



Protecting our Freshwater “Environmental” Flows

Texas Water Policy Update

August 2002

This newsletter, produced periodically by the Texas Center for Policy Studies (TCPS), provides updates on water issues affecting rural Texas. One of the big issues that will be addressed in this upcoming legislative session will be how the state will provide for and protect environmental flows. Topics addressed in this issue include defining environmental flows and their importance, the current and future outlook for preserving these flows, updates on the regional water planning process, and an overview of important upcoming events in water policy.

What are Environmental Flows?

The term **environmental flows** commonly refers to the amount of water needed in rivers, streams, and coastal areas to support fish and wildlife populations. Within this broader context, “**instream flows**” refer to the water needs of these populations in and along our surface waterways while “**freshwater inflows**” help maintain healthy and productive coastal bays and estuaries.

The interconnected nature of water resources makes it inevitable that we address both surface and groundwater resources when discussing environmental flows. For example, “groundwater” becomes “surface water” when springs and groundwater seeps discharge to rivers and drainages. In other instances, the aquifers are directly recharged by river flows, so “surface water” becomes “groundwater.”

Understanding the Importance of Environmental Flows

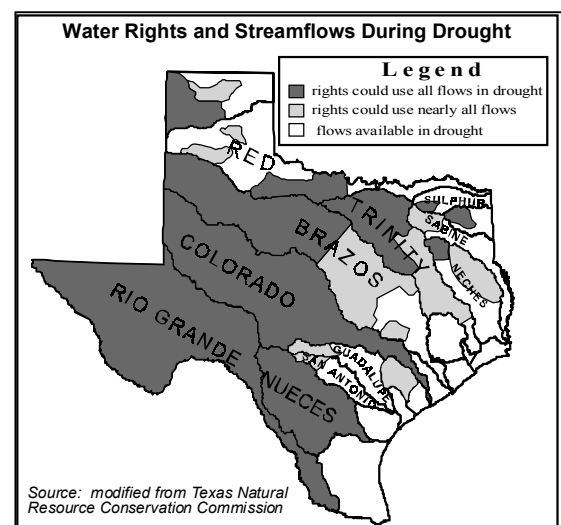
In addition to their ecological importance, environmental flows play an important role in our state’s economy and our quality of life.

As an economic issue Protecting and maintaining environmental flows is extremely important to many segments of our state’s economy. The economies of our coastal areas are inarguably tied to adequate freshwater inflows to the bays and estuaries. Estimates are as high as \$2 to \$4 billion in economic input to the local and state economies from tourist and fishing activities in our bays. In addition, many forms of inland and nature tourism, including activities such as canoeing, kayaking, fishing, tubing, birding and wildlife viewing depend on adequate instream flows. Cities and other wastewater dischargers often rely upon the presence of instream flows to dilute contaminants in order to meet required water quality standards. Without sufficient river flows, cities could be forced to treat their wastewater to a higher level, which increases the treatment costs.

As an ecological issue Environmental flows are a critical component of the ecological well being of the state. Surface water supplies, made available through flowing rivers and springs, are essential to supporting wildlife and their habitats. In addition, rivers, creeks, springs, wetlands, etc. constitute important natural resources in and of themselves. For the coastal areas, the value of the inflows is intrinsic to the nature of the bays and estuaries. For example it has been stated that 95% of marine life - at some point in its lifecycle- is dependent on the wide salinity ranges and abundant food and shelter provided by healthy bays and estuaries.

More and more groups and individuals are becoming involved in the effort to protect environmental flows. We have often taken it for granted that our rivers would always flow. This attitude, unfortunately, is a luxury of the past. In fact, some of our rivers and streams continue to flow today only because people who have rights to take water out have not fully exercised those rights, a situation that could change as water demand grows.

In Texas, a large component of our quality of life is the ability to enjoy the natural environment. If environmental flows are not protected, Texans quality of life will be reduced and we will lose the ability to pass this natural heritage on to future generations.



During drought conditions, many of our rivers would cease to flow if all water permits were utilized.

How are Environmental Flows Protected?

The current mode of protection, which was established in 1985, is set up to safeguard environmental flows by assessing potential impacts from new surface water permits and certain types of permit amendments. Through this process, the state's environmental regulating agency, the Texas Natural Resource and Conservation Commission (TNRCC), has the ability to impose conditions on a permit to maintain environmental flows. In addition, TNRCC assesses the effects of new permits on freshwater inflows if the proposed water right is located within 200 river miles of the coast.

But for permits issued prior to 1985, the potential effects of the permit on environmental flows were not even considered. This has serious implications because a large majority of water permits (more than 90 %) were issued prior to 1985. With only the ability to monitor the impacts from new permits and permit amendments, the best we can do with this system is to keep the situation from worsening.

Current Texas Law

A basic component of Texas water law is that surface water is public property held in trust by the State. In order for the State to grant a permit to use the water, the applicant must prove that the water will be put to a "beneficial use." The State officially recognizes eight beneficial uses of water: domestic and municipal uses; agricultural and industrial uses; mining and recovery of minerals; hydroelectric power; navigation; recreation and pleasure; public parks; and game preserves (Texas Water Code §11.023). In addition, the statute also states that water "may be appropriated, stored, or diverted for any other beneficial use."

A Beneficial Use of Water?

Examples of other western states that have explicitly recognized instream flows as a beneficial use of water include Arizona, Alaska, Colorado, Idaho, Oregon, Nebraska, Nevada, Washington, Wyoming, and Utah.

Within the TNRCC rules (30 TAC §297.1) that implement the law, an instream use is explicitly defined as a beneficial use of water. It is through this agency rule and the clause at the end of the statute, that defines an instream flow as a beneficial use of water. While the TNRCC has yet to issue a water rights permit solely for the purpose of supporting environmental flows, there have been a few cases where a water permit was amended to include instream uses among other authorized uses. (See the Additional Resources section of this update for more information regarding an instream flow permit currently pending before the TNRCC.)

Options for Protecting Environmental Flows

There are a number of methods that can be used to protect environmental flows. In river basins where water is still available for appropriation, a **water right could be issued specifically for the purpose of ensuring environmental flows**. A drawback to this method is that the right would be junior in priority to all current right holders (see text box). Another potential strategy in basins with available water is for the TNRCC to set aside, or directly **reserve water from appropriation**. While the TNRCC has this authority, it has not made use of it to date.

Appropriated vs. Unappropriated

Appropriation is the term used for the process of assigning available water to a paper water right. If there are unappropriated flows in a river it means that there is water available for permitting.

Seniority Status

The priority of a water right is based upon the "first in time, first in right" principal. When available water is not sufficient to fulfill all water permit obligations, a more junior water right may not be honored.

Along the same lines as issuing a new water permit, it is possible to **purchase an existing water right** and convert its use to protect environmental flows. While this could be expensive, the seniority of the right would be maintained. In 1997, the legislature created the Texas Water Trust to manage such rights. Unfortunately, this program has never been funded so there is no money available to purchase water rights. In addition, there are no incentives, aside from pure altruism, for rights holders to donate their rights into the Trust.

In basins where there is no water available for appropriation (for example the Rio Grande, Nueces, Colorado, and stretches of the Canadian, Red, Cypress, Sabine, Neches, Trinity, Brazos, Guadalupe, San Antonio) there are still options available. One of the more controversial options goes back to the

basic idea that a water right is only a right to use water. TNRCC rules state that a water right can be cancelled if it is not put to beneficial use during a consecutive ten-year period. While the **cancellation of unused water rights** would free up water in a basin, there is no guarantee that this "newly available" water would be used to support environmental flows. In affect, the water would still need to be permitted or reserved for this purpose. To this date, the TNRCC has only cancelled permits on rare occasion.

These and other methods to ensure environmental flows are outlined at www.texaswatermatters.com/environment.htm.

Examples from Other States

Most Western states with similar surface water appropriation systems are also grappling with how to protect environmental flows. Kansas provides an example of a state that meets its instream flow needs by reserving water from appropriation. Instead of issuing individual permits for instream flows, Kansas withholds water from appropriation. The amount reserved is based on minimum flow standards set by the legislature with input from numerous state agencies. In addition to reserving water, the state has the ability to limit all permitted withdrawals to ensure that environmental flow needs are met even in times of drought. The state also has the ability to purchase water rights on over-appropriated waterways in order to establish minimum environmental flows. Alaska and Utah also incorporate the reservation of flows from appropriation into their system of protecting instream flows.

Idaho offers an example of a state that is using appropriation as a tool to provide for environmental flow needs. As early as 1925, the Idaho legislature declared that scenic beauty and recreation were beneficial uses for both lake levels and flowing waters. In order to be appropriated, an instream flow right must meet the following criteria: it must not interfere with more senior rights; it must be in the public interest; it must be necessary for the preservation of “fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, navigation, transportation, or water quality of the stream”; the volume must be the minimum flow necessary (as opposed to the ideal or most desired); and it must be capable of being maintained. The appropriation has to be approved by the legislature, and then only the Idaho Water Resources Board can apply for such a right.

Both the Kansas and Idaho approaches are somewhat cumbersome and limited, however, and neither state has to face the issue of ensuring adequate freshwater flows for bays and estuaries.

Determining Environmental Flow Needs

An important component of being able to protect environmental flows is understanding the volume and timing of water needed. Bay and estuary freshwater inflow studies have been completed for each of the major estuary systems in Texas. In contrast, only a limited number of studies have been undertaken to define instream flow needs for our rivers. Despite this, there are methods available to estimate instream flow needs while more comprehensive studies are conducted. Visit the Texas Parks and Wildlife Department website, www.tpwd.state.tx.us/texaswater/sb1/index, for additional information on the current status of the state’s efforts to assess instream flow needs.

The state is currently developing new water availability models designed to give more accurate estimates of how much water is available after existing water rights are honored. This information will aid in forming a realistic assessment of the current and potential future for meeting environmental flow needs throughout the state.

Additional Resources

Information on environmental flows and how you can become active in their protection is available from the Texas Living Waters Project website www.texaswatermatters.com/environment.htm.

The San Marcos River Foundation (SRMF) is currently in the application process for an instream flow permit for 1.2 million acre-feet of Guadalupe River water. Once permitted, the right will be donated to the Texas Water Trust in order to meet instream and freshwater inflow needs of the Guadalupe River and bay and estuary system. For more information about SRMF’s application, visit www.sanmarcosriver.org.

The July issue of the *Texas Parks and Wildlife Magazine* focused on the state of water in Texas. The issue contained a comprehensive overview of the current status of water for the environment and the State’s current regional water planning process. The issue also contained numerous essays celebrating Texas rivers. Copies are available through the magazine’s website www.tpwmagazine.com.

Visit the TNRCC water permitting web page, www.tnrcc.state.tx.us/permitting/waterperm/wrpa/permits, to learn more about the state’s surface water permitting process.

Regional Water Planning Process Update

Protecting environmental flows will be a high priority for the second round of regional water planning, which is just now getting underway. Find out how your region is planning to address the issue of environmental flows by contacting a member of your regional water planning group. Contact information for the groups is available on the TWDB website at www.twdb.state.tx.us. Additional information on the process and the individual regions is also available at www.texaswatermatters.org.

What's Coming Up

- The **Joint Committee on Water Resources** held its 4th and final public hearing in June. One component of its interim study is to determine the appropriate role of environmental and wildlife concerns in water permitting and water development. The Committee's findings and recommendations will be finalized this fall and reported to the Lieutenant Governor, the Speaker of the House of Representatives, and the 78th Legislature. Additional information is available at www.capitol.state.tx.us.
- The Lone Star Chapter of the Sierra Club is hosting a series of workshops focusing on regional water issues in late September and October of this year. Workshops are planned for Houston, Dallas, San Marcos, and the Valley. Visit their website, texas.sierraclub.org, for additional information about these upcoming events.

For additional information on these issues, to provide suggestions, or be removed or added to our mailing list, please contact Laura Brock at 512.474.0811, or via e-mail at lb@texascenter.org.



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