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Proposed FGDC Biological Nomenclature and Taxonomy Data Standard

Development of data standards to support discovery, comparison, exchange, and integration of biological thematic data sets through the National Spatial Data Infrastructure (NSDI) and the complementary National Biological Information Infrastructure (NBII) is one of the primary areas of emphasis of the Federal Geographic Data Committee's (FGDC) Biological Data Working Group. In November 1998 the Working Group initiated the process to develop a new FGDC data standard for biological nomenclature and taxonomy.

Need for a Data Standard: Many biological data sets (e.g., data sets on current and historic distributions of rare species or invasive species within a certain State) include some data on the scientific names (nomenclature) and/or common (vernacular) names and associated classification (taxonomy) of the species and/or higher taxonomic groups (genera, families, etc.) which are the focus of the data set. Biological systematics is a complex and dynamic science and scientific perspectives on nomenclature and classification are in a constant state of flux. Because of this, many species have been assigned two or more different scientific names and associated classifications by different specialists. The application of common names to organisms is even less consistent and thus more complex.

The Working Group is developing a new FGDC data standard that can be used to help support exchange and comparison of biological and/or geospatial data sets in the NSDI/NBII data federation. The proposed standard will provide a consistent

reference system or database framework for maintaining and representing dynamic, scientifically credible biological taxonomy and nomenclature information. This information can then be used as needed as a consistent reference source for aiding in the discovery, comparison, exchange, and integration of biological and geospatial data sets from many different distributed sources. Individual species names or classifications will *not* be standardized in this effort and the proposed standard will *not* constitute or create (or require the use of) a single, non-dynamic listing of biological species names and associated classifications. Mechanisms for incorporating and tracking changes in biological nomenclature and taxonomy, and which allow for multiple names and classifications to be represented, will also be an important part of the proposed standard.

The proposed standard will also support the implementation of the existing FGDC Vegetation Classification Standard, the FGDC Wetlands Classification Standard, and the Biological Data Profile of the FGDC Content Standard for Digital Geospatial Metadata, as well as other biologically related FGDC standards, by serving as the standard reference for biological nomenclature and taxonomy information for use in these FGDC standards.

Standard Development Process and Participants:

The Working Group will form an appropriate team of experts (standard development team) to develop the draft standard. The standard development team will include qualified individuals from both inside and outside the Federal government. The team will

include individuals who are qualified and experienced in the field of biological systematics; as well as individuals who are experienced in biological informatics issues, including data standards development; and individuals who are familiar with existing related FGDC standards (such as the FGDC Vegetation Classification Standard) and with the FGDC standards process.

Several existing cooperative activities and groups are operating programs to develop and provide access to information on standardized credible nomenclatures and taxonomies for specific biological groups of interest. In developing the proposed standard, the standard development team and the Working Group will review, consider, and utilize existing sources, data systems, procedures, and protocols for biological names and taxonomy, i.e., the proposed standard will adequately reflect and incorporate existing systems and materials. In addition, the standard development team and the Working Group will actively solicit the involvement, input, and participation of representatives of as many of these ongoing related groups and activities as possible throughout all stages of the standard development process.

For More Information

Visit the FGDC Biological Data Working Group web site at:

<http://biology.usgs.gov/fgdc.bio/index.html>

Or learn more about the National Biological Information Infrastructure program at:

<http://www.nbi.gov>

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