



US Army Corps  
of Engineers®

# Lands and Waters

*Value to the Nation*

Stewards of 12 Million Acres



Lands, Waters, and Living Things



# Lands and Waters...

The American people have entrusted 12 million acres of lands and waters to our care. An area the size of New Hampshire and Vermont, these lands and waters are located in 43 of our 50 states, close to where most Americans live, work, and play. Corps lands and waters include streams, rivers, lakes, and their adjacent lands. Important in their own right, these lands and waters gain special value where they come together—at the water's edge. We are stewards of thousands of miles of these land-water corridors, places that play a key role in the health of the environment that we Americans share with other living things.



## Land-Water Corridors...at the Water's Edge

Land-water (or riparian) corridors have unique communities of plants and animals living near a river, stream, lake, lagoon or other body of water. They serve a variety of functions important to both people and the environment:

- Preserving water quality by filtering sediment and pollutants from runoff.
- Protecting stream banks and shorelines from erosion.
- Providing a storage area for flood waters.
- Providing food and habitat for fish and wildlife.
- Preserving open space and aesthetic surroundings.

## On the Lands and In the Waters

Corps lands and waters reflect a broad spectrum of America's natural heritage. Our thousands of miles of waters course their way through upland forests and bottomland woods and across native grasslands on their journey to the sea. Along with our many lakes and wetlands, these lands and waters are life-sustaining habitat for a variety of plants and animals, including a number of endangered species. On our lands are elk, deer, and bison, turkey, grouse, and quail. In our waters are bass, walleye, and sturgeon, muskrat, beaver, and otter. Endangered species we host include mollusks, amphibians, bats, songbirds, and numerous plants. An extinct Jurassic species, *Tyrannosaurus rex*, was discovered on Corps lands in Montana.



## At the Water's Edge: Corridors

Where lands and waters come together, living things gather in abundance. Riparian areas often occupy less than 1 percent of the landscape, yet they are some of the most diverse, dynamic and complex places on Earth. A variety of mosses, ferns, flowers, trees and shrubs cover the ground. Over 70 percent of all land animals use riparian corridors, including many threatened and endangered species. These natural pathways allow animals to move between areas of food and cover. They grow in importance as fragmentation continues. Some natural residents spend their entire life at the water's edge while others use it as a periodic source for food, shelter, resting and raising young. In the air above rivers and streams, there are far more insects to feed hungry swallows and bats. In lakes and streams, fallen leaves provide food for insects that are then eaten by fish. Trees and shrubs growing at the water's edge help prevent erosion, cool the water, provide



# ...and Living Things



cover for fish, provide food for animals, and provide hunting perches for eagles and hawks. Migrating birds use Corps lakes for resting, feeding and breeding. With the total shoreline around Corps lakes exceeding the entire coastline of the lower 48 states, a multitude of diverse habitat is available for birds, mammals, insects, amphibians and reptiles.

*"Many Corps-managed lands and waters provide high quality bird habitat. A huge diversity of high priority birds use the wetlands and waterways influenced by the Corps, including many extremely rare birds, some popular symbols of the wild, and some of the most sought-after game species. Dedication from the Corps to birds and biological diversity is much appreciated by all of our partners."*

— David Pashley  
U.S. Coordinator for the North American Bird Conservation Initiative



## Human Population and Land Use

Human populations are also attracted to the water's edge. We settle along rivers and lakes and bays for the food, water, and transportation they provide—much like the other living things with which we share this earth. From the beginning, the American people have lived in places at or near the water's edge. And over the years, our numbers and our presence have grown. In 1804, when President Jefferson sent Lewis and Clark up the Missouri in search of a river passage to the Pacific Ocean, our nation of 16 states was home to 5 million people. Today, we are 290 million and growing by 2.5 million each year. The lands and waters cared for by the Corps have become islands of green and blue in a thickening sea of humanity and activity—natural places of refuge for us all.



## Corps Lands and Water...and Living Things

- 12 million acres of American lands and waters and living things
- In 43 states, most east of the Mississippi, 80% near a major city
- Half land, half water, riparian habitat: the cream of nature's crop
- Hundreds of lakes and thousands of miles of rivers and streams
- 56,000 miles of lake shore, more than coastal states ME to WA
- Hundreds of reservoirs filled with 330 million acre-feet of water
- Many thousands of terrestrial and aquatic species
- 40,000 archeological sites and 5,000 historical sites





The two basic goals of Corps stewardship are to manage lands and waters to ensure their availability for future generations, and to help maintain healthy ecosystems and biodiversity.

*“Environmental stewardship is not just a job to us. Like all Americans, we have a vested interest in the nation we leave for the next generation.”*

– LTG Robert B. Flowers, the Army's 47th Chief of Engineers

## Evolution of Corps Stewardship

The American people rely on lands and waters for basic needs. And for over 200 years, the Corps has served the Nation with water resources programs including waterway navigation, floodwater control, hydroelectric power, water supply, and outdoor recreation. Most projects on the lands and waters we manage address several needs. For example, rivers are impounded to control flows for navigation and flood protection, and to form reservoirs for hydropower, water supply, and recreation. Nature is changed in the process. But, in everything we do, we strive to balance the needs of people with those of nature, realizing they are ultimately the same.

## Examples of Current Activities

### Fern Ridge Lake

Very special plants and animals living at Fern Ridge Lake in the southern Willamette Valley of Oregon need innovative management techniques to survive. When vast grasslands are lost, many living creatures are affected.

The endangered Fender's Blue butterfly will only lay its eggs on the threatened Kincaid's lupine plant – both inhabitants of prairies that have been reduced to less than 1/10th of 1 percent of their historical acreage. The Nature Conservancy, Bureau of Land Management, City of Eugene, Oregon State University, and the Corps are helping them recover by preserving the grasslands they need to thrive. Mowing to reduce woody plants, and a class project in which student volunteers collect and plant lupine seeds have increased the butterfly numbers five-fold in 4 years. Help is also extended to rare Western pond turtles at Fern Ridge who receive a “head start” via nest protection and captive rearing of newly hatched turtles before releasing them to the wild. As a result, survival of young turtles has increased from 5 percent to over 70 percent in 9 years.



## Sustainable Rivers Project

Restoring the health and life of rivers across the United States is the goal of the Sustainable Rivers Project—a cooperative effort between the Corps and The Nature Conservancy. Currently, project rivers include: the Willamette in Oregon; the Bill Williams in Arizona; the Green in Kentucky; the Savannah in Georgia and South Carolina; the Roanoke in North Carolina and Virginia; the White, Black, and Little Red in Arkansas and Missouri; the Connecticut in New Hampshire, Vermont, Massachusetts and Connecticut; and Big Cypress Creek in Texas and Louisiana. This nation-wide effort to modify dam operations to improve ecosystems was sparked by an initial collaboration for the Green River in Kentucky—the nation's fourth most biologically diverse river. On the Green, changes were made to the pattern and timing of water releases from Green River Dam, which benefited communities of fish and mussels while maintaining flood protection

and enhancing recreation opportunities in the watershed. Sustainable Rivers' successes have also generated interest internationally, where methods used for the Green and other project sites are now being applied in Asia, Africa, and South America.

*“When one tugs at a single thing in nature, he finds it hitched to the rest of the Universe.”*

– John Muir, Early Conservationist

## Our Most Critical Challenge

Balancing the needs of people with those of nature is the basic challenge. We must manage our lands and waters in the interest of both. Located as they are in the midst of people living, working, and playing at the water's edge, there is constant pressure to tip the balance toward the short term interests of our growing population: more water control for navigation and hydropower, more access for outdoor recreation. As we continue to adopt more holistic and integrated means of managing our water resources programs, our environmental stewardship will continue to mature. And our ability to balance these needs will grow. But, much of what needs to be done is beyond the reach of single organizations. People, for the most part, have ignored the boundaries of natural systems in forming their own boundaries. The greater challenge posed by people sharing this earth with other living things calls for partnerships across organization and geographic boundaries: partnerships on local, regional, and global scales. The Corps is committed to forming and working in these partnerships.



Lynda Richardson



# How We Benefit . . .

Like all living things with which we share this earth, people live longer and better in a healthy environment. Quality air, land, and water, and a variety of plants and animals, contribute to our personal, social, and economic wellbeing.

## ECONOMIC BENEFITS OF NATURE-BASED RECREATION

About 360 million visitors come to Corps lakes each year:

- 120 million go sightseeing
- 93 million go fishing
- 81 million go boating
- 44 million go swimming
- 41 million go picnicking
- 8 million go hunting
- 5 million go camping;

These visitors spend about \$18 billion annually. With multiplier effects, it contributes to:

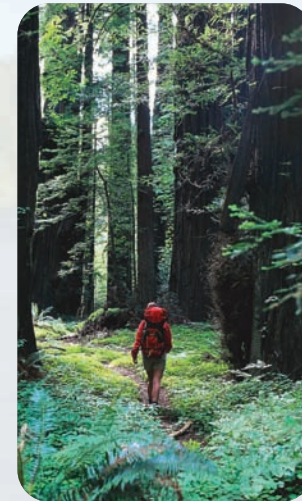
- \$45 billion in total related sales
- \$22 billion in personal income and profits
- 350,000 jobs across the nation

## Benefiting from Our Resources

Stewardship enhances the benefits that the American people derive from our natural resources. Wisely managed lands and waters contribute to the purity of our air and water, to the fertility of our soil, and to the natural control of flooding along our rivers and streams. Stewardship reduces siltation in our reservoirs, maintaining their water storage for hydropower, navigation, and water supply. It also contributes to the variety and abundance of our fish and wildlife, and to the attractiveness of our lands and waters. Care for our natural environment helps to serve our human needs in many ways. Stewardship benefits us all.

## Interacting with the Environment

People have an affinity for the lands and waters and living things that comprise the natural community to which we all belong. Having a healthy environment in which to live and work, to seek mental and spiritual renewal, to educate children about nature, and to learn about our cultural heritage is important to us all. Each year, one out of every 10 Americans visits a Corps lake to enjoy its natural treasures in their own unique way. For some, it is photographing wildflowers in a prairie at CJ Brown Lake in Ohio, or camping under the stars at Hartwell Lake in Georgia, or following in the footsteps of Lewis & Clark. For others, it is catching a glimpse of



the rare and illusive Golden-cheeked Warbler at Georgetown Lake in Texas, or walking a quiet trail around Lake Okeechobee in Florida, or studying the dinosaurs at Fort Peck Lake in Montana. For still more, it is taking a child to catch her first fish along the Mississippi River, or learning the mysteries of stream life with a Scout troop at Crooked Creek Lake in Pennsylvania, or volunteering to help stabilize shoreline at the Lower Brule Sioux Reservation in South Dakota. Outdoor activities like these provide additional value to society by improving education and reducing problems such as juvenile crime, underage drinking and illegal drug use. Preserving these benefits is important to us all. Americans indicated in an Environmental Values survey that they expect everyone to do their part in caring for the environment, expect beauty in their parks and neighborhoods, and expect honesty from business and government about the impacts they have on the environment.

*“Nature invites us in. Almost all the sensory input is so pleasant. To sit by a lake or waterfall or on a hilltop with a totally natural vista – It really does remove us from our worries. For people who really need to de-stress, anything we do in nature is helpful. It is the equivalent of the best therapy in the world.”*

– Charles Cook, author of “Awakening to Nature”

## Guarding our Natural Heritage

People have a profound effect on nature. In our pursuit of life’s requirements and rewards, we often degrade or destroy that upon which we and other living things depend. The dynamics of this are complex. But at the center of the problem is the distance we have put between nature and ourselves. Our minds and our machines have driven us beyond a sense of belonging—to a sense of mastery. Experience is teaching us, however, that cooperation serves us far better than competition in our relationship with nature. In his 1933 essay, Aldo Leopold tells us that we need to adopt a “land ethic” to guide this relationship. An ethic that teaches us how to live on this earth as one of many living things. We have ethics to guide our people-to-people and our people-to-society relationships – religion and democracy. But we have yet to fully develop a “land ethic” to guide our people-to-nature relationships.

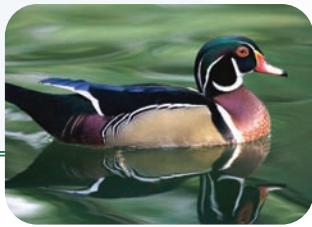
*“All ethics so far evolved rest upon a single premise: that the individual is a member of a community of interdependent parts. His instincts prompt him to compete for his place in that community, but his ethics prompt him also to co-operate (perhaps in order that there may be a place to compete for). The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land.”*

– Aldo Leopold, The Land Ethic





# Sharing Stewardship



As stewards of 12 million acres, we recognize the importance and the benefit of working in partnerships with other government and nongovernment organizations, and we are expanding our vision to incorporate even more partners.

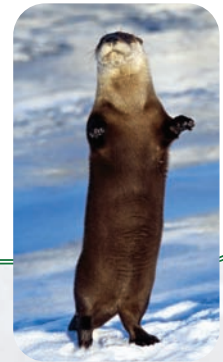
## Sustainable Rivers Project Partnership

*“At the heart of this agreement is a shared vision of restoring and protecting hundreds of river miles and thousands of acres of some of our nation’s most important natural habitats. This agreement is a result of conservationists and dam managers sitting down at the table together, stating our objectives openly, and agreeing to work together to find solutions that are acceptable to all involved.”*

– Steven McCormick, former president of The Nature Conservancy

*“We intend to build sustainability into the planning, construction and operation of our projects, and it is critical that we adapt our management of America’s rivers to meet the needs of the human and natural communities. The Nature Conservancy has a great deal of expertise to help us make that possible.”*

– LTG Robert B. Flowers, the Army's 47th Chief of Engineers



## Working Together

Many state park systems and federal wildlife refuges had their beginnings with Corps lakes, and much of their current operation is focused on Corps lands and waters. Other partners with whom we work include:

- Natural Resources Conservation Service
- US Fish and Wildlife Service
- USDA Forest Service
- National Park Service
- Environmental Protection Agency
- National Fish and Wildlife Foundation
- Ruffed Grouse Society
- The Nature Conservancy
- Partners in Flight
- Ducks Unlimited
- National Wild Turkey Federation
- Tread Lightly!

## Learning More

To learn more about Corps lands and waters, volunteer as an environmental steward, or visit a Corps lake or facility, the following sources of information will assist you:

- Corps Value to the Nation: [www.CorpsResults.us](http://www.CorpsResults.us)
- Corps Volunteer Clearinghouse: 1-800-865-8337 ■ [www.CorpsLakes.us/Volunteer](http://www.CorpsLakes.us/Volunteer)
- Corps Natural Resources Management Gateway: <http://CorpsLakes.usace.army.mil>
- National Recreation Reservation Service: 1-877-444-6777 ■ [www.Recreation.gov](http://www.Recreation.gov)
- Corps Lakes Gateway: [www.CorpsLakes.us](http://www.CorpsLakes.us)

