MEMORANDUM

DATE: **November 1, 2010**

TO: **Honorable John H. Lynch, Governor**
Honorable Terie Norelli, Speaker of the House
Honorable Sylvia B. Larsen, President of the Senate
Honorable Karen O. Wadsworth, House Clerk
Tammy L. Wright, Senate Clerk
Michael York, State Librarian

FROM: **Representative Suzanne Gottling, Chair**

SUBJECT: **Final Report on HB 1579, Chapter 294, Laws of 2008**

Pursuant to HB 1579, Chapter 294, Laws of 2008, enclosed please find the Final Report of the Commission to Study Issues Relating to Land Development and Land Development Regulation in New Hampshire. The Final Report, and its appendices, is available online at: http://www.nh.gov/oep/legislation/2008/hb1579/index.htm.

If you have any questions or comments regarding this report, please do not hesitate to contact me.

cc: Commission Members
Joel Anderson, Commission Researcher

SG:jc
Enclosures

FINAL REPORT

COMMISSION TO STUDY LAND DEVELOPMENT REGULATIONS AND THE EFFECTS OF LAND DEVELOPMENT WITHIN UPLAND AREAS THAT MAY AFFECT WETLANDS AND SURFACE WATERS OF THE STATE

HB 1579, Chapter 294, Laws of 2008

November 1, 2010

INTRODUCTION

New Hampshire's landscape has changed drastically over the past few decades. The State's population grew faster than all other states in the Northeast from 1960-2000, and twice as fast as the rest of New England from 1990 to 2004. New houses, businesses, and roads claimed about 17,500 acres of forestland annually[1], and agricultural lands dwindled rapidly; Rockingham County alone lost a third of its productive cropland from 1997-2002.[2] However, since 2005, New Hampshire's population growth has significantly slowed, with next to no net in-migration, previously the State's largest contributor to population growth. One theory attributes the recent population growth slow down to the recession.[3] The subsequent slow down in residential, commercial and industrial development presents an opportunity for the State to reshape its landscape and future development patterns.

Development of the natural landscape comes at a cost, as forests and farmlands that support both humans and wildlife are converted to permanent structures, and remaining habitat patches become increasingly smaller, isolated, and degraded. Human activities in uplands impact aquatic and wetland resources as well. Increasing impervious surfaces affect groundwater recharge, water supply, wetland hydrology, and water quality. Studies of streams in urbanized environments, for example, show that watersheds with about 10 percent impervious cover have aquatic insect communities that are degraded by as much as 33 percent compared to those in forested watersheds.[4]

As New Hampshire continues to grow, the challenges of protecting water quality and ecosystems will increase. In order to address existing environmental issues, and those likely to arise, the State needs programs and regulations that protect the natural landscape.

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[1] This is equivalent to 27.3 square miles per year since 1990. Over 14 years this equals 378 square miles of NH's 9,350 total square miles, or 0.29% per year or an aggregate 4.04% of the total area over 14 years.

[2] Society for the Protection of New Hampshire Forests, 2005. New Hampshire's Changing Landscape: Population and Land Use Changes: What They Mean for the Granite State. Concord, N.H.

[3] NH Center for Public Policy Studies, 2009. What is New Hampshire? A collection of data for those seeking answers. Concord, NH.

[4] Cuffney, T.F., R.A. Brightbill, J.T. May, and I.R. Waite, 2010. "Responses of benthic macroinvertebrates to environmental changes associated with urbanization in nine metropolitan areas." Ecological Applications 20:1384-1401.

The Land Use Commission was charged with studying the effects (including indirect and cumulative effects) of land development on surface water and groundwater quality and quantity, and on terrestrial, wetland, and aquatic habitats, among other responsibilities.

The ultimate goal of the Commission was to identify ways to integrate land use controls, open space protection techniques, and environmental and public health protection laws to promote land development patterns that maintain ecosystem health and integrity while providing desirable communities in which to live and work.

Following an opening discussion of each Commission member's goals for the Commission, it was decided that time should be spent educating members so that they shared a common body of knowledge. This would be important when making findings and recommendations at the conclusion of the Commission's work. Numerous presentations and testimony were given by members of the Commission itself and various stakeholders in the planning, development, environmental protection, and regulation fields. Presentations included:

September 16, 2008

Wildlife and Wildlife Habitats
John Kanter, NH Fish and Game Department

The Municipal Planning Process and Patchwork of Regulations
Jennifer Czysz, NH Office of Energy and Planning (NHOEP)
Peter Stanley, NH Association of Regional Planning Commissions

Land Use Program Permitting at NHDES
Rene Pelletier, NH Department of Environmental Services (NHDES)

October 21, 2008

Large-Scale Development Case Study
Michael Brunetti, Celebration Associates, LLC

Mid-Size Subdivision Case Study
Paul Morin, Tarkka Homes

Residential Property Case Study
Erin Darrow, Darrow Engineering

November 18, 2008

The Greenland 'Falls Way' Project - A Case Study in the Need for Better Wetlands Protection
Tom Irwin, Conservation Law Foundation

Growth in New Hampshire and Public Policy Questions Regarding Development in Wetlands
Will Abbott, Society for the Protection of New Hampshire Forests

February 23, 2009

Secondary Adverse Impacts
Matt Schweisberger and Mark Kern, US Environmental Protection Agency

March 16, 2009

Ecological Design in the Built Environment

Steve Whitman, Jeffrey H. Taylor and Associates

April 20, 2009

Progress to Date of the Definitions Subcommittee and Case Study: Northwest Business Park
James Gove, Associated General Contractors of NH

Introduction to the DES Innovative Permitting Initiative
Carolyn Russell, NH Department of Environmental Services

May 18, 2009

Integrating Surface Water Quality Standards and Wetlands Function and Value Assessment for Water Resource Protection
Paul Currier and Lori Sommer, NH Department of Environmental Services

Summary of the Effects of Land Use on Water Quality, Aquatic Habitat and Biota
John A. Magee, NH Fish and Game Department

June 15, 2009

Introduction to LEED
Paul Leveille, Assoc. AIA, LEED AP, The Jordan Institute

August 17, 2009

Role of the Regional Planning Commissions in New Hampshire and Related Work Efforts:

- *The Land Conservation Plan for New Hampshire's Coastal Watersheds*
- *Innovative Land Use Planning Techniques Handbook*
- *Regional Comprehensive Plans*

Cynthia Copeland, Strafford Regional Planning Commission
Kerrie Diers, Nashua Regional Planning Commission
David Preece, Southern NH Planning Commission

September 21, 2009

Method for Inventorying and Evaluating Fresh Water Wetlands in NH
Amanda Stone, UNH Cooperative Extension

October 19, 2009

Wetland Types, Characteristics and Delineation
Joe Homer, USDA Natural Resources Conservation Service

November 16, 2009

HB 222: Indirect Impacts to Wetlands
Rep. Judith Spang, Chair, House Resources, Recreation and Development Committee

November 23, 2009

Progress to Date of the Alternative State Programs Subcommittee and Smart Growth and Vermont's Growth Centers Program
Jennifer Czysz, NHOEP, Research on Alternative State Programs Subcommittee

December 21, 2009

What Are Other States Doing? Comprehensive Land Use Regulation In Vermont, Maine, and Massachusetts

Peter Walker, NH Association of Natural Resource Scientists, Alternative State Programs Subcommittee

January 11, 2010

Coordinated and Streamlined Permitting

Carolyn Russell, NHDES, Alternative State Programs Subcommittee

February 8, 2010

Land Conservation Strategies and Financing

Johanna Lyons, Department of Resources and Economic Development, Alternative State Programs Subcommittee

March 15, 2010

Comparative Review of New England's State Wetlands Regulation Programs

Laura Deming, NH Audubon, Alternative State Programs Subcommittee

June 21, 2010

NH Comparative Method Scores and the Assignment of Buffer Widths

Peter Walker, NH Association of Natural Resource Scientists

Additionally, the Commission took two trips with the intent of better understanding wetland types and qualities as well as the development process. The first included visiting the Mount Washington Resort on July 20, 2009 to see first hand the large-scale development presented as a case to the Commission (October 2008). The second excursion was to the City of Concord's Oak Hill Property, conservation land, with an active forestry program and several wetlands of varying qualities and sizes.

The Commission established two subcommittees that delved further into the Commission's charge. The "Definitions Subcommittee" was formed to address Chapter 294:3, II, Laws of 2008 which states that the commission shall study…

> *The adequacy and consistency of local, state, and federal programs as they relate to the regulation and management of land development, including regulations of wetland buffers and setbacks, stormwater management, and cumulative effects of development.*

The Definitions Subcommittee researched and proposed definitions of wetlands buffers and their regulation. This process also included defining indirect impacts to wetlands. The subcommittee proposed setbacks from wetlands to protect the ecological integrity, wetland dependent wildlife habitat, and sediment/nutrient trapping/retention and transformation values of the State's highest quality wetlands. The Subcommittee's final report, proposed statutory amendments, and meeting notes are included in Appendices C and D.

The "Research on Alternative State Programs Subcommittee" was formed in response to Chapter 294:3, III, Laws of 2008 which states that the commission shall study…

The opportunities for integration of land use controls, open space protection techniques, and environmental and public health protection laws to promote land development patterns that maintain ecosystem health and integrity while providing desirable communities in which to live and work. This shall include study of any programs of this kind underway in other states or nations.

The Research Subcommittee catalogued, within a matrix, the many laws and state level programs within New England that contribute to the goal of environmental protection in balance and harmony with essential growth and development. From the matrix, the subcommittee identified numerous programs that were valuable to research further and present in greater detail – both through research sheets in the Subcommittee's report and presentations to the Commission (as noted above). Based on knowledge gained from researching other states' programs, and what is known about New Hampshire, the subcommittee developed a series of findings and recommendations that identify opportunities to improve existing programs and systems within New Hampshire, develop new approaches, or supplement programs in areas in which the State was found to have programmatic gaps. The Subcommittee's final report and meeting notes are included in Appendices E and F.

The Commission coordinated its work through several joint meetings with other committees and commissions with related missions. Meetings included:

- November 16, 2009 – Joint Meeting with the House Resources, Recreation, and Development Committee to discuss House Bill 222 (2009) and indirect impacts to wetlands.

- May 24, 2010 and October 6, 2010 – Joint Meetings of the Land Use, Stormwater, Groundwater, Great Bay Sediment, and Sustainable Infrastructure Funding Commissions to review common themes and approaches, areas of conflict, and remaining gaps.

As previously stated, the Commission established by HB 1579 had an extensive mandate. The basic requirement to study issues relating to land development and land development regulation in New Hampshire belied the wide-ranging duties contained in the body of the bill. These duties covered all aspects of the myriad interactions between the environment and development. While the Commission covered a significant amount of its assignment, there were several topics it did not address. The following represents those topics the Commission did not address to the level of detail that is warranted and recommends future research and action for each.

- While the Commission developed a definition of "indirect impacts" for wetlands, it did not define or address "cumulative impacts." The Commission recommends further study to develop a definition of "cumulative impacts" and review the methods of measuring, mitigating and/or regulating cumulative impacts of development.

- Indirect impacts of development were only addressed as they relate to wetlands. The Commission still recommends a review of indirect impacts to other surface waters including lakes, ponds, and streams, and whether the current regulatory and environmental protection systems adequately provide for their protection.

- While the Commission developed a mechanism for the evaluation of wetlands and the application of a wetlands buffer for the existing state environmental permitting process, it did not identify how to coordinate and integrate this system with the municipal regulation of wetlands. Further efforts are warranted to study how to apply a consistent method of regulating wetland buffers at the municipal level. This includes how the proposed wetlands buffer system integrates with the existing Prime Wetlands provisions.

- Given the expansive nature of the State's environmental regulatory process, the Commission did not review how to achieve greater consistency between local and state regulations. Further study should investigate how to achieve greater consistency between local, state, and federal permitting programs.

COMMISSION'S FINDINGS

1) There can be a disconnect between local land use decisions—which are sometimes based on non-environmental factors such as market economics and existing local zoning—and state environmental permitting, which is charged with addressing short- and long-term impacts to natural resources.

2) Current state regulatory programs in New Hampshire generally do not consider planning priorities or impacts to regional- or watershed-scale resources, instead focusing on an individual project's impacts on a relatively localized scale.

3) New Hampshire's various environmental permit programs individually do not prohibit "good" sustainable development. However, the requirements of each individual program do not always align with the requirements of other programs, thus creating conflict within the collective layering of programs that may unintentionally inhibit more innovative sustainable development.

4) Current permit review procedures in New Hampshire have complex and occasionally conflicting review, notification, and response times specified in statute.

5) There is often overlapping and occasionally conflicting jurisdiction among and between federal, state, and local permitting review.

6) A back-and-forth effect can occur when an applicant navigates between meeting the conditions required for federal, state, and local permits and approvals. Often, an applicant must resubmit to a different agency after one agency sets differing requirements that modify the project's originally submitted design.

7) There is a desire for greater consistency and predictability in process, timelines, and outcomes from local and state permitting programs.

8) New Hampshire is the only state in New England without a comprehensive environmental policy or regulatory program. However, in other respects, New Hampshire has many

individual land use planning and regulatory programs that are similar to other New England states.

9) More diffuse land development patterns have a greater overall impact on surface and groundwater quality and quantity and terrestrial and aquatic habitat than more compact patterns of development.

10) Incentive based smart growth programs are the best opportunity to positively impact future patterns of development at a larger, regional or watershed based scale.

11) Smart growth programs can support the protection of uplands through the promotion of larger- or regional-scale development patterns that are balanced with environmental and ecological protection.

12) New Hampshire has fewer incentives for implementation of smart growth compared to neighboring states.

13) There is no consensus on how "indirect" and "cumulative" impacts should be defined within state statutes; other environmental statutes in New England, however, generally explicitly define and require consideration of indirect and cumulative impacts.

14) There are conflicting views regarding the statutory authority of New Hampshire's various environmental permitting programs to address all of the "indirect" and "cumulative" impacts of development.

15) With regard to indirect impacts to wetlands, the determination of whether a proposed project will cause indirect impacts to wetlands should be made within clearly established parameters rather than an open-ended definition.

16) The implementation of a statewide standardized wetland buffer system is a practical approach to balancing the need to protect wetlands with the rights of private property owners and the ability of the NH Department of Environmental Services to efficiently administer such a program.

17) The functions of a wetland are of utmost importance when prioritizing wetlands for protection. When defining indirect impacts to wetlands, the primary functions of ecological integrity, water quality, water quantity, and wildlife should be considered.

18) To balance competing interests such as economics, private-property rights, and environmental protection, wetlands buffers should be applied only to the most functionally significant wetlands, *i.e.,* the most significant 10 to 25 percent of all individual wetlands. Not all wetlands need to be protected from indirect impacts.

19) The *Method for the Evaluation of Freshwater Wetlands in New Hampshire ("Revised NH Method"), 2010* (and its 1997 prior edition) provides a sound scientific basis for evaluating certain functions of a wetland. "Best professional judgment" is not a sound scientific method of evaluating wetlands.

20) In order to establish thresholds in its draft legislation, the Commission used all available data evaluating wetland functions. However, through continued application of the *Revised NH Method* a larger dataset will be developed, allowing for enhanced statistical evaluation and comparison of wetland values.

21) The current system of environmental planning and regulation in New Hampshire attempts to protect wildlife habitat. However, the amount of habitat fragmentation in New Hampshire has increased substantially over the last several decades.

22) Landscapes fragmented by roads, residential development, and commercial uses become increasingly inhospitable to wildlife, resulting in increased mortality, genetic isolation, and eventually, loss of populations. Ecosystem integrity cannot be maintained without maintaining ecological connectivity.

23) Current regulatory requirements largely focus on development of specific sites, and do not necessarily address indirect and cumulative effects of development at larger scales (watershed, regional, statewide). Wildlife habitat value is related to factors operating on a larger scale and can be difficult to assess and protect on a project-by-project basis.

24) Therefore, the Commission finds that the state would benefit from a statewide plan that addresses ecological connectivity and wildlife habitat fragmentation to provide specific measures that could be implemented at all scales to limit future impact.

RECOMMENDATIONS OF THE COMMISSION

1) Utilize the *Method for the Evaluation of Freshwater Wetlands in New Hampshire (Revised NH Method), 2010,* a recognized scientifically based method of evaluating wetlands, to establish wetland buffers of 50 to 100 feet (measured horizontally). The buffer shall be 100 feet when the following functional values of a wetland meet or exceed a score of:
    - Ecological integrity – 8.5;
    - Wetland dependent wildlife habitat – 8.0;

    The buffer shall be 50 feet when the following functional values of a wetland meet or exceed a score of:
    - Sediment trapping – 8.0;
    - Nutrient trapping/retention/transformation – 8.5.

    This buffer system should apply to the following existing permit systems:
    - RSA 482-A, Dredge and Fill;
    - RSA 485:17, I, Terrain Alteration.

    There was a lack of existing data to confirm exactly which wetlands would be captured by the thresholds stated above and in the proposed statutory language found in Appendix C (Definitions Subcommittee Report) formulated to implement this recommendation. Therefore, the thresholds may need to be reviewed and modified in the future to ensure that they are capturing the intended quality of wetlands and those in need of protection.

2) Define “wetland buffers” and “indirect impacts” to wetlands. The commission recommends the following definitions:

   Wetland Buffers: An area of upland adjacent to a wetland intended to protect the wetland from indirect impacts resulting from activities in the upland that degrade the wetland values enumerated in RSA 482-A:1.

   Indirect Impacts: A change to one or more of the values of a wetland enumerated in RSA 482-A:1 resulting from activities in an adjacent upland.

3) Compile data on functional values of wetlands as they become available in order to evaluate the effectiveness of the thresholds scores proposed in the first recommendation, above, and Appendix C (Definitions Subcommittee Report).

4) Recommend that if municipalities choose to implement a wetland buffer ordinance or regulation, that they be encouraged to utilize the same method as proposed above and in Appendix C (Definitions Subcommittee Report).

5) Enhance existing education and outreach programs to promote smarter growth and protect natural resources. Possible opportunities and topics include:
   - Increased educational opportunities on the impacts of development on the natural environment;
   - Increased education opportunities for municipal boards relative to implementing the smart growth principles of RSA 9-B; and
   - Assist municipal boards to implement the Innovative Planning Techniques of RSA 674:21.

6) Consider new legislation to provide for an alternative, integrated land development permit that addresses multiple issues (e.g., wetlands, stormwater, wastewater/septic, habitat, and indirect and cumulative impacts) in coordination. Central to this concept are the key words "alternative" and "integrated," intending one land development permit offered in parallel and as an alternative to the existing multiple independent permits. Running two parallel permit programs would allow additional time to consider the appropriateness and logistical realities of transitioning to such an integrated permitting program for all applicants. As part of this effort, it is expected that the legislature will establish clear statutory definitions of “cumulative” and “indirect” impacts and establish, within statute, the authority for DES, municipalities, and other regulatory agencies to address these impacts. Existing frameworks that may be utilized to assist in implementing this recommendation include the Maine Site Location of Development Act and the New Hampshire Department of Environmental Services’ Innovative Permitting Initiative.

7) Establish incentive-based programs to promote smart growth patterns of development. Possibilities include:
   - Enable modification of existing programs’ administrative rules to consider smart growth as a program performance or eligibility requirement;
   - Establish new programs, examples include Massachusetts’s Commonwealth Capital program or Vermont’s Growth Centers program; and/or

- Encourage collaboration with other agencies, organizations, and/or political subdivisions to maximize access to resources and effectiveness.

8) Develop and implement a statewide ecological connectivity plan to maintain and restore wildlife mobility among habitats and across the landscape. This plan should identify best management practices that can be implemented by individual project proponents to preserve and enhance wildlife connectivity on a site level. The plan should also set priorities for developing new tools to assess habitat connectivity and fragmentation and provide guidelines for planners on how to use these tools to preserve important habitats. Finally, the plan should identify high value wildlife areas within the state, outline a strategy for protecting these areas, and describe the role of the state in implementing this plan.

Respectfully Submitted,

Sue Gottling, Commission Chair, New Hampshire House of Representatives, Resources, Recreation and Development Committee
Erin Darrow, Commission Vice Chair, American Council of Engineering Companies of New Hampshire
Chris Christensen, New Hampshire House of Representatives
Jennifer Czysz, New Hampshire Office of Energy & Planning
Laura Deming, New Hampshire Audubon Society
Paul Dionne, New Hampshire Association of Conservation Commissions
John Doran, New Hampshire Association of Realtors
Jim Gove, Associated General Contractors of New Hampshire
Carol Henderson, New Hampshire Fish and Game Department
Harold Janeway, New Hampshire Senate
Jerry Little, New Hampshire Bankers Association
Johanna Lyons, New Hampshire Department of Resources and Economic Development
Paul Morin, Home Builders and Remodelers Association of New Hampshire
Rene Pelletier, New Hampshire Department of Environmental Services
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Peter Walker, New Hampshire Association of Natural Resource Scientists
New Hampshire Municipal Association
United States Natural Resources Conservation Service

APPENDICES

A) Objections of the HBRANH, NHAR, and NHTOA
B) Commission's minutes
C) Definitions subcommittee report and work products
D) Definitions subcommittee meeting notes
E) Research subcommittee report
F) Research subcommittee meeting notes