

Discovery Report Appendix N

Watershed Recommended Scope of Work

Memorandum

Lake Champlain Watershed

HUC 04150408

September 2016



FEMA

Federal Emergency Management Agency
Department of Homeland Security
26 Federal Plaza
New York, NY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Flood Protection and Dam Safety

625 Broadway, Albany, New York 12233-3504

P: (518) 402-8185 | F: (518) 402-9029

www.dec.ny.gov

September 12, 2016

Mr. Andrew Martin
FEMA Region II
26 Federal Plaza
New York, NY 10278-0002

Re: Lake Champlain Watershed Recommended Scope of Work

Dear Mr. Martin:

Please accept the State's priorities for new or revised floodplain mapping within the Lake Champlain Watershed as developed by the Lake Champlain Watershed Discovery project. Pre-Discovery community engagement meetings were held for the Lake Champlain Watershed via webinar the week of April 4, 2016. The purpose of the pre-Discovery webinars was to discuss the Discovery process and collect information on community mapping needs, as well as determine if any data that might exist could be incorporated into a possible Risk MAP project. There were two webinar meetings held for the counties, communities and other interested stakeholders throughout the watershed area. Participation on the webinars was mixed with some stakeholders very interested in the project and others less involved.

Following the pre-Discovery engagement meetings, the project team held four Discovery meetings for the stakeholders within the Lake Champlain Watershed during the week of June 6th. During these meetings the project team followed up on the information collected during the pre-Discovery meetings and provided an opportunity for the communities and other stakeholders to give information on mapping needs. The project team used the information collected throughout the Discovery process, as well as information collected from previous stakeholder engagement meetings, to develop this proposed scope. More stream study requests were provided than can be studied as part of this project and all additional study requests will be entered into FEMA's Coordinated Needs Management Strategy (CNMS) database and considered for future floodplain mapping projects.

The Lake Champlain Watershed consists of four counties and 43 communities. Participation in the Discovery process was fairly robust with nearly 2/3 of the communities attending the pre-Discovery webinars and/or the Discovery meetings and providing requests for updated floodplain mapping. An additional six communities submitted stakeholder surveys but did not attend either of the meetings. Stakeholders from all four counties attended.

Communities in the Lake Champlain Watershed have a mix of updated digital countywide Flood Insurance Rate Maps (FIRMs) and older community based, paper FIRMs developed between 1984 and 1997. While communities in Clinton County have an updated countywide FIRM, communities in Essex, Warren, and Washington Counties would benefit from a modernized countywide FIRM in a digital format. Community officials find the existing maps very difficult to work with. In particular, stakeholders noted it is challenging to locate structures on these maps accurately. Many of the communities noted there is growth along major water bodies, such as Lake Champlain and Lake George. While a wholesale restudy of each county may not be

warranted, there are several key stream segments in each county which require a new detailed study. The new detailed studies, combined with updated approximate studies in a new digital format would assist both the communities and the counties in enforcing floodplain regulations and managing development.

Beyond upgrading the existing detailed and approximate mapping to a digital format in Essex, Warren and Washington Counties, the Lake Champlain Watershed stream restudy priorities are as follows.

High Priority Detailed Studies:

1. Lake Champlain needs an updated detailed lake study for its entire length. Clinton County indicates there is significant development along the shoreline while the Village of Port Henry, Town of Ticonderoga, Town of Westport, and Village of Whitehall all feel the floodplain boundaries are inaccurate and are not supported by the topography. This study was requested by the Towns of Ticonderoga and Westport, and the Village of Port Henry in Essex County, the Village of Whitehall in Washington County, and by Clinton County.
2. Lake George needs an updated detailed lake study for its entire length. The Towns of Ticonderoga and Lake George both indicated there are a number of lake shore properties that frequently flood and the Town of Hague indicated the floodplain boundary is inaccurate due to the amount of Letter of Map Change (LOMC) activity in the area. This study was requested by the Town of Ticonderoga in Essex County and the Towns of Hague and Lake George in Warren County.
3. Great Chazy River should have an updated detailed study for its entire length of 47.3 miles within Clinton County. The river has changed course in several locations, including along Joe Wood Road in the Town of Altona, and several structures, such as dams, have been removed. The Town of Altona also indicated that the floodplain boundaries are not accurate for a four mile stretch between the downstream Town of Altona corporate limits and Miner Lake, in particular along Woodsfalls Road. This study was requested by both the Town of Altona in Clinton County, and Clinton County.
4. Spruce Mill Brook needs a new detailed study from the confluence with the North Branch Boquet River to its headwaters in the Town of Lewis, Essex County, for a total distance of 16.3 miles. A new study is needed due to repetitive spring flooding which most recently washed out three bridges. This study was requested by the Town of Lewis in Essex County and by Essex County.
5. Halfway Brook should be studied using detailed methods from the eastern Town of Queensbury corporate limits to a point 12.75 miles upstream. The lower 7.92 miles was requested due to repeated flooding and inaccurate floodplain boundaries. Stakeholders indicated that locations with the same elevation are shown as within the floodplain in some areas and outside the floodplain in others. The upper reach, which extends from just upstream of I-87 to Wilke Intake Reservoir 4.85 miles upstream, is currently either an approximate study or entirely unstudied. There is development pressure in the area and it would be helpful to have Base Flood Elevations (BFEs) established. This study was requested by both the Town of Queensbury in Warren County, as well as Warren County.
6. A new detailed study of Hadlock Pond in the Town of Fort Ann is needed. The construction of a new dam as a result of the previous dam failure has changed the lake elevations. This study was requested by the Town of Fort Ann, Washington County.

7. Mettawee River should be an upgraded detailed study for its entire length within the Town and Village of Granville and the Town of Whitehall for a distance of 20.5 miles. The effective approximate studies are out of date and do not reflect existing risk to the development in the area. Both the Town of Whitehall and Village of Granville indicated the floodplain boundaries are inaccurate and updated topography is needed. Washington County stated a detailed study is warranted due to the past flooding events along this river reach. This study was requested by the Towns of Granville and Whitehall and the Village of Granville in Washington County, as well as Washington County.
8. Mill Brook needs a detailed study from its confluence with Lake Champlain to Ensign Pond in the Town of Moriah for a distance of 10.85 miles. The stream frequently floods and causes damages to both structures and bridges. This study was requested by the Town of Moriah and the Village of Port Henry, both in Essex County, as well as Essex County.
9. Trout Brook requires a new detailed study from its confluence with the La Chute River in the Town of Ticonderoga in Essex County to a point 2,400 feet upstream of New Hague Road in the Town of Hague in Warren County for a distance of 14.82 miles. This stream reach is prone to flooding which has damaged structures. This study was requested by the Town of Ticonderoga and both Essex and Warren Counties.
10. Little Chazy River needs a new detailed study from its confluence with Lake Champlain to its upstream corporate limits in the Town of Altona for a distance of 21.6 miles. This study was requested by Clinton County.
11. Furnace Brook needs a new detailed study from the downstream corporate limits through the Peru Water Supply Dam Lake for a total distance of 2.4 miles. This stream reach has previously flooded and there is a significant rebuilding effort since Hurricane Irene. This study was requested by the Town of Peru in Clinton County.
12. Prospect Mountain Brook should be studied using detailed methods from its confluence with Lake George to the state land near the I-87 crossing for approximately 0.5 mile. There is development along this currently unstudied stream reach in the Village of Lake George. This study was requested by both the Village of Lake George in Warren County, and Warren County.
13. English Brook should be studied using detailed methods for its entire length within both the Town and Village of Lake George for a total distance of 5.25 miles. This stream reach is prone to flooding and residences are impacted. During Hurricane Irene, roads were also flooded. This study was requested by the Town and Village of Lake George in Warren County, as well as Warren County.

Medium Priority Detailed Studies:

14. Boquet River needs a detailed study of its entire length within Essex County for a distance of 32.2 miles. There are significant flooding concerns along this river reach. Both the Town of Elizabethtown and the Town of Westport state the river frequently floods and believes the effective mapping is inaccurate. The Town of Westport noted there is a buyout program in place due to the flooding. Essex County also noted there are changes to the Lower Boquet River hydrology due to a dam removal. This study was requested by the Towns of Elizabethtown, Lewis and Westport in Essex County, and Essex County.

15. North Branch Boquet River requires a new detailed study from the I-87 crossing to the upstream Town of Lewis corporate limits for a distance of 2.9 miles, due to repetitive spring flooding. An additional approximate study is needed of the North Branch Boquet River both upstream and downstream of the detailed study segment requested in the Town of Lewis. The approximate study should extend from the North Branch Boquet River's confluence with the Boquet River to the start of the detailed study at the I-87 crossing in the Town of Lewis and again from the northern Town of Lewis corporate limits to its headwaters in the Town of Chesterfield for a total distance of 16.5 miles of approximate study. There are residential structures in the floodplain. These studies were requested by the Town of Lewis in Essex County, and Essex County.
16. The Branch at the Boquet River needs a detailed restudy at the confluence with the Boquet River for a distance of 8.2 miles. This is a heavily populated area and would benefit from updated BFEs. This study was requested by the Town of Elizabethtown in Essex County.
17. West Brook should have a new detailed study from its confluence with Lake George to the boundary of the state land approximately 1.2 miles upstream due to development pressure in the area. This study was requested by both the Town of Lake George in Warren County and Warren County.
18. East Brook should be studied by detailed methods from its confluence with Lake George to a point 0.6 mile upstream due to past flooding experienced along Route 6 as well as continued development pressure. This study was requested by the Town of Lake George, Warren County.
19. Champlain River Canal should be studied using detailed methods for its entire length of 7.0 miles within the Town of Fort Ann and for its entire length of 3.1 miles within the Village of Whitehall. The existing floodplain boundaries are inaccurate and development is occurring in the area. An approximate study may be adequate for the intervening approximately 5.8 mile stream reach within the Town of Whitehall. This detailed study was requested by the Town of Fort Ann and the Village of Whitehall, both in Washington County.
20. Indian River should be studied using detailed methods from its confluence with the Mettawee River in the Town of Granville to the Vermont border for a total distance of 7.5 miles. This flooding source currently has an outdated approximate study from 1985 and there is considerable development pressure along this flood prone reach. This study was requested by the Town of Granville in Washington County, and Washington County.
21. Tributary to Prospect Mountain Brook should have a detailed study from its confluence with Prospect Mountain Brook to a point just upstream of the I-87 crossing for a distance of 0.55 mile. This stream segment is currently unmapped and frequently floods after a storm which impacts several properties in the area. This study was requested by the Village of Lake George in Warren County.
22. Unnamed Tributary to Lake George should be studied using detailed methods from its confluence with Lake George to a point just upstream of the I-87 crossing for a distance of 0.7 mile. This stream segment is currently unmapped and frequently floods surrounding properties following a storm. This study was requested by the Village of Lake George in Warren County.

23. Halfway Creek is in need of a new detailed study from its confluence with the Champlain Canal to the upstream Town of Fort Ann corporate limits for a distance of 8.1 miles. This study was requested by the Town of Fort Ann in Washington County.
24. Wood Creek should be studied using detailed methods within the Village Whitehall corporate limits for a distance of 0.9 mile. There are culverts near the railroad, as well as a flood control project that should be incorporated into a detailed study. This study was requested by the Village of Whitehall in Washington County.
25. Scotion (Dead) Creek requires an updated detailed study from the confluence with Lake Champlain to the northern Town of Plattsburgh corporate limits for a distance of 2.2 miles. An updated study is needed due to repeated flooding in the area along with new development. This study was requested by the City of Plattsburgh in Clinton County.
26. Little Ausable River needs a new detailed study from the northern Town of Ausable corporate limits to the upstream limits of the current effective study near Clintonville Road for a total distance of 5.5 miles. Due to development in the area, this stream reach would benefit from updated BFEs. This study was requested by the Town of Ausable in Clinton County.
27. Finkle Brook should be studied using detailed methods from its confluence with Lake George through Edgcomb Pond in the Town of Bolton for a distance of 2.5 miles. There is significant development along this stream reach. This study was requested by both the Town of Bolton in Warren County, and Warren County.
28. The Tributary to Halfway Brook, which crosses Quaker Road in the Town of Queensbury, should be a new detailed study from its confluence with Halfway Brook to Webster Avenue for a distance of 1.25 miles. This study was requested by Warren County.

Lower Priority Detailed Studies:

29. Smith Brook should be restudied by detailed methods for its entire length of 1.90 miles in the Town of Lake George. This study was requested by the Town of Lake George in Warren County.
30. Hague Brook, also known as Sucker Brook, is in need of a new detailed study from its confluence with Lake George to a point 2.35 miles upstream. This area currently has an older approximate study and the existing floodplain boundaries are not accurate. This study was requested by the Town of Hague and by Warren County.
31. Huddle Brook should be a new detailed study from its confluence with Lake George to its upstream limit for a distance of 4.3 miles. There is a dam located near Potter Hill Road that should be included in the modeling. This study was requested by the Town of Bolton, Warren County.
32. Putnam Creek needs a new detailed study from its confluence with Lake Champlain through Penfield Pond in the Town of Crown Point for a total distance of 11.25 miles. While the upstream reach would benefit from updated mapping, the downstream reach currently has an approximate study which is not accurate. This area has development on-going and would also benefit from updated mapping. This study was requested by both the Town of Crown Point in Essex County, and Essex County.

33. McKenzie Brook needs a detailed study from its confluence with Lake Champlain to its headwaters for a total distance of 7.9 miles within the Village of Port Henry and the Town of Moriah. The Village indicates this stream frequently floods near the railroad crossing. This study was requested by the Town of Moriah and the Village of Port Henry, both in Essex County, as well as Essex County.
34. The Tributary to Witherspoon Brook needs an updated detailed study from its confluence with Witherspoon Brook to its upstream limit for a distance of 2.52 miles. An updated study is needed to account for changes due to a dam removal on the Great Chazy River. This study was requested by the Town of Altona in Clinton County.
35. The Unnamed Tributary to Lake George near Amolita Lane should be studied using detailed methods from its confluence with Lake George to its upstream limit for a distance of 1.03 miles. This study was requested by the Town of Lake George, Warren County.
36. Indian Brook should be a new detailed study from its confluence with Lake George to its upstream limit in the Town of Bolton for a distance of 4.45 miles. This study was requested by Warren County.
37. Cemetery Brook should be studied using detailed methods. The location of this study request made by Warren County could not be determined. This study was requested by Warren County.
38. Lakeview Circle Tributary/Tahoe Outlet should receive a new detailed study from its confluence with Lake George to Route 9 for a distance of 1.34 miles. This study was requested by Warren County.

Several stakeholders requested updated approximate studies for all streams within their corporate limits. Typically, NYSDEC assumes all existing approximate studies will be updated in areas receiving new digital mapping. However since these segments were specifically requested they are being included for reference. Some of these segments were initially requested as new detailed studies but were downgraded to new approximate studies due to the length and location of the request.

1. Greenland Brook should be a new approximate study from its confluence with South Bay Creek to the upstream Town of Fort Ann corporate limits for a distance of 1.5 miles. There are major flows during the spring which lead to annual flooding. This study was requested by the Town of Fort Ann in Washington County.
2. South Bay Creek should be studied using approximate methods from the downstream Town of Fort Ann corporate limits to the confluence with Greenland Brook for a distance of 1.3 miles. There are major flows during the spring which lead to annual flooding. This study was requested by the Town of Fort Ann in Washington County.
3. An approximate study of the North Branch Boquet River is needed both upstream and downstream of the detailed study segment requested in the Town of Lewis. The approximate study should extend from the North Branch Boquet River's confluence with the Boquet River to the start of the detailed study that begins at the I-87 crossing in the Town of Lewis and again from the northern Town of Lewis corporate limits to its headwaters in the Town of Chesterfield for a total distance of 16.5 miles of approximate study.

4. A revised approximate study is needed for Glen Lake Outlet from Glen Lake to the confluence with Halfway Brook for a distance of 5.8 miles. Both Glen Lake and Dream Lake (downstream of Glen Lake) failed in this area in 2011-2012. This study was requested by Warren County.
5. A new approximate study is needed for Roaring Brook from its confluence with the Boquet River to a point 3.90 miles upstream. There are historical flooding problems in the area. This study was requested by Essex County.
6. The Hog Pond area is in need of a new approximate study from its confluence with Mount Hope Brook to Owens Road for a distance of 2.1 miles. There is development in the area, steep slopes, and spring flooding occurs. This study was requested by the Town of Fort Ann, Washington County.

It is NYSDEC's understanding that in counties receiving new digital maps where they do not currently exist, all effective approximate studies will be updated where topography is available. These existing approximate studies will not be listed separately at this time. NYSDEC requests that any existing Lake BFEs that were determined and published as part of the Letter of Map Amendment (LOMA) process be included on the new maps if possible. This would enable communities to adopt the flood elevations and allow residents currently residing along these lakes and ponds to have accurately rated flood insurance policies.

Thank you for providing NYSDEC with the opportunity to recommend a scope of work for areas within the Lake Champlain Watershed. We look forward to working with you to refine and finalize this scope as we move forward. Please feel free to contact NYSDEC if you have any questions or would like additional information provided.

Sincerely,

A handwritten signature in blue ink that reads "Kelli S. Higgins-Roche". The signature is written in a cursive, flowing style.

Kelli Higgins-Roche
Environmental Engineer
Floodplain Management Section