

NBS SCIENCE CENTERS: NETWORKING A KEY FOR TECHNICAL ASSISTANCE

Agencies armed with the best knowledge of NBS structure and a good understanding of agency science centers are likely to receive the best service

BY THE EDITOR

THE NATIONAL BIOLOGICAL SERVICE began operating in November 1993 with staff from the National Park Service, Fish and Wildlife Service, Bureau of Land Management, U.S. Geological Survey, Bureau of Reclamation, and others, to provide the scientific understanding and technologies needed to support sound management and conservation of national biological resources. Several major objectives figured in the formation of the agency: to increase efficiency in providing biological information and support to land managers, to improve objectivity in research, to anticipate and avoid ecological disasters while enhancing natural resource management, and to improve data quality.

In its first year-and-a-half, the agency has worked toward the difficult task of creating an organization that satisfactorily serves all client agency needs. In this time, high quality long-term research has progressed nicely; however, technical assistance has fallen well below our needs. For parks to be successful in getting good technical assistance requires that we tell them our needs as identified through the resource management planning process. To do this, we need to know how they are organized and who to call.

The National Biological Service is organized around a directorate in Washington, D.C., that handles the programmatic areas of research, information and technology services, inventory and monitoring, and several administrative functions. To carry out most of the activities related to research and technical assistance, the agency formed four regions, Western, Midcontinent, Southern, and Eastern, (fig. 1) whose regional directors entered on duty in February. Regions are organized geographically, and generally render assistance to client agencies from the states that make up the region. Within regions the NBS operates science centers, an agency strength, that



manage the research (the biggest program area), inventory and monitoring, information and technology dissemination, and technical assistance activities in support of client agencies. NPS resource managers may be unfamiliar with science centers as the centers grew up under the Fish and Wildlife Service.

Science centers are one of two *hubs* of biological research within the agency and generally coordinate projects within regions by broad ecosystem type (e.g., riparian, montane, grassland areas, etc. [figure 2 on page 30]) or discipline (toxics and aquatics systems, Great Lakes fisheries, vertebrates, wildlife diseases, etc.). In this analogy, field stations are the *spokes* with more specific research scopes (the Colorado Plateau, Glacier National Park, etc.). The four regions can be thought of as the *wheels* and along with their support units they make up the *vehicle*. Altogether, the NBS operates 15 science centers and 88 field stations, many located within national parks.

Another research hub that complements the science centers and their affiliates is the NBS Division of Cooperative Research. Administered nationally, this umbrella organization includes all 60 NBS cooperative research units. Among this group are

Cooperative Fish and Wildlife Units that came to the National Biological Service from the U.S. Fish and Wildlife Service, a Raptor Research Unit from the Bureau of Land Management, and 12 Cooperative Park Studies Units dedicated to national park system areas that we provided. We can request research and technical assistance from any of these units, but CPSUs focus on parks, while the fish and wildlife units focus on broader ecological questions. Altogether, the 60 cooperative research units add to vehicle momentum through their parallel research and support efforts.

USING SCIENCE CENTERS

Science centers are very diverse and vary somewhat in expertise and areas of geographic responsibility, although all perform biological research, conduct inventory and monitoring activities, provide some technical support, and produce information products for land managers (see table 1 on page 31). One highly specialized center, the National Wildlife Health Center in Madison, Wisconsin, has expertise in wildlife diseases and serves the entire country. In cases not involving these specialized centers, a research project may still be special-

Continued on page 30

ized enough, as in the case of migratory birds, to warrant disregard of regional boundaries. Thus, while research is generally organized and managed regionally, the NBS is flexible in providing specialized services across regional boundaries. A problem that we need to work through in the coming years is that some regional centers are so specialized that they cannot serve our broad needs.



Figure 2. This Midcontinent Ecological Science Center researcher has set up a streamside surgical center for use in a cool water stream ecology fish tracking study.

This paradigm of organizing around state boundaries at one level and ecosystems at another appears to be useful, if not somewhat complex. In our own reorganization we have adopted a comparable scheme, although not congruent with that of the National Biological Service. An example of NPS-NBS regional incompatibility to be aware of might involve our proposed restructured Central Region. This region would have to deal with three NBS regions to accomplish research or technical assistance through the NBS. For example, the NBS Midcontinent Region would correspond to the Great Plains states of our Central Region. The NBS Eastern Region would correspond to our Great Lakes parks. And the Southern Region of the NBS would serve our Central Region for Arkansas areas. Conversely, parks in Nevada (new NPS Western Region), North Dakota (Central Region), and New Mexico (Intermountain West Region) would all be served by the NBS Midcontinent Region (although possibly by different science centers). In this scenario, the NBS would deal with three NPS regions and several system support offices. As we inaugurate our new organization in the coming months, this kind of

administrative inconvenience must be anticipated in order to enable us to form productive working relationships with the NBS.

How to request technical assistance from an organization that rewards pure research and has no single process for responding to technical assistance needs is not simple; finding technical assistance for the near future will likely require ingenuity, networking, and good communication. First, parks might call the science centers that have geographic responsibilities or specialized expertise relevant to their area to secure a prospectus describing the center, its services, products, and areas of expertise. Much of the information presented in the article profiling the Midcontinent Ecological Science Center came from their prospectus. This kind of document is very helpful in gaining a general orientation to the work and scientists of the center. One of its most helpful features is an index to expertise that is presented in the back of the booklet. By looking up a keyword related to the kind of expertise needed one can quickly reference the correct section at the center to contact.

Another idea is to get in touch with the two NBS information and technology services divisions in Colorado. The NBS information and technology mission is to provide leadership in the development, production, publication and use of a variety of different instruments to transfer pertinent resource information, data (spatial and nonspatial) and techniques among Department of the Interior personnel, NBS partners, and the national and international community of resource managers. Two centers are focal points for these efforts: the Fort Collins, Colorado, Information Transfer Center, (303) 226-9401; and the Technology Transfer Center in Lakewood, Colorado, (303) 969-2590. The latter supports the infrastructure needed to communicate data and has less direct contact with client agencies, while the former can search databases of biological information and projects to help put NPS resource managers in touch with appropriate NBS personnel.

National Park Service regional chief scientists are also a primary resource for field resource managers to contact in seeking NBS technical assistance. Serving as research liaisons, chief scientists can make suggestions on

who to call at a science center for a particular area of expertise. Unfortunately, we do not presently know who will perform the science coordination function at either the system support offices or field director offices beginning in May. Another good approach would be to contact appropriate cooperative unit or field station personnel to ask their advice about the correct person to call for assistance.

The technical assistance arena is much less formal than the area of long-range research planning. Consequently, requests for technical assistance can be made at any of several NBS organizational levels: field station or cooperative research unit, science center, region, or national office. Short duration requests (of just a few days) can often be handled at lower levels of the organization. More involved requests may be forwarded further up the line, as appropriate. Requests that enter at a higher-than-appropriate level are reassigned to the appropriate level. Still, parks should try to make technical assistance requests directly to the appropriate level. Once a request for assistance becomes more involved than requiring a few days of help, a more formal arrangement, such as an interagency agreement or memorandum of understanding, may be necessary.

A park that finds the assistance it is looking for (at science centers, field stations, or CPSUs) may receive all project funding to go with it or may be asked to pay for a portion. At the science center level, several funding scenarios are possible with room for some negotiation. Whatever course is taken in deciding project funding, NBS staff are sure to consider the applicability of research and technical assistance results on lands beyond those of just the requesting park. That is, broader applicability would probably favor higher or total funding.

CONCLUSION

Our concerns about inadequate NBS technical assistance are being heard by NBS leaders, and we can expect the agency to work toward better service in the coming years. In the absence of a formal system for requesting technical support, park resource managers are encouraged to use their networking and negotiating skills to learn about considerable NBS science center expertise and put it to work in parks. We may need to start by learning who to call and telling them what we need.



TABLE 1. NBS SCIENCE CENTERS

Science Center	Expertise	Address
Eastern Region		
Patuxent Environmental Science Center	Environmental contaminants, migratory birds, and eastern United States endangered species.	12100 Beech Forest Road; Laurel, MD 20708-4039; (301) 497-5500; (301) 497-5505
National Wildlife Health Center	Research, information, and technical assistance on national and international wildlife health issues.	6006 Shroeder Road; Madison, WI 53711; (608) 264-5411; fax (608) 264-5431
Great Lakes Science Center	Research, inventory and monitoring, and information transfer related to managing, restoring, and protecting organisms and habitats of the Great Lakes basin.	1451 Green Road; Ann Arbor, MI 48105-2899; (313) 994-3331; fax (313) 994-8780
Environmental Management Technical Center	Long-term resource monitoring program for the Upper Mississippi River. Schedule to combine with Upper Mississippi Science Center.	575 Lester Avenue; Onalaska, WI 54650; (608) 783-7550; fax (608) 783-8058
Upper Mississippi Science Center	Ecological, toxicological, physiological, and chemical research related to management of fish and wildlife resources with emphasis on the Upper Mississippi River. Scheduled to combine with Environmental Management Technical Center.	2630 Fanta Reed Road; La Crosse, WI 54602-0818; (608) 783-6451 fax (608) 783-6066
Leetown Science Center	Culture, nutrition, genetics, and diseases of anadromous fish; research and studies and monitoring of eastern river systems.	1700 Leetown Road; Kearneysville, WV 25430; (304) 725-8461; fax (304) 728-6203
Southern Region		
Southeastern Biological Science Center	Management and conservation of biological resources in the southeastern United States.	7920 NW 71st Street; Gainesville, FL 32653; (904) 378-8181; fax (904) 378-4956
Southern Science Center	Research development related to protecting, restoring, and managing wetlands, migratory birds, and other natural resources along the Gulf Coast.	700 Cajundome Blvd.; Lafayette, LA 70506; (318) 266-8500; fax (318) 226-8513
Midcontinent Region		
Midwest Science Center	Lead role in NBS for determining existing and potential effects of toxic materials and other aquatic ecosystems stressors.	4200 New Haven Road; Columbia, MO 65201; (314) 875-5399; fax (314) 876-1896
Midcontinent Ecological Science Center	Research and technology development for management of biological systems (species to ecosystems) of the interior western United States.	4512 McMurry Avenue; Fort Collins, CO 80525-3400; (303) 226-9100; fax (303) 226-9230
Northern Prairie Science Center	Ecological requirements of wildlife populations of interior grasslands and prairie wetlands of the United States.	8711 37th Street SE; Jamestown, ND 58401-7317; (701) 252-5363; fax (701) 252-4217
Western Region		
Northwest Biological Science Center	Identification and measurement of environmental factors that limit distribution and abundance of western United States fish, especially anadromous species.	Building 204, NAVSTA; Seattle, WA 98115-5007; (206) 526-6282; fax (206) 526-6654
Forest and Rangeland Ecosystem Science Center	Northwest forest management research, range quality assessment, wildlife-habitat relationships evaluation, and ecosystems models and analysis.	3200 Jefferson Way; Corvallis, OR 97331; (503) 757-4840; FAX (503) 757-4845
Alaska Science Center	Field and laboratory research on fish, wildlife, and their habitats in Alaska and other circumpolar ecosystems.	1011 East Tudor Road; Anchorage, AK 99503; (907) 786-3512; fax (907) 786-3636
California Pacific Science Center	Information and technologies for management of California desert, coastal, and nearshore marine ecosystems.	6924 Tremont Road; Dixon, CA 95620; (916) 756-1946; fax (916) 678-5039
Pacific Islands Science Center	Research, baseline information, and technical assistance related to conservation of indigenous biological resources in Hawaii and the Pacific territories.	Mauna Loa Research Station; P.O. Box 44; Hawaii Volcanoes National Park, HI 96718; (808) 967-7396; fax (808) 967-8568