

nbii Access

Southwest Exotic Mapping Project – ISIN in Action

America is under siege by many harmful species of plants, animals, and diseases that come from other countries. Many consider these invasive species the number one environmental challenge of the twenty-first century. This threat intensifies the need for scientists, managers, and others to rally together to build better systems for invasion prevention; improve early detection of invaders; track established invaders; and coordinate containment, control, and habitat restoration.

Against that backdrop, the NBII has established the Invasive Species Information Node (ISIN) <<http://invasivespecies.nbii.gov/>>. ISIN offers access through a single Web portal to a vast array of information on potentially harmful invasive species throughout the nation.

To carry out its work, ISIN provides funding to a broad range of projects. One of these, the Southwest Exotic Mapping Project (SWEMP) <<http://invasivespecies.nbii.gov/>

projects/swemp/swemp.html>, focuses on non-native invasive plants. Headquartered in Flagstaff, AZ, and based at the Colorado Plateau Research Station of the USGS Southwest Biological Science Center, SWEMP is a good example of USGS Science Center participation in ISIN development.

SWEMP collaborators include federal and state agencies, tribal governments, universities, private

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Nodes in the News

The creation of regional, thematic, and infrastructure nodes has been a major NBII development. These newsmaking nodes are interconnected entry points that, taken together, are forming the NBII. The nodes are being developed in coordination with various partners around the country. Access has devoted several issues to reporting on specific nodes. In this issue, we continue our profiling of another new NBII node.

NBII Mid-Atlantic Information Node

The National Biological Information Infrastructure (NBII) <www.nbii.gov> will be extending the reach of its biological resource information to the Mid-Atlantic Region this year with the introduction of the Mid-Atlantic Information Node (MAIN). MAIN will encompass Pennsylvania, Maryland, Delaware, Virginia, and West Virginia. Its mission is to encourage accessibility and appropriate use of biological resource information throughout the Mid-Atlantic Region.

The NBII is a broad, collaborative program to provide increased access to

data and information on the nation's biological resources. Coordinated by the U.S. Geological Survey (USGS), 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.

MAIN's service area has unique characteristics of land use/ownership, geography, biology, and socioeconomics that make coordinated information use particularly important.

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Northern Rockies Information Node: Enhancing Student Learning Through NBII-Facilitated Access

Big Sky Institute (BSI) at Montana State University (MSU) is a partner of the Northern Rockies Information Node (NRIN). BSI shares a conviction with NRIN that what it does is of fundamental importance and is about developing links between science and society. The NRIN-BSI partnership arose naturally because, ultimately, NRIN focuses on facilitating access to information and BSI focuses on enhancing science literacy.

Today, BSI is using NRIN capabilities to enhance the ability of teachers in the northwest to connect with their students' science interests. This began with an assessment of teacher needs and led to strategies for teacher development. To help meet these needs, BSI developed a pilot program called WEBS: Wildlife Education in Big Sky.

In 2002, WEBS provided professional development for over 80 teachers at workshops lasting three to five days. It included field-based workshops and data access as well

as ongoing support from BSI staff, who took advantage of the interest and expertise they have in this region, particularly with charismatic species. The teacher workshop component of the WEBS program, funded by Montana Fish Wildlife and Parks, empowered the teachers to use research quality data about species of critical interest in the Northern Rockies to teach science and inquiry skills to their 6th-12th grade students.

The workshops were strongly oriented toward both going into the



A graduate student from the Ecology Department demonstrates wildlife tracking techniques.

field and accessing data. Some of the critical elements of this are the integration of science and math; real world, place-based issues; and science as inquiry (examples are about issues of interest to communities around the greater Yellowstone ecosystem).

Workshop topics included wolf, elk, grizzly bear, native fish, and birds of prey. BSI made use of NBII, USGS, and other MSU data sets as well as all data sets that are associated with a peer-reviewed paper.

WEBS has since received awards from the Environmental Protection Agency's Environmental Education program, the Charlotte Martin Foundation, and the Steele Reese Foundation to continue its work.

On the basis of the teacher workshops and in conjunction with teachers from the region, BSI is developing Web-based support materials for the NBII Web site that emphasizes the role that NBII data plays in supporting standard-based curricula and learning. These materials should be in place in summer 2004, when BSI hosts another set of teacher workshops.

Access

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Be sure to check out Access on the Web at <<http://www.nbio.gov/about/pubs/news>>.

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Fisheries and Aquatic Resources Node Receives Backing of the World Sturgeon Conservation Society

The prestigious World Sturgeon Conservation Society (WSCS) passed a resolution to support the NBII Fisheries and Aquatic Resources (FAR) Node during its 2004 General Assembly, held in mid-January. Doug Beard and Andy Loftus of the NBII presented information on a project proposal to develop an information infrastructure in the United States for North American fisheries and aquatic resources. This database project on fisheries information will use sturgeon as an indicator species. The WSCS threw its support behind this project and offered to have members directly involved in project design, development, and implementation.

The mission of the WSCS is to act as an international forum of scientific discussion for all those interested in pertinent issues on sturgeons while, at the same time, seeking opportunities for close cooperation at an

international level. In the interests of conservation and restoration, the NBII established the FAR Node to provide an integrated, comprehensive Web-based resource that will serve and access fishery and aquatic databases; link to fishery and aquatic resource information sites; and act as a larger scale coordinating site for fisheries and aquatic resources standards.

“Looking forward,” Doug Beard, FAR Node Manager, said, “WSCS members will become FAR Node partners. They will provide access to the node from their Web sites and provide expertise to the database

project. The NBII will report back to the WSCS on an annual basis and invite WSCS members to participate in FAR project steering groups and committees.” 



Doug Beard addresses attendees at the World Sturgeon Conservation Society General Assembly.

SWEMP (continued from page 1)

consulting firms, non-government organizations, and other interested parties. The program receives non-native invasive plant observation data from these groups, and the data are then collated and made accessible for both regional land managers and the global Internet community.

“SWEMP is an ongoing project that’s always searching for better ways to do things,” says Kathryn Thomas, SWEMP project leader. “Right now we’re trying to improve the means by which collaborators can contribute and in turn receive back value-added data. Much of this examination is going on through a pilot project we’re overseeing with two cooperative weed management areas (CWMAs) in Arizona.”

“The idea is that these two CWMAs will manage their data locally but also contribute them to the SWEMP Program,” she says. “We’re compiling their data along with other contributions and developing the ability for these groups to query our database of non-native plant information online. Then they will be able to extract data from the regional database that includes their contributions and also the contributions of other partners. Ultimately, we want collaborators to be able to do whatever local queries they want and use the data for planning and management.”

Thomas said SWEMP is also creating a Web form so that scientists can enter non-native plant observations online. In addition, the

Colorado Plateau Research Station is developing an interactive map server that will provide maps that can be queried and printed of the SWEMP occurrence data.

The goal for these projects is to provide quality biological informatics services to cooperative weed managers in the Southwest who will join SWEMP in using these various ways of inputting and accessing integrated data.

One existing standard that facilitates the utility of SWEMP data is that all new data are brought into a format consistent with the North American Weed Management Association (NAWMA) format, thereby making them compatible with other data contributions. NAWMA sets forth commonly accepted standards

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Nodes in the News (continued from page 1)

This region is distinguished by rapid human population growth, a small component of public land, a land use history dating back almost 400 years to the first English colonists, the largest U.S. estuary, some of the largest blocks of public land in the East, and an economy that relies heavily on natural resources. All of these elements combine to create a region in dire need of coordination and collaboration between the hundreds of localities, management agencies, and non-government organizations involved in biological resources management.

The major goals of MAIN in its first year are to:

- Establish a base infrastructure and geospatial information base,
- Conduct a needs assessment and strategic plan, and
- Engage in a handful of small pilot projects and regional meetings.

The critical biological/natural resource issues in this region that MAIN will focus on include water quality; acid mine deposition; air pollution effects on high elevation forests; fragmentation as a result of

urban sprawl; endangered species; fish stock, shorebird, and horseshoe crab declines; overabundance of wildlife, particularly deer; open space planning; transportation planning; invasive species; and outdoor recreation.

A Web site will be established to provide access to MAIN biological resources information. It will include both textual and geospatial information and integrate with other Web resources where available. An important component of the MAIN project is establishing a geospatial database for the region that can be used to organize and distribute other data sets in the future.

The first step in developing MAIN will be to identify the needs and uses for such a system and to identify the existing and desired data sources that may feed this system. Through surveys and focus group meetings involving biologists, planners, and other environmental professionals in the Mid-Atlantic Region, this needs assessment will identify facets of an information system that will best serve this region, including audience/intended users; purpose; system structure/content; and geographic,

thematic, and taxonomic scope of the content. MAIN will also co-sponsor two regional meetings. The project coordinators anticipate that they will meet with more than 50 organizations throughout the region as part of this user needs assessment.

Based on the results of the user needs assessment, a strategic plan will be developed by node staff and an advisory committee to highlight future MAIN activities. The strategic plan will result in a matrix of project types, issues, and organizational partners that will allow the NBII to prioritize potential projects by taking into account potential audience, conservation impact, and leveraging potential.

Doug Beard, Node Manager, envisions MAIN “to be a leader in the distribution of Chesapeake Bay data sets and systems.”

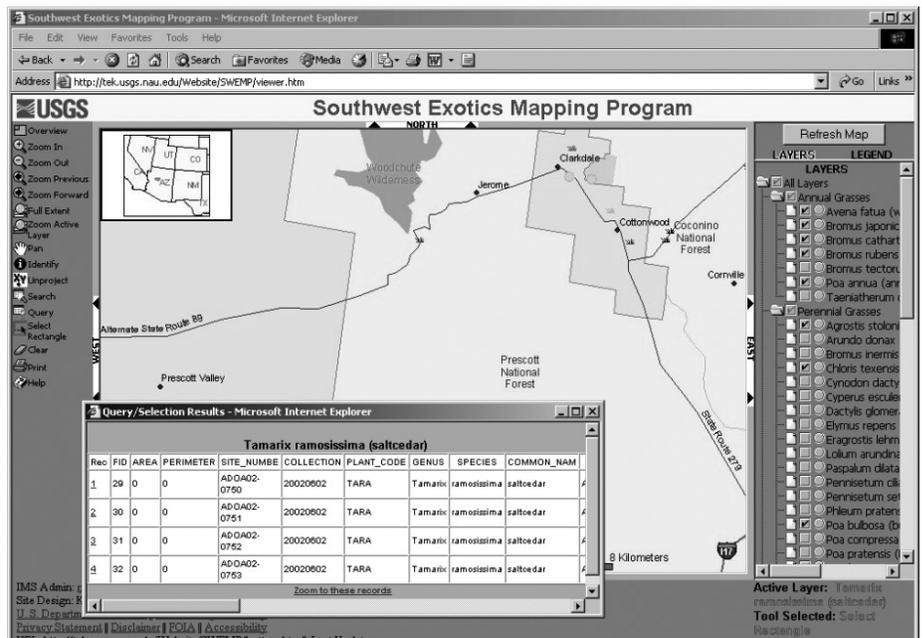
For more information about this node, please contact Doug Beard by phone (703/648-2415) or e-mail <db Beard@usgs.gov>; Jeff Waldon by phone (540/231-7348) or e-mail <fwiexchg@vt.edu>; or Lila Borge Willis by phone (540/231-8996) or e-mail <lborge@vt.edu>. 

SWEMP (continued from page 3)

for the collection of field data for invasive species.

As for SWEMP’s future, Thomas says, “In the next year, we expect to create a SWEMP Advisory Committee. Insights from a broad range of experts can’t help but prove helpful in maximizing this program’s growth and usefulness.” 

SWEMP capabilities include responding to data queries on a variety of non-native invasive plants. Here we see the results of a data query on the saltcedar.



The screenshot shows the Southwest Exotics Mapping Program web interface. The main map displays the Southwest region with various locations marked, including Woodhull Wilderness, Jerome, Clarkdale, Cottonwood, Prescott National Forest, and Prescott Valley. A query results window is open, showing the following table:

Rec	FID	AREA	PERIMETER	SITE_NUMBE	COLLECTION	PLANT_CODE	GENUS	SPECIES	COMMON_NAM
1	29	0	0	ADDA02-0790	20020602	TARA	Tamarix	ramosissima	saltcedar
2	30	0	0	ADDA02-0791	20020602	TARA	Tamarix	ramosissima	saltcedar
3	31	0	0	ADDA02-0792	20020602	TARA	Tamarix	ramosissima	saltcedar
4	32	0	0	ADDA02-0793	20020602	TARA	Tamarix	ramosissima	saltcedar

The interface also includes a legend on the right with various plant species listed, and a navigation menu on the left. The active layer is identified as Tamarix ramosissima (saltcedar).

International Connections

Panama City Selected as Site for IABIN Secretariat

The City of Knowledge (Ciudad del Saber), in Panama City, Panama, has been selected by the Executive Committee of the Inter-American Biodiversity Information Network (IABIN) to host the IABIN Secretariat, which will be established late in 2004. Located on a former U.S. military base near the Panama Canal, the City of Knowledge is an international center for education, research, and innovation created to promote synergies among universities, scientific research centers, and businesses. More information is available on their Web site at <<http://www.ciudadelsaber.org.pa>>. In its bid for the IABIN Secretariat, the City of Knowledge offered, at no expense to IABIN, office space for Secretariat staff and associated consultants, high-end workstations, high-speed Internet access and telecommunications, plus a variety of other amenities necessary to support the Secretariat.

In response to a Request for Proposals, three organizations submitted proposals: The U.S. Geological Survey (USGS), the Paraguayan office of the Organization of American States, and the City of Knowledge. The USGS bid, which included the expertise of the staff of the NBII and its partners, was a front-runner; however, its central location in Latin America tipped the decision to the Panama site. USGS will continue its strong support of IABIN, and the NBII will host a mirror site of the IABIN gateway, which will be located at the City of Knowledge site. The NBII will also continue its leadership of the IABIN Invasives Information Network (I3N) and will actively participate in other IABIN initiatives, including the species, specimen, and protected areas thematic networks, among others.

The IABIN Secretariat is expected to be operational by the end of 2004,

pending the award of funds from the Global Environment Fund (GEF) for the IABIN implementation project. GEF funds will support the salaries of the Secretariat director and an administrative assistant; two implementation project consultants will be co-located with the Secretariat for the 5-year duration of that effort. Additional Secretariat staff will be added as funding from other sources becomes available.

IABIN <<http://www.iabin.net>> is an initiative of the countries of the Americas to promote compatible means of collection, communication, and exchange of biodiversity information relevant to decision-making and education using the Internet. Information on U.S. participation in IABIN is available at <<http://www.iabin-us.org>>. 

NBII Metadata Training: A Popular Experience

This spring, the emphasis of the NBII metadata program is to provide training to a variety of organizations. NBII workshops teach the fundamentals of metadata such as what they are, why they are important, ways to get started, and how to contribute to the NBII Clearinghouse. Additionally, there is considerable hands-on practice in producing documentation for a participant's own data or for a sample data set.

A participant in the workshop is introduced to the Federal Geographic Data Committee (FGDC) Standard and the accompanying Biological Data Profile. The Content Standard for Digital Geospatial Metadata was adopted by FGDC in 1994 as the

documentation standard for Geographic Information Systems (GIS) data sets. The standard was revised in 1998, and in 1999 the FGDC Biological Metadata Profile was approved. This extension to the original FGDC standard allows specifically for the documentation of biological data sets — non-spatial tabular data sets often collected in biological disciplines. The Biological Data Profile encompasses the entire



NBII instructor Terry Giles provides insight about metadata software to Grant Timentwa of the Colville Confederated Tribes.

geospatial metadata standard and includes additional elements to describe taxonomy, methods, and analytical tools (such as models).

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NBII Metadata Training (continued from page 5)

In partnership with NatureServe, the NBII provided metadata training to 18 participants in Arlington, VA, on February 23-24. The day-and-a-half workshop provided a full day of training to all participants, followed by a half-day opportunity to practice new skills for any interested attendees. Trainers Terry Giles (USGS) and Lynn Kutner (NatureServe) led the workshop. Participants represented a wide range of organizations, including the Colville Confederated Tribes from Washington State, Northern Arizona University Merriam Powell Center for Environmental Research, the Center for International Earth Science Information Network, The Nature Conservancy, NatureServe, the International Association of Fish and Wildlife Agencies, and the NBII.

The NBII will continue to offer workshops throughout the spring: March 28 in La Crosse, WI; April 6-7 in Seattle, WA; and April 19 in Ft Collins, CO. Due to the popularity of metadata training, all upcoming NBII workshops are full and include waiting lists! Look for additional trainings to be scheduled as the year progresses.

For more information on training or other NBII metadata topics, contact Viv Hutchison by e-mail <vhutchison@usgs.gov> or by phone (703/648-4311). 

Upcoming Events of NBII Interest

19 th Annual Symposium of the United States Regional Association of the International Association for Landscape Ecology, Las Vegas, NV.	March 30-April 2
2004 Annual Meeting of the American Society for Environmental History and the National Council on Public History, British Columbia, Canada.	March 31-April 4
National Science Teachers Association 2004 National Convention, Atlanta, GA.	April 1-4
The 15 th Annual Conference on Climate Change and Ozone Protection, Washington, DC.	April 13-15
Annual Meeting of the Association of Field Ornithologists and the Wilson Ornithological Society, New York, NY.	April 22-24
Global Biodiversity Information Facility (GBIF) Science Symposium, Copenhagen, Denmark.	April 29-30
2004 Meeting of the International Society for Biological and Environmental Repositories, New York, NY.	May 11-14



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