

Department of the Interior Departmental Manual

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Part 120: U.S. Geological Survey

Chapter 7: Office of the Associate Director for Ecosystems

Originating Office: U.S. Geological Survey

120 DM 7

7.1 Office of the Associate Director for Ecosystems. This office provides reliable, impartial scientific information to land managers, particularly in the Department of the Interior (DOI), and assists in the application of information needed to support sound management and conservation of the Nation's ecosystems. The primary means of gathering this information is through the use of scientific methods applied to monitoring resources and conducting experiments.

7.2 Associate Director for Ecosystems exercises the authority delegated by the U.S. Geological Survey (USGS) Director to provide leadership and nationwide guidance for the establishment of ecosystem programs and priorities. The Associate Director for Ecosystems provides executive direction and oversight to ensure effective and efficient program planning, management, and execution of the bureau's ecosystem programs, including the development of methods and tools, research and quality assurance. Responsibilities are shared with a Deputy Associate Director. The Associate Director and Deputy Director for Ecosystems are assisted in the development and implementation of the national ecosystem science program by the following senior management team:

A. National Capabilities.

(1) The Chief, Cooperative Research Units (CRUs) serves as the national program chief for work conducted by the CRUs across the United States. Each CRU represents a partnership among the USGS, a host university, and State fish and wildlife agencies working to address national, area, and local biological research needs, to fill gaps in fish and wildlife management information, and to ensure availability of trained fish and wildlife biologists. CRUs also provide technical assistance and training to Federal and State personnel and other resource managers.

(2) The Executive Director for the National Phenology Network manages long-term monitoring data on seasonal events. The network provides participants, including the general public, a means of gathering data about the timing of seasonal change. Scientists and resource managers use these observations to track impacts of climate change on the Earth's life-support

09/30/2011 #3919

Replaces 01/02/08 #3779

systems and to develop ecological forecast models for agricultural production, invasive species management, and drought monitoring. The network allows for effective input, reporting, and use of phonological observations on plants and animals for management decisions throughout the United States.

B. The Ecosystems Program Coordinators are responsible for ecosystems program planning, budget development, policy, and program evaluation. The Program Coordinators develop strategic program plans; coordinate programmatic activities within and outside the USGS to ensure broad participation in interdisciplinary studies; and conduct program reviews of current scientific projects to assure that science is relevant to the national objectives, meets the needs of land managers, and is coordinated with the other science and natural resource agencies. The Ecosystem programs include the:

(1) Fisheries: Aquatic and Endangered Resources Program focuses on the study of aquatic organisms and aquatic habitats from the molecular genetics level to species and population interactions with the environment. The program supports investigations of aquatic pathogens, invertebrates, mussels, fishes, and the unique role of aquatic communities in ecosystems to provide scientific information to natural resource managers and decision makers.

(2) Freshwater, Terrestrial and Marine Environments Program supports research studies to provide the basic science needed to understand the factors that control ecosystem structure, function, dynamics, condition, and provision of goods and services in the context of linkages and interactions with the surrounding landscape. The research results are used to model and predict future changes to ecosystems, understand how external stressors such as land use change and climate change will affect ecosystem resiliency, and to develop management alternatives in the face of stressors. Ecosystem science is also used to restore degraded landscapes and freshwater systems, sustain plants and animals, and find means to adapt management to global change.

(3) Invasive Species Program supports methodologies, research and investigations to address threats to ecological systems and native species due to the introduction and spread of invasive species. The research results provide information on early detection and assessment of newly established invaders, monitoring invading populations, improving understanding of the ecology of invaders and factors in the resistance of habitats to invasion, and development and testing of prevention and alternative management and control approaches.

(4) Status and Trends of Biological Resources Program supports the measurement, assessment, prediction and reporting on the status and trends of living resources and the habitats on which they depend. The goals of the program are to facilitate integrated monitoring to describe and track the Nation's plants, animals and landscapes; to develop and evaluate inventory and monitoring methods, tools and techniques to measure biological status and trends; to collect, archive and share monitoring data in cooperation with partners to determine the status and trends of biological resources; and to produce and provide analyses and reports that are responsive to the needs of the scientific community, land and resource managers, policymakers, and the general public.

09/30/2011 #3919

Replaces 01/02/08 #3779

(5) Wildlife: Terrestrial and Endangered Resources Program supports research to provide the basic science needed to understand the factors that control ecosystem structure, function, dynamics, condition, and provision of goods and services in the context of linkages and interactions with the surrounding landscape. The information provided by the research results is used to model and predict future changes to ecosystems, to understand how external stressors such as land use change and climate change will affect ecosystems resiliency, and to develop management alternatives in the face of stressors. Ecosystem science is also used to restore degraded landscapes and freshwater systems, sustain plants and animals, and find means to adapt management to global change.