![nbii Access — Newsletter of the National Biological Information Infrastructure]

Biocomplexity Thesaurus Launched

On May 20, 2003, the National Biological Information Infrastructure (NBII) and CSA (Cambridge Scientific Abstracts) announced the launch of the Biocomplexity Thesaurus, a major new resource for the bioinformatics community. The thesaurus is now online and available for use by the NBII nodes, their partners, and the public-at-large. The Biocomplexity Thesaurus can be accessed at <http://thesaurus.nbii.gov>.

The Biocomplexity Thesaurus will be integrated into NBII products and services to facilitate more relevant retrieval of and intellectual access to these resources by NBII users. It will be the required thesaurus for all keyword and subject metadata created by NBII nodes. The thesaurus will be used for the cataloguing of Web Resources, the creation of HTML metadata for Web pages, and the creation of new Federal Geographic Data Committee (FGDC)-compliant metadata records for the NBII Metadata Clearinghouse. Accordingly, researchers, scientists, librarians, and the general public will be able to use the thesaurus as an aid in creating strategies for searching NBII databases.

This thesaurus represents a major step forward for the biological sciences and the NBII network. It is one of the most comprehensive and freely accessible biological thesauri available online.

The Biocomplexity Thesaurus is a living resource that will be updated quarterly. To this end, the NBII Thesaurus Working Group (TWG) has been established to review recommended additions and modifications to the thesaurus. The goal is to have representation from every node on the TWG. Two NBII regional nodes, Pacific Basin Information Node and Southern Appalachian Information Node; CSA, the thesaurus developer; and the NBII Program Office already have representation on this working group. Representatives from the thematic nodes and the other regional nodes are encouraged to participate as well.

NBII and NATO: Managing Information Together

Advances in information technology, increased international participation in all scientific fields, and scarce resources for every nation make strategies for resource sharing paramount.

To cope with this phenomenon, the Information Management Committee (IMC) of the NATO Research and Technology Agency (RTA) began developing a Science, Technology, and Research Network (STARNET) in 2002. The purpose of this network is to facilitate access to information elements already existing within NATO agencies and NATO member countries in science, technology, and overall research.

The STARNET will serve as a virtual library for these information

![starnet — NATO Science, Technology, and Research Network]

Have You Heard About HEAR?

The mission of the Hawaiian Ecosystems at Risk (HEAR) project is to provide technology, methods, and information to decision-makers, resource managers, and the general public to help support effective science-based management of harmful non-native species in Hawaii and the Pacific. For *Access* readers who aren't familiar with HEAR, it's a partner of the Pacific Basin Information Node <http://pbin.nbii.gov/> and the NBII.

What's more, it's a program that's having a local and critical impact on what may be PBIN's key biodiversity issue – an invasion of alien species in Hawaii. While it is perhaps not surprising that we at the NBII Program are enthusiastic about HEAR and its value, it is indeed gratifying when an outside observer offers supportive comments.

Such was the case in the April 1, 2003, issue of the *Honolulu Advertiser* <http://honolulu advertiser.com/>, which published this Letter to the Editor from Penny Levin of Palolo:

> *Don't plant lantana to attract butterflies*
> When I read "Get butterflies to flutter by," (Ohana section, March 23), I had to do a

You can learn more about lantana at <http://www.hear.org/pier/lacam.htm>.

double-take. The article listed lantana as a plant that attracts butterflies, and by association implied it would be a good plant for a butterfly garden.

Auwe! The *Advertiser* should have done some homework on this one. State and nonprofit agencies (and ranchers) in the Islands have been fighting this thorny, invasive shrub for years. With budgets tighter than ever for control of alien species, we need newspapers, public education programs and private nurseries to be more accountable for the information they put out to the public.

Please, don't plant lantana – and while you're at it, don't buy salvinia for your fish tank, either – even if pet stores or nurseries sell them.

For a really good source of information on invasive species that anyone can tap into, check out the Hawaii Ecosystems at Risk home page <http://www.hear.org/>. It will change your mind about what ought to grow in your garden.

Meet You in Madison!

The annual meeting of the International Association of Fish and Wildlife Agencies will be held in Madison, WI, from September 10-13. Feel free to stop by the NBII exhibit and say hello. We'll be offering a variety of NBII handouts and demonstrations.

NBII and VDGIF: Partnering to Make a Difference

A partnership has been established between the Virginia Department of Game and Inland Fisheries (VDGIF) and the National Biological Information Infrastructure (NBII), through a liaison effort of the International Association of Fish and Wildlife Agencies, to develop some much-needed metadata for VDGIF.

VDGIF manages a complex database called the Biota of Virginia (BOVA). BOVA contains hundreds of data fields and data tables that store life history, taxonomy, species distribution, and a wealth of other information on over 2,200 native and naturalized wildlife species in Virginia.
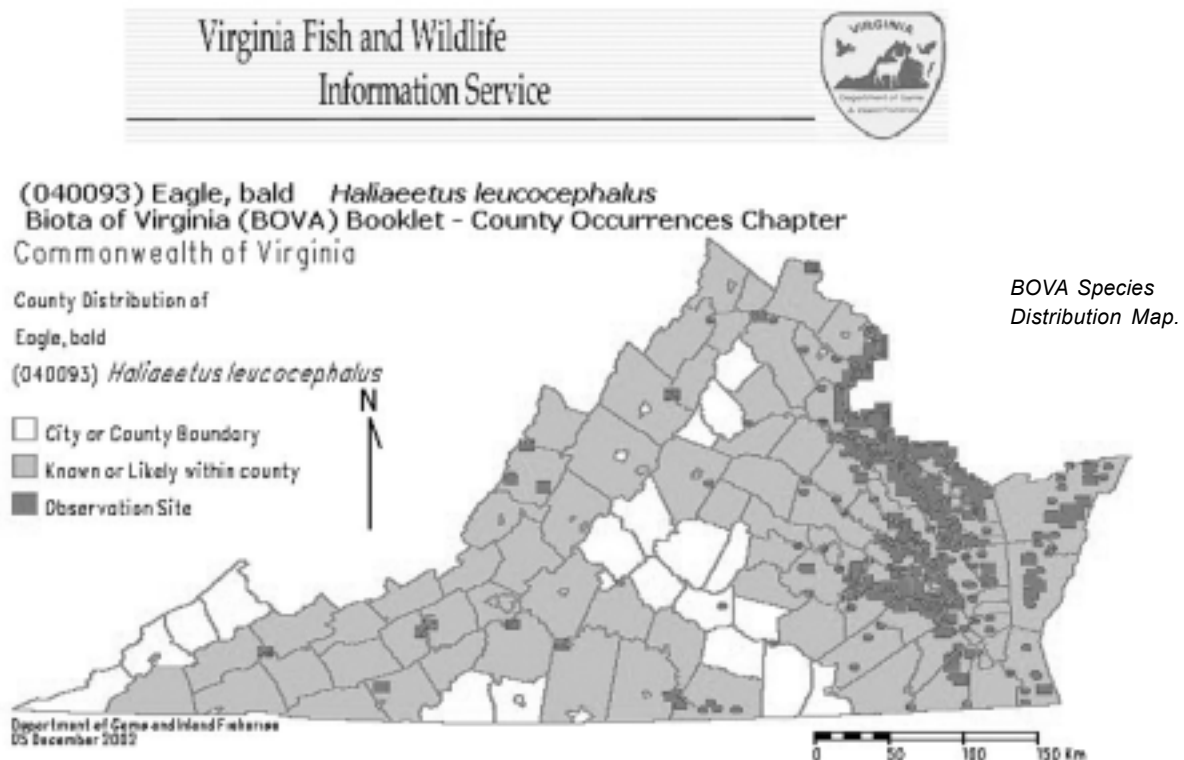
Writing the metadata for BOVA would have been extremely difficult and time-consuming for VDGIF staff due to BOVA's complexity. Today, this task is well on its way to completion. The NBII has begun to write the metadata for this database using Spatial Metadata Management Systems (SMMS). SMMS meets all Federal Geographic Data Committee standards for metadata and is available for purchase from Intergraph Corporation through an NBII partner discount.

As part of its new relationship with the NBII, VDGIF has agreed to participate in the NBII's Metadata Pilot Program for State Fish and Wildlife Agencies. As part of this program, VDGIF has become a node on the NBII Metadata Clearinghouse <http://metadata.nbii.gov>. The metadata available through this node allow users to search for data sets managed by VDGIF that meet their specific data needs. Users are then directed to the Virginia Fish and Wildlife Information Service (VAFWIS). The VAFWIS provides the most current and comprehensive information about Virginia's wildlife species available over the Internet to the general public, consultants, all levels of government agencies, and educators. The VAFWIS serves data from BOVA, as well as nine other wildlife-related databases such as Scientific Collections, Breeding Bird Atlas, and the USGS Breeding Bird Survey.

Through a cooperative effort of VDGIF and the Conservation Management Institute (CMI) at Virginia Polytechnic Institute and State University, the VAFWIS has recently been re-engineered. The reengineering integrated increased mapping capabilities, new query and reporting options, an updated look and feel, and improved functionality.

In March 2003, the reengineering team released the VAFWIS to VDGIF employees for beta testing. In May 2003, the reengineered VAFWIS was released to registered subscribers of the VAFWIS for the same purpose. In early summer 2003, the reengineered system became available to the general public through the VDGIF Web site at <http://www.dgif.state.va.us>. Enhancements will continue to be made to the VAFWIS over the coming years to add data layers and databases, to improve functionality, and to strive to better meet the needs of its users. Making data available to those who need them — and helping the states meet their data needs — can only be accomplished through these kinds of partnerships.

BOVA Species Distribution Map.

Train the Trainer Workshop Demonstrates How Metadata Can Be Fun

For three days in the first week of June,12 participants representing organizations from around the country gathered in Denver, CO, to take part in the NBII/FGDC's (Federal Geographic Data Committee's) "Metadata Train the Trainer" workshop. Each participant arrived to find a notebook of trainer hints and tips, as well as a box of supplies such as pens, rulers, markers, and scissors that would aid in the process of making metadata classes fun.

Fun? Metadata? Sure! These participants found out how to make learning metadata a helpful and fun experience for others.

The workshop was team taught by experienced trainers Lynda Wayne (FGDC) and Jennifer (Jen) Gaines (NBII). Vivian Hutchison, the NBII's Metadata Coordinator, provided support in facilitating the event.

The first day was comprised of giving trainers the tools needed to teach a successful workshop. As Lynda and Jen presented material about teaching a workshop, they pointed out techniques they were using as they taught ... tips such as the trick to flipping easel pad sheets (did you know there was a trick?), being prepared with back-up methods for presenting material, dealing with disruptive participants in a classroom, and creating

Jen Gaines, one of the workshop trainers, addressed the class on a variety of issues.

a constructive lesson plan. Games such as situational role plays were used to get the group to interact – a technique that trainers will find useful when teaching their own metadata classes. Everything the participants saw and did on the first day prepared them for the next phase of the workshop: presentations.

Each participant spent the second day preparing a 20-minute presentation on metadata that was offered to the

class on the third day. Demonstrations of different teaching methods and at least two types of media were required in each presentation. Each participant in the workshop was asked to critique his/her classmate after each presentation, thereby providing useful information about individual presentation techniques. Participants found this exercise useful for improving their skills and recognizing their strengths. After three days of concentrating on metadata presentation skills and meeting others working to achieve similar goals, these trainers were ready to go out and show others how much fun learning metadata can really be!

For the next Train the Trainer Workshop and other metadata training classes, please check the Web site calendar <http://www.fgdc.gov/metadata/education.html>. Then, join the fun!

Back row (all left to right): Viv Hutchison, NBII; Josh Sisco, Bureau of Land Management; Mike Moeller, National Oceanic and Atmospheric Administration; Grant Timentwa, Colville Tribes. Third row: Lynda Wayne, Federal Geographic Data Committee; Nancy Shock, National Park Service; Jen Gaines, NBII; Seth Escalante, New Mexico Spatial Data Center. Second row: Troy Matheny, Northwest Indian Fishing Commission; Mark Becker, Center for International Earth Science Information Network; Terry Giles, U.S. Geological Survey; Rick Rodriguez, Santa Clara County Water. Front row: Lynn Kutner, NatureServe; Kim Owens, National Oceanic and Atmospheric Administration; Eric Woolridge, Project for Appalachia Community and Environment.

Additionally, a Biocomplexity Thesaurus Community has been set up in the NBII portal. All nodes may submit requests for term additions or modifications through a gadget located in this online Community. NBII node partners may also submit comments and requests through this gadget. Contributors need not be members of the TWG to access this Community.

Jessica L. Milstead (photo above) is the primary architect of the Biocomplexity Thesaurus. She is one of the foremost experts in the world on thesaurus development for the biological and natural sciences. She holds a doctorate in Library Science and is the founder of the index and thesaurus development company, JELEM <http://www.jelem.com>. Dr. Milstead has extensive experience in both industry and academe. Under contract to CSA, she brought the massive Biocomplexity Thesaurus project to fruition in just 18 months instead of the 24 months originally allocated.

To create the Biocomplexity Thesaurus, Dr. Milstead merged, vetted, and reconciled the terminology in five large existing thesauri plus one smaller specialty thesaurus collectively covering the biological, environmental, aquatic, ecotourism, and sociological sciences. These thesauri include:

- CERES/NBII Thesaurus (California Environmental Resources Evaluation System)
- CSA Life Sciences Thesaurus
- CSA Pollution Thesaurus
- CSA Aquatic Sciences and Fisheries Thesaurus
- CSA Sociological Thesaurus
- CSA Ecotourism Sciences Thesaurus.

Dr. Milstead used the high-powered MultiTes 8.0 thesaurus development software package to create the Biocomplexity Thesaurus. Among many other features, MultiTes provides for an unlimited number of hierarchies per thesaurus, an unlimited number of relationships for each individual term, the validation of conflicting relationships, and the automatic generation of reciprocal relationships.

The online Biocomplexity Thesaurus is very user-friendly. Tips are offered for easily navigating and searching the thesaurus. Explanations are provided for best understanding search results such as concepts related hierarchically or associatively to the search entry term (see search result sample on this page).

The NBII <www.nbii.gov> is a broad, collaborative program to provide increased access to data and information on the nation's biological resources. The NBII links diverse, high quality biological databases, information products, and analytical tools maintained by NBII partners and other contributors in government agencies, academic institutions, non-government organizations, and private industry.

CSA <http://www.csa.com/csa/about/Biocomplexity.shtml> is a leading producer of bibliographic citation databases and Web resources databases. CSA recently extended its government/private industry parternship with the NBII from 20 to 56 months. CSA's original designation as the "Biocomplexity Information Node" has now been broadened to "NBII Infrastructure and Knowledge Integration Node."

Search results for terms containing "acclimation" (left) as well as the main Biocomplexity Thesaurus page (right).

NEW NBII International Initiatives Program Page

The NBII has launched a new Web page featuring information about its growing portfolio of international activities. This page was conceived after the success of the NBII's International Resources Gateway, which was launched in late 2001. While the International Resources Gateway was designed to provide access to Web sites for foreign and international biological organizations, the new International Initiatives Page is now the home for information about the NBII's program-level cooperation with other countries and international organizations. It also links to the already existing International Resources Gateway.

From this page, users will be able to browse and search a Web-enabled database of the NBII's international partnerships and activities. The database holds abstracts describing the nature of each international activity or partnership. This catalog will be updated routinely to capture and track the NBII's international activities information.

The international activities umbrella page also provides easy access to fact sheets and brochures that describe the nature of NBII partnerships with initiatives like the Global Biodiversity Information Facility (GBIF) and the Inter-American Biodiversity Information Network (IABIN). In addition to these useful publication links, an archive of presentations given by NBII personnel at international venues will be accessible, and an archive of "International Connections" articles from the *Access* newsletter will be available.

IABIN seeks to promote sustainable development and biodiversity conservation through the sharing of biodiversity information for decision-making and education among the countries of the Americas (see <http://www.iabin.net> and <http://www.iabin-us.org>). GBIF (see <http://www.gbif.org>) encourages, coordinates, and supports the development of worldwide capacity to access the vast amount of biodiversity data held in natural history museum collections, libraries, and databanks.

To find the International Initiatives Page, choose the International tab under Geographic Perspectives on the NBII Home Page or go directly to <http://international.nbii.gov>.

Community Manager Portal Training Held in July

A highly productive training session was held for NBII Community Managers on July 16-17, 2003, at the NBII National Program Office in Reston, VA. The training focused on My.NBII.Gov, the NBII portal <http://my.nbii.gov>, and making better use of the Communities and Projects tools within the portal. Attendees came from around the country to learn about creating communities, adding users, creating projects, managing task lists, and initiating discussion topics.

Communities are an important communication and collaboration tool for NBII users, allowing groups across or within a discipline to share information, ideas, and even documentation. Complete with customizable folders, calendars, whiteboards, and database tools, the portal is a powerful platform for getting out news, scheduling meetings, and communicating important issues to your unique community or project.

To learn more, visit the "Communities" tab within the NBII portal at <http://my.nbii.gov>.

elements. Currently only non-classified information is being considered. The STARNET will also underpin RTA efforts to create a Virtual Laboratory. It will provide a "one-stop" information resource for policy makers, program managers, scientists, engineers, and researchers within the NATO community.

The NBII has been key to development of the STARNET through its leadership within the IMC and by contributing its technical and thematic expertise. The NBII has taken the lead to develop content for the STARNET's Environmental and Biological Sciences node. Tom Hermann, Knowledge Manager for the NBII at the USGS Office of Biological Informatics, currently serves as the IMC Chairman.

The IMC is developing seven thematic or scientific areas to be designated as nodes of the STARNET:

- Aerospace and Aerospace-Related Research Information Node (ARIN)
- Environmental and Biological Sciences Information Node (EBSIN)
- Information Science Node (INSCIN)
- Land-based Operations Node (LBON)
- Naval, Marine, and Sea-based Operations Node (NAVMAS)
- Research Planning Node (RESPLAN)
- Combating Terrorism Information Node (CTIN).

Initial incorporation of Web-based information resources began in late 2002. The STARNET debut is scheduled for October 2003 at a ribbon cutting ceremony during the IMC's fall meeting.

Upcoming Events of NBII Interest

Seminars on Academic Computing, Snowmass Village, CO.	August 1-6
World Library and International Congress: 69th International Federation of Library Associations and Institutions (IFLA) General Conference and Council, Berlin, Germany.	August 1-9
2003 Annual Meeting of the Ecological Society of America, Savannah, GA.	August 3-8
121st Stated Meeting of the American Ornithologists' Union, Urbana-Champaign, IL.	August 5-9
First Global Conference: Interactive Convergence – Research in Multimedia, Prague, Czech Republic.	August 7-9
American Phytopathological Society 2003 Annual Meeting, Charlotte, NC.	August 9-13
American Fisheries Society 2003 Annual Meeting, Quebec City, Quebec, Canada.	August 10-14
52nd Annual Conference of the Wildlife Disease Association, Saskatoon, Saskatchewan, Canada.	August 11-14
4th European Ornithological Union Conference, Chemnitz, Saxony, Germany.	August 15-21
Society of American Archivists (SAA) Annual Meeting, Los Angeles, CA.	August 18-24
International Conference on Ecology and Transportation 2003, Lake Placid, NY.	August 24-29
2003 Raptor Research Foundation Annual Meeting, Anchorage, AK.	Sept. 3-7
The Wildlife Society 2003 Annual Meeting, Burlington, VT.	Sept. 6-10
World Parks Conference 2003, Durban, South Africa.	Sept. 8-17
93rd Annual Meeting of the International Association of Fish and Wildlife Agencies, Madison, WI.	Sept. 10-13
Organization of Biological Field Stations 2003 Annual Meeting, Calgary, Canada.	Sept. 11-14
Canadian Amphibian and Reptile Conservation Network 8th Annual Meeting, Ontario, Canada.	Sept. 11-14
Estuaries on the Edge: 2003 Meeting of the Estuarine Research Foundation, Seattle, WA.	Sept. 14-18

NBII and Virginia Tech Host Watershed Education Day

On June 6, 2003, Fairfax County's Holmes Run Park in Alexandria, VA, was the setting for a day of outreach and education to local area school groups about the importance of high-quality information to help manage urban biodiversity. The NBII Urban Biodiversity Information Project as well as Virginia Tech sponsored the event. Virginia Congressman Jim Moran, a major proponent of the project, was among the notables on hand. Moran spoke to his attentive young audience about the importance of conducting a biological inventory and feasibility study of the Holmes Run watershed. The need is fundamental, he said: "*Your* health is related to the health of this watershed."

Congressman Jim Moran (left) and Rob Dietz of the NBII Program.

nbii
National Biological
Information
Infrastructure

NBII National Program Office
U.S. Geological Survey, 302 National Center
Reston, VA 20192