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## ECOSYSTEMS:

### Report details enormous strains on U.S. resources (06/17/2008)

Allison Winter, *Greenwire* reporter

U.S. natural resources are changing dramatically under pressure from development, agriculture, climate change and invasive species, according to a sweeping landscape assessment released today.

Over the past 50 years, croplands and wetlands have declined, urban and suburban development has tripled, forests have stayed level and absorbed more carbon, rivers have taken in more pollution and non-native fish have established themselves in most watersheds, the Heinz Center said in its "State of the Nation's Ecosystems" report.

Funded by the federal government, foundations and corporations, the center's second ecosystem status report is intended to serve as a nonpartisan, big-picture assessment of U.S. resources.

"We spend 1 to 2 percent of our GDP on the environment," said Robin O'Malley, director of environmental reporting for Heinz. "One of the purposes of doing this report is to say, 'What are we getting for that, what does it add up to ... in the big picture?'"

The first report, released in 2002, was commissioned by the Clinton administration's White House Office of Science and Technology Policy in 1997. The Bush White House agreed to continue funding five years ago, picking up half of the tab.

Scientists, academics, government officials and representatives from environmental and industry groups contributed to the study.

Among the report's findings:

- Coastal and freshwater wetlands declined by about 9 percent in the past half century, while the total area of ponds has increased. Meanwhile, urban and suburban areas tripled between 1945 and 2002. Forests have increased in the north, while decreasing along the Southeastern and Pacific coasts -- which were once major regions for the timber industry.
- Non-native species have taken over more ground. Last year, only two watersheds in the lower 48 states had no established non-native fish. Most have at least 10 resident invasive fish species.
- Cropland has declined 5 percent in the past 25 years, but farmers have been able to grow more on less land. Agricultural yields and overall farm production have increased. Farmers can produce as much as they did 50 years ago on 70 percent less land.



- As farmers have become more productive, they have used more nitrogen fertilizers -- a major source of water pollution. Twenty-one percent of wells and 13 percent of stream sites on American farmlands have nitrate concentrations that exceed federal drinking water standards, according to the U.S. Geological Survey.

### 'Dead zones'

Combined, the Mississippi, Columbia and Susquehanna rivers deliver about 1 million tons of nitrogen a year to coastal waters. This can contribute to low- or no-oxygen conditions, creating "dead zones," which smother marine life. The nation's largest dead zone is in the Gulf of Mexico.

"The problem is getting bigger every day, but the sources are far from the gulf," said Timothy Keeney, deputy assistant secretary for the National Oceanic and Atmospheric Administration. "It demonstrates the connectivity of ecosystems and the need to look from a broader perspective."

The new report adds recent data, as well as several years of earlier data, to the assessment. It did not find dramatic changes since 2002, but the report's authors noted some newly discovered trends. Several of those are positive: Some contaminants in saltwater fish are declining, and nitrogen in the Mississippi River is level.

Nitrogen levels are still high nationwide. But after decades of increased nitrogen loadings in the Mississippi River, the report found no clear upward or downward trend in nitrogen in the river since 1983. The report's authors note that additional data is needed to better understand this trend in more rivers in the future, especially as agricultural practices change to accommodate biofuels.

### 'Roadmap' for Congress

In its attempt to remain a nonpartisan reference source and keep together diverse parties, the report itself does not offer any policy recommendations. But in conjunction with the report, the Heinz Center also released a "roadmap" for lawmakers.

It calls on Congress to authorize a set of national indicators and use them in policymaking and increase funding for environmental data collection.

The report's authors said state and federal agencies face a data gap. Resource agencies assess areas or planned projects but rarely look across agencies or at entire ecosystems.