

Smith Mills Reservoir: Repurposing Aging Infrastructure with an Ecosystem-Based Management Approach

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Chautauqua County Soil and Water Conservation District



Ecosystem-Based Management

- SUNY ESF - Ecosystem-based management is an integrated organizational approach to decision making that considers an **entire ecological community**, including humans to create a sound blueprint for the **near and long-term** ecological health and development.
- NYS Ag & Markets - Ecosystem Based Management uses a place-based approach to natural resource conservation. This approach focuses on the **complex issues** threatening our environment in a single location, rather than resolving a single issue statewide. It works by **coordinating local, state, and federal** programs and providing funding in targeted areas to fill in the gaps, making it easier for landowners and conservation agencies to get conservation off the ground and to achieve **meaningful** results.
- US EPA - EBM emphasises on factoring in complex linkages in social-ecological systems; dealing with adequate scales (both time and space wise); promoting adaptive management of **complex and dynamic systems**; and adopting integrated assessment and management frameworks. It assigns **economic and non-economic value** to our biodiversity (Ecosystem Services) through environmental and ecological economics, highlighting the fundamental philosophical principles underlining both approaches.

Mouth of Silver Creek at Lake Erie

2015



2009



**SPECTRUM
NEWS**

A DECADE AFTER THE DEVASTATION

REMEMBERING THE TEN YEAR ANNIVERSARY OF THE SILVER CREEK FLOODING

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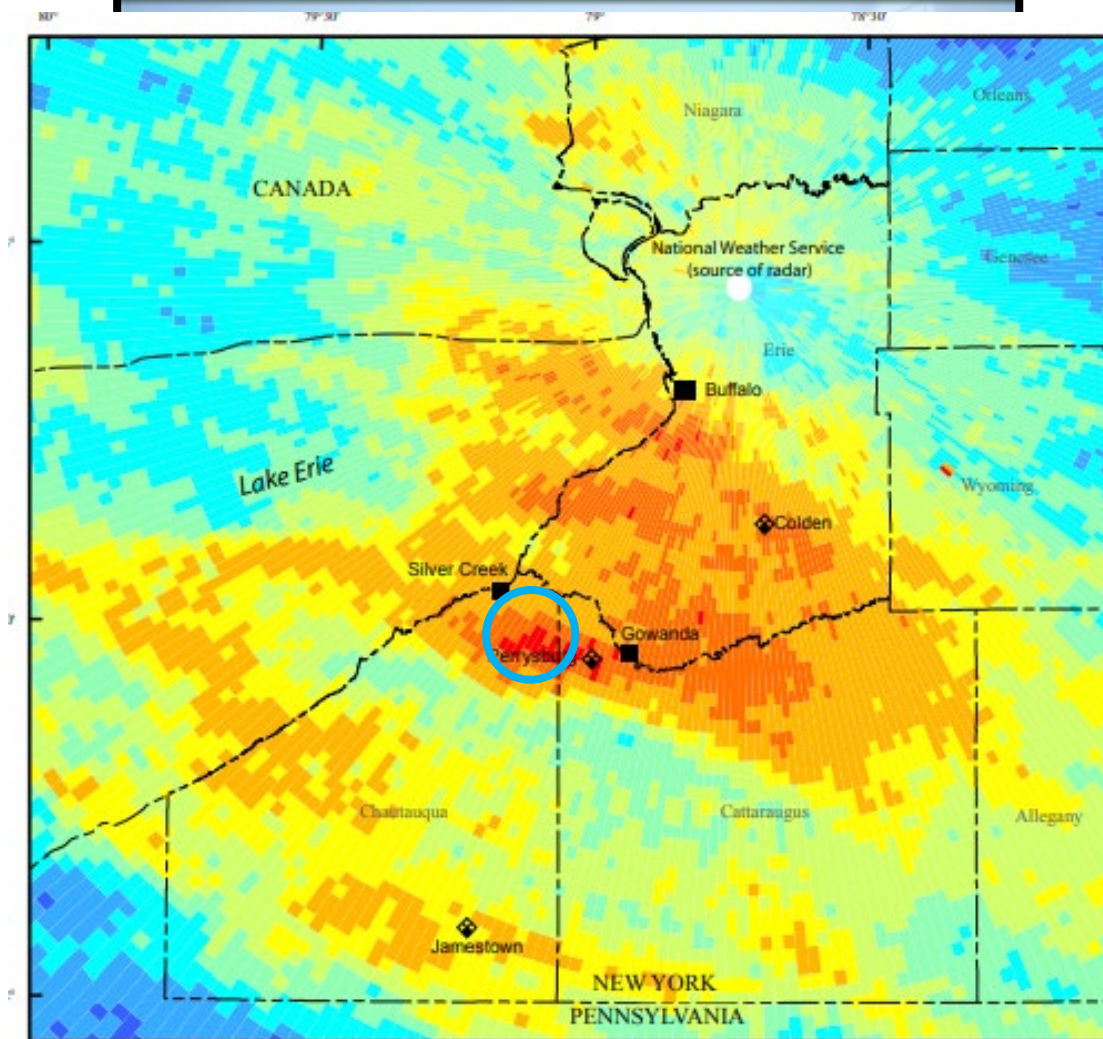


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Prepared in cooperation with the Federal Emergency Management Agency

Flash Floods of August 10, 2009, in the Villages of Gowanda and Silver Creek, New York



April 2021

RESILIENT NEW YORK FLOOD MITIGATION INITIATIVE

SILVER CREEK, CHAUTAUQUA COUNTY, NEW YORK

Prepared for:



Project Team:



6.3 HIGH-RISK AREA #3

6.3.1 Alternative #3-1: Levee at Mobile Home Park

This measure is intended to address flooding experienced at the mobile home park located on the southern side of Main Road (County Route 20). A right-bank levee located between river stations 36+00 and 41+00, approximately 500-ft long and 6-ft high, would help prevent Silver Creek from leaving the stream channel during flow events up to and including the 1% annual chance flood event. The footprint required to construct the levee would require property along the Silver Creek in the mobile home park (Figure 6-15).



Figure 6-15. Location map for Alternative #3-1: Levee at mobile home park.

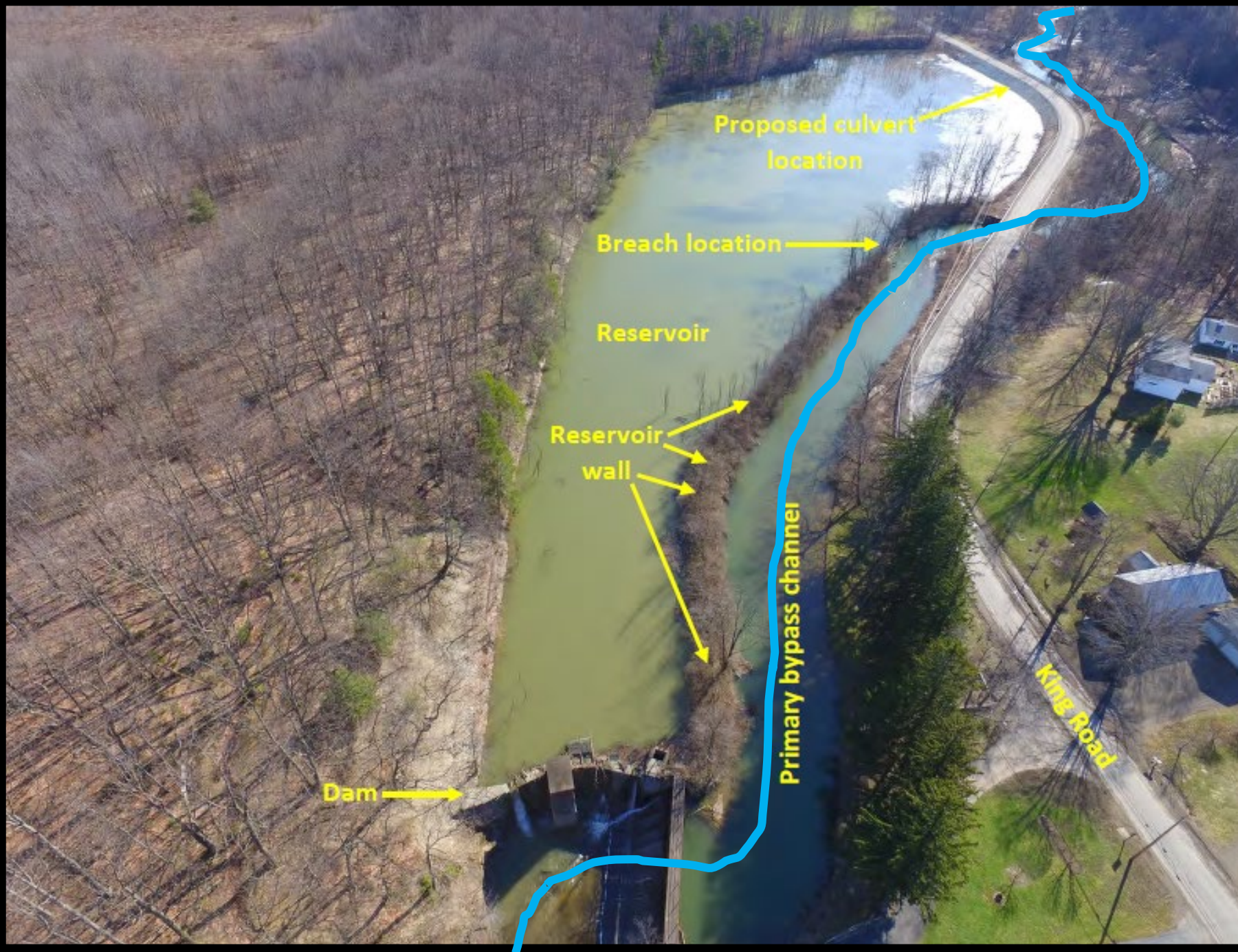
6.3.2 Alternative #3-2: Flood Bench Upstream Mobile Home Park

The flood bench would be located on the left bank of Silver creek between river stations 38+00 and 50+00. The addition of a flood bench increases the water storage volume to the river, decreasing water depths during large flow events. This measure would be located immediately upstream and on the opposite bank (left bank) from the mobile home park, and would require the excavation of approximately four acres of land at an average depth of 5 ft (Figure 6-18).



Figure 6-18. Location map for Alternative #3-2: Flood Bench upstream of mobile home park.









10/2019

King Rd

King Rd

King Rd

Harvard Rd

County Touring Rte 93

5M

Google Earth

Imagery Date: 10/10/2019 42°30'09.20" N 79°06'10.17" W elev 0 ft eye alt 1522 ft

1985

10/2019

King Rd

King Rd

King Rd

Harvard Rd

County Touring Rte 93

5M

Google Earth

Imagery Date: 10/10/2019 42°30'09.20" N 79°06'10.17" W elev 0 ft eye alt 1522 ft

1985

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11/2021

King Rd

Hamover Rd

County Touring Rte 93

King Rd

King Rd

5M

Image © 2022 Maxar Technologies

Google Earth

Imagery Date: 11/23/2021 42°30'11.76" N 79°06'09.67" W elev 0 ft eye alt 1522 ft

1985

Construction Sequence

10/2019

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Harvard Rd

County Touring Rte 93

King Rd

King Rd

5M

Google Earth

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5M

Image © 2022 Maxar Technologies

Google Earth

Imagery Date: 11/23/2021 42°30'11.76" N 79°06'09.67" W elev 0 ft eye alt 1522 ft

1985











Before



After

Before



After





11/2021

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King Rd

King Rd

Hammer Rd

County Touring Rte 93

5M

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Google Earth

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1985





11/2015

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King Rd

King Rd

Hanover Rd

County Touring Rte 93

Image © 2022 Maxar Technologies

Google Earth







Before



After

11/2021

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Hammer Rd

County Touring Rte 93

King Rd

King Rd

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Google Earth

1985

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Before




After
















Funding Breakdown


Source	Amount
Chautauqua County 2% Lakes and Tributaries Bed Tax Grant	\$40,000.00
NYS DEC WQIP – Aquatic Connectivity Grant	\$217,000.00
US Fish & Wildlife Great Lakes Restoration Initiative Grant	\$98,000.00
SWCD: Construction Inspection/Project Management	\$17,594.00
In-Kind Services: Village of Silver Creek, Town of Hanover	\$27,200 (estimated)
Total	\$399,794.00

<https://storymaps.arcgis.com/stories/ba01e3f8b50f443f817a3081ea5d7ef4>

 Removal of Smith Mills Dam

   <https://storymaps.arcgis.com/stories/ba01e3f8b50f443f817a3081ea5d7ef4>       

 Removal of Smith Mills Dam  



Removal of Smith Mills Dam

Silver Creek, Chautauqua County, NY | Completed in 2020

Lower Great Lakes Fish and Wildlife Conservation Office
January 5, 2021



Questions?