

Reducing Risks and Legal Challenges Within Projected Floodplains

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NH CAW – Water, Weather, Climate and Community
Series

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VERMONT LAW SCHOOL



100 Year Floodplains for the Lamprey River & Legal Research Project Participants

Mapping and Evaluation Team

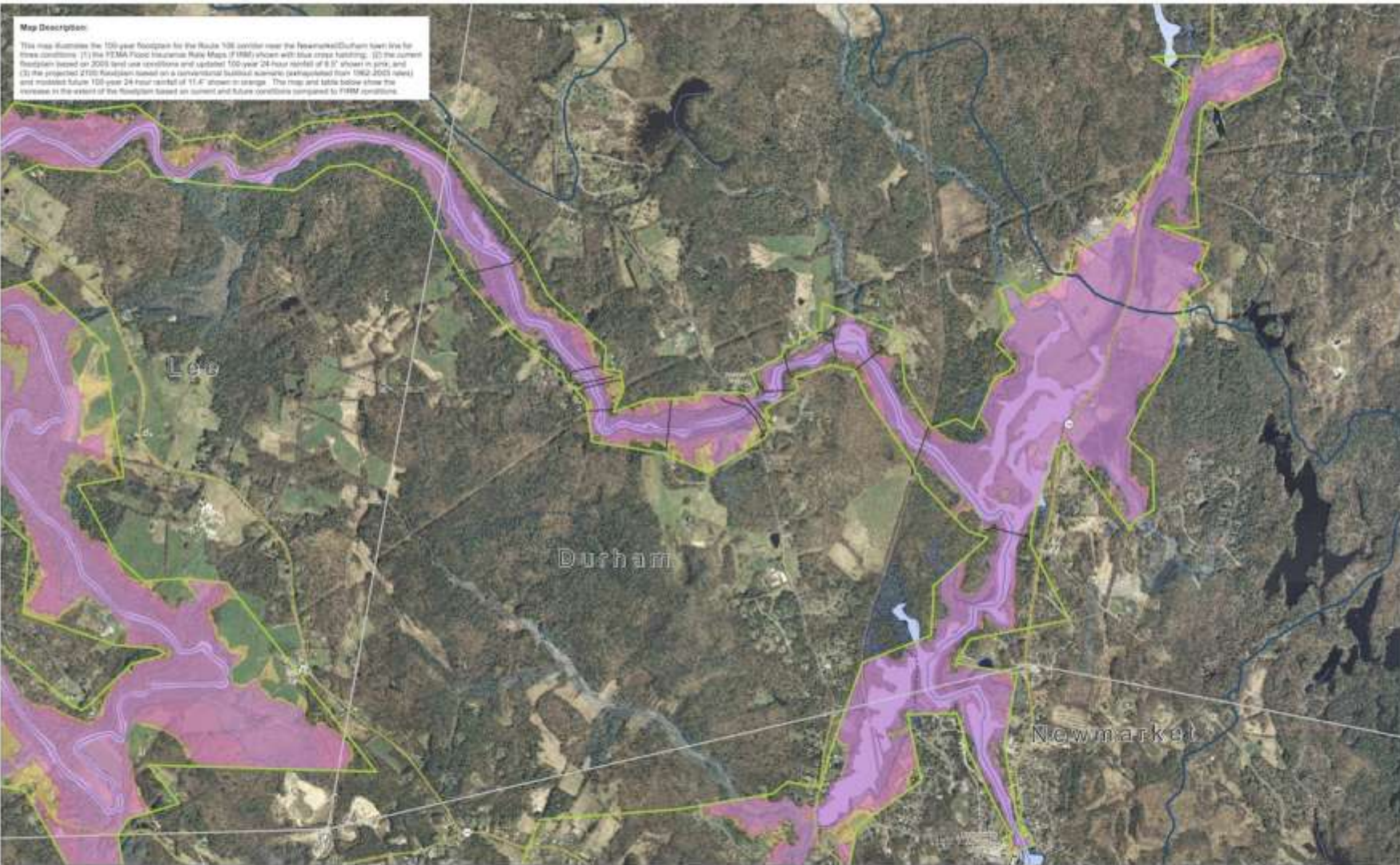
- Cameron Wake & Fay Rubin, EOS, University of New Hampshire
- Steve Miller, Great Bay National Estuarine Research Reserve
- Robert Roseen, Ann Scholz & Tom Ballesterro, UNH Stormwater Center
- Michael Simpson, Antioch University New England
- Julia Peterson & Lisa Townson, UNH Cooperative Extension

Legal Research Leaders

- John Echeverria, Katherine Garvey & Peg Elmer, Vermont Law School



100-Year Floodplains in the Lamprey River Watershed: Flood Insurance Rate Maps (FIRMs), Updated (2005) Conditions, and 2100 Conventional Buildout Durham/Route 108 Corridor Panel



Map Key:

- Updated (2005) 100-Year Floodplains
- 2100 100-Year Floodplains
- Conventional Buildout
- Effective Zone of 100 Year Flooding
- Special Flood Hazard Areas with Base Flood Elevations (SFEs) determined
- Effective Zone of 100 Year Flooding
- Special Flood Hazard Areas with no Base Flood Elevations (SFEs) determined
- Effective Cross Sections
- Limits of Foundation Mapping
- Lamprey River Watershed Boundary
- Subdivided Boundaries
- Laying Lines
- River and Stream Networks
- Water Diversion
- State Roads
- Local Roads

Average Summary:

Town	2005 Conditions		2100 Buildout		% Increase
	Area (sq. ft.)	Population	Area (sq. ft.)	Population	
Lee	1,200,000	1,500	1,800,000	2,000	50%
Durham	2,500,000	3,000	3,500,000	4,000	40%
Newmarket	3,000,000	3,500	4,000,000	4,500	33%
Total	6,700,000	8,000	9,300,000	10,500	39%

Technical Notes:

This map was prepared by the University of New Hampshire Center for Global Change Science and the University of New Hampshire Center for Applied Geospatial Science. The map was prepared using ArcGIS 10.2.2 software. The map was prepared using the following data sources:

Map Data Sources:

- 2005 Flood Insurance Rate Map (FIRM) - FEMA
- 2005 Land Use Data - ESRI
- 2005 Population Data - US Census Bureau
- 2005 Topographic Data - ESRI
- 2005 Road Data - ESRI
- 2005 River and Stream Networks - ESRI
- 2005 Water Diversion Data - ESRI
- 2005 State Roads Data - ESRI
- 2005 Local Roads Data - ESRI

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Assessing Flood Risk in the Lamprey River Watershed

SC

UNH

UNH Center for Applied Geospatial Science

UNH Center for Global Change Science

UNH Center for Watershed Sciences

UNH Center for Environmental and Estuarine Science

UNH Center for Forest Sciences

UNH Center for Inland Waters

UNH Center for Life Sciences

UNH Center for Marine Sciences

UNH Center for Public Health

UNH Center for Research in Environmental and Earth Sciences

UNH Center for Sustainable Development

UNH Center for Urban and Environmental Policy

UNH Center for Water Resources

UNH Center for Wildlife and Fisheries

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Advisory Committee

- Cliff Sinnott, Rockingham Planning Commission (Chair)
- Joanne Cassulo, NH Office of Energy and Planning
- David Cedarholm, Durham Public Works
- Cynthia Copeland, Strafford Regional Planning Commission
- Michael Goetz and David Knowles, FEMA Region 1
- Diane Hardy, Newmarket Planning Department
- Sharon Meeker, Lamprey River Advisory Committee
- Jack Munn, Southern New Hampshire Planning Commission
- Jennifer Perry, Exeter Public Works
- Ron Poltak, NEIWPC
- Keith Robinson, USGS
- Carl Spang/Dawn Genes, Lamprey River Watershed Association
- Eric Williams, NH Department of Environmental Services

Types of Legal Challenge



1. Is a municipality liable for acting OR not acting?
2. Does it have authority to act on the mapped data?
3. Can the mapped data be challenged?
4. Would a municipality be accused of a "taking" if it acted?
5. What options do communities have to protect health and property within projected floodplains?

Legal Questions and Recommendations*

<http://100yearfloods.org>

**The following presentation should NOT be considered legal advice.
Seek legal counsel for your particular needs.*

1. Municipal Liability

- *What if municipalities fail to take steps to reduce the vulnerability of its landowners and other citizens to the risk of flood and storm damage as revealed by UNH's research efforts and mapping information?*

1. Recommendation

- There is no need for towns to take any specific action related to municipal liability from adopting or failing to adopt floodplain maps.

1. Negligence

2. Doctrines of Governmental Immunity



2. Enabling Statutes

Do New Hampshire communities have the legal authority under state planning and zoning enabling legislation, or other state legislation, to design and implement regulatory controls based on current and predicted environmental conditions, specifically projected flooding levels?

2. Recommendation

- Identify and clearly state which enabling statutes authorize the sections of your ordinance. Check the language of the statute to make sure specific authorizations are not being exceeded.
 1. Environmental Protection
 2. Duties of the Planning Board
 3. Duties of the Municipality



3. Challenges to Technical Information

What legal standard of scientific and technical reliability must planners and other officials meet in order to support regulatory measures that are based on current and future—as opposed to past—environmental conditions?

3. Recommendation

- Identify in the ordinance the reason you are adopting or referencing the maps. As long as you have a reasonable justification for using the maps, the maps will be upheld e.g. protecting the health and welfare of the community from the dangers of flood hazards.



4. Takings

- *What is the potential regulatory takings exposure of New Hampshire communities if they impose regulatory controls that are designed at least in part to address anticipated future environmental conditions?*

4. Recommendations

- Make the basis for floodplain regulation clear in the master plan and the hazard mitigation plan.
- Provide flexibility in zoning and regulations in order to preserve some economically viable use of the land.
 - E.g. Setbacks should not create distance requirements that cover an entire parcel.
 - Include a mechanism for providing minimum relief from standards.
 - Indicate that the purpose of the regulation is to implement hazard mitigation.

5. Community Options

- Planning Tools
- Non-regulatory Tools
- Regulatory Tools



The Bottom Line:

- If a municipality seeks to influence development or redevelopment within the newly mapped floodplain :
 - Use sound planning principles and practices
 - E.g. state desired conditions in appropriate plans
 - Identify authorizing statutes
 - E.g. those related to land use and governance
 - Be clear about the purpose of development restrictions
 - E.g. protect health and safety
 - Preserve some economic viability of affected land
 - Use your municipal tools – planning, non-regulatory and regulatory