



The Water Report™

Water Rights, Water Quality & Water Solutions in the West

In This Issue:

**Texas
Collaboration 1**

**Watershed
Assessment 9**

Clean Water Rule 18

Errata 27

Water Briefs 27

Calendar 31

Upcoming Stories:

Tribal Groundwater

**Air Force Base
Cleanup**

Reuse Standards

& More!

TEXAS SURFACE WATER AND WHOOPING CRANE DISPUTE

FROM LITIGATION TO COLLABORATION

by Todd Votteler, Ph.D., Guadalupe-Blanco River Authority (Seguin, TX)

INTRODUCTION

In December 2015, the Guadalupe-Blanco River Authority and The Aransas Project began a search for common ground. The two organizations had spent years in litigation over the use of water in the Guadalupe River concerning how that use affects the wintering population of the endangered whooping cranes (*Grus americana*). On February 24, 2016, the two former antagonists announced collaboration on a process to address human and environmental issues for the benefit of the Guadalupe River system, including San Antonio Bay and the Guadalupe Estuary, and to obtain funding for studies and projects for this effort. On November 29, 2016, the original agreement was revised substantially and the effort is now forging ahead.

BACKGROUND

The Aransas Project v Shaw, et al. Litigation

The Guadalupe-Blanco River Authority (GBRA) is a water conservation and reclamation district that was established by the Texas Legislature in 1933. GBRA provides stewardship for the water resources in its ten county statutory district, which begins near the headwaters of the Guadalupe River and includes San Antonio Bay in the Gulf of Mexico. GBRA provides services that include: hydroelectric generation; water and wastewater treatment; municipal, industrial, and agricultural raw water supply; and recreational operations.

The Aransas Project (TAP), is a non-profit, Texas corporation comprised of member organizations and individuals, including: the International Crane Foundation; Aransas County; the City of Rockport; various Audubon Societies; the American Bird Conservancy; various fishing and nature-related organizations; and several individuals and corporations located primarily in Aransas County. TAP supports responsible water management that is reasonable, sustainable and environmentally sound. TAP was originally created to bring Texas water and whooping crane issues to federal court.

This story begins in March 2010, when TAP sued the Texas Commission on Environmental Quality (TCEQ) using the federal Endangered Species Act (ESA) in the US District Court in Corpus Christi. TAP asserted that mismanagement of the Guadalupe and San Antonio Rivers (the major tributary to the Guadalupe River) harmed the whooping cranes that winter at the Aransas National Wildlife Refuge. Whooping Cranes have been listed as endangered under the ESA since its enactment in 1973. In a December 2011 trial in the US District Court in Corpus Christi, TAP alleged that TCEQ violated the “taking” provision of ESA Section 9. That provision prohibits a “take,” which the ESA states: “means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” effecting species listed as endangered.

Texas Water Dispute Resolution

Water Permits

Litigation

TAP alleged that during drought, a reduced amount of freshwater reached the coastal marshes and caused the salinity to rise, thereby preventing whooping cranes from finding sufficient food and water. TAP claimed that the low flows in 2008-09 weakened the cranes, resulting in the deaths of 23 birds. GBRA intervened in the litigation, now known as *The Aransas Project v. Shaw et al.*, as a defendant (Dr. Bryan Shaw is the Chairman of TCEQ). In March 2013, a federal judge in Corpus Christi, Judge Janis Jack, ruled in favor of TAP. The ruling prohibited TCEQ from issuing new water permits on the Guadalupe and San Antonio Rivers. Judge Jack ordered Texas to develop a habitat conservation plan to ensure freshwater inflows for the whooping cranes' habitat. *The Aransas Project v. Shaw et al.*, 930 F. Supp. 2d 716, 786-88 (S.D. Tex. 2013).

On March 15th, then Texas Attorney General Greg Abbott (now Texas Governor) requested that the federal district court suspend its order. The motions by Attorney General Abbott and GBRA were denied, and the District Court's order was appealed on an emergency basis. On March 26, 2013, the US Fifth Circuit Court of Appeals granted a stay of the District Court's ruling. With the stay in place, TCEQ was able to resume issuing water permits in the Guadalupe and San Antonio Rivers. On June 30, 2014, a three-judge panel of the Fifth Circuit unanimously overturned Judge Jack's ruling — agreeing with defendants that the plaintiff TAP failed to prove its case. Following a Fifth Circuit three-judge panel's unanimous reversal of Judge Jack's decision, the Fifth Circuit denied a Petition for Rehearing En Banc (rehearing of all Fifth Circuit judges) requested by TAP in December 2014. The US Supreme Court denied an appeal in *TAP v. Shaw, et al.* on June 22, 2015, and as a result the defendants in the case prevailed and the litigation finally came to an end. GBRA eventually bore \$8 million in associated fees. The overall costs of the litigation to all the parties likely exceeded \$12 million.

Table 1: Timeline

2008 - 2009 Whooping Crane Deaths (4 known)
2011 - <i>TAP v. Shaw et al.</i> Filed
2013 (March) - US District Court Decision in TAP's Favor
2013 (March) - US Fifth Circuit Court of Appeals issues stay in <i>TAP vs. Shaw et al.</i>
2014 (June) - US Fifth Circuit Rules in Defendant's Favor
2015 (June) - US Supreme Court Refuses Review <i>TAP v. Shaw et al.</i>
2015 (October) - US Fish and Wildlife Service (USFWS) Responses to Congress as Part of Congressional Oversight Hearing
2016 (January) – GBRA and TAP Begin Discussions
2016 (February) - GBRA and TAP Sign Initial Agreement to Collaborate
2016 (November) - GBRA and TAP Sign Revised Agreement to Collaborate
2017 (April) – The Cynthia and George Mitchell Foundation Provides Grant to Develop GBRA & TAP Stakeholder Process

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Environmental Flows in Texas

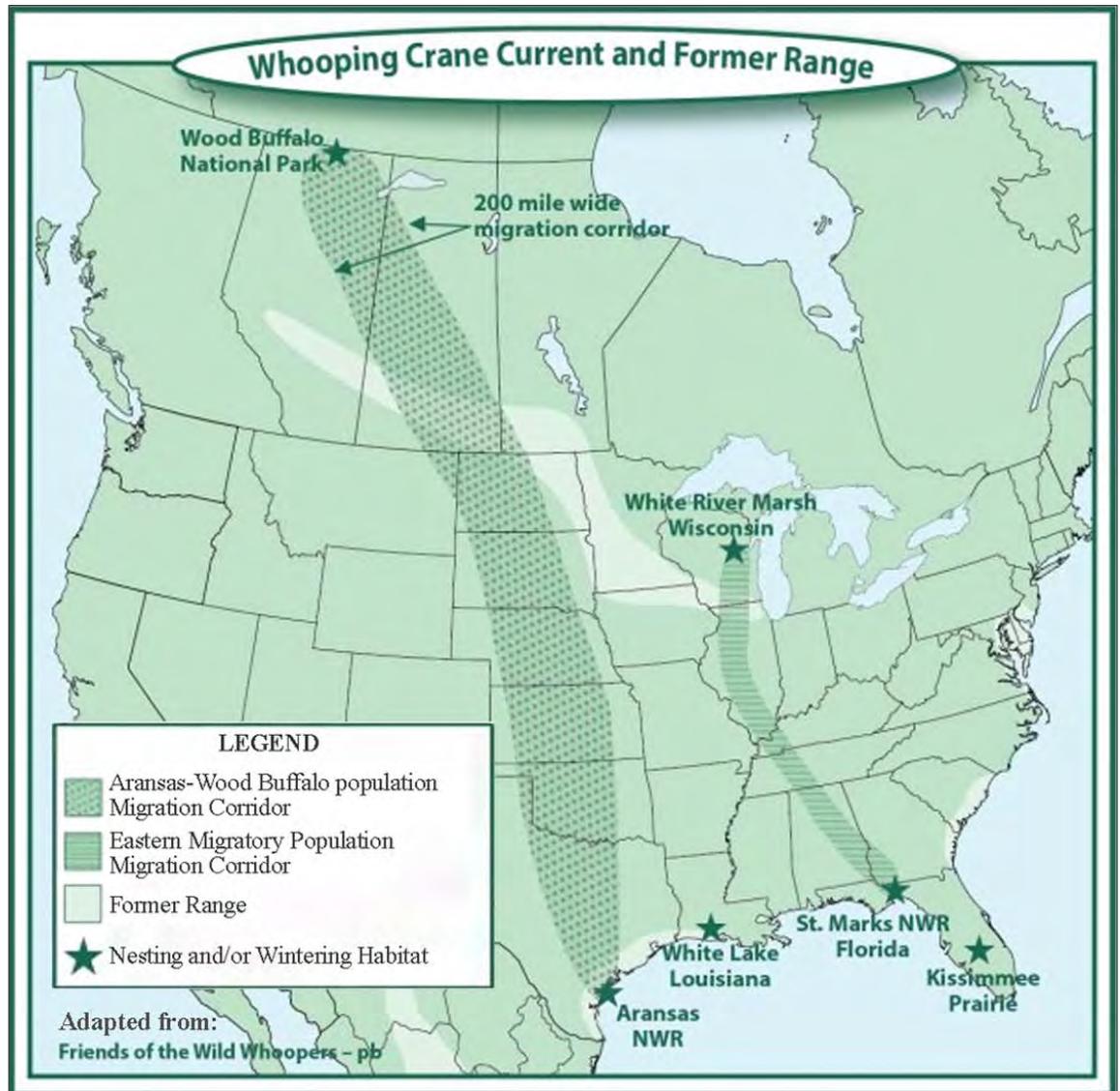
Because many streams in Texas are fully or almost fully appropriated, opportunities are very limited for making new water appropriations for the environment or for new water development projects that alone would provide flows sufficient to maintain a healthy ecosystem. In most cases in Texas, water rights issued before 1985 have no environmental requirements at all. Beginning in 1985, the Texas Legislature passed bills to develop, manage, and preserve the water resources of the state and protect instream and freshwater inflows to bays and estuaries. In 2007, one of these bills established the Environmental Flows Advisory Group and the Science Advisory Committee and required the TCEQ to adopt rules related to environmental flows (House Bill 3 and Senate Bill 3, 80th Texas Legislature, 2007).

With the passage of the 2007 legislation Texas now defines an environmental flow as an amount of water that should remain in a stream or river for the benefit of the environment of the river, bay, and estuary, while balancing human needs. "Environmental flow regime" is defined as "a schedule of flow quantities that reflects seasonal and yearly fluctuations that typically would vary geographically, by specific location in a watershed, and that are shown to be adequate to support a sound ecological environment and to maintain the productivity, extent, and persistence of key aquatic habitats in and along the affected water bodies." (Title 2, Texas Water Code, Section 11.002.16).

On August 8, 2012, before the US District Court ruled in *TAP vs. Shaw et al.*, TCEQ adopted environmental flow standards for the Guadalupe River Basin and San Antonio Bay. These rules can be found at: www.tceq.texas.gov/assets/public/legal/rules/rules/pdflib/298e.pdf.

Texas Water
Dispute
Resolution

Migration
Corridors



Crane
Populations

Whooping Cranes in Texas

The key remaining population of whooping cranes is the Aransas-Wood Buffalo flock, consisting of some 329 birds in 2016. The flock flies south 2,500 miles each fall from their breeding grounds in Canada’s Wood Buffalo National Park in Alberta and the Northwest Territories to winter along the Texas coast, primarily at the Aransas National Wildlife Refuge on San Antonio Bay. The flock flies north 2,500 miles in the spring to return to Canada. The Guadalupe River provides the majority of freshwater inflow to San Antonio Bay. The whooping crane population was estimated at a mere 15 in 1941. The population of the Aransas-Wood Buffalo Flock has increased on average 3.5% annually from 1950-1951 to 2010-2011 (Butler, M.J., B.N. Strobel, and C. Eichhorn. 2014. *Whooping crane winter abundance survey protocol: Aransas National Wildlife Refuge*. Survey Identification Number: FF02RTAR00-0002. U.S. Fish and Wildlife Service, Austwell, Texas, USA, available at: <http://do.doi.org/10.7944/W3159J> at 82). The population has continued to increase since 2011.

Table 2: 2016 Whooping Crane Population Summary

- 329 Aransas-Wood Buffalo Migratory Flock
- 14 Florida Non-Migratory Flock
- 99 Eastern Migratory Flock
- 201 Captive Flocks
- 57 Louisiana Non-Migratory Flock

Source: Wade Harrell, USFWS, 2017.

Texas Water Dispute Resolution

Crane Mortality

Updated Methodology

Habitat Key

Drought Impacts Limited

After the US Supreme Court denied TAP's appeal in 2015, Congress held a hearing regarding the ESA. The oversight hearing on "Federal Agencies' Selective Enforcement of ESA Consultation" on July 29, 2015, was not specifically about *TAP vs. Shaw et al.* However, as part of that hearing Chairman Rob Bishop provided USFWS with a number of questions for the record, including the following questions regarding whooping cranes:

Questions: The Fish and Wildlife Service (Service) has correctly recognized that the data collection methods it utilized to collect whooping crane population information and mortality rates at the Aransas National Wildlife Refuge during the winter of 2008 and 2009 were deficient. To address data collection issues it has now instituted the Whooping Crane Winter Abundance Survey protocol. What is the Service's official position on whooping crane mortality at the Aransas National Wildlife Refuge during the winter of 2008 and 2009? What is the most current estimate of the whooping crane population at the Aransas National Wildlife Refuge?

Response: In a 2008-2009 publication, the Service's Southwest region reported what we believe to have been a loss of 23 whooping cranes, using the best information available at that time. Following the retirement of the Service's Whooping Crane Coordinator in 2011, a team of specialists was formed to evaluate our process for estimating the whooping crane population. After an extensive interview, the team updated the methodology used for estimating whooping crane abundance. Use of this scientifically sound methodology has improved our knowledge and understanding of this whooping crane population and will aid in conservation planning, future policy decisions and the long-term conservation of this species for the American public. However the Service is unable to confirm the loss of whooping cranes previously reported in 2008-2009, because data could not be verified using the previous methodology. Therefore the number of whooping cranes that died at the Aransas National Wildlife Refuge during the winter of 2008-2009 remains unknown.

The Aransas-Wood Buffalo population of whooping cranes in the winter of 2014-2015 was estimated at 308 individuals.

Please see the following peer reviewed publications for further details:
<http://ecos.fws.gov/ServCatFiles/reference/holding/28257>
<http://www.sciencedirect.com/science/article/pii/S0006320714003115>

(Responses to Questions for Michael Bean, Principal Deputy Assistant Secretary for Fish and Wildlife and Parks, US Department of the Interior from Chairman Rob Bishop, Committee on Natural Resources as part of the oversight hearings on "Federal Agencies' Selective Enforcement of ESA Consultation," July 29, 2015, Washington, D.C., October 27, 2015, page 5).

The USFWS' response to Congress has guided GBRA's primary focus on habitat as the key to providing for the needs of the expanding whooping crane flock. The 2015 response to Chairman Bishop by USFWS directs the Committee to the new counting methodology for wintering whooping cranes based on established protocols and the scientific method (Butler, M.J., B.N. Strobel, and C. Eichhorn. 2014. *Whooping crane winter abundance survey protocol: Aransas National Wildlife Refuge*. Survey Identification Number: FF02RTAR00-0002. US Fish and Wildlife Service, Austwell, Texas, USA <http://do.doi.org/10.7944/W3159J>). The response also refers Congress to an article published in 2014 by the journal *Biological Conservation* (Matthew J. Butler, Kristine L. Metzger, Grant Harris, "Whooping crane demographic responses to winter drought focus conservation strategies", *Biological Conservation*, 179 (2014) 72-85). The article was written by three USFWS biologists and concludes:

By placing winter mortality in an annual context, we identified that winter drought has little influence on this population's recovery. Therefore, on the wintering grounds in Texas, conservation and management priorities should focus on maintaining and protecting coastal, upland, and interior habitats for whooping cranes to use, given the wide range of climatic conditions that cranes experience. Such actions will ensure that enough, sustainable habitat exists to support this expanding population of whooping cranes.

THE EDWARDS AQUIFER RECOVERY IMPLEMENTATION PROGRAM

PAVING THE WAY FOR GBRA & TAP AGREEMENT

Texas Water
Dispute
ResolutionEdwards
Aquifer
Litigation

Collaboration

Habitat
Conservation
PlanConservation
Easements
&
Sea Level RiseDown-Listing
Species

Issues

While the *TAP* litigation was in progress the stage was being set for the resolution of future ESA conflicts through the resolution of the longest standing water and ESA conflict in the region. The use of the Edwards Aquifer had inspired decades of regional antagonism and open conflict in courts and the Texas Legislature. It was a seemingly intractable dispute between and among municipalities, industrial and agricultural users, as well as, environmental interests, and downstream surface right holders on the Guadalupe River. All of those stakeholders — dependent on springflows — focused on the question of whether pumping from the Edwards Aquifer should be regulated, and if so, how it should be regulated.

In the early 1990s, the Sierra Club, GBRA and others brought state regulation to the Edwards Aquifer and ended unrestricted withdrawals through the use of the ESA in a lawsuit that the *TAP v. Shaw et al.* litigation was modeled after, *Sierra Club v. Babbitt et al.*, Case No. MO-91-CA-069, 995 F.2d 571(1993). In 2006-2007, the USFWS and the Texas Legislature brought together stakeholders from throughout the region to participate in a unique collaborative process to develop a plan to contribute to the recovery of federally-listed species dependent on the Edwards Aquifer. This process was referred to as the Edwards Aquifer Recovery Implementation Program or EARIP (*see* Gully & Votteler, *TWR* #58).

By the end of 2011, a stakeholder committee of 26 individuals representing numerous interests had come together to create the Edwards Aquifer Habitat Conservation Plan (EAHCP). The Plan was endorsed by the Edwards Aquifer Authority Board of Directors in December 2011 (after initially failing to do so earlier that same month). The EAHCP was then approved by USFWS and a Record of Decision was issued on February 15, 2013. This process cleared the path for the resolution of other conflicts downstream of the Comal and San Marcos Springs, within the Guadalupe River Basin, by demonstrating to the region what could be achieved by stakeholders who were committed to working through a process to obtain a compromise that they can all accept (Gully & Votteler, *TWR* #124).

WATER WETLANDS WATERFOWL WHOOPING CRANES PROPOSAL (WWWWCPC)

In 2015, after the US Supreme Court's denial of *TAP*'s appeal and prior to any discussions between GBRA and *TAP*, GBRA developed an outline for coastal habitat restoration and conservation project to conserve wetlands, whooping cranes, and waterfowl, while supporting local agriculture (Todd Votteler, *Water, Wetlands, Waterfowl, Whooping Cranes and Rice: A Proposal by the Guadalupe-Blanco River Authority*, July 17, 2015). The premise of the WWWWCPC was to preserve rural land already in farming, primarily through conservation easements. The preserved land could become the future wetlands for whooping cranes and waterfowl habitat with sea level rise expected in the future. This effort sought to assist a USFWS initiative to protect 125,000 acres of additional habitat along the mid-Texas coast from Corpus Christi to Baytown that could support the expanding population of wintering whooping cranes. The WWWWCPC goal was to support the recovery of whooping cranes for down-listing from endangered to threatened. One of the scenarios for the whooping crane to be downlisted from endangered to threatened under the USFWS International Recovery Plan is that the Aransas-Wood Buffalo flock must self-sustain and maintain a population of at least 1,000 individuals (250 productive pairs) (Canadian Wildlife Service and USFWS. 2007. *International Recovery Plan for the Whooping Crane (Grus americana)*, third revision Environment Canada, Ottawa and USFWS, Albuquerque, New Mexico, xii). Thus far, some of the 125,000-acre habitat goal has been met by various organizations. GBRA believed that in the aftermath of *TAP v. Shaw et al.* there was a potential to create a project with multiple partners that addresses a number of issues facing the mid-coast of Texas.

Issues to be addressed by WWWWCPC included:

- Potential reductions in freshwater inflows during prolonged droughts
- Loss of wetlands and their associated benefits
- Declines in wintering waterfowl populations in Texas and impacts to Texas hunters and birders
- Declining wintering habitat for the steadily growing Aransas-Wood Buffalo Whooping Crane flock
- Reductions in the rice industry due to lack of water availability during drought or increased prices for water

Phase 1 was to occur in the Guadalupe River Basin. This phase would also have served as a pilot project for additional future phases on the Colorado and Brazos River Basins, if stakeholders in those basins decided to participate where there is the potential for the preservation of future habitat as the cranes expanded their wintering grounds up the coast. GBRA began meeting with key stakeholders regarding WWWWCPC shortly before the discussions with *TAP* began.

**Texas Water
Dispute
Resolution**

**Lunchtime
Genesis**

Focus Points

**Habitat
Improvement**

Water Supply

**Market-Based
Solutions**

**Implementation
Plan**



GBRA & TAP AGREEMENT 1

The collaboration between GBRA and TAP began as the result of an impromptu lunch meeting between former GBRA General Manager Bill West and TAP attorney and Board Member Jim Blackburn in January 2016. After this meeting, Blackburn promptly withdrew TAP’s opposition to a surface water right application for the GBRA Mid Basin Project that was pending before the TCEQ. This action signaled to GBRA the seriousness of TAP’s commitment to work together. Formal discussions between the GBRA and TAP quickly followed. GBRA shared the WWWWCP concept with TAP and within a few weeks a new product emerged — a white paper outlining areas of mutual interest and potential cooperation. “*White Paper: Water, Habitat, Economy — A Shared Vision of the Future for the Guadalupe River System and San Antonio Bay*” (White Paper).

The White Paper included ten specific points of focus:

- 1) Water Re-Allocation and Management
- 2) The True Value of Water
- 3) Market Based Mechanisms to Provide Additional Base Flow Generated Through Watershed Improvements
- 4) Climate Change — The Potential for Droughts More Severe and Prolonged Than the Drought of Record
- 5) Sea Level Rise
- 6) Guadalupe River Delta Preservation and Restoration
- 7) Whooping Crane Habitat
- 8) Sea Turtle Habitat
- 9) Freshwater Mussels
- 10) Marine Seawater and Brackish Groundwater Desalination

On February 24, 2016, Bill West and Jim Blackburn signed the White Paper agreement at the Meadows Center for Water and the Environment at Texas State University, in front of the symbolic San Marcos Springs, in San Marcos, Texas.

GBRA & TAP AGREEMENT 2

In May 2016, a new General Manager and Chief Executive Officer, Kevin Patteson, started at GBRA. Under Patteson, the GBRA and TAP agreement was reaffirmed and enhanced in a revised agreement: “*Affirmation and Restructuring of the Shared Vision for the Guadalupe River System and San Antonio Bay*” (*Affirmation and Restructuring*). In the revised agreement the ten study and collaboration areas identified above (under the February agreement) were condensed into two major and more manageable topic areas — with habitat improvement as the first priority, and secondly water management. Under the habitat section, issues such as land stewardship, the future of the Guadalupe River Delta, new territories for wintering cranes, river mussel requirements, and habitat improvement throughout the watershed will be studied along with review of the concept for protecting a nursery zone within San Antonio Bay:

Relative to bay habitat, the potential creation of a low-flow sanctuary in the upper half of San Antonio Bay will be evaluated as a nursery for blue crab and other juvenile species. Among other issues, the need for and/or availability of minimal inflows to maintain this nursery reserve area will be evaluated.

(*Affirmation and Restructuring*, November 29, 2016, Page 3-4).

Under the water supply work, the water allocation model for the watershed will be reviewed as will all existing permits. Consideration of creative concepts such as water pricing and alternative supply development, permit conditions, and water supply enhancement techniques. Water is the more difficult issue within this agreement and will require more time and money than habitat stewardship. The work will be undertaken with the assistance of stakeholder groups comprised of interested entities and individuals focusing on the development of market based solutions.

As the preamble of the revised agreement states:

If we are successful under the process set out in this white paper, GBRA and TAP, with the assistance of vested stakeholders, will create an action plan for ensuring water supply, a healthy bay and protected endangered species, including whooping cranes and mussels. We believe that hard work, creativity and openness will give us the ability to solve what may seem initially to be an impossible task.

(*Affirmation and Restructuring*, November 29, 2016, Page 3-4).

The Work is Finally Beginning

To assist in this planning effort under the agreement, GBRA and TAP have received funding from The Cynthia and George Mitchell Foundation to develop an action plan for implementation. The goal is to develop an action plan for advancing implementation of the shared vision agreement before the end of 2017. The plan will outline priorities, actions, responsible entities, and steps needed to begin implementing the agreement.

Texas Water Dispute Resolution

Stored Water Purchase

Rare Mussels

Todd H. Votteler, Ph.D. is the Executive Manager of Resource Policy & Stewardship for the Guadalupe – Blanco River Authority. In addition, Votteler is the Editor in Chief of the Texas Water Journal. He is also President of Collaborative Water Resolution, LLC (www.waterdisputes.org). Votteler served as the Federal Special Master for the Endangered Species Act litigation, *Sierra Club v. San Antonio*. Previously, Votteler was the Federal Court Monitor's assistant during *Sierra Club v. Babbitt*. Votteler has a B.S. in Natural Resources from The University of the South, a M.S. in Natural Resources from the University of Michigan, and a Ph.D. in Environmental Geography from Texas State University.

Potential action plan topics may include:

- 1) Prioritized and sequenced research and collaboration actions related to habitat and water, estimated resource requirements, and strategies for securing them
- 2) Governance structures for guiding implementation of the action plan and agreement
- 3) Mechanisms and processes for ensuring effective coordination of implementation activities and partners
- 4) Accountability systems for monitoring implementation progress, among other topics

EFFORTS THAT COMPLIMENT THE GBRA & TAP AGREEMENT

PURCHASE & STORAGE

In 2015, Ducks Unlimited, Harte Research Institute, Meadows Center for Water and the Environment, National Wildlife Federation, and The Nature Conservancy came together to form the Texas Environmental Flows (The Working Group). The Working Group's aim is to build the body of work — scientific, technical, and regulatory — needed to set the stage for successful voluntary and negotiated water transactions to increase, restore, and protect environmental flows in targeted bay systems along the Texas Gulf Coast. The Working Group seeks, by the end of 2018, to have executed one or two water transactions to benefit at least one of the following bay and estuary systems: Galveston, Matagorda, and San Antonio.

One potential transaction of great significance is the purchase of stored surface water for release during droughts to augment existing freshwater inflows to San Antonio Bay. GBRA and Dow Chemical Company (Dow), individually and collectively, own surface water rights in the lower Guadalupe – San Antonio River Basin (the GBRA/Dow Water Rights) authorizing diversions from the run-of-river flow of the Guadalupe River totaling 175,501 acre-feet per year.

To firm up the run-of-river supplies of water available under the GBRA/Dow Water Rights, GBRA is considering constructing an off-channel reservoir near the GBRA Main Canal and Dow Seadrift Operations facilities. GBRA anticipates the off-channel reservoir would, in its initial configuration, likely have a water depth of about 25 feet and be capable of impounding approximately 12,500 acre-feet of water. A pressure pipeline would transport water diverted from the GBRA Main Canal to the reservoir site and a gravity outlet pipeline would return stored water to the GBRA Main Canal. Given that the GBRA/Dow Water Rights point of diversion near Tivoli is below the San Antonio River confluence and that the rights are senior in priority to most upstream water rights in both the Guadalupe and San Antonio Rivers, it is recognized that these water rights are quite reliable but not entirely firm.

DEVELOPING ESA ISSUE

POSSIBLE FOCUS OF THE GBRA & TAP AGREEMENT

In 2007 and 2008, WildEarth Guardians petitioned the USFWS to list numerous freshwater mussels found in the Southwest, including nine Texas species, under the ESA. In November 2009, the Texas Parks and Wildlife Department placed 15 Texas freshwater mussels on the State Threatened List. In December 2009, USFWS issued a finding that listing may be warranted for the nine Texas mussels included in the 2007 and 2008 WildEarth Guardian petitions and initiated a status review. In October 2010, USFWS issued a 12-month finding that listing of five Central Texas freshwater mussel species is warranted and added them to the candidate species list.

The rare mussels that occur in the Guadalupe River are: the Texas fatmucket (*Lampsilis bracteata*); Texas fawnfoot (*Truncilla macrodon*); Texas pimpleback (*Quadrula petrina*); and the False spike (*Fusconaia mitchelli*). The USFWS will be making a determination whether these freshwater species of mussels warrant protection under the ESA (Letter from Adam Zerrenner, USFWS to Todd Votteler, GBRA, March 1, 2017). The False spike already has a positive finding regarding listing. USFWS states that the Texas fatmucket, Texas fawnfoot, and Texas pimpleback face the following primary threats: impoundments; sedimentation; habitat loss; and riverbank destabilization. *Id.*

CONCLUSIONS

Nothing quite like the opportunity provided under the GBRA and TAP agreement has ever existed in Texas. Nevertheless, it will be difficult to implement given the issues, numerous stakeholders, and pitfalls. If successful, however, it will be a model for many river basins within the state, all of which struggle to address similar issues of providing adequate water supply and meeting the needs of the estuarine ecological system. The bitter memory of *TAP vs Shaw et al.* is still fresh in the minds of those who participated as well as many outside observers. Should GBRA and TAP be able to reach lasting results, the memory of the conflict will fade and the legacy of the achievement shall endure.

FOR ADDITIONAL INFORMATION:

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White Paper available at: www.gbra.org/news/2016/022401.aspx