Third Annual Lamprey River Symposium

January 8, 2010

University of New Hampshire

Lamprey River Hydrologic Observatory

- Watershed is a platform to study the hydrology and biogeochemistry of a suburban basin
- Focal point for research, teaching and outreach
- Participating UNH departments to date:
  - Natural Resources & the Environment
  - Earth Sciences
  - Civil Engineering
  - Climate Change Research Center
  - Complex Systems Research Center

LRHO Research Questions

Bill McDowell's group / NH Water Resources Research Center

1. Can spatial variability in surface water and groundwater chemistry be predicted by watershed attributes?
2. Is suburbanization driving long-term trends in stream chemistry?
3. What controls long-term watershed N retention?

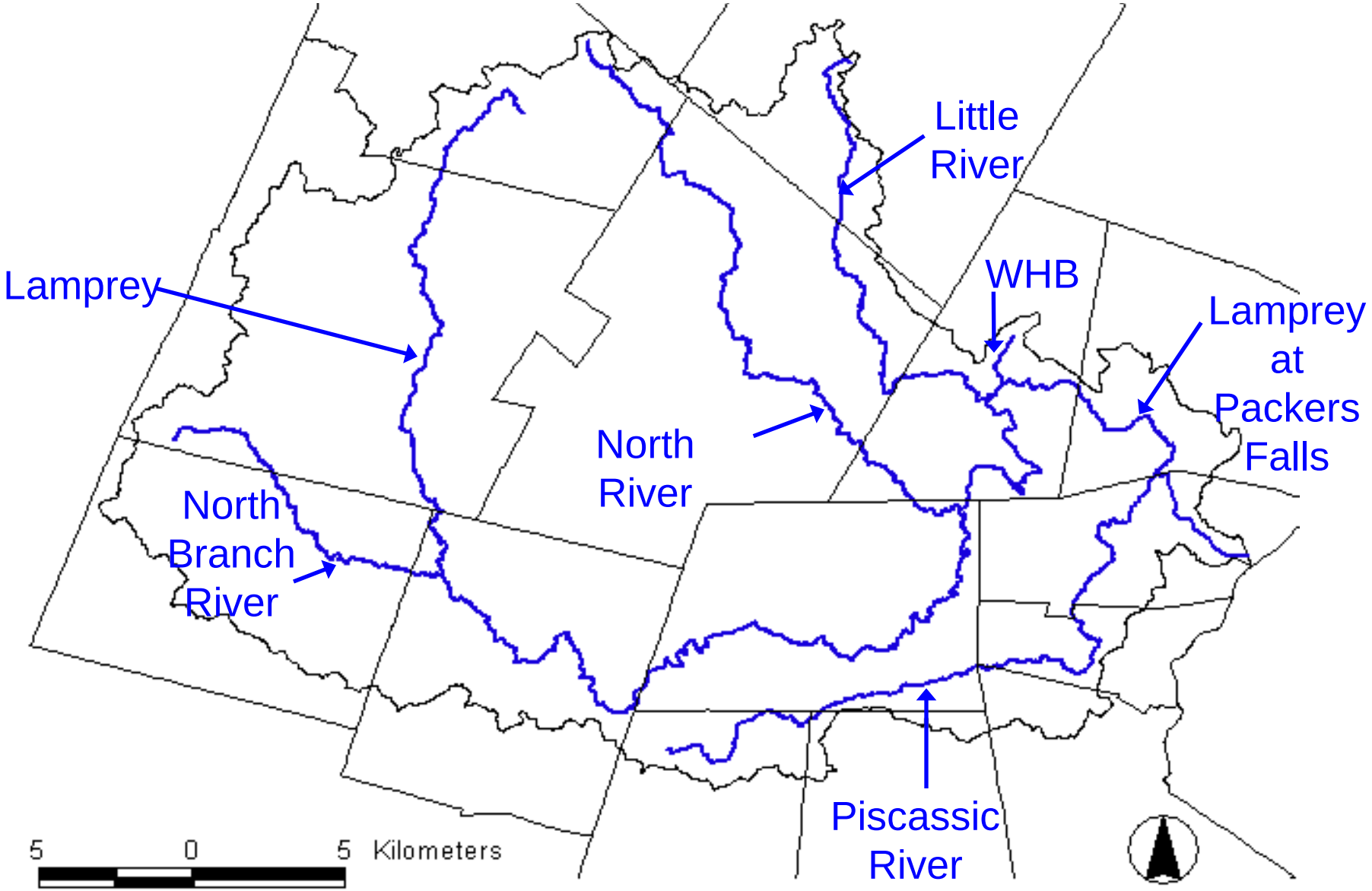
LAMPREY RIVER ADVISORY COMMITTEE

AIRMAP
MAPPING NEW ENGLAND'S CHANGING CLIMATE AND AIR QUALITY

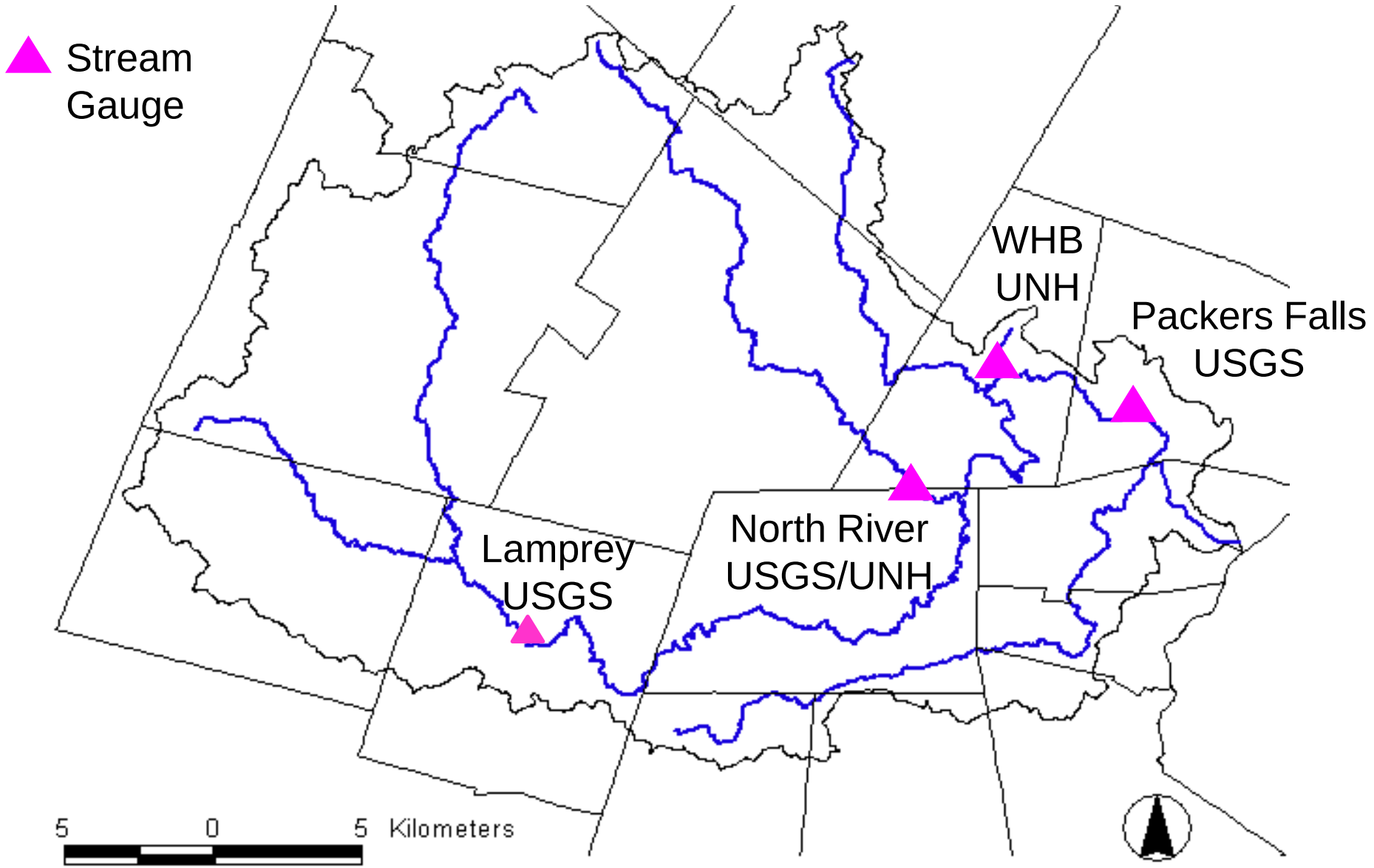
NEW HAMPSHIRE
NH WRRC
WATER RESOURCES RESEARCH CENTER

Lamprey River Hydrologic Observatory

Lamprey River Hydrologic Observatory



Lamprey River Hydrologic Observatory



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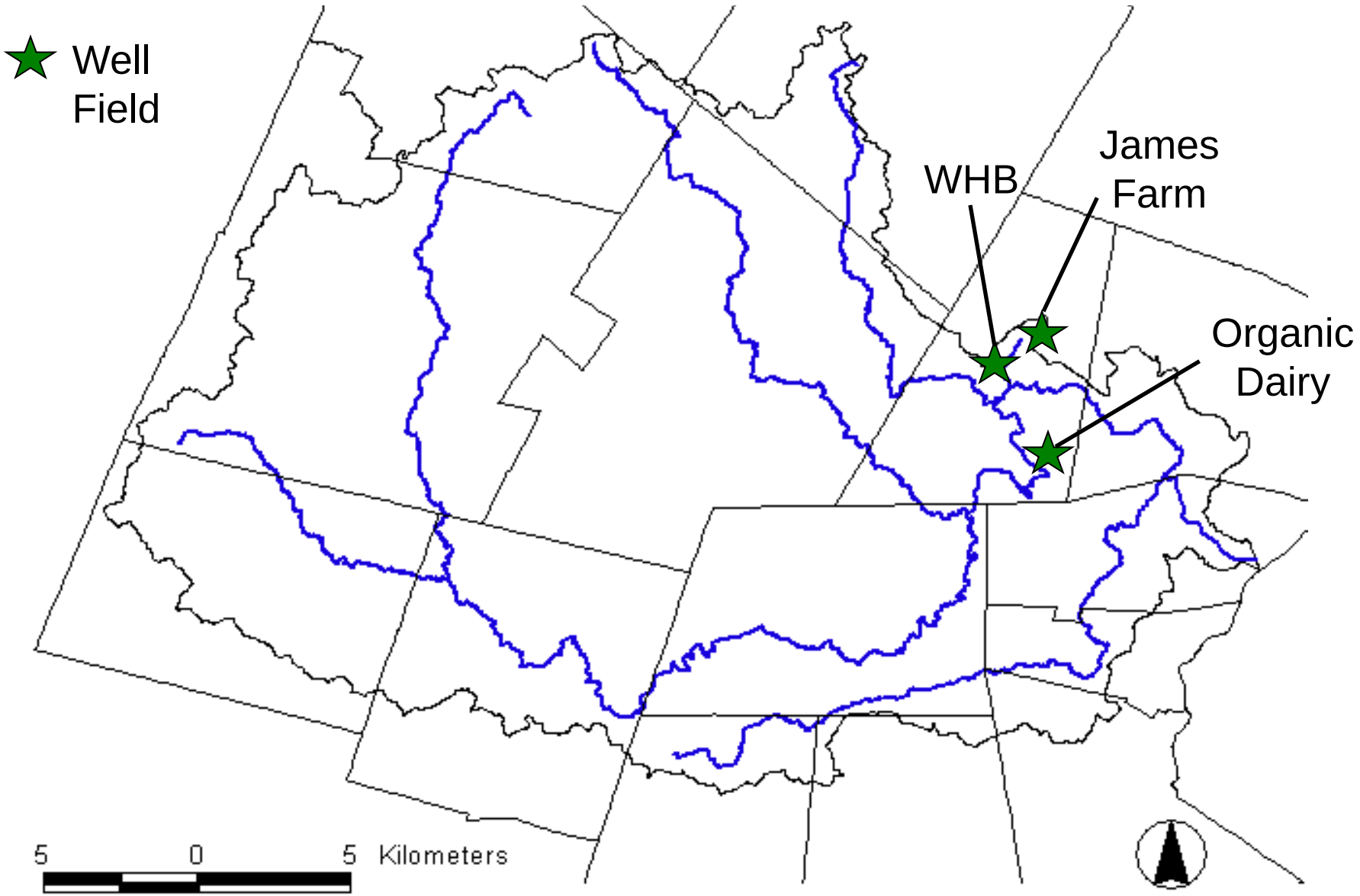

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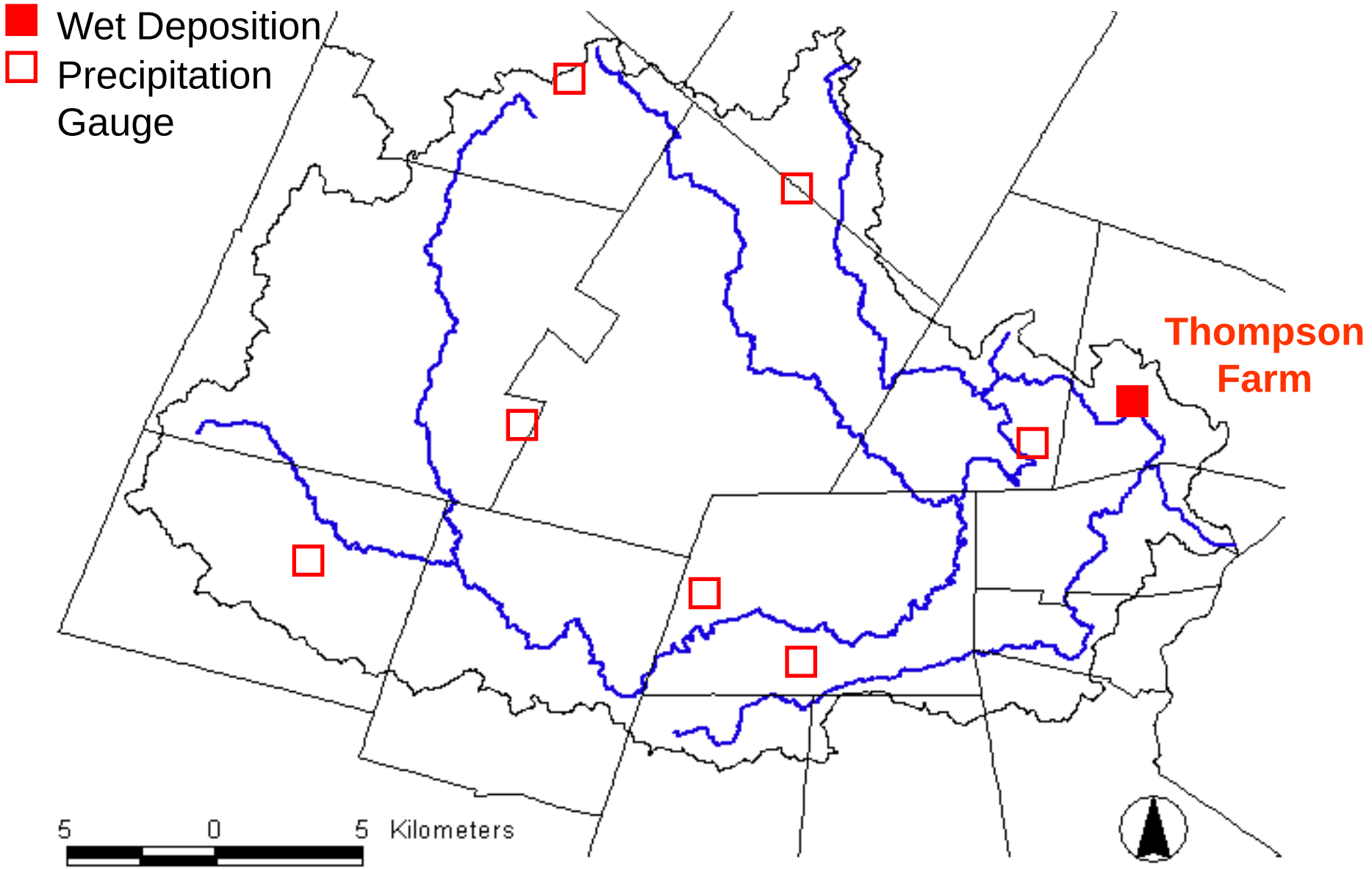

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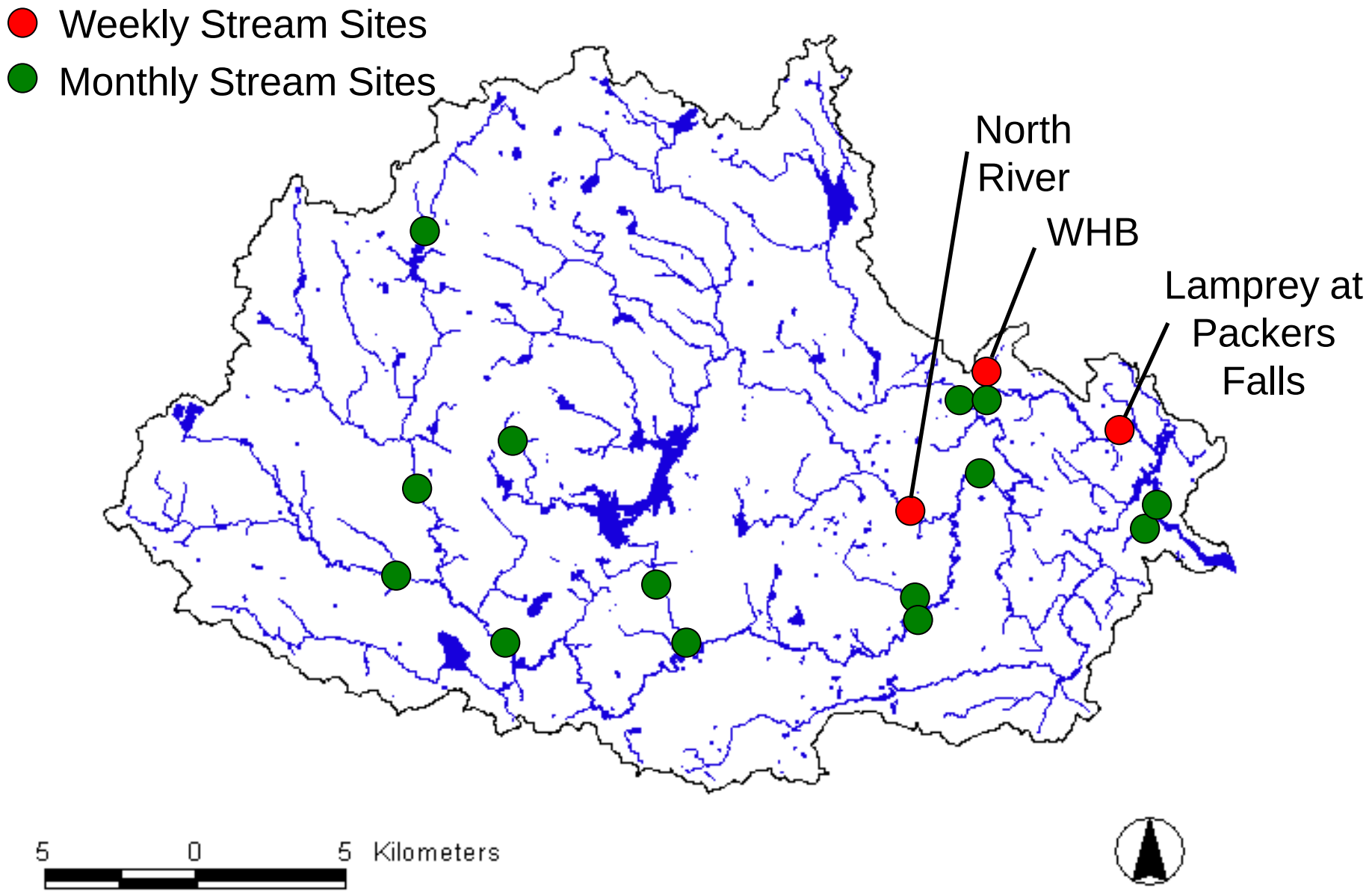

Other LRHO Research Questions

- What is the hydrologic residence time of groundwater and surface water at different spatial scales?
- In what ways and at what spatial scales does groundwater interact with surface water?
- How does stormwater management impact water quality?
- Does water quality impact amphibian growth and reproduction?

Long-term Research Needs

- What strategies would effectively reduce N loading to Great Bay?
  - Southeast Watershed Alliance
- Is current and future groundwater use sustainable?
- Can ecological integrity of the Lamprey River be restored?
- What is the best way to increase the efficiency of road salt application?
  - Seacoast outreach efforts (Barbara McMillan)
- How do interactions between land use change and climate change affect water quality?