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U.S. Fish & Wildlife Service

Winter 2008

Fish & Wildlife *News*



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A San Diego National Wildlife Refuge fire crew recounts a harrowing day on the front lines.

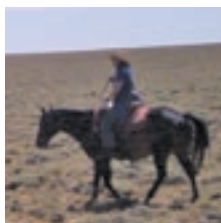
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By Christine Eustis

H. Dale Hall



A Call to Action

Each generation has its struggles and its heroes. Certainly this holds true for conservation.

At the turn of the 20th century, market hunting threatened to wipe out wild bird populations, prompting President Theodore Roosevelt to create the first national wildlife refuge at Pelican Island in 1903. Today the 548-unit National Wildlife Refuge System is the greatest system of lands in the world dedicated solely to wildlife conservation.

In the 1930s “Dust Bowl,” the nation was devastated by a gripping drought that severely impacted waterfowl populations and other wildlife. Through the leadership of conservationists such as Aldo Leopold, Ira Gabrielson, J. Clark Salyer and J.N. “Ding” Darling, a cadre of wildlife professionals and citizens began to take on the cause of wildlife conservation in unprecedented ways. Darling, who served as Chief of the Bureau of Biological Survey in 1934 and 1935, designed the first Duck Stamp (which then sold for \$1), with proceeds used toward the purchase of refuge lands. To date, the sale of Federal Duck Stamps has raised more than \$700 million to acquire habitat at hundreds of refuges in nearly every state in our nation.

In the 1960s, Rachel Carson sounded the alarm on the effects of chemical pesticides with her book *Silent Spring*, sparking the modern environmental movement. Two decades later, plummeting waterfowl populations caused in large part by the destruction of wetlands prompted the United States and Canada to create the North American Waterfowl Management Plan, an international partnership that fostered hundreds of other partnerships to restore and protect habitat.

Today, climate change has emerged as the defining environmental and conservation issue of our time. As scientific knowledge continues expanding, many sobering facts and disconcerting predictions about implications for fish and wildlife resources are emerging.

This is not cause for despair, but rather, a call to action.

The Service cannot effectively respond to climate change with a species-by-species, station-by-station, program-by-program, or region-by-region approach. Because climate change affects all kinds of species and habitat in all kinds of places, it is becoming clearer that a consistent approach to business—

built upon landscape conservation and the adaptive management framework outlined in the 2006 Strategic Habitat Conservation (SHC) report—is needed for us to meet this challenge. Our work and decisions must be structured through biological planning; measurable biological outcomes; monitoring and evaluation; and research addressing key uncertainties.

But more than that, we need to have a larger vision of how we approach conservation.

As the Service Spotlight feature in this issue of *Fish & Wildlife News* illustrates, the Arctic may provide a glimpse of the future. The region’s rapidly declining ice pack is not only affecting polar bears, but also walrus and a host of other species dependent on sea-ice habitat. These changes are requiring managers and biologists alike to rethink traditional approaches to wildlife management.

The pace and scale of change driven by global warming challenges our ability to ensure self-sustaining wildlife and plant populations in the future—and the very notion of place-based conservation. Like our conservation heroes, we must now identify and champion innovation. Our strategy must be based upon a vision of landscape conservation that builds on our past successes, as well as partnerships with neighboring landowners, other federal agencies, county governments and local citizen groups to develop a connected landscape of habitat “safety nets” to aid wildlife as they adapt to climate change.

In the coming year, each region will host climate workshops, focusing directly on this challenge. We will educate and inform our partners, our visitors and the public with quality information and begin identifying and building the new scientific, legal and policy tools necessary to address this challenge. We will see dedication, commitment, intelligence and innovation from every employee, every station, every program and every region. Not just as individuals or individual units, but as the U.S. Fish and Wildlife Service.

Theodore Roosevelt, Aldo Leopold, and Rachel Carson had their time. This is our time. This is why each of us has chosen a career of public service—to deal with issues of consequence and make a difference for our nation. Together we can face the challenge of climate change and turn it into an opportunity for leadership and success. □

Service Announces Measures to Maintain Science Excellence

The Fish and Wildlife Service has announced a series of measures to enhance scientific integrity, peer review and publishing. The measures are part of the agency's ongoing effort to maintain science excellence.

In January, the Service unveiled its Scientific Code of Professional Conduct. The code, developed over a three-year period by the Service's Science Committee, is a set of guidelines applicable to scientists, managers and executives within the agency. It applies to scientific conduct, but also extends to the translation and application of science used to inform resource management decisions.

The code provides clear guidance to support employees and managers in their pursuit of science and help the Service maintain open and robust ties with the greater scientific community.

The Service code is modeled after similar codes from professional scientific organizations, and it has been praised by The Wildlife Society and American Fisheries Society—two of the leading national societies for fish and wildlife scientists.

"The American Fisheries Society includes many U.S. Fish and Wildlife Service employees among its members and has long believed that a strong code of professional conduct is an important aspect of organizational integrity," said Dr. Gus Rassam, Executive Director

of the American Fisheries Society. "This new Service policy reflects that same commitment, and we applaud the Service for taking this step which is closely commensurate with the code of conduct that AFS has long espoused."

Wildlife Society President Dan Svedarsky said the Society adopted a Code of Ethics and Standards for Professional Conduct in 1963 to recognize and uphold the professional integrity of the wildlife profession. "We commend the Service in adopting a parallel scientific code of professional conduct, which we believe will reinforce and strengthen the agency's tradition of scientific excellence and commitment to wildlife research and management," Svedarsky said.

To review the Scientific Code, visit www.fws.gov/science.

To strengthen scientific peer review, the Service has contracted with two companies, Sustainable Ecosystems Institute and PBS&J, to provide outside technical review services for a variety of resource management information, including documents such as recovery plans, listings, delistings and 5-year reviews.

Ralph Morgenweck, Senior Science Advisor, who spearheaded the contract peer review effort said the contractors provide information synthesis services as well as model and engineering reviews and may be accessed by the development of a task order prepared in conjunction with Regional or



Forage fish research, Shumagin Islands, Alaska.

Headquarters contracting offices. The two contractors were chosen through a competitive bid process conducted according to Federal Acquisition Regulations by the Mountain-Prairie Region contracting office. The contracts and statement of work under which the two contractors were selected can be found at www.fws.gov/informationquality

Morgenweck said the service is available to all units of the Fish and Wildlife Service, National Park Service, and Bureau of Reclamation. He said the Fish and Wildlife Service's Pacific Region has enlisted the peer review capabilities to review technical issues in the Northern Spotted Owl recovery plan; and the California-Nevada, Southwest, and Midwest Regions also have expressed interest in the contract services.

"These contracts can be accessed quickly and efficiently to get applied scientific expertise

to work on our issues in a relatively short time frame," Morgenweck said.

The agency also has announced the renewal of the Fish and Wildlife Service's scientific publications, which have been inactive since the creation of the National Biological Survey in 1994. Later this year, the Service will reinstate the distinguished North American Fauna Series and reformat several outdated publications into two new electronic journals titled *Conservation Science* and *Journal of Fish and Wildlife Management*.

Conservation Science will be a forum for pioneering articles based on original thought and research; *Journal of Fish and Wildlife Management* will provide a venue for peer review and publication of many of the Service's scientific products. To facilitate participation from Service scientists, the agency has established a National Editorial Board to recruit and organize editorial and review staff in each Region.

"This is one of the most important changes to take place during my tenure as Director," said Service Director H. Dale Hall. "It reflects the desire of our Directorate to strengthen our science infrastructure, provide wide access to the Service's written science products, and maintain standards of high quality in the information we use to manage our nation's fish and wildlife resources." □

David Eisenhower, Public Affairs, Washington, DC

Trinity NWR Restoration Program Helps Reduce CO²

The Fish and Wildlife Service is collaborating with Dell, Travelocity, the Conservation Fund and Environmental Synergy, Inc. (ESI) in the restoration of 158 acres of forestland that will address climate change, restore sensitive wildlife habitat and enhance public recreation areas at Trinity River National Wildlife Refuge in East Texas.

Private support for the initiative was made possible via a mix of customer and corporate donations from Dell, Travelocity, Universal Studios, NBC Universal and individual donors to The Conservation Fund's Go ZeroSM program. During their lifetime, the newly planted bald cypress, oak and pecan trees will trap more than 63,000 tons of carbon dioxide — a prominent greenhouse gas.

"The Fish and Wildlife Service and the American public are the true beneficiaries of this partnership," said Service Southwest Regional Director Benjamin Tuggle. "Through the efforts of Dell, Travelocity, Universal, The Conservation Fund, and all others involved in Go Zero, lands held for the American public will be improved and the global environment for both people and wildlife will benefit."

Like much of East Texas, huge swaths of forestland surrounding the boundary of Trinity River NWR refuge are for sale. The forest industry has put millions of acres on the market, threatening sensitive natural resources and a once-stable East Texas economy. To help protect and restore these lands, the Fund has

engaged leaders in the public and private sectors to calculate and then offset carbon dioxide emissions by planting trees via its Go ZeroSM program.

"We commend The Conservation Fund, U.S. Fish and Wildlife Service and Environmental Synergy, Inc. for enabling our customers to address climate change and habitat loss head on," said Tod Arbogast, director of Sustainable Business at Dell. "From energy efficiency, to carbon sequestration to reuse and recycling, we are partnering with customers and members of the ReGeneration — people of all ages who care about the environment — to become the 'greenest' technology company on the planet."

"The World Bank estimates that 20 percent of global greenhouse gas emissions is caused by deforestation," added The Conservation Fund's Texas director, Andy Jones. "Thanks to the extraordinary leadership of Dell, Travelocity, NBC Universal and Universal Studios, the expertise of ESI and the commitment of the Service, we are raising much needed capital to address the most pressing environmental challenges of our time — climate change and habitat loss — by restoring critical forestlands."

The land was planted by ESI and will be managed by the Service. ESI will monitor the newly restored forest for carbon accrual using on-site measurements over time. The project will then be certified by Environmental Resources Trust. Since 2000, The Conservation Fund has

restored nearly 20,000 acres with 6 million trees that are expected to capture more than 8 million tons of carbon dioxide equivalent from the atmosphere over the next century.

Located just 45 miles east of Houston, the 22,500 acre Trinity River NWR safeguards a remnant of the bottomland hardwood forest ecosystem that once dominated the eastern Texas landscape. The slow-flowing rivers and swamp-like wetlands are used during migration or nesting by neotropical migratory birds, and are home to freshwater

turtles, alligators, bald eagle and more than 640 plant species.

The Conservation Fund and its partners have protected more than 144,000 acres in Texas including 4,700 acres at Trinity River NWR. Most recently, the partners launched the Pineywoods Experience, a \$35 million initiative that blends land protection and ecotourism to position East Texas as a destination for tourists, much like the Appalachians or the Adirondacks. □

Jose Viramontes, Public Affairs, Albuquerque, New Mexico

Service Southwest Regional Director Benjamin Tuggle (right), and David Frink, Director of Corporate Affairs for Dell Inc. (left), plant one of nearly 50,000 trees at Trinity River National Wildlife Refuge.



A Half Century of Conserving Prairie Habitat

The Service's Small Wetlands Program is one of the most effective conservation programs you've likely never heard of. The program, which this year celebrates a half century of conserving prairie habitat, uses funds from the sale of Federal Duck Stamps to permanently protect some of the most threatened and productive waterfowl habitat in the United States.

Since its creation 50 years ago, the program has protected nearly three million acres of habitat, mainly in the Prairie Pothole Region of the United States, an ideal nursery for waterfowl known as the "Duck Factory" of North America. Even today, with much of the wetlands and grasslands of the Midwest converted to agriculture and just 2 percent of the land base part protected within the National Wildlife Refuge System, the

Prairie Pothole Region still produces 50 percent of North America's breeding waterfowl population.

Congress officially created the Small Wetland Program on August 1, 1958, by amending the 1934 Migratory Bird Hunting and Conservation Stamp Act (commonly referred to as the Duck Stamp Act) to allow proceeds from the sale of Federal Duck Stamps to be used to protect waterfowl habitat. The habitat protected through the Small Wetland Program consists of small wetlands, and surrounding grassland habitat. These areas, protected in perpetuity through fee-title acquisition or easement, are called waterfowl production areas (WPA) and are part of the National Wildlife Refuge System.

Beginning in the late 1950s, Service realty specialists began crisscrossing the Prairie Pothole Region working with willing landowners to protect remaining waterfowl habitat. In 1959, the Service acquired its first WPA, the McCarlson WPA in Day County, South Dakota. Congress

recognized the success and understood the importance of the program, and in 1961 greatly increased the program's funding by approving the Wetland Loan Act.

As part of the National Wildlife Refuge System, WPAs are generally subject to the same rules, regulations and requirements of a national wildlife refuge. "Basically we've got 244 refuges, with a more than 500 miles of border, spread across eight counties to manage," says Morris Wetland Management District Manager Steve Delehanty. "The increased number of adjacent landowners can be a challenge, but it also really helps us develop working relationships with a large portion of the community. This is an opportunity to work on conservation on a landscape scale."

For more information on the Small Wetlands Program, visit reality.fws.gov/smallwetlands50 > □

Chuck Traxler, External Affairs, Fort Snelling, Minnesota

The Service acquired its first waterfowl production area, the McCarlson WPA in Day County, South Dakota, in 1959.



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Follow these basic guidelines when shooting images

for submission to *Fish & Wildlife News*:

- Use a high-quality digital camera (4 megapixels or higher) to produce a print-quality photo.
- Set your camera to the highest resolution (sometimes labeled large or superfine).

■ Variety is important—shoot multiple photos, different angles (close up, from a distance, horizontal, vertical, etc.). More options help us choose the best photo for a particular story layout.

■ Send original, unedited images.

Thank you for spreading the word to your staff and for helping us make the *News* a quality publication.

Minnesota To Host 2008 Duck Stamp Contest

The 2008 Federal Duck Stamp Contest will be held at the Bloomington Art Center in suburban Minneapolis, Minnesota October 17 and 18, preceded by a week's worth of events and art exhibits.

"Midwesterners are passionate about stewardship of land and waters for wild creatures and for future generations, and this is a great place for choosing the artwork to grace the Federal Duck Stamp," said Service Director H. Dale Hall in announcing the location in October 2007.

Joseph Hautman of Plymouth, Minnesota, won the 2007 Federal Duck Stamp Art Contest on October 13, 2007 with his depiction of a pair of northern pintail ducks.

Chosen from among 247 entries, Hautman's painting will be made into the 2008–2009 Duck Stamp, which goes on sale in late June. It will be the 75th Federal Duck Stamp.

Joe Hautman won the Federal Duck Stamp contest in 1992 and 2002. Brothers Bob and Jim are also multiple contest winners.

Second place went to Harold Roe, of Sylvania, Ohio, who painted an acrylic of a lone green-winged teal. Scot Storm of Freeport, Minnesota, took third place with a pair of mallards in acrylic. Storm's work appeared on the 2004–2005 Federal Duck Stamp.



Wildlife artist Joe Hautman of Plymouth, Minnesota won the 2007 Federal Duck Stamp Art Contest with his depiction of a pair of pintail ducks.

Judges for the competition were Jim Sprankle, a renowned wood sculptor of wild birds and former Major League pitcher; Matt Hogan, executive director of the Association of Fish and Wildlife Agencies; Jeanie Morris, president of the Springfield (Missouri) Arts Council; Cheryl Ganz, chief Curator for Philately at the Smithsonian's National Postal Museum; and Eugene Hester, former Deputy Director of the Fish and Wildlife Service.

Minnesota has produced more winning Federal Duck Stamp artists than any other state. The state's hunters, birders, conservationists, art lovers and stamp collectors have purchased more than 9.1 million Duck Stamps.

Midwest native and Pulitzer-prize winning editorial cartoonist, "Ding" Darling, director of the Bureau of Biological Survey, designed the first Duck Stamp in 1934. It sold for \$1.

Ninety-eight percent of the proceeds from the \$15 Duck Stamp go to the Migratory Bird Conservation Fund, which supports the purchase of wetlands for the National Wildlife Refuge System. □

Rachel F. Levin, External Affairs, Fort Snelling, Minnesota

Amur Tigers Show Signs of Recovery

In a world where many animals are under siege, the Amur tiger — popularly known in the West as the Siberian tiger — offers an encouraging message: the population of the huge cat is showing signs of recovery.

During the past 100 years, the Amur tiger population of the Russian Far East was decimated by forest destruction, trophy hunting and poaching for tiger body parts for use in traditional Chinese medicine. By the 1940s the number surviving had dwindled to an estimated 50.

Thanks in part to \$611,131 in U.S. Fish and Wildlife Service grants that, combined with partner donations and in-kind contributions, push the total to more than \$1 million, the big, distinctive cats appear to be rebounding in Russia.

Recent surveys indicate that between 331 and 370 adult tigers and 100 young — about 450 tigers in all — are living in the Russian Far East, home to 95 percent of all Amur tigers in the world.

Service wildlife biologist Fred Bagley, long associated with Amur tiger conservation efforts, said a spike in tiger poaching in the early 1990s was subsequently met by a Russian government crackdown, and the intensified anti-poaching efforts have paid off.



Amur tiger.

JOHN GOODRICH

The Amur tiger is one of five tiger subspecies in the world; of eight that once roamed the earth, three became extinct in the 20th century. While the majority of Amur tigers live today in the Russian Far East, a much smaller number are known to inhabit China, and a few may occur in North Korea. Some estimates place the global tiger population in the 3,900 to 5,100 range, down from perhaps 100,000 more than 100 years ago.

The demand for tiger parts for use in traditional Chinese medicine has played a major role in the decline of the Amur tiger population. Despite medical evidence to the contrary, belief persists that tiger parts can curb ailments ranging from impotence to arthritis, skin disease, fever, and more.

And during the last period of heightened poaching, Russian

conservation workers estimated that as many as 60 tigers were killed each year.

But the tigers' situation has shown marked improvement: local government in the Russian Far East, said Bagley, is firmly committed to helping rescue the tigers, and the Service has remained a firm partner in the effort. Service grants have helped pay for vehicles, uniforms, fuel and even salaries for Russian game wardens who have had success in deterring poachers. It's a relationship that has had positive results.

"It's hard to find another place in the world where tigers are doing as well," Bagley said.

Left alone in the wild, the tigers do well, indeed. Amur tigers breed easily, and even though the number of young in the current decade has given cause for some

concern, the number of cubs born to each litter has increased slightly, granting some stability to the gradual population increase.

Amur tigers, which can weigh up to 600 pounds at maturity, are loners that travel enormous distances in search of prey, such as elk and wild boar. While some of the tigers have been known to attack humans, they usually prefer to avoid people. The tigers have been known to kill wolves that venture into their territory.

Another threat to the tiger is Russia's own healthy economy. Wildlife law enforcement jobs in the Russian Far East don't pay well, and even the most dedicated Russian game wardens are often easily lured elsewhere by better pay, making it difficult to keep trained personnel on the job.

"In the scheme of international grants, the amount of money we've contributed to this effort has been relatively modest," said Bagley. "But there is no doubt that we've had an impact. This is one of those times when you can point to something and say, yes, we're making a real difference. Applied research, habitat protection, effective law enforcement and the support of local people made possible through conservation education, are advancing the survival of this tiger." □

Ken Burton, Public Affairs, Washington, DC

NWRS Launches Invasive Species Online Training Program

In collaboration with the Center for Invasive Plant Management, the National Wildlife Refuge System has designed an online training course for people interested in fighting one of the single greatest threats to the Refuge System— invasive species.

The Refuge System has worked aggressively to combat invasive species, targeting more than 280,000 acres of refuge lands. Yet an estimated 1.72 million acres remain untreated.

The new invasive species Web site <www.fws.gov/invasives/volunteersTrainingModule> includes video, text and photos that provide background on the Refuge System and information about the science and management of invasive plants. The site also includes links to government and private Web sites dealing with the issue.

In 2003, the Refuge System joined The Nature Conservancy, the National Wildlife Refuge Association and the U.S. Geological Survey in training volunteers to use hand-held GPS devices to map invasive species on national wildlife refuges.

"We want volunteers to be able to engage their communities on the issue of invasives," said Jenny Ericson, national invasives volunteer coordinator for the Refuge System. "The online training provides practical tools on how to prevent and control invasive plants. Volunteers can be our greatest advocates in the fight against this major nationwide threat to wildlife and habitat." □

Jenny Ericson, NWRS Invasive Species Program, Washington, DC

Partners Program Celebrates 20 years



HEATHER JOHNSON / USFWS

Partners for Fish and Wildlife biologist Tony Ifland (right) confers with a landowner at the Smoky Hill Focus Area in Kansas.

Last fall nearly 300 Fish and Wildlife Service staff, regional directors, congressional staff and conservation partners gathered to celebrate the 20th Anniversary of the Partners for Fish and Wildlife Program (Partners Program).

The three-day workshop and celebration represented a milestone achievement for the Partners Program, as participants gathered to interact, network and learn from the mix of conservation partners. Speakers included Service Director H. Dale Hall, Oklahoma Senator James Inhofe and Oklahoma Congressman John Sullivan.

The conference included regional highlights, breakout sessions, partner presentations, awards ceremonies and regional meetings.

Established in 1987, the "Partners for Wildlife Program" started as a small collaborative effort that set out to restore waterfowl habitat on privately owned land in the Midwestern United States. Now known as the Partners for Fish and Wildlife Program, the Program has grown in size and scope and has gained national recognition as a vanguard in the new era of cooperative conservation.

In two decades, the Partners Program has developed more than 41,000 private landowner agreements, more than 3,000 corporate partnerships and has restored and enhanced more than 800,000 wetland acres nationwide. □

Joe Milmo, Habitat Restoration, Arlington, Virginia

USFWS

Orange Hawkweed.



Refuge Educator Receives 2007 Sense of Wonder Award

Fran McTamane, a long-time environmental education specialist at the San Francisco Bay National Wildlife Refuge Complex, was named this year's winner of the U.S. Fish and Wildlife Service's Sense of Wonder Award, the agency's highest honor for achievement in environmental education and interpretation. The annual award acknowledges Fran's key role introducing children to nature and helping chart the course of environmental education within the Service.

Fran received the award during the National Association for Interpretation's 2007 National Workshop, November 6–10, in Wichita, Kansas.

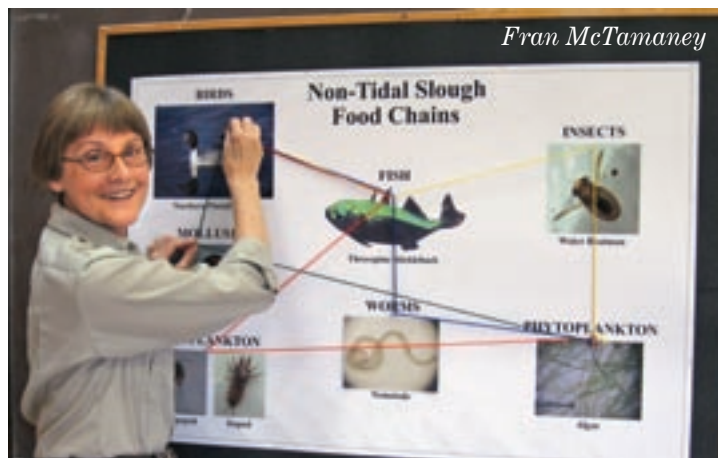
Under Fran's guidance, the environmental education program at the San Francisco Bay NWR Complex expanded from a single location on the Don Edwards SF Bay NWR to include three other locations on that refuge, and programs at San Pablo Bay, Farallon, and Ellicott Slough refuges. Each program is distinct and tailored to specific management issues of the refuge and the needs of the local communities served by the programs.

Through Fran's leadership and using best practices of environmental education, more than 120,000 students in the greater San Francisco Bay area have had opportunities to forge emotional and intellectual connections through well designed field trip programs. Fran facilitated these connections either personally or through the products that she helped develop and produce.

Fran also served on the original design/development team for two national Fish and Wildlife Service environmental education courses: Developing Teacher Training and Environmental Education Methods. She instructed sessions of those two courses for 15 years.

Although Fran retired at the end of September, the programs, activities, manuals, and training courses that she developed throughout her 22-year career will continue to be employed by educators and enjoyed by children for many years to come.

The Sense of Wonder award takes its name from a book by the great conservationist and former U.S. Fish and Wildlife Service employee Rachel Carson, who



urged adults to help children develop a "sense of wonder" in the natural world that would continue to grow for generations. Both her spirit and her professional achievements

show how fully Fran embraced this philosophy. □

Scott Flaherty, External Affairs, Sacramento, California

Cultivating Curiosity



Fourth-grade students from Astoria, Oregon look for birds at Little Beach in the Necanicum Estuary. The students participate in the Shorebird Sister Schools Program, an environmental education program sponsored by the Fish and Wildlife Service that helps teach students about shorebird behavior, adaptations, habitat requirements, environmental impacts and conservation.

The Good Oak

By Richard King

When Aldo Leopold walked his beloved Sand Counties the oak was a mere seedling hardly worth a second glance. During its short (by oak standards) life, it experienced ecological changes wrought by an oscillating conservation pendulum touched by Leopold himself.

It could be argued that the oak owed its existence to a lack of conservation. A shotgun blast in the heart of the Sand Counties felled Wisconsin's last passenger pigeon. Acorns provided the fuel for what Leopold called the pigeon's "traveling blast" across the continent. The Sand Counties are now full of generations of oaks that germinated absent the thunder that prefaced the "feathered tempest's" arrival.

During the oak's first decade a new approach to conservation changed the Sand Counties. Federal ownership followed where the "drainage dream" failed and the nation was given another national wildlife refuge. Alongside the oak seedling, botanists busily collected and cataloged, while in the name of the Civilian Conservation Corps, young men planted pine trees and quenched the wildfires that had championed the oak's cause.

Academics from the world's first wildlife management department foretold the looming "reforestation" battle. By the end of the oak's first decade, aspen cast a shadow over the Sand Counties. While the oak toiled in the shadows, the battle for light raged, and the academics began penning the Sand Counties' latest eulogy.

The conservation pendulum was sessile for five decades of "reforestation." In that time the oak grew spindly, hardly recognizable as the decedent of sprawling ancestors. Other Sand County residents were no longer present to be recognized. Crotalarias and others that annually invested all of their energy in seeds that never saw light were the first to go. Silphiums and other proud Sand County perennials were more resolute but light deprivation depleted their energy stores and they too faded away.

With a sway of the pendulum in the oak's sixth decade, light returned in the name of migratory birds and endangered species but not before "reforestation" had generated tons of wildfire fuel. All around the oak, that fuel was removed, becoming pulp for paper



products, wood pellets for furnaces, mulch for backyards, while the Conservation Corps' pines became telephone poles. To inspire long-forgotten seeds, fire also returned. Its return confirmed only a random assortment of inveterate seeds remained.

Once cataloged but long-forgotten plants rejoined the oak in its seventh decade; their hand-sown seeds collected with the clairvoyance afforded by subdivision development. The tiny Karner blue butterfly returned to enjoy the new nectar while fully depending on the resilient wild lupines whose seeds never left. Timber wolves also took the initiative and upon returning, eyed whooping cranes that, with help, returned to nibble on acorns under the oak's limbs that sprawled for as much light as possible.

Now in its eighth decade, the oak's fate remains uncertain. A favorable pendulum swing is tractable; Sand County giants have been powerless to stop it. All hope of modulating the pendulum lies in fostering a land ethic and providing an answer to the question, "What did a thousand acres of Silphiums look like when they tickled the bellies of the buffalo."

Richard King is a wildlife biologist at Necedah National Wildlife Refuge

Field Journal is an ongoing chronicle of conservation and life in the U.S. Fish and Wildlife Service. Please send personal essays, profiles, and other submissions (700 words or less) to: Field Journal, Fish and Wildlife News, 4401 N. Fairfax Dr., MS 330, Arlington, VA 22203 or e-mail <david_eisenhauer@fws.gov>

service spotlight

landscape of

*Climate change
is forcing the
Service to redefine
its approach to
conservation.*

By David Eisenhauer



Change

In the process of reviewing information on which to base its decision whether to list the polar bear as a threatened species, the U.S. Fish and Wildlife Service considered a series of U.S. Geological Survey studies predicting that future reduction of sea ice in the Arctic due to global warming could result in a loss of habitat currently supporting two-thirds of the world's polar bears within 50 years.

Sea ice is essential habitat for many of the polar bear's life functions— including hunting, feeding, movement, and nurturing cubs— as well as those of other ice-dependent species, such as seals and walrus. If the changes in the Arctic are a harbinger of global climate changes to come, the polar bear represents the tip of a vast iceberg in terms of potential impacts on wildlife.

“Climate change is driving environmental change at a pace and scale we've never seen,” says Service Science Advisor Dan Ashe. “That means we must think and act differently than ever before. We must adjust how we think about the objective, scale, scope and timing of conservation. This is our call to arms.”

To prepare for the challenge, Ashe says, the Service needs to approach conservation from the larger landscape scale, linking ecosystem process and function with explicit population-level outcomes. That requires a systematic way of thinking critically about what we do and why we do it, exemplified by a “business approach” the Service calls Strategic Habitat Conservation—a framework for population-based, landscape-level habitat conservation through adaptive management.

“Climate change is forcing the Service to redefine its approach to conservation,” Ashe says. “Strategic Habitat Conservation is the framework for that vision.”

Far-Reaching Impacts

Throughout its history the Fish and Wildlife Service has faced adversity, from the severe droughts of the 1930s to the environmental effects of chemical pesticides highlighted in Rachel Carson's *Silent Spring*. Service Director H. Dale Hall says, however, the warming of the earth, “could potentially have more far-reaching impacts on wildlife and wildlife habitat than any challenge that has come before us.”

According to the Intergovernmental Panel on Climate Change (IPCC), warming of the climate system is “unequivocal,” posing a significant challenge for fish and wildlife conservation. Species abundance and distribution are dynamic, relative to a variety of factors, including climate. As climate changes, the abundance and distribution of wildlife and fish will also change.

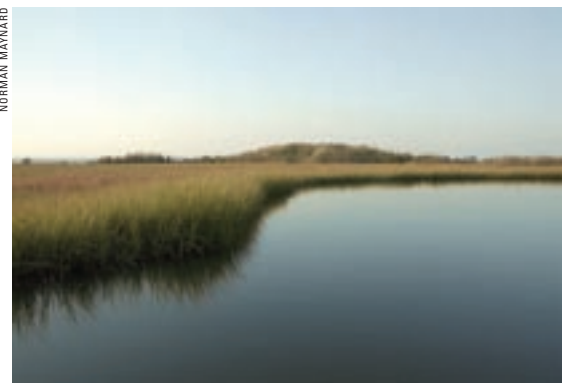
Some species will adapt in a world that is slowly warming; many will not. Long-distance migrants and species with limited geographical ranges, for instance, may not be able to adjust to the changes caused by rising temperatures. Barriers to migration (natural and human), increased competition for habitat and the lack of suitable or available food could make things difficult for species moving to new locations.

The IPCC estimates (with medium confidence) that approximately 20–30 percent of species assessed so far are likely to be at increased risk of extinction if increases in average global temperatures exceed 1.5–2.5°C (relative to 1980–1999). If the increase exceeds about 3.5°C, model projections suggest significant extinctions (40–70 percent of species assessed) around the globe. Species of additional concern are those that play key roles in ecosystem structure and function, including pollinators, seed dispersers, and species involved in nutrient cycling and energy-flow through ecosystems.

Other challenges posed by a changing climate might include:

- changing fire regimes;
- changing patterns of rain and snowfall;
- changing access to water resources;
- altered hydrology in rivers and wetlands;
- increased frequency of extreme weather events;
- rising sea levels at the Service's 177 coastal refuges. >>

NORMAN MAYNARD



A New Conservation Business Model

Strategic Habitat Conservation is the Fish and Wildlife Service's approach to landscape level conservation. SHC begins to refine our conservation business model—including operating assumptions and our technical approach, as captured by a five-element conservation science framework:

Biological Planning—deriving goals and objectives that reflect measurable biological outcomes.

Conservation Design—providing a spatially explicit strategy for achieving objectives.

Conservation Delivery—targeting on-the-ground action, via landscape-scale objectives.

Decision-based Monitoring—collecting information regarding habitat and population responses to conservation actions.

Assumption-driven Research—examining biological assumptions and uncertainties associated with our conservation actions.

For information on Strategic Habitat Conservation, visit intranet.fws.gov/region9/scienceadvisory/StrategicHabitatConservation.htm.

Landscape, continued

Nowhere are the effects of climate change more evident than in the Arctic ecosystems. In the Service's Alaska Region, observed Arctic changes include diminishing sea ice, coastal erosion, shrinking glaciers, thawing permafrost, wetland drainage, and earlier "green-up" of Arctic vegetation. Increased temperatures in the Arctic have also contributed to the earlier onset of snow melt and the lengthening of the melting season, resulting in decreased total ice cover at summer's end.

Though other Service Regions likely will not be confronted with climate change impacts on the same scale or pace as Alaska, climatic changes in the lower 48 will amplify current management challenges involving habitat fragmentation, urbanization, invasive species, disease, parasites, and water management—all of which require an expanded or "landscape" view of conservation.

"As wildlife managers, we have managed around and through weather patterns like drought, which occur annually and can last years," says Southeast Regional Director Sam Hamilton, who has led the region's efforts to incorporate SHC and expand landscape conservation with partners. "Now we are beginning to face growing certainty that these recent observations are not part of an annual or even decadal change in weather pattern, but are potentially linked to a long-term change in the climate system itself. If so, the implications for wildlife and fisheries management are consequential."

The Service's strategic actions can no longer be based on the certainty of past experience. The agency's challenge will be to translate climate projections into transparent predictions of habitat change and population response. As with the resources it is entrusted to protect, the Service must adapt and change in response to climate.

Landscape Conservation

In a report delivered to the Service Directorate in January, an informal Ad Hoc Climate Change Working Group—composed of Service staff from a broad cross-section of programs and regions—recommended the agency act now to develop a broader vision for the future of conservation that explicitly addresses impacts of climate change.

"Accelerated climate change is a reality and will fundamentally affect how the Service does business in the foreseeable future," the report states. "To fulfill our mandate to conserve trust resources for this and future generations, the Service must assign the highest priority to addressing climate change, and must undertake this challenge with a sense of urgency."

In its report, the group suggests landscape-level conservation through adaptive management provides a habitat conservation framework within which scientists and managers can factor in actual and projected changes in climate. Habitat fragmentation, dispersal/migration corridors, nonlinear changes in ecosystem response, and intensified wildfires, droughts and storms can be effectively addressed through this framework.

Because of limited funding for restoration and creation, the group suggests, the Service will need to be more strategic in conservation delivery, focusing on broader landscape scales relevant to the types of changes likely to occur and specifically on areas that will be able to provide climate refugia and/or corridors for species likely to be most at risk.

Landscape conservation is not a new concept. For more than 100 years, the Service's National Wildlife Refuge System, an intricate network of lands principally designed to support continental populations of waterfowl, has been built around intuitive concepts of the relationship of birds to their habitats. While much of the nation was in the midst of a gripping drought in the 1930s "Dust Bowl" era, the Service and other



As with the resources it is entrusted to protect, the Service must adapt and change in response to climate.

conservation partners had the vision to acquire and conserve wetlands in the Prairie Pothole Region, a delicate ecosystem rich in plant and aquatic life that supports globally significant populations of breeding waterfowl. In the 1990s, with development of the North American Waterfowl Management Plan, the Service began developing explicit biological objectives (i.e. population goals) to better guide the public and private investments in habitat.

More recently, limited government funding, increased population and development, as well as technological advancements that allow scientists and managers to “see” and analyze change at landscape scales are pushing landscape conservation to the forefront of the fish and wildlife profession.

“In the fish and wildlife profession we sometimes like to put things in nice, neat disconnected boxes, but the natural world doesn’t work that way,” says Corky Pugh, President of the Association of Fish and Wildlife Agencies and Director of Alabama’s Division of Wildlife and Freshwater Fisheries. “A bird or fish or mammal has no appreciation for lines on a map.”

What is new is the idea of a commonly understood and practiced approach to conservation—one that is adaptive, science-driven, and focused on explicit and measurable biological outcomes across

landscape scales. That approach is Strategic Habitat Conservation.

“I can’t think of an emerging conservation challenge more ripe for Strategic Habitat Conservation than climate change,” Hamilton says. “Using a landscape conservation approach we will be able to strategically connect the most important blocks of wildlife and aquatic habitat allowing wildlife to adapt to climatic change.”

Strategic Thinking

Strategic Habitat Conservation, or SHC, integrates five functional elements into an adaptive framework: biological planning, conservation design, conservation delivery, decision-based monitoring and assumption-driven research. While methods may vary, the essence of SHC begins and ends with explicit trust resource population objectives for a species or group of species. These objectives are met by applying models and conservation biology principles to ecological conditions on the landscape.

“Explicit population objectives will allow us to better identify the highest priority sites for conservation and define more precisely what we expect to accomplish, at what scale and during what period of time,” Ashe says. “Historically, the conservation business model has been built on hindsight, targeting opportunities often founded in intuitions we call ‘best professional judgment.’ This has produced

service spotlight

unquestionable success at project and site scales, but challenges like climate change require us to work successfully at landscape scales. It must be more science-driven and adaptive allowing us to learn and respond quickly to changing circumstances.”

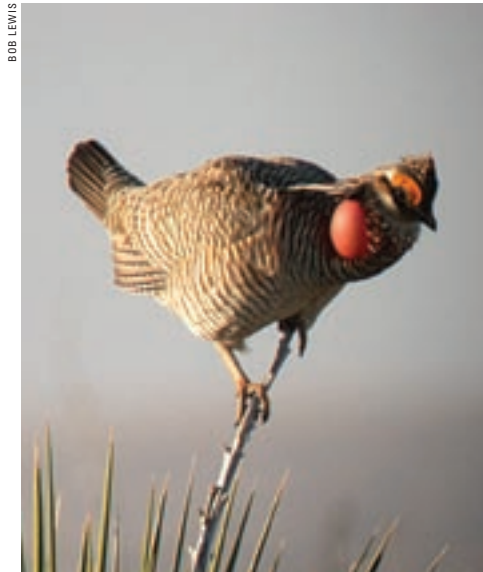
The SHC framework has been successfully applied in key regions, such as the Lower Mississippi River and Prairie Pothole Region (see sidebar stories) and is slated to be expanded to many more geographic areas. On Virginia’s Eastern Shore, habitat use and migration studies sponsored by the Service, the Commonwealth of Virginia, The Nature Conservancy and others have helped partners focus activities along the migratory funnel created at the southern tip of the Delmarva Peninsula. The Service formed a land protection planning group composed of federal, state, local and nongovernment partners who work together to identify priority land protection needs, pool funding sources and manage bird habitats under a memorandum of understanding agreement. Partners for Fish and Wildlife staff worked closely with the National Wildlife Refuge System’s Realty and Refuge staff and non-Service partners to develop and implement two North American Wetlands Conservation Act grants in 2004 and 2005 to protect and restore more than 9,000 acres of habitat for migratory birds and endangered species in Northampton, Virginia.

“The Eastern Shore of Virginia National Wildlife Refuge’s comprehensive conservation plan will guide both protection and restoration efforts within the acquisition boundary,” says Bridgett Constanzo, Partners for Fish and Wildlife biologist in the Service’s (Gloucester) Virginia Field Office. “The ongoing use of radar data will allow us to better understand and respond to migratory bird movements and monitoring of habitat treatment areas will lead us to adjust future restoration actions to achieve the best responses from plant and bird species.” >>

Landscape, continued

In the plains of the West-Southwest, the Playa Lakes Joint Venture followed the SHC framework to conserve habitat for the lesser prairie-chicken and associated wildlife through strategic enrollment of land into Farm Bill conservation programs such as the Conservation Reserve Program.

Applying the SHC framework (including a rigorous biological planning process to identify priority bird species in the region and habitat acres based on their potential benefit to the prairie-chicken), Joint Venture partners produced measurable results on the ground and saved conservation dollars in the process. Follow-up monitoring and research showed that in the Texas Panhandle, for example, 20,000 acres of CRP placed



Lesser prairie-chicken.

“Without explicit objectives this is an exercise in faith—you believe or you don’t.”

Dan Ashe, FWS Science Advisor

randomly on the landscape had no noticeable effect on the chickens’ numbers. CRP acres spatially targeted and planted with native grasses, however, can support 217 chickens.

“This benefit occurs because strategic targeting of acres allows land managers to build large blocks of habitat with CRP as opposed to small, fragmented parcels of habitat that result from opportunistic enrollment of acres,” the Joint Venture reported.

Craig Czarnecki, Project Leader for the Midwest Region’s East Lansing Field Office and chair of the Service’s SHC Technical Advisory Team sees this sort of thinking as typifying SHC. “It changes our focus from how many acres to how much habitat,” Czarnecki says. “SHC represents a new business model where the Service is not solely a manager of habitats and populations, but is providing

knowledge that will be the biological foundation for landscape-level fish and wildlife conservation.”

A growing number of state wildlife agencies, conservation organizations and other Interior agencies such as USGS support this paradigm shift. USGS Associate Director for Biology Susan D. Haseltine says SHC is “adaptive management at a landscape scale,” providing tools that help scientists and managers analyze competing needs and predict and plan for future events rather than react after the fact.

“Forces such as climate change are changing landscapes more rapidly,” Haseltine says. “SHC allows us to make better decisions about what’s best for conservation today, tomorrow and 10 years down the road.”

Improving technologies to track the earth’s climactic changes will enhance the quality of scientific data used in making

resource management decisions. Woody Turner, a program scientist in NASA’s Earth Science Division, says the SHC approach can help connect NASA’s global-scale imagery and modeling efforts with wildlife managers’ on-the-ground observations.

“SHC is a real test for the Fish and Wildlife Service, USGS, and NASA to determine if NASA’s earth science observations and modeling efforts are relevant to landscape conservation,” Turner says. “I am very confident our earth science observations and models will match up with wildlife managers’ observations on the ground. We just need to figure out how to scale global information down and on-the-ground information up to meet in the middle. Fortunately, we’re already seeing this happening.”

Essential Elements

Though elements of SHC are regularly applied throughout the Service—notably conservation delivery and working with partners—Ashe says the agency has yet to integrate all five functional elements consistently and particularly comes up short in the planning and monitoring elements. These are critical, he says, especially when dealing with dynamic forces such as climate change.

“Without explicit objectives this is an exercise in faith—you believe or you don’t,” he says.

To better implement SHC, the Ad Hoc Climate Change Working Group recommends the Service develop comprehensive risk assessments of fish and wildlife populations and habitats to evaluate their relative vulnerability and resilience to climate change. The assessments can be incorporated into amended recovery plans, Comprehensive Conservation Plans, Species Conservation Action Plans, Fish and Wildlife Coordination Act reports, NEPA documents, and other planning documents.

Joint venture Implementation Plans and State Wildlife Action Plans provide a detailed look at wildlife throughout the U.S. and the actions needed to support their survival. All joint ventures and the

56 U.S. states and territories have completed conservation plans. These plans describe what species and habitats are or may be in critical need of conservation because they are declining but not yet necessarily endangered, or because of their traditional socioeconomic importance. They provide an important blueprint for focusing conservation efforts.

Ashe says research and monitoring are absolutely essential elements of the SHC framework, closing the adaptive management loop and allowing scientists and managers to test assumptions, measure successes and failures, and adjust accordingly.

“Monitoring goes together with explicit conservation and population objectives,” Ashe says. “It allows us to ask hard questions, invite criticism, and continually adjust and improve what we’re doing on the ground. And that’s critical when it comes to dealing with landscape-scale conservation issues such as invasive species, water resources and climate change.”

Long-Term Commitment

Though successful landscape-level conservation ideally should integrate all Service programs and issues and cut across regional boundaries, SHC is still viewed with skepticism by many in the agency who regard it as a flash-in-the-pan initiative that will fade like the ecosystem management emphasis of the 1990s.

Proponents are quick to point out, however, that unlike ecosystem management, SHC is not about organization or structure; it is about strengthening the relationship between science and management, providing better information for management decisions, and ultimately, improving results on the ground.

“This is not an initiative or a pilot. The concepts are in use and proven, and will occur more broadly as understanding increases across the Service,” Czarnecki says. “In the context of shaping our future, SHC represents a long-term commitment with practical short-term gains, but tremendous long-term returns.” >>

Landscape Conservation: Prairie Pothole Region



Fifty years ago wildlife managers in the Prairie Pothole Region noticed that waterfowl populations were decreasing rapidly. The loss seemed to coincide with the rapid conversion of wetlands and other waterfowl habitat, to agriculture to feed a hungry nation. In response to this, the Small

Wetlands Program was created in 1958. The program uses funds from the sale of Federal Duck Stamps to permanently protect wetlands and grasslands across the Prairie Pothole Region.

Land managers also realized that modern agriculture will always be a critical aspect of the social and economic landscape of the prairie. Because of this, they have long been using science to prioritize their land protection efforts to provide the maximum benefits to wildlife.

Two U.S. Fish and Wildlife Service Habitat and Population Evaluation Teams (HAPET) were created on the prairies, one in Fergus Falls, Minnesota, and the other in Bismark, North Dakota. The researchers at these stations use data collected from waterfowl population surveys, satellites and aerial photos showing upland and wetland characteristics, as well as other sources to determine the value of land for waterfowl production.

Rex Johnson, director of the HAPET office in Fergus Falls, has a team of dedicated researchers, who take this complex data, analyze it, run models and create tools that wildlife managers can use. “We gather and collect all this data and use it to translate the complex science of the Prairie Pothole Region into easy to use forms like maps. Then we provide them to federal, state and non-governmental wildlife managers across the continent,” Johnson says.

On the ground, wildlife managers use the maps, information sheets and models developed by HAPET to help them see the entire landscape while still focusing on their local area.

“We have limited funds available to protect and restore habitat,” says Morris Wetland Management District Manager Steve Delehanty. “This information allows us to apply our resources on the areas that will bring us the greatest benefits.”

Thanks to the strategic vision and on-the-ground implementation of both the Small Wetlands Program and the Habitat and Population Evaluation Teams, the Service is doing all it can to strategically protect and restore the Prairie Pothole Region.

Chuck Traxler, External Affairs, Fort Snelling, Minnesota

Landscape, continued

Paul Souza, Field Supervisor of the Service's South Florida Ecological Services Office, adds that the success of SHC hinges on the strength of the relationships the Service cultivates with the scientific community and its conservation partners. "Our effort to restore the Everglades is a classic example," Souza says. "Our challenge is building upon the SHC principles we have in place, understanding how climate change will affect the ecosystem in the years ahead and implementing restoration projects that improve conditions for our trust resources so they are in a strong position to handle sea level rise and other impacts."

All of this will take time. In some parts of the country, Ashe says, the Service may well apply one or two of the five SHC elements at first, likening the process to a marathon where athletes at all levels of training and experience reach the finish line at their own pace. Meanwhile, the polar bear and other Arctic species, like the Service, must adapt to a landscape of change. □

David Eisenhower is a public affairs specialist in Washington, DC. Additional reporting by Valerie Fellows, public affairs specialist, Washington, DC.

For information on climate change, visit <www.fws.gov/home/climatechange>

For information on Strategic Habitat Conservation, visit <intranet.fws.gov/region9/scienceadvisory/StrategicHabitatConservation.htm>

Editor's note: This article and related stories are intended to spark an internal dialogue on how the Service is managing for change on the ground and within our organization. Fish & Wildlife News welcomes submissions on this topic—including landscape conservation/SHC success stories, personal essays, guest editorials and letters to the editor—and encourages all employees to participate in this ongoing discussion. Look for more Landscape of Change stories in future issues.

Landscape Conservation: Lower Mississippi Valley

If you were given a tool that would help you achieve more conservation and healthier wildlife populations using the same resources you have to do your work today, would you use it?



Small disconnected tracts of land (right) yielded only 3 percent of the core habitat needed by waterfowl and forest breeding birds. When the Service and its partners focused on core habitat and connected it using the same level of conservation resources, they captured 54 percent of the core habitat needed for those species (left).

and state fish and wildlife agencies. They continued to pursue conservation—typically on small, disconnected tracts of land—wherever possible.

Ten years ago the Service and its partners determined 15 million acres of land were available for restoration throughout the lower Mississippi valley. Biologists wanted to know where the highest value acres for waterfowl and other forest breeding birds were located. How much habitat was needed and where?

Biologists in the Mississippi valley didn't have much money and they didn't have many people. They did, however, have a paradigm-shifting revelation. By conserving the right habitat in the right places with the right partners, they could strategically and exponentially increase the benefit to wildlife and migratory bird populations across the valley.

Our biologists, working with the U.S. Geological Survey and other partners like the state fish and wildlife agencies Nature Conservancy, the Natural Resources Conservation Service, and Ducks Unlimited, did just that in the Mississippi valley. While it didn't happen over night, what they found was indeed staggering. When the small tracts where conservation had been achieved were mapped they realized they hit only 3 percent of the core habitat needed by waterfowl and forest breeding birds. When they focused on core habitat and connected it using the same level of conservation resources (i.e., money, staff), they captured 54 percent of the core habitat needed for those species.

That's an 18-fold increase in conservation benefit for those species; achieved by focusing on landscape-level outcomes. It's a result any conservationist or policymaker would find persuasive. It's what Strategic Habitat Conservation is all about.

Jeffrey Fleming, External Affairs, Atlanta, Georgia

The Right Things in the Right Places

By Don Hultman

A fellow refuge manager recently summed-up the workload dilemma this way: “I have 20 things to do but only time to do 10.” So when Strategic Habitat Conservation, or SHC, got going in 2007 my reaction was typical: “Oh no, another initiative.”

But then I started reading and thinking. I looked up the word strategic, and synonyms like important, essential, and effective were in the definitions, and I’m all for that kind of conservation. After all, who would willingly choose to take conservation actions that are misguided, haphazard, or only opportunistic?

As I reflected on my own experiences, I realized that conservation actions have fallen into one of four quadrants of choice: the right things in the right places, the right things in the wrong places, the wrong things in the right places, and heaven forbid, the wrong things in the wrong places (e.g. politics over science, misguided champions, and narrow-minded special interests). SHC has the potential to help us make better choices.

To me, SHC is also about asking questions. Why this many acres? Why here and not there? Why plant this species of tree versus another? Why do we even care about this species? How do you know this action will benefit this guild of species? Do we even have enough information to make a habitat decision? What is the likelihood of success if we do this? By asking these questions, we force ourselves to articulate the real reason for our actions, and we



force ourselves to confront our biases, and the biases of our agencies, programs, and partners.

We may still at times end up doing the right things in the wrong places or the wrong things in the right places, but at least we should be able to articulate why. Sometimes these reasons will be political, economic, or the result of compromise, but our choice should be active, a choice revealed through peeling back the layers of a habitat conservation decision.

Here on the Upper Mississippi River System, the geopolitical landscape is about as complex as the biological system. There are multiple states, multiple federal agencies, and millions of economic and recreational river users, all spread over hundreds of river miles. It is a diversity of

missions and interests colliding on the same ecosystem. In short, it’s a mess.


Collectively, this partnership struggles with applying millions in appropriations to improve the river and over a dozen national wildlife refuges. The options are seemingly endless, with species in need that include fish, mussels, reptiles, amphibians, birds, and mammals. Sound biological planning (species objectives, limiting factors, and models) and conservation design (geospatial tools, choosing priority areas, and sound habitat objectives) are critical to ensure we do the right things in the right places. Monitoring and research will remain critical to test assumptions and models, to learn, and to adapt in a large-river landscape. Without a decision framework like SHC, we end up with management by champions, with not only questionable conservation outcomes, but outcomes that can damage working relationships.

As I write this it seems to all make sense. Yet, I know that on-the-ground conservation is never quite as linear or circular as the diagrams depict. So as we move forward with SHC, we will just do the best we can. Monitoring and research is always limited, and sometimes won’t be done to the level we like. Some habitat types or designations are so intrinsically valuable that they may trump concerns for species.

We all have 20 things to do and time for only 10. Can we really afford not to invest in doing the right things in the right places for conservation? The thought process and practice of SHC can help. SHC is really common sense, but it is systematic common sense, and an attempt to make common sense the common conservation practice. □

We all have 20 things to do and time for only 10. Can we really afford not to invest in doing the right things in the right places for conservation?

Don Hultman is Refuge Manager at Upper Mississippi River National Wildlife and Fish Refuge



*Canine companions
Mingus (black)
and Tanner.*

canine companions

These dogs go far beyond being anyone's best friend.

By Ken Burton

They are the kind of friend most of us might dream about—a friend who loves unconditionally, won't stray, will stand by your side no matter what, and will even be able to do a lot of life's little chores—if for some reason you find that you can't do them yourself.

Moreover, these friends don't bore you with small talk, are content to eat the same thing forever, and almost instantly acknowledge that you are their only love. They are Labrador Retrievers or Golden Retrievers—or a mix of both. And they go far beyond being a best friend.

These are the dogs of Canine Companions for Independence, a nonprofit organization that has been training dogs to help people with physical and developmental

disabilities since 1975. These are dogs that are trained to respond to more than 50 specialized commands and who become physical extensions of their disabled partners by knowing how to turn on a light switch, alerting a deaf person to a fire alarm or retrieving something that has fallen on the floor—and a lot more.

It's a fairly long road from puppy to highly-trained service dog and only half of all the candidates make the grade. But it's

at the beginning where puppy trainers enter the picture, and that's where at least a dozen Fish and Wildlife Service personnel, spread across at least five Service regions and the Washington Office, and with the agency's strong support, volunteer their time to become critical parts of a dog's long journey.

"It's rewarding," says Cyndi Perry, a Service biologist with the Division of International Conservation in Washington, one of the puppy trainers. But it isn't without some emotional toll: the dogs are with their temporary charges from the age of about 8 weeks until they are 13 to 18 months old. In that time frame, they are socialized and learn about 35 obedience commands.

Then comes advanced training. Perry and her husband, Rick Sayers, a biologist with the Division of Endangered Species, love getting the pups ready for their future, but Cyndi admits to crying when it's time for the dogs to move on. But she said it's a program that gives back a hundredfold.

"There's someone out there who needs this pup more than I want to keep him," Perry says.

Roxanna Hinzman, a Service biologist, has raised three dogs and admits to "big tears" when it's time to say goodbye. But she finds enormous solace in knowing how the dogs help people and sums up her feelings with one of the program's slogans.

"Some people wait a lifetime for a miracle," she says, "and we raise them one at a time."

Hinzman ticked off the ways the dogs have changed people's lives: a mother who said she slept through the night for the first time since her child was born because she knew the dog would alert her if something went wrong; a child who tried to speak for the first time to give the dog a command; or a young person who was able to enroll in college and take the dog along to help.

Dogs can wash out of the program for a variety of reasons. Hinzman notes that being a service dog is not easy; the job requires a lot of concentration virtually 24 hours a day. But even dogs that don't make it can wind up serving the program in another way. Hinzman's first pup, Kyah, decided the program wasn't for him. He's now Hinzman's pet—or "assistant puppy raiser." Hinzman said Kyah helps teach new dogs acceptable manners. Some trainers even include cats in their animal family (almost anything is acceptable as long as they are healthy).

Puppies, bred specifically by Canine Companions, are exposed to as many places and things as reasonably possible, except to situations that might overwhelm them. They go to work, ride the Washington subway system, take plane trips, go to restaurants, supermarkets, movie theatres, shopping malls and meetings on Capitol Hill, and are even introduced to people with different accents. They also get to meet the stuffed grizzly bear at the Department of the Interior and the wolf mounts at the National Conservation Training Center in Shepherdstown, West Virginia. "Basically," said Hinzman, "we want to make scary or distracting things no big deal to the dog."

Matt Trott, whose degenerative genetic disorder confines him to a wheelchair, has a companion dog that was raised by trainers in Richmond. To hear Trott talk about Claren, a Golden and Labrador Retriever mix, is to understand the power of the program.

"The biggest thing is that she's always there," says Trott, a Web site specialist at USA Today. "She is a huge companion and a wonderful friend. And if I fall, she would go for help. I've been spoiled because she's so great."

Like most service dogs, Claren accompanies Trott to work, and curls up on her own mat under his desk. In the evening, she has her own space at home, in Trott's bed.

Canine Companions pioneered the expanded concept of the service dog, beginning in 1975, and the organization has placed more than 2,500 dogs throughout the United States and the world.

Eventually, each puppy moves to the next phase of training at one of the program's regional centers, where they learn to retrieve, pick up, open doors, provide balance and even how to pull packages off a shelf in a supermarket. After six months of training and learning 50 working commands, a dog is ready to be matched to someone on the program's waiting list, and is paired with people the program identifies as having "a disability other than blindness."

The matching of individuals and dogs takes place during team training, an intensive two-week training session where individuals learn to care for and work with their new partners. There is also instruction on techniques to expand the range of commands, and each new owner must demonstrate the ability to provide for the dog's care and well-being.

Sue Livingston, a Fish and Wildlife Service biologist based in Portland, Oregon, has raised five Companion puppies and she explained how surrendering a puppy to the next phase of its service life is unlike grieving a pet owner might experience if they lose a dog to illness.

"I think some people think we have hearts of stone, but we really don't," Livingston says. "Grieving over these dogs is hard, but you just go through it. And hard as it is, you can take great comfort in knowing where the dog is going. It's not the same as losing a pet. And that's a huge difference."

The reality, Livingston says, is that we all eventually say goodbye to our pets, one way or another. The difference is that with a CCI dog, "you know when that goodbye will happen."


Like others in the program, Livingston is told where her dogs are headed and usually gets to meet the people they will be living with. Thanks to the ease of e-mail, communications is fast and simple and she's able to stay in touch with people who are paired with the pups she has raised.

Canine Companions pioneered the expanded concept of the service dog, beginning in 1975, and the organization has placed more than 2,500 dogs throughout the United States and the world. Several hundred dogs have been trained in the Northeast Regional Center in Farmingdale, New York, which serves the Greater Washington metropolitan area.

Canine Companions is financed by private contributions and receives no government funding. Businesses, civic groups, service clubs, corporations, foundations and others provide the organization with their working budget. Individuals who get a Companion dog pay a \$100 registration fee that is reimbursed in supplies. There is no charge for the dog, and if something happens to the new owner, the dog is transferred to another home.

For more about the Canine Companion program, visit www.caninecompanions.org. □

Ken Burton is a Public Affairs Specialist in Washington, DC



the Battle *for* One House

By Rob Davis

Ash signaled the coming threat. In late morning, flakes began drifting down on a patio along Millar Ranch Road, in the shadow of freshly burned San Miguel Mountain. Winds had shifted. The fire that had already pushed through was coming back.

The wind picked up, and the smoky air began to taste acrid. Fire was approaching the northern boundary of the San Diego National Wildlife Refuge. Six homes were in the way.

As the sky turned dark orange, 44-year-old Gordon Tamplin, a U.S. Fish and Wildlife Service firefighter out of Jamul, surveyed one of the homesteads: A red-tile roofed rancher surrounded by eucalyptus trees swaying in the westerly breeze. The porch light was on.

Somewhere out of sight, the Harris Fire was roaring closer.

“Unless aircraft hit it,” the 19-year veteran said, it’ll be here in “probably an hour. It’s been making weird runs.”

It was 11:40 a.m.

The familiar thump of water-dropping helicopters was absent. Tamplin and three other crew members from Engine 58 were on their own to defend the one-story home. Like lifeguards keeping watch, a different crew stood guard over each home. The goal: To let the main fire pass by and protect the home from lingering embers.

The scene was repeated throughout East County all day Tuesday. As the 72,000-acre Harris Fire blazed out of control, groups of four and five yellow-clad firefighters kept their eyes fixed on the closest horizon, waiting for an inferno they hoped would dodge the home they’d been assigned to safeguard.

Tamplin’s radio cracked. The fire has picked up. It’s going down the hill.

Toward Tamplin.

In the smoky haze in front of him, two drainage channels wound through the landscape—perfect conduits for the raging fire. They were dangerous. With the wind whipping, the fire could quickly surround the house and sneak up behind the crew. A nearby empty lot was their safe zone, the one place they knew they could wait out the torrent of debris and heat.

“We’re pretty safe with the dirt lot,” said Matt Sowell, a 25-year-old firefighter from Bonita. “My only concern is to do our best to protect this house.”


It was 11:47 a.m. Twenty-foot flames leapt over a hill in the distance and began dancing through the shrubs. In the following minutes, the wind shifted one way and then back, drawing the sun out briefly and again shrouding the property in an orange-gray pall. Songbirds let loose siren-like calls. Somewhere out there, power lines were beginning to collapse.

As the fire drew nearer, the horizon turned a vibrant orange. The radio offered another warning: Fire is wrapping around to the southwest. We just need to use our heads.

It was 12:09 p.m. Two firefighters unloaded their engine’s hose as a helicopter began hovering overhead. The sun hid behind black clouds, rippling in waves of heat. Within 10 minutes, two copters were circling so close to the ground that the earth shook. Flames were barely 500 feet away, the heat licking at the firefighters’ faces.

As chaos surrounded the home, a placid glimpse of normalcy emerged: A green-backed hummingbird zipped in to the feeder at 2848 Millar Ranch, sipped up red nectar and darted back out.

Eric Smith, a 31-year-old firefighter, kept his eyes on the fire, watching as it exploded into what Tamplin estimated were 100-foot-tall flames.



A San Diego National Wildlife Refuge fire crew recounts a harrowing day on the front lines.

COURTESY <VOICEOFSDANIEDGO.ORG>

Somehow, miraculously, it was staying away from the home. A small dirt road acted as a natural fire break. By 12:37, the red-tiled home looked safe. Within 10 minutes, Sowell and Louis Stewart, 22, began rolling up their hose.

“I’ll wrap it up,” Stewart told his colleague, as they took the hose around front. “Don’t let it hit the roses.”

Engine 58 spent two hours at 2848 Millar Ranch before leaving. Most of the time they waited. But with the help of a backfire and a natural fire break, they were able to steer the fire around the home, a protective move that was repeated on a massive scale throughout East County on Tuesday. Officials said crews helped save an estimated 250 nearby homes, including six on Millar Ranch. But as many as 500 homes have been destroyed during the Harris Fire’s three-day rampage from Potrero to Spring Valley’s doorstep.

“There’s no stopping it,” said Zachary O’Neill, a CalFire engineer from Jamacha. “Pushing it around the houses is the priority. A fire this size, with the resources we have, it’s only safe to go defensive. You save more houses that way.”

O’Neill was standing behind a house just down the road from 2848 Millar Ranch, watching as a head of the Harris Fire pushed through a stand of manzanita and up a hill. A tied-up goat and a dozen cawing roosters kept him company.

He stayed there through the afternoon, as other fronts of the fire exploded, cutting off the only route into Millar Ranch. Flames roared at 4 p.m., despite attempts to keep it from crossing the road. The blaze again crept toward homes, each with its own fire crew.

Engine 58 moved down the road to a country-styled home surrounded by rusted antiques. A sign out front read: Kesslers Casa. With another fire growing in the distance, the crew hosed down the shrubby hillside. While they worked, the valley below disappeared into a haze.

As a blood-red sun set behind charred mountains, Engine 58 caught a break on the patio. They sat quietly, serenaded by the eerie rhythm of a rusty windmill and the steady tchuk-tchuk of a sprinkler atop the house.

Tamplin took off his sunglasses and dug into a sandwich. Soot traced black lines around where the glasses had been. In front of him, flames tumbled down a mountain toward Steele Canyon High School—an evacuation shelter.

Tamplin said he was confident the fire would die down before reaching the shelter. But its flank was creeping closer to Kesslers Casa.

His radio again popped. I know it’s coming. It’s coming. I hope it doesn’t catch one of these drainages.

“It’s gonna,” Tamplin said.

And under a pink moon, the ash began to fall. □

Rob Davis writes for <voiceofsandiego.org>. This article was reprinted with permission.

Photo: The Harris Fire damaged or destroyed more than 500 homes and burned more than 90,000 acres across San Diego County. San Diego National Wildlife Refuge, part of the Service’s San Diego National Wildlife Refuge Complex, was an early target of the fire.

Miracle *in the* Berkshires



The Berkshire Trout Hatchery is a monument to grassroots conservation.

By David Eisenhauer

Tucked away among white pine and hemlock trees in the hills of western Massachusetts, the fish tanks at Berkshire Trout Hatchery look like alien spaceships on the hatchery's manicured lawn. Thick rays of sunlight evaporate beads of dew on their brown domes, illuminating scores of finger-length trout and Atlantic salmon that spend their early lives here.

The hatchery shares a common bond with the rare salmon, a symbol of survival and of healthy river systems; both have endured against long odds.

After 80 years of operation near the tiny hamlet of New Marlborough, the hatchery was closed in 1994 because of a lack of federal funding. The buildings decayed, weeds sprouted and it looked as though the community would lose its neighbor to neglect.

But in 1999, a group of about a dozen local seniors decided the hatchery was worth saving. They began clearing brush, removing trash and fixing the buildings. In August 2006, the volunteers—officially known as the Berkshire Hatchery Foundation—and U.S. Fish and Wildlife Service signed a memorandum of understanding that authorized the group to operate the hatchery with guidance from the Service.

Today the Berkshire hatchery—the first and only hatchery in the National Fish Hatchery System run solely by volunteers is a monument to grassroots conservation.

“I’ve been coming here since I was a small child,” says volunteer Kathy Wasiuk. “This hatchery has been a part of the community for so long we didn’t want to lose it. It’s a living thing.”

An Improbable Journey

The Berkshire hatchery was created when the family of John Sullivan Scully, a trout fisherman, entrusted their 148-acre retreat to the U.S. Government in 1914. For decades, the hatchery nurtured trout and smallmouth bass for restoration stocking. More recently, it has cultured Atlantic salmon as part of the Connecticut River Salmon Restoration Project.

In March 2008, about 20,000 of the silvery fish will be the hatchery’s first class

to graduate into the Connecticut and Farmington rivers as part of a combined local, state and federal effort to reintroduce the Atlantic salmon to its most southern range. Once released, the salmon begin an improbable journey. They must swim to the sea then elude predators and trawler nets as they make their way up to waters off Greenland, where they will feed. The survivors will return to their natal stream in the Connecticut River basin to reproduce—if they can successfully navigate the ladders and lifts installed in dams along the river.

The 4-year-old returning adults complete the 4,000 mile round trip by migrating upstream during the spring and early summer to spawn in October and November. They may not eat for up to a year once re-entering fresh water. The Service estimates 132 salmon returned to spawn this July.

In addition to culturing salmon, the volunteers also produce thousands of trout that are donated to the state and used for educational programs and local fishing derbies. The hatchery staff receives technical guidance from Henry Bouchard, manager of the Service’s Northeast Region’s Pittsford National Fish Hatchery in Vermont.



Henry Bouchard (left), manager of the Berkshire Trout Hatchery and Pittsford National Fish Hatchery, and LeRoy Thorpe, lead volunteer for the Berkshire Hatchery Foundation, collect salmon fingerlings for data sampling.



LeRoy Thorpe (left) and George Emmons, Berkshire Hatchery Foundation volunteers, measure growth of salmon pre-smolts at the Berkshire National Fish Hatchery.

Bouchard says the Service supplies the hatchery with fish food and salmon fry and pays to keep the heat and lights on. The volunteers pretty much do the rest.

“They feed the fish, clean the ponds and maintain grounds—including seven miles of trails,” says Bouchard, a native of Milford, Massachusetts “They keep the facility viable and producing fish for federal and state programs at a low cost to the Service. Public education and awareness form the core of their mission.”

Preserving ‘Something Special’

Inside the main office, under the unblinking gaze of a menagerie of wildlife trophies (four white-tailed deer, an antelope and a pheasant), the members of the Berkshire Hatchery Foundation swap fish stories and discuss their upcoming fundraiser, the sixth annual Lobsterfest.

Their relaxed banter blends with the sound of gurgling water in the background. The hatchery is blessed with a pristine aquifer that supplies 200 gallons per minute of gravity-fed water to recharge the fish tanks.

It has been a busy spring. According to lead volunteer LeRoy Thorpe, the hatchery donated 75 rainbow trout to a local high school research program; held an open house on Earth Day; and donated 75 large rainbow and brown trout for the Great Barrington Fishing Derby and another fishing derby sponsored by the local chapter of the Isaak Walton League.

“When I first started volunteering up here, I did it to help try to preserve something special,” says Thorpe, a retired mill worker from nearby Monterey. “We’re here to pass along what we’ve learned and to teach people how valuable these resources are.”

Gene and Cathy Ford, who appear to be a decade or so younger than most of the other volunteers, are the latest additions to the hatchery staff. The Fords sold their home in Utah, climbed into their RV and returned to Cathy’s native western Massachusetts, where they have settled into a life of transient bliss and hard labor.

“We’ve been clearing a lot of brush and doing some of the heavier work some of the older folks can’t do,” says Cathy, as she heads outside to greet a man and two children who are visiting the hatchery. She gives them a tour of the facility and later helps the children “catch and release” a few tadpoles and salamanders in one of the ponds.

Although the volunteers are relatively quiet about their contributions to the community, their work hasn’t gone unnoticed. Phil Gunzinger, the oldest volunteer at age 83, holds up a certificate of appreciation presented to the group last March by Assistant Director for Fisheries and Habitat Conservation Mamie Parker.



RON ROTHSCHILD / USEWS

Phil Gunzinger, the Berkshire Hatchery Foundation’s oldest Berkshire National Fish Hatchery volunteer at age 83, holds a certificate of appreciation awarded to his group by Assistant Director for Fisheries and Habitat Conservation Mamie Parker.

“It’s nice to be recognized for what we do,” Gunzinger says, “but we all love these fish and these waters. To me, this isn’t work at all.”

About two dozen young patients and staff from Gould Farm, a mental illness treatment facility that neighbors the hatchery, stop by during a hike. Bouchard chats with the group while the rest of the hatchery staff resumes their work. The fish won’t wait.

Wasiuk notes the enduring nature of the hatchery mirrors that of its caretakers, four of whom—including herself—even have beaten cancer.

“We’re all survivors,” she says. □

David Eisenhauer is a public affairs specialist in Washington, DC

Trading Places

The Walk-a-Mile-in-My-Boots program helped this New Jersey native feel at home on the range.

By Christine Eustis

I was nervous when I stepped off the plane in Lander, Wyoming in August 2006. As part of the “Walk-A-Mile-In-My-Boots” program, I was going to spend a week on a 92,000 acre cow-calf ranching operation and didn’t know what to expect. Would I make a fool of myself? What would they expect me to do? I thought of taking horseback riding lessons before my experience, but my hosts, ranchers Robert and Martha Hellyer, assured me that wouldn’t be necessary.

“We use motorbikes or pickups more than horses in the summer because of the distances checking water, salt and fences,” said Rob during a phone conversation a few weeks before my trip. “Just bring warm clothes—‘cause it gets cold at night—and good walking shoes.”

Hmmm. OK, I can handle a pickup. Unlike many Fish and Wildlife Service employees, I didn’t grow up hunting and fishing and spending much time in the outdoors; I grew up in the suburbs of New York City. My introduction to wildlife was from my mom, who fed the birds at our backyard birdfeeder and took us kids on nature walks to Great Swamp National

Wildlife Refuge. So, staying with a ranching family I didn’t know on a property that seemed about the size of my home state of New Jersey was a daunting prospect.

My anxiety disappeared the minute that I stepped off the plane. I was greeted at the airport by Mark Hogan, Private Lands Coordinator for the State of Wyoming, and Dave Skates, Field Supervisor for the Lander Fisheries Management Assistance office. Mark and Dave relieved me of my luggage, escorted me to their vehicle, and proceeded to make me feel right at home. We toured some wetland restoration projects on the Wind River Reservation

owned by the Arapaho and Shoshone Tribes. I learned our management assistance office works exclusively with the tribes to manage the fish and wildlife resources on the reservation. Mark and David were so enthusiastic, warm and welcoming I was again reminded how special it is to work for the Service, where people you’ve never met—in a place you’ve never been before—make you feel like part of their team the minute you meet them.

Roots in Ranching

Bright and early on Tuesday morning, Mark picked me up and drove me to the Hellyer ranch. When I insisted I would be happy to rent a car and do the drive by myself, he assured me I would need a four-wheel drive vehicle to get to the ranch and he was happy to take me. Although it was the middle of August and not a snowflake could be found, he was right. The ranch, dubbed “The Burnt Ranch” many years ago (because it was always burning down), is 60 miles south of >>



*The author herding cattle
on the Hellyer ranch.*

*We all care about the land,
our families, our children
and what we are leaving for the future.*



CHRISTINE EUSTIS / USFWS



*Rob, Martha and
granddaughter Marjorie
Hellyer.*

ERIC ROSENBERG



*American avocets visit a
wetland on the Hellyer Ranch.*

Trading, continued

Lander in the Wind River Valley. To get there, you traverse some dirt roads that have never seen a road crew. We drove through historic South Pass City (does a place with 35 residents qualify as a city?), which is the closest inhabited area to the Hellyer place.

Words fail to describe the enormous expanse of sage scrub habitat that is the Hellyer ranch. Even photographs don't adequately capture its majesty and expansiveness. Rob and Martha's log cabin is steeped in history. It stands on the site of previous cabins that date back to the early 19th century. Their property stands at the juncture of the Oregon Trail, the Mormon Pioneer Trail and the California Trail. The Pony Express had a station where their cabin now sits. There is also a graveyard just across from their horse corral where Army soldiers are buried. Rob and Martha are very proud of the unique history of their property and often entertain geologists and archeologists who come to their property hoping to learn more about the people who lived there.

Rob and Martha Hellyer are first generation ranchers, which is fairly uncommon for this part of Wyoming. They met as young students in the National

Outdoor Leadership School in Lander. In fact, Rob was one of the pioneering founders of the school and Martha one of its earliest female students. They fell in love with Wyoming and with each other and decided to settle for good and raise a family. Their three children grew up on the ranch and their two sons, Jim and George, share in the family business.

When Mark and I pulled up to the Hellyer's cabin, Martha came out smiling with two dogs at her heels. Martha is a small, lean, muscular woman who can easily handle a horse 10 times her size. Rob is tall, lean and also fit. Ranching keeps you in good shape without having to go to the gym. Rob was sitting in his truck on his cell phone finding the one spot on this huge property where he could get cell phone coverage. He was talking to a sage grouse working group about conservation measures for the bird.

Partners in Conservation

The Hellyers have known Mark Hogan for years and have successfully carried out several Partners for Fish and Wildlife projects on their property. They consider Mark their friend and neighbor and have a great respect for the Fish and Wildlife Service through their relationship with Mark. After 10 minutes in their company, I knew that Rob and Martha care a great



deal for the lands they manage and the wildlife that live there. They are also in the ranching business and operate in a way that supports the native wildlife of Wyoming. In Mark, they found a kindred spirit and someone with the federal government who can work with them to improve their habitat for wildlife. They confirmed something that I have long heard about the benefit of the Partners program in allowing the Service to develop positive relationships with landowners.

One project that the Hellyers have worked on with Mark is to build wildlife friendly fencing around the riparian areas on their property to keep cattle out and allow wildlife to flourish. The fence they used is a new design that has two solar-powered, electrical wires that the cattle can't cross but that allow passage by wildlife—moose and elk go over it, pronghorn antelope sneak under it. The fencing falls to the ground during heavy snows (this area of Wyoming will be snowed in for months with snow drifts up to 10 feet) and springs back when the snow melts; making the fencing more durable and less prone to needing repairs. They've added solar and wind powered watering troughs to areas outside the fencing to allow their cattle to get to water without impacting the riparian areas.

Jim Hellyer and I drove out to one of their projects the first afternoon. You come upon the stream unexpectedly. Everything around you seems dry and barren—sage scrub habitat is low growing and exists in very dry conditions. Suddenly, in the midst of the sage scrub is an oasis of lush wet lands with pools of clear, cold water teeming with diverse plants and fish. Since the Hellyers installed the new fence with funding from the Service, they have seen an increase in the abundance of wildlife. We startled a group of American avocets and Sandhill cranes who were feeding in the area.

The Partners program also funded an irrigation system and water trough outside of the riparian area where cattle can water. The cattle tend to congregate around these watering areas in the hot summer months. The Hellyers' black angus cows watched us placidly as we drove around looking at projects.

Sage grouse are abundant on the Hellyer ranch. It was fun to drive around the property with Rob as he regaled me with

stories about the history of the ranch and the wildlife that he enjoys. We would come upon a group of sage grouse and Rob would turn off the truck engine, open the windows, and say, "Can you hear them? Aren't they noisy?" with joy in his voice as we listened to the sage grouse talking to each other.

Caring About the Land

I was so impressed with how much the Hellyers care about the land. They resent those critics who want to get rid of all ranching on federal lands because of the misplaced idea that ranching and wildlife conservation can not be compatible. You can't drive around the Hellyers' property without seeing an abundance of wildlife and feeling like those folks are wrong. Cattle ranching and wildlife conservation are compatible when done right. And the Hellyers know how to do it right. They are very concerned that the sage grouse will gain protection as an endangered species and cause them to go out of business. I tried to assure them that the Fish and Wildlife Service has programs to provide flexibility in how they manage their lands, but they are still skeptical about the Endangered Species Act.

Threats to ranching are coming from all quarters: anti-grazing sentiment on one side; oil and gas development on the other; and developers who want to take over ranches and build "ranchettes"—mini ranches of 20–30 acre parcels that subdivide grazing lands and create many barriers to wildlife. And then there are government rules and regulations, which threaten to bury ranchers like the Hellyers in a quagmire of paperwork.

Now, the Hellyers may be the exception not the rule to ranching. Maybe other ranchers do not care about the land to the extent that the Hellyers do. Maybe other ranchers manage their lands in a way that impedes wildlife conservation. But, the Hellyers and other ranchers like them are feeling the pressure. As I sat on the front porch of their log cabin early in the mornings and watched herds of pronghorn antelope and mule deer grazing in a pasture across the way from the Sweetwater River that runs through their property, I better understood the rancher's perspective and why it is important that the Fish and Wildlife Service and other agencies work cooperatively with them to conserve wildlife. The more we work with people,

the more we can help facilitate the good conservation actions that the Hellyers and others want to do to preserve wildlife as well as their ranching way of life.

I was nearing the end of my stay when the Hellyers insisted they couldn't let me return to DC without getting on a horse. They use their horses to move the cattle from one area to another throughout the summer; and luckily my horse Pal knew exactly what to do. Martha and I herded a group of six cows and their calves from one pasture to another, which allows the cattle to evenly graze each area and not overgraze it. As soon as the cattle saw our horses, they moved on their own—I only had to whoop a few times to coax a reluctant calf to keep moving. Herding cattle with Martha was an exhilarating experience and really gave me the chance to "walk a mile" in her boots.

The Hellyer family really opened their home to me. We sat around the pot bellied stove in their cabin eating elk that George had hunted last fall, talking about politics, religion, ranching, wildlife and a lot of other topics. I think we were both surprised about how much we had in common—a city girl from northern New Jersey and a ranching family from Wyoming. We all care about the land, our families, our children and what we are leaving for the future. As I left the Hellyer ranch, I had a pang of regret that I couldn't stay longer. □

Christine Eustis is Deputy Assistant Director for External Affairs in Washington, DC. In spring 2007, the Hellyers visited the Nation's Capital and spent time with Christine in the Main Interior building and on Capitol Hill.



Walk-a-Mile-in-My-Boots is an exchange program between ranchers and U.S. Fish and Wildlife Service employees.

Program participants "trade places" providing an opportunity to learn more about each other's lifestyles, increase communication and seek common goals. For more information on the program, visit <www.fws.gov/walkamile>.

pacific

Sanctuary on the Rocks

In its pioneer days, the natural abundance of a young United States seemed boundless, and so were the appetites of its people. By the early 20th century, Americans had hunted bison and elk to near extinction, silenced generations of nesting birds to use their showy feathers for high fashion, and drained countless marshes for conversion to farmland. However, the exploitation of the continent's natural resource bounty did not go unnoticed.

There is no clear documentation of just when the concept of wildlife protection through habitat preservation was born but as long ago as the mid-1800s diaries of early western explorers, pictorial records and reports from journalists and speakers familiar with the West brought a public realization that the unrestricted slaughter of wildlife for food, fashion and commerce was systematically destroying an irreplaceable national heritage. Public support increased for more vigorous actions on the part of the government to reverse this downward slide.

Far-sighted citizens and leaders, including President Theodore Roosevelt and Oregon's William L. Finley, nurtured the seeds of conservation and acted on the belief that America's wildlife heritage should be protected. In 1903, Roosevelt established the first national wildlife refuge at Pelican Island, Florida, and by October 1907 he had designated the first refuge in the west at Three Arch Rocks in Oregon.



Dallas Lore Sharp with a common murre at Three Arch Rocks bird refuge during a summer visit in 1912.

The need to designate Three Arch Rocks as a protected wildlife area was first brought to Roosevelt's attention by Finley, a young naturalist and conservationist. Finley and his childhood friend, Herman Bohlman visited the wind-and-sea-swept rocks in June 1901 and June 1903 to photograph its unique wildlife. During the first expedition, they witnessed a tugboat filled with target shooters circling the rocks blasting seabirds for sport every Sunday; throughout the week they further witnessed other boats carrying gunners who were shooting Steller Sea Lions for their skins and oil. Finley wrote, "The beaches at Oceanside were littered with dead birds following the Sunday carnage." They knew they had to put a stop to this slaughter as the seabird and seal colonies could not survive much longer. Bad weather conditions prevented them from getting good photographs of the wildlife on the first trip, but a second trip in 1903 proved successful.

After waiting out 19 days of storms, heavy fog and tumultuous seas on the desolate Oceanside beach, a fair weather day greeted them. They loaded up a dory with food, a tent, water, clothing and photographic equipment and rowed toward the rocks. Shag rock was the only rock with a landing spot and the men unloaded their equipment. The exhausted men spent a sleepless first night at the campsite, high on a small rocky bluff which was not only cramped but noisy. Waves blasted through the rocks' arches thundering like cannons and tens of thousands of seabirds called throughout the night. Finley wrote, "We awoke the next morning feeling as if we had spent the night on top of a broken picket fence." They lived on Shag Rock for two weeks during which time they took some of the first photographs of nesting seabirds, collected eggs and specimens for study, and documented some of the life history of the birds.

Finley had already heard about President Theodore Roosevelt's desire to protect habitat for species conservation, and a few months after the Three Arch Rocks visit he traveled across the country to Washington, DC, for a personal audience with the President. Finley spread the photographs of the wild animals of the Pacific Coast on a table in front of Roosevelt who found the photos so compelling, he exclaimed, "Bully bully, we'll make a sanctuary out of Three Arch Rocks." But Finley's job was not over: he had to lobby four years until the President designated Three Arch Rocks as the first national wildlife refuge west of the Mississippi River on October 14, 1907. During that time, Finley and Bohlman worked with the Oregon Audubon Society (now the Audubon Society of

Portland) to establish the State Model Bird Law that outlawed the sport hunting of all seabirds. Armed with the new law, the Oregon Game Warden for the Tillamook area confronted the owner of the tugboat Vosberg and mercifully put an end to the shooting parties.

A full century after formal protection, Three Arch Rocks National Wildlife Refuge provides habitat for Oregon's largest breeding colonies of Tufted Puffins and Common Murre. The refuge is one of the smallest designated Wilderness Areas in the country, providing 15 acres of habitat for more than 100,000 nesting seabirds and serving as the northernmost pupping site of the threatened Steller sea lion. Other seabird species breeding on this refuge include Common Murre, Fork-tailed Storm-Petrel, Leach's Storm-Petrel, Brandt's Cormorant, Double-crested Cormorant, Pelagic Cormorant, Rhinoceros Auklet, Cassin's Auklet, Pigeon Guillemot Western Gull, Glaucous-winged Gull and Black Oystercatcher.

Three Arch Rocks National Wildlife Refuge can best be viewed from the mainland at Cape Meares and from Oceanside Beach in the community of Oceanside. To prevent disturbance to extremely sensitive seabirds, Three Arch Rocks Refuge is closed to public entry year-round and waters within 500 feet of the refuge are closed to all watercraft from May 1st through September 15th. The refuge staff plans to host several events throughout Three Arch Rocks centennial year. □

*Dawn Grafe and Amy Gaskill,
Portland, Oregon*

A Warm Reception

When a huge flood hit the small rural town of Vernonia, Oregon, in December, a desperate cry went out for firewood. Staff at the W. L. Finley National Wildlife Refuge heard the call on National Public Radio and sprang into action. On the morning of December 13, 2007, Jock Beall, Steve Smith, Greg Hagedorn, Frank Connor, Glen Warner and Walt Hammond put on gloves, picked up chainsaws and went to work filling a 10-yard dump truck with Douglas fir. The next day, it was delivered to the grateful residents of the waterlogged town by Dan Felber, an Oregon Department of Fish and Wildlife technician who offered to help out.

So where did the refuge get the wood so quickly? It came from Oregon white oak restoration efforts at Finley, which is part of the Willamette Valley National Wildlife Refuge Complex. For the past five years, Finley workers have been removing Douglas fir trees that have encroached into the oak stands that once covered the area.

"The Douglas fir will gradually overtop and shade out the oak, killing legacy trees that are sometimes more than 200 years old," said Jock Beall, refuge biologist for the complex.



(From left) Service biologists Jock Beall and Steve Smith and fuel technician Frank Connor load wood for flood victims.

Historically, periodic fires prevented Douglas fir from getting established while the fire-tolerant Oregon white oak thrived. But as the area was settled and fires suppressed, the Douglas fir, also an Oregon native, started taking over. Beall said the refuge can't use prescribed fire safely until the understory is cleared and the Douglas fir has been removed.

As the Douglas fir was cleared over the years, many of the logs were trucked to watersheds in western Oregon to create in-stream habitat for restoration projects with partners, including the Oregon Department of Fish and Wildlife, the Oregon Coast National Wildlife Refuge Complex and several local watershed councils. But small logs and end trimmings not used in fish habitat restoration projects were stockpiled in Finley's shop yard, awaiting a useful purpose.

That moment finally came, thanks to creative thinking by Molly Monroe, assistant refuge biologist, who heard Vernonia's plea on the radio, and the refuge staff's hard work.

The soggy residents of Vernonia were thrilled. "A lot of people lost their firewood in the flood," said Susan Wagner, who helped coordinate donations to the town. "I watched several cords of firewood float across the street."

The firewood donation was especially appreciated because after the water receded, people were burning wood to dry out their homes. To the workers at Finley refuge, Wagner said, "We want to extend a very heartfelt thank you from our community." □

Joan Jewett, External Affairs,
Portland, Oregon

southwest

The Gift of 12,000 Hours

Harold Burgess has spent much of his life caring for the country's wildlife.

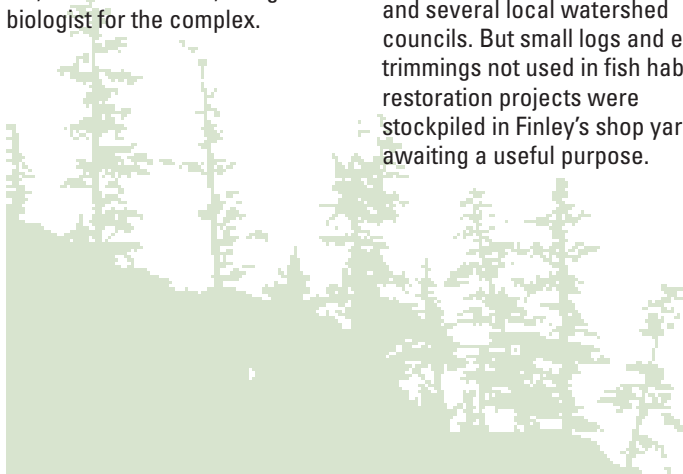
The Michigan native, and now Weslaco resident, worked for the U.S. Fish and Wildlife Service for more than 30 years.

He has spent just about as much time volunteering for the Rio Grande Valley's three national wildlife refuges: Santa Ana, Lower Rio Grande Valley and Laguna Atascosa.

"I think I enjoy it more volunteering. I don't have any boss. I just go ahead and do it," Burgess said.

Burgess, who started volunteering in 1980, has conducted weekly bird counts, maintained duck boxes and done whatever else is asked of him. He has volunteered a total of nearly 12,000 hours at all three refuges, more than any other volunteer. Earlier this month, Burgess celebrated that benchmark, as well as his 90th birthday, with staff at the Santa Ana National Refuge. The celebration also marked the end of his regular volunteering.

Burgess said he plans to continue helping the refuges with the bird counts, but he won't be volunteering as often as he did. He used to volunteer a couple of times a week, but lately has been coming in once a week. >>



Gift, continued

Burgess said he began birding when he was 7 years old and became interested in studying the trumpeter swan, his favorite bird because of their sound, when he was in college.

The former national wildlife refuge manager said he came to the Valley to help with his arthritis and to find more birds. Burgess said he's seen about 511 birds in the United States. He also recorded about 87 birds while he worked as a rubber farmer in Liberia.

Local refuge managers say Burgess has been a great help to them over the years.

Jodi Stroklund, refuge manager at Santa Ana, said Burgess can identify thousands of birds by sound.

"He's really amazing," Stroklund said.

Bryan Winton, the Lower Rio Grande Valley refuge manager, said he and Burgess used to survey birds together and clean duck boxes when he first arrived at the facility. Burgess would know just about all the tracks through the refuge, Winton said. "Some of them (are) complex. He



Harold Burgess.

showed me how to get around when I was starting out," he said. Winton said Burgess was more like an extension of the staff because of all the work he's done at the three refuges over the years.

"He's never slowed down," Winton said.

And even as he begins to, Burgess said he has at least one more project in the works. "I have a book that's not published yet, about my retirement years," he said. □

*By Jennifer L. Berghom.
Reprinted with permission from
The Monitor, McAllen, Texas*

midwest



Air Traffic Control

The recovery and delisting of the bald eagle is cause for celebration, but one of the lesser-known consequences of the rise in bald eagle numbers is a corresponding rise in the number of eagles encountering plane and helicopter traffic in metropolitan areas.

The number of eagles present at the St. Paul, Minnesota, downtown airport has been steadily increasing. The most likely reason for the increased eagle presence at the St. Paul airport is proximity to foraging habitat near the Mississippi River.

The Midwest Region Migratory Bird Permits Office is collaborating with the Metropolitan Airport Commission, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service Wildlife Services program, the Minnesota DNR, the National

Park Service, the City of St. Paul and the University of Minnesota Raptor Center to reduce the risk of such an encounter at the St. Paul downtown airport.

This collaboration is the first of its kind since the official delisting of the bald eagle last July.

Most of the eagles that present a threat to public safety at the airport are juveniles. The Midwest Region Migratory Bird Permit Office has authorized USDA Wildlife Services to trap and relocate up to five of these juvenile bald eagles per year. The University of Minnesota Raptor Center will be working with Wildlife Services to ensure that the eagles are humanely trapped and banded.

These birds will be equipped with bands that use satellite telemetry, which allows a wildlife researcher to pinpoint the location of an animal tagged with a transmitter, no matter how far away it may be. The transmitter sends signals to a receiver



aboard one of a number of satellites orbiting the Earth. The bands will give the partners involved in this collaboration the ability to gather valuable data about the dispersal and behavior patterns of the species as a whole.

The Upper Mississippi National Wildlife and Fish Refuge will be the release site for eagles relocated from the airport. This region of Minnesota contains several roosting sites and many local bald eagle populations. In addition, it is an important winter foraging area and there will be many opportunities for the eagles relocated there to interact with eagles from throughout the upper Midwest.

The National Park Service has begun a banding project at the Mississippi National River and Recreation Area. The Park Service will share banding information with Wildlife Services and the Fish and Wildlife Service. All of the involved parties are eager to witness the results of this collaboration as the science community has much to learn about the behavioral patterns of bald eagles and how these patterns will impact survival ratios.

The Midwest Region hopes that the data and information collected as a result of this pioneering collaboration will help all of the Fish and Wildlife Service and its partners in developing approaches to curbing bald eagle-public interactions. □

Andrea Kirk, Migratory Bird Permits, Fort Snelling, Minnesota

Northern Exposure

On the blustery, undulating prairie of western Saskatchewan, a fearless Kim Mitchell of Ecological Services in the Midwest Region made her mark on the duck population.

It was the second coldest August on record, and because it was uncommonly brisk, there were no mosquitoes. After being soaked to the bone for two weeks straight, Mitchell started donning her rain gear first thing in the morning.

The four-person crew Mitchell joined banded 4,500 ducks in 30 days. For three of the team members, it was like routine clockwork, but Mitchell admits she had a learning curve.

"You have to get the edges of the band completely flat on the leg,

but you're also afraid you're going to break its leg," she explained. Mitchell estimates she banded about 700 out of those 4,500 birds.

Mitchell didn't anticipate battling cattle for solid footing on marshy ground, or push them out of the way to get to the ducks. She also didn't expect to avoid the steaming landmines the cows left strewn across the landscape. And she didn't expect to enjoy the easy camaraderie that developed between team members, or the Texas Italian cooking.

Other unexpected delights Mitchell discovered: getting involved in a debate on the merits of hand sanitizer and rhapsodizing about the glories of Little Debbie Zebra Cakes.

I asked Mitchell if she would go again. She admitted that after being filthy and muddy and soaked, she still had fun. The only drawback was the fact that she missed August in Minnesota, one of the only months in this state when it isn't either sweltering hot (normally) or a toasty below zero. Mitchell said now that she knows what to expect and how to band the ducks, the next time would be much easier.

If you don't have experience banding ducks but like frolicking in the mud, keep your eyes open for the next spectacular opportunity to help the Migratory Birds Program monitor the success of the North American waterfowl population. □

Andrea Kirk, Migratory Bird Permits, Fort Snelling, Minnesota

Terry Liddick (left) from the USGS Bird Banding Lab, Joe Ham (right) from Texas Mid-Coast Refuge Complex and Kim Mitchell at work banding ducks. Crew members banded 4,500 ducks in 30 days.



NEIL KADMAS / USFWS

southeast

Bear Essentials

From the very beginning, conservation partnerships have been the cornerstone of Louisiana black bear recovery. Even before this threatened subspecies was placed on the Federal List of Endangered Wildlife, a coalition of public agencies, timber companies and conservation interests were meeting to discuss bear conservation and possible timber industry impacts from the proposed listing. It could have been a rocky beginning, but instead, it turned into a long-term collaborative effort to conserve this species. That group formalized and became the Black Bear Conservation Committee (BBCC), an organization dedicated to restoring the Louisiana black bear.

Historically, Louisiana black bear numbers were highest in the bottomland hardwood forests of the Lower Mississippi River Valley. Drainage projects and clearing of bottomland hardwoods for agriculture reduced the original 24 million acres of these forests to less than 5 million acres by 1980. The fragmented pattern of the remaining forests makes habitat restoration crucial for the bear's recovery. Presently, most of the estimated 500–700 bears are found within several relatively isolated breeding populations in the Tensas River and Atchafalaya River Basins of Louisiana, with a small number also found in Mississippi.

Recognizing that restoration of marginal agricultural land was necessary to recover the bear, the BBCC, Louisiana Department of Wildlife and Fisheries (LDWF),

DAVE TELESKO / BBCC



A female black bear being lowered from her winter tree for relocation by the reintroduction team of U.S. Fish and Wildlife Service, USDA Wildlife Services, University of Tennessee, and Black Bear Conservation Committee.

the USDA Natural resources Service (NRCS) and the U.S. Fish and Wildlife Service organized a multi-agency collaborative to address black bear habitat restoration needs at a landscape level. This effort resulted in the development of the "Louisiana Black Bear Habitat Restoration and Planning Maps." These maps are a geographic information system (GIS)-based tool that facilitates landscape-level restoration planning for the bear. More specifically, they establish higher point zones around occupied bear habitat, large

forested areas, and identify various natural corridors connecting the disjunct bear populations. Priority restoration areas recently identified by a similar cooperative effort in Mississippi have resulted in complete coverage for the lower Mississippi River Valley.

The Service's Partners for Fish and Wildlife and the BBCC's Landowner Assistance Program (funded by the Service's Private Stewardship Grants Program) are just two of the programs that rely on these maps to prioritize

conservation projects. For conservation programs which encourage reforestation of marginal cropland, such as the NRCS's Wetland Reserve Program (WRP), this means that applicants receive a higher ranking when they are located within the priority areas.

Owing to strong support by NRCS, more than 142,000 acres benefiting bear recovery have been enrolled in Louisiana alone since 1993. The corridors were created with the expectation bears would use them as travel routes. It was an added bonus when bears were found successfully producing cubs in these young forests. There have been six documented litters produced in WRP between 2004 and 2007 (five in Louisiana and one in Mississippi) all located within high priority areas. The Service and partners also initiated a "Louisiana Black Bear Corridor WRP Special Project," which collates WRP applications within the bear corridor areas to receive priority funding from the NRCS Louisiana WRP allocation.

When this species was listed, forest conversion rates for agriculture had begun to level off. Since that time, the conservation partners have made substantial gains in habitat protection and restoration. Federal and state agencies have actively purchased lands, established conservation easements, and restored Louisiana black bear habitat. These efforts in Louisiana alone have resulted in an estimated increase of more than 600,000 acres of protected habitat (i.e., lands that are under some form of protection from development or land conversion) within the bear's historic range from 1991 to 2001.



Because female bears are slow to occupy new habitats, a cooperative effort is underway to establish a new black bear subpopulation in Louisiana. This ambitious project is very labor-intensive and expensive; no one entity could accomplish it alone. Creatively leveraging funding and personnel and pooling resources, the LDWF, BBCC, Louisiana State University, USDA Wildlife Services, University of Tennessee, and Tensas River, Lake Ophelia, and Bayou Teche National Wildlife Refuges have successfully moved 36 female bears and their 82 cubs to unoccupied forests since 2001. Those relocated females have produced a total of 11 litters with 31 cubs since 2005.

These great strides in Louisiana black bear conservation speak volumes to the value of partnerships. With the recent formation of the East Texas Black Bear Task Force and Mississippi BEaR group, the cooperative partnerships continue to improve and advance, as do the prospects for the Louisiana black bear. □

Debbie Fuller, Andy Dolan, Lafayette, Louisiana Ecological Services Office; Maria Davidson, Louisiana Department of Wildlife and Fisheries, and Dave Telesco, Black Bear Conservation Committee.



Vieques NWR Links Girls to the Land

Girls Scouts in Vieques Puerto Rico are assisting Vieques National Wildlife Refuge staff in its efforts to conserve sea turtles. Through the Linking Girls to the Land Council Grants Fund, the Girl Scouts will be monitoring leatherback sea turtles at different beach sites of the refuge.

Project components include environmental education, outdoor skills development, volunteer service learning and career exploration. Refuge Outreach Specialist Gisella Burgos says the collaborative effort "will allow the girls to feel empowered by being able to make a difference and advocate for improvement on the management and conservation of Vieques natural resources for the benefit of present and future generations." □

Gisella Burgos, Outreach Specialist, Vieques NWR, Puerto Rico

northeast



DAVID CLENDENEN / USFWS

Rising from the Ashes

Searching for something to interest 200 firefighters during the Zaca fire near Santa Barbara, California last summer, Information Officer Catherine Hibbard of the Northeast Region's National Wildlife Refuge System caught crewmembers' attention with tidbits of condor information.

At a 6 a.m. briefing, Hibbard billed the condor as having a face only a mother could love. She told them about the condor's 9½-foot wingspan, its ability to fly more than 200 miles in a day, and the condor migration corridor along the ridgeline of the Sierra Madre Mountains in Los Padres National Forest. The Zaca fire was burning in the heart of condor habitat in the national forest.

Crews from around the country fight wildfires in the latest hot spot, so firefighters may not be familiar with the local area.

Information officers at fires typically provide briefings for crewmembers on topics ranging from baseball scores to national and international news headlines, but the incident commander for the Zaca fire team wanted something different. Talking with firefighters over meals in the mess hall, Hibbard learned of their interest in wildlife, and the U.S. Forest Service's wildlife resource officer provided material on condors.

Although the firefighters referred to condors as ugly birds, they expressed interest in the bird's biology and the extensive work recovering the species. Some firefighters saw condors flying in the area, and one captured a picture of condor No. 4, one of 28 tagged condors in southern California. Today there are 80 condors in the wild in California, up from some 22 birds in 1982. >>

Rising, continued

Hibbard called the Zaca fire a “240,000-acre barbecue for condors” with carrion treats for the birds. A condor observation trailer fell victim to the fire. It burned through areas of the Sisquoc condor sanctuary in the national forest. Northeast of the fire, at Bitter Creek National Wildlife Refuge, the condor recovery program maintains a feeding program for the wild birds in southern California. Hibbard encouraged firefighters to “pack up your trash and save a condor” since the condors will eat trash and plastic debris such as bottle caps can kill them.

The Zaca fire started July 4 and burned some 240,000 acres before it was suppressed — at a cost of \$120 million — by Labor Day.

For five years, Hibbard has been the only full-time fire program employee stationed at the Northeast Regional office, but she had not been on a wildfire until 2007. She was at the Big Turnaround Complex fire at Okefenokee National Wildlife Refuge with an outreach team organized by the fire management branch in Boise, Idaho. Her maiden venture into the world of fire information officers was the Owl Fire at Yellowstone, followed up with duty at Zaca. □

Diana Weaver, External Affairs, Hadley, Massachusetts

Criminal Pursuit

Crime scene investigators on television shows routinely use innovative and high-tech investigative tools, but the reality of collecting evidence seldom includes those knock-your-socks-off techniques and laboratory revelations. So when crime scene training featured a dramatic demonstration of blood-revealing reagents, Tribal conservation and law enforcement officers were suitably impressed.

A Service special agent explained how blood evidence helped determine the trajectory of a bullet that killed a Canada lynx in Maine. In another case, seemingly clean boots, when treated with blood reagent, identified an individual who killed a deer illegally.

“Blood reagent showed evidence of blood even when none was visible to the naked eye,” said D.J. Monette, Northeast Region Native American Liaison who coordinated the training. “That demonstration was a real highlight of the training.”

Service special agents, the Maine Warden Service and the Penobscot County Sheriff’s Office conducted the two-day training in December for nine Tribal conservation officers and law enforcement officers from the Penobscot Indian Nation, the Passamaquoddy Tribe and the Narragansett Indian Tribe. The Penobscot Indian Nation hosted the training at Indian Island, Maine. The Northeast Region of



Scott Francis of the Passamaquoddy (Tribe) Warden Service makes a cast of a footprint.

the Native American Fish and Wildlife Society sponsored the training and provided funds that went, in part, to purchase evidence and fingerprint collection kits.

A Service special agent demonstrated how luminescent spray could finger a deer poacher. The paint is invisible when sprayed, for example, on antlers. The luminescence would transfer to hands or gloves when the presumed miscreant retrieved the carcass, allowing positive identification even in the absence of the poached deer.

Participants learned how to identify and handle evidence. They saw demonstrations on checking for lead from bullets or shot, time-of-death calculations, metal detecting, and collecting evidence with digital audio and video recordings.

Monette said previous tribal law enforcement trainings coordinated by the Service have covered topics such as firearms training, waterfowl identification, motorboat operator training, the Lacey Act and Global Positioning System navigation. □

DJ Monette, Native American Liaison, Hadley, Massachusetts

mountain-prairie

Working for Wetlands

The Colorado Division of Wildlife received the 2007 Great National Blue Heron Award, honoring the state's wetlands conservation efforts. The award, sponsored by the North American Waterfowl Management Plan, recognizes outstanding contributions toward the conservation of habitat for waterfowl and other wetland-associated migratory birds over a significant period of time.

Service Mountain-Prairie Regional Director Steve Guertin presented the award to the Colorado Wildlife Commission in Sterling, located in the heart of the wetland-rich South Platte River Basin in northeastern Colorado. The state and its many public and private partners, including the Service's Colorado Partners for Fish and Wildlife, U.S. Department of Agriculture's Natural Resources Conservation Service and Ducks Unlimited, have focused heavily on the wetland resources of the South Platte corridor, which provides important habitat for waterfowl and other migratory birds.

The award highlighted the Colorado Wetlands Program, a partnership between state agencies, the Service, and nongovernmental organizations that began in 1997. During the past decade, the program has leveraged \$70 million in partner funds to protect nearly 188,000 acres of high-value wetlands and associated uplands through acquisition of fee title or conservation easements on public and private lands throughout the state. In addition, the program has restored another 62,500 acres of wetland habitat and more than 200 miles of streams in Colorado.

The North Dakota Game and Fish Department, another key state partner in the Mountain-Prairie Region, received a National Great Blue Heron Award earlier in 2007.

For more information about the National Great Blue Heron Award and other awards sponsored by the North American Waterfowl Management Plan, visit www.fws.gov/birdhabitat/NAWMP/Awards.shtml. □

Matt Kales, External Affairs, Denver, Colorado



Framed and unframed prints of "The Prairie Trail," by Harvey Dunn, capture the beauty of the South Dakota Prairie through their image and its preservation through their sale at the South Dakota Art Museum.

The Art of Prairie Conservation

In 1902, South Dakota-born artist Harvey Dunn left the state to further his career. Now, more than 100 years later, his renowned artwork will be used to preserve the landscape Dunn so often painted.

The South Dakota Art Museum, located on the South Dakota State University campus, is selling prints of Harvey Dunn's "The Prairie Trail" to help raise funds for the Harvey Dunn Grassland Preservation Project sponsored by the U.S. Fish and Wildlife Service.

The Fish and Wildlife Service is launching the project, which has been in development for several years. The project wants to protect 24,000 acres of grasslands in Brookings and Kingsbury counties through easement purchases by the Fish and Wildlife Service. The project focuses on protecting the areas that influenced Harvey

Dunn as an artist. Memories of the untouched Dakota prairies were etched in his mind and became the subject of many of his paintings.

The grassland easements are being purchased by the Fish and Wildlife Service from ranchers who agree to leave their land untilled, thus safeguarding South Dakota's native grasses.

The agreement states that after entering a perpetual easement, all cropping must be restrained and haying of the land must be delayed until July 16 of each year. Livestock can graze at any time the landowner wishes.

Tax responsibility and ownership remain with the rancher, and the easement is recorded onto the land's title.

Tom Tornow, project leader of the Madison Wetland Management District of the U.S. Fish and Wildlife Service, is spearheading fundraising for the venture. >>

Seasonal wetland restored through the Colorado Wetlands Program and protected in perpetuity by a conservation easement.



Art, continued

He hopes to sell between 200 and 1,000 reproductions of the project's signatory print to provide matching funds for the purchase of grassland easements.

"We plan to sell the framed print for \$400 plus tax and shipping costs. Unframed prints will be sold for \$200," Tornow said. "Each framed print that is purchased raises enough funds to preserve one acre of prairie," he said.

The 160-acre Dunn homestead was purchased as part of the grasslands project from William Wilkinson of De Smet. He and 75 other landowners are waiting for potential easement offers from the Fish and Wildlife Service. Reason for concern about the South Dakota prairie is legitimate. The rapid conversion of grass and wetlands results in the decline of native prairie grasses essential for summer livestock grazing, wildlife habitat and scenic prairie views, Tornow said.

"In the last eight years, sod-busting has accumulated approximately 40,000-50,000 acres a year in South Dakota, which has raised a great concern for our native prairie grasses," explained U.S. Fish and Wildlife private lands coordinator Kurt Forman, Brookings.

"This conversion from grassland to cropland rests heavily in the eastern part of the state, primarily where this project is focused," he continued. □

Jeanne Jones Manzer, South Dakota State University

alaska



Flight Assistance

In January, a group of about 50 bald eagles discovered an open truck full of fish guts at a processing plant on Kodiak Island, Alaska. The birds were apparently hungry, and the load of offal proved a temptation they couldn't resist. The eagles flew in to feed, and were soon climbing over each other in the oily goo. A plant employee saw the situation developing and drove the truck into the plant to prevent more eagles from attempting to enter the truck. Before help could arrive, however 18 of the birds died in the deadly scrum.

Brandon Saito, an employee of Kodiak National Wildlife Refuge, was the first to respond to the fish plant's calls for help, followed shortly thereafter by Tonya Lee, also a refuge employee. The two were immediately up to their shoulders in seafood-processing waste, removing the living birds and giving them a quick wash in mild detergent prior to transporting them to the refuge's heated maintenance building. Over the following weekend, many other Kodiak Refuge employees heard about the situation and headed to the makeshift eagle infirmary to help. Despite all efforts, however two more birds died while in this impromptu care facility.

Doctors Jeff and Angie Johnson, who practice veterinary medicine on Kodiak Island, provided invaluable expertise, and it is very likely that without their help more eagles would have been lost. In addition, Barbara Callahan, with the International Bird Rescue Research Center, offered her aid by phone from Anchorage.



Department of the Interior's Special Assistant to the Secretary for Alaska Hans Neidig releases a recuperated eagle on Kodiak Island.

Working together, the group decided that the oiled eagles needed to be transported to Anchorage as soon as possible for further care.

While the veterinarians, Refuge Manager Gary Wheeler, and Kodiak Refuge employees were involved in Herculean efforts to keep the remaining birds alive, Beth Pattinson, with the Service's Migratory Bird Management office in Anchorage, spent much of her weekend on the phone trying to arrange transportation of the birds to Anchorage, where their recovery would be in the more experienced hands of the staff of the Bird Treatment and Learning Center.

Both Alaska Airlines and ERA Aviation stepped up to the plate. On Sunday and Monday (including a typically Kodiak delay while 65-mph winds temporarily grounded flights), the two airline companies transported the remaining birds to Anchorage. There, the eagles were delivered to the Bird Treatment and Learning Center, which had been rounding up volunteers and equipment to handle this sudden influx of patients. As new volunteers arrived, Barbara Callahan spent many hours teaching them how to stabilize the eagles.

One more bird died in the days that followed, but on Monday, February 11, the first recovered eagles were loosed into the skies

of Kodiak Island in front of enthusiastic crowds of local elementary school children. Another release took place on February 12, with Hans Neidig, Special Assistant to the Secretary of the Interior for Alaska, doing the honors, and Deputy Regional Director Gary Edwards and Refuge Manager Gary Wheeler were on hand to celebrate the occasion. Long before this article appears in print, all of the eagles will have been returned to the wild.

In recognition of the efforts that had made this quick and effective response to a wildlife emergency possible, on January 24 the Service presented awards to representatives of Alaska Airlines, ERA Aviation, the International Bird Rescue Center, the Bird Treatment and Learning Center, and Kodiak National Wildlife Refuge. Printed upon a dramatic background photograph that puts the recipient eye to eye with a bald eagle, the plaque reads:

Presented by the U.S. Fish and Wildlife Service with admiration and gratitude, in recognition of your selfless efforts on behalf of injured bald eagles from Kodiak, Alaska during January 2008. When they were unable to fly, you served as their wings. □

Bruce Woods, Chief of Media Relations, Anchorage, Alaska.

california/ nevada

Conserving a Species and Way of Life

Creating partnerships that conserve wildlife as well as economic and social values can be a challenge. Prior to 2002, a partnership between the Duckwater Shoshone Tribe and the Service did not exist. But taking a cooperative approach brought benefits to the Nevada Fish and Wildlife Office (NFWO), the tribe, numerous partners and a rare fish.

The Duckwater Shoshone Reservation is an isolated rural reservation containing the largest thermal spring in Nevada. This 3,850 acre reservation is home to 150 residents whose principle land use is agriculture. The

Duckwater Nye County school children release Railroad Valley springfish into Big Warm Spring.



reservation has a unique hydrogeologic system that is not typical of most arid climates. Geothermal activity carries warm groundwater upward, forming numerous hot springs. The 94-degree water of Big Warm Spring is considered the most important habitat for the Railroad Valley springfish (*Crenichthys nevadae*).

In 2002, the Tribe granted the NFWO's Partners for Fish and Wildlife Program access to the reservation, and the result was one of the Service's most successful tribal partnerships. In early 2003, the NFWO signed a memorandum of understanding with the tribe to begin recovery actions for the springfish while preserving the tribe's economic, social, agricultural, and cultural way of life.

Restoration of the spring system was designed not only to restore the stream channels and 68 acres of wetland habitat next to the spring, but also to improve delivery of tribal irrigation water by constructing a new irrigation intake and pipeline delivery system. The project improved water transport along the main channel and restored the main spring source to accommodate appropriate flow rates. In addition to fencing the newly restored spring and wetland habitat, the partners also restored 45 acres of upland habitat.

A Safe Harbor Agreement (only the second agreement of this type with a Tribal Government) was signed in September 2007, allowing the reintroduction of the fish while use of the irrigation

system and cattle grazing continues. All of the partners, including the Nevada Department of Wildlife, Natural Resources Conservation Service, U.S. Geological Survey's Biological Resources Water Resources Divisions, the NFWO and the tribe were all on hand to celebrate when the Railroad Valley springfish were reintroduced back into their historic habitat that same date.

This strong partnership will assist in the recovery of one of Nevada's threatened species and, at the same time, conserve the tribe's traditional way of life.

"There is a great sense of joy and fulfillment in my heart seeing the restored spring with the stream channel flowing in the location the Great Spirit intended it to go rather than the man-made direction," said tribal Manager Jerry Millet. "Improving health in the land and water for the preservation of the unique and ancient springfish is part of the Duckwater Peoples' legacy for our future generations."

The success of the Big Warm Spring Restoration projects is founded in the collaborative process and persistent communication involving the tribe, the individual tribal business owner, the Service, Nevada Department of Wildlife, Bureau of Land Management, Natural Resources Conservation Service, Bureau of Indian Affairs and the State Water Engineer's Office. □

Jeannie Stafford, Nevada Fish and Wildlife Office

Keeping Development at Bay

In South San Francisco bay, salt is more than a seasoning for food. The San Francisco salt ponds have helped preserve unique coastal lands from human development in what has arguably been one of the fastest growing regions in the United States.

Many of the area's salt ponds are more than 150 years old and some have been in continuous salt production that entire time. The process of salt production is straightforward; a series of ponds is created with a single input and output gate from each, the first pond in the series takes in bay water and evaporation increases the salinity of the pond water as it moves to the next pond in the series. The salinity of the water increases as it moves through the chain, finally ending its journey in the harvest ponds where the remaining water evaporates and the crystallized salt is collected.

Unlike salt cod, preserving the lands was not the intent of the salt pond owners and managers. They wanted to make salt for our tables. Many of us have likely taken the salt from the San Francisco ponds and used it to help make our food tastier.

Because the San Francisco Bay salt ponds have been in continuous — and lucrative — salt production for more than a century, they held back other development that consumed the surrounding landscape. Waterfront property is often the priciest, the most valued by developers and the first to be converted for the benefit of people. But from the California gold rush through the dot-com >>

Development, continued

boom, the ponds held back the growth of houses, landfills, high-rises and strip-malls. Look at a satellite image of south San Francisco bay today and you'll notice dense development ringing thousands of acres of salt ponds, which in turn ring the bay itself.

The ponds weren't entirely successful as a true preservative, but it was a good thing the ponds didn't create a perfectly sterile environment. The last few ponds in the series were sufficiently saline as to create an environment inhospitable to life. However, the other "upflow" ponds provided food and lodging to critters. Algae growing in these ponds formed the base of a new food web, supporting brine shrimp and brine flies. These animals in turn served as food for thousands of migrating birds, including California stilts and American avocets.

Starting in 2000, Cargill, the owner and operator of the San Francisco Bay salt ponds, initiated a discussion about the sale of many of their ponds to the Service and California Fish and Game. Many of these ponds are being reclaimed, and marshes and mudflats are being brought back to where they haven't existed for more than a century. But we are not turning our backs on the sometimes surprising wildlife benefits of salt ponds.

As the salt ponds have demonstrated, some species have benefited from commercial salt operations — returning all the ponds to a more "natural" state could actually harm some species. The most inhospitable-looking ponds even offered



DENNIS LEE

important side benefit in flood control for the surrounding human communities. Public hunting, angling and wildlife watching have already been established in areas off limits to the public for many decades.

The restoration and repurposing of San Francisco's salt ponds is not, and will not be, cheap or easy. It will take decades to achieve some of the more modest conservation goals of the restoration. But against the odds the salt has kept growth off some remarkable real estate. With its partners, the Service is washing away some of that protective coat to reveal lands that will provide nourishment for migratory birds and the souls of bay area's human residents for many years to come. □

opportunities to the most threatened wildlife. In salt ponds that maintained the water at just the right salinity, gypsum precipitated out of the water and formed a thick, concrete-like layer. Without water, these gypsum encased ponds looked like the surface of the moon. But in the cracks and channels, the endangered piping plover found the perfect location to raise its brood. Their eggs and chicks were well camouflaged against the mineral background, and the salty rivulets that ran through the cracks and channels supported brine flies that nourished the birds. Clearly, not every species would benefit from a return to the bay environment that pre-dated urban development.

Some salt ponds will be restored to marsh and tidal mudflats, bringing sundry benefits to diverse species; other ponds properly maintained — even kept

in salt production — will provide benefit to other species. The entire project will provide an

Joshua Winchell, Public Affairs, Washington, DC

Duck, Duck...Dog



RICHARD JOHNSON / USFWS

Although he'd really rather be hunting ruffed grouse or woodcock, Spy, an English setter, seems content with the ring-necked ducks and black duck he retrieved recently while hunting with his master at Moosehorn NWR in eastern Maine. Autumn visitors to Moosehorn enjoy the fowl and foliage on designated portions of the refuge.



*LaSalle Hotel,
Chicago, Illinois.*

Lost to History

By all accounts, it was a horrible way to die.

When Brice McBride left Provo, Utah, for Chicago—probably on the high-balling, eastbound California Zephyr—that warm May Sunday in 1946, he anticipated a routine week of briefings on water issues with his agency's top brass. Ten days later, McBride, 51, lay sprawled on the floor of his midtown hotel room, choking to death, his lungs seared by the black, acrid smoke from one of the worst fires in Chicago's history.

The story begins in 1934—the depths of the Great Depression—when McBride joined the Fish and Wildlife Service as a water manager. Fresh from service with the 23rd Engineer Corps in France in the Great War and a 14-year career as an appointed water commissioner in Utah's Sevier River Valley, McBride came highly regarded. "Brice McBride was one of our foremost hydraulic engineers," agency director Al Day said upon McBride's later demise. "He...performed outstanding work in connection with the Service's program for the development of migratory waterfowl refuges..."

McBride had been summoned to the Windy City for consultations at Fish and Wildlife Service headquarters, which in that post-World War II era were still located in Chicago. Much of the Service and other "non-essential" agencies were booted from Washington, DC, in 1942 to make room for the huge influx of war-related bureaucracies. Most Interior Department agencies were ensconced in Chicago's mammoth Merchandise Mart, after a massive wartime relocation. Its owner—former ambassador and Democratic Party stalwart Joseph P. Kennedy—later turned a hefty postwar profit replacing them with more lucrative commercial tenants. By mid-1946, however, the Fish and Wildlife Service still resided mostly in Chicago.

McBride checked into the LaSalle Hotel on a Monday and was assigned an upper floor room. Soon after its debut in 1909, the elegant 23-story, 1,000-room LaSalle had earned the reputation as the "largest, safest and most modern hotel in America, outside of New York City."

By 1946, it was a firetrap.

There is disagreement how the conflagration started. One source blames a carelessly-tossed cigarette butt that sparked a minor blaze in the pit of the No. 5 elevator shaft sometime the following Wednesday

night, June 5. *Time* magazine, two weeks after the blaze, pinned it on a short circuit in a false ceiling above the hotel's Silver Lounge.

What is known is that within minutes, the LaSalle was burning out of control, flames engulfing the mezzanine and shooting up elevator shafts to the seventh floor...where they largely stopped. The LaSalle's upper floors then filled—not with flames—but with dense, suffocating smoke. It was there that Brice McBride and 60 others died.

Many guests had remained in their rooms, thinking the initial cries of "Fire!" were a joke; most were asphyxiated when they opened their doors and their rooms filled with smoke, their escape routes by then cut off by the sickening fumes.

One victim was seen casually applying her makeup while awaiting rescue from her 18th floor bathroom. Some tossed out hastily-scribbled notes crying "Help!" from their windows. Some dropped luggage and furniture to attract attention in the streets below. Some hurled themselves. Others were luckier. One guest was led down an 11-story fire escape by her seeing-eye dog. Two sailors reportedly dragged 27 others to safety.

The LaSalle Hotel disaster sparked one of the greatest overhauls of fire safety codes in Chicago's history, with new rules mandating automatic fire alarms, two-way fire department radios, and posting of emergency procedures on hotel room doors.

But Brice McBride was largely lost to history.

Until this year, when an agency review of its carefully-preserved press releases for one of its periodic special events revealed a forgotten, half-page announcement of his death from June 6, 1946.

The demise of the LaSalle Hotel fire's 61st victim—now, 61 years later—has provoked a review of the circumstances of the death of Brice McBride, to confirm that he died "in the line of duty." McBride might thereby qualify for memorializing on the Fish and Wildlife Service's "Fallen Comrades" wall at the National Conservation Training Center.

The event triggering the discovery of this apparent historical oversight? Last year's 100th anniversary commemoration of the birth of the Service's now most esteemed and best known employee.

For the cryptic death announcement of a little-known Utah water bureaucrat was penned by a fellow employee who, herself, worked unheralded and largely in obscurity in 1946...Rachel Carson. □

This is the fifth in a series of short features about little-known aspects of the U.S. Fish and Wildlife Service by David Klinger of the National Conservation Training Center in Shepherdstown, West Virginia.

transitions

Headquarters



Steve Hillebrand, who transformed a crude cocktail napkin sketch into a world-class design center that

professionalized the "look" of the U.S. Fish and Wildlife Service, retired January 3 from his position as chief of Training and Education Materials Production at the National Conservation Training Center (NCTC) in Shepherdstown, West Virginia.

"This was your child," Fish and Wildlife Service Director Dale Hall said recently during an all-employee broadcast from NCTC's television studio, one part of the communications and design center managed by Hillebrand. "You developed it and you turned it into a world-class operation. This is the future...and you brought it to us."

First lured into art as a youngster in Hermann, Missouri, through the popular 1950s self-taught "Paint-By-Number" and "John Gnagy Learn-to-Draw" courses, Hillebrand received a bachelor's degree in commercial design from Central Missouri State University in 1967. He later studied graduate-level photography and design at George Washington University. His professional experience began in 1967 as a graphic illustrator for the McDonnell-Douglas Corporation in St. Louis.

In 1971, Hillebrand became director of design and audio-visual for the National Audio-Visual Association in Virginia, then assistant chief of graphics for the Bureau of Narcotics and Dangerous Drugs, now known as the Drug Enforcement

Administration, in 1972. He joined the Fish and Wildlife Service in 1978 as chief of its audio-visual office in Public Affairs, where he worked with acclaimed national wildlife artist Bob Hines and launched his steady professionalization of the agency's still photography efforts and the evolution of its wildlife motion pictures from film to video technology. His career later spanned the shift to digital technology in photography and graphic design.

Hillebrand was recruited in 1990 to devise an in-house design center for the creation of course notebooks and catalogues, training videos, exhibits, brochures, and other promotional materials for NCTC. He officially joined the training operation in 1995, two years before the Shepherdstown campus opened.

His idle napkin jottings evolved into a \$24 million, 20-person staff of designers, photographers, writers, and other residents of a creative enterprise that Hillebrand affectionately referred to as his "fun house." Agency field stations quickly beat a path to his production division's doorstep for a stream of products that continue to be viewed by millions in more than 30 refuge visitor center videos, 50 exhibits, continual satellite broadcasts, and assorted public outreach tools. Hillebrand's older films, such as the critically-acclaimed "America's Wetlands" and "In Celebration of America's Wildlife," continue to circulate world-wide.

Hillebrand entered the U.S. Navy's Officer Candidate School and served with the Naval Air Systems Command in Washington, DC in 1969.

His career earned him the Interior Department's meritorious service award in 2006 for "great tenacity and energy in telling the story of the Service and its mission through creative visual media," according to Interior Secretary Dirk Kempthorne. Hillebrand also earned a gold medal from the Washington, DC Art Director's Club, and assorted

recognition for his motion pictures in international film festivals, ranging from San Francisco and New York City to Spain, Italy, Scotland, and China. □

David Klinger, NCTC

Benito A. Perez, a 34-year law enforcement veteran, has been named chief of the Office of Law Enforcement (OLE). As chief, Perez will direct the work of the Service's special agents and wildlife inspectors in enforcing the Nation's wildlife protection laws. He will also oversee the National Fish and Wildlife Forensics Laboratory in Oregon and the National Wildlife Property and Eagle Repositories in Colorado.

Perez served previously as OLE's deputy chief, providing national oversight for the operational aspects of the law enforcement program. He also guided OLE's strategic and workforce planning efforts and directed OLE as acting chief since October 2006.

From 2001 to 2004, Perez was the Special Agent in Charge for law enforcement operations in the Pacific Region. Investigations conducted under his leadership brought the shooter of an endangered California condor to justice; exposed the large-scale theft of archeological resources from public lands in Nevada and California; and broke up trafficking in endangered species artifacts, snakehead fish, rare reptiles, and leopard sharks. He also served as incident commander for the team of special agents deployed to keep the peace at Upper Klamath Lake in the summer of 2001.

Perez's managerial background includes earlier service as the deputy assistant director for law enforcement and work as both the Special Agent in Charge and a senior special agent with OLE's Branch of Investigations, a headquarters unit responsible for policy oversight and field support. From 1988 to 1998, he worked as a field investigator in Los Angeles and Dallas.

A native of Texas, Perez began his law enforcement career in 1973 with that State's Department of Public Safety. He became a game warden with the Texas Parks and Wildlife Department in 1978 and spent 10 years enforcing wildlife laws along the Texas coast before joining the Service as a special agent in 1988. □



Bryan Arroyo has been named Assistant Director for Endangered Species. Arroyo previously served as

Assistant Regional Director for Ecological Services in the Service's Southwestern Region; acting Field Supervisor in Panama City, Florida; and acting Deputy Regional Director in the Midwest Region. Most recently, Arroyo served as Deputy Assistant Director and acting Assistant Director for Endangered Species. □

Earth Day Celebration to Honor First Service Director Gabrielson



An historic highway marker honoring **Dr. Ira Gabrielson's** career will be unveiled in his hometown of

Oakton, Virginia in April as part of an Earth Day celebration at the Oakton Community Library.

Gabrielson began his career in wildlife management in 1915 as a researcher for the U.S. Bureau of Biological Survey. He spent 20 years conducting and supervising a wide range of programs before being appointed Director of the Bureau in 1935. In 1940, when the Biological Survey was merged with the Department of Fisheries, Gabrielson became the first Director of the U.S. Fish and Wildlife Service.

The National Wildlife Refuge System expanded four-fold under his leadership. Gabrielson helped create the Patuxent Research Refuge—the only wildlife refuge dedicated to research—and eight of the first nine Cooperative Wildlife Research Units. In 2007, seven of the original nine units are part of a network of 43 fish and wildlife units in 40 states. Upon retiring from the government in 1946, Gabrielson continued his national conservation work as president of the Wildlife Management Institute from 1946–1970.

For more information about the ceremony, e-mail Trish Strat at <PatriciaStrat@alum.mit.edu> or call 703/965 5759. □

Chris Nolin has been named Budget Officer for the Service. Nolin previously served as Division Chief for Listing and Candidate Conservation for the Endangered Species Program. Prior to coming to the Service, Nolin worked for the Office of Management and Budget (OMB) where she helped develop the President's budget for the Service; worked with senior-level Interior Department staff, White House offices and other government agencies to develop and coordinate Administration policy on natural resource issues; dealt with issues involving the Interior Appropriations Bill; worked with the Council on Environmental Quality to negotiate interagency policy issues; and was an OMB examiner for the U.S. Forest Service. □

Southwest



Albuquerque native **Charna Lefton** returned to the Southwest last July as the Service's Assistant

Regional Director for External Affairs. Charna came from Sacramento, California where she served as the congressional and

governmental liaison for the Bureau of Land Management. Previously, she worked for the U.S. State Department as the deputy country director for the Peace Corps in Bolivia. Lefton was a volunteer for the Peace Corps and spent two years in Ecuador. Lefton received her bachelor's degree in psychology from the University of New Mexico in 1975 and her master's degree in public administration from California State University-Dominguez Hills in 2004. □

Vicki Fox retired from public affairs in October 2007 after spending nearly a decade serving in the Southwest Region. Fox spent at least some time every year as a fire information specialist working fires throughout the West, giving her a break from Mexican wolf outreach. She re-started her government career in Mississippi working on BLM's wild horse and burro adoption program. From there she moved to Yuma with BLM and spent her spare time taking photos of the gorgeous scenery at our Lower Colorado national wildlife refuges. □

Northeast



Wendi Weber has returned to her roots in the Northeast as Deputy Regional Director. Weber moved to her new job in Hadley,

Massachusetts from Minnesota, but she was born in upstate New York and went to school in Rhode Island.

Weber was assistant regional director for ecological services in the Midwest Region. Previously, she was chief of endangered species in the Pacific Region. She worked for endangered species and international affairs in Washington, DC, for three years.

Prior to working for the Service, Weber worked as a field biologist for the states of Florida and Georgia.

A native of Rochester, New York, Weber earned a bachelor's degree in zoology at the University of Rhode Island and a master's degree in fisheries from the University of Georgia. □

Mountain-Prairie



Steve Guertin has been named Regional Director for the Mountain-Prairie Region.

Guertin previously worked as the Service's budget officer for the past eight years at the headquarters office. During his nine-year tenure in the Department of the Interior Office of Budget, he recommended funding and policy options for the Service and the Bureau of Land Management.

In addition to serving as Acting Regional Director in Denver last fall, Steve has assumed senior leadership roles for one to two months with the Service in Alaska as well as acting as the Special Assistant to the Assistant Secretary for Fish and Wildlife and Parks.

He earned a bachelor's degree from Norwich University in Vermont and a master's of Public and International Affairs from the University of Pittsburgh; and was a Senior Executive Fellow at the John F. Kennedy School of Government at Harvard University.

Before joining the Department of the Interior, he served for eight years as an infantry officer in the United States Marine Corps in a variety of leadership assignments in Hawaii, California, Virginia, and overseas. □

honors

Three couples have been recognized for their long-standing dedication to the Fish and Wildlife Service and American conservation history.

Longtime refuge manager **Denny Holland** was recognized along with his spouse, **Kathy Holland**, for their unstinting help in creating the Service's Heritage Committee and initiating the Service's retirees association. **Jerry and Judy Grover** were recognized for their organizing of FWS retirees in the Pacific Northwest, the creation of a retiree e-mail listserver, and Jerry for outsourcing leadership of the retirees association in its formative years. **Jerry and Pat French** have been very active in Service and Heritage activities in the Southwest having provided numerous artifacts to archives in South Dakota and West Virginia and having created displays and presentations throughout the region on the history of the Service.

Fish and Wildlife Service Director H. Dale Hall congratulated the three couples, who "so richly deserve these awards." Hall noted they had been instrumental in saving the agency's historic objects and creating a 2500 member retirees organization in just a few years by working "tirelessly to make it happen."

The Fish and Wildlife Service Heritage Award is presented annually to the person or persons who have done the most to preserve the rich history of the agency and American fish and wildlife conservation. The year 2007 was the first time the award has been given to three couples who worked so effectively as a team to create a national Heritage Committee, a national retirees association, and an ongoing program to preserve our wildlife conservation history. □

Pacific

Cindy Schexnider, of the Western Washington Fish and Wildlife Service Office, was among four Fish and Wildlife Service employees recognized this year by the Department's Natural Resource Damage Assessment and Restoration (NRDAR) Program for their accomplishments. Schexnider received a Restoration Award for overseeing completion of a restoration associated with an oil spill. The spill resulted when two vessels collided in 1991, sinking one of the vessels, which leaked oil that reached the Washington and Oregon Coasts. Schexnider represented the U.S. Fish and Wildlife Service on the Natural Resource Damage Assessment and Restoration trustee council and led the restoration planning efforts. She excelled at strengthening the partnerships among the Trustee Council. The restoration program, completed in August 2006, included: permanent protection and restoration of over 900 acres of coastal old growth and high quality second growth forest for marbled murrelets, including a parcel now part of Willapa National Wildlife Refuge; a management agreement with the Makah Tribe to protect 283 acres of marbled murrelet habitat for 200 years; surveys of marbled murrelet habitat that will be used to expand habitat protection and prevent incompatible uses; and public education projects to reduce disturbance of nesting seabird colonies. □



A team from the U.S. Fish and Wildlife Service's Pacific Region was recognized for completing the **Tualatin River National Wildlife Refuge Wildlife Center and Headquarters** in Oregon. The facility was designated as a

Federal Energy Saver Showcase by the Department of Energy and the Federal Interagency Energy Policy Committee. Located at the northern end of the Willamette Valley in the shadow of Portland, Oregon, the Tualatin River NWR's restored and protected habitats are home to hundreds of species of fish and wildlife. The refuge boasts an average of 20,000 waterfowl during mid-winter, and in some years, more than 50,000 have been observed in a single day. The refuge is also an important breeding area for neo-tropical migrants and received *Sunset Magazine's* 2007 Environmental Award for being a "preserved paradise."

The new 10,400 square-foot Wildlife Center and Headquarters, scheduled to be dedicated in March, is designed to serve the refuge's mission of learning about and experiencing fish and wildlife resources first-hand, while blending into the surrounding environment. Indoor exhibits will focus primarily on the broader concepts of wildlife and their habitats, the interconnectedness of lands and waters, and the role of the National Wildlife Refuge System. A projected 200,000 visitors and students annually are expected to take advantage of the new facilities. □

Southwest

Karen Cathey, Natural Resource Damage Assessment and Restoration (NRDAR) Coordinator, was among four Fish and Wildlife Service employees recognized this year by the Department's Natural Resource Damage Assessment and Restoration Program for their accomplishments. Cathey received a Sustained Performance Award. For the past 10 years, she has been a driving force in the Region's restoration program. Cathey works closely with field offices on numerous cases spread across several states, providing guidance, expertise and assistance in moving the cases toward restoration. She also served as coordinator of a large case spanning three Service

regions, two EPA regions, three states, and involving three bureaus and a dozen tribes. In addition to her work in the Region, she served as the Service representative on a departmental team developing NRDAR guidance. □

Midwest

Nita M. Fuller (center), Midwest Region National Wildlife Refuge System Chief, received the Meritorious Service Award in recognition of her outstanding contributions to the U.S. Fish and Wildlife Service. The award was presented by Service Director Dale Hall (at right) and Midwest Regional Director Robyn Thorson (at left) at ceremony in the Midwest Regional Office.



Fuller's career with the Service has spanned 30 years and has taken her from the mixed grass prairies of the Wichita Mountains National Wildlife Refuge, to the subtropics of the Lower Rio Grande River National Wildlife Refuge, to the tallgrass prairies of the Midwest. She has had leadership posts at all levels of the National Wildlife Refuge System, from Refuge Manager to Deputy Chief of Refuges in Washington, DC, to her present position as Regional Chief of Refuges in the Midwest Region. Her leadership at every step of her career has been marked with a deep concern for the front line workers of the Service, for improving the science of Service's biological management programs, and for building stronger collaborative efforts between National Wildlife Refuges local communities, schools, and conservation organizations, as well as other disciplines and programs in the Service.

As Regional Chief, she established Wage Grade work groups and put into motion regular conferences and training for maintenance workers, ensuring that these key refuge workers had full availability to career development and training. She instituted Maintenance Action Teams where equipment operators, and maintenance workers from multiple field stations work together to accomplish critical projects that individual refuges could not otherwise complete. These Teams have saved more than \$5 million, and helped build a strong sense of team accomplishment for the Service.

In an innovative collaboration with her counterpart in another Region, and with the U.S. Geological Survey, she launched a Biological Monitoring and Inventory Team effort to make sure that the extensive biological survey and monitoring programs of the Refuge System were conducted using approaches grounded in science, with consistent data collection tools and statistical validity. Working with USGS colleagues she directed implementation of cross-regional, multi-station adaptive management research projects that will have long lasting impacts on improving control of invasive species, and improving the health of wetland communities. □

Northeast

John Schmerfeld, of the Virginia Field Office, was among four Fish and Wildlife Service employees recognized this year by the Department's Natural Resource Damage Assessment and Restoration (NRDAR) Program. Schmerfeld received a Restoration Award for his work restoring freshwater mussels in the Clinch River system in Virginia. The mussels were severely impacted when a tanker truck overturned near the Clinch River in 1998. The spill killed most aquatic life for about seven miles downstream, including over 18,000 freshwater mussels of 16 different species. Among the species impacted were three

federally listed endangered mussel species (tan riffleshell, purple bean, rough rabbitsfoot). Using NRDAR settlement funds, hundreds of thousands of freshwater mussels have been released into the Clinch River system, and will be monitored for survival. The releases are the culmination of partnerships developed by John with Virginia Polytechnic Institute, who perfected rearing techniques; the Virginia Department of Game and Inland Fisheries, who reared the mussels; and local community groups, as well as USGS and VA Department of Conservation and Recreation. In 2006, John worked with high school students to conduct habitat assessments that focused on water quality issues both upstream and within the restoration site. □



James "Jay" Perez, refuge officer at the Patuxent National Research Refuge in Maryland, received the Department

of Interior's Exemplary Act Award in recognition of his heroic actions during a routine patrol of the refuge last May. After observing a man running from the wildlife observation trail, Perez quickly located a woman who was bleeding profusely from stab wounds. The officer skillfully administered first aid to the victim, coordinated emergency response and is credited with saving her life. He was able to obtain critical information from the woman that led to the capture of her assailant. Perez was presented the national award at the Region 5 annual awards ceremony in December. At the time of the incident, he had been on the job less than a year. □



Joseph McCauley, manager of the Eastern Virginia Rivers National Wildlife Refuge Complex,

received the Northeast Region's 2007 John S. Gottschalk Partnership Award for his exemplary success in developing and maintaining partnerships on behalf of fish and wildlife conservation. As manager of the refuge complex since June 2000, McCauley has brought together a multitude of public and private interests to protect fish and wildlife resources throughout the Rappahannock River Valley. His work exemplifies exceptional customer service, innovative thinking and resourcefulness. Named for the Service's director from 1964 to 1970, the Gottschalk award annually recognizes a Service employee who is a leader in promoting natural resource partnerships. □



The new energy-efficient administrative building and visitor contact station at the **Nulhegan Division of the Silvio O. Conte National Fish and Wildlife Refuge** (above) is the first U.S. Fish and Wildlife Service facility to receive national ENERGY STAR designation. The building received this recognition for its capacity to harvest sunlight, conserve electricity and recover heat. A joint program of the Environmental Protection Agency and the federal Department of Energy, ENERGY STAR was introduced in 1992 as a voluntary, market-based partnership to reduce greenhouse gas emissions through energy efficiency. Today, the label can be found on more than 50 kinds of products, new homes and commercial and industrial buildings. □

Mountain-Prairie



Chris Servheen recently was awarded the U.S. Department of the Interior's second-highest

honor for his work coordinating the federal government's efforts to bring the grizzly bear back from near-extinction in the West.

Servheen, who is based in Missoula, has been the Service's grizzly bear recovery coordinator for 26 years.

He received the Meritorious Service Citation during a meeting two weeks ago in Helena.

"The service is very proud of all of Chris' work with bears," said Sharon Rose, a spokeswoman for the U.S. Fish and Wildlife Service, which is under the Department of the Interior.

Servheen said the award validates the work scientists have been doing for three decades.

"People are starting to see a difference," he said.

The grizzly bear was listed as a threatened species in 1975. The 57-year-old Servheen has been the government's only recovery coordinator since the job was created in 1981. When he took over, he had just finished his doctorate on grizzlies in the Mission Mountains at the University of Montana in Missoula.

The job involves coordinating efforts of private, state, federal and tribal partners in monitoring the status of the bear and its habitat, portions of which include Montana, Idaho, Wyoming and Washington.

The honor for Servheen comes in the same year that grizzlies in the Yellowstone National Park area were removed from the threatened and endangered species list.

"Are the bears doing better after this work? I think so," Servheen said.

When he took over, there were 130 to 300 grizzlies in the Yellowstone area. Today, there are more than 575. At least 545 grizzlies live in northwestern Montana, which includes land along the Rocky Mountain Front and Glacier National Park.

The citation, which was established in 1948, recognizes superior performance and devotion to duty as well as contributions to science or management. The agency's highest recognition, the Distinguished Service Award, usually goes to employees who previously received the Meritorious Service Citation. □



RYAN HAGERTY / USFWS

The 2007 bison reintroduction at **Rocky Mountain Arsenal National Wildlife Refuge** (above) recently received the Colorado Chapter of the Public Relations Society of America "Gold Pick" award in the category of special event with a budget over \$25,000. MGA Communications of Denver (for Shell Oil) nominated "Home on the Range: Bison are Back at the Rocky Mountain Arsenal National Wildlife Refuge" for the award, which recognizes the efforts of the U.S. Army, MGA, and the Service to deliver this successful outreach event and promote wild bison conservation, the National Wildlife Refuge System, and the long-standing public-private partnership at the refuge, the metro Denver community, and beyond. □

California-Nevada

Annie Little, of the Carlsbad Fish and Wildlife Office, was among four Fish and Wildlife Service employees recognized this year by the Department's Natural Resource Damage Assessment and Restoration (NRDAR) Program. Little received a Restoration Award for her work restoring bald eagles off the coast of southern California. The restoration program results from a NRDAR settlement with a former manufacturer of DDT, who discharged DDT into the waters off the southern California coast from the 1940s through the 1970s, injuring fish and birds. Her efforts required a high degree of coordination and cooperation with nonprofit organizations, Channel Islands National Park, and other Fish and Wildlife Service offices, as well as the Trustee Council. Annie's hard work, diligence, and commitment to excellence resulted in significant achievements in restoring bald eagles to the Channel Islands for future generations to enjoy. Last year, after years of releasing captive-breed and translocated eagles, one eagle chick hatched naturally for the first time in nearly 50 years on Santa Cruz Island. This year, four eagle chicks hatched naturally on Catalina Island for the first since the mid-1940s. □

Cay Goude, Assistant Field Supervisor in the Sacramento FWO, received the California Native Plant Society's (CNPS) 2007 "Agency Staff Person of the Year Award." Cay was given this award in recognition of her persistence and perseverance in facilitating meetings with environmental organizations, regulatory agencies and the University of California Merced to develop a conservation footprint for the university campus and community in Merced County, California. CNPS said that without Ms Goude's effort this unique and difficult negotiation process would have failed.

Goude is a senior biologist in the Sacramento FWO, responsible for ES matters in 30 Central and Northern California counties, including the San Francisco Bay Area, the Sierra Nevada and the foothills. Cay is widely known as an exceptional facilitator who can bring opposing parties together in successful face-to-face negotiations. The UC Merced process began six years ago with the filing of an application to fill 121 acres of wetlands. Through the ensuing years Goude worked with all parties to facilitate an agreement reducing the wetlands impact by one-third and providing full and generous mitigation on other lands.

CNPS is a statewide non-profit organization dedicated to the conservation and understanding of California native flora. □

in memoriam



Paul J. Burke, a biologist with the Twin Cities ES Field Office, died October 7, 2007. Burke was with

the Service for approximately 28 years, nearly 20 of which were in the Twin Cities ES Field Office (TCFO). Previously, he worked in the Columbia ES Field Office, as well as in Washington, DC.

His colleagues in the TCFO "resoundingly agree that Paul was absolutely dedicated to the Service's mission," said Tony Sullins, TCFO Field Supervisor. He worked tirelessly with the Federal Highway Administration and the State of Minnesota to ensure new highway developments in the northeastern Minnesota considered impacts to wildlife, including such modifications that allowed for wildlife crossings, reduced habitat fragmentation and

helped prevent automobile-wildlife collisions. Burke worked closely with mining corporations on the state's Iron Range to study and minimize impacts on the landscape. He consistently demonstrated deep respect for Native Americans and worked closely with several Minnesota Tribes. He developed a rapport with tribal personnel that improved the Service's relationships and enhanced the agency's ability to meld trust responsibilities with tribal needs.

Because of Burke's efforts, natural resources, especially endangered species and their habitats, have benefited on tribal and trust lands. He liked to call Ecological Services the "junkyard dog" of the Fish and Wildlife Service and took great pride in "fighting the good fight" to ensure he did everything he could to protect the nation's natural resources. "Paul set the standard for professional integrity, passion, energy, enthusiasm, drive and dedication to the FWS mission. He was truly one of the most articulate and consistent voices for the voiceless, the fish and wildlife and habitat resources for which we fought together," said Wilson Laney, South Atlantic Fisheries Coordinator in Raleigh, North Carolina.

Memorial contributions can be sent to the Blue Goose Fund, which helps bring inner-city children to the Minnesota Valley National Wildlife Refuge for educational trips. Please send to: Refuge Friends Inc., Minnesota Valley NWR, 3815 American Blvd. East, Bloomington, MN 55425, Attn: Steve Sutter, President. □



Don Henne, project leader for nine years at the Southern New England Coastal Program (SNEP) in Charlestown,

Rhode Island, died July 30, 2007 at his home after fighting cancer for several months. He was 56.

Henne worked in natural resource management for the federal government for 32 years. SNEP staff credit Henne's experience and contacts as vital to their program's successes. He led by example, treated everyone as part of the team, and expressed three loves: his family, clean water and abundant natural resources.

Perhaps Henne's greatest accomplishment at SNEP was championing the Long Island Sound Futures Fund from conception to implementation. The fund's grants promote environmental restoration, stewardship, management and education by underwriting local conservation projects. The multi-agency partnership includes the Service, National Fish and Wildlife Foundation, Environmental Protection Agency, National Oceanic and Atmospheric Administration, and state natural resource agencies in New York and Connecticut.

Now in its third year, the fund has provided \$2.6 million for 72 projects. Together with nearly \$11 million from grantees, the projects will open 33 river miles for fish passage, restore 176 acres of fish and wildlife habitat, and promote protection and public access to open space. Friends and colleagues remember Henne's kindness and sense of humor. He is survived by his wife, Susan; two children, Amanda and Kevin; his mother; a sister, Mary and two brothers, Ed and Paul. Paul Henne, is the assistant director for business management and operations for the Service in Arlington, Virginia, and Paul's wife, Denise, is a program specialist in the assistant director's office for endangered species.

Memorial contributions can be sent to the Donald R. Henne Scholarship Fund (P.O. Box 2, North Stonington, CT 06359) for a local high school student who wishes to pursue a wildlife conservation career. □



Former New Jersey Field Office project leader
Clifford

Day died in October of lung cancer. Day retired earlier this

year, leaving a rich conservation legacy, including 20 years of advocating for conservation of 8,400 acres of estuarine wetlands and uplands known as the Hackensack Meadowlands, one of the few open spaces remaining in the New York metropolitan area.

In 1977 Day started his Service career as a biologist in a trailer office on Edwin B. Forsythe National Wildlife Refuge in New Jersey. He worked in the Washington, DC, fish and wildlife enhancement office for two years before he was selected as field supervisor of the Absecon Field Office, later the New Jersey Field Office, in 1987.

His work on behalf of the New Jersey Meadowlands was crucial to the continued protection of that valuable fish and wildlife resource that supports more than 800 species of plants and wildlife. Day gained respect and admiration for his firm, steady commitment to fish and wildlife resource protection. □



For 50 years, maintenance mechanic
Harry Sears was an institution at national wildlife refuges in

eastern Massachusetts. He was an active and vibrant full-time employee until three days before his death in January, a day shy of his 91st birthday.

"Harry's positive outlook on life and love for his job were inspirational to us. He was a joy to have around, always smiling and just itching to get to work. Despite his age, we

expected him to be around for a long time," said Libby Herland, manager of the Eastern Massachusetts National Wildlife Refuge Complex.

Given his longevity with the agency, it is remarkable that the Service was Sears' second career after working as both a farmer and security guard. In 1958 at age 40, he accepted a maintenance position at Parker River National Wildlife Refuge in Newburyport, Massachusetts. He transferred to Great Meadows National Wildlife Refuge in Sudbury, Massachusetts 12 years later and worked for the refuge complex for nearly four decades.

Sears was a man whose energy and strength belied his years. He successfully completed chainsaw operations training when he was 89, recently renewed his commercial driver's license and held a second job driving a milk truck on weekends. His daily commute to work was a 120-mile round-trip. Sears resisted any talk about retirement and had almost 3,000 hours of unused sick leave.

"Every year, I'd remind Harry that he was more than eligible to retire, even though his response was predictable. 'When you retire, you are going to die shortly thereafter. So, I'm not going to retire,' he'd say. Work was Harry's joy in life," reminisced Ed Moses, a former manager of the refuge complex.

For many years, Sears was the only maintenance worker for the complex's eight refuges scattered throughout the greater Boston area, on Cape Cod and off the Massachusetts coast. In 1999, Sears became the first person to receive the Department of Interior's Unsung Hero Award in recognition of his invaluable behind-the-scenes achievements as a Service employee. "Harry's work ethic was incredible. I am the last in a long line of managers who can attest to his can-do attitude and extraordinary dedication to the National Wildlife Refuge System. It was an honor to work with him and to be his friend," Herland said. □

Ken Burton, a veteran writer and public affairs specialist for the U.S. Fish and Wildlife Service, died March 22, 2008 in Arlington, Virginia after a brief illness. He was 67.

Born in Litchfield, Illinois, Burton was a graduate of Petersburg High School in Petersburg, Alaska and received his undergraduate degree in Environmental Public Affairs from George Mason University in Fairfax, Virginia. He served four years in the U.S. Air Force Information Services, receiving the Good Conduct Medal and Cuba Expeditionary Ribbon.

Upon Honorable Discharge in 1965, Burton began a distinguished career in both print and television journalism in Tucson, Arizona. In 1977, he joined the staff of Arizona Congressman Morris K. Udall in Washington, DC. In 1981 he became Director, Office of Public Affairs for the Interior Committee of the House of Representatives, which Udall chaired.

After Udall's retirement, Burton joined the Fish and Wildlife Service's Office of Public Affairs. From defending the Endangered Species Act from false "horror stories" to publicizing the importance of creating fish passage, fighting invasive species, and controlling international wildlife trade, he demonstrated a great instinct for finding and telling a story. Perhaps even more importantly, Burton generously shared his experience and knowledge with younger Service colleagues and was quick to offer a kind word and sympathetic ear when needed.

"Ken brought to his work a unique combination of journalistic experience as well as a keen sense of political reality he acquired while working with Congress," said friend and long-time colleague Craig Rieben, Media Services Coordinator for the Headquarters Region. "A deft and creative writer whose work seemed to improve under a tight deadline, Ken was always willing to take the time to help junior

colleagues with writing, as well as the more mundane, but puzzling, aspects of working in the bureaucracy."

Burton's keen sense of creativity was a hallmark of his work and greatly enhanced the effectiveness of the Service's communication products. A notable example was the "America's Least Wanted" educational campaign he developed concerning the threats posed by invasive species to native wildlife. Through the years he was instrumental in handling media and providing information on high-profile and controversial issues such as the California condor reintroduction project, the Columbian Basin ecosystem effort, recovery of the sturgeon, removal of Embury Dam in Virginia, and delisting of the bald eagle.

Burton received numerous professional awards for this work with the Service, including the Interior Department's Superior Service Award. He was also appointed to serve on the first board of the Morris K. Udall Foundation by President Bill Clinton.

Though he spent much of his career in public service, Burton considered himself first and foremost a writer and journalist. "I'm a newspaperman at heart," he once said. Colleagues and friends will remember him for his skill with words, but most of all, his sense of humor.

"He was just one of the all-time great wits," said former *Arizona Star* colleague Bill Waters, editorial page editor of the *Santa Fe New Mexican*. "He gladdened a lot of lives."

Burton is survived by his wife of 41 years, Mary Carol of Chantilly, Virginia; son Scott of Houston, Texas; daughter and son-in-law Katie and Chris Wheedleton and their children Daniel and Kevin all of Ashburn, Virginia. The family requests donations be made to any wildlife organization supporting the Endangered Species Act. □



DAVID LEDIG
*Common murrelets at
Three Arch Rocks
bird refuge on the
Oregon Coast.*

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