

**Analysis of Proposed Water Sale Agreement
Between Sabine River Authority, State of Louisiana
and Toledo Bend Partners, LP**

Pursuant to La. R.S. 38:2325(16), the Sabine River Authority of Louisiana (“SRA-LA”) has the express statutory power “to enter into any and all contracts and other agreements with any person . . . which contracts and other agreements may provide for the sale . . . or consumption, whether within or without the state of Louisiana, of the waters over which the Authority has jurisdiction or over which the Authority has legal control.” In the case of contracts or agreements involving the sale and/or consumption of water outside of the boundaries of the state of Louisiana, written concurrence of the governor is required. La. R.S. 38:2325(16).

In the exercise of its express powers, SRA-LA proposes to enter into a Water Reservation and Sale Agreement (the “WSA”) with Toledo Bend Partners, LP (“TB Partners”), a private entity developing one or more water projects to finance, sell, supply, store, transport, and distribute water from Toledo Bend Reservoir to TB Partners’ customers for beneficial use by such customers in the state of Texas. In compliance with the “public trust mandate” of Article IX § 1 of the Louisiana Constitution, SRA-LA has performed the present evaluation of the costs and benefits of the proposed WSA to ensure that “the natural resources of this state, including . . . water . . . [are] protected, conserved, and replenished insofar as possible and consistent with the health, safety, and welfare of the people.”

I. Project background and description

A. Toledo Bend Reservoir

The Toledo Bend Reservoir (“Toledo Bend”), located on the Texas-Louisiana border, covers an area of approximately 185,000 surface acres and has a storage capacity of 4,477,000 acre-feet at a reservoir level of 172 feet elevation. One of the largest man-made reservoirs in the

United States, Toledo Bend was conceived, licensed, developed and primarily functions as a water supply facility, with hydroelectric power as a secondary use. Specifically, in the original license obtained for Toledo Bend in 1963 from the predecessor agency of the Federal Energy Regulatory Commission (FERC), it was stated that the project would be operated “to obtain the maximum benefits from navigation, recreation, fish and wildlife, reclamation, and flood control to the extent that those uses are consistent with the primary purposes of water supply for municipal, industrial, and irrigation and hydroelectric power generation.” These priorities continue to exist today.

Toledo Bend’s annual water supply “firm yield”¹ has been determined to be 2,086,600 acre-feet, half of which (*i.e.*, 1,043,300 acre-feet) is apportioned to the Sabine River Authority of Louisiana (with the other half apportioned to the Sabine River Authority of Texas (SRA-TX)). However, the SRA-LA historically uses less than 3% of its annual water allocation, thereby failing to realize any benefits from the remaining allowable yield, which flows into the Gulf of Mexico each year. Due to the historic lack of water sales, the SRA-LA generates revenue by releasing water for hydropower generation at a price less than \$.01/1,000 gallons. Water released for hydropower generation is heavily concentrated during the summer months, resulting in more than 1 million acre-feet being withdrawn and utilized between May and September, when recreational use of Toledo Bend is at its peak.

B. The proposed WSA

Water supply demands in the state of Texas are expected to expand in the future. The 2007 State Water Plan for Texas projects that future municipal demands will increase by 92 percent between 2010 and 2060, from 1,501,435 to 2,876,188 acre-feet.

¹ The term “firm yield” refers to the amount of water that can be supplied from a reservoir on an annual basis during the most critical drought period of record.

To assist in meeting these growing water demands, TB Partners is developing one or more water projects to finance, sell, supply, store, transport, and distribute water from Toledo Bend Reservoir to TB Partners' customers in Texas. The proposed WSA is one such project through which the SRA-LA would reserve and sell a portion of its excess, unused water allocation in Toledo Bend.. The WSA encompasses the following terms:

- Annual/Monthly Quantity: 600,000 acre-feet per year; provided however, that monthly water diversions will never exceed 75,000 acre-feet.
- Summer Water Reductions: During the peak recreation months of July, August and September, water diversions will not exceed 68,740 acre-feet per month.
- Drought Contingency Plan: The SRA-LA has not previously implemented a Drought Contingency Plan. However, all water diversions set forth in the WSA are subject to an onerous Drought Contingency Plan. The Drought Contingency Plan enables the SRA-LA to reduce water diversions by up to 20% per month.
- Water TB Partners will pay an escalating reservation fee for the first ten years. The price of water under the WSA is \$0.28/1,000 gallons (~\$91.24/acre-foot), a substantial premium over that which is currently earned by the SRA-LA. In fact, the SRA-LA's contracted water price is more than 25x times greater than that which is currently earned from hydropower generation. In addition to earning \$0.28/1,000 gallons, the SRA-LA will receive additional compensation that is tied to the overall performance of the project. All costs for withdrawing the water from the reservoir, conveying the water to customers in Texas, and obtaining the necessary federal and state permits will be borne by TB Partners.

- Construction: As it is anticipated that water withdrawals pursuant to the WSA will take place in Texas rather than Louisiana, the SRA-LA does not contemplate any immediate plans for new construction in Louisiana. However, should TB Partners ultimately need to undertake construction in Louisiana, the SRA-LA will have the ability to approve or disapprove the location of such construction.

II. Potential and real adverse environmental effects of the proposed project have been avoided to the maximum extent possible.

The maximum quantity of water allowed to be taken under the WSA (600,000 acre-feet/year) is less than one-third (28.8%) of the minimum safe yield of Toledo Bend and significantly less than the 1 million acre-feet of water presently used annually for hydropower generation. Further, water diversions under the WSA will be spread throughout the year, as compared to hydropower operations that peak between May and September, when Toledo Bend is most heavily used for recreational purposes.

Operation of Toledo Bend for the WSA commitment for water supply for up to 600,000 acre-feet over a twelve-month water year will have less impact on reservoir levels than the five-month commitment of 1 million acre-feet for hydropower generation. Annual rainfall data (1970 through 2010) ranges from a low of 40.72 inches in 1978 to a high of 79.44 inches in 1975. Lake elevations on the last day of the year (1970 through 2010) ranged from a low of 164.19 feet mean sea level in 2006 to a high of 170.98 feet mean sea level in 2007. The average retention time for the 4,477,000 acre-feet storage capacity of the reservoir is slightly over one year. During average and wet years, the use of up to 600,000 acre-feet for water supply would have limited impact on reservoir levels. During dry and wet years, the impact on reservoir water levels would be reduced by implementing the drought contingency measures outlined in the WSA.

Further, operation of Toledo Bend for the WSA commitment will not impair water quality in the reservoir or Lower Sabine River. Substantial data sets have been accumulated with respect to water quality both within the reservoir and lower Sabine River generally. Specifically, SRA-TX has routinely monitored water quality parameters in the reservoir and at several monitoring stations in the Sabine River within and adjacent to the Toledo Bend boundary, including monthly sampling from stations within the reservoir and stations on the lower Sabine River selected to represent conditions below, within, and above the reservoir. Data from 2007-08 field studies are summarized in the Pre-Application Document (SRA 2008a) submitted in conjunction with the pending FERC re-permitting of the Toledo Bend facility, and monthly data reports of all monitoring conducted by SRA-TX is available online (SRA-TX 2008, 2009, 2010).

In addition, both Louisiana and Texas have completed 2010 draft Integrated Reports that summarize impairment status for the basin (TCEQ 2010a; LDEQ 2010), and two trend analyses of water quality in the Sabine River Basin from 1991 to 2008 have been completed (Freese and Nichols 1999; SRA 2008b).

Finally, recently completed reports from the Texas Senate Bill 3 Stakeholders Committee have concluded that the uncontrolled drainages and the recently adopted Environmental Flow Standards for the Sabine and Neches River Basins provide the needed inflows and are protective of the Sabine Lake Estuary environment (Texas Commission on Environmental Quality, Environmental Flow Standards for Surface Water, Chapter 298, Subchapter C: Sabine and Neches Rivers and Sabine Lake Bay, May 15, 2011).

The data described above demonstrate that the trend of water quality is in compliance with Louisiana and Texas numeric water quality standards (SRA 2008), and that there is no evidence of any deleterious effects from past water diversions at Toledo Bend on water quality, water

resources, and/or associated aquatic resources within or near the reservoir. Operations under the WSA, which authorize diversions 65% less than the present diversions for hydropower generation and spread out diversions throughout the year, are expected to maintain good water quality and environmental conditions in the reservoir and lower Sabine River.

Supplementing the data demonstrating the lack of any projected deleterious impact from operations under the WSA, contractual and permit-related provisions provide additional protections with respect to the environmental effects of the proposed project. First, the WSA limits monthly withdrawals to 68,740 acre-feet in the summer months and 75,000 acre-feet in other months, thereby spreading the load of the water withdrawals throughout the year. Second, the Drought Contingency Plan outlined in the WSA enables SRA-LA to reduce water diversions by up to 20% per month in the event that the triggering drought conditions occur. Finally, the WSA is subordinated to a FERC requirement that SRA-LA maintain a minimum flow of 144 c.f.s. immediately below the Toledo Bend dam, based on historical USGS in-stream flow data. Thus, continued compliance with the minimum flow requirement will help to ensure that the lower Sabine River is not deleteriously affected by operations under the WSA.

Finally, because the proposed project is not anticipated to involve new construction in Louisiana, there will be no increase in the existing environmental footprint of the Toledo Bend facility in this state.

In sum, the environmental quality of the reservoir and lower Sabine River is well-understood and will be maintained by operations under the WSA, which: (1) involve a diversion of less water than has been withdrawn from the reservoir in the past, and (2) are governed by contractual and permit-related provisions that are fully and adequately protective of the

environment. Thus, potential adverse effects of operations under the WSA have been minimized to the extent possible, and the proposed operations will not adversely affect the environment.

III. A cost-benefit analysis of the environmental impact costs balanced against the social and economic benefits of the proposed project demonstrates that the latter outweighs the former.

As discussed above, the potential adverse environmental impacts of the proposed project have been minimized to the extent possible, and the project is not expected to adversely affect the environment. Thus, the environmental costs of the proposed project are minimal. However, the benefits of the project are significant and include the following.

Significantly increased revenue to the state. Upon execution of the WSA, SRA-LA will begin to receive escalating “reservation fees” that are scheduled to generate \$40.2 million in revenue over the initial ten years of the agreement. In addition, the water price of \$.28/1,000 gallons provided for in the WSA is more than 25 times greater than the price currently received for water used in hydropower generation. At that price, the sale of 600,000 acre-feet of water will equate to more than \$54 million in annual revenue. Finally, SRA-LA is expected to receive millions of dollars in additional compensation that is tied to the overall performance of the project.

Increased ability of the state to repair and improve the Toledo Bend facility. The water reservation and sales revenue derived from the WSA have been pledged as security for a \$10 million bond issuance that will fund the financing of repairs and improvements made to the Sabine River Diversion System. Beyond this bond issuance, the sale of SRA-LA’s excess water will substantially improve the Sabine River Authority’s ability to meet its obligations required by the Federal Energy Regulatory Commission, water resource and infrastructure needs within the 6-parish Sabine River Basin, downstream flood hazard mitigation, and other environmental and

economic programs. The SRA-LA may also utilize the revenue to make improvements and enhancements to existing SRA-LA facilities that will benefit the state generally and recreational users of Toledo Bend.

Benefits to recreational use of Toledo Bend. For over forty years, SRA-LA and SRA-TX have provided high-quality public recreation at Toledo Bend. Together, these authorities operated and maintain major recreation facilities at Toledo Bend, which support activities such as fishing, camping, swimming, picnicking, hunting, boating, sightseeing, and bass fishing tournaments. Each year, an estimated 200,000 day use visitors and 60,000 overnight visitors enjoy the recreational facilities at Toledo Bend. In addition, each year over 1 million other recreationalists enjoy the many privately operated marinas, campgrounds, outfitters, and other facilities and businesses in the vicinity of Toledo Bend. These visitors make a significant and direct contribution to the economy in what is otherwise a sparsely populated and generally rural and undeveloped area. In fact, a 2000 study estimated that the annual economic value of recreational boat fishing alone at Toledo Bend exceeds \$38 million (Thailing 2000). Since water withdrawals under the WSA will be spread over a twelve-month period and reduced in the summer months as compared with present hydropower generation withdrawals, summer recreational use of the reservoir – and all of the economic and social benefits that stem there from—will be supported and improved as a result of the projected project.

Assistance to a sister state. Recognizing that the State of Louisiana is not in a position to utilize the SRA-LA's excess yield in Toledo Bend, selling such water to Texas is consistent with the authority previously granted to the SRA-LA under Act 251 of the 2005 Regular Session of the Louisiana Legislature. The WSA will serve to enhance the already strong working relationship enjoyed between the SRA-LA and the SRA-TX in connection with the States'

continued joint ownership of Toledo Bend, and it will create a “win-win” scenario in which the growing water needs of Texas will be met and dollars from Texas will benefit Louisiana.

In consideration of the analysis detailed above, it is clear that the state of Louisiana will realize tremendous economic benefits and social value from the proposed project. Thus, a cost-benefit analysis demonstrates that the potential environmental impact costs are far outweighed by the corresponding social and economic benefits delivered to the SRA-LA and the State of Louisiana.

IV. There are no other projects and/or sites that would offer more protection to the environment than the proposed project without unduly curtailing non-environmental benefits.

Almost all of the existing reservoir projects in Texas, including SRA-TX’s Lake Tawakoni and Lake Fork Reservoirs, have been totally committed. New projects that could provide such water, including withdrawals of groundwater or surface water from rivers and streams, would involve the construction of new facilities and potential environmental effects vastly greater than those involved in withdrawing water from the existing Toledo Bend reservoir. Further, it is highly unlikely that new projects would be authorized, financed, and/or constructed until available resources, including Toledo Bend, are fully utilized. Indeed, with respect to new potential reservoir sites, most of the prime water supply sites in Texas have already been constructed, and the few sites that remain are fraught with many hurdles to overcome before they could be built.

As discussed above, Toledo Bend was specifically constructed at a cost of over \$60 million for the primary purpose of water supply. As an existing reservoir with a large, uncommitted amount of water available and statutorily designated for public supply purposes (including the largest unallocated supply of fresh water in Texas), Toledo Bend stands ready and able to

provide presently unused and unallocated water to assist Texas in meeting its substantial and growing water supply needs. Stated simply, there is no other project or site that can provide the same amount of water in a manner that is more protective of the environment than the proposed project.

V. Conclusion

SRA-LA has conducted extensive financial and environmental analysis regarding the proposed WSA through which a portion of its excess allowable yield in Toledo Bend would be reserved and sold. Given the minimal environmental costs and substantial economic and social benefits of the proposed project, SRA-LA has concluded that: (1) the benefits significantly outweigh the costs; (2) the proposed WSA is consistent with the purposes for which Toledo Bend was constructed and SRA-LA was established; and (3) the proposed WSA is consistent with the public trust mandate of Article IX, § 1 of the Louisiana Constitution.