



The FAR and MAIN Data Access Wizards: Your Connections to Geospatial Data and Services

How can you access information about streams and water trails, see Pennsylvania Wild Trout Streams in Google Earth, query and view New York fisheries survey data, and import imagery and land-use map services all with a few clicks? The Fisheries and Aquatic Resources (FAR) <<http://far.nbii.gov>> and Mid-Atlantic Information Node (MAIN) <<http://main.nbii.gov>> Data Access Wizards do all that and more.

Finding geospatial data and services can be challenging. From simple file transfer protocol (FTP) downloads to Web-based geographic information system (GIS) applications,

map services, and visualization tools, users must often navigate dozens of Web sites. Managing and providing access to geospatial data are also challenging. For these reasons, the Penn State Institutes of Energy and the Environment (PSIEE) team of the National Biological Information Infrastructure (NBII) FAR and MAIN nodes developed the NBII Data Access Wizards.

The NBII Data Access Wizard concept was developed based on three primary needs:

- To provide users of the FAR and MAIN nodes with easy access

to geospatial data, metadata, applications, map services, and visualization tools in a single, easy-to-use, search-and-retrieval interface.

- To develop an architecture to support and manage a growing collection of geospatial data available through the FAR and MAIN nodes that would provide for intelligent data mining.
- To inventory and provide access to remotely held data sets, applications, and services developed by FAR and MAIN partners and to access information developed by other organizations.

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What Is the NBII Up To? Expanding Social Horizons on Blogger, Twitter, and Facebook!

The NBII is now blogging on Blogger and “tweeting” on Twitter! We’ve also stepped out onto Facebook with a fan page to leverage social networking for the NBII’s outreach efforts and foster relationships with current and potential partners and users.

The NBII is using these social media tools to provide better access to biological information and encourage interaction with



partners, colleagues, and other users of our products and services. Social media (or social networking) is a very effective way to get the word out about what’s going on. Some of our blog entries link to *Access* newsletter articles. Using blog software, readers and followers can leave comments or start discussions related to posts. Also,

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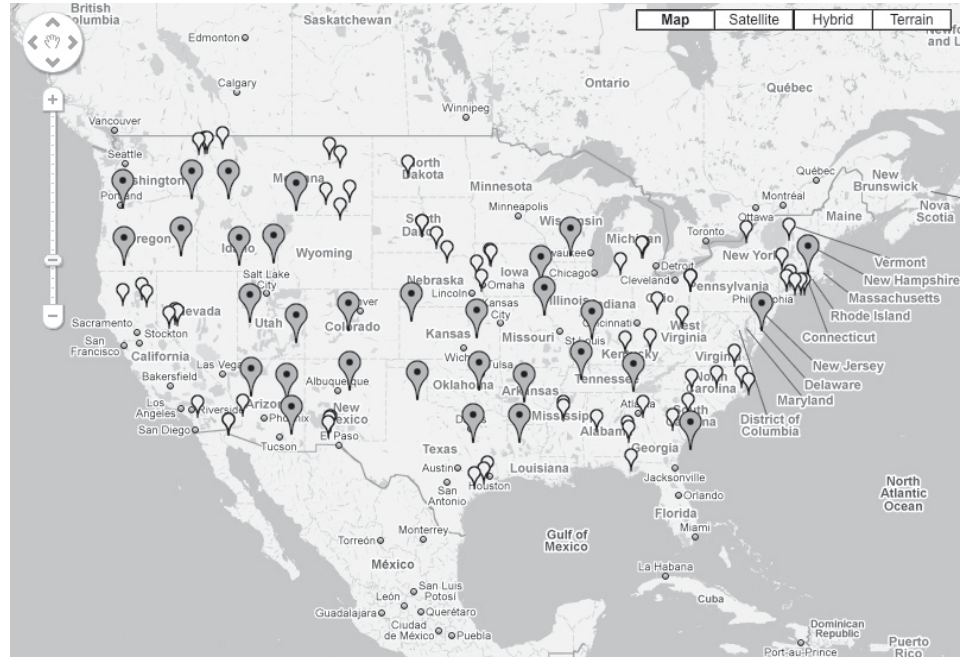
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Dynamic Maps Now on Bald Eagle Site

The NBII – in collaboration with Oregon State University, Northwest Alliance for Computational Science and Engineering (NACSE) – hosts the Midwinter Bald Eagle Database, a long-term national data set on bald eagle (*Haliaeetus leucocephalus*) observations.

Previously, the site used basic image-map tools to help users perform map-based queries by route. Although effective, this approach lacked the more immersive experience of a dynamic Web-based mapping interface in which the user can zoom in or out and load in different base layers while viewing the overlaid data. Also, multiple adjacent routes were hard to discern from one another on a national scale.

NACSE recently designed a custom mapping interface based on Google Maps that allows users to dynamically display and query route information from the bald eagle database as well as take advantage of the standard Google Maps features



With the new custom mapping interface, users can dynamically display route information from the Midwinter Bald Eagle Database.

and controls, such as full satellite map coverage at multiple scales for the entire country. The ability to zoom and pan enables users to locate site and route information even when the locations are densely clustered.

You can see the “Query by Route” page with the new mapping tool at <http://ocid.nacse.org/nbii/eagles/routes.php> (see above). Once there, you’ll notice two types of icons, yellow and red.

Yellow icons indicate an individual survey site. Hover over the marker to display the place name. Click the marker to display additional information, including a link that will allow you to query the database for records from that site.

Red icons represent a cluster of sites in the general area. Click the marker to display a list of the sites contained within. Zoom in further to “break up” the cluster and display the individual yellow site markers within. On the left you’ll see the slider bar with the plus and minus signs that let you zoom in that way if you prefer.

“The new mapping tool is much more sophisticated than its predecessor,” said Dylan Keon, one of the tool’s designers. “We think it enhances the site’s offerings, and we encourage NBII users to try it.”



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Be sure to check out Access online at www.nbii.gov → NBII Publications Library.

Please direct your general questions about the NBII, including partnership opportunities, to:

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Visit the NBII Home Page at www.nbii.gov.

The NBII Data Access Wizards serve as digital libraries of geospatial data and services addressing the needs of users interested in biodiversity. The Data Access Wizards allow users to search by keyword, data provider, region (for FAR), and state (for MAIN). The search results page is a one-stop “shopping” experience for data and services. Each result has designated symbols showing how the information is available. Options include:

- Metadata
- Downloadable data
- Internet map services
- Visualization in Google Earth
- Data previewing in OpenLayers
- Specialized Web-based applications
- Web map services (WMS)

For advanced users of GIS, the NBII Data Access Wizards provide access to data and metadata, as well as the ability to customize GIS data sets and create data packages through the clip, reproject, and ship options of the Data Cart. Those with an interest in online data visualization can use the Data Access Wizards to find specialized Web-based applications, some of which were developed by the NBII (such as the Eastern Brook Trout Joint Venture Mapper and the Chesapeake Bay Mapper) or by our partners (such as the Pennsylvania Fish and Boat Commission’s “Fishing Hotspots”). Users who want to visualize data can click on the lightning bolt symbol, which designates the data resources available for viewing in Google Earth. In the future, visualization capabilities will include OpenLayers with Google and Virtual Earth.

Access to species, habitat, hydrography, land use, climate, water

The screenshot shows a web interface with a header 'Mid-Atlantic Geographic Perspectives' and a navigation bar. The main content area is titled 'MapService Details' and contains the following information:

- Dynamic MapServices:** Use the links and information on this page to access the dataset dynamically, without the need to download.
- Title:** Pennsylvania water quality database
- Originator:** Alliance for Aquatic Resource Monitoring
- Date:** 2004
- Preview Data:** A small map thumbnail showing a geographic area.
- View in Google Earth:** A link to view the data in Google Earth.
- ArcIMS Image Service:** Add to ArcMap, Server Name: maps.pasda.psu.edu, Service Name: ALLARM
- WMS Service:** Map Server, URL: http://maps.pasda.psu.edu/wmsconnector/com.esri.wms.Esrimap?Servicename=ALLARM
- ArcIMS Feature Service:** Add to ArcMap, Server Name: maps.pasda.psu.edu, Service Name: ALLARM_feature


Here we see a selected resource from Data Access Wizard search results. Different map service options available from the resource are displayed.

quality, and imagery from partners ranging from state and federal agencies to nonprofit conservation organizations is made available through the Data Access Wizards.

As more biodiversity and ecosystem data are made available through such mechanisms as the NBII Data Access Wizards, more opportunities can be realized.

Data providers such as the New York Department of Environmental Conservation, the National Oceanic and Atmospheric Administration

(NOAA), and the USGS Chesapeake Bay Program are just a few of the partnerships that make it possible to provide public access to the terabytes of data that have been amassed by FAR and MAIN.

As more biodiversity and ecosystem data are made available through such mechanisms as the NBII Data Access Wizards, more opportunities can be realized. The NBII Data Access Wizards have the potential to initiate new opportunities for collaboration, to promote innovative research developments, and to provide the basis for developing tools to improve decision making among natural resource managers and policy makers. 

The NBII and Kids — a Natural Partnership

NBII users typically include resource managers, scientists, educators, and the general public. Among the latter two groups, the NBII has long been known as a science teacher’s dream ... and a place where kids can learn about the beauty, wonder, and importance of nature. Turning our kids on to natural resources can help them learn to enjoy the outdoors as well as develop a passion for the conservation of our parks, refuges, and wildlife.

With those goals as a backdrop, a new NBII site has emerged called “NBII Kids” <<http://kids.nbii.gov/>>, a veritable treasure trove of educational resources designed to pique and meet the interests of kids of all ages.

The site’s sections include:

- *Coloring pages* – Kids can make their own coloring books. They just download the page for each animal, print it, and make their own artwork.

- *Connect-the-dots* – Kids can download and print each page, then connect the dots to learn via original artwork about such important subjects as pollinators, endangered species, and invasive species. Descriptive copy by each figure explains its importance as well as how it fits into the bigger NBII picture.

- *Stories* – Each includes a lesson. A sampling: Beatrice the Bee talks about a bee discovering that its community is mysteriously disappearing (bee population declines); Captain Ribbit is an ambassador from another planet, where frogs are the superior life form (amphibian deformities); and The Perils of Polina presents a young polar bear who learns about the world from a friendly whale (climate change).

- *Games* – With wild things as the theme, games include mazes (get lost in finding your way through the maze); crosswords (solve the crosswords with



hints related to today’s hot biological topics); and scavenger hunts (learn about important biological topics).

- *Puzzlers* – Kids match animals to their habitats, sounds, and other clues.
- *Fun Projects* – Activities include making a birdhouse, cleaning up a stream, and tracking animals.

Come visit NBII Kids! We’re sure that you – and your kids – will like what you see. 

NBII Home Page Update: RSS Feeds

The NBII is making use of RSS (Really Simple Syndication) feeds to get the word out on news related to wildlife biology. The recently redesigned NBII home page now offers links to several RSS feeds available throughout the network. Each link brings you to the area within the NBII where the feed stories and links are on display, and users can subscribe to receive new postings through any RSS feed reader.

Among the NBII sites currently offering an RSS feed are:

- The Wildlife Disease Information

Node (WDIN)

- The Mid-Atlantic Information Node (MAIN)
- The Pacific Basin Information Node (PBIN)
- The Southern Appalachian Information Node (SAIN)
- The Bird Conservation Node (BCN)
- The Butterflies and Moths of North America (BAMONA) blog

The newest offering in the RSS feed section of the NBII home page is a link to the NBII Blog. The blog postings offer news about the NBII and about wildlife biology from many sources, and provide an overview of

NBII events and concerns. For more information about the NBII Blog, see “What Is the NBII Up To? Expanding Social Horizons on Blogger, Twitter and Facebook” on pages 1 and 5.

WDIN offers several feeds, including one on its “top ten” resources of user interest; one related to its Wildlife Disease map; and a third on recent news and article citations of interest to those concerned with wildlife diseases.

MAIN, SAIN, and PBIN offer regional news on wildlife, ecology, and conservation. The Bird Conservation Node’s feed is national in scope and derives from the

What Is the NBII Up To? (continued from page 1)

blog can consume RSS (Really Simple Syndication) feeds.

NBII nodes like the Wildlife Disease Information Node (WDIN), the Southern Appalachian Information Node (SAIN), the Bird Conservation Node (BCN), and the Pacific Basin Information Node (PBIN) are also active participants in social media, so consuming their RSS feeds on the NBII blog is a great way to consolidate the content that any particular node is consuming and distributing. Using the blog will also be a way to share information about news and events the NBII and its partners are participating in; to highlight new biological databases, information products, and analytical tools, as well as existing ones; and to facilitate the development of partnerships.

The NBII has also joined Twitter. Twitter allows you to create mini-

blogs or “tweets” up to 140 characters. Twittering is a quick way to share updates and links. The NBII’s “tweets” will be another way to share informal blog updates, mainly about conferences, events, and new product announcements. These “tweets” are also consumed via RSS feed on the blog, so followers will have access to the latest information.

The NBII’s presence in social media has grown steadily, with the creation of a Facebook fan page, a blog, and a presence on Twitter. Not only is social media a way to share and disseminate information, it opens additional channels for feedback from and conversations with NBII collaborators and users. By participating in social media, the NBII can also monitor immediate reactions to and comments about our products and services, which will enable us to better address user feedback and resolve issues.

To stay on top of all the latest happenings with the NBII, subscribe via RSS feed to all of our social media. You can also join our Facebook Fan page (see sidebar), “Follow Us” on Twitter <<http://www.twitter.com/nbii>>, and link to us on Blogger at <<http://nbii-info.blogspot.com>>. 

American Bird Conservancy’s Bird News Network and the NBII Wildlife Disease Information Node’s Wildlife Disease News Digest.

The BAMONA blog keeps viewers and subscribers up-to-date on the frequent additions and changes to this major reference resource. New occurrence data, species accounts, checklists, and photographs are constantly added to enhance BAMONA’s quality and value.

The NBII’s RSS developments are part of its initiative to employ “Web 2.0” technologies toward more effective communication of biological and wildlife information.

Still Time to Register for the OFWIM Annual Meeting!

The Organization of Fish and Wildlife Information Managers (OFWIM) is a regular topic in the pages of *Access*. That’s because its goals overlap so much with the NBII. OFWIM is a non-profit organization that promotes the management and conservation of natural resources by facilitating technology and information exchange among fish and wildlife

Tips on Using Social Media to Follow the NBII

To become a fan of the NBII on Facebook, you must first create a Facebook account. Facebook is a social networking tool used to connect with friends, colleagues, and others. Facebook is free and anyone can join. Just go to <<http://www.facebook.com>> and sign up, then search for “NBII.”

Blogger and Twitter do not require an account to read posts. Users can even post comments on Blogger without having an account; however, if followers want to interact on Twitter, they must create a user account at <<http://www.twitter.com/signup>>.

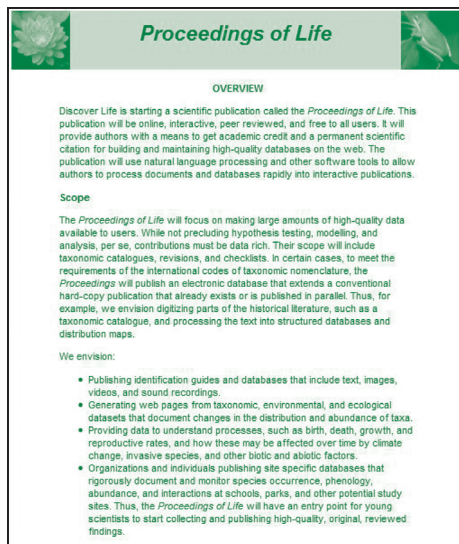
To follow the NBII on Twitter, visit <<http://www.twitter.com/nbii>> and click on the Follow button under our name. You can also find people by typing in their username or their real name and searching for them (in our case, you’d want to search “NBII”). Once you’ve located us in the list, click on the Follow button.

For Facebook questions, contact Nina Chkhenkeli at <nchkhenkeli@usgs.gov>. For Blogger and Twitter questions, contact Lakegan Harris at <lharris@usgs.gov>.

Invasive Species Toolbox

Do you have news about an invasive species project you would like to share through this column? Invasive Species Toolbox is a collection of useful items and highlights related to invasive species information management issues. Please send any ideas or suggestions you might have about Toolbox columns to <asimpson@usgs.gov> or <esellers@usgs.gov>.

New Online Journal Proceedings of Life



The new peer-reviewed online journal Proceedings of Life is designed to ensure scientific merit is given to authors of online biodiversity information databases.

NBII partner Discover Life has launched an online journal called *Proceedings of Life* that is interactive, peer reviewed, and freely available. It will provide authors with a means to get academic credit and a permanent scientific citation for building and maintaining high-quality databases on the Web. The publication will use natural language processing and other software tools to allow authors to process documents and databases rapidly into interactive publications. Invasive species, taxonomy, and

climate change are just a few of the areas that are anticipated to fall within the scope of this data-rich journal. For more information, see <<http://www.discoverlife.org/proceedings>>.

Online Reporting System Created for Collecting Reports of Wavyleaf Basketgrass Sightings

An invasive grass species from Asia, *Oplismenus hirtellus* ssp. *undulatifolius* (Ard.) U. Scholz., or wavyleaf basketgrass, is invading natural areas along the mid-Atlantic coastal states. The Maryland Department of Natural Resources (DNR) has created a Web site where the public can report new sightings of this species at <<http://www.dnr.state.md.us/wildlife/WLBG/index.asp>>. Information submitted via the

...wavyleaf basketgrass is invading natural areas along the mid-Atlantic coastal states.

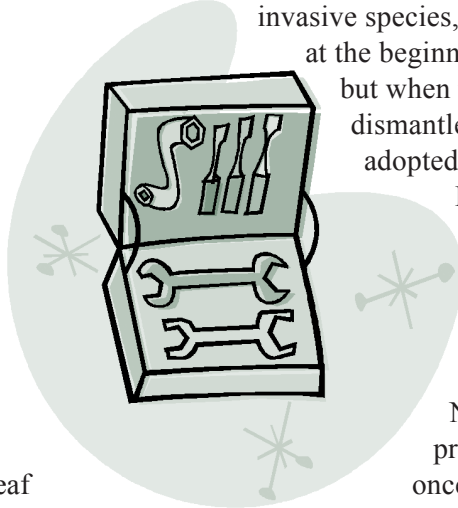
online form provided (or by phone, fax, or e-mail) will be verified and shared with the Center for Invasive Species and Ecosystem Health at the University of Georgia, for inclusion in the WeedUS mapping effort at <<http://www.invasive.org/weedus>>. Beginning in July 2009, reported sightings started to be added to a master map, which is published on both the WeedUS and DNR Web sites.

Invasipedia Moved to New Location

The Nature Conservancy's (TNC) Global Invasive Species Team began an online wiki encyclopedia for invasive species, or "Invasipedia," at the beginning of 2009; but when the team was dismantled, Invasipedia was adopted by the Center for Invasive Species and Ecosystem Health at the University of Georgia as part of the Bugwood Network's wiki project. What was once online at <<http://www.invasipedia.org>> is now located at <<http://wiki.bugwood.org/Invasipedia>> and your input is welcome. We at the NBII Invasive Species Information Node were saddened to see the demise of the TNC Global Invasive Species Team, but we are heartened to see their excellent contributions continue to be supported by our colleagues.

Invasive Species Cards

Don't forget to submit a request for the four baseball-size cards offered by the North American Lake Management Society (NALMS) through a grant from BoatUS Foundation to help lake users identify and combat the spread of curly-leaf pondweed, Eurasian watermilfoil, hydrilla, and zebra mussels. Distributing the cards at lake-related meetings and events is an excellent way to celebrate Lakes Appreciation Month! These cards are available to most folks free of charge upon request. You can see the cards online at <<http://www.nalms.org/nalmsnew/nalms.aspx?subcatid=88&Sid=3>>.



International Connections

NBII Co-sponsors e-Biosphere International Biological Informatics Conference

The e-Biosphere 09 International Conference on Biodiversity Informatics, held at The Queen Elizabeth II Conference Centre in London, UK, from June 1–5, 2009, brought together over 500 participants from 69 countries to discuss and implement the latest advances and applications in the field. Attendees included researchers, students, government officials, and representatives of non-government organizations and private companies. These participants, many of them the primary providers and users of biological information in the world, conferred with each other on recent advances and challenges in Biological Informatics and the direction that research and development in the field should take in coming years. The NBII co-sponsored the conference in close cooperation with other leading Biological Informatics organizations, including the Encyclopedia of Life, Global Biodiversity Information Facility, and the Inter-American Biodiversity Information Network.

During the first three days of the conference, participants attended and



Hugh O'Connor, an NBII Digital Content Librarian, was among the NBII representatives greeting visitors to our e-Biosphere exhibit booth.

hosted a series of presentations and symposia detailing the current status of the Biological Informatics community. An Online Conference Community set the stage for this interaction in the weeks leading up to the conference through the use of networking and discussion tools linked to the e-Biosphere Web site. Participants and their colleagues who were unable to attend the meeting helped guide the development of several sessions at e-Biosphere and resolve technical and time-consuming issues in advance of conference activities.

In addition to organizing a booth and software demonstrations at the conference, the NBII prepared a series of background papers for attendees

to familiarize themselves with these technical issues and with the current state of affairs in the Biological Informatics community.

The NBII also helped coordinate a strategic planning session following the main conference. This session included representatives of the major Biological Informatics organizations who co-sponsored the event, and aimed to operationalize the topics and recommendations discussed at the conference. Participants deliberated over the experiences, obstacles, opportunities, and potential business models for a sustainable Biodiversity Informatics landscape, and utilized the outputs of the conference to identify a range of activities for a 5–10 year strategy to improve the provision and use of biological information. Several of these topics were singled out for immediate action, and many organizations, including the NBII, plan to use them as inputs to their strategic planning and prioritization activities in the months ahead.

For more information, please visit <http://www.e-biosphere09.org/> or contact Meredith Lane <mlane@usgs.gov> or Bonnie Carroll <bc Carroll@iiaweb.com>. 🌿

NBII in the News

- Getting a picture of the status of conservation efforts in the United States has been made easier thanks to a recently released database that allows wildlife and conservation professionals to visit a single place to find comprehensive information on protected areas. Several federal, state, and non-government agencies combined resources and data about public landholdings to create the

Protected Areas Database - United States (PAD-US), an effort funded by the Gap Analysis Program (GAP) and the Doris Duke Charitable Foundation. An article on PAD-US (“Mapping conservation areas outside your back door”) appeared in the May 27, 2009, issue of *Environmental Science and Technology* <<http://pubs.acs.org/action/showStoryContent?doi=10.1021/>


[on.2009.05.26.379768](http://pubs.acs.org/action/showStoryContent?doi=10.1021/10.2009.05.26.379768)>. The NBII is hosting PAD-US data. GAP is a vital NBII component.

- The April 26, 2009, issue of *FrederickNewsPost.com* <http://www.fredericknewspost.com/sections/archives/display_detail.htm?StoryID=96155> featured an article titled “Stories come to life through illustrator’s work.” The

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illustrator in question is Cameron Gerlach, and one of the projects described in the article was his work on the NBII Kids site (see article on page 4 of this issue of *Access*). Gerlach created the child-friendly illustrations for the stories about Polina the Bear, Beatrice the Bee, and Captain Ribbit.

- An article from the *HuffingtonPost.com* <http://www.huffingtonpost.com/bill-chameides/weeds-in-the-garden-spray_b_195928.html> uses a photo of a dandelion taken by the NBII's Elizabeth A. Sellers. The photo, which can be found in the NBII Library of Images From the Environment (LIFE) <<http://life.nbii.gov/>>, appears in an article titled "Weeds in the Garden: Spraying May Be Harmful to Your Health."

- A link to the NBII Southwest Information Node (SWIN) is provided under the power lines photo in "6,000-Mile Energy Corridor Through the West is Challenged" <<http://www.dailyonder.com/6000-mile-energy-corridor-through-west-challenged/2009/07/11/2227>>. The link brings readers to a SWIN portlet that describes the main subject of the article, a proposed energy corridor through the West. 

Upcoming Events of NBII Interest

Ecological Society of America 94 th Annual Meeting, Albuquerque, NM.	August 2–7
American Ornithologists Union 2009 Meeting, Philadelphia, PA.	August 12–15
2009 Midwest Partners in Amphibian & Reptile Conservation Meeting, Howell, MI.	August 13–15
Sixth International Conference on Marine Bioinvasions, Portland, OR.	August 24–27
139 th American Fisheries Society Meeting, Nashville, TN.	August 30–September 3
2009 Association of Fish and Wildlife Agencies Annual Meeting, Austin, TX.	September 13–16
36 th Natural Areas Conference Vancouver, WA.	September 15–18
The Wildlife Society 16 th Annual Conference, Monterey, CA.	September 20–24



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