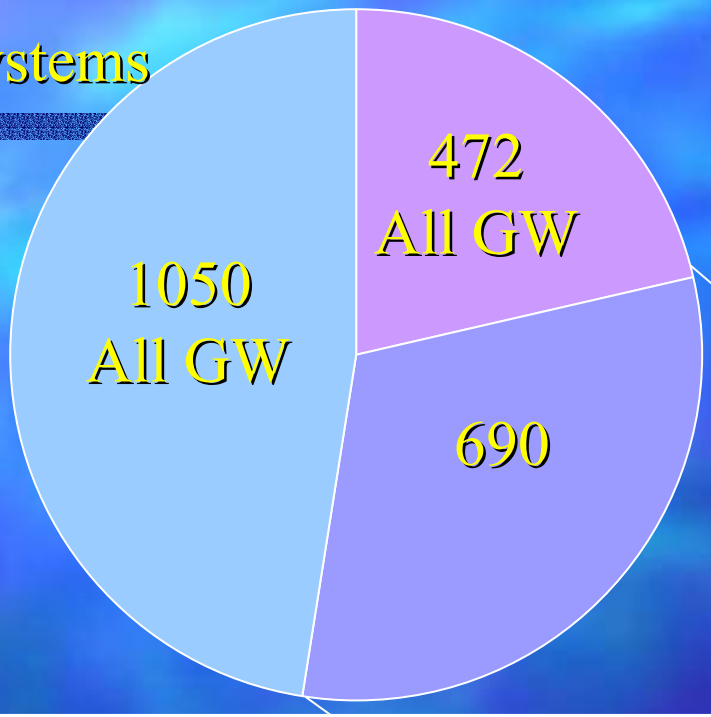
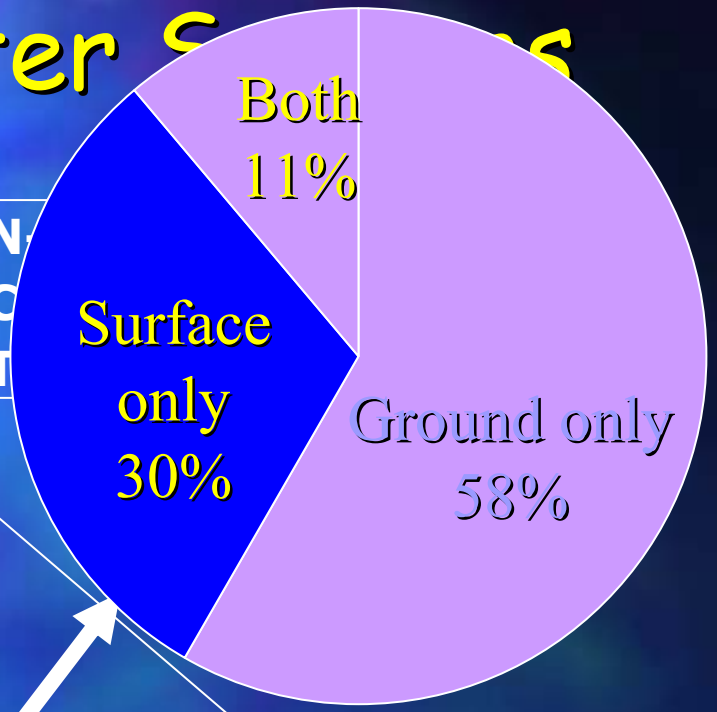
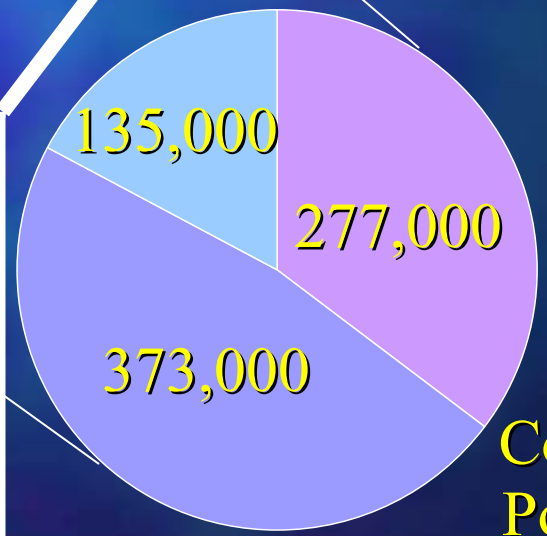
Common Approaches to Source Protection

Paul Susca
NHDES Drinking Water Source Protection Program

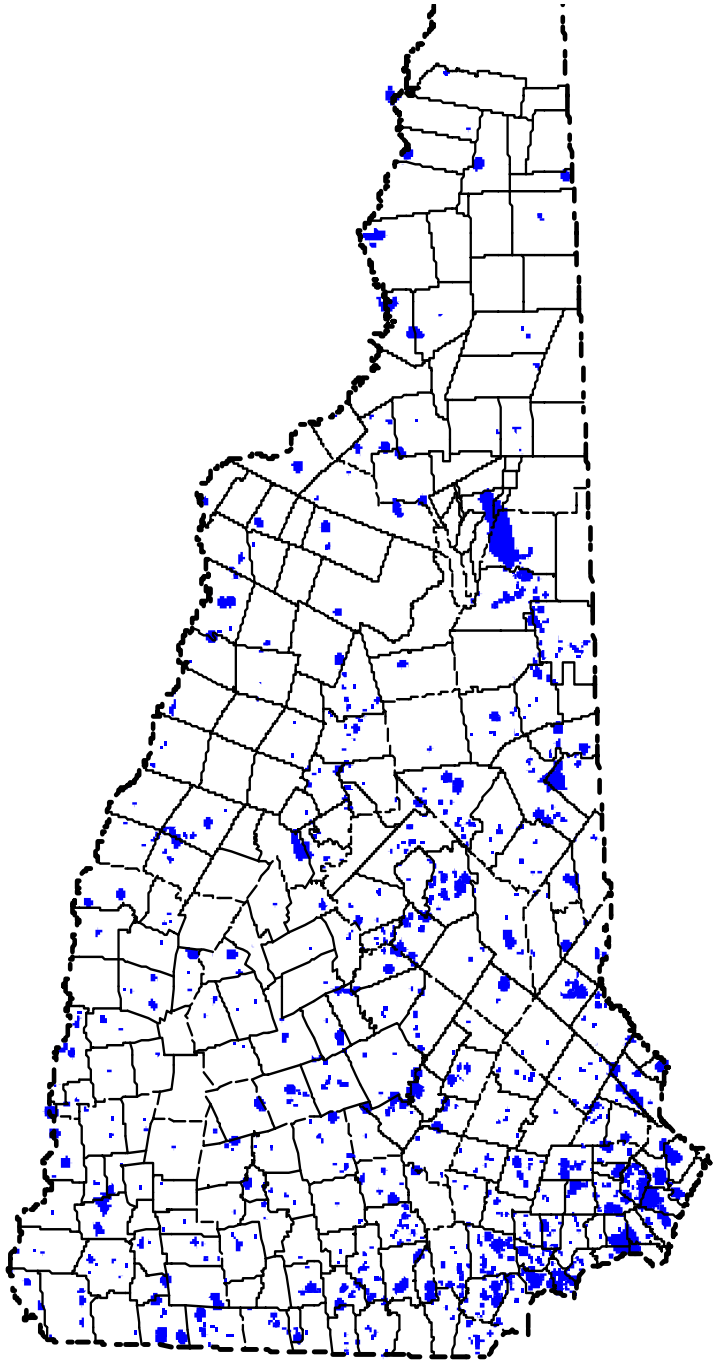
NH Public Water Systems





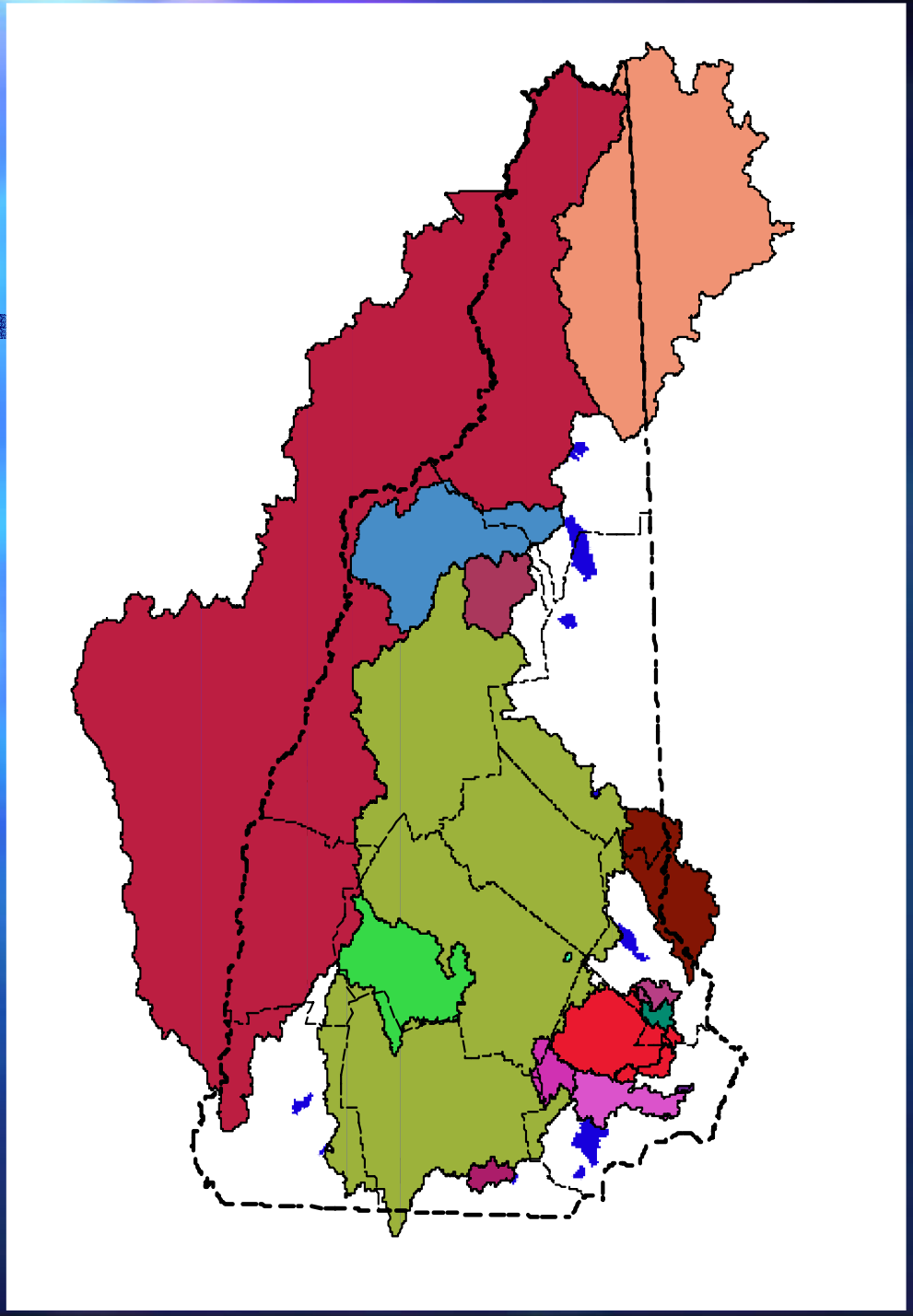


Groundwater-Only Users	
Private	433,000
C – GW only	277,000
TOTAL	710,000



Surface Sources of Drinking Water

- 57 active sources
- Serve 40% of N.H. population
- Watersheds cover 80% of the state
- Special challenges for protection
  - Extensive watersheds
  - More vulnerable to contamination
  - Competing uses

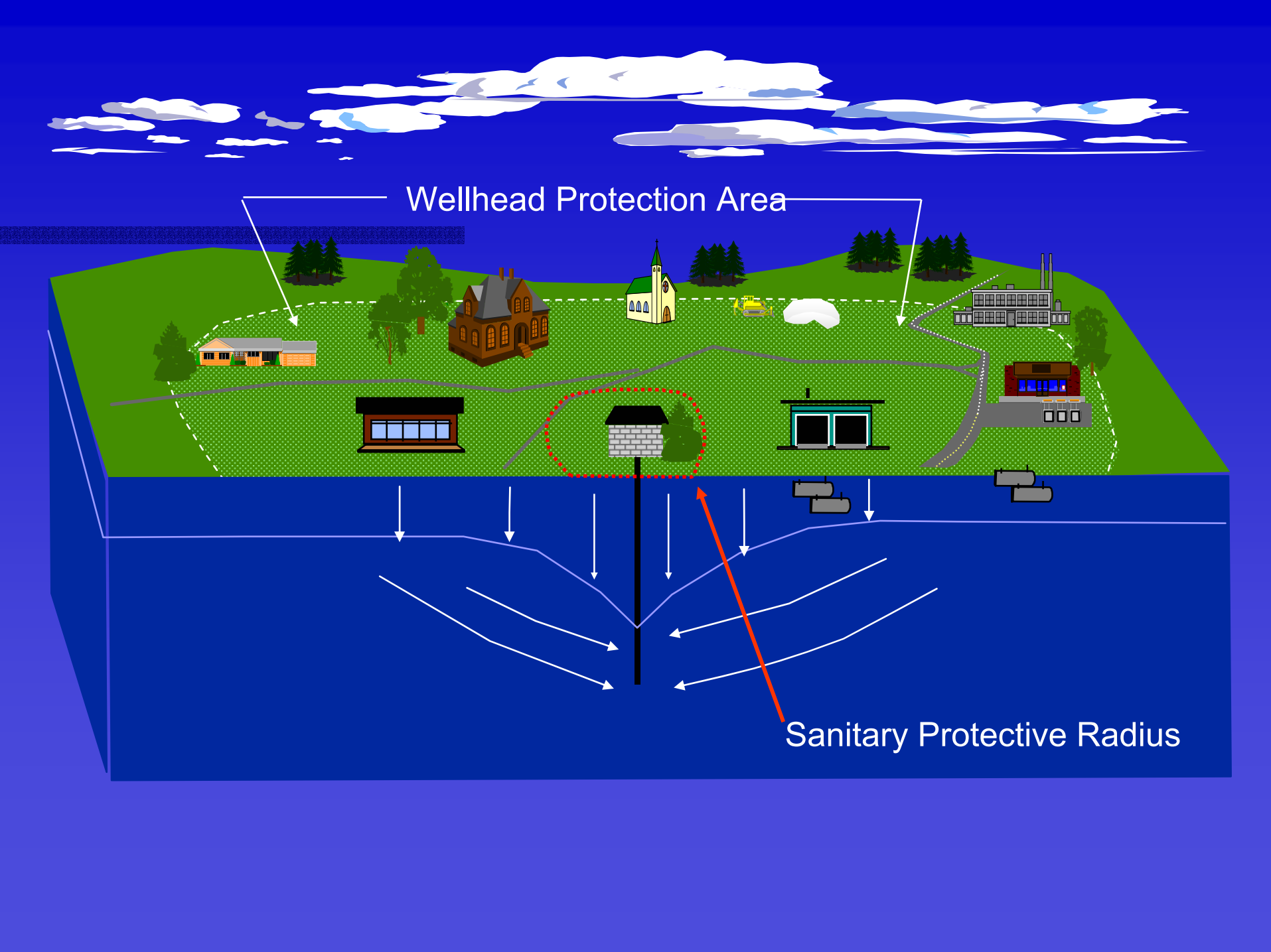


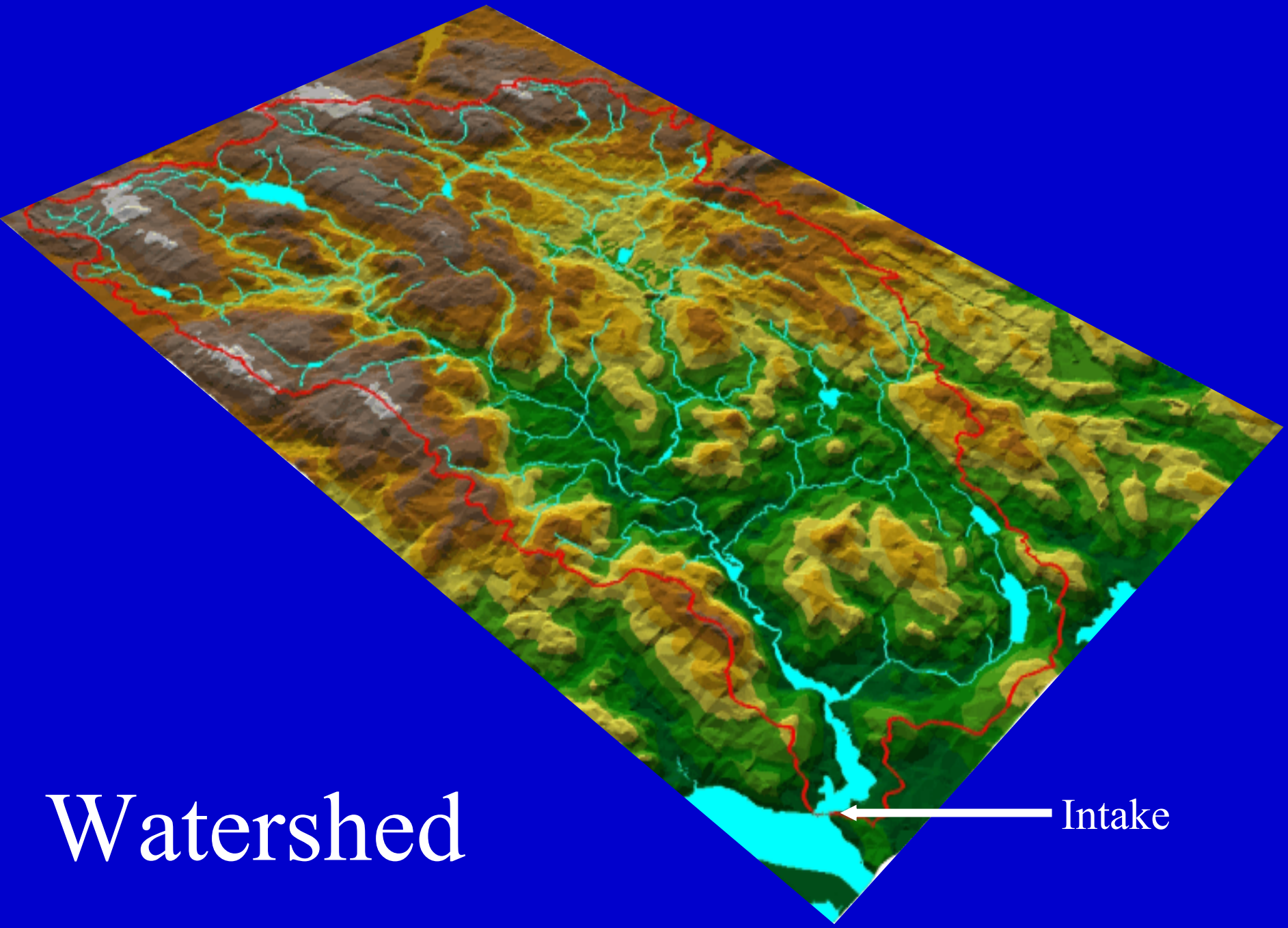
Source Protection Steps

1. Education: why, what, how, who
2. Stakeholder Participation
3. Identify Resources to be Protected
4. Inventory Current and Future Threats
5. Decide on Protection Approaches (Plan)
6. Implementation
7. Education

3. Resources to be Protected

- Groundwater
  - Wellhead Protection Areas
  - Stratified-Drift Aquifers
  - All Groundwater
- Surface Water
  - Watershed(s)
  - Buffers

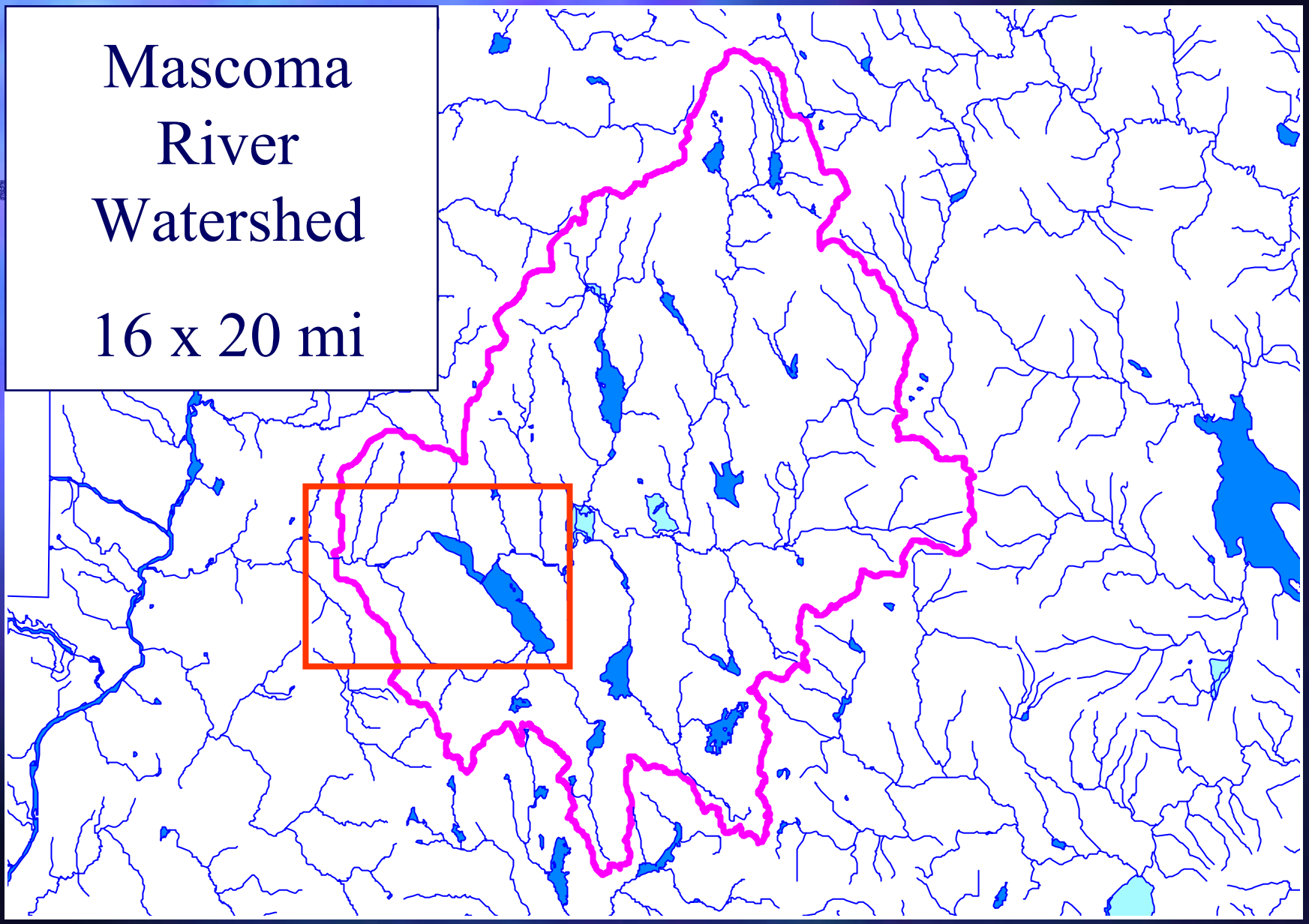

Wellhead Protection Area
Sanitary Protective Radius

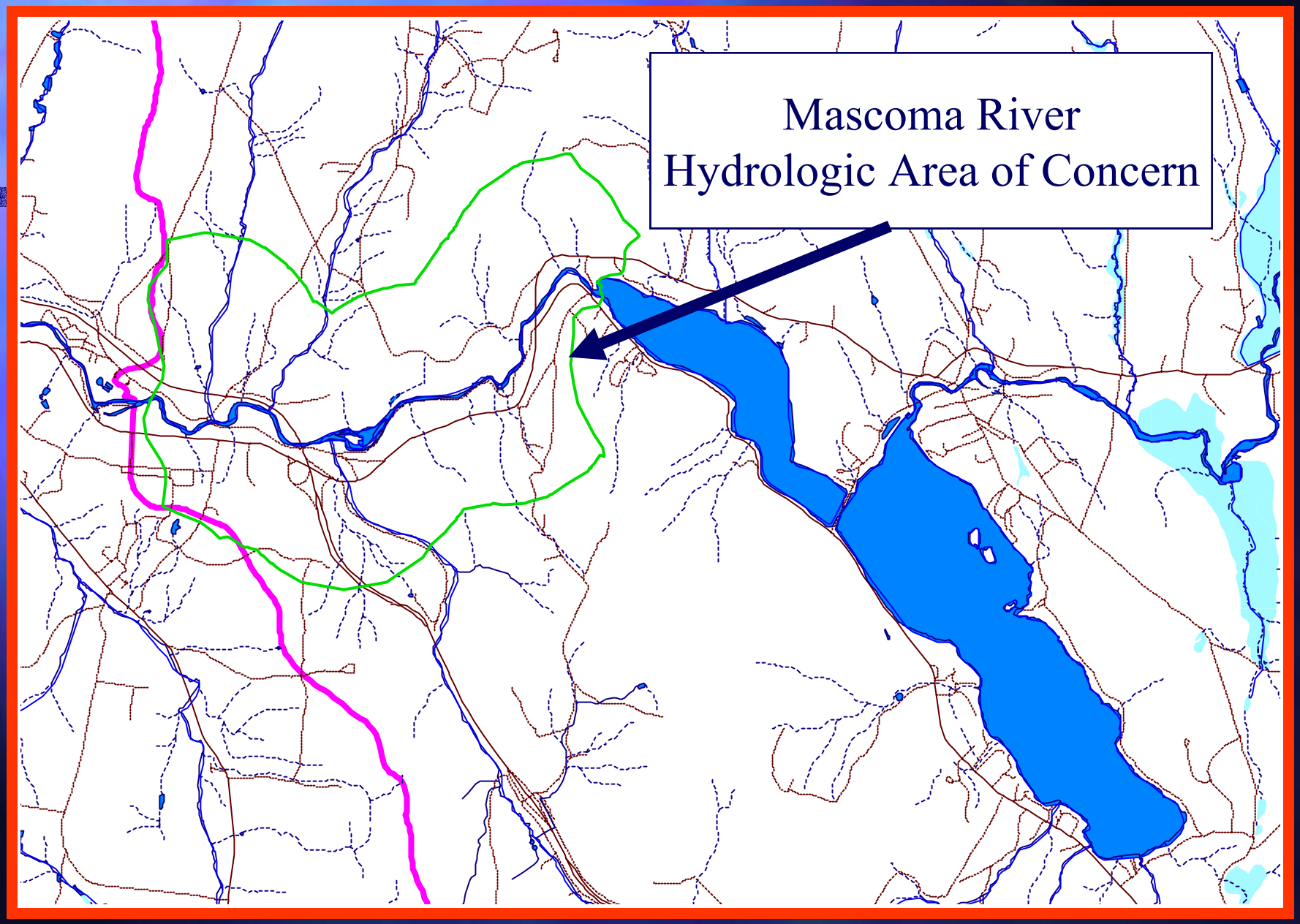


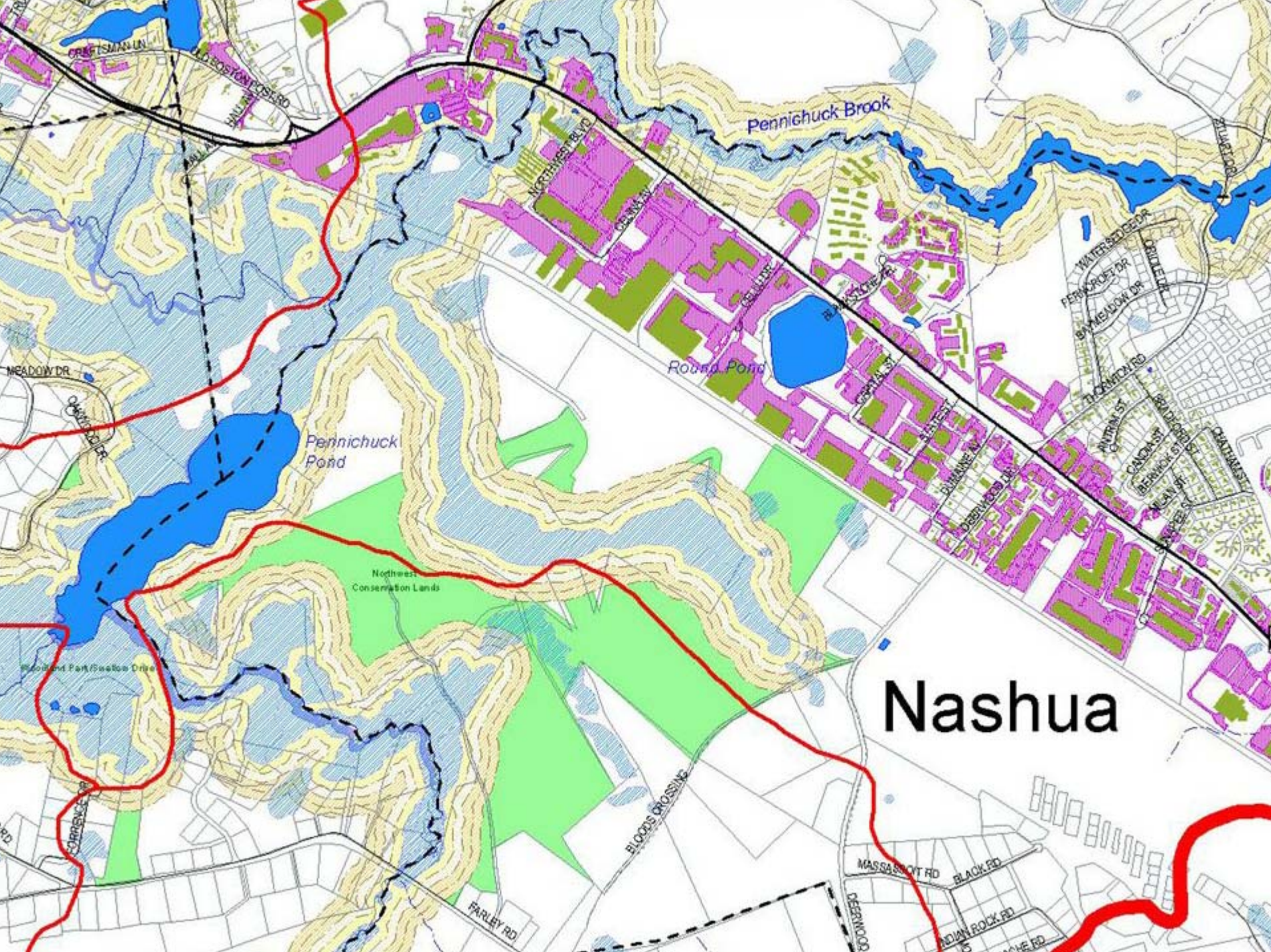
Watershed

Mascoma River Watershed

16 x 20 mi




Mascoma River
Hydrologic Area of Concern


Pennichuck Brook
Round Pond
Pennichuck Pond
Northwest Conservation Lands
Nashua
CRAFTSMAN LN
OLD BOSTON POST RD
NORTHWEST BLVD
GENIUS AV
MEADOW DR
BLACKSTONE RD
WATERSEED DR
PERMROET DR
BAYMEADOW DR
THORNTON RD
CHATHAM ST
BLOODS CROSSING
FARLEY RD
DEERWOOD DR
MASSASSOIT RD
BLACK RD
INDIAN ROCK RD

Aquifer Resource Information

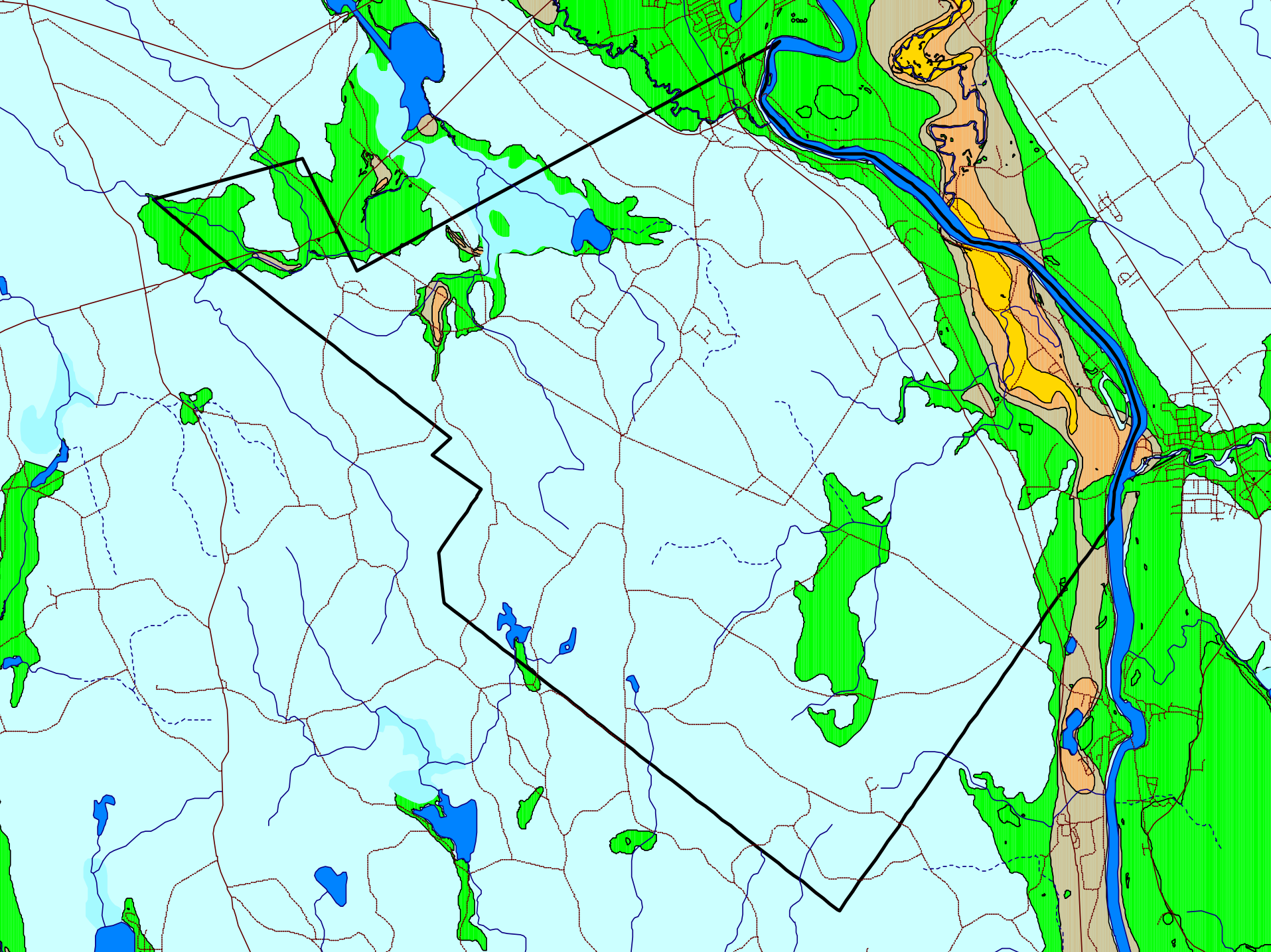
+

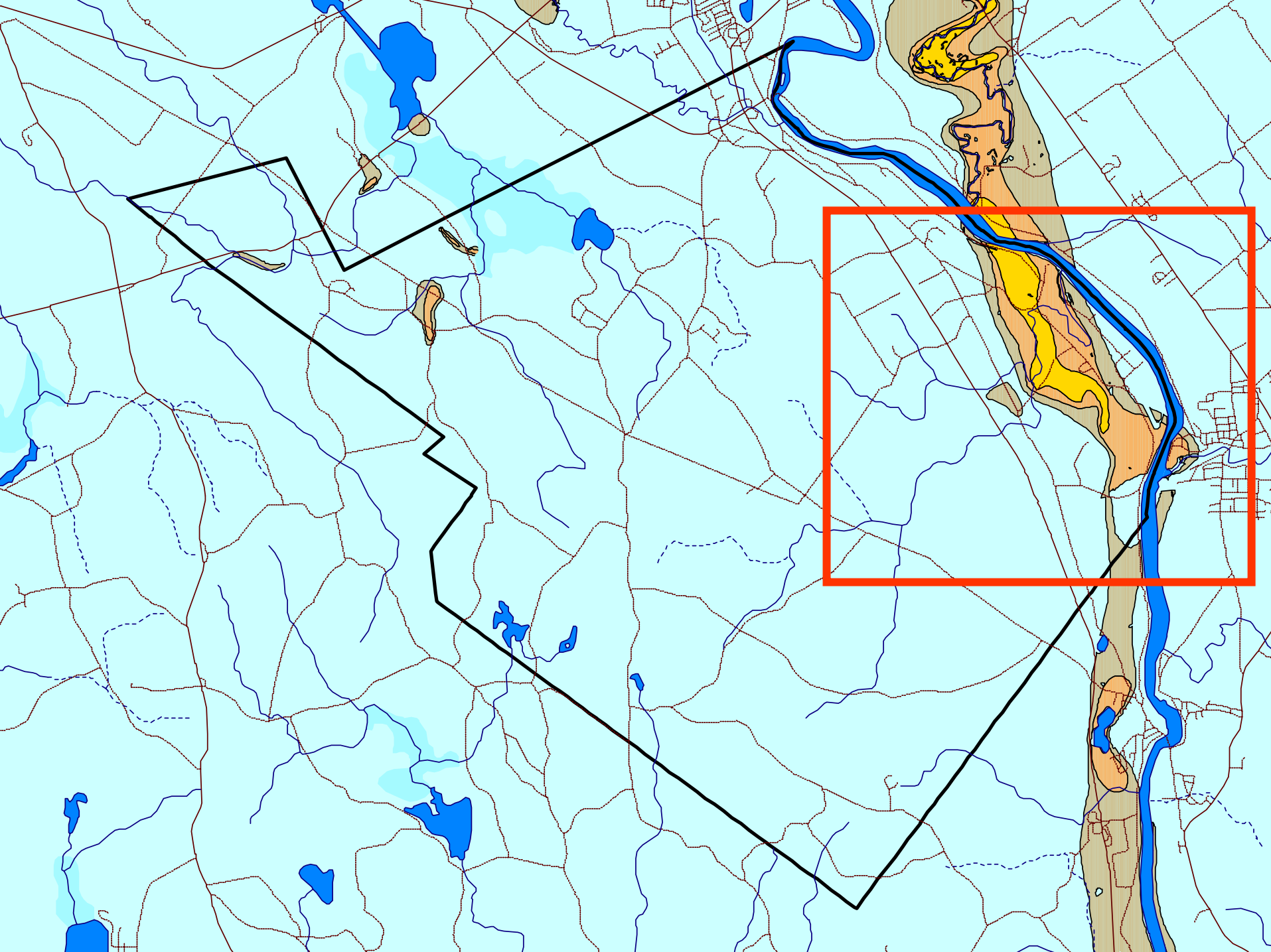
Regulatory Constraints

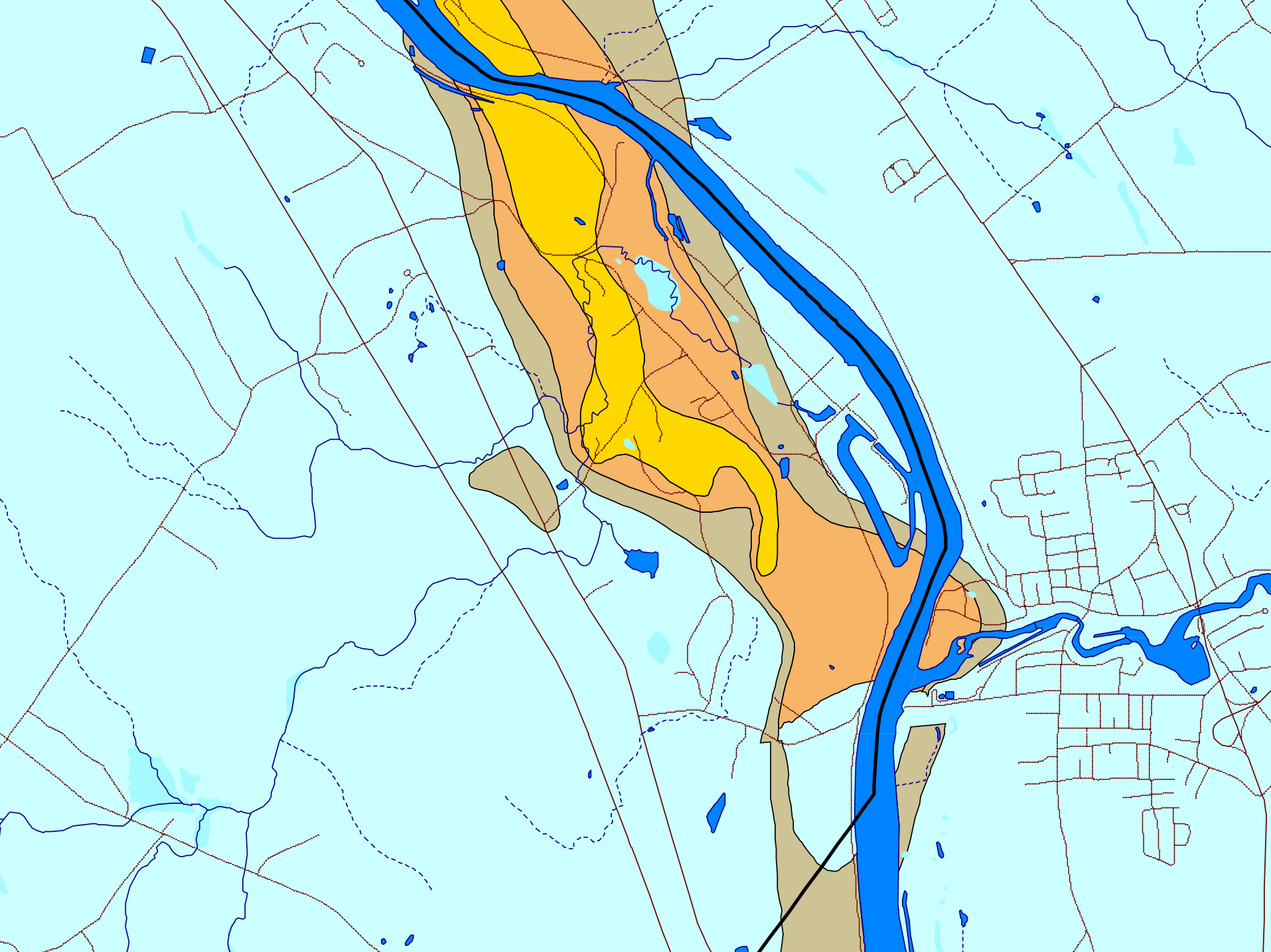
+

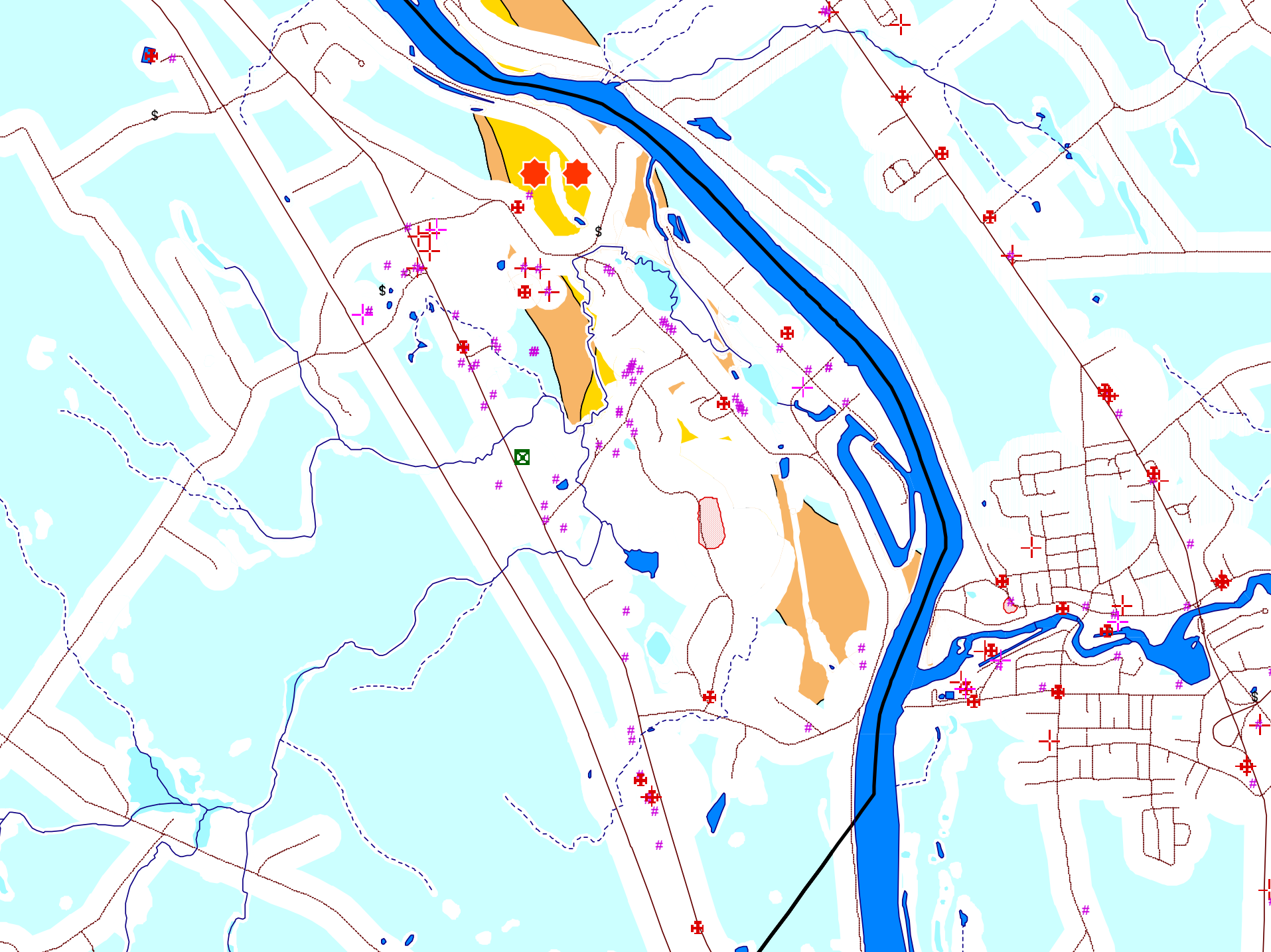
Groundwater Hazards Inventory (GIS)

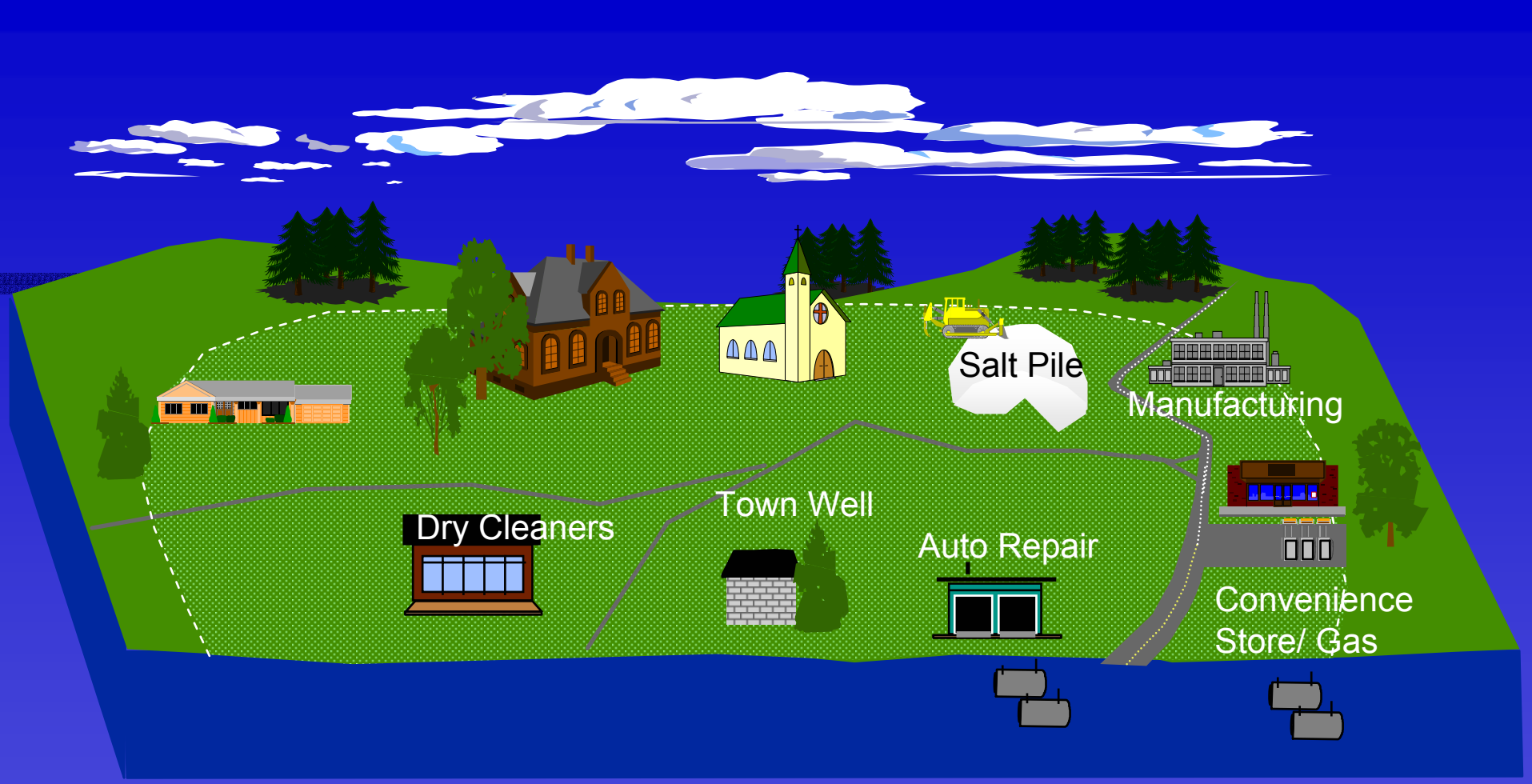
Favorable Gravel Well Analysis











Potential Contamination Sources

1. Salt Pile
2. Auto Repair
3. Underground Tanks
4. Manufacturing
5. Dry Cleaners

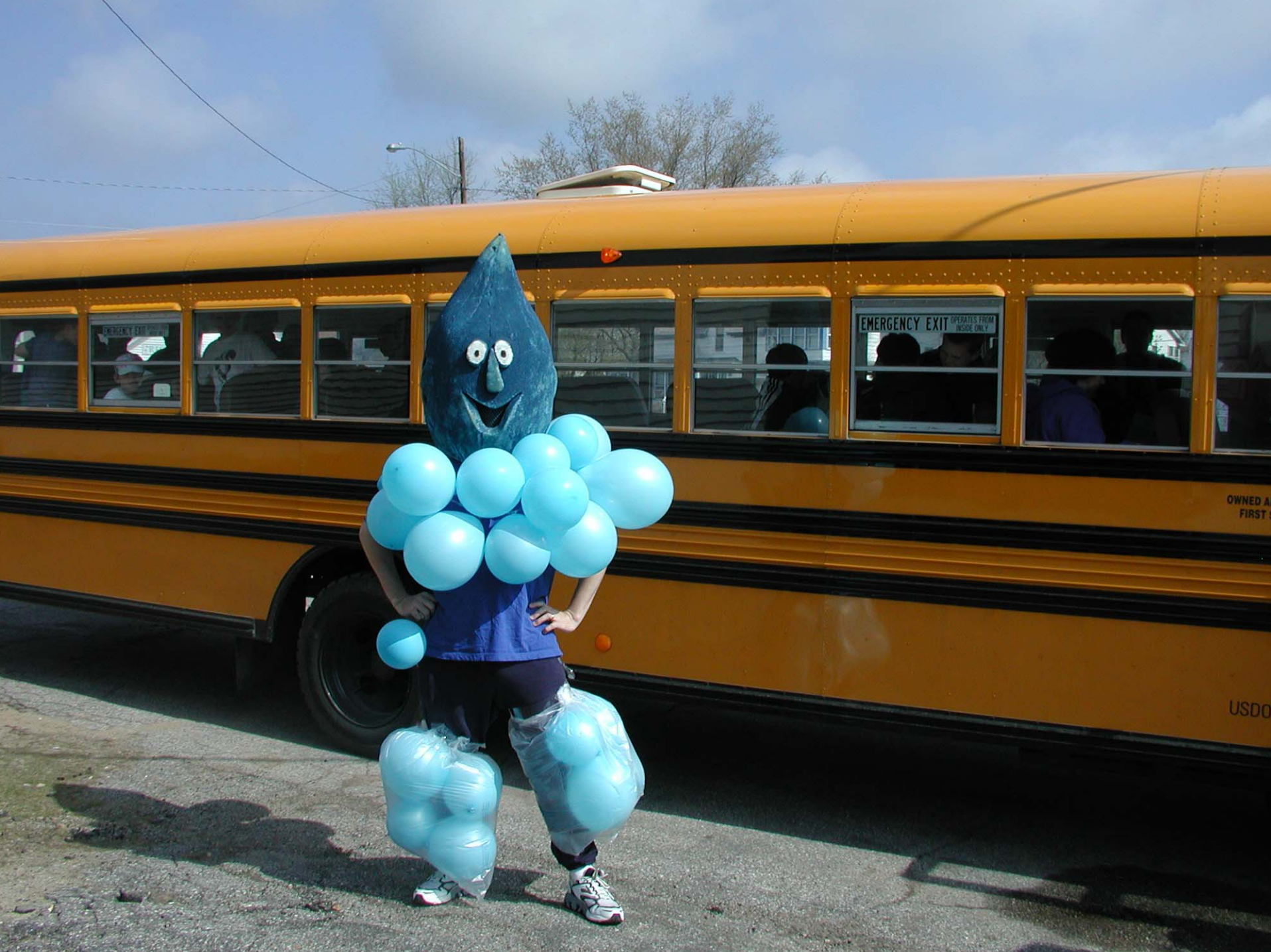
4. Inventory

4. Inventory

- Existing Threats
  - PCSs
  - Septic systems
  - Agricultural land use
  - Nonpoint sources
  - Recreation
- Future Threats
  - Residential build-out
  - Non-residential land uses
  - Increased recreation

5. Protection Approaches

- Non-regulatory
  - Land protection
  - Public education
  - Outreach to businesses
  - Voluntary inspection
  - Nonpoint Best Management Practice$
- Regulatory
  - Zoning, etc. (local)
  - Groundwater BMPs (state and/or local)
  - Watershed rule (DES)


EMERGENCY EXIT
OPERATES FROM INSIDE ONLY

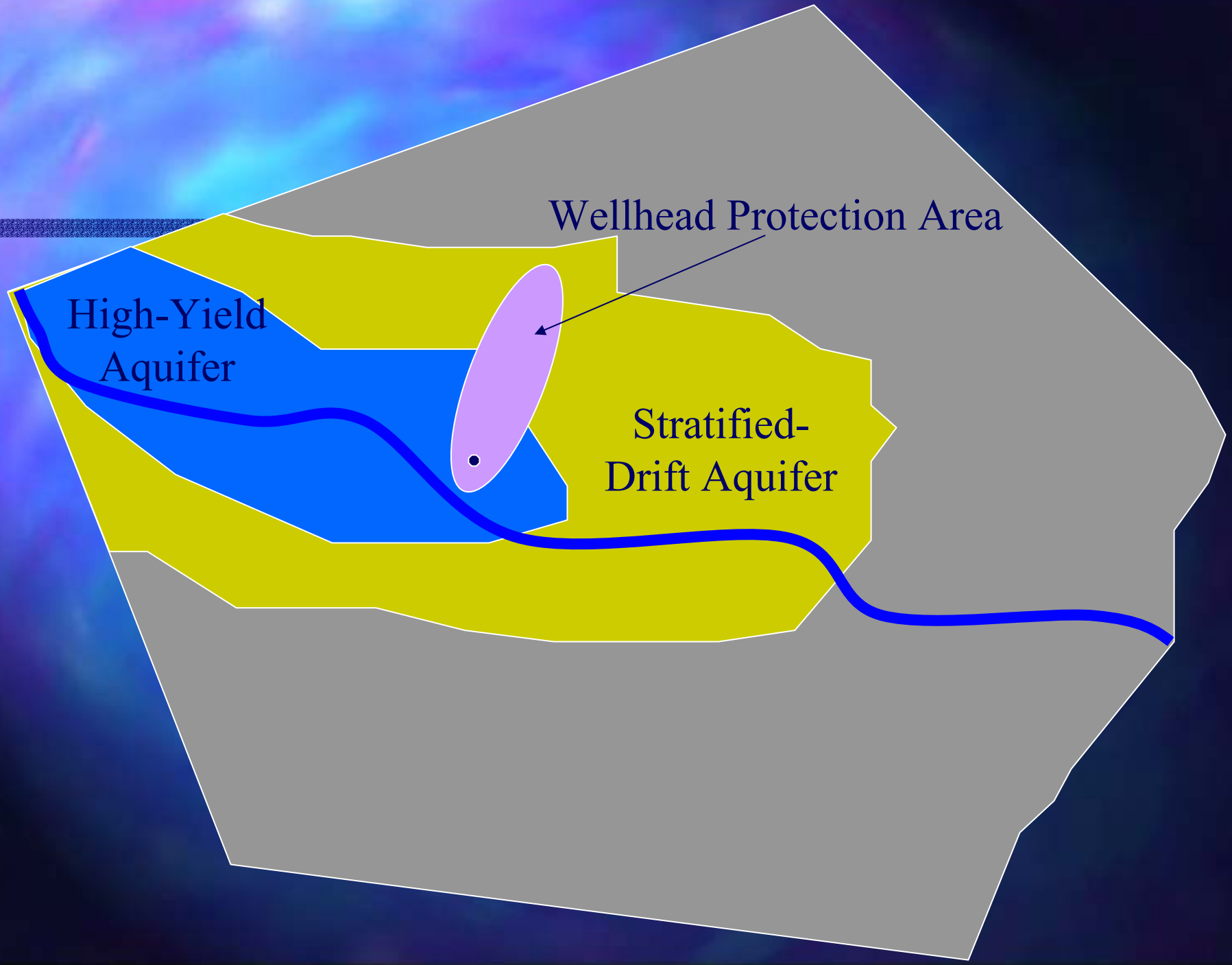
Management Approaches: Regulation

- Local regulations
- Groundwater reclassification (state-local)
- Watershed rules (state-local)

- Zoning
- Subdivision review
- Site plan review
- Health regulations
- Restricts 6 high-risk land uses
- BMP enforcement
- Protected buffers
- Restricts land and water uses

Best Management Practices (BMPs) for Hazardous Substances

- Required statewide
- Local monitoring for compliance
- Common-sense practices
  - Storage
  - Handling
  - Discharges
- DES training


Wellhead Protection Area
High-Yield
Aquifer
Stratified-
Drift Aquifer

Groundwater Reclassification

GA1

Other locally impo

Local inspection

High priority for D

otection area:

nd uses prohibited

tion

for DES

- Eastman
- Stratham
- Salem
- Jaffrey
- Pembroke
- Raymond

DES Watershed Protection Rule

Env-Ws 386.50 in effect for Pennichuck Brook

- 75-ft buffer zone for Ponds and tributaries
  - No privies, pig-pens, stables, animal housing
  - No discharge of wastewater
  - No disposal of putrescible waste
  - The above can be prohibited beyond 75 ft.
- No swimming or bathing in Ponds or Brook
- No dumping of sawdust
- PWC authorized to investigate

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Youth Education: NH Project WET

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