

Figure 22. Map of detailed channel depths at the Grass River outlet into Clam Lake.



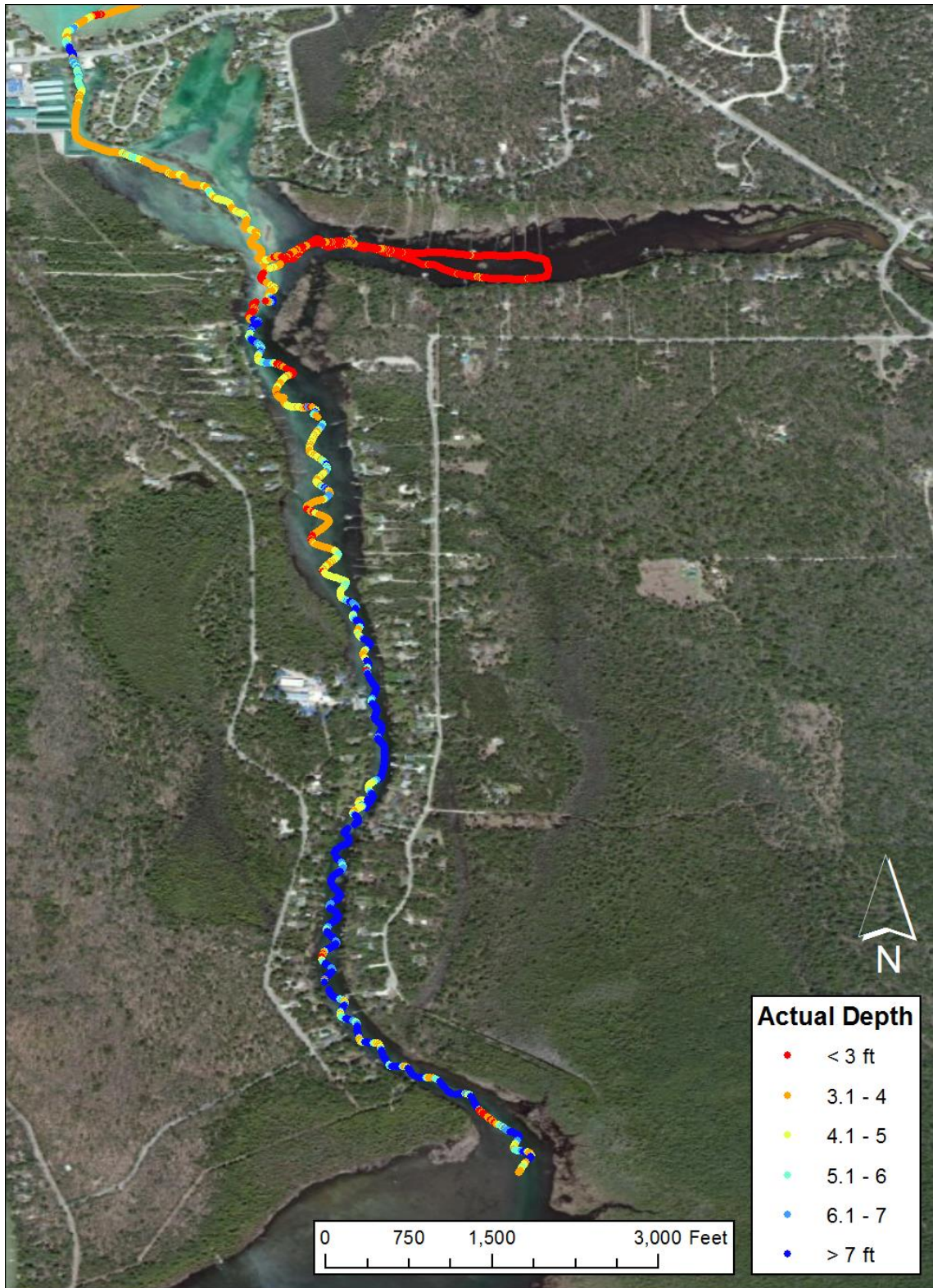


Figure 23. Map of measured depths of the Torch and lower Rapid Rivers along the boat track, which followed a zig-zag pattern throughout the navigable portion of the channel.

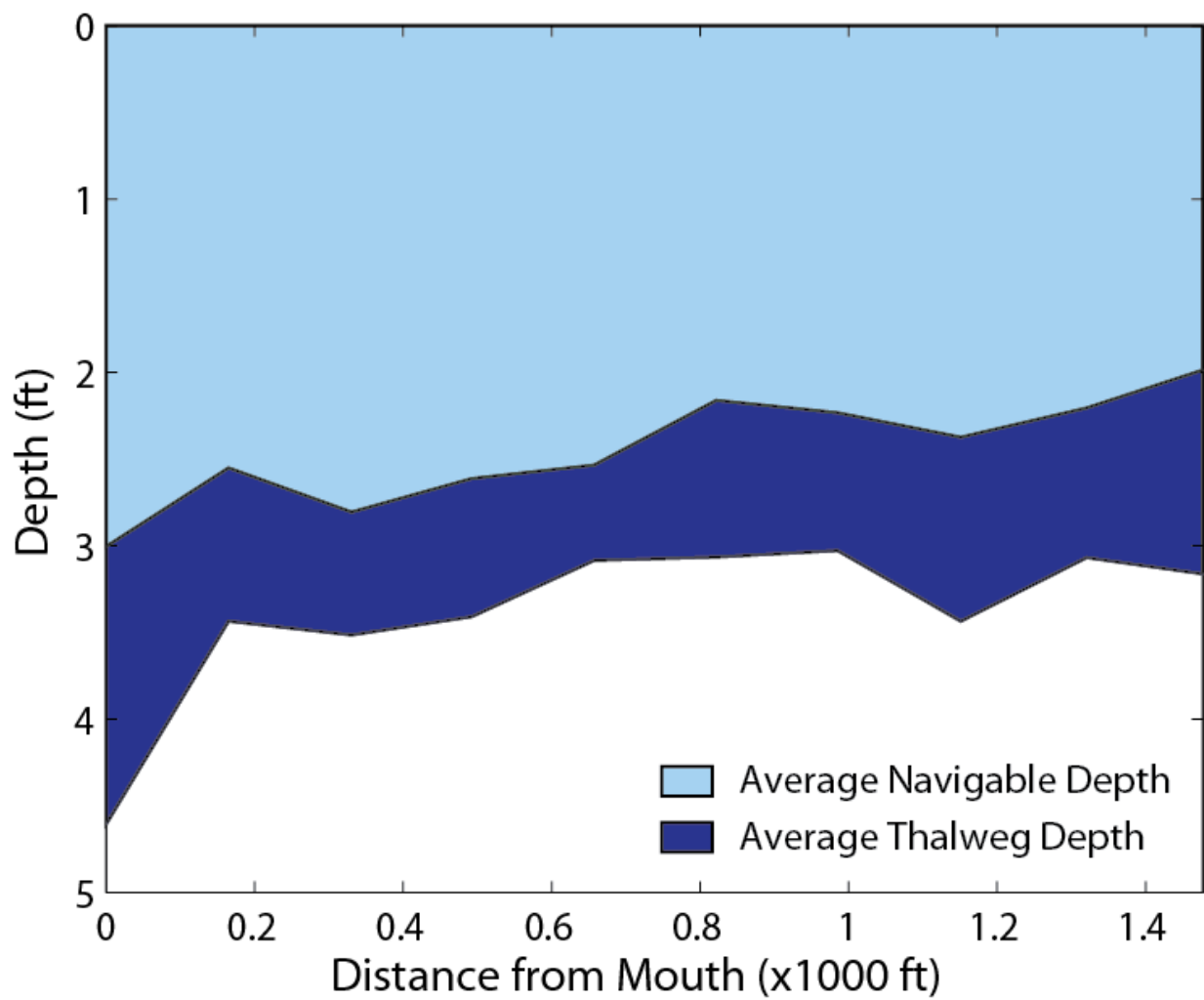


Figure 24. Plot of 50-meter average navigable channel depth along the lower Rapid River, and average thalweg depth.

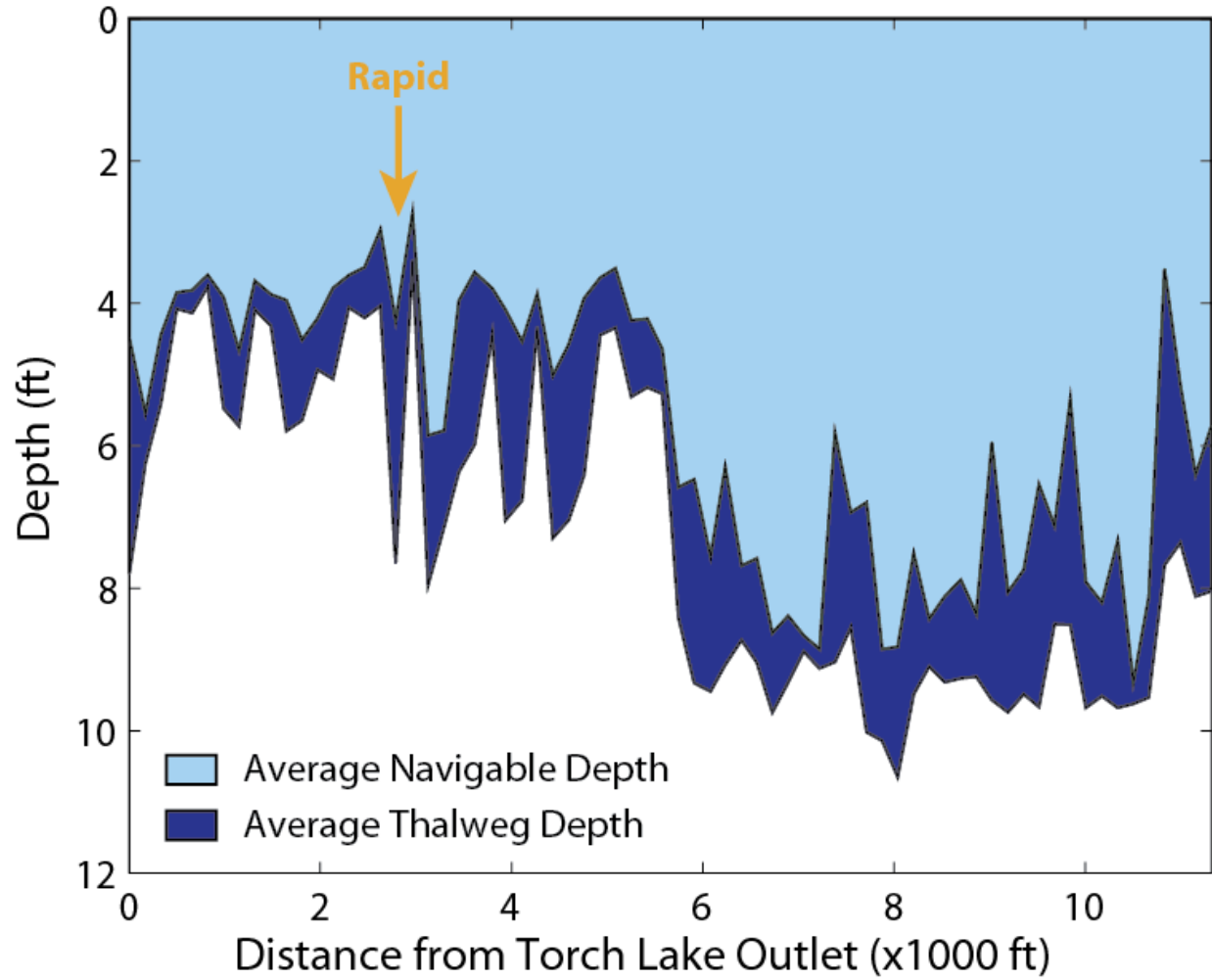


Figure 25. Plot of 50-meter average navigable channel depth along the Torch River, and average thalweg depth.



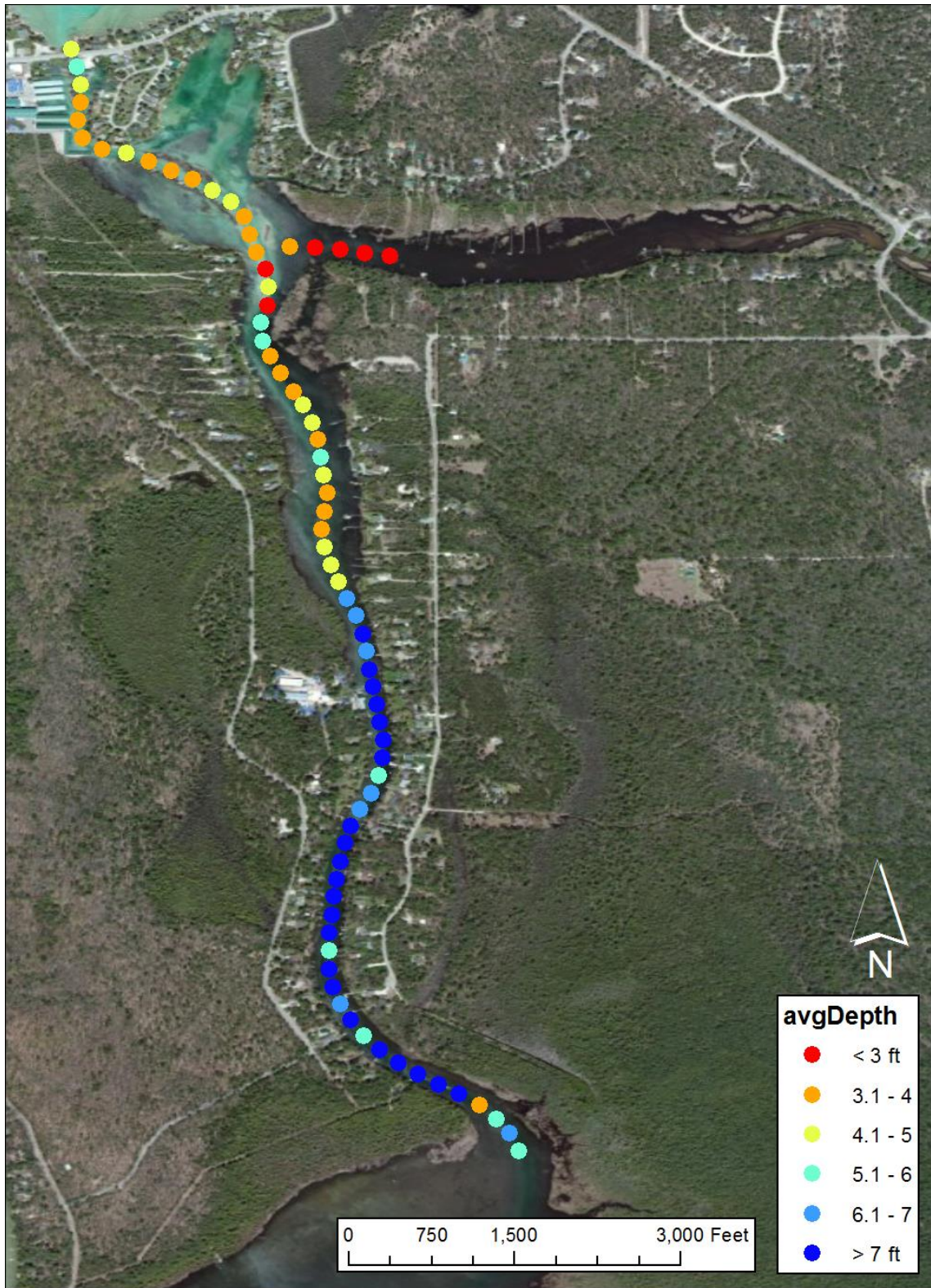


Figure 26. Map of average navigable depth along the Torch and lower Rapid Rivers, averaged in 50 meter increments along the channel.





Figure 27. Map of detailed channel depths at the Torch River outlet into Skegemog Lake.





Figure 28. Comparison of the same frame (Grass River at the mouth into Clam Lake) between 1938 and 2010. The 2010 channel is significantly wider, and new mid-channel sediment features have developed downstream of Cold Creek.





Figure 29. Map of the Grass River through time as digitized from historical aerial imagery. Note that the positions of the streams are not as accurate as the geometry. Thus the shifts in the channel should not be interpreted as genuine, but the shape of the channel and its dimensions are accurate.



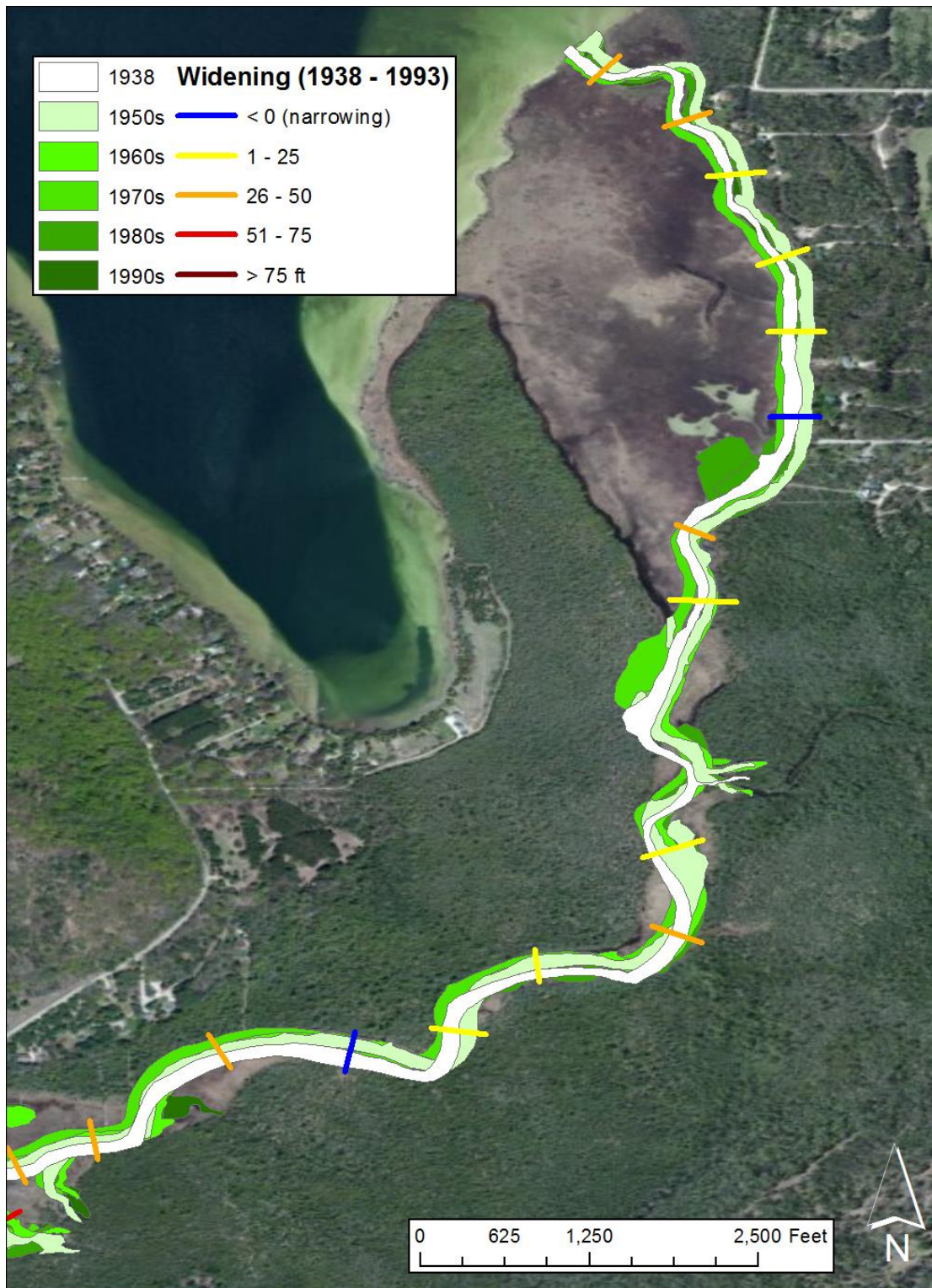


Figure 30. Same stream channel maps as in Figure 29, overlain with cross sections approximately every 200 meters. Those cross sections were intersected with the stream channel edges in order to determine change in stream width over time.

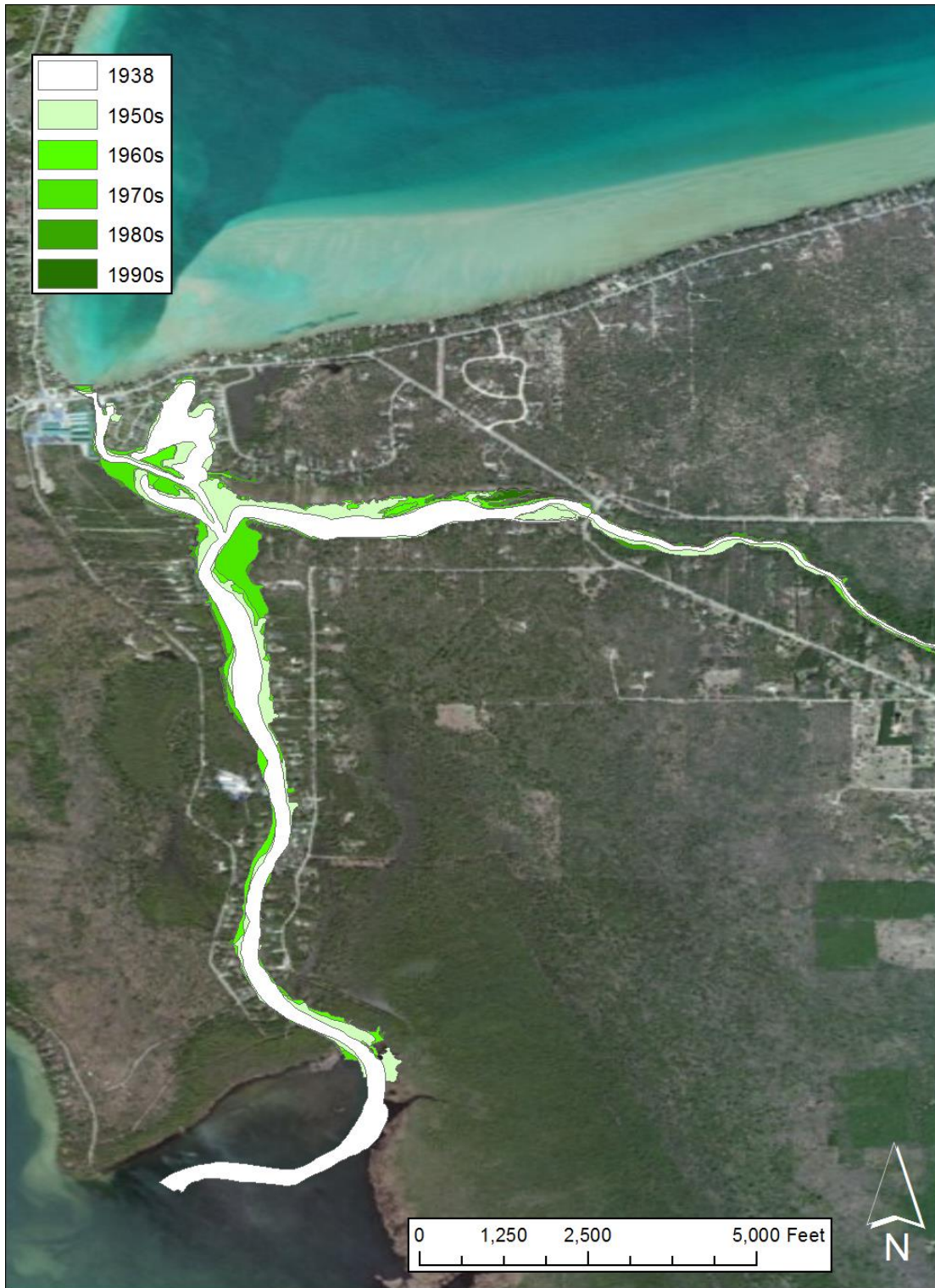


Figure 31. Map of Torch and lower Rapid Rivers showing channel changes through time as mapped with aerial imagery. Caveats about channel position discussed in Figure 29 apply here as well.