

# NEW YORK - NEW JERSEY HIGHLANDS REGIONAL STUDY 2002 UPDATE

UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE

## Key

## Findings:

## Resources

## at Risk

## population growth

- There are 108 municipalities in the NY - NJ Highlands, with a total population (2000 Census) of 1,372,423.
- In 1990, the NY - NJ Highlands population was 1,230,000.
- Decade growth rate: U.S. - 13%; Highlands - 11.5%; State of NJ - 8.9%; State of NY - 5.5%.

- NY has 46% (628,743) of the Highlands population and NJ has 54% (743,680) of the population.
- The region averages less than 1 person per acre, with an average of 2.76 people per household.

From 1990 - 2000, 21 municipalities grew by more than 20%; Greenwich Township, NJ grew by 130%.

## future change scenarios

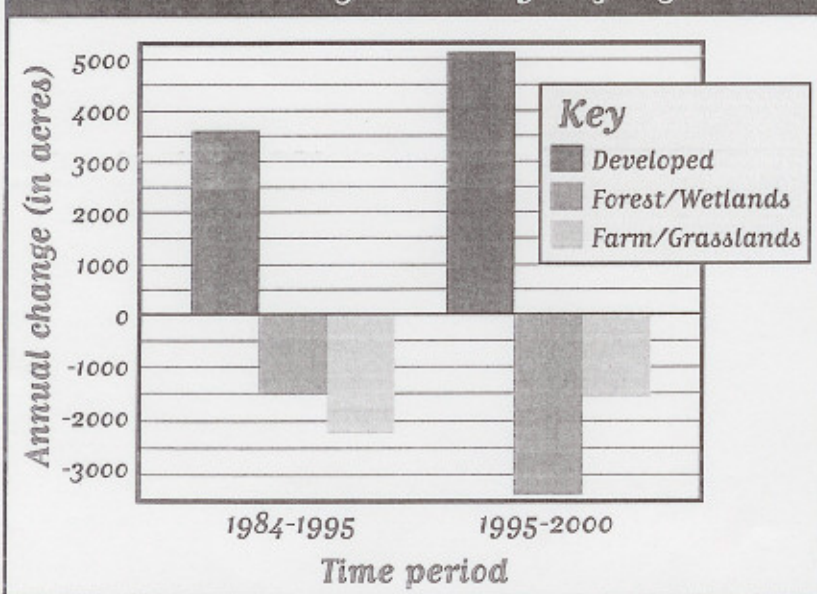
- The low-constraint scenario excluded 50' buffers around open water/wetlands and slopes over 33%. The high-constraint scenario excluded 200' buffers around open water, 150' buffers around wetlands and slopes over 15%.

Under low-constraint, the population could grow by 47.6% and build-out would be reached in 2035.

- Under high-constraint, the population could grow by 26.3% and build-out would be reached in 2021.
- Under low-constraint, 6 municipalities could more than triple their populations - NJ: Hardystown Twp. in Sussex County, Franklin, Greenwich, Harmony and White Twp. in Warren County; NY: Patterson Town in Putnam County.
- Future development is likely along I-78, I-80 and I-87.
- The most northern and southern areas of the NY - NJ Highlands are the least likely to be developed.

## land use and cover

Land Cover Change in the NY - NJ Highlands



- From 1984-1995, 39,769 acres were developed; 16,873 acres of forest/wetland and 24,600 acres of farmland/grassland were converted.
- From 1995-2000, 25,801 acres were developed; 17,004 acres of forest/wetland and 7,900 acres of farmland/grassland were converted.

	forest	developed	farm/grasslands	wetlands/water
2000	51%	24%	12.5%	12%
1972	57%	14%*	16%	13%

\*This figure may be underestimated due to coarser mapping methods.

## forest and habitat

- A threshold of at least 70% forest cover was identified as prime habitat for interior nesting birds and raptors, as determined by the 1995 NJ breeding bird atlas survey (each survey block was approximately 10 square miles).
- In 2000, 22% of the survey blocks was prime habitat. Under the low-constraint scenario, prime habitat blocks could decrease to 13%.

Interior forest habitat is in steady decline. The number of watersheds with >40% interior forest cover dropped from 15 of 51 in 1984 to 9 of 51 in 2000. Under low-constraint, only 5 of 51 watersheds would have >40% interior forest cover at build-out.

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## water resources

### WATER QUALITY

- By reducing nonpoint source pollution, soil erosion and flooding, riparian buffer zones help to protect surface water quality.
- In 1984, 59% of riparian zones had >25% altered land cover (land other than forest or wetland). In 2000, 76% of riparian zones had >25% altered land cover.
- Under the low-constraint scenario, riparian zones with >50% altered land cover could increase by 33% from 2000 levels. Under the high-constraint scenario, riparian zone development could increase by 6%.

*Watersheds with the highest water quality have <10% impervious surface. Under the low-constraint scenario, more than 80% of watersheds could contain >10% impervious surface. Under high-constraint, more than 65% could contain >10% impervious surface.*

- Watersheds that are >50% altered show a decrease in water quality. In 2000, 33% of watersheds were >50% altered.
- Under low-constraint, 70% of watersheds could become >50% altered. Under high-constraint, 47% could become >50% altered.

### WATER SUPPLY

- Impervious cover causes decreased aquifer recharge, decreased water supply storage during drought, increased flooding during heavy rain, a stressed ecosystem and degraded water quality.
- A projected 15% or more increase in impervious surface area from 1995 levels predicts a 50% increase in runoff and a 10% decrease in baseflow.
- An increase in impervious surfaces will affect water supply more than an increase in ground water withdrawal by a larger population, although both are predominant factors.

### WATER SUPPLY (continued)

- Increased development and withdrawals are most likely to affect streamflow characteristics in the Wallkill, Lamington, Musconetcong, Pequest, Rockaway, Pequannock, Ramapo and Pompton Rivers, along with the Lopatcong and Pohatcong Creeks.
- For groundwater withdrawals, the threshold for sustainable yield is 10 to 20% of recharge.
- In 1995, withdrawals from the Whippany River watershed were >20% of recharge.

*Under low-constraint, groundwater withdrawals could exceed 20% of recharge in the Ramapo, Whippany and Pequest Rivers, upper Delaware tributaries and Lopatcong Creek. Withdrawals could exceed 10% for the Rockaway and Upper Musconetcong River watersheds.*

- Groundwater withdrawal is currently 85 gallons per day per person. Under existing constraints, based on the predicted population increase, an additional 52.4 million gallons per day would be withdrawn.

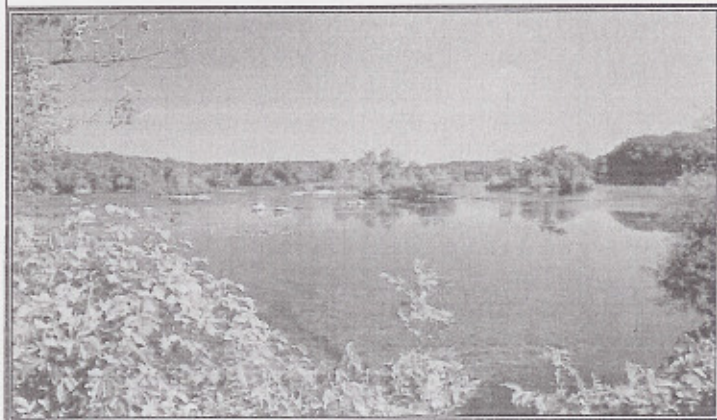


photo by Wilma Frey

## unprotected lands and resources

- All of the Highlands serves as watershed land.

*77%, 292,000 acres, of the land most valued for water resources is unprotected.*

- 50%, 184,000 acres, of high-value forest land is unprotected.
- 60%, 326,000 acres, of the land most valued for biodiversity is unprotected.
- 78%, 39,000 acres, of the land most valued for farming is unprotected.
- 36%, 169,500 acres, of the land most valued for recreation is unprotected.
- 53%, 285,000 acres, of the land ranked highest for all 5 resource values is unprotected.
- 15% of the NY - NJ Highlands, 98,114 acres, has a high conservation value and a high likelihood of development.