

Jurisdiction Boundaries

US EPA Region 5 – US Coast Guard District 9

- Official boundaries are those described in the Area Contingency Plan
- Inland river boundaries mention only River Mile or political divisions
- Great Lakes boundaries include many descriptions of shoreline and infrastructure features
- Boundaries layer for GIS developed in 1997
- Being revised to better match modern data = opportunity to review
- At a handful of locations, it may be appropriate to expand Coast Guard jurisdiction to better cover vulnerable water bodies



Regional Contingency Plan: Descriptions

- Ohio River
 - Region 5/Region 3/District 8:
Main stem of the Ohio River by shore and River Mile
 - Region 5/Region 4/District 8:
Main stem of the Ohio River by shore and River Mile
- Upper Mississippi River
 - Region 5/Region 7/District 8:
By shore and location (city or River Mile) for EPA, with no specific mention of Coast Guard jurisdiction
- Red River of the North
 - Region 5/Region 8/District 8:
By shore and location (city or River Mile) for EPA, with no specific mention of Coast Guard jurisdiction

Regional Contingency Plan: Descriptions

- Great Lakes – Extensive descriptions by Sector and waterbody

“1.4.2.1 Sector Buffalo, NY (former Marine Safety Office Cleveland Zone)

- 1. Ashtabula River (Ashtabula, Ohio): Upstream to East 5th Street.*
- 2. Black River (Lorain, Ohio): Upstream to the turning basin at the National Tube Division of U.S. Steel (river mile 3.0).*
- 3. Conneaut River (Conneaut, Ohio): Upstream to the Bessemer and Lake Erie Railroad Swing Bridge at Pittsburg & Conneaut Dock Comp. (river mile 0.75).*
- 4. Cuyahoga River (Cleveland, Ohio): Upstream to the mouth of Big Creek in the Metropolitan Parks (river mile 7.5).*
- 5. Grand River (Fairport Harbor, Ohio): Upstream to the turning basin at Osborn Concrete and Tank Company.*

In addition to the river miles mentioned above, the coastal/inland zone demarcation shall be defined by the boundary on the highway created by State Route 2 from Vermilion to North Perry and then U.S. Route 20 from North Perry to the Ohio/Pennsylvania border. The costal zone being all waters and adjacent shoreline north of this boundary, any incident on the above-mentioned highways....”



GIS Data: EPA/Coast Guard 1997

- GIS version of a draft jurisdictional boundary file released in early 1998
- Linework based mostly on NOAA shoreline data created from 1:70,000 to 1:250,000 nautical charts
 - For mapping purposes and GIS analysis, the original GIS linework needs to be replaced. Better source data are now available.
- GIS data either provided by EPA Regions or created from descriptions contained in ACPs. Region 5 got special notice:

“The greatest uncertainty in boundary depiction lies in the regional boundaries produced from descriptions of cutoffs after a certain point along rivers and bays. Regions V and X fall into this category...”
- Inland rivers (Ohio R., Mississippi R., Red R.) not depicted

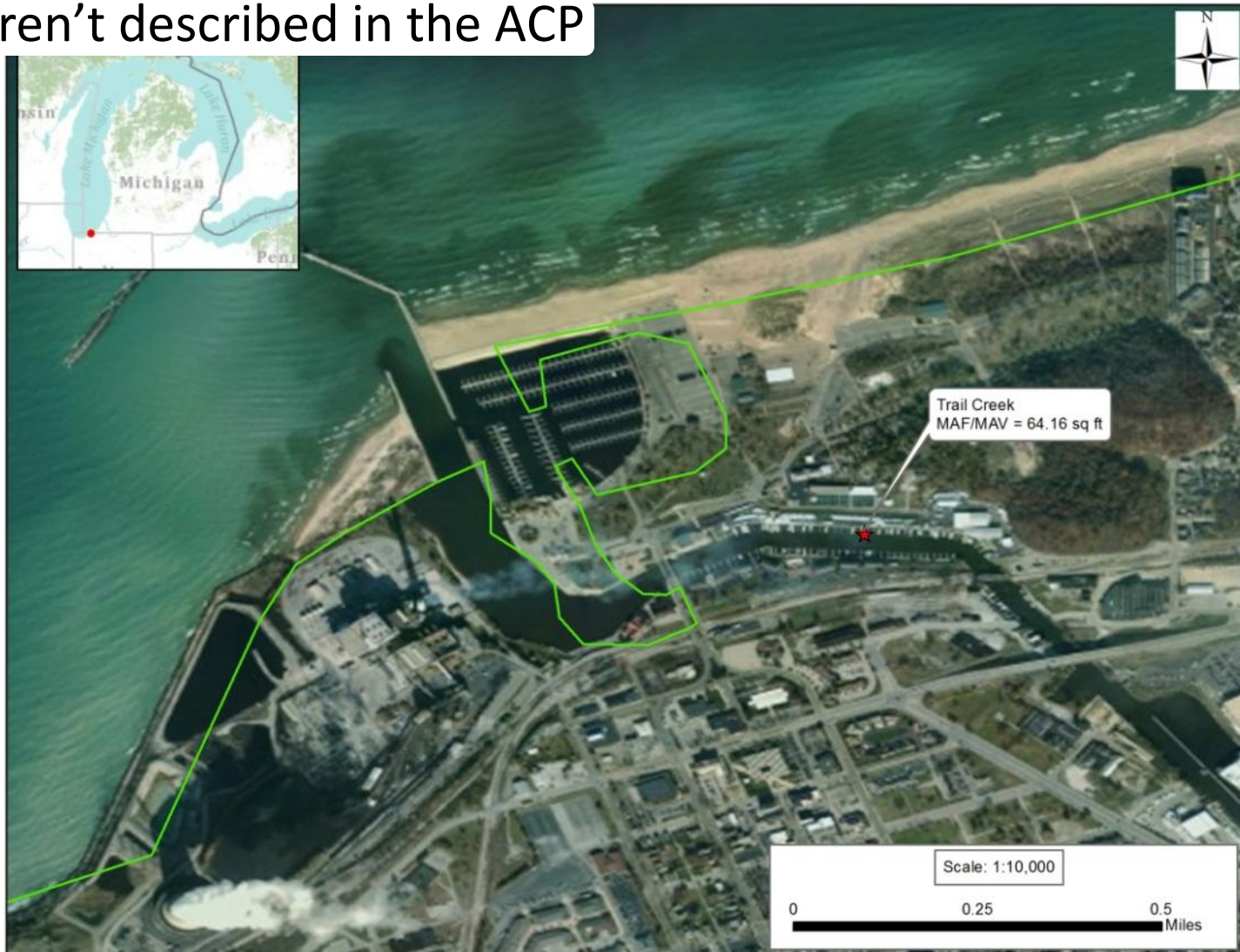
Three Issues with Shoreline Depictions

1. Some boundaries extend up rivers but probably shouldn't



Three Issues with Shoreline Depictions

2. Some boundaries extend up rivers and probably should, but aren't described in the ACP



Three Issues with Shoreline Depictions

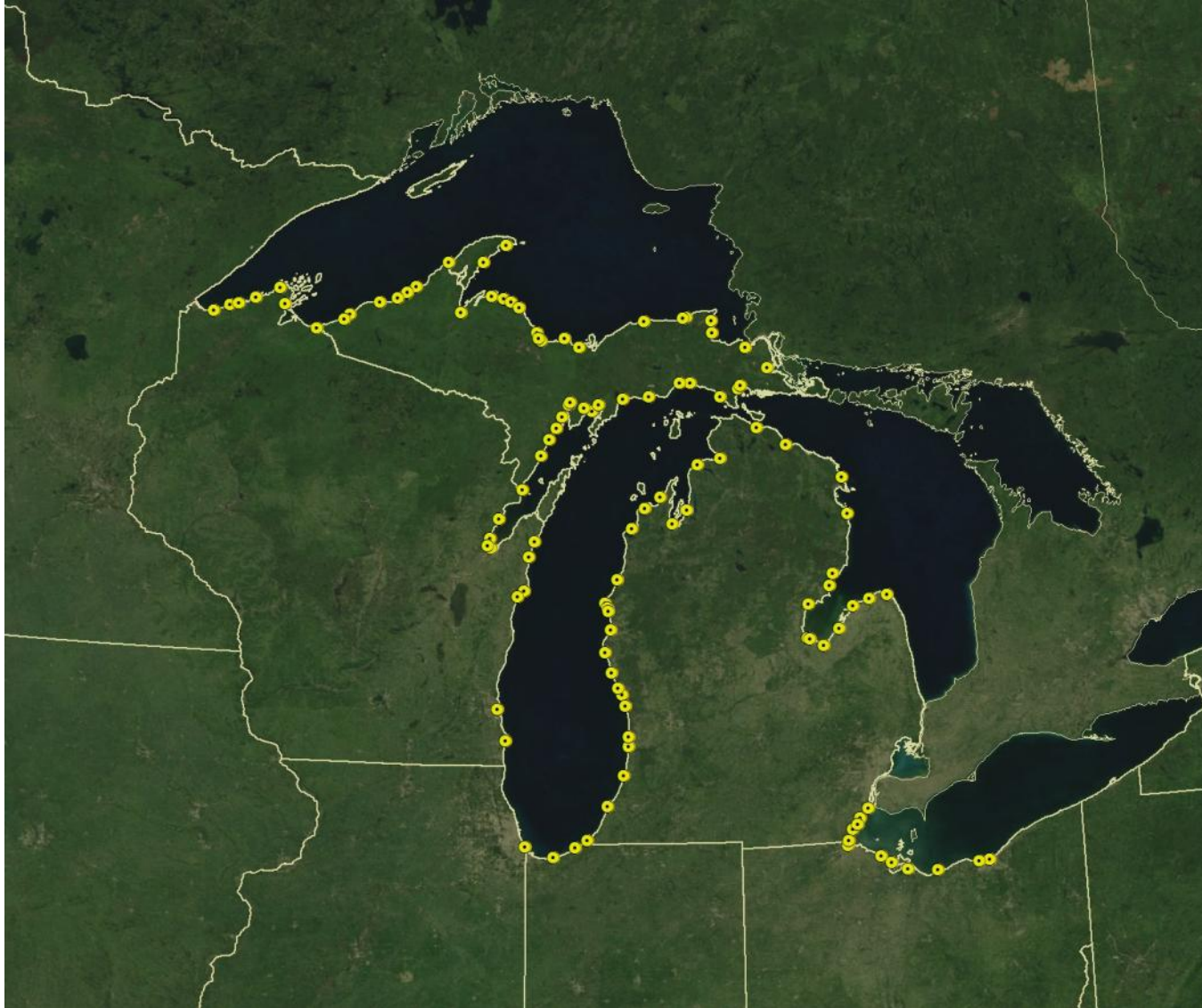
3. Some boundaries don't extend up rivers but probably should



Determination of Sites for Review

- Shoreline too long to review by hand
- GIS analysis to identify candidates for review
- Analysis based on National Hydrography Dataset
 - Attributes include Mean Annual Flow and Mean Annual Velocity
 - Used to calculate cross-sectional area at river mouth
- Cross-sectional area chosen based on observed “best fit”
 - Selected sites included existing upstream areas
 - Selected sites did not include too many small streams clearly not suitable for commercial traffic
- Lots of room for error (wide, shallow bodies of water, etc.)
- Could easily run the analysis using different numbers
- 89 sites identified by the GIS

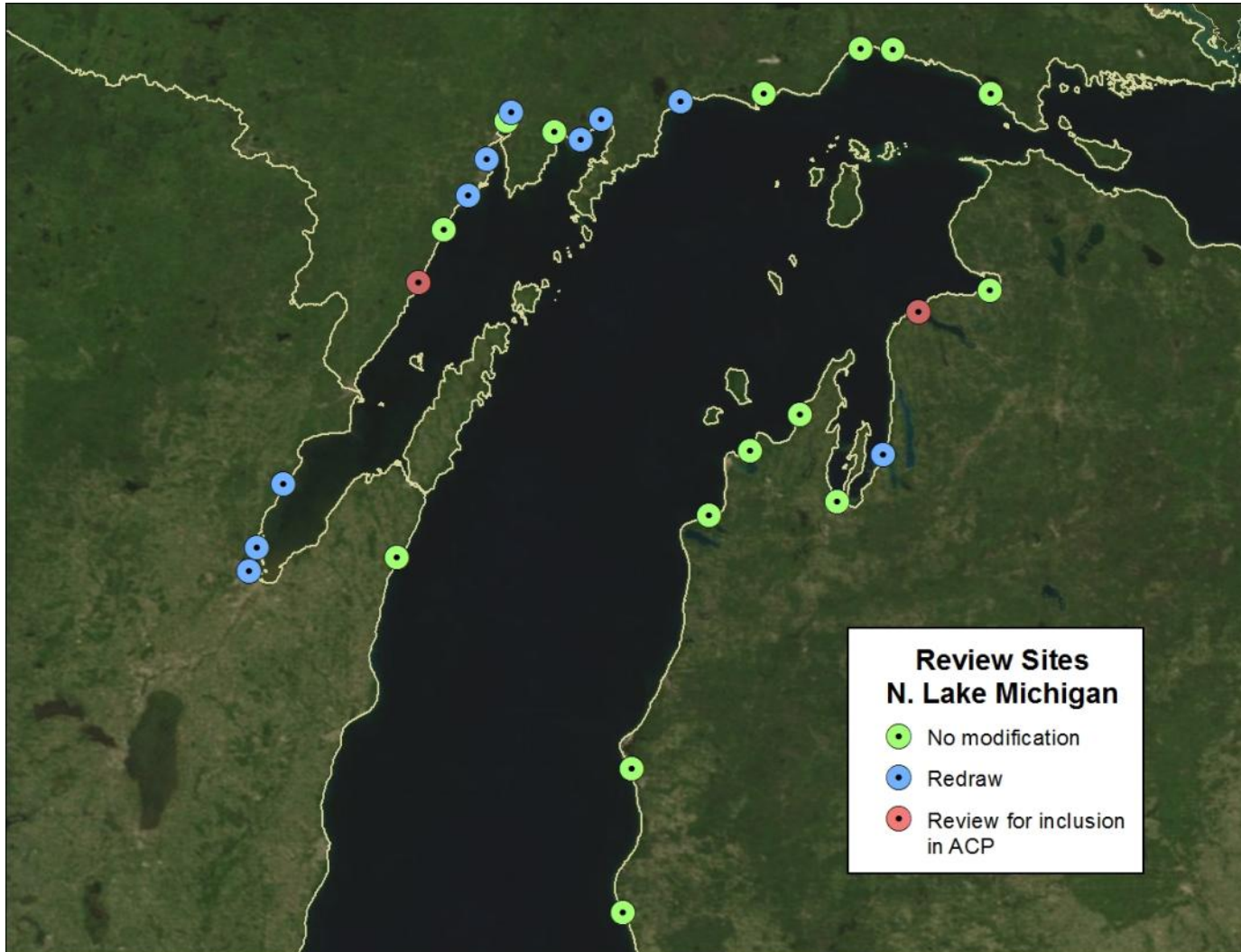
89 Candidates for Review





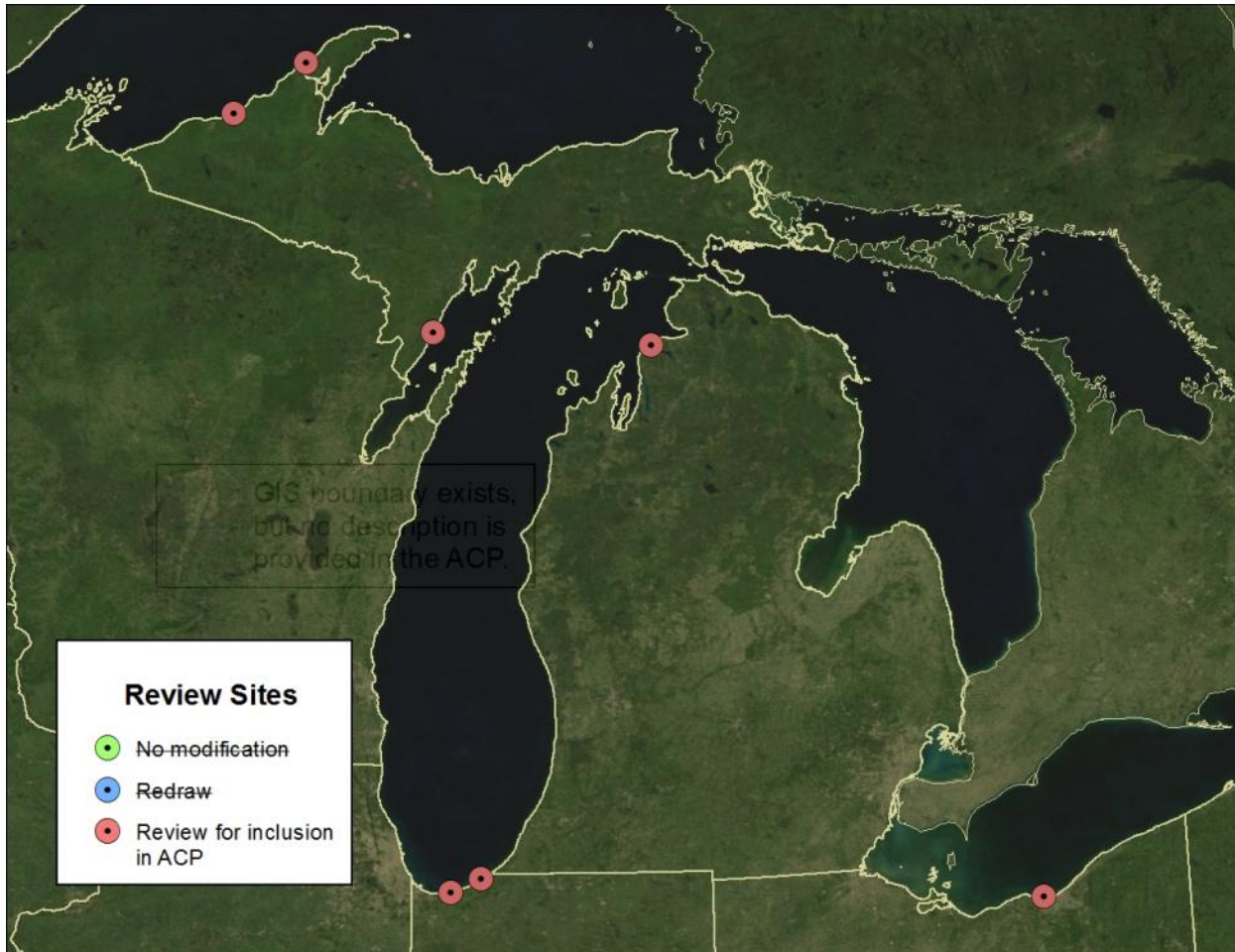
GIS Review, N. Lake Michigan

37 sites identified by the model, 28 not in the ACP already

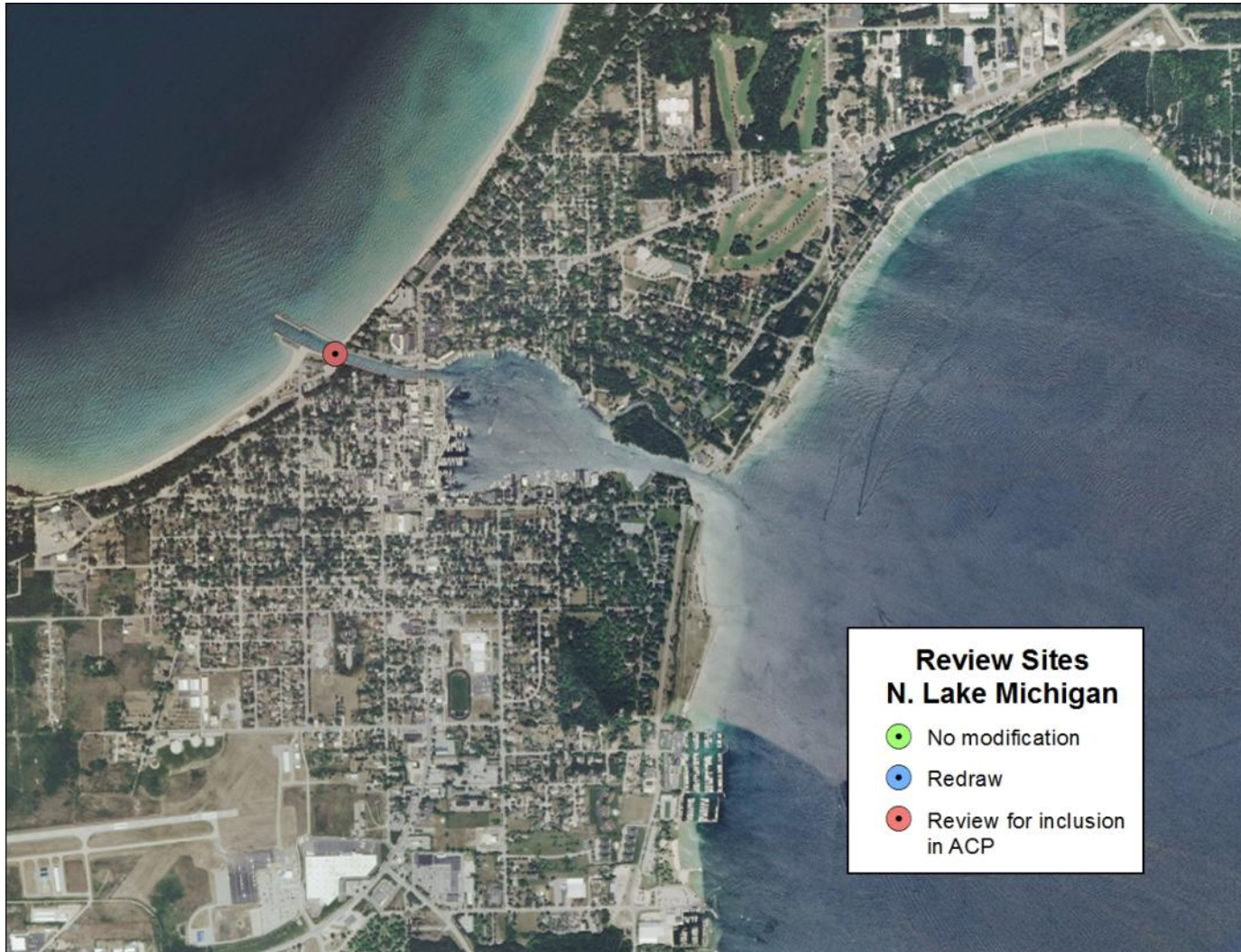


NHD Candidate Sites Remaining After Visual Check

- Seven new candidate sites for review
- Review existing described boundaries as well?



GIS Review of N. Lake Michigan Round Lake/Lake Charlevoix, Michigan



GIS Review of N. Lake Michigan Cedar River, MI



GIS Review of S. Lake Michigan Burns Ditch, Burns Harbor, IN



GIS Review of S. Lake Michigan Trail Creek, Michigan City, IN



GIS Review of Lake Superior Ontonagon River



GIS Review of Lake Superior Portage Canal, Houghton, MI



GIS Review of Lake Erie

Rocky River, OH



Review and Updates

- GIS filter helped weed out small streams
- Review of imagery reduced the total number of sites to be reviewed by EPA/Coast Guard
- Local knowledge should guide final decisions
- Existing boundary descriptions in the ACP could be reviewed and updated as part of the process