 80' <input type="checkbox"/> 82' <input type="checkbox"/> 84' <input type="checkbox"/> 86' <input type="checkbox"/> 88' <input type="checkbox"/> 90' <input type="checkbox"/> 92' <input type="checkbox"/> 94' <input type="checkbox"/> 96' <input type="checkbox"/> 98' <input type="checkbox"/> 100'	
Construction: <input checked="" type="checkbox"/> New <input type="checkbox"/> Existing <input type="checkbox"/> Other		Construction: <input checked="" type="checkbox"/> New <input type="checkbox"/> Existing <input type="checkbox"/> Other	
Influenced Stream: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Construction: <input checked="" type="checkbox"/> New <input type="checkbox"/> Existing <input type="checkbox"/> Other	
Crossing Comments: Stream likely being cut out of bed		Construction: <input checked="" type="checkbox"/> New <input type="checkbox"/> Existing <input type="checkbox"/> Other	
<p>Structure Material: <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Concrete <input type="checkbox"/> Timber <input type="checkbox"/> Masonry <input type="checkbox"/> Other</p> <p>Outlet Structure: <input checked="" type="checkbox"/> Vertical <input type="checkbox"/> Horizontal <input type="checkbox"/> Other</p> <p>Outlet Configuration: <input checked="" type="checkbox"/> Vertical <input type="checkbox"/> Horizontal <input type="checkbox"/> Other</p> <p>Outlet Dimensions: <input checked="" type="checkbox"/> 10' <input type="checkbox"/> 12' <input type="checkbox"/> 14' <input type="checkbox"/> 16' <input type="checkbox"/> 18' <input type="checkbox"/> 20' <input type="checkbox"/> 22' <input type="checkbox"/> 24' <input type="checkbox"/> 26' <input type="checkbox"/> 28' <input type="checkbox"/> 30' <input type="checkbox"/> 32' <input type="checkbox"/> 34' <input type="checkbox"/> 36' <input type="checkbox"/> 38' <input type="checkbox"/> 40' <input type="checkbox"/> 42' <input type="checkbox"/> 44' <input type="checkbox"/> 46' <input type="checkbox"/> 48' <input type="checkbox"/> 50' <input type="checkbox"/> 52' <input type="checkbox"/> 54' <input type="checkbox"/> 56' <input type="checkbox"/> 58' <input type="checkbox"/> 60' <input type="checkbox"/> 62' <input type="checkbox"/> 64' <input type="checkbox"/> 66' <input type="checkbox"/> 68' <input type="checkbox"/> 70' <input type="checkbox"/> 72' <input type="checkbox"/> 74' <input type="checkbox"/> 76' <input type="checkbox"/> 78' <input type="checkbox"/> 80' <input type="checkbox"/> 82' <input type="checkbox"/> 84' <input type="checkbox"/> 86' <input type="checkbox"/> 88' <input type="checkbox"/> 90' <input type="checkbox"/> 92' <input type="checkbox"/> 94' <input type="checkbox"/> 96' <input type="checkbox"/> 98' <input type="checkbox"/> 100'</p> <p>Outlet Drop to Stream Bottom: <input checked="" type="checkbox"/> 0' <input type="checkbox"/> 1' <input type="checkbox"/> 2' <input type="checkbox"/> 3' <input type="checkbox"/> 4' <input type="checkbox"/> 5' <input type="checkbox"/> 6' <input type="checkbox"/> 7' <input type="checkbox"/> 8' <input type="checkbox"/> 9' <input type="checkbox"/> 10' <input type="checkbox"/> 11' <input type="checkbox"/> 12' <input type="checkbox"/> 13' <input type="checkbox"/> 14' <input type="checkbox"/> 15' <input type="checkbox"/> 16' <input type="checkbox"/> 17' <input type="checkbox"/> 18' <input type="checkbox"/> 19' <input type="checkbox"/> 20' <input type="checkbox"/> 21' <input type="checkbox"/> 22' <input type="checkbox"/> 23' <input type="checkbox"/> 24' <input type="checkbox"/> 25' <input type="checkbox"/> 26' <input type="checkbox"/> 27' <input type="checkbox"/> 28' <input type="checkbox"/> 29' <input type="checkbox"/> 30' <input type="checkbox"/> 31' <input type="checkbox"/> 32' <input type="checkbox"/> 33' <input type="checkbox"/> 34' <input type="checkbox"/> 35' <input type="checkbox"/> 36' <input type="checkbox"/> 37' <input type="checkbox"/> 38' <input type="checkbox"/> 39' <input type="checkbox"/> 40' <input type="checkbox"/> 41' <input type="checkbox"/> 42' <input type="checkbox"/> 43' <input type="checkbox"/> 44' <input type="checkbox"/> 45' <input type="checkbox"/> 46' <input type="checkbox"/> 47' <input type="checkbox"/> 48' <input type="checkbox"/> 49' <input type="checkbox"/> 50' <input type="checkbox"/> 51' <input type="checkbox"/> 52' <input type="checkbox"/> 53' <input type="checkbox"/> 54' <input type="checkbox"/> 55' <input type="checkbox"/> 56' <input type="checkbox"/> 57' <input type="checkbox"/> 58' <input type="checkbox"/> 59' <input type="checkbox"/> 60' <input type="checkbox"/> 61' <input type="checkbox"/> 62' <input type="checkbox"/> 63' <input type="checkbox"/> 64' <input type="checkbox"/> 65' <input type="checkbox"/> 66' <input type="checkbox"/> 67' <input type="checkbox"/> 68' <input type="checkbox"/> 69' <input type="checkbox"/> 70' <input type="checkbox"/> 71' <input type="checkbox"/> 72' <input type="checkbox"/> 73' <input type="checkbox"/> 74' <input type="checkbox"/> 75' <input type="checkbox"/> 76' <input type="checkbox"/> 77' <input type="checkbox"/> 78' <input type="checkbox"/> 79' <input type="checkbox"/> 80' <input type="checkbox"/> 81' <input type="checkbox"/> 82' <input type="checkbox"/> 83' <input type="checkbox"/> 84' <input type="checkbox"/> 85' <input type="checkbox"/> 86' <input type="checkbox"/> 87' <input type="checkbox"/> 88' <input type="checkbox"/> 89' <input type="checkbox"/> 90' <input type="checkbox"/> 91' <input type="checkbox"/> 92' <input type="checkbox"/> 93' <input type="checkbox"/> 94' <input type="checkbox"/> 95' <input type="checkbox"/> 96' <input type="checkbox"/> 97' <input type="checkbox"/> 98' <input type="checkbox"/> 99' <input type="checkbox"/> 100'</p> <p>Structure Length: <input checked="" type="checkbox"/> 10' <input type="checkbox"/> 12' <input type="checkbox"/> 14' <input type="checkbox"/> 16' <input type="checkbox"/> 18' <input type="checkbox"/> 20' <input type="checkbox"/> 22' <input type="checkbox"/> 24' <input type="checkbox"/> 26' <input type="checkbox"/> 28' <input type="checkbox"/> 30' <input type="checkbox"/> 32' <input type="checkbox"/> 34' <input type="checkbox"/> 36' <input type="checkbox"/> 38' <input type="checkbox"/> 40' <input type="checkbox"/> 42' <input type="checkbox"/> 44' <input type="checkbox"/> 46' <input type="checkbox"/> 48' <input type="checkbox"/> 50' <input type="checkbox"/> 52' <input type="checkbox"/> 54' <input type="checkbox"/> 56' <input type="checkbox"/> 58' <input type="checkbox"/> 60' <input type="checkbox"/> 62' <input type="checkbox"/> 64' <input type="checkbox"/> 66' <input type="checkbox"/> 68' <input type="checkbox"/> 70' <input type="checkbox"/> 72' <input type="checkbox"/> 74' <input type="checkbox"/> 76' <input type="checkbox"/> 78' <input type="checkbox"/> 80' <input type="checkbox"/> 82' <input type="checkbox"/> 84' <input type="checkbox"/> 86' <input type="checkbox"/> 88' <input type="checkbox"/> 90' <input type="checkbox"/> 92' <input type="checkbox"/> 94' <input type="checkbox"/> 96' <input type="checkbox"/> 98' <input type="checkbox"/> 100'</p> <p>Outlet Structure: <input checked="" type="checkbox"/> Vertical <input type="checkbox"/> Horizontal <input type="checkbox"/> Other</p> <p>Outlet Configuration: <input checked="" type="checkbox"/> Vertical <input type="checkbox"/> Horizontal <input type="checkbox"/> Other</p> <p>Outlet Dimensions: <input checked="" type="checkbox"/> 10' <input type="checkbox"/> 12' <input type="checkbox"/> 14' <input type="checkbox"/> 16' <input type="checkbox"/> 18' <input type="checkbox"/> 20' <input type="checkbox"/> 22' <input type="checkbox"/> 24' <input type="checkbox"/> 26' <input type="checkbox"/> 28' <input type="checkbox"/> 30' <input type="checkbox"/> 32' <input type="checkbox"/> 34' <input type="checkbox"/> 36' <input type="checkbox"/> 38' <input type="checkbox"/> 40' <input type="checkbox"/> 42' <input type="checkbox"/> 44' <input type="checkbox"/> 46' <input type="checkbox"/> 48' <input type="checkbox"/> 50' <input type="checkbox"/> 52' <input type="checkbox"/> 54' <input type="checkbox"/> 56' <input type="checkbox"/> 58' <input type="checkbox"/> 60' <input type="checkbox"/> 62' <input type="checkbox"/> 64' <input type="checkbox"/> 66' <input type="checkbox"/> 68' <input type="checkbox"/> 70' <input type="checkbox"/> 72' <input type="checkbox"/> 74' <input type="checkbox"/> 76' <input type="checkbox"/> 78' <input type="checkbox"/> 80' <input type="checkbox"/> 82' <input type="checkbox"/> 84' <input type="checkbox"/> 86' <input type="checkbox"/> 88' <input type="checkbox"/> 90' <input type="checkbox"/> 92' <input type="checkbox"/> 94' <input type="checkbox"/> 96' <input type="checkbox"/> 98' <input type="checkbox"/> 100'</p> <p>Outlet Drop to Stream Bottom: <input checked="" type="checkbox"/> 0' <input type="checkbox"/> 1' <input type="checkbox"/> 2' <input type="checkbox"/> 3' <input type="checkbox"/> 4' <input type="checkbox"/> 5' <input type="checkbox"/> 6' <input type="checkbox"/> 7' <input type="checkbox"/> 8' </p>			

Nissen Lane- Minor Barrier

[illegible]

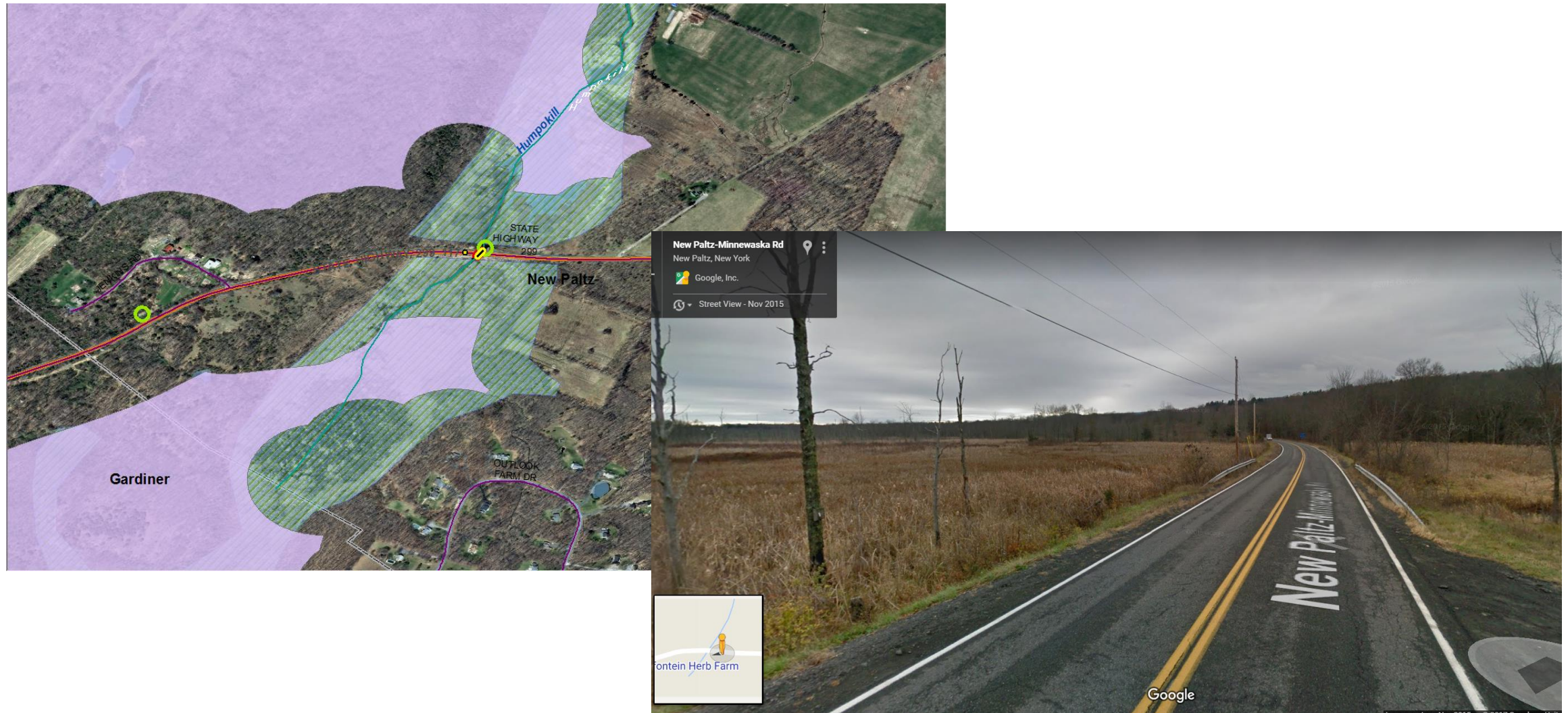
Sweet Meadows Before- Severe Barrier



Sweet Meadows After



Ulster County Culvert Assessment Project



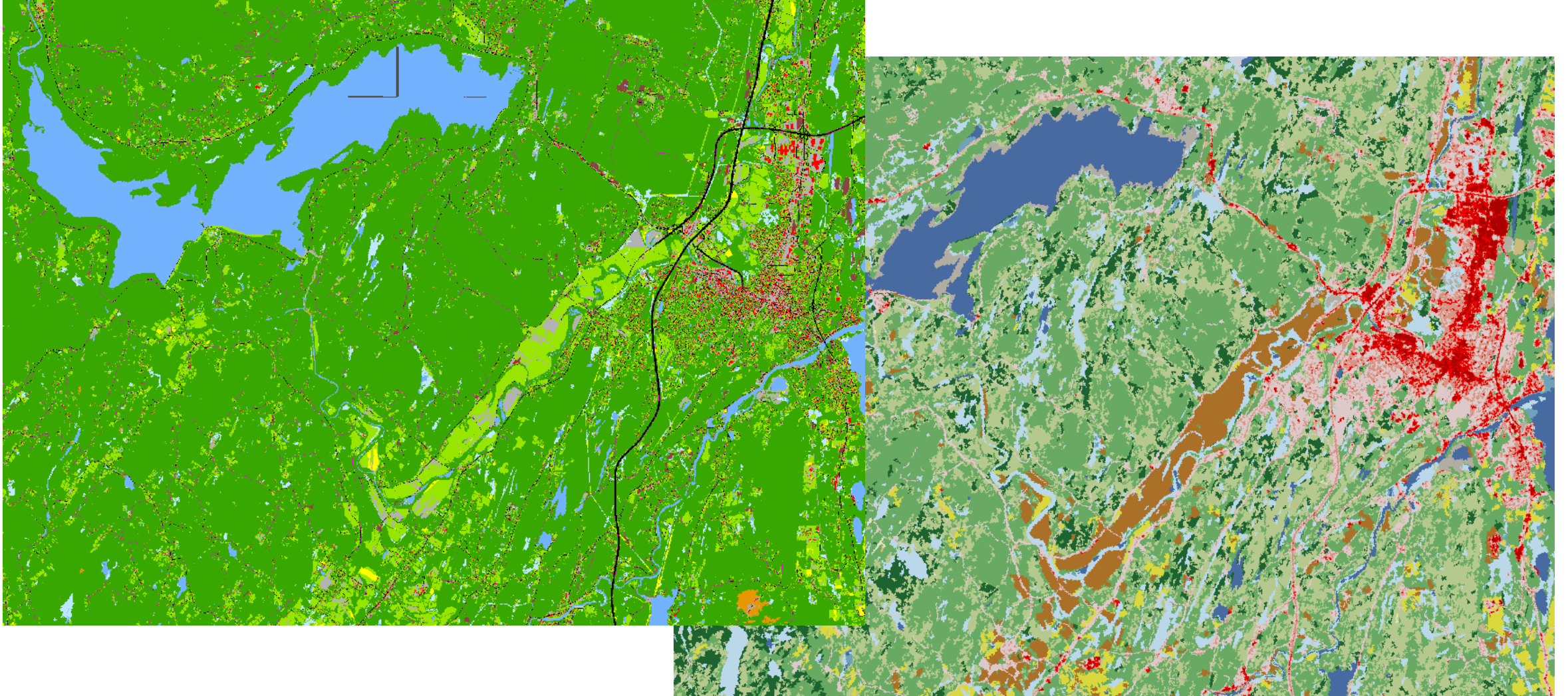
Ulster County Culvert Assessment Project



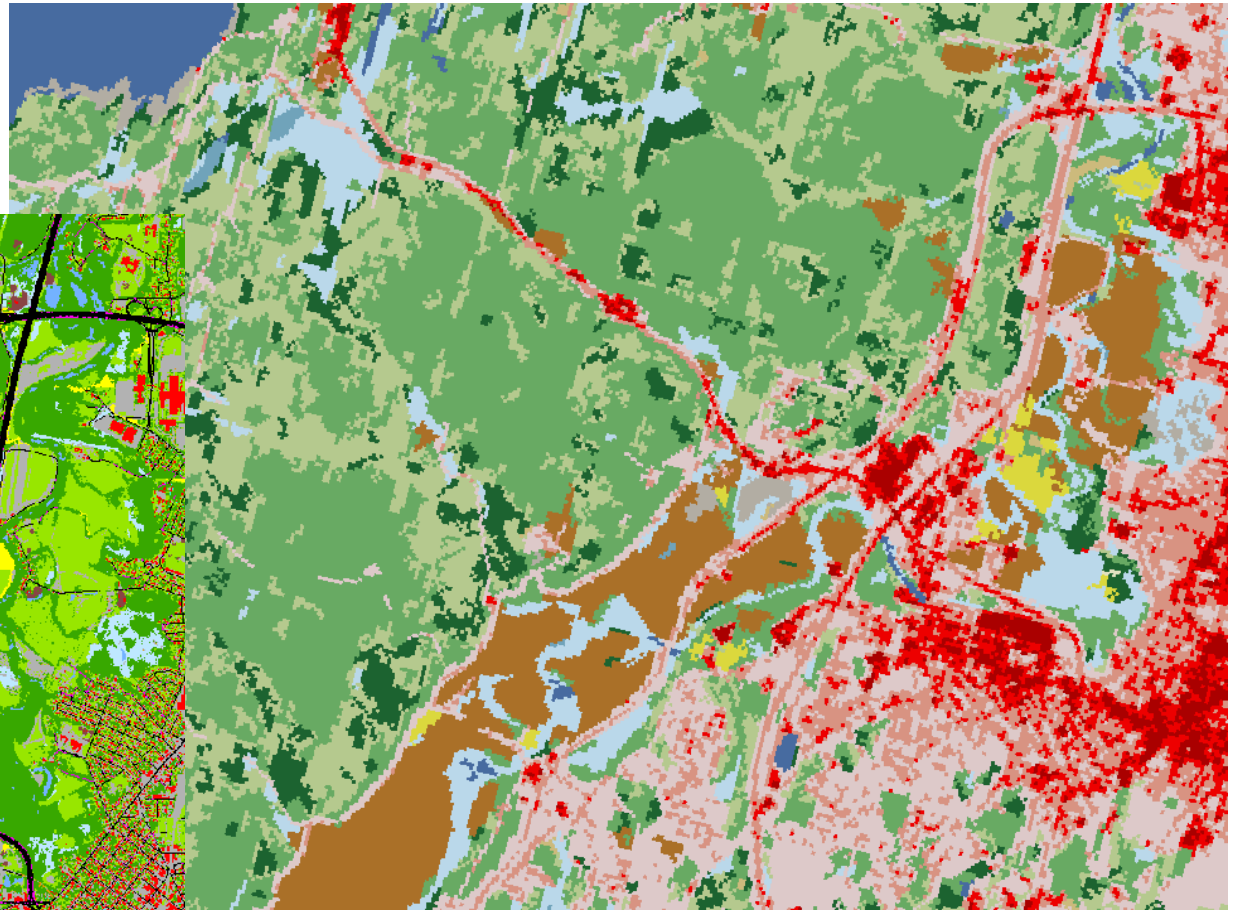
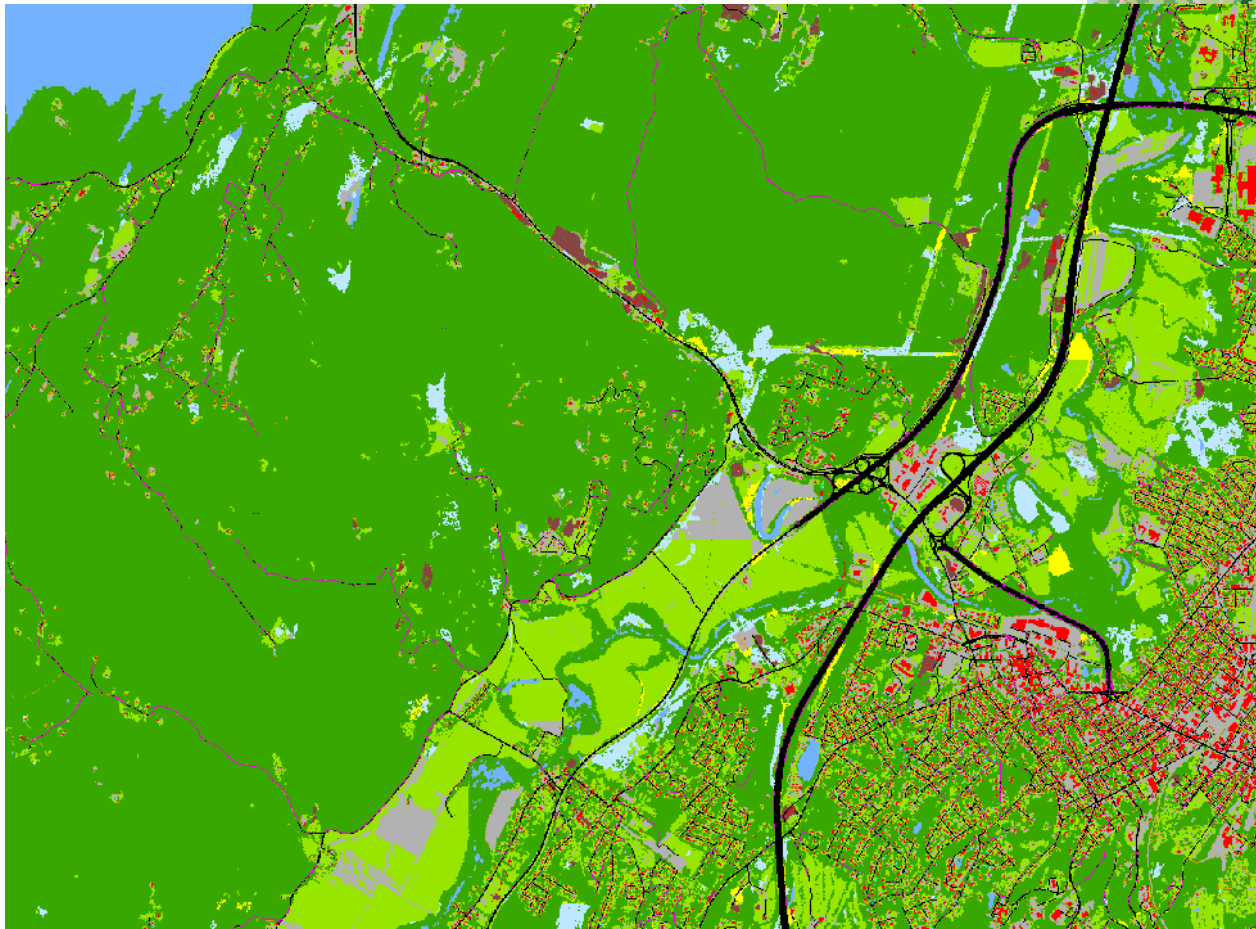
Ulster County Culvert Assessment Project- Updated UC Habitat Cores

- Original cores meant to be reproducible across NYS
- Used national and statewide data sets including the NLCD, a USDS nationally available 30 meter land cover data set
- In 2017, a 1 meter landcover data set was developed for UC, and UC contracted with Green Infrastructure Center, inc. to rebuild the cores layer based on this data

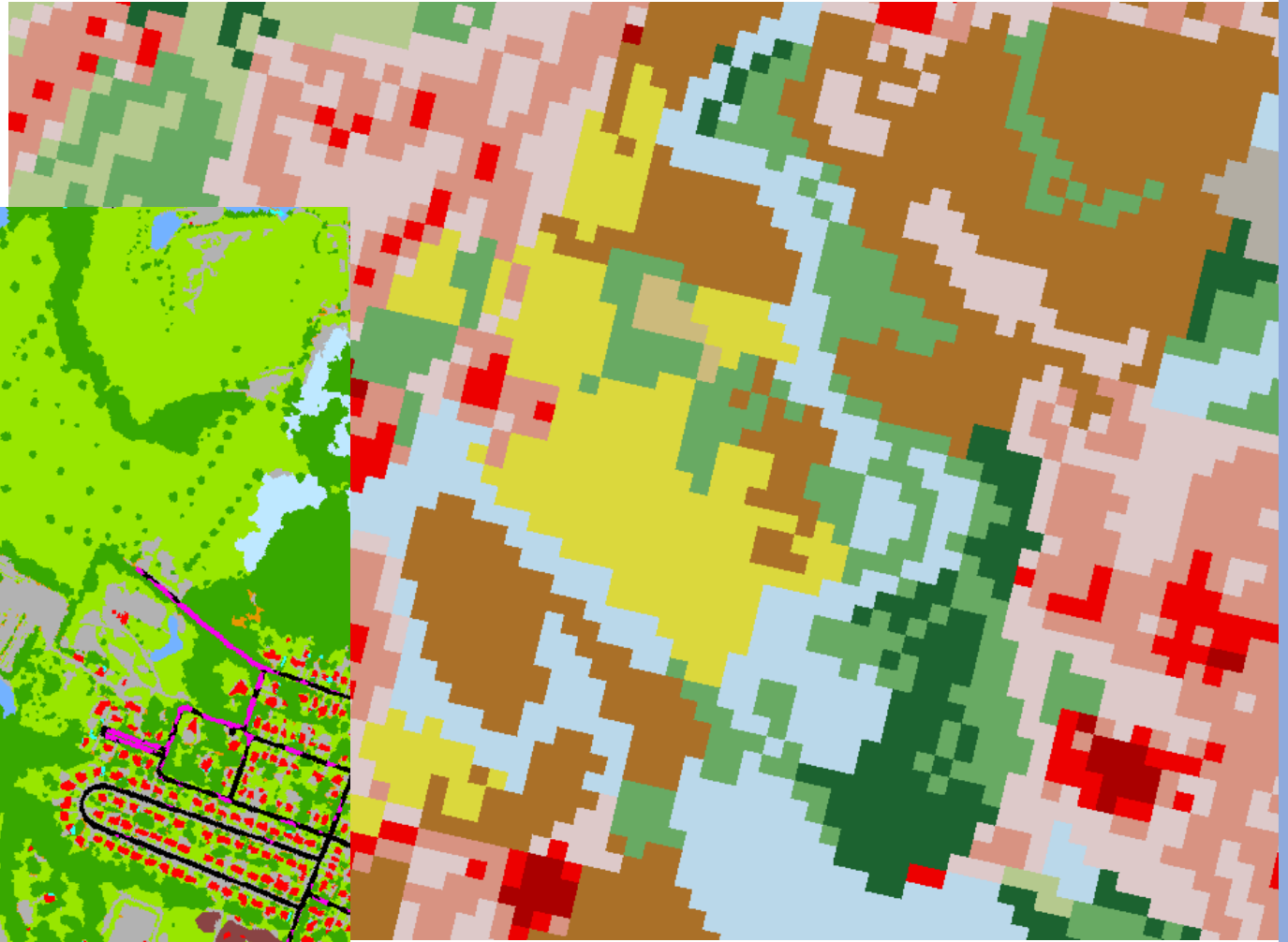
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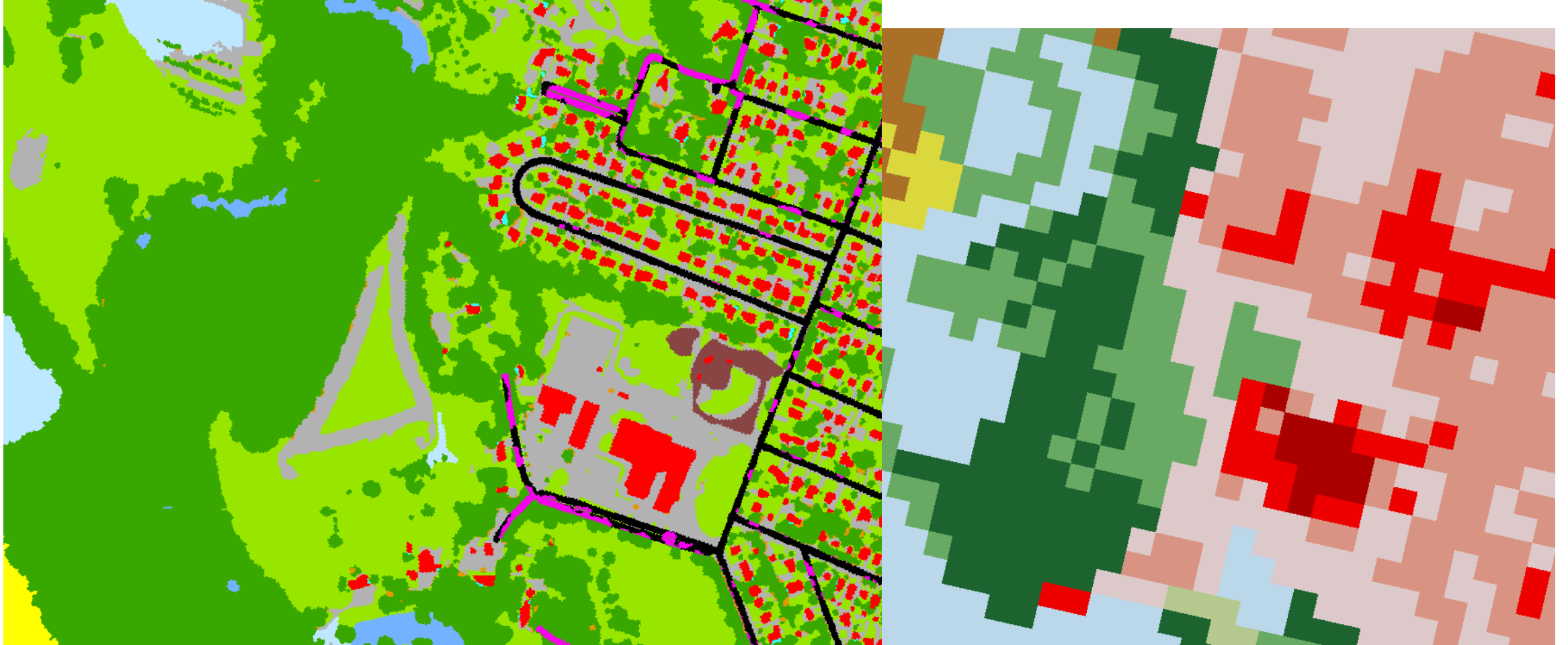
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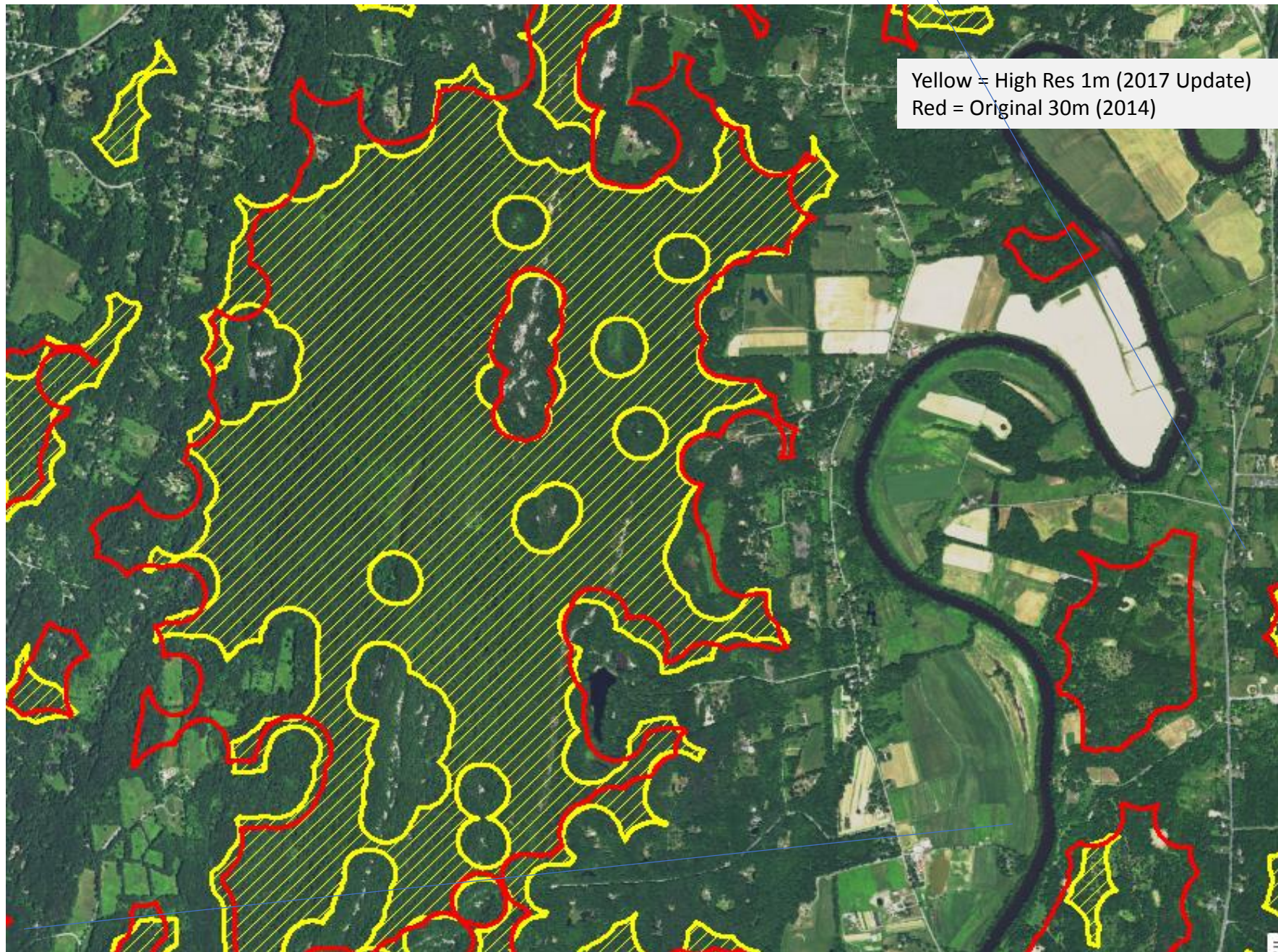


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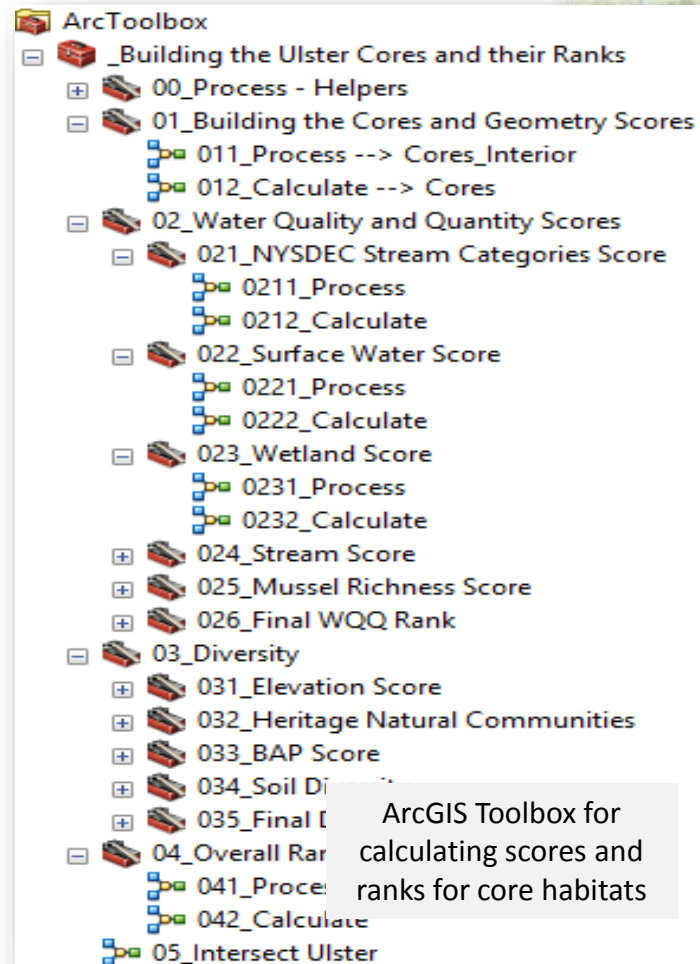


1:5k





Ulster County Culvert Assessment Project- Updated UC Cores



ArcGIS Toolbox for
calculating scores and
ranks for core habitats

