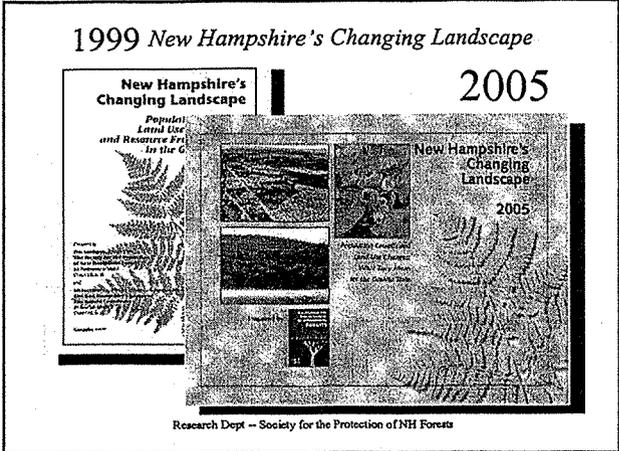


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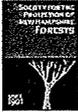
New Hampshire's Changing Landscape

*Population Growth
Land Use Conversion
and Resource Fragmentation
in the Granite State*



2005 Update

A Research Project of the
Society for the Protection of NH Forests



New Hampshire's Changing Landscape

What's Inside?

- ✓ Population Change Dynamics
- ✓ New Housing Construction & Land Conversion
- ✓ Forest Cover & Decline of Forest Land Base
- ✓ Important Forest Soils
- ✓ Change in Farming & Loss of Cropland
- ✓ Prime Agricultural Soils
- ✓ Drinking Water Resources
- ✓ Wetlands Protection
- ✓ Status of Land Protection & Agency Analysis

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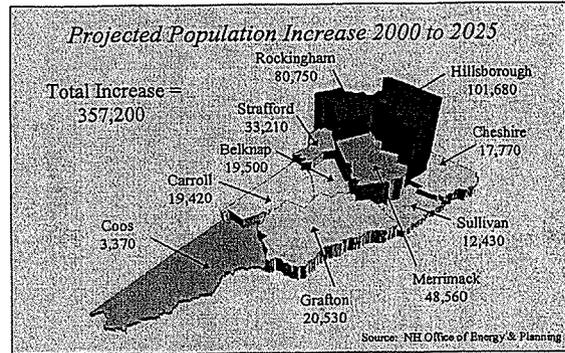
New Hampshire's Changing Landscape

What's Important in the Update?

- Growth continues in 1990's intensity... and has expanded across N.H. in (5) years.
- Some of our most important natural resources are the least protected statewide, and are found in the most rapidly urbanizing parts of the state.
- There is some good news in the gain of conservation v. development statewide, but... more than half our towns are losing ground.

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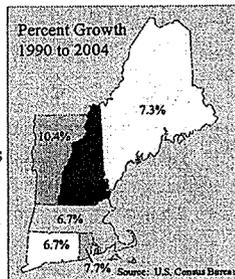
Where is New Hampshire Growing?



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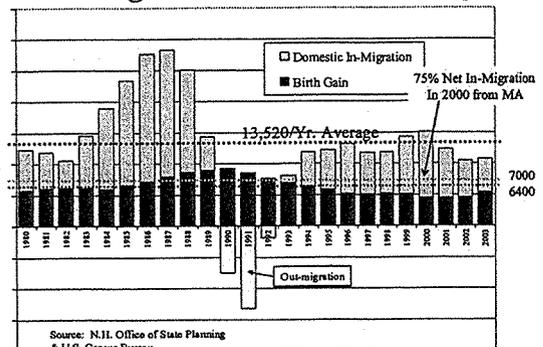
Population Growth

- New Hampshire has been the fastest growing state in New England and the Northeast for the last 40 years
- From 1990 to 2004, we grew twice as fast as the rest of the region, at 17.2%
- We are projected to add 358,000 new residents between 2000 and 2025, an increase of more than 28%
- 80% of this growth will be absorbed in the four southeastern counties, on only one-third of the state's land base.



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Natural Change v. Net Domestic In-Migration



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Defining the Places We Live...



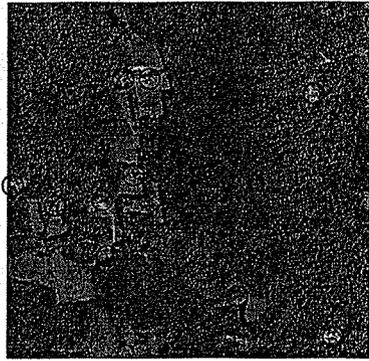
COASTAL HOME, LEVITTOWN, NEW YORK, 1927

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Rural Density

<16 houses/
square mile

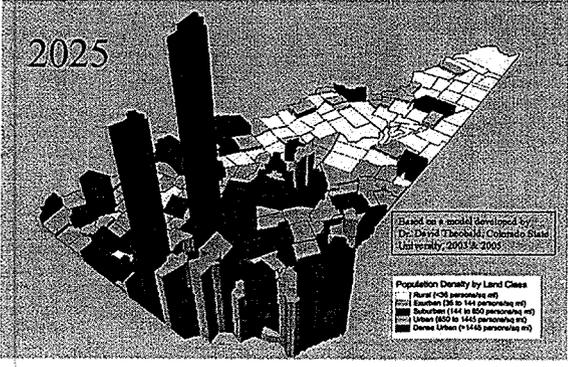
Dublin, NH
11 homes



One Mile

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2025



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Exurban Density

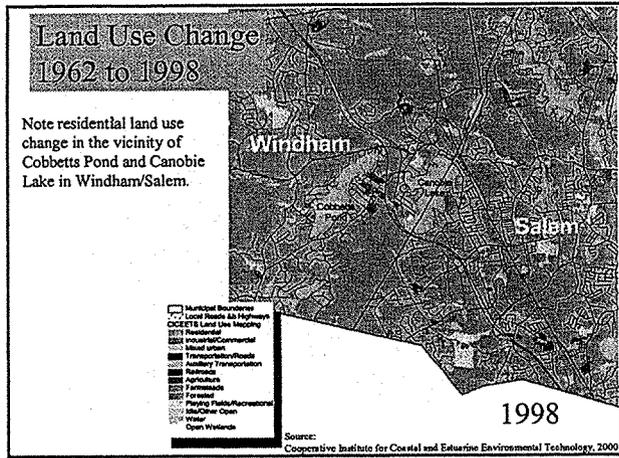
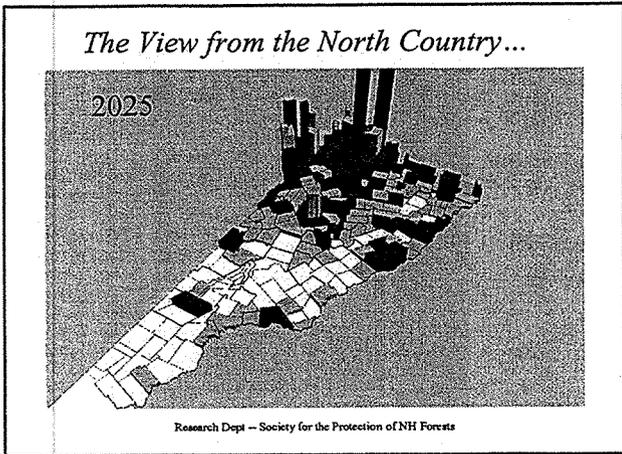
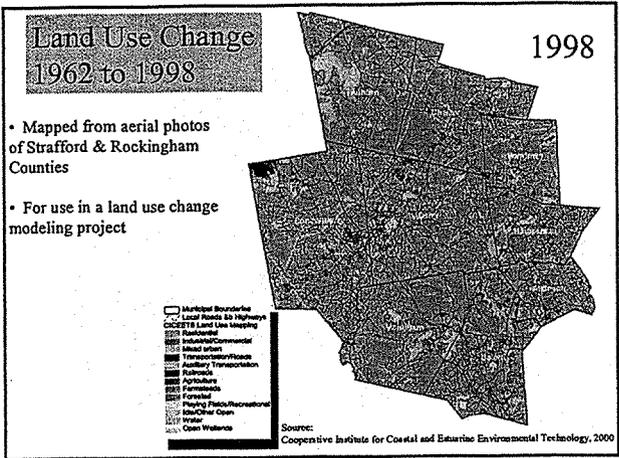
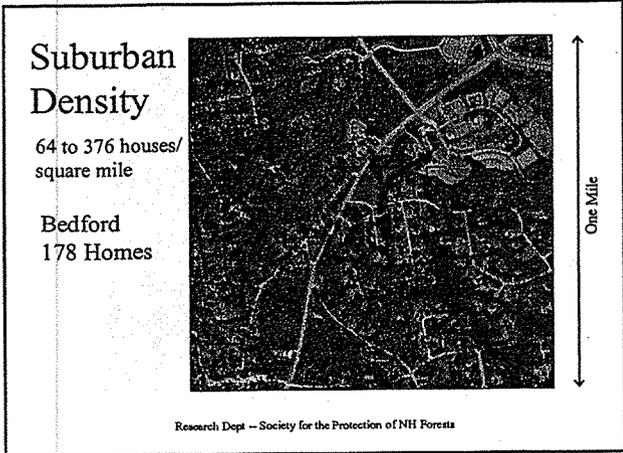
16 to 64 houses/
square mile

Weare, NH
62 homes



One Mile

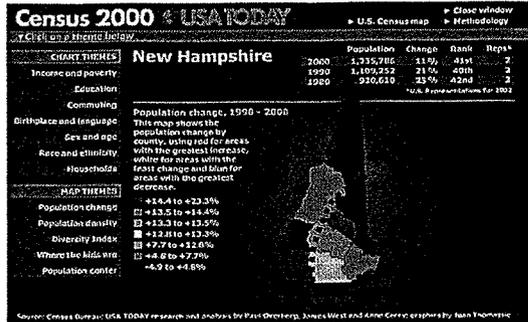
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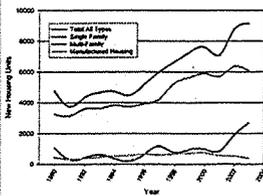
Growth Frontier -- 2005



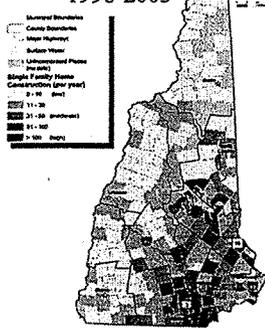
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Housing Construction

- 46,520 new homes built in N.H. 1998 to 2003
- 34,940 were single family housing
- An average of 5,800 new single family homes were built in the last (6) years

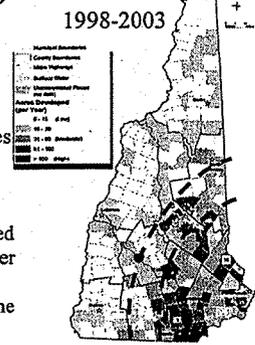


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Land Conversion Due to Housing Construction

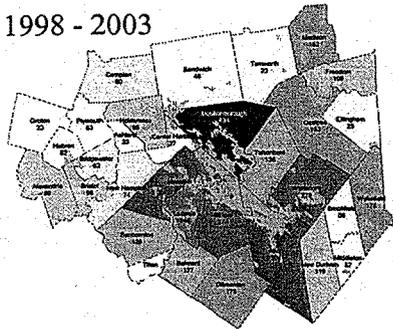
- Each new single family home transforms 1.4 acres of land to residential & associated land uses
- 41,500 acres, or nearly 65 sq miles were converted by single family housing construction from 1998 to 2003
- 1990 to 1997 construction centered in Rockingham County and the lower Merrimack River valley
- 1998 to 2003 has seen a shift to the west and the north away from the Seacoast



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Housing Construction in the Lakes Region

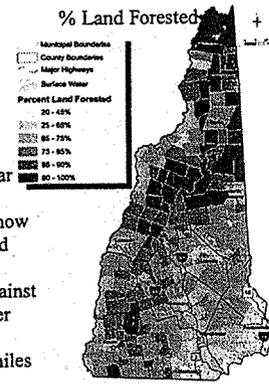
1998 - 2003



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Forestland Today in New Hampshire

- N.H. is still the 2nd most forested state in the nation after Maine.
- But we have been losing about 17,500 acres of forest cover per year since the early 1980's.
- Estimates based on satellite data show N.H. has dropped to 81.1% forested from 87% in 1983.
- Modeling of population growth against forest land decline predicts a further drop to 79.1% by 2025.
- A 2% decline amounts to 180 sq miles

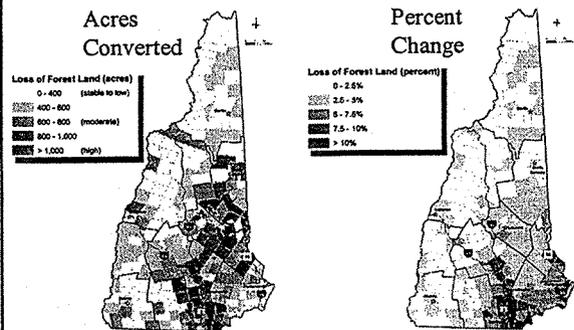


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Projected Changes to Forest Land 2001 - 2025



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Forest Blocks

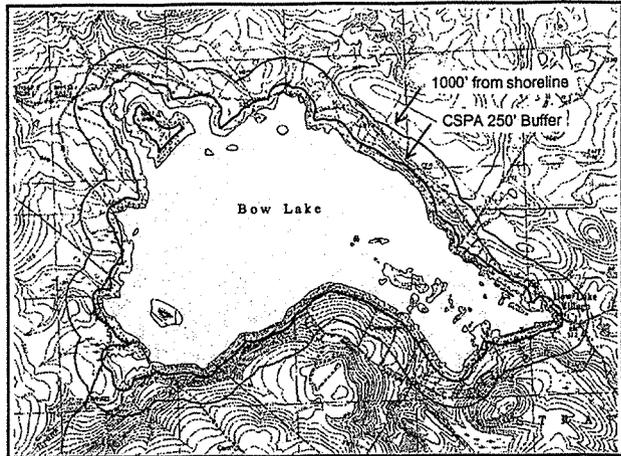
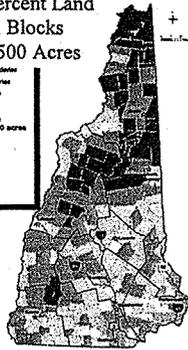
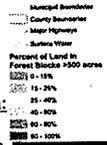
A "forest block" is an area of forest that is not broken up by roads, other land uses, or large water features.

A 500-acre block is big enough:

- ✓ To support significant wildlife habitat
- ✓ To protect water quality
- ✓ To allow for economic forest management
- ✓ To foster a remote recreation experience

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Percent Land In Blocks >500 Acres



Blocks >10,000 Ac.

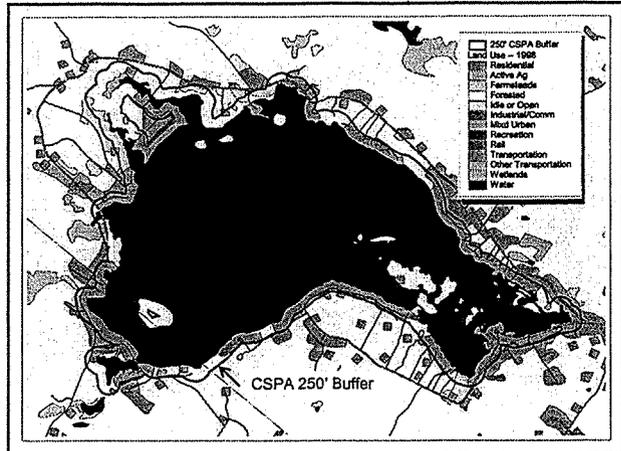


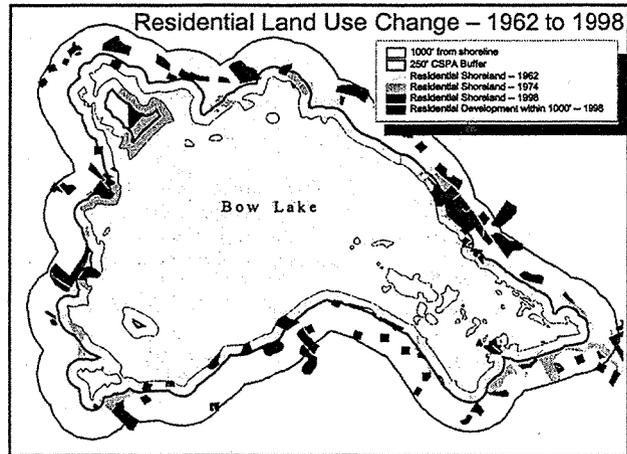
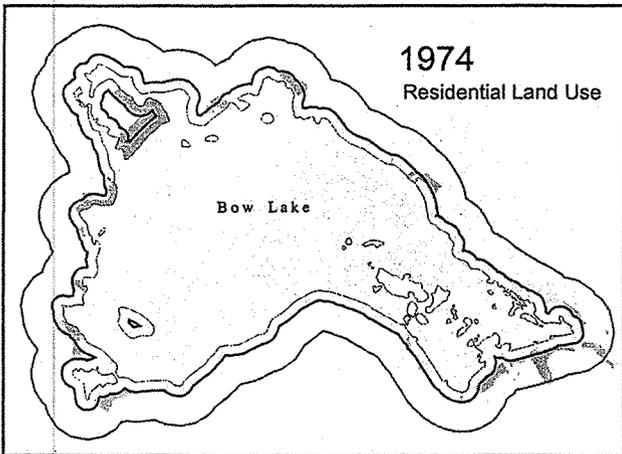
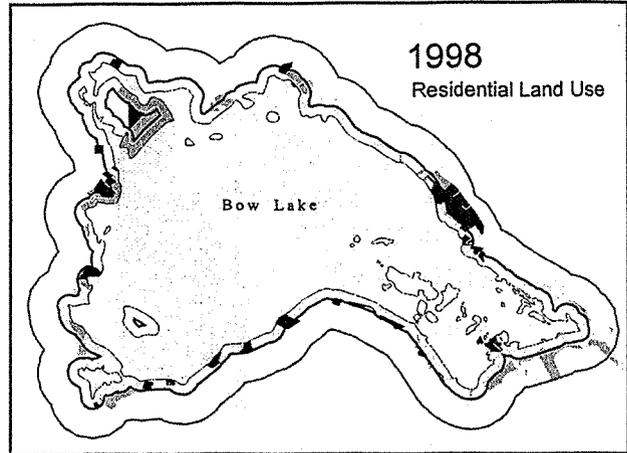
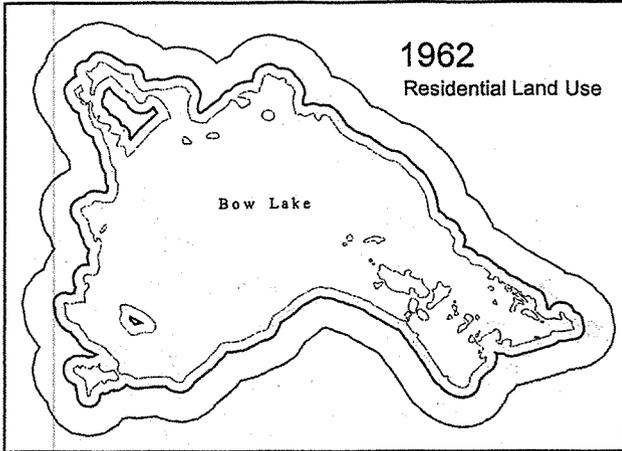
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Distribution of Forest Blocks Statewide

500-acre forest blocks are still fairly widespread in N.H., but are sparse in the Seacoast & Lower Merrimack River Valley

5,000-acre blocks - a threshold of ecological significance and sustainable economic forestry - exist only in the Monadnock Highlands and north to Coos County





Analysis of Residential Land Use Change on Bow Lake, NH 1962 to 1998

Source: CICEETS Land Use Change for Rockingham & Strafford Counties, 2000

Year	Change in Developed Area within CSPA (Acres)	Undeveloped CSPA	Percent Total CSPA Area Developed	Rate of CSPA Area Development (Per Year) (Acres)	Change in Shoreline (Feet)	Undeveloped Shoreline	Percent Total Shoreline	Rate of Shoreline Development (Per Year)
1962	112	238	32.0%	NA	26,696	27,883	48.9%	NA
1974	209	141	59.7%	8	34,402	20,176	63.0%	642
1998	301	49	85.0%	7	37,602	16,976	68.9%	229

*Primary lake shoreline exclusive of islands

Total CSPA 250' buffer area = 349.9 acres.

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USGS SPARROW Stream Water Quality Model

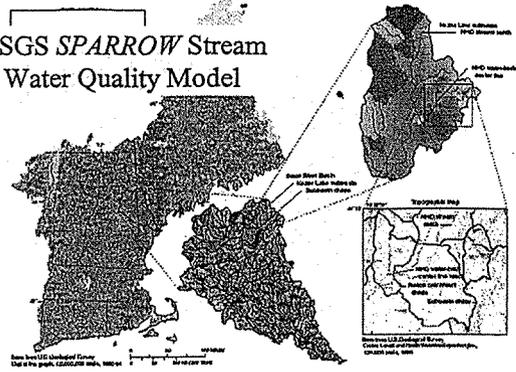


Figure 1. Spatial Detail of the New England SPARROW model with 0.250 National Hydrography Dataset (NHD) reach catchments.

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USGS SPARROW Stream Water Quality Model

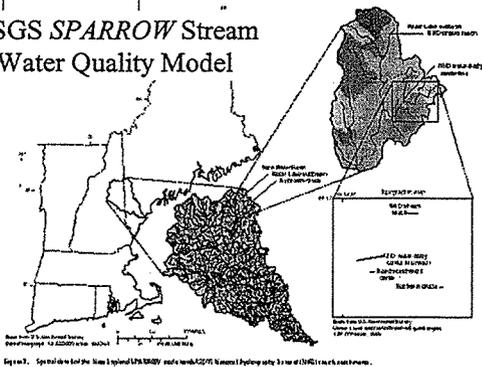
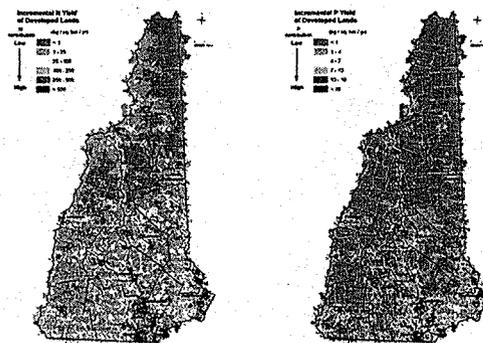


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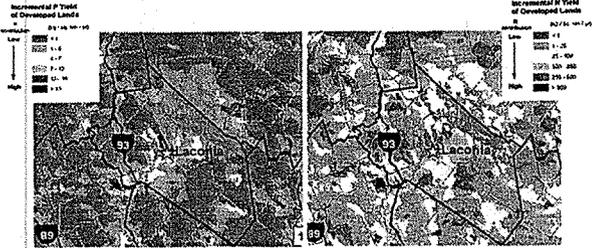
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Development Yield of N and P



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Development Yield of N and P



Phosphorus Loading

Nitrogen Loading

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For More Information...

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