

INFORMATION AND COMMUNICATION

Goal: Collect and analyze internal and external information to monitor and enhance program effectiveness. Communicate internally and externally to accomplish our mission and to build an understanding of the Federal role in wildlife damage management.

INFORMATION SERVICES

This past year has been busy and productive for the NWRC Information Services (IS) Unit. The staff received USDA's Unsung Heroes Award for providing excellent information services to WS employees. A staff member also was part of the Living with Wildlife Committee, which received the Secretary's Honor Award for educational products, children's activity sheets, Web-based Choices and Consequences Dilemmas, and training materials they created for WS employees to use in classroom or public forums.

IS staff members worked with WS headquarters and Legislative and Public Affairs staff to produce the WS FY 2000 Information Reports, NWRC Highlights Report, and the NWRC Research Update. The unit leader made presentations on wildlife damage information resources at the Natural Resources Council Meeting, in West Yellowstone, MT, and the Vertebrate Pests of Agriculture, Forestry and Public Lands Meeting in Reno, NV. She also conducted numerous tours of the NWRC headquarters facility and provided information about the NWRC and WS program to visitors.

The unit leader is a member of the APHIS Web Developers Team and leader of the subteam on Web structure and navigation. The team's purpose is to evaluate the APHIS Web structure and develop guidelines for creating and managing Web pages by APHIS units.

NWRC created a WS Image Database of 2,000 scanned slides that will be made available to staff members. A large part of the project was devoted to identifying the slides and creating metadata and the database structure. Instructions for using the product and a Web-ready version will be completed in FY 2002.

NWRC also participated in the CSU Natural Resources Career Fair and staffed a booth at the Denver Western Stock Show with WS Operations personnel and public affairs specialists. The WS booth was awarded the Best Educational Booth Award for 2001.

Library—Construction projects loomed large on the library horizon again in FY 2001. Space was lost, a new counter and cabinetry were installed, and old cabinetry jumped to new locations. Overflow materials edged into surrounding spaces with library employees claiming the right of eminent domain. Our newly installed photocopier/fax/scanner/printer streamlined several important library

functions. Interlibrary loan requests can now be sent directly to patrons' electronic mailboxes.

Online access to NWRC library resources was greatly enhanced. WebZap, purchased in 2000, is now available to WS employees wishing to electronically request articles and other reprints through the NWRC Library. Nearly 160 authorizations have been entered into the system. Additionally, access to NWRC's subscription databases, ChemBank, PestBank, Agricola, and FirstSearch, is now available through the Web. Web access allows personnel at field stations as well as at NWRC headquarters in Fort Collins to use the databases. More than 113 items were added to the library online catalog.

A seminar on desktop access to library services covered all products available to NWRC employees via their computers and discussed access methods and search tips. The Library Online Catalog was significantly upgraded with a Web-based access search engine.

New project page descriptions and photographs were added to the NWRC Web site, including pages for controlling wildlife vectors of bovine tuberculosis and rabies, develop-

ment and evaluation of rodent damage-management methods, and research on improved assessment, sampling, and economic methods for wildlife damage management. A history features page was initiated and features on NWRC's Logan field station, May Thatcher Cooke, Clinton Hart Merriam, and NWRC's International Programs were produced. A seminars page was added to publicize visiting speakers, and a subject index was added to provide an alternate means of accessing research topics. More than 82 publications were scanned and added, full-text, to the Web. Additionally, all 2001 publications are accompanied by short abstracts. All NWRC job ads were posted on the Web and all Wildlife Services Tech Notes added to the NWRC Registration Unit page. Research program interfaces were redesigned and keywords added. Staff is working retroactively to make Web pages more accessible to individuals with disabilities.

Library personnel responded to more than 400 reference requests and performed more than 150 online searches. Citations were added to the BTS database, duplicates were removed, and keywords were added.

Library staff videotaped more than 28 seminars and scheduled other employees to videolape presentations. All seminars were distributed on CD to all field stations.

Library staff borrowed 1,026 items from other libraries for the use of NWRC employees and lent 408 items to other institutions. Library staff also photocopied and mailed more than 2,530 articles and reports for requesters and distributed more than 2,500 copies of NWRC-authored publications.



Archives—Beginning in January 2001, and continuing to the present, a CSU Public History graduate student has been inventorying and organizing a small section of NWRC slides. The images are entered on a searchable database for easy retrieval. In addition, a temporary employee was hired to work on a digitization project, in conjunction with Legislative and Public Affairs, to index and identify scanned WS images. The final product will be CDs of organized, scanned images that will be sent to WS state offices for use in publications and presentations.

Archives staff completed a reboxing effort to appropriately house the entire NWRC collection of unpublished reports. Putting the records in archival boxes and file folders ensures that they will remain protected. In addition, a collection of more than 100 magic lantern slides, dating from about 1918, have been inventoried and placed in appropriate archival housing. The lantern slides were probably used by staff of the Bureau of Biological Survey (a predecessor agency to WS) to publicize animal control work. Magic

lantern slides were widely used in the early 20th century, and the NWRC collection provides a fascinating insight into public presentations that illustrated wildlife damage-control techniques.

An exhibit case now resides in the main hall of the NWRC Wildlife Science Building. A team made up of primarily library and archives staff installed the first exhibit, "Hide and Seek: the History of Telemetry at the National Wildlife Research Center," in May 2001. Exhibits rotate every 6 months and will provide an additional venue to highlight NWRC history and current work. Archives staff continue to feature NWRC history regularly on the employee lunchroom bulletin board. The same material is also added to a rotating history page on the NWRC Web site.

Work was completed on reorganizing and refiling much of the EPA pesticide registration material. Various staff assisted in the effort with the end result of a more coherent, retrievable system for accessing records.

SEMINARS

The NWRC Seminar Program offers a valuable forum for the exchange of ideas among Center staff, field station personnel, visiting scientists, and WS operational staff. During the past year, NWRC hosted 22 seminars, including 11 presentations by speakers from

various corporate, state, and foreign wildlife organizations, Center and field station staff, and NWRC job candidates. Presentations were videotaped and distributed to Center field station and WS regional offices. Topics included the WS management information

system, chronic wasting disease and other zoonotic diseases, Hawaiian invasive species, vulture roost dispersal, toxicant development for BTS, ground-based radar technology for bird detection, potential techniques for fertility control in wildlife and predator ecology.

NWRC SEMINARS

Speaker	Affiliation	Topic
Phillip Cowen	Landcare Research, Palmerston North, New Zealand	Fertility control for possum management in New Zealand
Mike Riley	WS Management Information System Support Center, Fort Collins, CO	MIS 2000: new and improved data captures
John Loomis	Agricultural and Resource Economics, Colorado State University, Fort Collins, CO	Economic values of endangered species: methods and summary of estimates
Karen Blejwas	University of California—Berkeley, CA	Coyote control to reduce livestock predation: targeting individuals versus populations
Ann Carter	Maui Invasive Species Committee	Maui invasive species committee: how and why?
John Eisemann	NWRC (Fort Collins)	Human poisonings and rodenticides—Do you know where your children are?
Mike Avery	NWRC (Gainesville)	Vulture roost dispersal in Florida—recent trials with lasers and effigies
Adam Kelly	Geo-marine, Inc., Panama City, FL	Radar remote sensing of large bird roosts
Kathleen Fagerstone, Lowell Miller, John Johnston, Christi Yoder, Larry Clark, and Kurt VerCauteren	NWRC (Fort Collins)	Nicarbazin research for nonlethal management of pest avian populations
Michael Miller	Colorado Division of Wildlife, Fort Collins, CO	Epidemiology and management of chronic wasting disease in free-ranging deer and elk
Jim Coleman	Landcare Research, Christchurch, New Zealand	Management of pest birds in New Zealand
Bruce Bryant and Michael Kirifides	Monell Chemical Senses Center, Philadelphia, PA	Cell-culture screening and phytochemical characterization of a natural product repellent

NWRC SEMINARS CONTINUED

Speaker	Affiliation	Topic
Stewart Breck	NWRC (Fort Collins)	The effects of flow regulation on the population biology and ecology of beavers in northwestern Colorado
George Linz	NWRC (Bismarck)	The blackbird business plan: implications for NWRC
Vera Voznessenskaya	Russian Academy of Sciences, Moscow	Predator odors and reproduction in Norway rats
Richard Dolbeer, Sandra Bernhardt, and Scott Barras	NWRC (Sandusky)	NWRC's "Wildlife hazards to aviation project": creating safer skies for all who fly—birds and people
Laurie Paulik and Aimee Noble	NWRC (Fort Collins)	Desktop access to library services
Vanessa Lamb	APHIS summer intern	My summer in Tanzania
Clinton Dennison	Job candidate	Reproduction in three species: a prospectus
Kimberly Bynum	Job candidate	Wildlife immunocontraception: comparison of PZP and PZP-KLH vaccine formulation
Tonya Favinger	Colorado Dept. of Agriculture, Denver	Pesticide registration in Colorado
Dale Nolte	NWRC (Olympia)	Wildlife damage management consultations in Southeast Asia
Jeffrey Homan	NWRC (Bismarck)	Dispersal patterns of red-winged blackbirds staging in South Dakota during spring migration
Gary White	Colorado State University, Fisheries and Wildlife Biology	New biometric tools for wildlife research and rigor in wildlife management

MEETINGS, WORKSHOPS, AND CONFERENCE PRESENTATIONS

NWRC Cosponsors Colorado Front Range Prairie Dog Technical Workshop—NWRC cosponsored the 2 1/2-day Colorado Front Range Prairie Dog Technical Workshop along with the FWS, Colorado Division of Wildlife, Boulder County, and the cities of Boulder and Fort Collins in February 2001. The workshop had about 250 attendees—mostly governmental personnel.

Prairie dogs present numerous challenges to landowners and resource managers because they are considered an important ecosystem component but at the same time can cause various kinds of damage and pose a disease hazard. Invited speakers updated the participants on the topics of prairie-dog biology and ecology, legal status and distribution, socioeconomic issues, and management techniques and strategies. Special topics such as plague management and black-footed ferret reintroductions were also addressed. Several panels on special management challenges were held and various perspectives were presented with considerable interaction on this contentious issue.

Several NWRC staff from Fort Collins participated in the workshop as speakers, moderators, and logistical assistants. NWRC researchers in Fort Collins have begun an evaluation of the effectiveness of techniques such as barriers being used by municipalities and counties in an attempt to reduce conflicts.

European and USA Airport and Airfield Safety Conference and Trade Show—A scientist from NWRC's Sandusky field station represented USDA at the European and USA Airport and Airfield Safety Conference and Trade Show in Helsinki, Finland, June 18–20,

2001. The scientist presented an invited lecture on professional wildlife hazard management at airports to managers of major airports from the United States and Europe.

The lecture emphasized the diversity of work carried out by WS biologists to reduce wildlife hazards at 418 U.S. airports during the year 2000. The scientist also participated in various small-group discussions on emerging issues in airfield safety. The International and American Associations of Airport Executives, the Finnish Civil Aviation Authority, and Finnair sponsored the conference.

International Controlled Release Society Conference—An NWRC scientist from Fort Collins presented a paper at the International Controlled Release Society conference in San Diego held June 23–27. The society, with more than 3,500 members worldwide, is composed of pharmaceutical and veterinary industry scientists; academic, government, and contract lab researchers; and manufacturers.

The scientist's presentation discussed the development of a protective coating for pellets that resists breakdown in the rumen in deer and other ungulates but will break down in the acidic condition of the stomach. Additionally, a double-coated pellet has been developed that has an inner acid-resistant coating as well as a protective coating. Pellets with this double coating will bypass both the rumen and the stomach and break down in the intestine. The double-layered system is being designed to deliver immunocontraceptive agents to deer.

Predator Short Course—Scientists at the NWRC's Logan field station presented an educational program on predators to 42 senior citizens in July 2000. The program consisted of a series of lectures taught by different instructors with expertise in predation management. Presentations covered the ecology of coyotes, current research being conducted at the NWRC field station on predators and predation management, human-wildlife interactions, and predators in urban settings. The program also included a field trip to the Logan field station, which involved an extensive tour of the facility, a research exercise that examined how different pairs of coyotes show different behavioral responses to identical stimuli, and presentations by current graduate students on their thesis projects. This predator short course will become a regular part of the curriculum offered by Utah State University to seniors enrolled in the university's summer citizen program.

Endangered Species Workshop—On July 11 and 12, 2001, WS biologists from the Montana, North Dakota–South Dakota, and Nebraska–Kansas programs and scientists from NWRC's Bismarck, ND, field station attended a workshop on the Endangered Species Act (ESA). A WS Operational Support Staff specialist provided background on the history of the Act, and discussed the relationship between the ESA and the National Environmental Policy Act, providing case studies. The training was timely as the WS operations program in the Dakotas and NWRC scientists are preparing a regional environmental impact statement on blackbird management in those States.

Indonesian Research Institute

Seminar—An NWRC Olympia, WA, field station scientist presented a seminar to 40 scientists and staff of the Rice Research Institute in Sukamandi, Indonesia, on July 20, 2001. The group was given an overview of the NWRC and WS program, followed by a discussion of the underlying mechanisms governing animal foraging behavior as related to identifying ways to reduce damage problems. The scientist, as part of the NWRC sabbatical program, spent 6 weeks at the Institute working with students and staff to plan studies to assess the activity patterns of the rice-field rat. Students and researchers also discussed the benefits of improving the existing general knowledge regarding chemosensory attributes and foraging ecology of the rice-field rat.

Local Wildlife Society Meeting—Two NWRC scientists from Fort Collins attended the joint meeting of the Central Mountain and Plains Section of The Wildlife Society and the Colorado Chapter of the Society July 18–20, 2001, in Fort Collins. The 100 attendees from 7 States and 2 Canadian provinces included personnel from State and Federal agencies, universities, and conservation organizations. The meeting provided an opportunity for NWRC scientists to learn more about and discuss issues related to conservation of shortgrass prairie. Many of the issues, such as predation on rare species, disease transmission from wildlife to livestock and humans, and damage by overabundant rodents and ungulates, relate to the mission and activities of WS. The NWRC scientists presented overviews of their research and discussed potential collaborations.

Society for Conservation Biology

Meeting—Several WS personnel attended the 15th annual meeting of the Society for Conservation Biology in Hilo, HI, July 26 through August 2, 2001. The meeting was

attended by about 1,200 persons from 42 countries. Personnel from the NWRC's Hilo field station served on the local organizing committee for the meeting and provided substantial logistical support.

There were a large number of presentations on exotic and invasive species, including several by NWRC scientists from Fort Collins and Hawaii and WS Operations biologists from Guam. There were also field trips that allowed discussion of ecological restoration efforts once exotic species (feral ungulates or rats) have been removed. It became clear that there is a need for new strategies and tools and for more agency and public support for invasive species surveillance, management, and eradication.

Washington and Alaska WS State

Meeting—Biologists from the NWRC Fort Collins headquarters and Sandusky and Olympia field stations attended the Washington and Alaska WS State meeting at Fort Worden State Park, WA, July 30–August 2, 2001. Conference presentations covered a wide variety of subjects including overviews of WS programs. NWRC presentations focused on an overview of research activities, an update on the 2001 WS Research Needs Assessment, a review of Washington's antitrapping initiative and its impact on the WS program, a demonstration of mountain-beaver trapping techniques, and recent research findings for the use of lasers as nonlethal avian repellants.

Presentation on Nonlethal Wildlife

Damage Management—A scientist from the NWRC's Logan field station made a presentation to the Governor's task force on nonlethal wildlife damage management in Annapolis, MD, on August 8, 2001. The task force is comprised of 16 members, including representatives from the State Senate, the House of Delegates, Maryland Department of

Natural Resources, the American Bird Conservancy, The Humane Society of the United States, the Fund for Animals, USDA WS, the Montgomery County Planning Commission, the Maryland Sportsmen's Association, the University of Maryland College of Agriculture, and several unaffiliated members of the public.

The presentation focused on the need to consider nonlethal methods realistically and within the framework of integrated pest management strategies that include both nonlethal and lethal methods of conflict management. The task force is charged with presenting findings and recommendations to the governor and the State assembly by December 1, 2001.

Brown Tree Snakes 2001 Meeting

—A meeting on the BTS was held August 6–10, 2001, on Andersen Air Force Base, Guam, to discuss the current and future status of BTS research and control efforts. WS employees from WS Western Region and the NWRC attended the meeting. General topics included keeping the problem from spreading, reproduction and general biology, population biology and capture strategies, current and future directions for recovery of Guam's wildlife, and toxicants and control agents. Meeting highlights included a visit to the endangered species breeding facility, a tour of the snake control areas around cargo staging areas and airports, and a demonstration by dog handlers and snake-detection dogs.

Oregon WS State Meeting Presenta-

tion—Between August 13 and 16, 2001, a scientist from the NWRC's Logan field station made two presentations at the Oregon WS State meeting in Elkton, OR. One of the talks focused on the economics of predation management, while the other outlined current NWRC bird and mammal research activities. About 50 people, including WS personnel, two

Oregon State senators, an Oregon county commissioner, and representatives from the Oregon Fish and Game Department, the Oregon State Police, and various stakeholder groups (forest protection, woolgrowers, cattlemen) attended the conference.

Mid-Atlantic WS meeting—An NWRC Logan field station scientist made a presentation on NWRC research activities and participated in other activities at the annual Mid-Atlantic WS meeting in Crossnor, NC. About 80 people, including WS personnel and representatives from the International Association of Fish and Wildlife Agencies and the Berryman Institute attended this conference.

Joint Bird Strike Committee—USA (BSC—USA) and Bird Strike Committee—Canada (BSC—Canada) Meeting—More than 330 people from 29 countries attended the 3d annual joint meeting of BSC—USA and BSC—Canada held in Calgary, Alberta, August 27–30, 2001. The goal of BSC—USA is to increase communication and professionalism among the many groups and agencies involved with wildlife issues on airports. Forty-five technical papers and posters were presented, including four by scientists from the NWRC's Sandusky field station. A conference highlight was a presentation by the Director of Airport Safety for the ALPA regarding the need for airports to institute measures that minimize wildlife hazards. These hazards cost worldwide civil aviation more than \$1.2 billion per year. WS biologists are assuming an increasingly important role in reducing wildlife hazards at U.S. airports, assisting 418 airports in 2000.

High School Biology Class Presentation—An NWRC scientist from the Olympia field station was invited to address students at the Great Bend High School in Great Bend, KS, on August 31, 2001. Speaking to 70 students in 3 advanced biology classes, the scientist reviewed the role of WS and the NWRC in wildlife management. Using specific examples, such as bear damage to timber in the Pacific Northwest and rice-field rat damage in Asian rice fields, the scientist discussed the interrelationship of farming practices and species-specific behaviors that contribute to human-wildlife conflicts. The scientist also stressed the importance of research in understanding and resolving problems through development of new or improved management techniques and tools.