

APPENDIX A

**GREAT BAY ORGANIZATION RESOURCE
LIST**



Local Great Bay Organizations

Audubon Society of New Hampshire

3 Silk Farm Road
Concord, NH 03301

603-224-9909/603-226-0902 (fax)

Protects and conserves wildlife and their habitat in NH through wildlife research and monitoring; technical assistance on wetland protection to municipalities; exhibits, events, and publications; and educational programs.

Center for Marine Conservation

1725 DeSales Street, Neil Wylie
Washington, DC 20036

202-429-5609/202-872-0619 (fax)

Atlantic Regional Office

1423 N. Great Neck Road, Suite 103

Virginia Beach, VA 23454

757-496-0920/757-496-3207 (fax)

Dedicated to protecting marine wildlife and conserving coastal and ocean resources. Conducts policy-oriented research; promotes public awareness, education, and citizen involvements; supports domestic programs for marine wildlife and their habitats; and advocates sound policies concerning the marine environment.

Children's Museum of Portsmouth

280 Macy Street

Portsmouth, NH 03801

603-436-3853/603-436-7706 (fax)

Teaches art and science to families and children of all ages. Exhibits encourage investigation, discovery, learning, creativity, and fun

Clean Water Action

163 Court Street

Portsmouth, NH 03801

603-430-9565/603-430-9708 (fax)

A national citizens' organization that works for clean and safe water at an affordable cost, sensible solutions to the solid waste crisis, control of toxic chemicals and protection of our nation's natural resources.

Great Bay National Wildlife Refuge

336 Nimble Hill Road

Newington, NH 03801

603-431-7511/603-431-6014 (fax)

One of over 500 National Wildlife Refuges in the US, with a land area of 1,054 acres, including 6.5 miles of undeveloped Great Bay shoreline (the largest section of undeveloped shoreline in the Bay).

Protects the land and shoreline for the wildlife resources of Great Bay. Opened for wildlife oriented public use in May, 1996.

Great Bay Resource Protection Partnership

1 Colony Cover Road
Durham, NH 03824
603-868-6112

Works to protect important habitats and natural resources in the Great Bay area. Consists of a diverse group of public and non-profit organizations and agencies.

Great Bay Stewards, Inc.

89 Depot Road
Stratham, NH 03885
603-778-0015/603-778-7398 (fax)

Formed in 1995 to support the Great Bay National Estuarine Research Reserve through land acquisition, research, stewardship, and outreach and education.

Great Bay Watch

Kingman Farm, UNH
Durham, NH 03824
603-749-1565/603-743-3997 (fax)

Citizen water quality monitoring group formed in 1989 with a grant from the National Oceanic and Atmospheric Administration, now supported by UNH Cooperative Extension. Monitors 20 sites on the tidal portions of Great Bay and maintains a database on dissolved oxygen, pH, salinity, temperature, and coliform bacteria.

Jackson Estuarine Laboratory

85 Adams Point Road
Durham, NH 03824
603-862-2175/603-862-1101 (fax)

Dedicated to research and higher education in marine and estuarine environments, and recently to the application of scientific expertise to environmental issues of local and regional significance. Current fields of study include: non-point source pollution assessments; shellfish resource management; shellfish aquaculture; detection of microbial pathogens in water and shellfish; biodegradation of toxic compounds; ecology and distribution of sea grasses and seaweeds; mitigation and restoration of wetlands; marine and estuarine water quality monitoring; behavior and migration of lobsters; and coastal geomorphology and sediment logy. Provides reports, publications, and presentations pertinent to local and regional environmental issues.

Lamprey River Watershed Association

55 Wiswall Road
Durham, NH 03824
603-659-5936/603-659-6310 (fax)

Provides advocacy and grassroots support for the Lamprey River. Represents landowners desiring to protect the river. Publishes newsletter to members.

Lamprey River Advisory Committee

55 Wiswall Road

Durham, NH 03824

603-659-5936/603-659-6310 (fax)

Established by the NH Rivers Management and Protection Program as a permanent advisory body to the Lamprey River. Members are nominated by local communities, the Towns of Durham, Lee, Epping, and Newmarket, and appointed by the Commissioner of the Department of Environmental Services. The LRAC works with the Lamprey River Watershed Association, the National Park Service, the Society for the Protection of New Hampshire Forests, communities, local land trusts and other organizations to undertake a comprehensive approach toward the protection of the river's resources.

Lifewise Community Projects

124 Glade Path

PO BOX 2120

Hampton, NH 03843

603-926-6712/603-926-0536 (fax)

Organizes an Environmental Corps of thirty caring and concerned citizens who participate in proactive programs to safeguard the natural resources of the seacoast region. Conduct a "Source Water Protection Project" that provides volunteer time for field inventories in wellhead locations, community awareness and education programs, residential and business visitations, map overlays of potential contamination sources, and other activities.

The Nature Conservancy

2 ½ Beacon Street, Suite 6

Concord, NH 03301

Works to preserve plants, animals, and natural communities that represent the diversity of life on earth by protecting the lands and waters that they need to survive. Offers publications and field trips.

New Hampshire Association of Conservation Commissions

54 Portsmouth Street

Concord, NH 03301

603-224-7867/603-228-0423 (fax)

Fosters conservation and appropriate use of New Hampshire's natural resources, providing assistance to conservation commissions, facilitating communication and cooperation among conservation commissions, and helping to create a climate in which commissions can be successful.

New Hampshire Association of Conservation Districts

85 Daniel Webster Highway

Meredith, NH 03523

603-279-6126/603-447-8945 (fax)

Provides leadership to individual county conservation districts in carrying out their long-term programs and objectives. Works towards the goal of sound soil and water conservation on the lands of district cooperators and other within the state. Encourages collaboration between individual districts and all local, state, and federal agencies and groups having similar resource objectives.

New Hampshire Rivers Council

54 Portsmouth Street

Concord, NH 03301

603-228-6472/603-228-0423 (fax)

Raises public awareness of the value of New Hampshire's rivers. Supports grassroots river and watershed organizations throughout the state. Strengthens statewide river conservation efforts. Encourages inclusion of additional rivers in river management and protection programs.

New Hampshire Wildlife Federation

54 Portsmouth Street

Concord, NH 03301

603-224-5953/603-228-0423 (fax)

Protects natural resources through conservation, education, and legislation. Promotes quality outdoor recreation for today and future generations. Publishes a bimonthly newsletter.

Refuges and Wildlife

336 Nimble Hill Road

Newington, NH 03801

603-431-5581/603-431-6014 (fax)

Analyzing existing information and developing GIS to identify important habitats for a variety of plant and animal species important in the coastal areas of New Hampshire, specifically the Great Bay Watershed. Analyses will provide a pool of information applicable to resource issues ranging from wetland protection, conservation of rare and endangered species, water quality issues, and management of marine resources.

Rockingham County Conservation District

118 North Road

Brentwood, NH 03833

603-679-2790/603-679-2860 (fax)

Identifies and analyzes conservation and resource problems within the Rockingham County District. Promotes the development and application of conservation and resource development plans for farms, communities, watersheds, and other land units. Maintains an information and education program to inform local citizens.

Rockingham Planning Commission

121 Water Street

Exeter, NH 03833

603-778-0885/603-778-9183 (fax)

Fosters sound planning, wise use and careful stewardship of the region's natural and man-made resources. Provides professional planning assistance and advice to member communities concerning local and regional planning. Actively promotes and facilitates cooperation and coordination among the region's communities. Provides professional expertise and support in the following areas: municipal and regional land use planning, natural resources and conservation, regional transportation planning, coastal resources management, economic development, and GIS development.

Sandy Point Discovery Center

Great Bay National Estuarine Research Reserve
89 Depot Road
Stratham, NH 03885
603-778-0015/603-778-7398 (fax)

Serves as the education center for the Great Bay National Estuarine Research Reserve, offering interpretive exhibits, trails, publications and programs. Focuses on educating children, the general public, and coastal decision makers about the value of estuaries, research in the Great Bay watershed, the interactions of humans and watersheds, and the cultural and natural history of the Great Bay.

Seacoast Anti-Pollution League

127 High Street
Portsmouth, NH 03801
603-431-5089

Founded in 1969 to promote the wise use of natural resources, and to alert and educate the community and relevant governmental agencies to environmental threats, including concern about health and safety issues affecting the Seacoast and its population. Works to motivate and inspire citizen participation in the on-going debate over these issues.

Sierra Club of New Hampshire

3 Bicentennial Square
Concord, NH 03301
603-224-8222

A non-profit, member-supported, public interest organization that promotes conservation of the natural environment by influencing public policy decisions.

Society for the Protection of New Hampshire Forests

54 Portsmouth Street
Concord, NH 03301
603-224-9945/603-228-0423 (fax)

Promotes conservation and the appropriate use of New Hampshire's natural resources through education and research, advocacy, land protection, and forest management. Provides workshops and information on land protection and forest management issues, including two videos and a quarterly magazine.

Strafford County Conservation District

259 County Farm Road, Unit #3
Dover, NH 03820
603-749-3037/603-743-3667 (fax)

Helps residents, groups and government to preserve and protect our water, soil and related natural resources in Strafford County. Promotes conservation, protection, retention and use of important land in a manner that is fair and equitable to the land owners. Provide assistance to landowners and governmental agencies, including: review of erosion and sediment control components of development plans for towns; help landowners understand and comply with local, state, and federal laws with respect to erosion, sediment control, wetlands, water quality, and other natural resource issues; help landowners conserve natural resources; and educate and inform decision makers through the use of workshops, videos, handouts, technical site specific information and design work.

Strafford Regional Planning Commission

259 County Farm Road, Unit #1

Dover, NH 03820

603-742-2523/603-743-3667 (fax)

Cooperates with federal and state agencies and regional communities to provide regional planning and local planning assistance, actively pursues the implementation of the Commission's plans and policies.

Student Environmental Action Coalition

UNH - MUB

Suite 126

Durham, NH 03824

603-862-2343

Promotes environmental education and activism for the UNH campus and surrounding communities through workshops, research on campus environmental issues, and events.

University of New Hampshire Marine Sea Grant Program

Kingman Farm

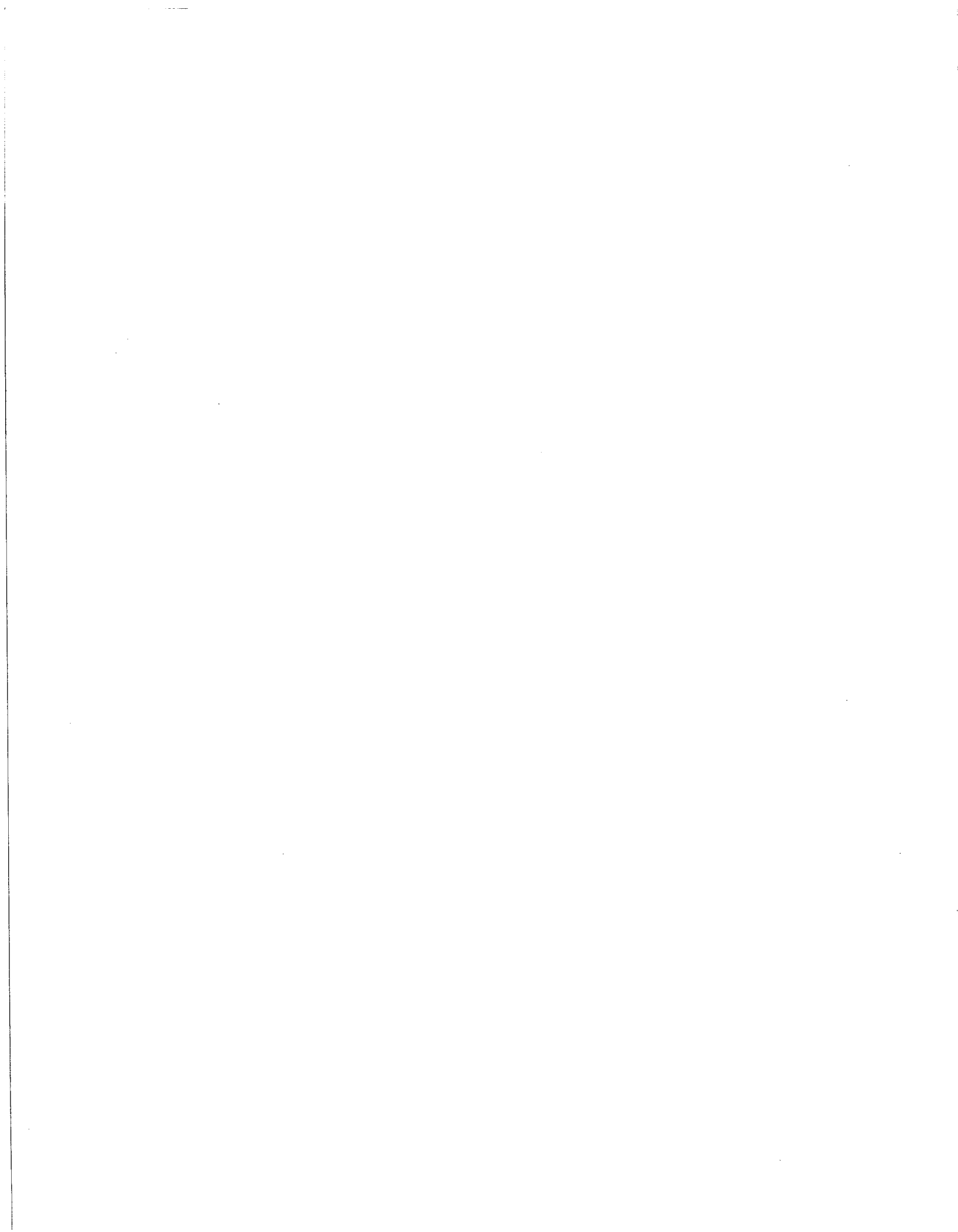
Durham, NH 03824

603-749-1565/603-743-3997 (fax)

Promotes the wise use and conservation of our region's coastal and marine resources through university-based research, education, and outreach. Supports Great Bay Citizen's Water Quality Monitoring Project, a docent outreach program, and research/education on aquaculture, commercial fishing, marine pollution and coastal issues. Technical reports, videotapes, and other library resources available as well as staff to discuss issues and information needs. Developed acoustic devices that prevent the incidental entanglements of harbor porpoise in commercial fishing nets. Determined the relationship between blue mussel seed and eelgrass, thus providing a large supply of seed for future aquaculture operations. Completed and published 6 years of water quality monitoring data for Great Bay. Developed a number of school curricula related to marine science for all grade levels.

APPENDIX B

**ENDANGERED AND THREATENED SPECIES
IN DURHAM**



The NH Natural Heritage Inventory is a small state program in the Division of Forests & Lands. Our mission is to find, track, and facilitate the protection of New Hampshire's rare plants and exemplary natural communities (which are essentially different types of forests, wetlands, grasslands, etc.). We currently study more than 600 plant and animal species and 120 natural communities. Our database contains information about more than 4,000 plant, animal, and natural community occurrences throughout the state.

Plants, Animals, and Natural Communities Tracked by the NH Natural Heritage Inventory

The following lists note the rare plants, rare animals, and exemplary natural communities that the NH Natural Heritage Inventory has on record in each town. These lists are drawn from the NH Natural Heritage Inventory's extensive database, and are broken into several broad categories: natural communities, rare plants, and rare animals.

This list is for planning purposes only, and may not be used as a substitute to NH Natural Heritage Inventory reviews that are required by the Department of Environmental Services, Federal Energy Regulatory Commission, or any other local, state, or federal government agency. The list for each town is dynamic as new populations and natural communities are reported to our office, the list grows. Planners and interested residents should therefore contact the NH Natural Heritage Inventory directly for more information or with questions.

Exemplary Natural Communities

Natural communities are basically different types of forests, wetlands, grasslands, etc. formally defined as assemblages of plants and animals that recur in predictable patterns across the landscape under similar physical conditions. Most of the New Hampshire landscape is covered by relatively common natural community types. Scattered throughout the state, however, and usually in predictable areas, are distinctive communities found in few other places.

The NH Natural Heritage Inventory tracks "exemplary" natural community occurrences. To qualify as exemplary, a natural community in a given place must be of a rare type, such as silver maple floodplain forest or a black gum swamp, or must be a very old occurrence of a common community in good condition, such as an old growth spruce/fir forest.

Rare Plant Species

The NH Natural Heritage Inventory tracks the state's rarest and most imperiled plant species. We have identified these plants in cooperation with researchers, conservation organizations such as The Nature Conservancy, and knowledgeable amateur botanists. We obtained plant locations from sources including herbarium specimens (some dating from the late 1800s), personal contacts, the scientific literature, and through extensive field research. The NH Natural Heritage Inventory undertakes surveys on private property only with landowner permission.

Rare Animal Species

The NH Natural Heritage Inventory tracks rare animal species in cooperation with the Nongame & Endangered Wildlife Program of the NH Fish & Game Department. The Nongame Program has identified these species in cooperation with researchers, conservation organizations such as the Audubon

Society of New Hampshire, knowledgeable amateur biologists, and the NH Natural Heritage Inventory. Wildlife locations were obtained from sources including museum specimens, personal contacts, the scientific literature, and through extensive field research.

For each plant, animal, and exemplary natural community within a town, we have provided the following information:

Name

Plants: Readers should remember that common names vary across the range of the plant. For example, "wild lupine" (*Lupinus perennis*) in New Hampshire is called "wild blue lupine" in New York and "sundial lupine" in other parts of its range; the name also commonly leads to confusion with garden lupine (*Lupinus polyphyllus*) which is not native to New Hampshire but grows wild in some areas. Scientific names are standardized with the scientific names used by other Natural Heritage programs throughout the United States, Canada, the Caribbean, Latin America, and South America. The primary reference used is Kartesz, J.T. and R. Kartesz. 1980. *A Synonymized Checklist of the Vascular Flora of the United States, Canada, and Greenland*. vol. 2 - The Biota of North America. The University of North Carolina Press, Chapel Hill, NC.

Wildlife: Common names are provided for all species that have them. Many insect species, particularly moths, do not have common names, so general terms such as "A Noctuid Moth" are used. Scientific names are standardized with the scientific names used by other Natural Heritage programs throughout the United States, Canada, the Caribbean, Latin America, and South America.

Natural Communities: The names of natural communities reflect either the plants that help define them, such as Atlantic White Cedar Swamp, or the environmental processes that influence them (such as Riverside Outcrop Community).

Listing

Plants: Most of New Hampshire's rare plants are listed as "threatened" or "endangered" under the NH Native Plant Protection Act of 1987 (NH RSA 217-A). Four of these species are also listed under the federal Endangered Species Act of 1973 (42 USCA §§ 4321-4370c). Listing represents a political recognition of rarity, so some species that are biologically rare (and therefore included in the list) may not be listed as "threatened" or "endangered." Under the NH Native Plant Protection Act, "endangered" species are those in danger of being extirpated from the state, while "threatened" species face the possibility of becoming "endangered."

The presence of a rare plant or natural community does not limit a landowner's ability to use their land. This is stated explicitly in the NH Native Plant Protection Act. Landowners applying for state wetland permits are required by the NH Department of Environmental Services to review options for achieving their land-use objectives while protecting a rare plant or natural community, but projects will not be denied solely on the basis of a rare plant occurrence. In our experience, rare plants are typically destroyed because landowners are not aware of them; minor changes to their projects usually could have saved the rarities. Our goal is to help landowners protect rarities on their properties *voluntarily*.

Wildlife: A portion of New Hampshire's rare animals are listed as "threatened" or "endangered" under the NH Endangered Species Conservation Act of 1979 (NH RSA 212-A). Five of these species are also listed under the federal Endangered Species Act of 1973 (42 USCA §§ 4321-4370c). As with plants, listing represents a political recognition of rarity, so some species that are biologically rare (and therefore included in the list) may not be listed as "threatened" or "endangered." Under the NH Endangered Species Conservation Act, "endangered" species are those in danger of being extirpated from the state, while "threatened" species face the possibility of becoming "endangered."

Rare wildlife in New Hampshire are under the jurisdiction of the Nongame and Endangered Wildlife Program in the NH Fish & Game Department.

Known Locations We have noted the number of occurrences of a given plant, animal, or natural community within each town. There has not been a comprehensive search of the state for rare species or natural communities, so we are frequently finding or learning about previously unknown populations. Further, many rare plant and animal populations have not been checked since they were originally found, sometimes more than 50 years ago, so we do not know the status of these populations. We have listed populations that have not been reported to us in the last 20 years as "historical only"; these populations may still be present, but field surveys are necessary to confirm their survival.

We have also included the number of known occurrences of each plant, animal, and natural community within the entire state.

Flags When considering the rarity of a species, it is important to consider the status of a species both in New Hampshire and across its total range. Some species, such as the wildflower Jesup's milk-vetch (*Astragalus robbinsii* var. *jesupi*), are critically imperiled both globally and in New Hampshire. Jesup's milk-vetch has three known populations on the planet, all on a 16-mile stretch of the Connecticut River. Other species, such as small yellow lady's-slipper (*Cypripedium parviflorum*), are very rare in New Hampshire but quite common in other parts of their range.

We refer to a plant species as "globally rare" if it has fewer than 20 populations anywhere in the world, or if it has more populations but few reproducing individuals. "State rare" species are those that are common elsewhere, but have few populations or total individuals in New Hampshire.

The rankings for wildlife are based more on the degree of imperilment than on the number of occurrences in the state, although abundance certainly plays a role in assessing a species' long-term viability in New Hampshire. Some species, such as the fish crow (*Corvus ossifragus*) have only a few occurrences in New Hampshire but, since they are expanding northward into the state, they are not considered imperiled. Blanding's turtles (*Emydoidea blandingii*), on the other hand, appear to be distributed fairly broadly across the state, but populations are extremely small and vulnerable to habitat loss, so they are considered at risk.

Further, the relative quality of a rare species population or natural community is important when assessing its conservation importance. We consider all populations to be of high conservation value, but an "excellent" population (say with several hundred plants) of a globally rare species is particularly important when compared to a "marginal" population (say with only five plants).

To help planners assess the relative importance of rare species and exemplary natural communities in their town, we have attached "flags" to occurrences that have been recorded in the last 20 years. The flags are as follows:

- **** **Highest** An excellent example of a globally rare species or natural community
- *** **Extremely High** A good example of a global rarity or an excellent example of a state rarity
- ** **Very High** A marginal example of a global rarity or a good example of a state rarity
- * **High** A marginal example of a state rarity

Readers should remember that there are many different ways to assess the value of a rare species population or a natural community. We therefore recommend that towns contact the NH Natural Heritage Inventory at (603) 271-3623 to discuss why occurrences in their towns were flagged at each level.

Note

In addition to recognizing "endangered" and "threatened" plant species, the NH Native Plant Protection Act identifies 11 plants as "special concern." These species are not rare in New Hampshire, but their showy nature makes them vulnerable to over-collection. The NH Natural Heritage Inventory does not track these species, nor do we seek locational data for them:

Grass pink	<i>Calopogon tuberosus</i>
Flowering dogwood	<i>Cornus florida</i>
Pink lady's slipper	<i>Cypripedium acaule</i>
Dutchman's breeches	<i>Dicentra cucullaria</i>
Trailing arbutus	<i>Epigaea repens</i>
Mountain laurel	<i>Kalmia latifolia</i>
White fringed orchis	<i>Platanthera blephariglottis</i>
Large purple fringed orchid	<i>Platanthera grandifolia</i>
Rose pogonia	<i>Pogonia ophioglossoides</i>
Lapland rosebay	<i>Rhododendron lapponicum</i>
Pitcher plant	<i>Sarracenia purpurea</i>

If you have any questions or need additional information, please do not hesitate to contact us. Thank you!

Address: NH Natural Heritage/DRED Telephone: (603) 271-3623 Fax: (603) 271-2629
 PO Box 1856
 Concord, NH 03302-1856



A Quick Overview of the NH Natural Heritage Inventory's Purpose and Policies

The Natural Heritage Inventory is mandated by the Native Plant Protection Act of 1987 (NH RSA 217-A) to determine protective measures and requirements necessary for the survival of native plant species in the state, to investigate the condition and degree of rarity of plant species, and to distribute information regarding the condition and protection of these species and their habitats.

The Natural Heritage Inventory provides information to facilitate informed land-use decision-making. We are not a regulatory agency; instead, we work with landowners and land managers to help them protect the State's natural heritage and meet their land-use needs.

The Natural Heritage Inventory has three facets:

Inventory involves identifying new occurrences of sensitive species and classifying New Hampshire's biodiversity. We currently study more than 600 plant and animal species and 120 natural communities. Surveys for rarities on private lands are conducted only with landowner permission.

Tracking is the management of occurrence data. Our database currently contains information about more than 4,000 plant, animal, and natural community occurrences in New Hampshire.

Interpretation is the communication of Natural Heritage Inventory information. Our goal is to cooperate with public and private land managers to help them *protect* rare species populations and exemplary natural communities.

New Hampshire Natural Heritage Inventory
Rare Species and Exemplary Natural Communities List

Towns of Strafford County

Town	Flag	Species or Community Name	Listed?		# Locations in the last 20 years:	
			Federal	State	Town	State
DURHAM						
Natural Communities - Terrestrial						
**		CNE Mesic Transitional Forest on Acidic Bedrock or Till	-	-	1	22
**		Rich Appalachian Oak-Hickory Talus Forest/Woodland	-	-	1	2
*		SNE Circumneutral Talus Forest/Woodland	-	-	1	11
		SNE Rich Mesic Forest	-	-	Historical	12
*		SNE Stream Bottom Forest	-	-	1	8
Natural Communities - Palustrine						
**		SNE Acidic Seepage Swamp	-	-	1	19
**		SNE Basin Swamp	-	-	1	11
**		SNE Level Bog	-	-	1	19
**		SNE Seepage Marsh	-	-	1	2
Natural Communities - Estuarine						
**		Gulf of Maine Brackish Tidal Marsh	-	-	2	12
**		Gulf of Maine Salt Marsh	-	-	3	38
Plants						
		American Plum (<i>Prunus americana</i>)	-	T	Historical	7
**		Black Maple (<i>Acer nigrum</i>)	-	T	2	10
		Blunt Sphenopholis (<i>Sphenopholis obtusata</i>)	-	E	Historical	1
**		Blunt-Lobe Woodsia (<i>Woodsia obtusa</i>)	-	T	1	8
		Downy False-Foxglove (<i>Aureolaria virginica</i>)	-	T	Historical	11
		Dwarf Glasswort (<i>Salicornia bigelovii</i>)	-	T	Historical	7
		Eaton's Quillwort (<i>Isoetes eatonii</i>)	-	-	Historical	8
		Engelmann's Quillwort (<i>Isoetes engelmannii</i>)	-	-	Historical	17
***		Exserted Knotweed (<i>Polygonum exsertum</i>)	-	T	3	14
		Flat-Leaved Rush (<i>Juncus platyphyllus</i>)	-	-	Historical	1
		Fringed Gentian (<i>Gentiana crinita</i>)	-	T	Historical	28
		Giant Rhododendron (<i>Rhododendron maximum</i>)	-	-	Historical	15
		Hairy Brome-Grass (<i>Bromus pubescens</i>)	-	T	Historical	4
**		Knotty Pondweed (<i>Potamogeton nodosus</i>)	-	-	1	18
**		Large Bur-Reed (<i>Sparganium eurycarpum</i>)	-	T	3	16
		Large-Spored Quillwort (<i>Isoetes macrospora</i>)	-	T	Historical	5
		Lined Bulrush (<i>Scirpus pendulus</i>)	-	T	Historical	5
		Many Leaved Bulrush (<i>Scirpus polyphyllus</i>)	-	E	Historical	3
*		Marsh Elder (<i>Iva frutescens</i> ssp <i>oraria</i>)	-	T	1	9
		Marsh Horsetail (<i>Equisetum palustre</i>)	-	T	Historical	12

Listed? E = Endangered T = Threatened

Flags **** = Highest importance
 *** = Extremely high importance
 ** = Very high importance
 * = High importance

These flags are based on a combination of (1) how rare the species or community is and (2) how large or healthy its examples are in that town. Please contact Natural Heritage Inventory at (603) 271-3623 to learn more about this or alternative ways of setting priorities.

New Hampshire Natural Heritage Inventory
Rare Species and Exemplary Natural Communities List

Towns of Strafford County

Town Flag	Species or Community Name	Listed?		# Locations in the last 20 years:	
		Federal	State	Town	State
	Missouri Rock-Cress (<i>Arabis missouriensis</i>)	-	T	Historical	11
	Netted Chain-Fern (<i>Woodwardia areolata</i>)	-	E	Historical	3
	Northern Blazing Star (<i>Liatris borealis</i>)	-	E	Historical	14
	Pale Early Violet (<i>Viola affinis</i>)	-	E	Historical	4
	Philadelphia Panic-Grass (<i>Panicum philadelphicum</i>)	-	E	Historical	8
	Prolific Knotweed (<i>Polygonum prolificum</i>)	-	T	Historical	9
	Purple Milkweed (<i>Asclepias purpurascens</i>)	-	-	Historical	4
**	Robust Knotweed (<i>Polygonum robustius</i>)	-	T	1	6
**	Salt-Marsh Gerardia (<i>Agalinis maritima</i>)	-	T	1	9
	Sharp Flowered Manna-Grass (<i>Glyceria acutiflora</i>)	-	E	Historical	9
**	Small Crested Sedge (<i>Carex cristatella</i>)	-	-	2	12
	Smooth Rock-Cress (<i>Arabis laevigata</i>)	-	-	Historical	5
**	Star-Duckweed (<i>Lemna trisulca</i>)	-	-	1	5
**	Stout Bulrush (<i>Scirpus robustus</i>)	-	T	2	16
	Three-Seeded Mercury (<i>Acalypha virginica</i>)	-	T	Historical	5
*	Turk's-Cap Lily (<i>Lilium superbum</i>)	-	E	1	1
*	Variiegated Horsetail (<i>Equisetum variegatum</i>)	-	-	1	23
**	Water Marigold (<i>Megalodonta beekii</i>)	-	-	2	12
	Water-Plantain (<i>Ranunculus ambigens</i>)	-	E	1	3
Vertebrates - Birds					
**	Common Tern (<i>Sterna hirundo</i>)	-	E	1	8
**	Fish Crow (<i>Corvus ossifragus</i>)	-	-	1	3
**	Golden-Winged Warbler (<i>Vermivora chrysoptera</i>)	-	-	1	2
**	Great Blue Heron (rookery) (<i>Ardea herodias</i>)	-	-	1	37
**	Osprey (<i>Pandion haliaetus</i>)	-	T	1	34
Vertebrates - Reptiles					
**	Blanding's Turtle (<i>Emydoidea blandingii</i>)	-	-	3	57
	Eastern Hognose Snake (<i>Heterodon platirhinos</i>)	-	-	Historical	15
**	Spotted Turtle (<i>Clemmys guttata</i>)	-	-	4	37
Invertebrates - Insects					
	A Noctuid Moth (<i>Chaetagnalea cerata</i>)	-	-	Historical	5
	A Noctuid Moth (<i>Chytonix sensilis</i>)	-	-	Historical	3
	A Noctuid Moth (<i>Trichosilia manifesta</i>)	-	-	Historical	2
***	Banded Bog Skimmer Dragonfly (<i>Williamsonia lintneri</i>)	-	E	2	5
	Bog Elfin (<i>Callophrys lanoraieensis</i>)	-	-	Historical	1
	Columbine Duskywing (<i>Erynnis lucilius</i>)	-	-	1	4
	Frosted Elfin (<i>Callophrys irus</i>)	-	E	Historical	7

Listed? E = Endangered T = Threatened

Flags **** = Highest importance
 *** = Extremely high importance
 ** = Very high importance
 * = High importance

These flags are based on a combination of (1) how rare the species or community is and (2) how large or healthy its examples are in that town. Please contact Natural Heritage Inventory at (603) 271-3623 to learn more about this or alternative ways of setting priorities.

New Hampshire Natural Heritage Inventory
Rare Species and Exemplary Natural Communities List

Towns of Strafford County

Town	Flag	Species or Community Name	Listed?		# Locations in the last 20 years:	
			Federal	State	Town	State
		Invertebrates - Mollusks				
	****	Brook Floater (<i>Alasmidonta varicosa</i>)	-	E	1	30

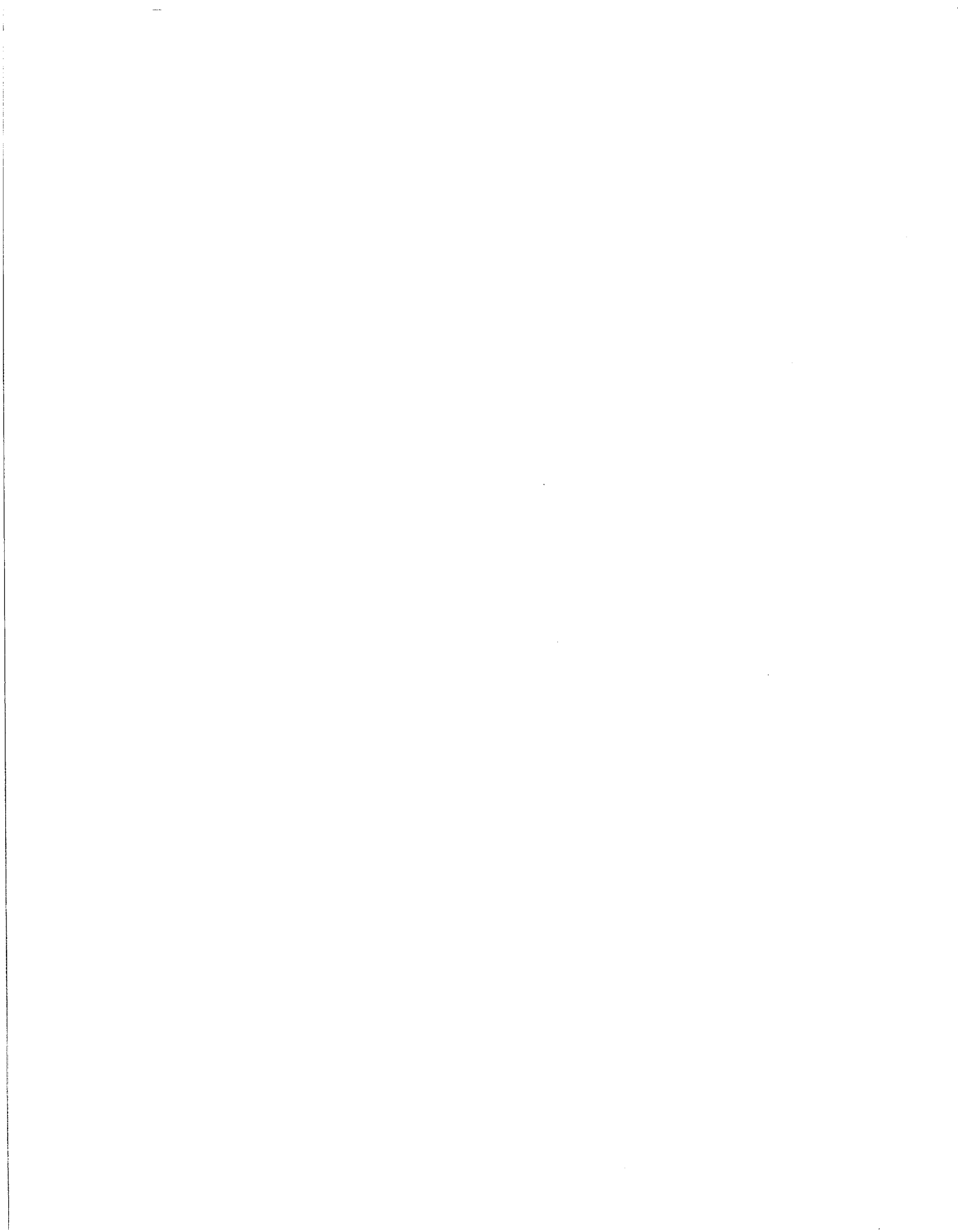
Listed? E = Endangered T = Threatened

Flags **** = Highest importance
 *** = Extremely high importance
 ** = Very high importance
 * = High importance

These flags are based on a combination of (1) how rare the species or community is and (2) how large or healthy its examples are in that town. Please contact Natural Heritage Inventory at (603) 271-3623 to learn more about this or alternative ways of setting priorities.

APPENDIX C

TRAFFIC VOLUME INFORMATION



DURHAM		type*	Site #	Mo./Yr.	Weekday ADT**	N/E	S/W
BAGDAD RD EAST OF DENNISON RD (EB-WB) (81133074-133075)	S	133069	Sep-99	772	375	397	
Bagdad Rd at US4 overpass (EB-WB)(81133041-133042)	N	133067	10/97	1,408	700	708	
Bagdad Rd E of Dennison Rd (EB-WB)(81133074-133075)	N	133069	9/96	742	385	357	
BAGDAD RD EB EAST OF DENNISON RD (82133069)	N	133074	Sep-99	361			
BAGDAD RD WB EAST OF DENNISON RD (82133069)	N	133075	Sep-99	359			
Bennet Rd at B&M RR (EB-WB)(81133043-133044)	N	133068	10/97	641	312	329	
Coe Dr @ Beards Creek	N	133045	9/96	1,005			
Durham Point Rd E of Sunnyside Dr	S	133702	Aug-98	1376	699	677	
Durham Point Rd EAST OF SUNNYSIDE DRIVE	S	S133702	Aug-98	Speed			
Durham Point Rd over Crommet Creek (SB-NB)(8133078-133079)	N	133073	10/97	1,439	887	552	
Durham Point Rd W of Sunnyside Dr	S	133701	Aug-98	2342	1182	1160	
Edgewood Rd West of Madbury Rd	N	133071	Oct-98	3909			
Emerson Rd NORTH OF EDGEWOOD	S	S133703	Aug-98	Speed			
Emerson Rd S of Edgewood Rd	S	133703	Aug-98	524	266	258	
Entrance to West Edge Lot	S	133008	May-99	971	482	503	
Faculty Rd N of Mill Pond Rd	N	133046	9/96	2,105			
Garrison Ave West of Madbury Rd	N	133060	Oct-98	4778			
Madbury Rd at RR overpass	S	133082	6/97	6,129	3,073	3,056	
Madbury Rd - north of US 4 (SB-NB)(81133039-133040)	N	133064	10/97	5,864	2,923	2,941	
Madbury Rd - north of US 4 (SB-NB)(81133039-133040)	N	133064	6/96	6,191			
Madbury Rd between Wood Road and Lundy Lane	S	S133397	Jul-98	Speed			
Madbury Rd N of Garrison Ave	S	133086	Sep-99	6774	4581	2193	
MADBURY RD NB SOUTH OF GARRISON AVE (82133061)	N	133036	Sep-99	4441			
Madbury Rd North of Edgewood Rd	N	133050	Oct-98	6382			
MADBURY RD NORTH OF MAIN ST	S	133085	Sep-99	15821			
Madbury Rd S of Garrison Ave (SB-NB)	N	133061	9/96	8,284			
Madbury Rd S of US 4 BYP	S	133056	9/96	6,497			
Madbury Rd S of US 4 BYP	S	133056	8/97	4,583	2,298	2,285	
Madbury Rd S of US 4 BYP	S	133056	10/97	6,579	2,805	3,774	
MADBURY RD SB SOUTH OF GARRISON AVE (82133061)	N	133035	Sep-99	3960			
MADBURY RD SOUTH OF GARRISON AVE (SB-NB) (81133035-133036)	S	133061	Sep-99	8915	4650	4265	
Madbury Road between Wood Road and Lundy Lane	S	133397	Jul-98	4680	2375	2305	
MAIN ST EAST OF PETTEE BROOK LANE	S	133087	Sep-99	12171	7147	5024	

*S = full report at SRPC

N = NHDOT data source

**ADT = unadjusted average daily traffic volume, combined directions

MAIN ST WEST OF MADBURY RD	S	133088	Nov-99	14173		
Main St west of NH 108	N	133051	Oct-98	17500		
Main St west of NH 108	N	133051	6/96	13,859		
Main St west of NH 108	S	133051	6/96	13,783	9,917	3,866
Main Street W of Edgewood Road	N	133055	Oct-98	10039		
Main Street W of Edgewood Road	S	133055	Sep-99	14672	7215	7457
Main Street W of Edgewood Road	N	133055	9/96	10,600		
Main Street W of Edgewood Road	S	133055	8/97	8,991	4,512	4,479
Main Street East of Route 4 Interchange (close to UNH)	S	133396	Jul-98	6421	3261	3160
Main Street East of Route 4 Interchange (close to UNH)	S	133396	Sep-99	8194	4112	4082
Main Street west of Garrison Ave	N	133065	Oct-98	13252		
Mast Rd - S of College Brook	N	133062	10/97	4,521		
Mast Rd @ A-lot Entrance	S	133151	May-99	1959		
Mill Pond Rd - W of NH 108	S	133070	Jul-98	2036	568	1468
Mill Pond Rd - W of NH 108	N	133070	10/97	2,314		
Mill Rd @ RR Bridge	N	133059	10/97	2,157		
Mill Pond Rd at Swan Pond	S	133070	4/96	2,139		
Mill Rd EAST OF FOSS FARM ROAD	S	S133398	Jul-98	Speed		
Mill Rd W of Fogg Ln	S	133007	Oct-99	1583		
Mill Rd West of Faculty Road	S	133904	10/97	8,489	4,025	4,464
Mill Rd West of Mill Plaza	S	133902	8/97	5,196	2,756	2,440
Mill Road B&M Bridge	S	133059	Jul-98	2001	961	1040
Mill Road East of Foss Farm Road	S	133398	Jul-98	2199	1139	1060
Millpond Family Parfice	S	133999	4/96	69		
NH 108 - N of Longmarsh Rd (SB-NB)(6133025-133026)	N	133052	10/97	10,272	5,618	4,654
NH 108 - N of US 4 Bypass	N	133022	10/97	12,036		
NH 108 - S of US 4 Bypass	S	133057	8/97	14,913	9,281	5,632
NH 108 - S of US 4 Bypass	S	133057	10/97	17,253	8,808	8,445
NH 108 (College Rd) N of Mill Pond Rd	S	133048	Sep-99	16153	7549	8604
NH 108 (Newmarket Rd) north of Durham Pt Rd	N	133054	Apr-98	14100		
NH 108 (Newmarket Rd) north of Durham Pt Rd	S	133054	Aug-98	13236		
NH 108 (Newmarket Rd) north of Durham Pt Rd	S	133054	Apr-98	14105	7071	7034
NH 108 (Newmarket Rd) north of Durham Pt Rd	S	133054	8/97	16,126	8,158	7,968
NH 108 (Newmarket Rd) north of Durham Pt Rd	S	133054	10/97	13,863	6,958	6,905
NH 108 NB NORTH OF LONG MARSH RD (62133052)	N	133026	Nov-99	5814		

*S = full report at SRPC

N = NHDOT data source

**ADT = unadjusted average daily traffic volume, combined directions

NH 108 NB NORTH OF US 4 (22133022)	N	133024	Nov-99	5605		
NH 108 NORTH OF LONGMARSH RD (SB-NB) (61133025-133026)	N	133052	Nov-99	11458		
NH 108 NORTH OF US 4 (SB-NB) (21133023-133024)	N	133022	Nov-99	11411		
NH 108 SB NORTH OF LONG MARSH RD (62133052)	N	133025	Nov-99	5645		
NH 108 SB NORTH OF US 4 (22133022)	N	133023	Nov-99	5806		
NH 108 SOUTH OF US 4 (81133029-133030) (SB-NB)	S	133057	Sep-99	19315	9465	9850
Northwood-Durham Rd (Old US 4) W of Mast EXT Rd	N	133049	?/96	9,900		
Northwood-Durham Rd (old US Rt 4) W of Mast Rd	N	133063	?/96	7,400		
Packers Falls Rd. btwn Newmarket T/L and Bennett Rd	S	133005	Sep-99	1436	725	711
Packers Falls Rd.N of Mill Rd	S	133006	Sep-99	1431	1072	359
Pettee Brook Lane East of Rosemary Lane	S	133081	Jul-98	9319		
Rosemary Lane west of Pettee Brook Lane	S	133080	Jul-98	324		
US 4 @ Lee T/L (EB-WB)(61133027-133028)	N	133053	10/97	15,077	7,688	7,389
US 4 at Bunker Creek Bridge	S	133578	Sep-98	16255	8279	7976
US 4 at Bunker Creek Bridge	S	S133578	Sep-98	Speed		
US 4 AT LEE TL (EB-WB) (61133027-133028)	N	133053	Nov-99	14029		
US 4 E of Emery Farm	S	133579	Sep-98	15813	8069	7744
US 4 E of NH 108	S	133021	Sep-98	16463	8362	8101
US 4 EAST OF EMERY FARM	S	S133579	Sep-98	Speed		
US 4 EAST OF NH108	S	S133021	Sep-98	Speed		
US 4 EB AT LEE TL (62133053)	N	133027	Nov-99	6774		
US 4 WB AT LEE TL (62133053)	N	133028	Nov-99	7254		
US 4 west of Ramps & NH 108	N	133058	Oct-98	13428	7102	6326
US 4--W of Madbury	N	133082	Oct-98	13216		
Wiswall Rd over Lamprey River (WB)(81133077)	N	133072	10/97			161

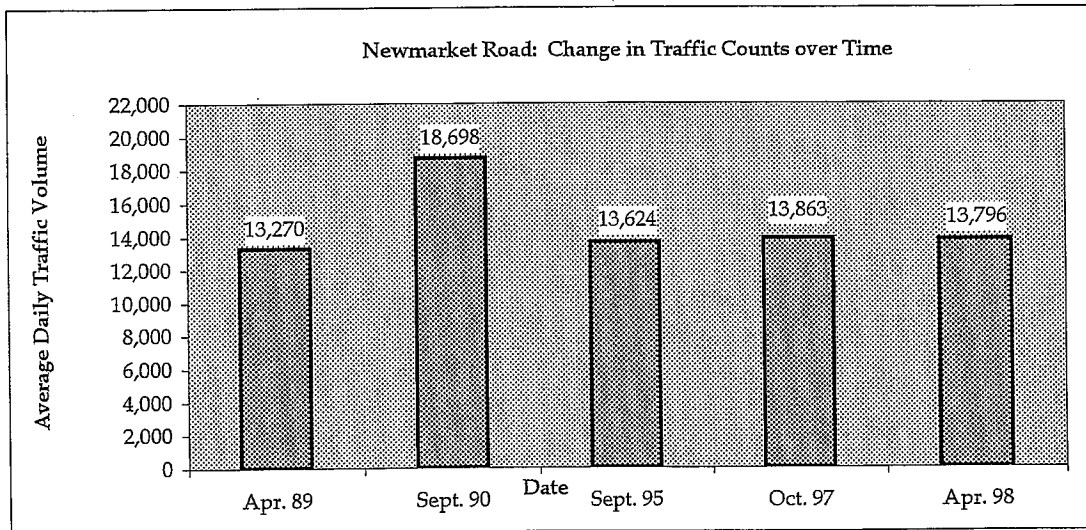
*S = full report at SRPC

N = NHDOT data source

**ADT = unadjusted average daily traffic volume, combined directions

Traffic Counts: Newmarket Road (Route 108 North of Durham Point Road)

Apr. 89 Sept. 90 Sept. 95 Oct. 97 Apr. 98
 13,270 18,698 13,624 13,863 13,796

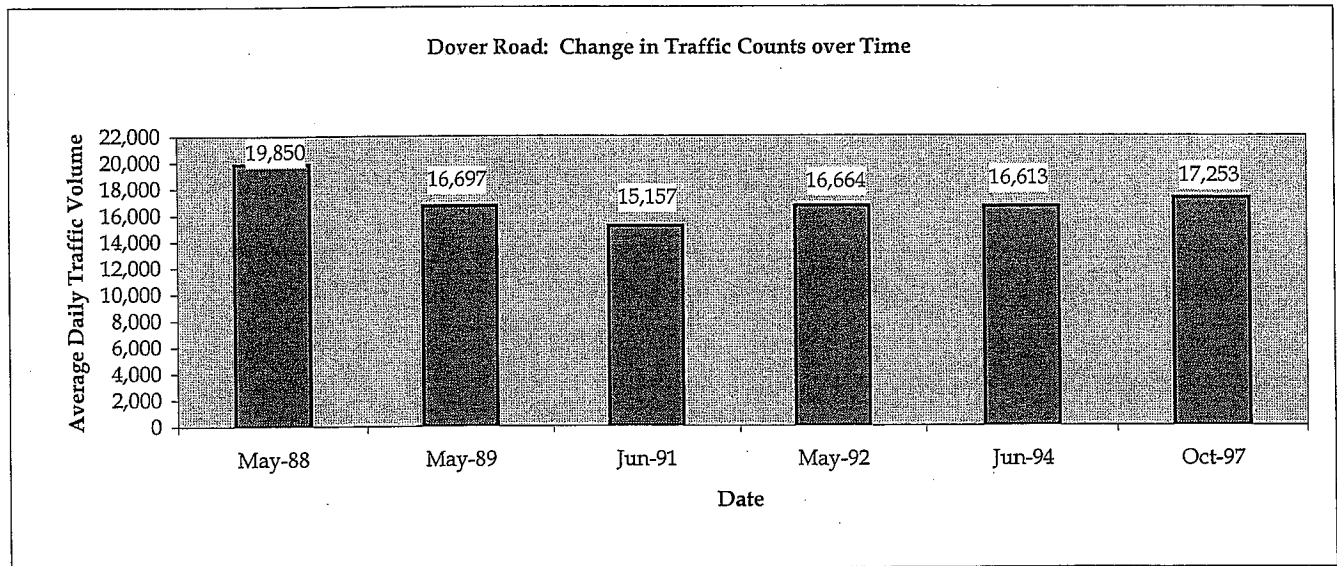


Change in Traffic Volume Between Observed Years					
	Apr 89-Sep 90	Sep 90-Sep 95	Sep 95-Oct 97	Oct 97-Apr 98	Apr 89-Apr 98
Total Change	5,428	-5,074	239	-67	526
Percentage Change	40.90%	-27.14%	1.75%	-0.48%	3.96%
Avg. Yearly Increase 1989 - 1998	0.44%				

Traffic Count Dates		
Apr-89	4/26 - 4/28	SRPC
Sep-90	9/1/90	DOT
Sep-95	9/24 - 9/28	DOT
Oct-97	10/6 - 10/10	SRPC
Apr-98	4/14 - 4/17	SRPC

Traffic Counts: Dover Road (Route 108 South of US 4)

May-88	May-89	Jun-91	May-92	Jun-94	Oct-97
19,850	16,697	15,157	16,664	16,613	17,253

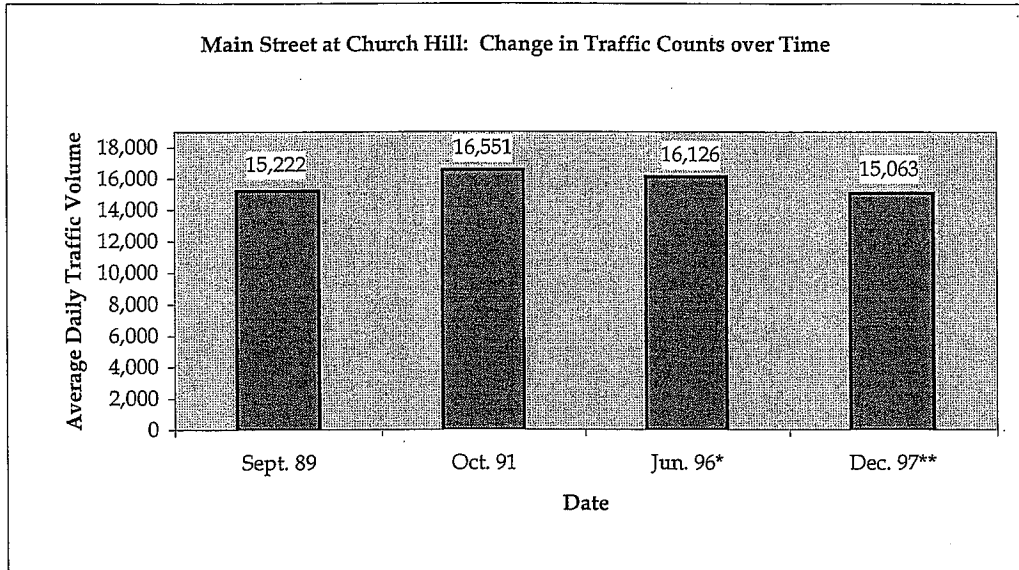


Change in Traffic Volume Between Observed Years					
	May 89 - Jun 91	Jun 91 - May 92	May 92 - Jun 94	Jun 94 - Oct 97	May 89 - Oct 97
Total Change	-1,540	1,507	-51	640	556
Percentage Change	-9.22%	9.94%	-0.31%	3.85%	3.33%
Avg. Yearly Increase 1989 - 1997	0.42%				
Avg. Yearly Decrease 1988 - 1997	-1.45%				

Traffic Count Dates		
Sep-88	9/9/88	DOT
May-89	5/1 - 5/3	SRPC
Jun-91	6/16/91	DOT
May-92	5/4 - 5/8	SRPC
Jun-94	5/31 - 6/3	SRPC
Oct-97	10/6 - 10/10	SRPC

Traffic Counts: Main Street at Church Hill (West of Route 108)

Sept. 89	Oct. 91	Jun. 96*	Dec. 97**
15,222	16,551	16,126	15,063



Change in Traffic Volume Between Observed Years			
	Sept. 89 - Oct. 91	Oct. 91 - Jun. 96	Jun. 96 - Dec. 97
Total Change	1,329	-425	-1,063
Percentage Change	8.73%	-2.57%	-6.59%
Avg. Yearly Decrease 1989 - 1997	-0.13%		
Avg. Yearly Increase 1989 - 1996	0.85%		

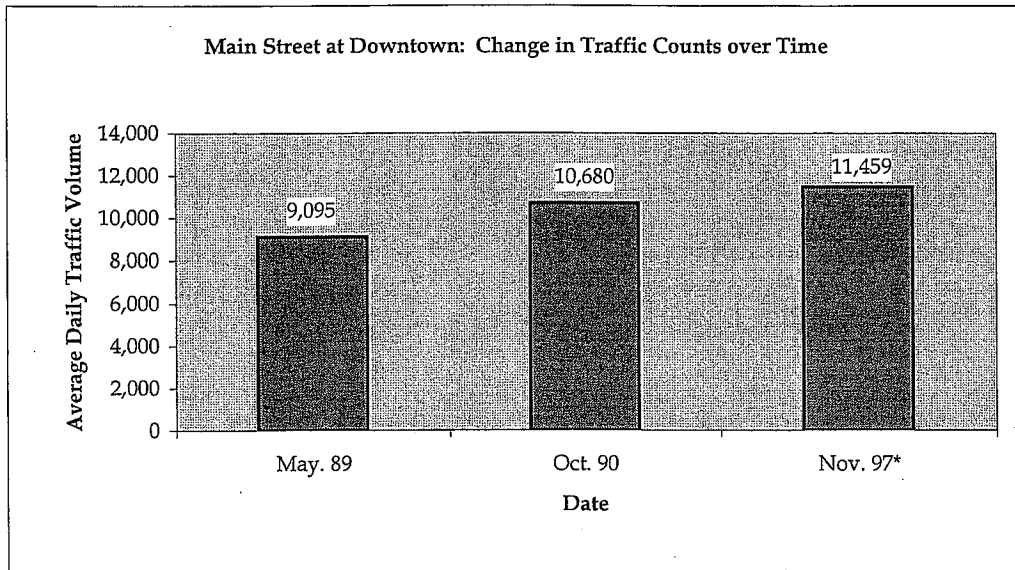
* Percentages rounded two decimal places

Traffic Count Dates	
Sept. 89	NHDOT
Oct. 91	SRPC
June 96*	SRPC
Dec. 97**	SRPC

* Summer Count of 13,783 adjusted by +17% to reflect UNH in session
 ** Estimate based on peak hour turning movement count equal to 9.4% of total volume

Traffic Counts: Main Street at Downtown (Between Pettee Brook Ln. and Mill Rd.)

May. 89 Oct. 90 Nov. 97*
 9,095 10,680 11,459



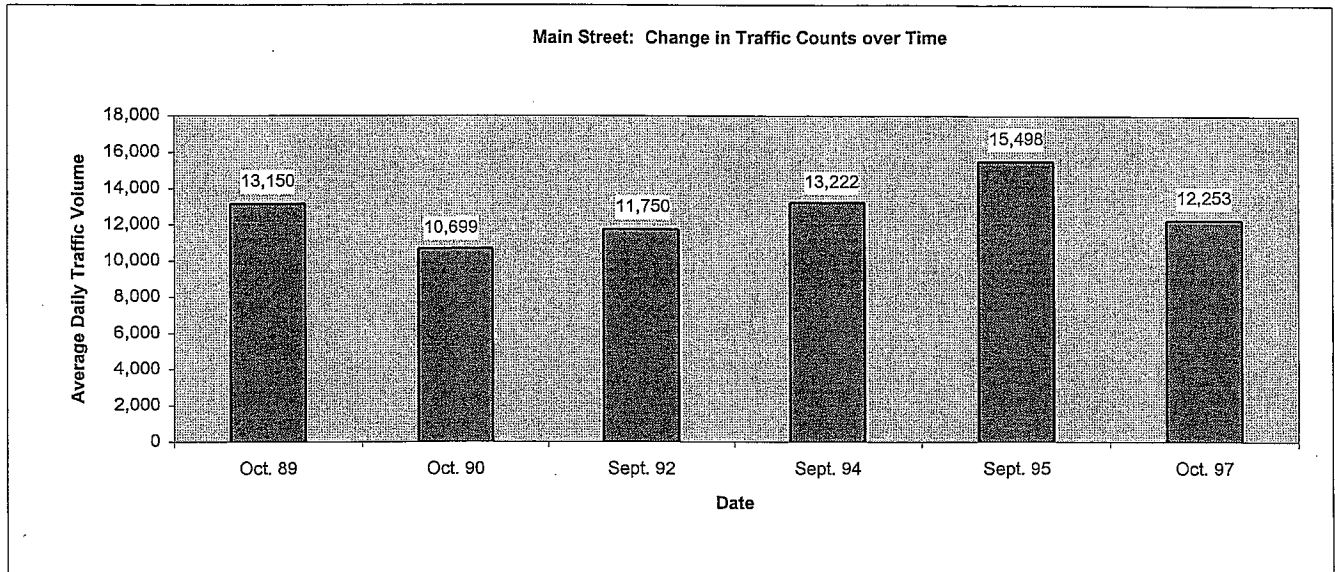
	May 89 - Oct. 90	Oct. 90 - Nov. 97	May 89 - Nov. 97
Total Change	1,585	779	2,364
Percentage Change	17.43%	7.29%	20.63%
Avg. Yearly Increase 1989 - 1997	2.58%		

May. 89	5/8-5/10	SRPC
Oct. 90	10/17-10/19	SRPC
Nov. 97*	5-Nov	Private

* Estimate based on Norway Plains Inc. peak hour turning movement count equal to 9.4% of total volume

Traffic Counts: Main Street (West of Edgewood Road between Mast Road and Loop Road)

Oct. 89	Oct. 90	Sept. 92	Sept. 94	Sept. 95	Oct. 97
13,150	10,699	11,750	13,222	15,498	12,253

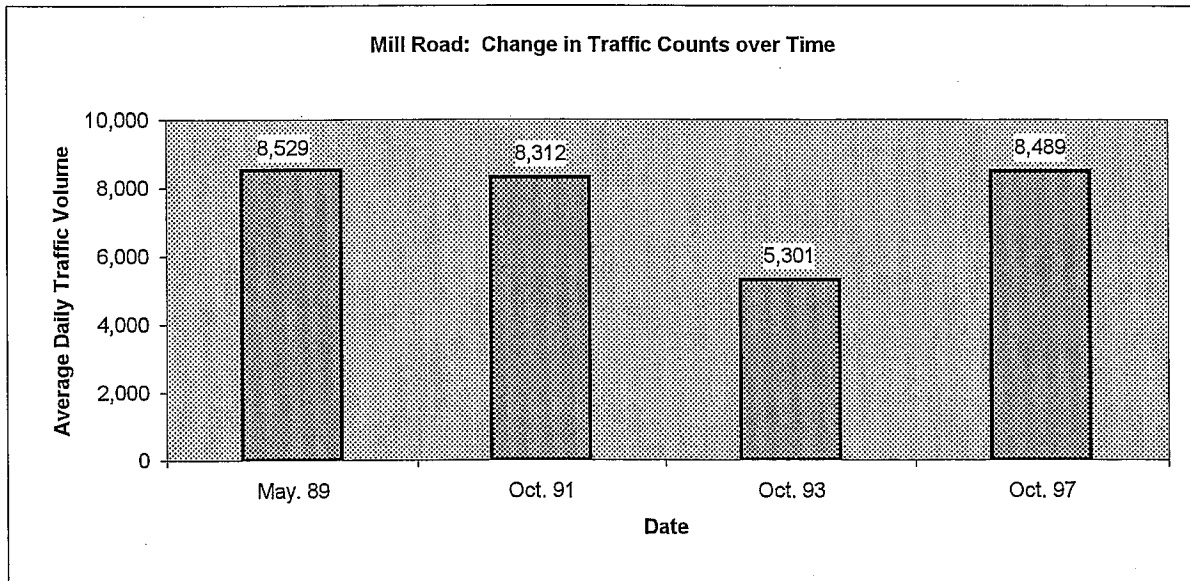


Change in Traffic Volume Between Observed Years						
	Oct 89-Oct 90	Oct 90-Sept 92	Sep 92-Sept 94	Sep 94-Sept 95	Sep 95-Oct 97	Oct 89-Oct 97
Total Change	-2,451	1,051	1,472	2,276	-3,245	-897
Percentage Change	-18.64%	9.82%	12.53%	17.21%	-20.94%	-6.82%
Avg. Yearly Decrease 1989 - 1997	-0.85%					
Avg. Yearly Increase 1990 - 1997	2.07%					

Traffic Count Dates		
Oct-89	10/25 - 10/27	SRPC
Oct-90	10/15/98	SRPC
Sep-92	9/14 - 9/15	SRPC
Sep-94	9/24 - 9/28	DOT
Sep-95	9/24 - 9/28	DOT
Oct-97	10/6 - 10/10	SRPC

Traffic Counts: Mill Road (West of Mill Road Plaza)

May. 89	Oct. 91	Oct. 93	Oct. 97
8,529	8,312	5,301	8,489

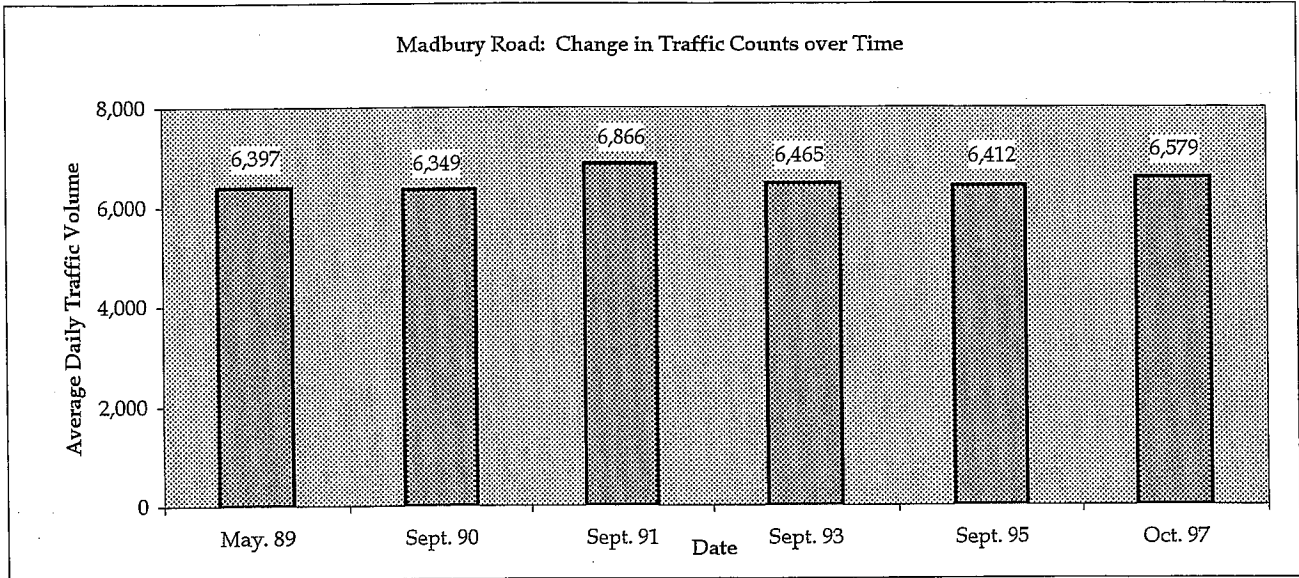


Change in Traffic Volume Between Observed Years				
	May 89 - Oct 91	Oct 91 - Oct 93	Oct 93 - Oct 97	May 89 - Oct 97
Total Change	-217	-3,011	3,188	-40
Percentage Change	-2.54%	-36.22%	60.14%	-0.47%
Avg. Yearly Decrease 1989 - 1997	-0.06%			

Traffic Count Dates		
May-89	5/10 - 12/89	SRPC
Oct-91	9/30/91	SRPC
Oct-93	10/25 - 29/93	SRPC
Oct-97	10/6 - 10/97	SRPC

Traffic Counts: Madbury Road (South of US 4 Bypass)

May. 89	Sept. 90	Sept. 91	Sept. 93	Sept. 95	Oct. 97
6,397	6,349	6,866	6,465	6,412	6,579

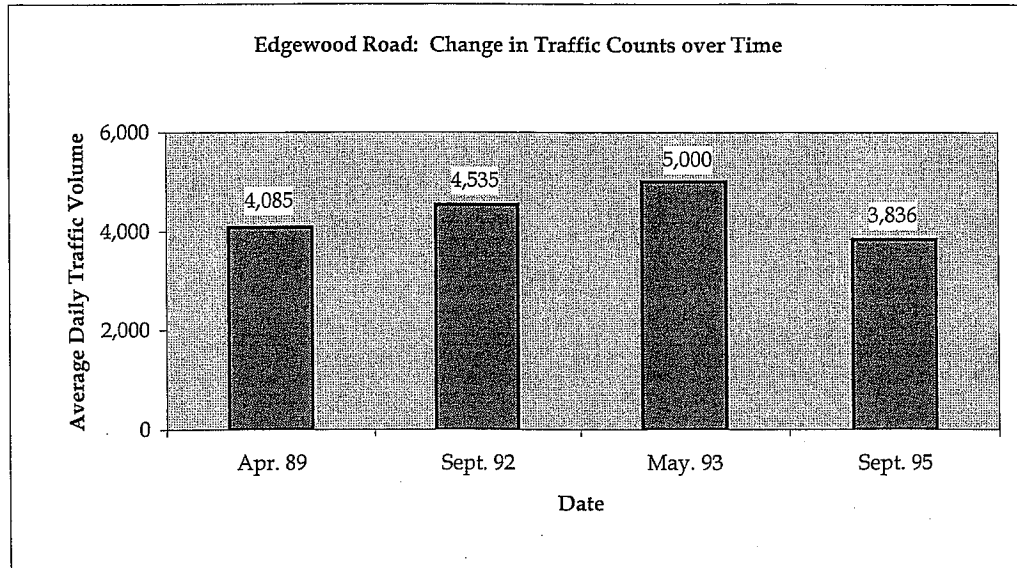


Change in Traffic Volume Between Observed Years					
	May 89-Sep 90	Sep 90-Sep 91	Sep 91-Sep 93	Sep 93-Sep 95	Sep 95-Oct 97
Total Change	-48	517	-401	-53	167
Percentage Change	-0.75%	8.14%	-5.84%	-0.82%	2.60%
Avg. Yearly Increase 1989 - 1997	0.36%				

Traffic Count Dates		
May-89	5/1 - 5/3	SRPC
Sep-90	9/1/90	DOT
Sep-91	9/30/91	SRPC
Sep-93	9/20 - 9/24	SRPC
Sep-95	9/24 - 9/28	DOT
Oct-97	10/6 - 10/10	SRPC

Traffic Counts: Edgewood Road (South of Madbury Road)

Apr. 89	Sept. 92	May. 93	Sept. 95
4,085	4,535	5,000	3,836

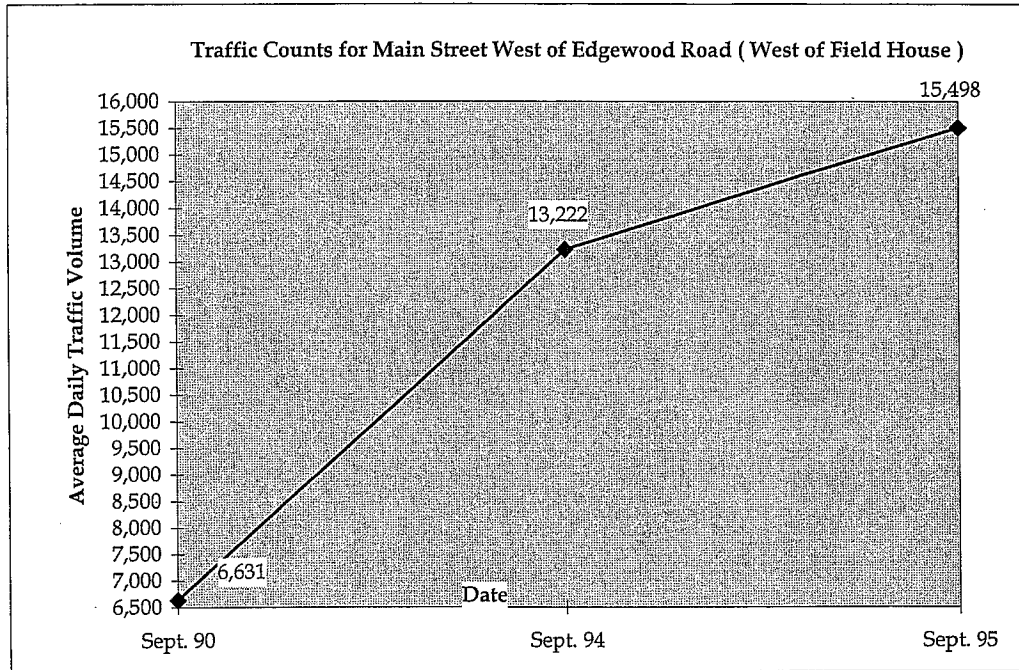


Change in Traffic Volume Between Observed Years			
	Apr 89 - Sep 92	Sep 92 - May 93	May 93 - Sep 95
Total Change	450	465	-1,164
Percentage Change	11.02%	10.25%	-23.28%
Avg. Yearly Decrease 1989 - 1995	-1.02%		
Avg. Yearly Increase 1989 - 1993	5.60%		

Traffic Count Dates		
Apr-89	4/19 - 4/21	SRPC
Sep-92	9/14 - 9/18	SRPC
May-93	5/3 - 5/7	DOT
Sep-95	9/24 - 9/28	SRPC

Traffic Counts for Main Street West of Edgewood Road

Sept. 90	Sept. 94	Sept. 95
6,631	13,222	15,498



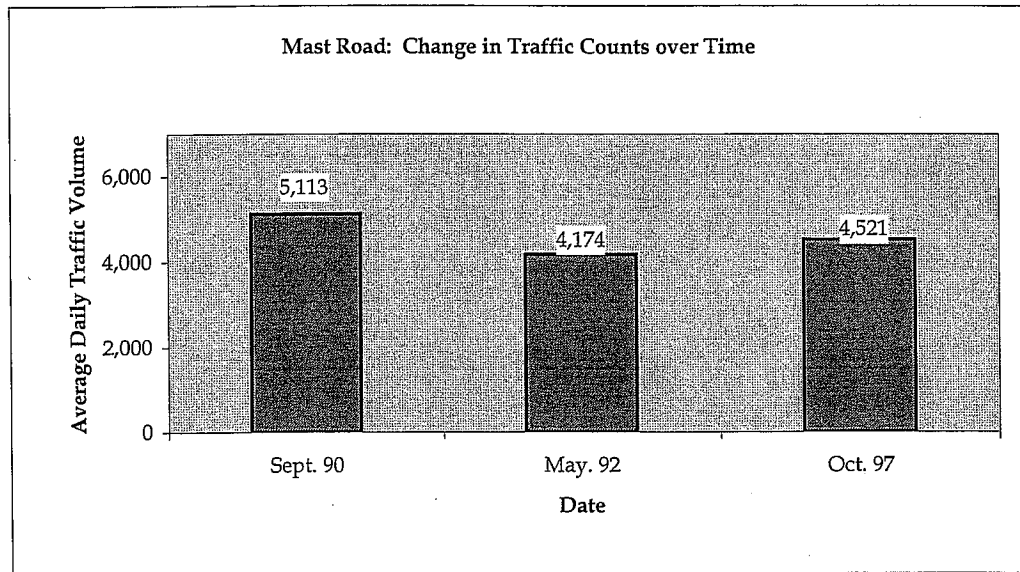
	Sep 90 - Sep 94	Sep 94 - Sep 95
Total Change	6,591	2,276
Percentage Change	99.40%	17.21%
Avg. Yearly Increase 1990 - 1995	22.29%	

* Percentages rounded two decimal places

Sep-90	9/1/90	DOT
Sep-94	9/24 - 28/94	DOT
Sep-95	9/24 - 28/95	DOT

Traffic Counts: Mast Road (South of College Brook)

Sept. 90	May. 92	Oct. 97
5,113	4,174	4,521



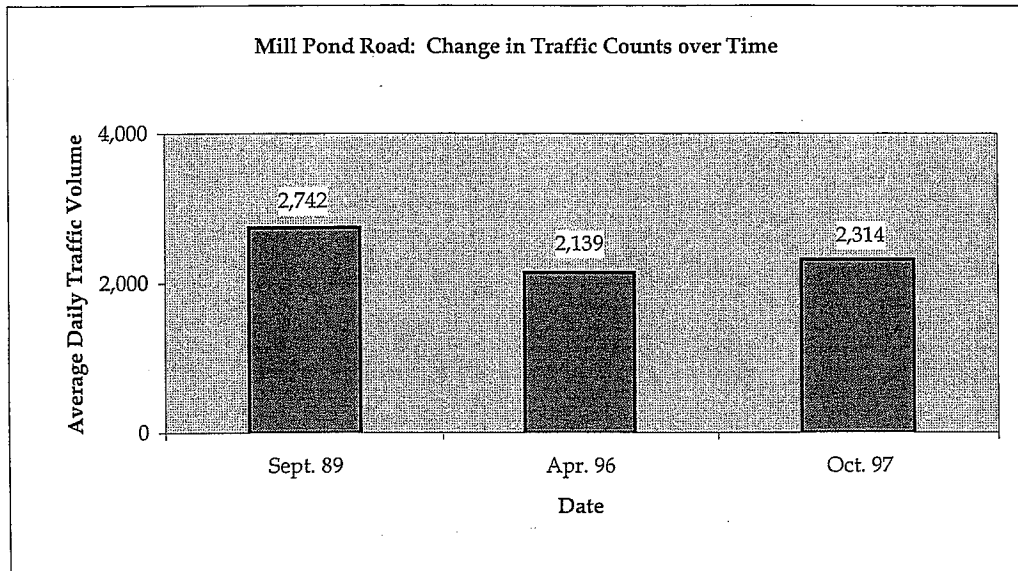
Change in Traffic Volume Between Observed Years			
	Sept. 90 - May 92	May 92 - Oct. 97	Sept. 90 - Oct. 97
Total Change	-939	347	-592
Percentage Change	-18.36%	8.31%	-13.09%
Avg. Yearly Decrease 1990 - 1997	-1.87%		
Avg. Yearly Increase 1992 - 1997	1.66%		

* Percentages rounded two decimal places

Traffic Count Dates		
Sept. 90	1-Sep	NHDOT
May. 92	5/11 - 5/14	SRPC
Oct. 97		SRPC

Traffic Counts: Mill Pond Road (West of Route 108)

Sept. 89	Apr. 96	Oct. 97
2,742	2,139	2,314

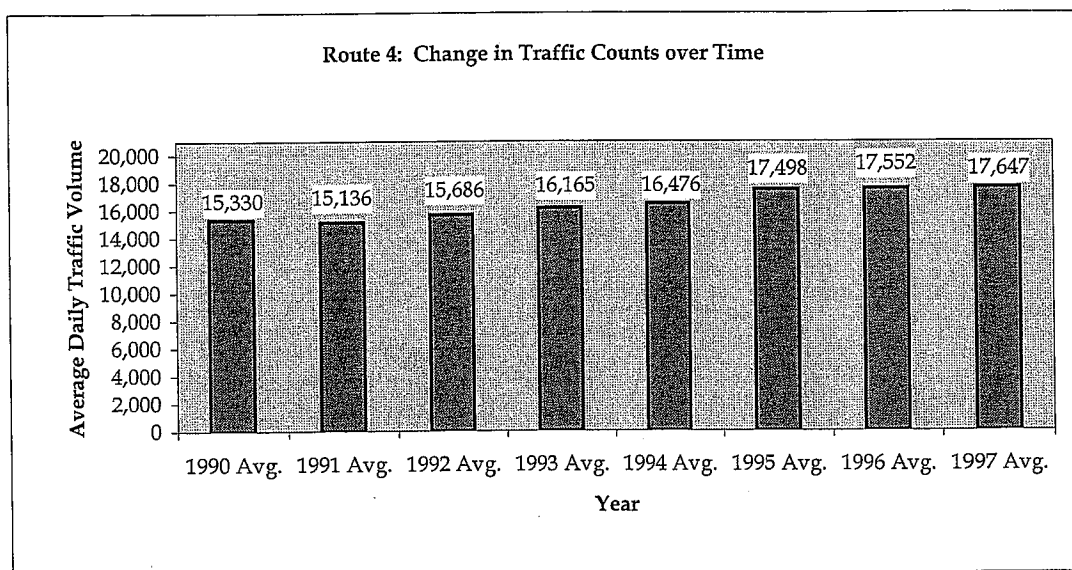


Change in Traffic Volume Between Observed Years			
	Sept. 89 - Apr. 96	Apr. 96 - Oct. 97	Sept. 89 - Oct. 97
Total Change	-603	175	-428
Percentage Change	-21.99%	8.18%	-18.50%
Avg. Yearly Decrease 1989 - 1997	-2.31%		

Traffic Count Dates		
Sept. 89	9/12 - 9/19	NHDOT
Apr. 96		SRPC
Oct. 97		SRPC

Traffic Counts: Route 4 (East of Route 108)

1990 Avg. 1991 Avg. 1992 Avg. 1993 Avg. 1994 Avg. 1995 Avg. 1996 Avg. 1997 Avg.
 15,330 15,136 15,686 16,165 16,476 17,498 17,552 17,647

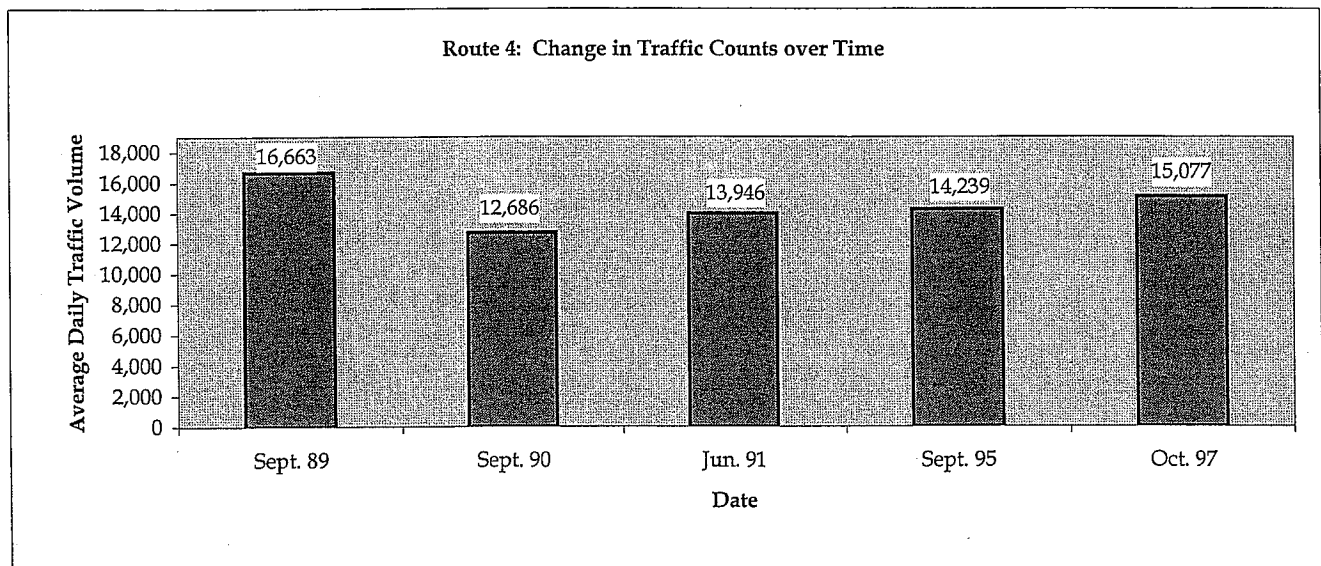


Change in Traffic Volume Between Observed Years							
	1990-1991	1991-1992	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997
Total Change	-194	550	479	311	1,022	54	95
Percentage Change	-1.28%	3.51%	2.96%	1.89%	5.84%	0.31%	0.54%
Avg. Yearly Increase 1990 - 1997	1.97%						

Traffic Counts are the overall average daily traffic volumes from the permanent NHDOT recorder

Traffic Counts: Route 4 (at Lee Town Line)

Sept. 89	Sept. 90	Jun. 91	Sept. 95	Oct. 97
16,663	12,686	13,946	14,239	15,077



Change in Traffic Volume Between Observed Years				
	Sep 89-Sep 90	Sep 90-Jun 91	Jun 91-Sep 95	Sep 95-Oct 97
Total Change	-3,977	1,260	293	838
Percentage Change	-31.35%	9.03%	2.06%	5.56%
Avg. Yearly Increase 1990 - 1997	2.27%			

All traffic counts from the NHDOT

APPENDIX D

NEW HAMPSHIRE AUTO FEE LEGISLATION



STATE OF NEW HAMPSHIRE

In the Year of Our Lord One Thousand Nine Hundred and Ninety-Eight

AN ACT establishing a local option fee for local or regional transportation improvements.

Be it Enacted by the Senate and House of Representatives in General Court convened:

1 4:1 New Paragraph; Local Option Fee for Transportation Improvements. Amend RSA 261:153
2 by inserting after paragraph V the following new paragraph:

3 VI.(a) Beginning on July 1, 1997, in addition to the motor vehicle registration fees collected
4 under paragraphs I and V, the legislative body of a municipality may vote to collect an additional
5 fee for the purpose of supporting a municipal and transportation improvement fund, which shall be
6 a capital reserve fund established for this purpose and governed by the provisions of RSA 34 and
7 RSA 35 for cities and towns, respectively. Of the amount collected, up to 10 percent, but not more
8 than \$0.50 of each fee paid, may be retained by the local official designated by the municipal
9 government or by the town or city clerk for administrative costs. The remaining amount shall be
10 deposited into the municipal transportation improvement fund established to allow a community to
11 fund, wholly or in part, improvements in the local or regional transportation system including
12 roads, bridges, bicycle and pedestrian facilities, parking and intermodal facilities and public
13 transportation. The funds may be used for engineering, right-of-way acquisition, and construction
14 costs of transportation facilities, and for operating and capital costs of public transportation only.
15 The funds may be used as matching funds for state or federal funds allocated for local or regional
16 transportation improvements. Such funds shall be appropriated by the legislative body of the
17 municipality for the purposes provided in this paragraph only and shall not be used to offset any
18 other non-transportation appropriations made by the municipality.

19 (b) The maximum fee charged under this paragraph shall be \$5. The municipality shall
20 establish the required fee, up to the maximum amount allowable, based on anticipated funding
21 needs for transportation improvements. The additional fee shall be collected from all vehicles, both
22 passenger and commercial, with the exception of all terrain vehicles as defined in RSA 215-A:1, I-b
23 and antique motor vehicles or motorcycles, as defined in RSA 259:4.

24 (c) Any town or city may adopt the provisions of subparagraphs (a) and (b) for an
25 optional additional motor vehicle registration fee to fund municipal transportation improvements in
26 the following manner:

27 (1) In a town, the question shall be placed on the warrant of a special or annual
28 town meeting under the procedures set out in RSA 39:3, and shall be voted on by ballot. In a city,
29 the legislative body may consider and act upon the question in accordance with their normal

1 procedures for passage of resolutions, ordinances, and other legislation. The legislative body of a
2 city may vote to place the question on the official ballot for any regular municipal election, or in the
3 alternative, shall place the question on the official ballot for any regular municipal election upon
4 submission to the legislative body of a petition signed by 5 percent of the registered voters.

5 (2) The selectmen or city council shall hold a public hearing on the question at least
6 15 days but not more than 30 days before the question is to be voted on. Notice of the hearing shall
7 be posted in at least 2 public places in the municipality and published in a newspaper of general
8 circulation at least 7 days before the hearing.

9 (3) A town or city may choose to restrict the use of the municipal transportation
10 improvement fund to one or more of the transportation system modes provided for in paragraph
11 VI(a). Any such restriction shall be so stated in the wording of the question.

12 (d) If a majority of those voting on the question vote "Yes," the additional motor vehicle
13 registration fee shall apply within the town or city on the date set by the selectmen or the city
14 council.

15 (e)(1) A town or city may consider rescinding its action in the manner described in
16 subparagraph (c). The wording of the question shall be the same as that was adopted by the town
17 or city, except the word "adopt" shall be changed to "rescind."

18 (2) If a majority of those voting on the question vote "Yes," following the action
19 taken to rescind, the additional motor vehicle registration fee shall not apply within the town or
20 city.

21 4:2 Establishment of Reserves Authorized; Transportation Improvements; Cities. Amend
22 RSA 34:1 to read as follows:

23 34:1 Establishment of Reserves Authorized. Any city may raise and appropriate money as
24 provided by RSA 34:2 for the establishment of a capital reserve fund for the financing of all or part
25 of the cost of ~~(a)~~:

26 I. The construction, reconstruction, or acquisition of a specific capital improvement, or the
27 acquisition of a specific item or of specific items of equipment~~, or (b)~~;

28 II. The construction, reconstruction, or acquisition of a type of capital improvement or the
29 acquisition of a type of equipment~~, or (c)~~;

30 III. A reappraisal by appraisers of the department of revenue administration or such other
31 appraisers, appraisal firms or corporations approved by the commissioner of revenue
32 administration, of the real estate in such city for tax assessment purposes~~, or (d)~~;

33 IV. The acquisition of land~~, or (e)~~;

34 V. The acquisition of a tax map of such city~~;~~ or

35 VI. *Municipal and regional transportation improvement projects including*
36 *engineering, right-of-way acquisition and construction costs of transportation facilities,*
37 *and for operating and capital costs for public transportation.*

1 4:3 Establishment of Reserves Authorized; Transportation Improvements; Towns. Amend RSA
2 35:1, V to read as follows:

3 V. Extraordinary legal fees and expenses related to present or foreseeable litigation
4 involving the town or its officers and employees[-]; or

5 *VI. Municipal and regional transportation improvement projects including*
6 *engineering, right-of-way acquisition and construction costs of transportation facilities,*
7 *and for operating and capital costs for public transportation.*

8 4:4 Effective Date. This act shall take effect 60 days after its passage.

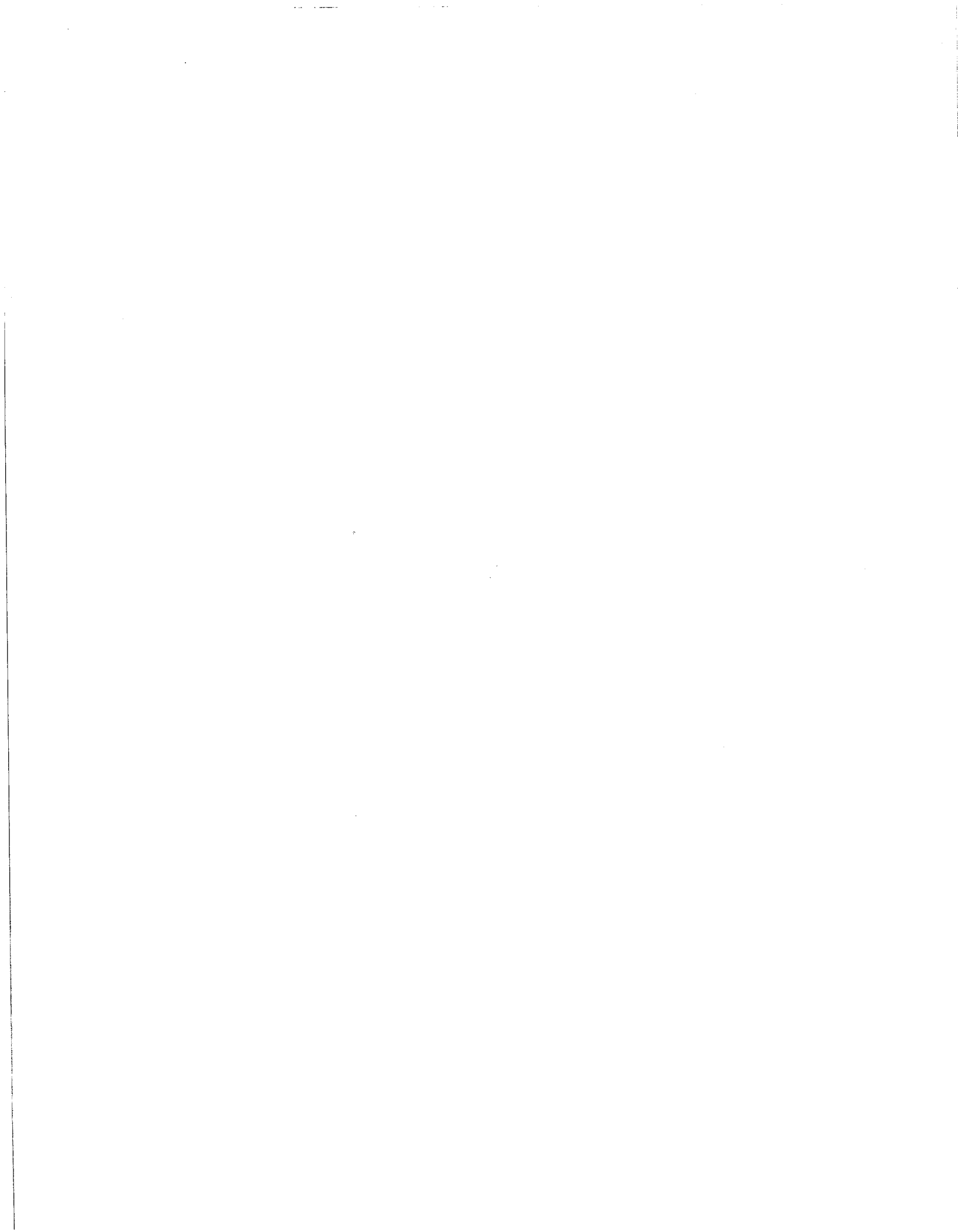
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10 (Approved: March 18, 1998)

11 (Effective Date: May 17, 1998)

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APPENDIX E

TRIP REPORT OF TRANSPORTATION DEMAND MANAGEMENT



TO: UNH President's Staff, UNH Student Body President,
UNH Deans Council, UNH Master Plan Review Committee, Durham Town
Council, Planning Board, Durham Master Plan Steering Committee, Town of
Lee Selectmen, Town of Madbury Selectment, City of Dover and City of
Portsmouth Mayor's Offices, COAST Executive Director, NHDOT

FROM: Tom Kelly, Director Office of Sustainability Programs
Allen Braun, Assistant Vice President of UNH Facilities
Duane Hyde, Town Planner, Town of Durham
Steve Pesci, Assistant Director/Transportation Planner,
Strafford Regional Planning Commission
Pedro de Alba, Chair, UNH Master Plan Review Committee, Faculty Senate
Victor Azzi, UNH Campus Planner

DATE: September 15 1999

RE: Sustainable Transportation Trip Report and Recommendations

Attached please find a trip report and recommendations along with a conference publication on sustainable transportation in campus communities. Presently, both the Town of Durham and UNH are in the midst of Master Plan updates and reviews. This is an important time for all members of our community to actively consider our choices for meeting transportation needs in a manner consistent with sustaining the health and well-being of our community. The purpose of this report is to encourage and inform participation in the transportation policy-making process.

The overall recommendation of this trip report is that UNH and Durham should work with the Strafford Regional Planning Commission to design and implement a comprehensive Transportation Demand Management (TDM) program. A TDM program is consistent with many ideas discussed by the Durham Master Plan Update subcommittee on transportation as well as the existing UNH Master Plan goal of creating a safe, pedestrian-friendly, walking campus.

The goal of TDM, is to reduce demand for Single Occupancy Vehicle (SOV) transportation by providing effective and efficient alternatives that meet commuter needs. TDM programs across the country demonstrate clearly the economic, environmental and community health benefits of reducing SOV travel. Development of a TDM is also fundamental to UNH's educational mission because it will model collective intelligence and civic responsibility for all members of the university community.

TRIP REPORT

On 20-22 April 1999 the Office of Sustainability Programs (OSP) sponsored the participation of UNH Assistant Vice President of facilities Allen Braun, the Town of Durham Planner Duane Hyde, and the Strafford Regional Planning Commission (SRPC) Transportation Planner/Assistant Director Stephen Pesci in a transportation conference organized by the University of Colorado at Boulder. Faculty Senate Chair, Pedro de Alba was invited but could not participate due to scheduling conflicts. OSP Director Tom Kelly also attended, and UNH Campus Planner Victor Azzi reviewed the findings and recommendations. The conference, entitled "Finding a New Way: Campus Transportation for the 21st Century," brought together university, town, municipality and transportation sector representatives to provide an overview of the trends in transportation challenges on campuses and their host communities and solutions being implemented at universities from across the country.

The goals of the trip included:

- Bringing together transportation planners from UNH, Durham and the county to reflect on sustainable transportation options for UNH, Durham and the seacoast area;
- Receiving a briefing on national trends and specific solutions being developed on campuses throughout the country that provide a snapshot of the "state-of-the-art" in university transportation systems;
- Identifying potential policies, projects and processes that could bring the "state-of-the-art" to UNH, Durham and the seacoast area in the context of both the Durham and UNH Master Plan updates.
- Clarify the critical role of transportation in OSP's goal of building a sustainable learning community and the importance of integrated planning with the town and region to the achieve that educational goal.

SUMMARY

The conference highlighted the following findings:

- Single Occupancy Vehicles (SOVs) are imposing devastating impacts on the aesthetic, environmental and human health of campus communities across the country;
- Increasing the parking supply to accommodate the growing demand for SOV parking is economically wasteful, environmentally irresponsible and inconsistent with community health and well-being;
- Increased parking supply also encourages more demand (SOV trips) as users perceive the costs of parking to be reduced;
- A Transportation Demand Management program (TDM) is critical to effective land use planning and maintaining a safe, healthy town and campus that supports recruitment, retention and educational goals;
- An effective TDM program requires a multi-modal transportation system including robust pedestrian and bicycle facilities and convenient transit service;
- Communication and education are fundamental to any successful TDM program;

- Responses to this problem should be market-based and should offer users transportation choices. The goal is to provide a non-SOV choice that is more convenient or less expensive (or both).

UNH IN A NATIONAL CONTEXT

In light of the experiences and progressive policies of universities represented at the conference, members of the OSP-sponsored group identified the following points as fundamental to assessing and reforming UNH's transportation system:

- UNH's parking fees do not reflect the differential cost and market value of core campus proximity and peak demand times. The difference between the cost/value and the price of parking permits constitutes a subsidy.
- UNH's highly subsidized parking system has resulted in increased demand for parking that has exhausted a parking surplus that was intended to last for another ten years (West Edge lot). This pattern of subsidized parking fueling growing demand is consistent with the experience of other campuses;
- UNH's generous parking subsidy is out of proportion with universities represented at the conference and contradictory to the most basic tenants of a TDM program;
- UNH's subsidized parking system has resulted in a high volume of traffic on local and regional roads due to the number of vehicles, particularly SOVs, coming to the campus each day;
- Automobile emissions are a significant contributor to the seacoast area's air quality problems, including ground-level ozone, as well as the region's greenhouse gas emissions;
- As an institution of higher education committed to sustainability (the balancing of economic viability with ecological health and human well-being), UNH must make its management practices consistent with its values and educational mission.

RECOMMENDATIONS

General Recommendations

- UNH must develop a Transportation Demand Management (TDM) program to fulfill its educational mission, maintain its New England character, ensure the health and well-being of the university and wider community;
- UNH must ensure the success of the TDM program by shifting its substantial subsidies from SOV parking to public transportation, including car/van pooling, park-and-ride lots and other proven alternatives;
- As part of its continuing policy to discourage SOV use in the core campus, UNH and the TOWN should investigate the advantages and disadvantages of closing Main Street to private automobile traffic between Edgewood Road and Garrison Avenue (or perhaps to Pettee Brook Lane). This would enable transit vehicles to maintain scheduled stops throughout peak traffic times, enhance the pedestrian and bicycle environment, and reduce traffic congestion on the railroad bridge by allowing ongoing right turns at College Road. Emergency vehicles would also have access to Main Street. In addition to emergency vehicles, concerns about cross-town access for Durham residents and other TOWN/UNH transportation and safety issues would need to be carefully considered in the context of studies of improvements for northwestern and southeastern linkages, including the historical connector road plans.

- UNH/TOWN should prepare an origin and destination model to gain a better understanding of the travel patterns of people coming to the University and the town;
- UNH, TOWN and SRPC must integrate their planning and policies to achieve a sustainable regional transportation system;
- UNH should consider establishing the stated goal of no net increase in vehicle trips per day to campus even as the university grows. This policy has been successfully implemented by the University of Washington;
- UNH should actively facilitate improvements in the transit, bicycle and pedestrian environments;
- TDM program planning process should ensure the participation of students, faculty, Town government, Town's people, and the merchants/Main Street Program through outreach and coordination and public meetings;
- TDM program goals should be clearly communicated to prospective students and their parents to ensure an understanding that student mobility for employment and other purposes will be provided by the transportation system and therefore does not require a car;
- UNH should be active in the Seacoast MPO planning process and should submit Transportation Enhancements, Congestion Mitigation and Air Quality (CMAQ) applications, in consultation with affected municipalities, in order to assist with implementation of the recommendations of this report. UNH should be prepared to provide the required matching funds (usually 20%) for these proposals.

Transit Recommendations

- Wildcat Transit should allocate funds for marketing. The successful campaigns at University of Colorado, University of Washington, and Cornell all had a least 2% of their transit budget allocated for marketing transit services.
- UNH should study options to increase pay scale for shuttle drivers in order to be competitive with market rates and ensure adequate staffing and infrastructure for the Transportation Office.
- UNH should increase (bi-directional) campus shuttle system
- UNH should examine mechanisms such as the flexible pass system for faculty where they get a free bus pass and also a parking permit that can be used a fixed number of times per semester (examples from institutions at conference ranged from 4-6).
- As noted above, an origin and destination model and survey should be prepared to improve Wildcat Transit's understanding of its customer base (where students, faculty and staff live and work) so that they can tailor their routing to meet commuting needs. The University of Colorado's Hop, Skip, and Jump shuttle program offers a good example.

Parking Recommendations

UNH policies should incorporate some aspects of a market-based pricing system, which encourages the use of alternate modes of access to and from the UNH campus. Specific steps include:

- Reduce subsidies for non-faculty/staff parking substantially
- Reduce subsidies for faculty/staff parking incrementally
- Establish flexible parking permits for occasional drivers
- Employ alternative metering technology to increase efficiency and cost-effective pricing system that has variable rates for parking based upon its location (demand).
- Subsidize parking for car and van pooling that reduce SOV commuting

- work with the Town of Durham on parking design to ensure that its parking is not adversely impacted by UNH drivers seeking to avoid the proposed new system.
- Review tax implications of the current parking subsidy system and consider participation in the IRS pre-tax transit-check program (non-taxable benefit for transit users);

Rail Recommendations

- As part of phase II projects, UNH/TOWN should establish a west-side platform to encourage better transit (intermodal transit hub) connectivity as well as better pedestrian access to the Whittemore Center and central campus.
- UNH should strongly advocate for and support construction of a safe, at-grade pedestrian access to both east and west side transit facilities. At the same time, UNH, Amtrak and Gilford Transportation should take active steps to discourage illegal crossings of the rail corridor.
- UNH should provide adequate reserved spaces for Amtrak users in A lot (estimated 50-100 spaces) to enable Amtrak to justify daily service during the week;
- UNH should work to enhance and restore Railroad Station/Dairy Bar restaurant to be an intermodal transit center and restaurant.
- UNH, TOWN and SRPC should collaborate to establish an intermodal transportation center built around the Amtrak stop and A-lot that includes local and regional bus service, automobile parking, bike parking, and 7 days a week train service.

Bicycle Recommendations

- UNH should support the Wagon Trail Bike Trail and other connections to the regional bike network.
- UNH should work with COAST and Wildcat Transit to ensure all buses have bike racks and also allocate resources to install bike racks at major transit stops in Dover, Newmarket and Portsmouth.
- UNH should examine the possibility of innovative infrastructure such as a bike-transit center.
- UNH should examine the possibility of a 'yellow bike' program (community-owned bicycles) or alternatively, bike auctions that increase the availability of bicycles to all members of the community.
- UNH should ensure adequate infrastructure including covered parking for bike commuters.

Alternative Fuels Recommendations

- UNH should be a leader in developing clean fuel technology in its university service fleet. The University should develop a CMAQ (Congestion Mitigation and Air Quality) application in fall 1999. This program, administered through Seacoast Metropolitan Planning Organization and the New Hampshire Department of Transportation, would allow for an 80% federal match for projects that reduce traffic emissions and congestion. A CMAQ grant would support other recommended strategies such as TDM and an integrated transportation/parking program, new technologies for parking metering using smart cards or variable pricing.
- A comprehensive TDM program including planning, infrastructure and implementation would be largely eligible under this program. The 20% match could come from any non-USDOT source of funds.
- Proposal for condensed natural gas (CNG) fueling station on campus that might serve University fleet Town vehicle fleet and also the regional transit providers- COAST and Wildcat Transit for future

fleet conversion. (Location advantages: COAST and Dover Public Works might relocate to route 155 making UNH a convenient location.)

CONCLUSION

The Durham Master Plan Update and UNH Master Plan Review processes will set the direction of our community development for the next decade and beyond. Transportation planning will directly and indirectly impact the quality of life in our community as well as in neighboring communities. Informed participation in the planning process is critical if we are to collectively balance economic viability with ecological health and human well-being. Reactions to this report and other ideas on transportation are welcomed and encouraged.