



CONCORD INFORMATION TECHNOLOGY

Geographic Information Systems

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GIS PROGRAM MANAGER

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Dear Concord Community Preservation Committee Members,

I'm writing in support of the Thoreau Surveys Preservations & Access Project. As the GIS Program Manager for the Town of Concord, I've met with Anke Voss and Jessie Hopper to discuss a possible project, showing the current location of each of the Thoreau surveys on a map and how Concord has changed and grown since his surveys from the 1850's.

My team began the process of georeferencing some of the surveys in their current PDF format but encountered problems with the quality of the scans. The process of georeferencing involves creating control points – within an image, identifying and joining a point in the image with a precise, correct location on a map. You need to establish enough of these control points to accurately place a survey, otherwise the images can appear distorted and slightly out of place.

Our plan was to georeference the Thoreau Surveys and to create an interactive online mapping application, allowing users to see the current-day locations of the surveys compared with high-resolution imagery of Concord today and see how the areas have changed, as well as showing the coverage of all of his surveys on a single map of Concord.

However, the quality of the scans halted progress early on. One significant issue – the majority of the current scans of the Thoreau Surveys were scanned in multiple parts. When we try to georeferenced these current versions, we not only have to create enough accurate control points with each image and locations on the map, but then we also must ensure the control points align with the other parts of the scanned survey. This increases our work exponentially – instead of maybe 6 control points for one survey, we might have to create 24 if the survey is in 4 parts, and then align all of those individual parts correctly to form the full image. And sometimes parts of the scans overlap each other, increasing the difficulty of piecing the mosaic together.

Another issue with the current set of scans is the clarity and resolution. A good example of the difference in quality amongst the scans would be “43 – Plan of Charles Gordon’s Farm Concord Mass. ... March 23, 1858”. The survey was scanned in 4 parts, but the quality of each part is vastly different from the others. While piecing the individual parts together is difficult already, piecing 4 parts with very different lighting and resolutions is even harder, and the final output looks disjointed.

Creating new, high-resolution scans of the Henry David Thoreau surveys (and with each scan being available in a single file!) would allow us to map these surveys and provide the context of where they would be in today’s Concord. The Town of Concord has been fortunate to receive some GIS datasets from the historian Professor Brian Donahue, which will aid us in finding the correct historical locations for where these surveys would have been for. We also have several staff who are well versed with the history of Concord who could help find the correct locations for the surveys.

We have the tools, software, and the staff to bring these surveys to the public in a much more accessible and informative format, but we are just lacking the quality scans of these surveys.

Having worked in Concord for over 3 years now, I know how important the history of the town and the denizens of yore is to residents, visitors, and town staff. I’m sure that this project would provide a fascinating perspective on another piece of history in the life of Henry David Thoreau, and of the Town of Concord.

If you have any questions that I might be able to answer, please feel free to contact me at nfotheringham@concordma.gov.

Thank you,

Neill Fotheringham

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