



The Species Analyst and the “Virtual World Museum”

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A tool developed through a collaborative effort of international biodiversity information initiatives gives scientists, policy makers, and members of the public unrestricted access to a major pool of information on biodiversity. *The Species Analyst*, developed by the University of Kansas Natural History Museum, is a query system (search engine) that can access multiple databases residing on remote and separate servers. *The Species Analyst* allows concurrent searching of databases of specimen information from collections located throughout North America. While individual museums hold data on their own collections, *The Species Analyst* creates a “Virtual World Museum” through the integration of data from dozens of institutions, dramatically increasing research efficiency.

The Internet-based project is available to the scientific community and the public at <<http://speciesanalyst.net>>. The system is configured with geospatial software, allowing users to obtain data on North American species' distribution, migration, etc.

The network links anyone with access to the Internet to dozens of databases compiled by universities, natural history museums, conservation organizations, and other groups and agencies. Users of the system can retrieve data on the flora and fauna of North America using different access portals. Queries may also be performed with applications such as Microsoft Excel and ESRI's ArcView GIS with the results appearing as spreadsheets or new GIS layers, respectively.

As an added feature, the system links to the San Diego Supercomputer Center, which takes the information obtained from data banks and generates maps highlighting the potential distribution of species. Distributional maps are then used to make educated guesses about the distribution of rare or poorly known species.

A Collaborative Effort

The development of *The Species Analyst* to its current extent is an excellent example of collaboration

among a variety of multi-national biodiversity information networking initiatives. These initiatives all seek to provide better access to biodiversity information. Participants work together to leverage investment and expertise, thereby ensuring that the community receives the greatest benefit from scarce resources and eliminating duplication of effort.

The Species Analyst began as a project of the North American Biodiversity Information Network (NABIN), which is sponsored by the North American Commission for Environmental Cooperation (NACEC). The U.S. National Science Foundation (NSF) provided an initial grant for the development of a prototype focused on North American birds. This prototype was a distributed data network comprising five institutions. Following the successful development of the first prototype, NSF provided additional funds for the development of standards for data integration under the Z39.50 protocol; client and host software development and institutional consensus-building;



and the application of the fusion of biological data, predictive algorithms, and GIS perspectives on biodiversity to research.

Expanding the Knowledge Base

To date, dozens of institutions have provided broad access to their data, and the project continues to expand the knowledge base of information available through *The Species Analyst* by inviting other museums and institutions with collection of interest to participate and to link information on their holdings through *The Species Analyst*. The network has received additional funding to link databases on fish and southeastern Brazil. Funding for additional taxa is pending.

IABIN Supports Further Efforts

The Inter-American Biodiversity Information Network (IABIN) expanded the work funded by NABIN and NSF throughout the Western Hemisphere by training IABIN participants on the implementation of

The Species Analyst and technologies associated with the tool. The IABIN *The Species Analyst* project was supported by the University of Kansas Natural History Museum, which developed *The Species Analyst* for NABIN, and the World Bank.

A new initiative, supported in part by a grant from the U.S. State Department's Environmental Diplomacy Fund, will apply *The Species Analyst* to the problem of invasive species. In another collaborative effort, *The Species Analyst* will be linked to the North American Bird Conservation Initiative.

Through a growing number of partners and the further enhancement of the *The Species Analyst* tool, this project will continue to expand our knowledge and understanding of the planet's biodiversity by allowing us access to this "Virtual World Museum".

For More Information

For more information on the *The Species Analyst* project, visit the NACEC Web site at <http://www.cec.org/programs_projects/conserv_biodiv/improve_nab/>.

The Species Analyst Web Interface is available at <<http://speciesanalyst.net/>>.

Information on IABIN can be found at <<http://www.iabin-us.org>>, or by contacting:

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