

## Controlling Invasive Aquatic and Riparian Species

### BACKGROUND

Invasive aquatic species squander large amounts of water all across Texas and upset the ecosystem. The unchecked growth of salt cedar, giant salvinia, water hyacinth, hydrilla, Eurasian watermilfoil, and most recently, zebra mussels, impacts water supply, water quality, hydropower production, flood control, navigation, recreation, fish and wildlife, property values, and in rare cases, loss of human life. Our state's economic growth depends on water, so controlling, and ultimately stopping, the spread of invasive aquatic species is of paramount concern.

Federal support can be provided through (1) financial assistance for the control of nuisance aquatic species, and (2) technical assistance in developing and implementing scientifically-sound, ecosystem-based strategies for controlling infestations of nuisance species, as well as restoring native plant communities in weed-infested water bodies. The U.S. Army Corps of Engineers, through its Aquatic Plant Control (APC) Program and Aquatic Plant Control Research Program (APCRP), has the mission and the mandate to satisfy both needs.

The Corps' APC program has not been funded in recent years; in the past it has provided both funding and technical support for aquatic plant management operations in cost-sharing states, such as Texas. The Corps' ARCRP is the only Federally-authorized research program for aquatic plant management. It provides an ecosystem-based approach that integrates the use of biological, chemical, mechanical, and cultural controls to eliminate or greatly reduce the growth of non-native plants, while promoting beneficial native plants.

Executive Order 13112, adopted in 1999, created the National Invasive Species Council to coordinate the invasive species programs that are spread through 40 different federal agencies and to work with state, local, and private organizations on this critical area.



*Rio Grande Valley irrigation canal choked with hydrilla*

- ◆ **SUPPORT:** Funding for the following U.S. Army Corps of Engineers' aquatic plant control and research programs: \$5 million to the Aquatic Plan Control (APC) cost-share efforts; \$5 million to the Aquatic Plant Control Research Program (APCRP); \$2 million for innovative approaches to solving non-indigenous aquatic plant problems.
- ◆ **SUPPORT:** Full funding of the Noxious Weed Control and Eradication Act of 2004.
- ◆ **SUPPORT & CO-SPONSOR:** All legislation introduced in the 111th Congress to control invasive species (similar bills in 110th Congress included S.B. 725 and H.R.260).

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### EXAMPLES OF INVASIVE AQUATIC SPECIES INVASIONS ACROSS TEXAS:

**NORTH TEXAS:** Zebra Mussels were initially introduced into the Great Lakes region more than 30 years ago, but have migrated southward and into the western United States. They are now being found in Lake Texoma, with a few being found in a tributary in North Central Texas. Zebra Mussels cause major problems by blocking water flow in pipelines, by interfering with pumping operations, and by damaging aquatic life. Addressing the growth of Zebra Mussels has cost hundreds of millions of dollars in increased operations and maintenance costs across the United States. It is critical that funding be provided to further develop science and technology to effectively manage and mitigate the consequences of Zebra Mussels.

**EAST TEXAS:** Surveys of Caddo Lake, the only natural lake in Texas, estimate 4,184 acres of hydrilla, 3,663 acres of water hyacinth, and 700 acres of giant salvinia. Some of these species grow very rapidly, choking out sunlight and oxygen, thereby killing fish and other plant life. At Toledo Bend, Sam Rayburn, and Steinhagen Reservoirs, the well-known largemouth bass fishery is threatened by giant salvinia, which chokes shallow spawning habitat, boat launches, and fishing piers. The plant is readily redistributed by “infected” boat motors and prevailing winds. A recent Texas Parks and Wildlife survey shows 2,500 to 3,000 acres of giant salvinia and 1,500 to 2,000 acres of water hyacinth. The problems continue despite an arsenal of tactics, such as releasing salvinia weevils, applying herbicides, and drawing down water levels in the winter to expose the plants to cold weather in an attempt to kill them.

**RIO GRANDE VALLEY:** The border between Texas and Mexico is the main source of water for every city and industry in the Rio Grande Valley, including irrigation water for the billion-dollar agricultural industry. Already strained by population growth and agricultural needs on both banks, the Upper Rio Grande, from El Paso to the Big Bend, is being sucked dry by salt cedar. The Middle Rio Grande, from Del Rio to Zapata, suffers from giant cane and water milfoil. The Lower Rio Grande, from Lake Amistad to the Gulf of Mexico, has been clogged with hydrilla and water hyacinth. In recent years, the Rio Grande Watermaster had to release 20 to 25 percent more water from Falcon Reservoir to push irrigation water past blockages in the middle of the river. Exotic *Arundo donax* (“Carrizo cane”), another excessive water consumer, is reaching extreme densities along the Rio Grande and its tributaries, as well as in the Colorado and Nueces watersheds. Because the weed is so widespread over such a large area, biological control is the most practical solution.

**CENTRAL TEXAS:** The Colorado River, from the Highland Lakes to the Gulf Coast, has infestations of hydrilla, water hyacinth, Eurasian water milfoil, and Southern Naiad. The Lower Colorado River Authority spends up to \$100,000 each year trying to control these species. These plants have caused drownings, temporary power shut-downs, clogging of intakes at hydrogenation units, and turbine damage at a major dam in Austin.

**SOUTH CENTRAL TEXAS:** The portion of the Guadalupe River that is made up of six run-of-river hydroelectric impoundments, as well as the cooling water reservoir on Coletto Creek, have a long history of infestations of non-native, aquatic plants. The effectiveness of the reservoir to provide cooling capacity is reduced by plant infestations. Property values of homes along the hydroelectric impoundments are impacted because the aquatic plants limit accessibility and recreational use. Since 1987, efforts to control hydrilla, water hyacinth, and water lettuce have cost the Guadalupe-Blanco River Authority, local homeowner associations, local governments, fishing clubs, the State of Texas, and the United States Corps of Engineers well over \$500,000.

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### EXAMPLES OF INVASIVE AQUATIC SPECIES INVASIONS ACROSS TEXAS CONTINUED:

**WEST TEXAS:** Water allotments to 11 towns, including Lubbock and Amarillo, have been reduced because of low water levels in Lake Meredith, a problem compounded by salt cedar, which is also depleting other reservoirs, such as Hubbard Creek Reservoir near Abilene. Along the upper reaches of the Pecos River, nearly 13,000 acres have been treated for salt cedar infestation. Studies estimate a single salt cedar tree can consume 200 gallons of water per day. It also affects water quality by increasing salinity levels in the soil, watershed runoff, and streams and lakes. Lakes infested by salt cedar may require more costly treatment processes to meet drinking water standards. West Texas' salt cedar infestation is likely to move toward central Texas watersheds over time. Just as concerns are increasing about the eastward spread of salt cedar, west Texas reservoir managers are beginning to discover significant westward migration of hydrilla, water hyacinth and giant salvinia. These discoveries underscore the need to control invasive plants when and where they are discovered, so that migration and future water losses and costs are minimized.

**SOUTHEAST TEXAS:** Communities around Lake Conroe have been fighting hydrilla for nearly 30 years, first with Chinese grass carp and now with a combination of herbicides and 25,000 white amur carp from the Texas Parks and Wildlife Department. Even with these weapons, the lake remains infested with nearly 2,000 acres of hydrilla. Homeowners and businesses around the lake have formed a private association to raise funds for the battle to keep the lake clean and safe for recreation and tourism. Lake Conroe is one of the main sources of water for the City of Houston, the state's largest city. The Galveston Bay estuary, home to thousands of native birds, fish, and other wildlife, is infested with water hyacinth, common salvinia, water lettuce, and water spinach. In addition to damaging the ecosystem, these plants impede boat travel, hunting, fishing, and other recreational pursuits. Lake Texana, located between Houston and Corpus Christi, is the main source of water for the City of Corpus Christi and several large industrial businesses along the Coastal Bend. Hydrilla, water hyacinth, and giant salvinia cover 1,200 to 1,600 acres, about 10 to 15 percent of the lake's surface. The plants block stream flow into the lake and interfere with boating. The biggest nuisance, water hyacinth, floats like a large island across the lake, moving as the wind blows.