

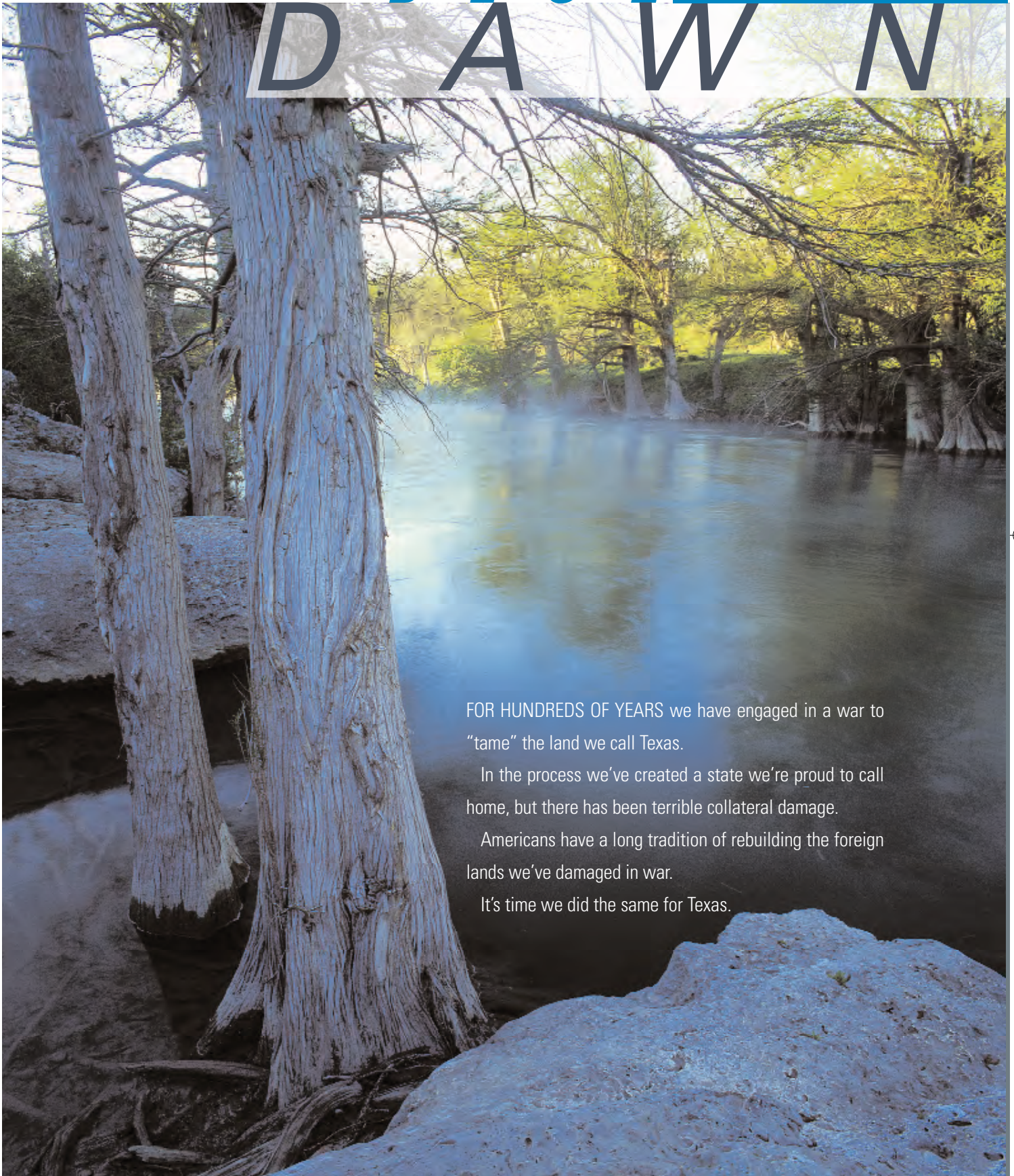


TEXAS ENTERS A NEW ERA IN THE MANAGEMENT OF WATER RESOURCES.

B L U E

By Larry D. Hodge

D A W N



FOR HUNDREDS OF YEARS we have engaged in a war to “tame” the land we call Texas.

In the process we’ve created a state we’re proud to call home, but there has been terrible collateral damage.

Americans have a long tradition of rebuilding the foreign lands we’ve damaged in war.

It’s time we did the same for Texas.

PHOTO © LANCE VARNELL



ACTUALLY, THE PROCESS HAS ALREADY BEGUN.

In 1997 the Texas Legislature passed Senate Bill 1, which required long-range water planning to meet the water needs of Texas for the next 50 years while protecting natural resources. Lawmakers followed up 10 years later with Senate Bill 3, which established a statewide process to protect environmental flows to help ensure healthy rivers, streams and estuaries.

Texas Parks and Wildlife Department occupies a peculiar position in the state's water management. It's not primarily responsible for monitoring water quality, or for setting and enforcing water quality standards — the Texas Commission on Environmental Quality does that. It doesn't control river flows or manage reservoirs — the U.S. Army Corps of Engineers and various river authorities and other entities do that. Many other agencies have a say in matters affecting soil, water or wildlife, such as the U.S. Fish and Wildlife Service, the Texas State Soil and Water Conservation Board, the National Resource Conservation Service, the Texas General Land Office, the Texas Forest Service and the U.S. Forest Service.

Yet even without the authority to regulate the effects of human activities on land and water, TPWD is in the forefront of efforts to

develop environmental flow and water quality strategies, help recover endangered and threatened species, control the spread of invasive species and ensure that the state of Texas enjoys

adequate supplies of clean water for people and wildlife.

This is so because TPWD possesses a powerful suite of tools: a statewide network of research scientists, wildlife biologists, fisheries biologists and other natural resource professionals with the skills and the willingness to work with government agencies, nongovernmental organizations and private landowners. They're working to achieve a common goal: good water across the landscape of Texas.

TPWD has established the Watershed Policy and Management Program to restore and maintain aquatic habitats to support healthy, sustainable ecosystems throughout Texas. That program is grounded on two interrelated facts: About 95 percent of the land in Texas is privately owned, yet everyone in a watershed is affected by everything that happens within that watershed.

"A watershed includes every aspect of the water and the land around it," says TPWD's Gary Garrett, director of the watershed program. "It's drinking water, fishing, hunting, recreation, agriculture, tourism and every other economic aspect. Watersheds are a limited resource that a lot of people have an interest in. The people within a watershed should take care of it. That's the focus of our program. It's community-based. It's not TPWD coming in with a lot of regulations."

Cindy Loeffler, chief of TPWD's water resources branch, says the agency's methods have changed. "In the old days we used to do it all sitting here in Austin," she says. "Now we're out there sitting down across the table from former adversaries, because we get to solutions easier that way. The advantages of a voluntary, community-based approach are less expense, more flexibility and less regulatory burden."

Partnerships among everyone connected to a watershed are key to the program. "There's nothing formal about the process, and we're trying to keep it that way," says Garrett. "It's more a matter of bringing

people together who want to be stewards of the resource and building a team that can accomplish what they want to do. TPWD's role will be to help set priorities for areas of work and bring together the expertise to do it — and we know who the experts are and can help people apply for grants from a variety of sources to help fund projects. From there we



On the Nueces River, left, a pioneering education effort is under way on riparian issues. In Houston, right, the key is balancing people and water resources.

ZERO DEGREES OF SEPARATION

WATERSHED RESTORATION and management projects can be large or small, simple or complex. They can deal with something as lofty as protecting an endangered species or something as prosaic as dog waste. And every person in a watershed is connected through a web of water.

Debbie Magin points to a

Guadalupe-Blanco River Authority project that had volunteers flag pet waste in a park in the town of Kyle. The first year, 400 flags went in the ground. Each dog walker didn't think one little pile of waste mattered, but the flags showed the cumulative impact. Installing pet waste stations became part of the watershed protec-

tion plan, and after a public education campaign on the importance of picking up pet waste, the number of flags fell to 100 the following year. "We hope we will see a drop in bacteria in the stream," Magin says. "That's one example of how a watershed protection plan can help in a community."

Mark Webb deals with the San

Jacinto River basin, a small watershed with a huge population. "The San Jacinto basin has only two major in-stream reservoirs, but it includes lots of national forest lands and two state park lakes and is part of the water supply for 6 million people. If ever there was a watershed that a lot of people have an interest in manag-



“The crisis of our diminishing water resources is just as severe (if less obviously immediate) as any wartime crisis we have ever faced. Our survival is just as much at stake as it was at the time of Pearl Harbor, or the Argonne, or Gettysburg or Saratoga.”

—Jim Wright, former congressman,
The Coming Water Famine, 1966

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ing properly, this is the one.

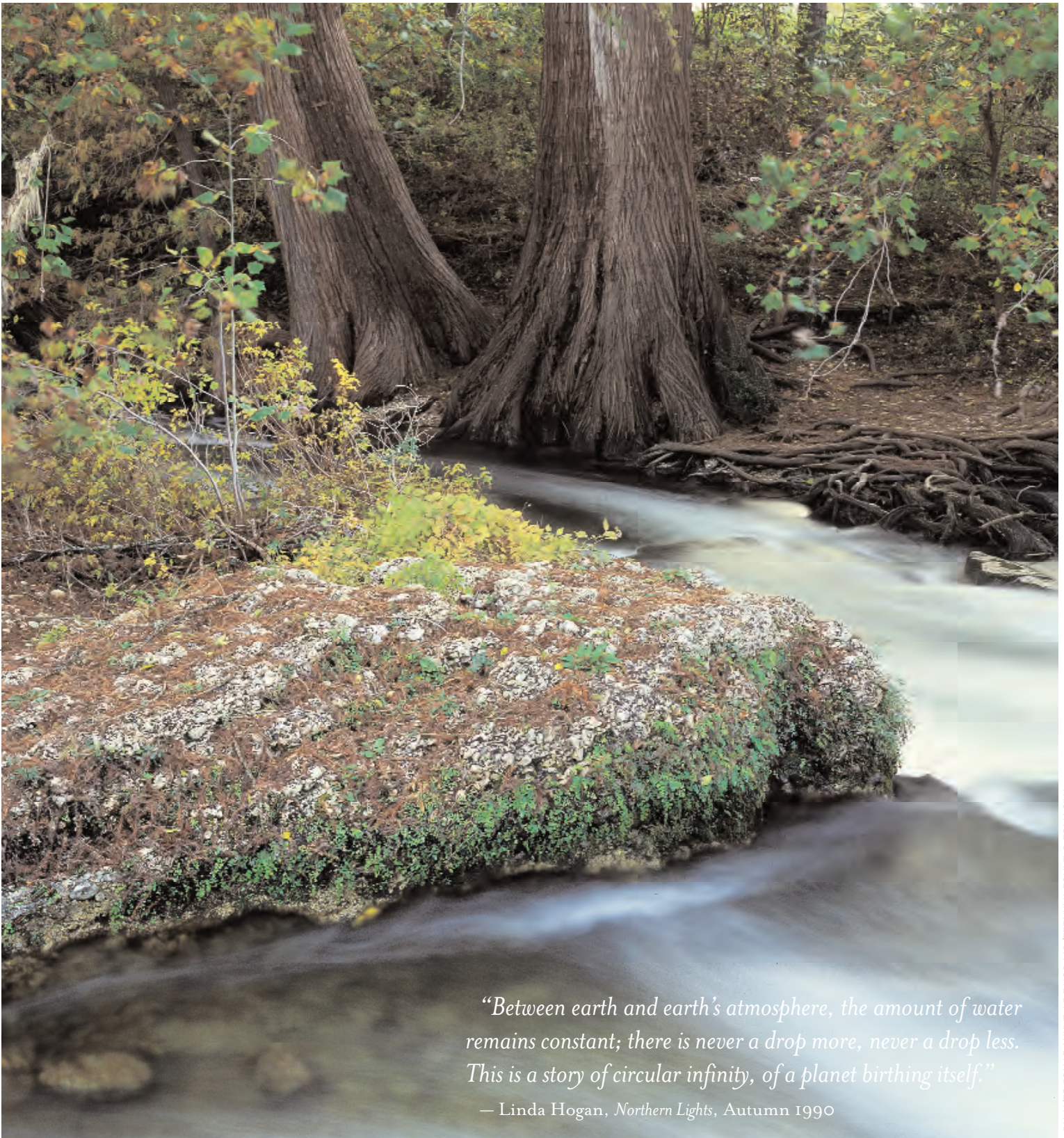
“There are some very real needs in this area,” Webb continues. “Houston has to shift from groundwater to surface water because of subsidence caused by pumping. Because of that, keeping watersheds as clean and well-managed as possible is absolutely vital.”

A sampling of projects currently under way in the San Jacinto watershed illustrates the complexity of the challenge and the fact that a lot of small projects can have a huge cumulative impact. Webb ticks off a partial list. “We’re working on controlling invasive aquatic vegetation and restoring native vegetation on

Lake Conroe. On Lake Raven, we’re working with volunteer groups to control aquatic vegetation. On Sheldon Reservoir, we’ve used mitigation funds to control invasive species. We are also planning to improve access with fishing piers and boat ramps. The City of Houston has a constructed wetlands project

under way. A privately owned company is using the pits left by dredging operations as wetlands to clean the water. Our goal is to tie all those together and inform everyone in the watershed about what is going on. That is how we are going to bring about positive changes in watershed management.”





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“Between earth and earth’s atmosphere, the amount of water remains constant; there is never a drop more, never a drop less. This is a story of circular infinity, of a planet birthing itself.”

— Linda Hogan, *Northern Lights*, Autumn 1990

GETTING YOUR FEET WET

THE LINKS AND CONTACTS BELOW will help you get connected with others who are interested in protecting and managing the watershed where you live.

- TPWD’s Watershed Policy and Management Program: Gary Garrett, gary.garrett@tpwd.state.tx.us, (830) 866-3356
- Nueces River Authority’s riparian workshops: Sky Lewey,

slewey@nueces-ra.org, (830) 278-6810

- Texas AgriLife Extension Service’s watershed workshops: Nikki Dictson, n-dictson@tamu.edu, (979) 458-3478
- To learn more about Texas watersheds in general or if you’re not sure what watershed you live in, visit www.tpwd.state.tx.us/landwater



can help the community develop its own stakeholder group, with TPWD and others acting in an advisory capacity. Our program is not about regulations; it's about ownership. The goal is to eventually have the entire watershed working together."

Mark Webb, a TPWD Inland Fisheries biologist whose territory includes the Houston area, says the key is finding the right balance. "In some cases we're really talking about watershed development in addition to watershed protection," Webb says. "These watersheds are never going to look the way they did in 1870. We are trying to take them as they are today, with millions of people living there, making lots of uses of the resources, and get people together to understand how they can continue to use these watersheds in a way that is sustainable but that will also be good for the water. We want the best quality drinking water, the best water quality for recreation, the best for economics, for the people who live in these watersheds today."

Watershed projects are under way from East Texas to the Big Bend. One of the pioneers is the Nueces River Authority with its effort to educate landowners and resource managers on the importance of riparian areas. "We started from zero understanding of riparian issues," says Sky Lewey, resource protection and education director for the river authority. "It's very important that people who own land along creeks and rivers have a common understanding and vocabulary. I would like for people to think of watersheds not as areas that are shedding water, but as areas that are catching it. Conservation occurs in a catchment. I don't mean catching to stop, as a dam, but catching for function. Riparian function does everything we try to do with expensive installed devices and does it for us naturally—recharges aquifers, cleans the water, removes sediment, protects it from evaporation and releases it slowly."

The river authority conducts riparian workshops (funded in part by TPWD) that teach how to recognize whether a riparian area is functioning properly. "We've had 20 workshops with more than 400 attendees representing 1.3 million acres of land," Lewey says. "Local groups are beginning to emerge from this with specific things they want to accomplish, and that's where TPWD involvement is really important. TPWD can support those groups with technical advice and guidance. It's a tremendous benefit to this partnership to have TPWD able to bring those resources to the table and support these locally driven, grass-roots efforts."

TPWD is acting in similar fashion in partnership with the Texas AgriLife Extension Service, which also offers watershed protection workshops. Both series of workshops benefit more than just the people who own land within a watershed, Lewey explains. "The Nueces River basin, for example, is a primary source of recharge for the Edwards and Carrizo aquifers and is a primary source of fresh water for the Laguna Madre. Corpus Christi is at the mouth of the river. The Nueces basin provides services to a chunk of Texas."

Lewey also touches on a point that's sure to assume greater importance in the future: Who's going to pay for producing clean water? "Properly functioning riparian areas produce an ecosystem service on private lands," she says. "That service produces values, and we're exploring how that might translate into a production payment system. That's different from incentives, regulation, development rights purchase and conservation easements. We have to quantify those values and

Workshops conducted by the Nueces River Authority, right, aim to educate landowners and resource managers about the crucial functions of riparian areas.



determine if they are marketable."

Sooner or later a Texas river receives the runoff from private lands, and the quality and quantity of that runoff become the concern of a river authority. "Part of our mission is to steward the resource," says Debbie Magin, director of water quality services for the Guadalupe-Blanco River Authority. "The growth is coming whether we want it or not. The need for water in our basin is phenomenal. We have to protect the water we have and deal with nonpoint source pollution. Nonpoint source pollution isn't likely to be toxic; it could be something as simple as nutrients from lawn and agricultural fertilizers that cause algal growth that makes water more difficult to treat for water supply. That makes water more expensive, and that affects everyone."

Sustainability of watershed protection is Magin's long-term concern. "How do we fund watershed coordinators in each of these watersheds? How do we get funders to be proactive and fund projects that protect streams not currently impaired? Most funding goes to removing impairments, but it's more expensive to clean a watershed up than to keep it clean."

Naysayers might argue that we can't afford to take on the monumental task of changing the way we manage watersheds. It will be expensive and long-term. But consider this: Five centuries ago, when Europeans first began to arrive in Texas, there was not a single improved road, wire fence, permanent bridge, dam or cell phone tower in the whole state. Even a hundred years ago no one would have believed the state could look like it does today. How it will look in another hundred years is in our hands.

Our ancestors paid for this land with blood, sweat, tears and their hard-earned dollars. To fail to care for it is to deny our heritage—and as Garrett says, "If we don't care for it, who will?"

"We can't afford not to take care of these resources," Webb says. "We have to work with what we have." ★