

# Managing Beavers at the Watershed Level

combining potential beaver population, beaver recovery zones and intuitive GIS/GPS field data collection

Kurt Menke

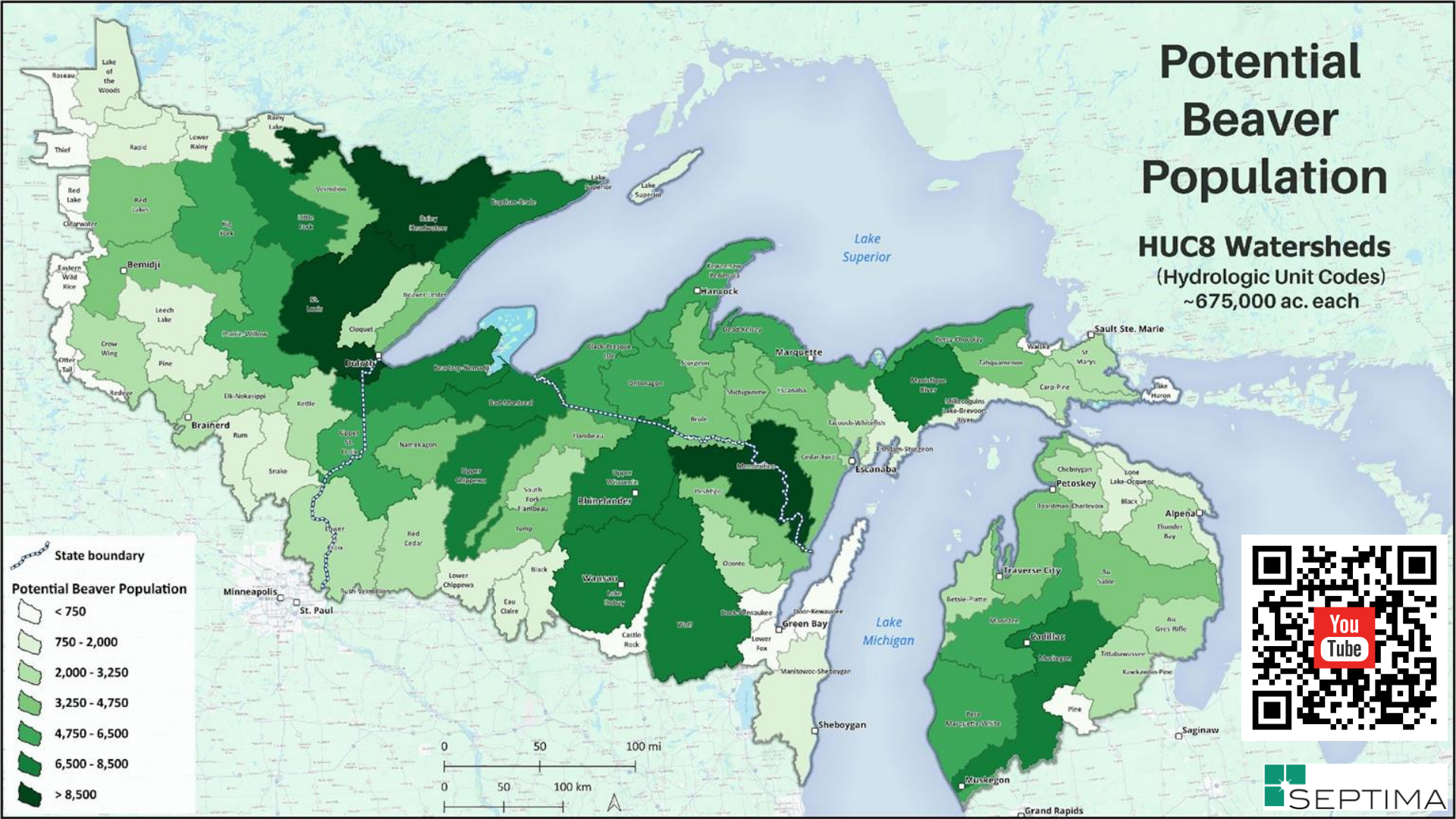


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# Potential Beaver Population

**HUC8 Watersheds**  
(Hydrologic Unit Codes)  
~675,000 ac. each






# Potential Beaver Population

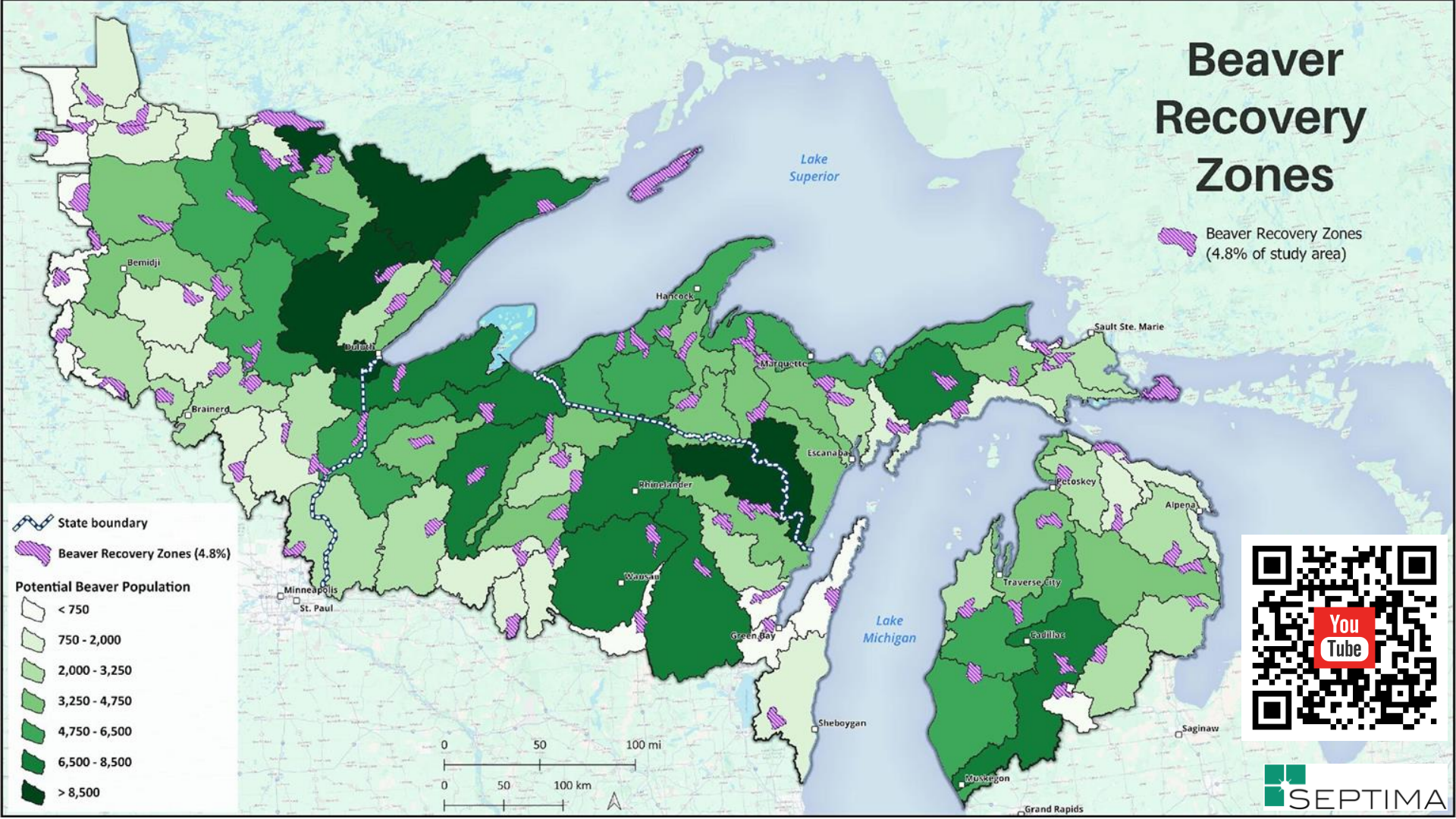
**HUC12 Watersheds**  
(Hydrologic Unit Codes)  
~20,000 ac. each

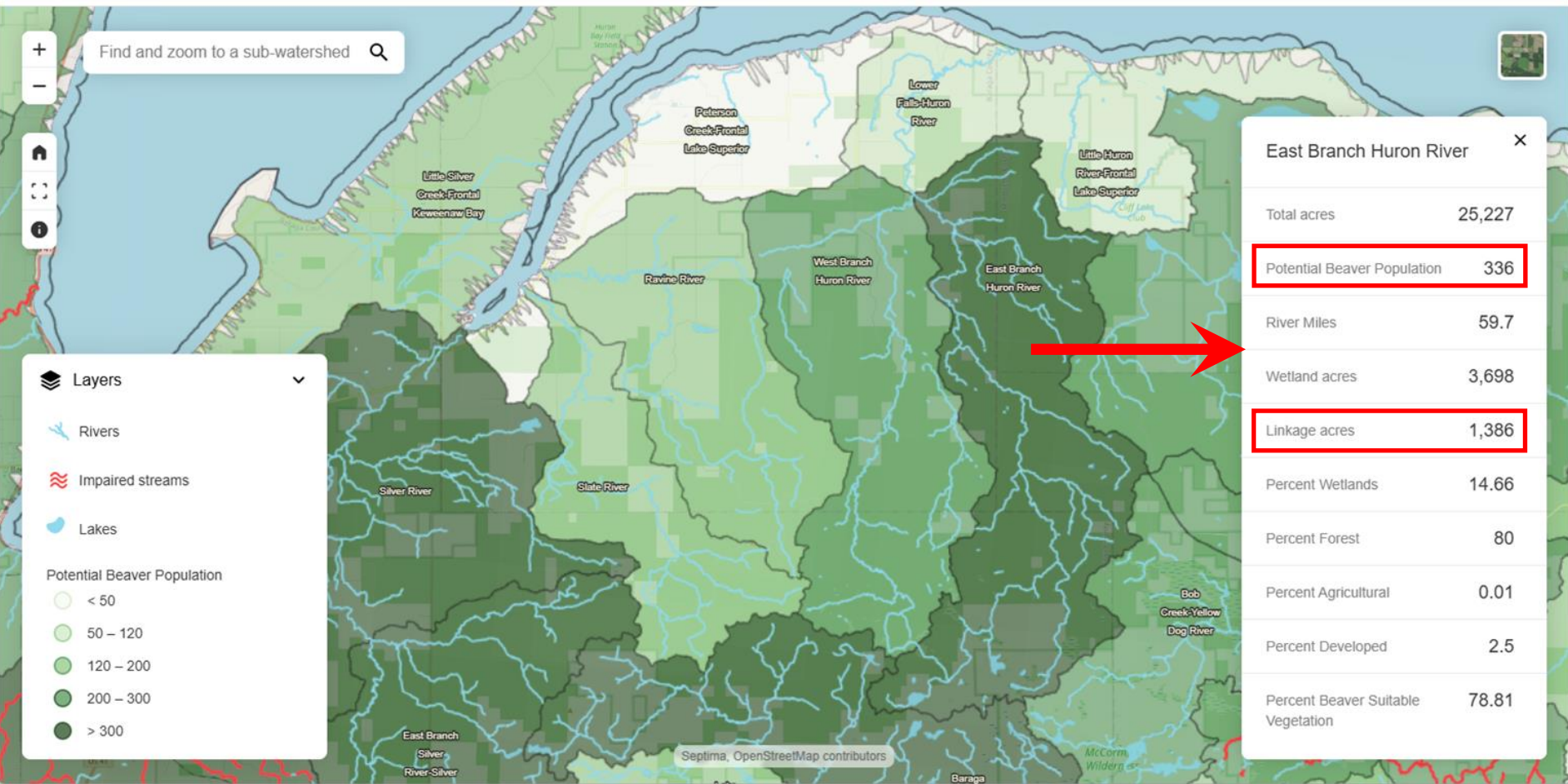




# Beaver Recovery Zones

 Beaver Recovery Zones  
(4.8% of study area)





East Branch Huron River	
Total acres	25,227
Potential Beaver Population	336
River Miles	59.7
Wetland acres	3,698
Linkage acres	1,386
Percent Wetlands	14.66
Percent Forest	80
Percent Agricultural	0.01
Percent Developed	2.5
Percent Beaver Suitable Vegetation	78.81



# New Paradigm for Managing Beaver Harvest

## The Problem:

- The size and distribution of beaver populations are largely unknown.
- Results in a wide-open beaver seasons.

## The Solution:

- Implement a mobile app-based beaver harvest mapping tool.
- Trappers are assigned a watershed.
- Using the app, they record their harvest:
  - e.g., GPS Coordinates | Date | Hunter | #Beaver | Photo etc.
- These data allow the agency to develop data-driven population estimates per watershed & establish trapping quotas.

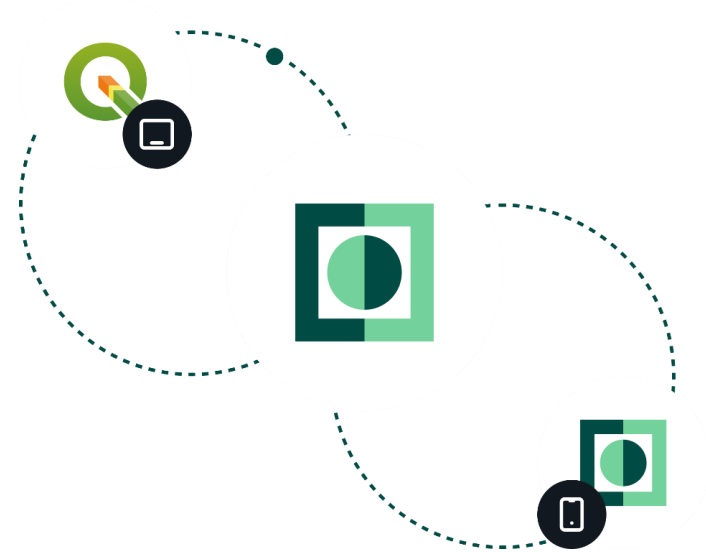


# Beaver Harvest App (Mergin Maps)

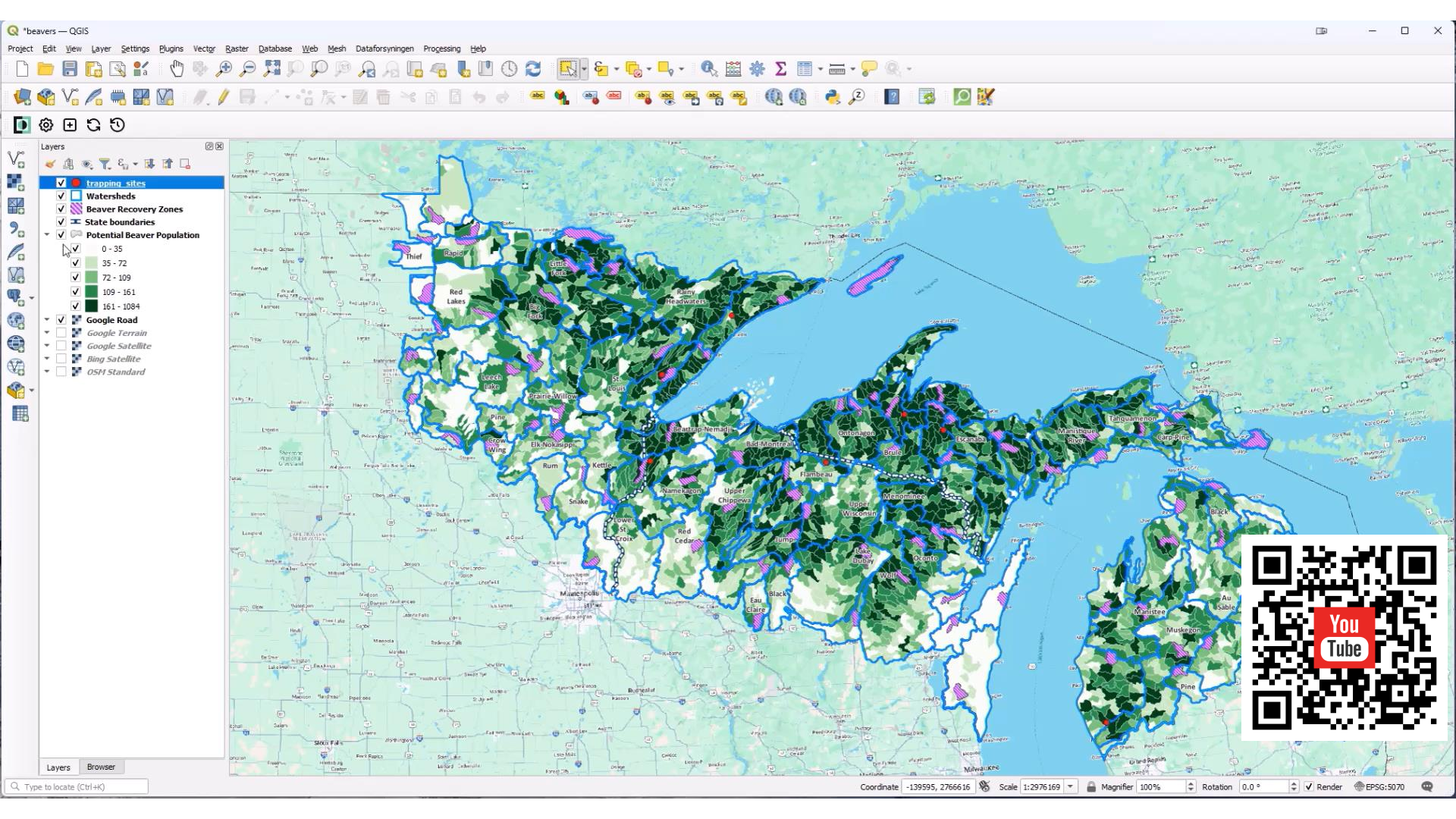
Utilize the open-source Mergin Maps platform

- Integrates with QGIS (open-source GIS software)
- Includes cloud data storage & data versioning
- Intuitive mobile app for iOS and Android.

Open-source eliminates licensing fees.



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# Managing Beavers at the Watershed Level

## Conclusions

- Provides a modern digital way to sustainably manage beaver populations.
- Can be implemented anywhere.
- Can be used for any species (deer, elk, waterfowl etc.)
- Each watershed will have a health score:
  - Biodiversity
  - Species composition/richness
  - Harvest data (mapped & dated)
  - Potential habitat connectivity
  - Potential carbon
  - Plus a historical record (trends over time)
- Allows beavers to thrive as keystone species & ecological engineers.



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to see the full presentation 😊

