

National Indicator Development Initiatives

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Several federal programs throughout the U.S. have initiatives to develop indicators. Below are short descriptions of some of these initiatives.

EPA's Environmental Indicator Initiative¹

Administrative Statutory Requirements: On November 13, 2001, EPA Administrator Christine Todd Whitman announced an "Environmental Indicators Initiative" to improve EPA's ability to report on the status of and trends in environmental conditions and their impacts on human health and the nation's natural resources. The Indicators Initiative also identifies where additional research, data quality improvements, and information are needed. EPA's long-term goal is to improve indicators and data that are used to guide the Agency's strategic plans, priorities, performance reports, and decision-making.

Lead Contact: EPA Office of Environmental Information and the Office of Research and Development

Status: One of the key products of the Environmental Indicators Initiative is the publishing of EPA's Draft Report on the Environment 2003. The document reports on the environmental conditions and human health concerns of the environment, using available national-level data and indicators. The report included data on human health, ecological condition, clean air, "pure water", and better-protected land. Under "human health," the report explores trends in diseases, human exposure to environmental pollutants, and diseases thought to be related to environmental pollution. The nation's "*ecological condition*" is determined by looking at land use and cover, living resources, pressures on living resources and our sustainable natural resources. To establish a national baseline for "*clean air*," the report examines outdoor air quality – its impact on human health and ecosystems, and indoor air quality impacts on human health. The "*pure water*" theme examines drinking water and food safety, recreational water use, the condition of the nation's water resources and the living resources sustained by them. To ensure "*better protected land*" in the future, the report explores existing land cover and use, activities that affect the condition of the American landscape, the location and condition of degraded land, and various conservation and management practices. The 2003 report is available at <http://www.epa.gov/indicators/roe/index.htm>.

¹ – From EPA's Web Page on the Environmental Indicators Initiative
<http://www.epa.gov/indicators/>

EPA's National Estuary Program²

Administrative/Statutory Requirement: The Environmental Protection Agency's National Estuary Program (NEP) was established by Congress in 1987 under Section 320 of the Clean Water Act, to promote and restore the health of nationally significant estuaries, while simultaneously supporting all beneficial uses of the estuary's natural resources. Under the NEP, the Administrator of the U.S. Environmental Protection Agency (EPA) is authorized to convene Management Conferences to identify priority problems within these estuaries and develop a Comprehensive Conservation and Management Plan (CCMP) to address those problems.

Lead Contact: EPA Office of Water

Status: EPA's Ocean and Coastal Protection Division (OCPD) determined the need to evaluate the usefulness of data being collected by individual NEPs as national environmental indicators – inclusive of indicators associated with restoration actions undertaken and changes in overall ecological condition – of NEP progress. NEP indicators must be directly linked to the cause, effect, or action that is proposed in the CCMP or monitoring plan. EPA considers the establishment of assessment questions and the development of a framework or model of the system relevant to the assessment question(s) important to the process of developing a suite of indicators. It is the responsibility of each NEP to track the progress of CCMP implementation and monitor associated ecological conditions in the estuary. Many NEPs share common priority problems, however, each NEP's goals and issue-specific actions are unique and, therefore, the specific data collected to track CCMP implementation progress and monitor ecological conditions, varies widely among the NEPs.

² – Excerpts from EPA's OCPD Document entitled *Usefulness of National Estuary Program (NEP) Data as National Environmental Indicators*

National Coastal Management Performance Measurement System (NOAA)

Administrative Strategy Requirements: The National Coastal Management Performance Measurement System is part of an on-going effort by the National Oceanic and Atmospheric Administration (NOAA) to work with coastal states to assess the effectiveness of the Coastal Zone Management Act (CZMA) as carried out by coastal management programs and National Estuarine Research Reserves. This system responds to Congressional requests to develop an assessment of the national impact of coastal management programs, and to report to the Appropriations Committees on progress in meeting the objectives of the CZMA.

Lead Contact: NOAA Office of Ocean and Coastal Resource Management (OCRM) is responsible for the development and implementation of the performance measurement

system. The contact person is Ralph Cantral, OCRM National Policy and Evaluation Division Chief (Ralph.Cantral@noaa.gov).

Status: OCRM has worked with the coastal management programs and reserves to develop contextual and performance indicators related to coastal hazards, habitats, public access, coastal community development, coastal dependent uses, coastal water quality, government coordination and decision-making, education, stewardship, and research. In 2004, OCRM will implement a phased approach for collecting information on the identified indicators. Phase I of implementation in coastal management programs will implement a majority of the performance indicators in a subset of states. The reserves will phase in indicators over time, with Phase I limited to indicators with known data available. In addition to the assessment of management outcomes, NOAA will prepare annual assessments of activities funded under the CZMA. NOAA is also working with the states and other federal agencies and stakeholders to develop a consistent framework for a national state of the coast report that will serve as a report card on the condition of America's coastal resources.

National Park Service – Vital Signs Monitoring Program³

Administrative/Statutory Requirement: Knowing the condition of natural resources in national parks is fundamental to fulfilling the NPS mission of managing park resources "unimpaired for the enjoyment of future generations". The National Parks Omnibus Management Act of 1998 established the framework for fully integrating natural resource monitoring and other science activities into the management processes of the National Park System. Section 5934 of the Act requires the Secretary of the Interior to develop a program of "inventory and monitoring of National Park System resources to establish baseline information and to provide information on the long-term trends in the condition of National Park System resources." In the Appropriations Bill for Fiscal Year 2000, Congress reinforced this message by calling on NPS to implement a "systematic, consistent, professional inventory and monitoring program ... that is regularly updated to ensure that the Service makes sound resource decisions based on sound scientific data." The 2001 NPS Management Policies specifically directed the Service to inventory and monitor natural systems in national park units, and to use the results of monitoring and research to develop appropriate management actions.

Lead Contact: NPS Natural Resources Information Division, National Monitoring Coordinator

Status: The National Park Service has implemented a three-tiered strategy to institutionalize natural resource inventory and monitoring throughout the agency: (1) completion of basic resource inventories upon which monitoring efforts can be based; (2) creation of experimental Prototype Monitoring Programs to evaluate alternative monitoring designs and strategies; and (3) implementation of operational monitoring of critical parameters (i.e. "vital signs") in all natural resource parks. To implement Vital

Signs monitoring, all parks with significant natural resources (about 270 nationwide) have been grouped into 32 monitoring networks linked by geography and shared natural resource characteristics. Network parks share funding and professional staff to plan, design, and implement an integrated long-term monitoring program.

Next Steps: National Park networks are following a three-phase process for initiating integrated monitoring. Phase 1 involves defining goals and objectives, identifying, evaluating and synthesizing existing data, and developing conceptual models. Phase 2 involves prioritizing and selecting the vital signs that will be included in the network's integrated monitoring program. Phase 3 entails the detailed design work needed to implement monitoring, such as developing specific monitoring objectives for each vital sign, developing sampling protocols and a statistical sampling design, developing a plan for data management and analysis, and determining the type and content of various products of the monitoring effort such as reports and websites. Nationally, networks are completing this planning and design process on a staggered schedule. Phase 1 reports will be completed between October 2002 – October 2005, Phase 3 monitoring plans will be completed between December 2005-December 2008, and full implementation of Vital Signs monitoring within individual networks is slated to begin between October 2005-October 2008. Detailed information on the status of vital signs development and the implementation schedule for each network is available on the NPS Natural Resources Monitoring web site.

³From the NPS Natural Resources Monitoring web site,
<http://science.nature.nps.gov/im/monitor>