

Questions and Answers About:

Status and Trends of Wetlands in the Conterminous United States 1998 to 2004

I. Study Design and Background

Question 1: Why are wetlands important?

Answer: Wetlands provide a multitude of ecological, economic and social benefits. They provide habitat for fish, wildlife and a variety of plants. Wetlands are nurseries for many saltwater and freshwater fishes and shellfish of commercial and recreational importance. Wetlands are also important landscape features because they hold and slowly release flood water and snow melt, recharge groundwater, act as filters to cleanse water of impurities, recycle nutrients, and provide recreation and wildlife viewing opportunities for millions of people.

Question 2: Why is the Fish and Wildlife Service determining the status and trends of the Nation's wetlands?

Answer: The Fish and Wildlife Service communicates information essential for public awareness and understanding of the importance of fish and wildlife resources and changes in environmental conditions that can affect the welfare of Americans. To this end, the Fish and Wildlife Service maintains an active role in monitoring wetland habitats of the nation.

On Earth Day, 2004, the President directed the Fish and Wildlife Service to complete an updated wetlands status and trends report by December 31, 2005. This national analysis is a key component of the President's Wetlands Initiative, and will provide results on progress towards achieving the national goal of 'No-Net-Loss' of wetlands.

Question 3: Does this study include natural as well as human-induced gains and losses?

Answer: Yes. The study includes sampling and analysis of natural and human-induced wetland and deepwater habitat gains and losses in the conterminous United States between 1998 and 2004.

Question 4: Why is a sampling approach used to account for wetland acreage?

Answer: Wetlands are a scarce habitat type, and their distribution is not uniform across the landscape. To conduct a comprehensive inventory would be prohibitively expensive. Consequently, the Service is determining wetland acreage status by

using a sampling approach that involves more than 4,600 plots, each four square miles in area.

Question 5: How are the wetland data collected?

Answer: For each sample plot, aerial imagery is analyzed and annotated in accordance with procedures published by the Fish and Wildlife Service. The results are compared with previous era imagery, and any changes recorded. The differences between the data sets are analyzed and a statistical estimate of the change is produced. Field verification is done to confirm the findings.

Question 6: What are the different types of wetlands included in the study?

Answer: The five major kinds of wetlands are: 1) freshwater (or palustrine), 2) saltwater (or estuarine), 3) riverine, 4) lacustrine (or lakes and other deepwater habitats), and 5) marine wetlands. For analysis and reporting purposes, these types of wetlands were further divided into subcategories such as freshwater forested wetland, freshwater emergent wetland, estuarine and marine intertidal wetlands.

Question 7: Where can supporting technical documentation be found?

Answer: Supporting technical documentation as well as previous iterations of wetlands status and trends reports can be found at:
http://wetlandsfws.er.usgs.gov/status_trends/national_reports/trends_2005_report.

II. Study Findings

Question 1: What are the major findings of the study?

Answer: The study indicates that for the first time, wetland gains surpassed wetland losses. The U.S. is gaining about 32,000 acres of wetlands each year.

Question 2: What caused the wetland gains?

Answer: Wetland gains were due to agricultural conservation programs, wetland restoration and creation involving partners, land retirement programs, and the creation of freshwater ponds.

Question 3: Does the study provide information on wetland quality?

Answer: No. The study is designed to provide recent and comprehensive estimates of the abundance of wetlands in the 48 conterminous States, and the losses or gains that have occurred between 1998 and 2004.

Question 4: What are the reasons for the decline in the rate of wetland loss?

Answer: Much of the overall decline in the rate of wetland loss is due to wetland policies and programs enacted in the past decade that have helped reduce the draining and filling of wetlands, while increasing wetland restoration, creation and enhancement.

Question 5: What part of the United States experienced the greatest loss of wetlands?

Answer: The southeast United States, primarily freshwater wetlands of the Atlantic and Gulf coastal plain, experienced the greatest losses. Losses were also observed in the Great Lakes states, the prairie pothole region and in rapidly developing metropolitan areas.

III. Uses for the Data

Question 1: Why is the Service's status and trends data important?

Answer: The status and trends study was designed specifically to determine wetland status and monitor wetland trends. Industry, the scientific community, conservation groups, decision makers and the public value this contemporary wetlands information for planning, decision-making, and on-the-ground management.

Question 2: Why do we need wetland status and trends information?

Answer: Status and trends information provides contemporary data about wetland loss and gains. Up-to-date status and trends information is needed to periodically evaluate the efficacy of existing Federal programs and policies, identify national or regional wetland issues, and increase public awareness of and appreciation for wetlands.

Question 3: Who are the customers for the wetlands data and how do other agencies or outside groups use it?

Answer: Wetlands status and trends data produced by the Fish and Wildlife Service is used widely inside and outside of the Federal government. The Service uses status and trends data and reports for its own resource priority setting. Other government agencies and private sector organizations use status and trends data for their analyses of government policy, and for setting their internal guidelines. Several of the States have used status and trends information in the establishment of policy and legislation designed to protect wetland resources.

IV. Hurricane Katrina

Question 1: Does this study include wetland changes resulting from Hurricanes Katrina and Rita in 2005?

Answer: No. This study measured wetland trends in the conterminous United States between 1998 and 2004. Wetland estimates were made prior to hurricanes Katrina and Rita during the summer of 2005. The Fish and Wildlife Service will conduct follow-up studies to reassess wetland changes along the Gulf coast.

V. About Freshwater Ponds

Question 1: Why does FWS include ponds as wetland?

Answer: Cowardin *et al.* (1979) recognized ponds as an important component of the aquatic ecosystem and included them within a larger system of freshwater wetlands. This classification system for wetlands is the agency standard as well as the Federal Geographic Data Committee standard for wetlands monitoring and reporting.

Question 2: What does this study say about the increase in open water ponds?

Answer: There were an estimated 6.2 million acres (2,522,100 ha) of ponds in 2004. Freshwater pond acreage increased by almost 700,000 acres (281,500 ha) from 1998 to 2004, a 12.6 percent increase. This was the largest percent increase in area of any wetland type in this study.

Question 3: What is the issue?

Answer: The increase in the number of ponds has raised issues regarding their functions and values relative to natural pond habitats. For example, some freshwater ponds, such as those constructed for golf courses or used for commercial aquaculture, may not offer the same range of wetland values and functions as a vegetated freshwater wetland.

VI. Statistics

Question 1: Imagery used for this study ranged between 2003 and 2005. How were statistical estimates constructed when the time period between observations was not six years?

Answer 2: Imagery dates for all sample plots were tracked by the statistical software measuring the amount area change and difference in time between Time 1 and Time 2. Start and end dates were normalized making the effective date of the study 1998 and 2004.

Question 3: Previous Wetlands Status and Trends studies utilized 4,371 sample pots while this study used 4,682 sample plots. Why the difference?

Answer: Three hundred and eleven supplemental sample plots were added to augment the sample plot population. This was done in conjunction with the project manager and the project statisticians to ensure equitable spatial coverage and retain sampling integrity.

Question 4: This report shows an estimate of 107.6 million acres of wetlands in 1998, while 105.5 million acres were reported in the previous report.

Answer: The 105.5 million acre estimate from the previous report had a coefficient of variation of 2.8 percent. The 107.6 million acre estimate from this draft report has a coefficient of variation of 2.7 percent. The difference between the two estimates is about 2.1 million acres which is less than the coefficient of variation of 2.9 million acres. We can speculate on the cause for the difference, but as long as the estimates are within the statistical range of error (+ or - 2.9 million acres), the estimate is considered valid.

Question 5: What statistical reliability is provided with the area estimates?

Answer: The Service has always tried to produce statistical estimates with the coefficient of variation associated with those estimates in its Wetlands Status and Trends reports. For this study the Service generated statistical estimates that and the associated coefficient of variation for each of those estimates. All estimates generated were at the 95 percent confidence interval.

VII. Will there be future wetlands status and trends studies?

On Earth Day 2004, President Bush announced a wetlands initiative that established a federal policy beyond “no net loss” of wetlands. The policy seeks to attain an overall increase in the quality and quantity of wetlands. To continue tracking wetland trends, the President directed the Fish and Wildlife Service to complete the updated wetlands status and trends study in 2005 and provide more frequent reports thereafter. To comply with that directive, the Fish and Wildlife Service, working in conjunction with its partners, will undertake wetland trends studies to address national resource priority areas. One of the first of these will be to measure wetland changes along the Gulf coast of the U.S.