U.S. Fish & Wildlife Service

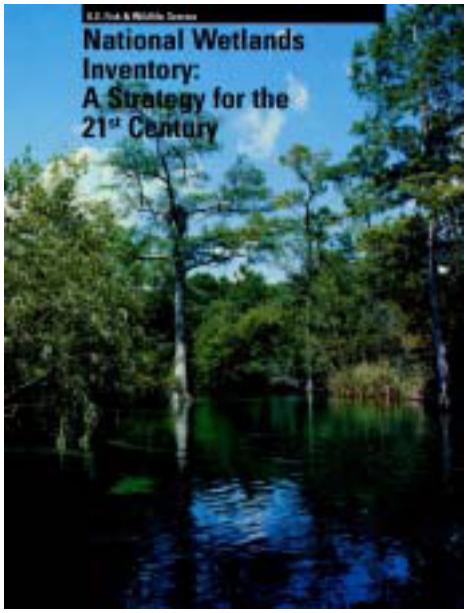
Wetlands Master Geodatabase

What is the Master Geodatabase for Wetlands?

A geodatabase is a storage mechanism for spatial and attribute data that makes it easier and more intuitive to use geographic information systems (GIS). The geodatabase supports multiple formats of spatial data including map information (i.e., raster or vector data), attribute data, text, images, and metadata. This makes it ideal for storing, editing, analyzing, serving and archiving natural resource inventory information that contains multiple data formats.

Profile

Development of a Wetlands Master Geodatabase (MGD) stems from the Service's need to expand and improve the availability of our digital wetlands data. Advances in computer technologies now allow the integration of large relational databases with spatial information. The MGD provides the Service an opportunity to capitalize on years of scientific data collection efforts by developing technologically improved tools for data analysis, distribution, archiving and updating of aquatic resource information. The MGD will provide a seamless layer of digital data in geodatabase format, link Service databases and provide technologically advanced mechanisms to edit, store, distribute and archive resource inventory data.



Our Strategic Plan and Investment in Geospatial Data

The Service's strategic plan for our vast national wetland data holdings is focused on the development, updating, and dissemination of wetlands data and information to Service resource managers and the public. The development of the MGD is in direct response to the need to integrate digital map data with other resource information to produce timely and relevant management and decision support tools.

Contents

The MGD will contain all digital wetland and deepwater map information. The MGD also accommodates riparian habitats and hydrogeomorphic coding of features within the data set.

Geographic Coverage

To increase the coordinate precision of the geodatabase, five discrete geographic areas are contained in the MGD. These include the conterminous United States, Alaska, Hawaii, Puerto Rico, the U.S. Virgin Islands and Pacific Trust Territories.

Design and Development

The design and development of the MGD involves elements of geography, computer technology, software development, database development, data storage, archiving, web-interface technologies, ecological and cartographic expertise.

The Service has leveraged its resources through partnerships and collaboration with the U.S. Geological Survey and Environmental Systems Research Institute (ESRI). These Government - corporate interactions have yielded tremendous benefits during the development of the MGD.

Data Improvements

Several improvements have been made to our data within the MGD. Some of these improvements include: A truly seamless digital wetland data layer, map data in a single standard projection (Albers Equal-Area Conic Projection), horizontal planar units in meters, horizontal planar datum is the North American Datum of 1983 (also

The Master Geodatabase is the national digital library that provides improved electronic linkages with our partners and the public to accomplish scientific research, strategic planning, resource management and tactical analysis for habitat conservation.

called NAD83), and minimum coordinate precision of one centimeter.

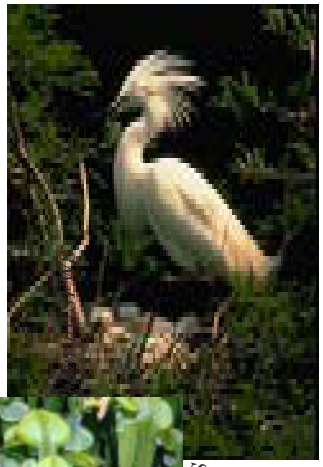
Some of the older wetland attribute codes have been updated and there are meta data links for both the project level and supplemental wetland information.

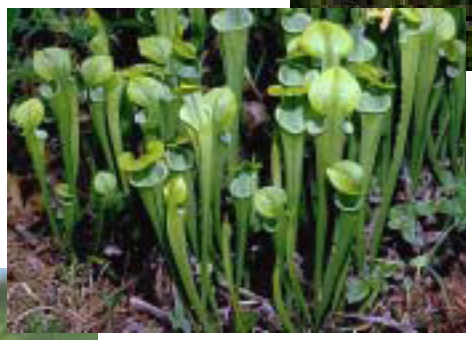
Data Quality and Integrity
Advances in information technology and geographic information systems have influenced public expectations for gaining easier access, greater utility and functionality from Government data sources.

The Department of the Interior and the Service are committed to E-Government, and have published Information Quality Guidelines that are specifically addressed as part of the MGD implementation plan. To further address automated data integrity and security concerns, a series of technical documents will address key issues relating to MGD protocols and data security.

Status
Currently the MGD contains digital wetland data for approximately 58 percent of the conterminous United States and 25 percent of Alaska. By implementing modern database technology, the MGD permits client-server database access with greatly improved interface to the Service users as well as the public.

Gaylen Rathburn /USFWS


David Hall /USFWS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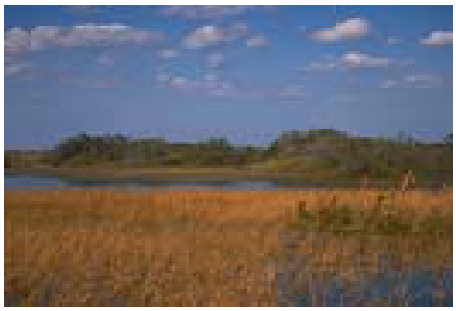
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Wetland digital data are used to conserve and manage habitat for wildlife, fish, and plants and for planning, research, education, and decision-making.

The MGD will standardize the updating of our spatial data and strengthen the overall quality and integrity of this information.

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