Cattaraugus Creek Integrated Watershed Action Plan

Watershed Stakeholder Committee

Meeting #5

June 5, 2023

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

RAMBOLL

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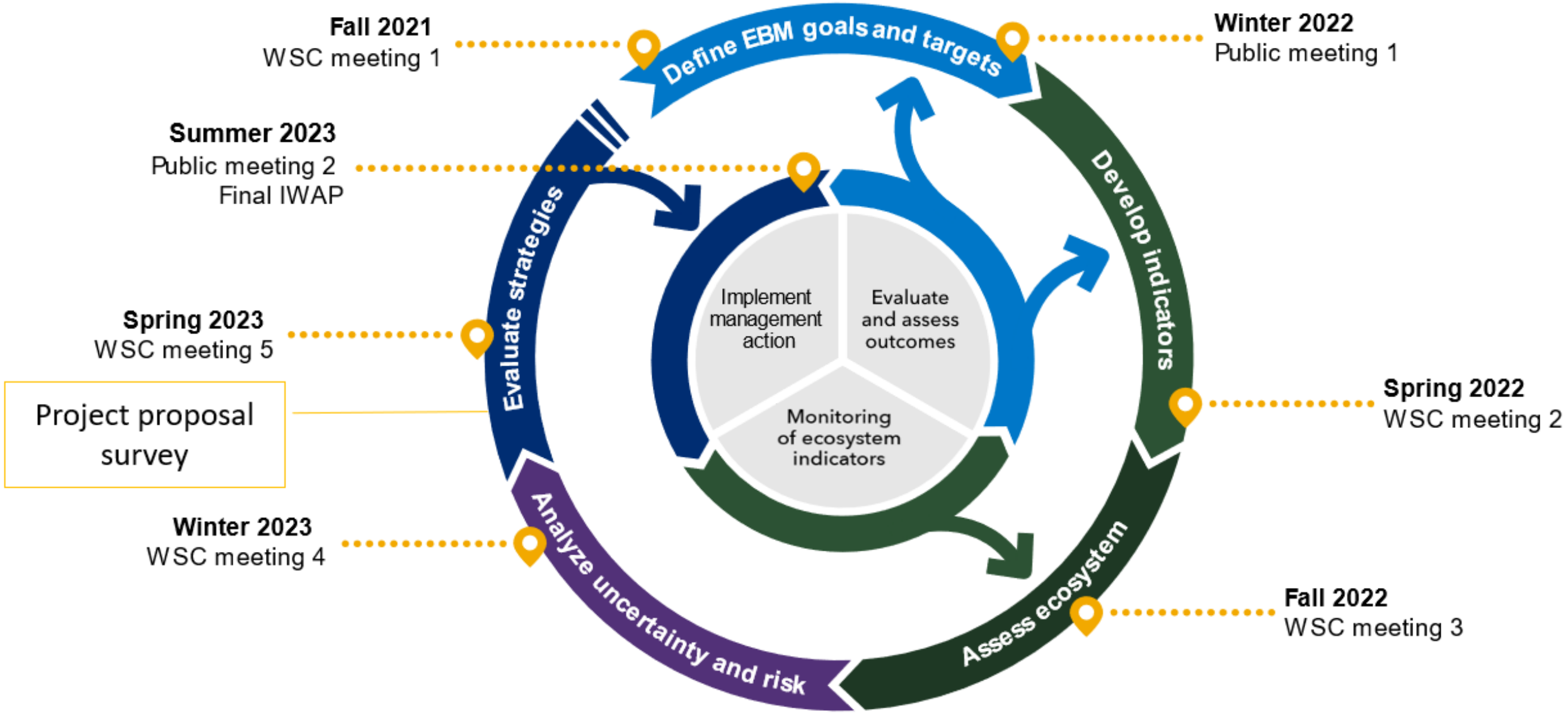
EcoLogic

Agenda

- *Preliminary/Draft* Project Recommendations: Interactive Session
- Next Steps

IWAP Process and Schedule



Interactive Session

Unmute to provide comments or questions

or

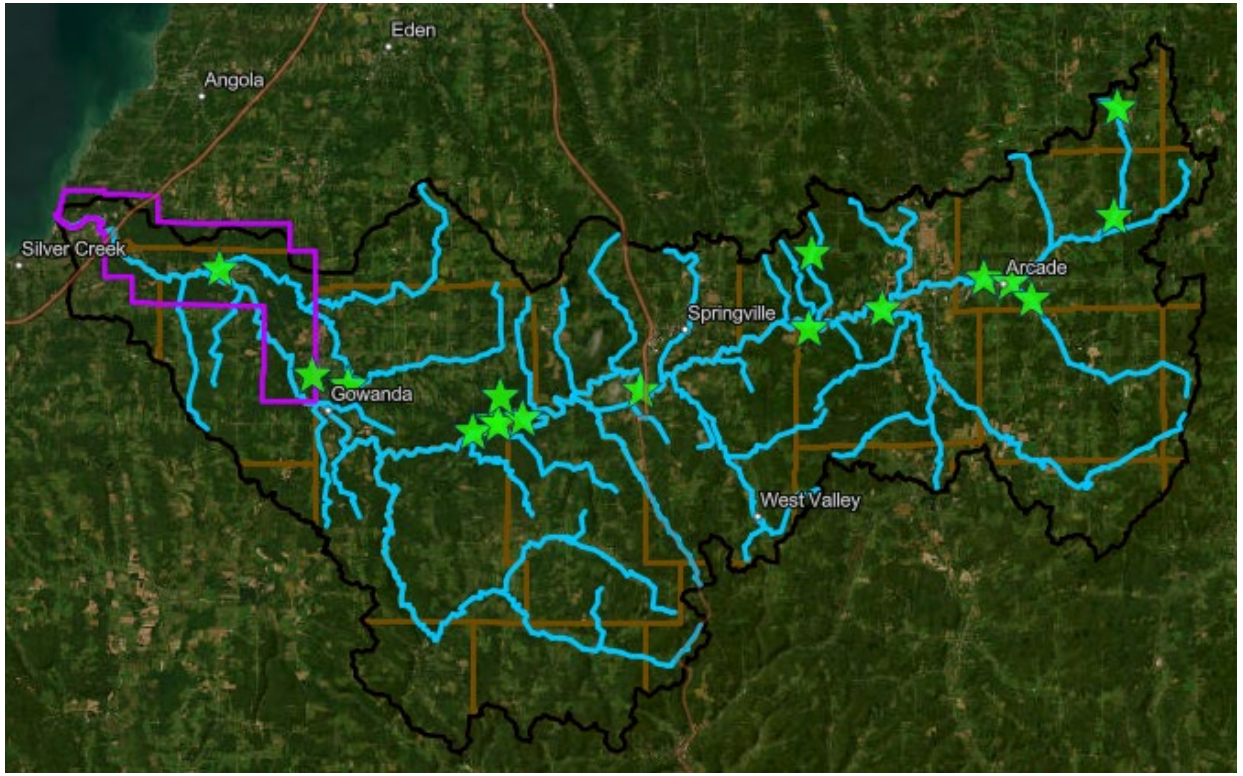
Feel free to use the Zoom Chat to add:

- Comments
- Questions
- Project recommendations
- Reactions

Summary of Project Proposals – Survey Feedback

17 projects submitted to date*

Goal	Site Specific	Watershed
Goal 1: Water Quality	10	3
Goal 2: Floodplains & Riparian Areas	10	1
Goal 3: Forests	2	0
Goal 4: Streams	10	1
Goal 5: Invasive Species	4	0
Goal 6: Sustainable Working Lands	1	2
Goal 7: Heritage & Sense of Place	2	0



**Some projects overlap with multiple goals, which caused the table above appear to have greater than 17.*

Goal 1: Water Quality

Protect and improve high quality surface and groundwater resources to support aquatic habitat, drinking water supplies, and water-dependent recreation

- **Up to 3 inches of additional annual precipitation may occur by 2050**
- Developed lands are increasing at a rate of approximately 81 acres/year
- Java Lake is subject to recurrent harmful algal blooms (confirmed reports in 2012, 2014, 2015, 2016, 2017, 2018, 2019, 2021, and 2022)
- Data gaps:
  - Continue and expand the NYSDEC Rotating Integrated Basin Studies (RIBS) Program and Citizens Statewide Lake Assessment Program (CSLAP) (i.e., Java Lake)

Goal 1: Water Quality

Protect and improve high quality surface and groundwater resources to support aquatic habitat, drinking water supplies, and water-dependent recreation

Site Specific Project Recommendations:

1. Riparian buffer or other stream management projects
    - **Locations:** Along Cattaraugus Creek in the Towns of Otto, Collins, Yorkshire, Sardinia, and Arcade
2. Water quality monitoring, i.e., Java Lake

Watershed Wide Project Recommendations:

1. Waterbody Inventory/Priority Waterbodies List (PWL) and CSLAP monitoring (i.e., Java Lake)
2. Drinking Water Source Protection Program (DWSP2)
3. New and expand existing septic inspection programs

Project Recommendations, suggested locations needed:

1. Additional stream gage sites and other water quality monitoring locations

Numbers highlighted in **cyan** *denote recommendations that are in more than one IWAP project goal*

Goal 2: Floodplains and Riparian Areas

Enhance functioning floodplains and riparian corridors to minimize infrastructure impacts from flood events, improve water quality, and support natural shorelines

- From 1990 to 2010, flood stage (17,100 cubic ft/second) was recorded to only exceed twice. **During the 2010's, there were three such events, and one already in the 2020's**
- Developed land in riparian zones increased (~11.5 acres/year) between 2001 and 2019

Goal 2: Floodplains and Riparian Areas

Enhance functioning floodplains and riparian corridors to minimize infrastructure impacts from flood events, improve water quality, and support natural shorelines

Site Specific Project Recommendations:

1. Actions to reduce flood risk in the Town of Collins
2. Installation of flood benches upstream of the Village of Arcade (Clear Creek)

Watershed Wide Project Recommendations:

1. Role of headwaters silt and clay formations on siltation and phosphorus loading, track sediment grain size distribution

Project Recommendations, suggested locations needed:

1. Construction and restoration of wetlands (60% loss in NYS)
2. Increase canopy cover, fish habitat, and riparian plantings
3. Increase long-term monitoring and reporting of implemented riparian buffers projects
4. Add meteorological capacity (wind data)

Educational Recommendations (<u>reference existing resources when available</u>):

1. Educate on the value of vegetation of land adjacent to streams and promote the use of buffers

Numbers highlighted in **cyan** *denote recommendations that are in more than one IWAP project goal*

Goal 3: Forests

Promote healthy and connected forests and upland communities to support clean air and water, biodiversity, opportunities for outdoor recreation, and sustainable use of natural resources

- **Between 2013-2019, the average seedling density was 887 seedlings/acre (classified as "fair" regeneration capacity), but trends show declining density**
- **Aboveground tree biomass stock estimates increased by 1.4 million tons from 1992 to 2018. On average, tree biomass sequestered 65,000 tons of carbon per year (above- and below-ground combined carbon estimate)**
- Bald eagle youths were recorded every year in the 2017-2021 dataset, which is an improvement over the state-wide extirpation of bald eagles during the mid 1900's
- **Data gaps:**
  - **Herpetofauna abundance/distribution; dispersal pathways**
  - **Vernal pool location/distributions**
  - **Fisher, otter, and bobcat populations**
  - **Deer browse intensity**
  - **Forest regeneration following private land harvests**
  - **Invasive understory shrub populations and impact on forest regeneration**

Goal 3: Forests

Promote healthy and connected forests and upland communities to support clean air and water, biodiversity, opportunities for outdoor recreation, and sustainable use of natural resources

Site Specific Project Recommendations:

1. Erie County Forestry Management Plan update
2. Expand WNY Wildway in Cattaraugus and Erie Counties

Watershed Wide Project Recommendations:

1. Identify key areas where reptiles and amphibians are crossing roadways
2. Land acquisitions to protect source water areas
    - Funding = Water Quality Improvement Project (WQIP) grants
3. BMPs that prevent deer browsing
    - Leaving logging slash/debris in the woods to create a barrier layer that protects seedlings from deer browse
4. LIDAR monitoring to accurately track forest structure

Project Recommendations, suggested locations needed:

1. Research areas at risk of development pressure or suburban sprawl
2. Sound forest/woodlot management for ash lots in headwaters
    - Funding = Regenerate NY Forestry Cost Share Grant Program

Numbers highlighted in **cyan** *denote recommendations that are in more than one IWAP project goal*

Goal 4: Streams

Facilitate and improve stream health through connectivity and natural sediment transport to support quality habitat for fish and wildlife

- **While Cattaraugus Creek temp and DO are quite stable, the median turbidity near Gowanda between 2012 and 2020 was 24 nephelometric turbidity unit (NTU), which is considered high for prime fishing conditions. Low catch rates during the 2018 season may be related to high turbidity (levels above 30 NTU)**

- **While the frequency of flood events has increased (based on available stream gage data), water budget deficits in 2020 and 2021 suggest concerns for low flow and loss of hydrologic connectivity**

- **Data gaps:**
  - **Slumping/areas of significant bank failure**
  - **Cold water refuge reaches in headwaters**
  - **Connectivity of headwaters streams during drought conditions**
  - **Categorization of undersized culverts and dams that inhibit desired aquatic organism passage, as well as hydrologic processes**

Goal 4: Streams

Facilitate and improve stream health through connectivity and natural sediment transport to support quality habitat for fish and wildlife

Site Specific Project Recommendations:

1. Improve aquatic connectivity of streams to support fish passage and natural stream flows (e.g., Connoisarauley Creek US-219 intersection)
    - However, some barriers protect native brook trout populations and should remain (e.g., Spring Brook and Flynn Brook)
2. Evaluate impact of north and south breakwaters in the Cattaraugus Creek Harbor on coastal processes

Watershed Wide Project Recommendations:

1. Investigate other models, such as landowner cooperatives, that can be used to improve access along the creeks
2. Survey the Cattaraugus Creek and tributaries to identify areas of cold groundwater inputs for sustaining wild trout populations
3. Expand the Stream Visual Assessment Protocol (SVAP) to the western portion of the watershed

Project Recommendations, suggested locations needed:

1. Protect and expand gravel beds that are key for steelhead and walleye fishery

Numbers highlighted in **cyan** *denote recommendations that are in more than one IWAP project goal*

Goal 5: Invasive Species

Minimize the negative impacts caused by invasive species to support fish and wildlife, forest and agricultural production, and natural physical conditions

- There was an observed increase in the number of new terrestrial invasive species in 2016 and 2017 (11 new species in 2016 and 15 new species in 2017, based on iMapInvasives)

- Terrestrial invasive species such as **Hemlock Woolly Adelgid and Emerald Ash Borer** were observed in Zoar Valley Unique Area, Collins, North Collins and Concord, NY. These invasive species are responsible for destruction of eastern hemlock and ash trees across New York State as well as significant alterations to adjacent aquatic communities

- **The growing season (days between last spring and first fall frost) has increased from the long-term median of 117 days to 144 days. This change may impact species range limits**

- Data gaps:
  - Invasive shrub populations
  - Comprehensive invasive species surveys (expanding coverage)
  - Seed bank and ground layer studies in eastern hemlock stands

Goal 5: Invasive Species

Minimize the negative impacts caused by invasive species to support fish and wildlife, forest and agricultural production, and natural physical conditions

Site Specific Project Recommendations:

1. Invasive Species Management and Vernal Pool Restoration (i.e., Scoby Dam Park)
2. Knotweed management along streambanks (i.e., Village of Arcade)

Watershed Wide Project Recommendations:

1. Establish standing contracts with invasive species management specialists, so that new pests or pathogens are quickly identified and treated

Project Recommendations, suggested locations needed:

1. Environmental monitoring (e.g., Stream Visual Assessment Protocol (SVAP)), or regulatory programs, to monitor for invasive species
2. Research the impact that invasive species has on agricultural land

Educational Recommendations (reference existing resources when available):

1. Educate on invasive species issues and behaviors that prevent their spread
2. Remote sensing applications to track invasive species

Numbers highlighted in **cyan** *denote recommendations that are in more than one IWAP project goal*

Goal 6: Sustainable Working Lands

Promote, implement, and improve sustainable land uses to provide future human generations with the ability to use and prosper from natural resources

- Headwaters of Elton Creek subwatershed (HUC12: 041201020103) has the highest agricultural environmental management (AEM) participation of the Cattaraugus Creek watershed, up to 21%

- According to United States Department of Agriculture (USDA) farm census data, 95% of the farms in watershed counties are small and family owned, however there's a risk of land turnover/development as the human population in the watershed is aging

- Well over half of the farms in the watershed use conventional tillage practices (USDA Census of Agriculture). **Erosion rates from "conventionally plowed agricultural fields average 1–2 orders of magnitude greater than rates of soil production**" (Montgomery 2007)

- Data gaps:
  - Timber and maple syrup production
  - Pollinator insect populations
  - Soil loss/erosion rates
  - Key barriers to advancing Agricultural Environmental Management (AEM) program

Goal 6: Sustainable Working Lands

Promote, implement, and improve sustainable land uses to provide future human generations with the ability to use and prosper from natural resources

Site Specific Project Recommendations:

1. Riparian buffer or other stream management projects
    - **Locations:** Along Cattaraugus Creek in the Towns of Otto, Collins, Yorkshire, Sardinia, and Arcade

Watershed Wide Project Recommendations:

1. Agricultural nutrient management plans (NMP)
2. Agricultural soil health practices and initiatives (i.e., cover crops, reduced tillage, no till programs)

Project Recommendations, suggested locations needed:

1. Increase long-term monitoring and reporting of implemented riparian buffers projects
2. Research the impact that invasive species has on agricultural land

Educational Recommendations (<u>reference existing resources when available</u>):

1. Educate on the value of vegetation of land adjacent to streams and promote the use of buffers

Numbers highlighted in **cyan** *denote recommendations that are in more than one IWAP project goal*

Goal 7: Heritage and Sense of Place

Inspire and facilitate a connection with nature to support physical, social, and mental well-being

- Fall and spring (October, November, April) salmonid angler hours have declined up to five-fold
- Widespread portions of the watershed have notable risk due to socioeconomic factors such as social vulnerability and human population age structure
- With watershed development increasing at a rate of approximately 81 acres/year increased suburban sprawl may pose a risk to natural lands
- **Stakeholders express ongoing concern about safety and usage of resources along Cattaraugus Creek in the central part of the watershed (e.g., Zoar Valley)**
- Data gaps:
  - Use of traditional resources
  - Inclusive public access dataset
  - Trail use logs

Goal 7: Heritage and Sense of Place

Inspire and facilitate a connection with nature to support physical, social, and mental well-being

Site Specific Project Recommendations:
1. Advance Southern Tier Trail from feasibility study to design

Watershed Wide Project Recommendations:
1. Provide accessible online information on trails and other outdoor recreational opportunities
2. Natural history study of the watershed
3. Become a Climate Smart Community (CSC)

Project Recommendations, educational:
1. Create public events that provide a broad range of safety and conservation matters related to Zoar Valley (i.e., I Love My Park Day)

*Numbers highlighted in **cyan** denote recommendations that are in more than one IWAP project goal*

Next Steps

- Public Meeting: July 25, 4:00pm-5:30pm
- IWAP Report: late summer
- Long term management survey:

https://survey123.arcgis.com/share/02728c55240f4464ba35745238d8e45a

- Check out the StoryMap for updates:

https://storymaps.arcgis.com/stories/369d69e8344a4856ac9729b178445eb0

Thank you!

Final questions or comments?

Email: CattCreek@ramboll.com

Website: https://www.dec.ny.gov/lands/124314.html

StoryMap Link: https://storymaps.arcgis.com/stories/369d69e8344a4856ac9729b178445eb0

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