Environmental Flow Considerations in Surface Water Rights Permitting

By Martin C. Rochelle[1]

Over the past several years Texas has been engaged in aggressive water supply planning efforts through the work of regional water planning groups and the Texas Water Development Board ("TWDB"). This ongoing planning effort, spawned in 1997 with the Legislature's passage of Senate Bill 1, is intended to enable our state to identify Year 2050 water supply demands and the means by which those demands will be met. The TWDB's most recent State Water Plan projects a shortfall of available water resources over the next 50 years of over 5 million acre-feet of water, even after existing supplies are fully considered. Competing interests for our state's limited water resources are also driving the Legislature to consider a whole array of possible changes to Texas' surface and ground water laws. Two of the principle issues to be considered over the course of the next year relate to how the state will address environmental flow issues in its surface water permitting while continuing to ensure the availability of water for human consumption, and how reuse of wastewater return flows can be accomplished without harm to the environment or downstream water rights. This paper will address the evolution of environmental flow protection measures in Texas, the impact such measures have had and will likely have on the processing of new and amended water rights by the Texas Commission on Environmental Quality ("Commission"), and the impact that reuse of wastewater return flows has on the environment and other water rights.

---

[1] Substantial assistance in the preparation of this paper was provided by Brad Castleberry and Michelle Maddox Smith. Brad and Michelle are attorneys with Lloyd, Gosselink, Blevins, Rochelle, Baldwin & Townsend, P.C., practicing primarily in the firm's Water Practice Group.

I. The Evolution of Environmental Flows

The Texas Water Code provides that all "water of the ordinary flow, underflow, and tides of every flowing natural stream, and lake, and of every bay or arm of the Gulf of Mexico, and the storm water, floodwater, and rainwater of every river, natural stream, canyon, ravine, depression, and watershed in the state is the property of the state."[2] This provision identifies that all surface water within the State of Texas is owned and held in trust by the State.

In allocating the right to the use of state water, Texas follows the doctrine of prior appropriation, where the actual "use" of water is a major element. Water Code Section 11.022 provides that the "right to the use of state water may be acquired by appropriation," and when such a right of use "is lawfully acquired, it may be taken or diverted from its natural channel."[3] This provision, along with many others in the Texas Water Code, contemplates that the "use" of water within an appropriative system requires the actual taking, storage or diversion of such water.[4]

It can be argued that Texas first recognized a need to protect water for the environment when its citizens adopted the Constitution's Conservation Amendment in 1917.[5] The Conservation Amendment provides that the Legislature will pass "all laws" as may be appropriate for the "preservation and conservation" of our state's water resources.[6] However, it was not until legislative action in the mid-1980s that

---

[2] TEX. WATER CODE ANN. § 11.021(a) (Vernon 2000).
[3] *Id.*, § 11.022.
[4] For example, Water Code Section 11.002 defines a "water right" as a right to "impound, divert, or use state water." Section 11.023 identifies the uses for which "state water may be appropriated, stored, or diverted." Section 11.121 provides that "no person may appropriate any state water or begin construction of any work designed for the storage, taking or diversion of water without first obtaining a permit from the Commission."
[5] TEX. CONST. ART. XVI, § 59.
[6] *Id.*

Texas had an express requirement that the Commission consider environmental flows when issuing water rights.

Pursuant to the Conservation Amendment, in 1985 the Legislature adopted Water Code Sections 11.047, 11.150, and 11.152, which mandate an environmental review process by the Commission during its consideration of new water rights. With passage of this environmental flow legislation, it became clear that the Legislature intended that instream flows, flows necessary to protect water quality, and fresh water inflows to the bays and streams of our state, were to be considered as the Commission went about appropriating state waters for diversion and use. Pursuant to these provisions, and if environmental analyses so warrant, Commission staff will recommend and the Commission will impose flow restrictions as special conditions in new water rights.[7] Such flow restrictions are intended to provide an appropriate level of environmental protection for the state's rivers and streams.

II. Recent Changes for Environmental Flows

In July, 2000, the San Marcos River Foundation ("SMRF") filed an application to appropriate state water in the Guadalupe and San Marcos Rivers for "beneficial, nonconsumptive, instream use," in an amount over a million acre-feet per year.[8] On March 13, 2003, in a unanimous decision, TCEQ Commissioners determined that the agency lacked the statutory authority to issue an appropriative right for environmental flow purposes only. In fact, the Commissioners determined that the only clear authority the agency had to protect flows for the environment was through

[7] TEX. WATER CODE ANN. § 11.147(b) (Vernon 2000).
[8] Application No. 5724, Docket No. 2003-0027-WR.

the environmental flow review process, as specified in Water Code Section 11.147 and Commission rules at 30 TAC § 297.1(25).[9]

In addition to the rationale proffered by the Commission in its SMRF decision, appropriating water for environmental purposes is inconsistent with current state law. As noted above, it is well established that in order for an appropriation of state water to be authorized, an applicant must contemplate a project to store, take or divert the water, and then put that water to a beneficial use.[10] Thus, an *action* for use is contemplated in order for an appropriation of state water to be authorized. Environmental flow applications such as SMRF's contemplate no such storage, taking or diversion of water.

The issue of environmental flow permits did not go away with the Commission's decision concerning the SMRF application. That decision is currently being challenged in Travis County District Court. Additionally, on November 19, 2003, the Commission considered the dismissal of several other applications made by applicants in other river basins for millions of acre feet of state water for environmental flow purposes.[11] Once again, TCEQ Commissioners unanimously denied these environmental flow applications, on the grounds that the Commission

---

[9] *Id.*

[10] TEX. WATER CODE ANN. § 11.121(Vernon 2000). *See also*, § 11.022, § 11.023. Water Code Section 11.022 provides that the "right to the use of state water may be acquired by appropriation," and that when such a right of use "is lawfully acquired, it may be taken or diverted from its natural channel." Section 11.023 identifies the uses for which "state water may be appropriated, stored, or diverted."

[11] These included applications filed by the Caddo Lake Institute, Inc.; the Lower Colorado River Authority; the Matagorda Bay Foundation; the Galveston Bay Conservation and Preservation Association and Galveston Bay Foundation; and the Lavaca-Navedad River Authority.

lacks express statutory authority to issue a new water right for purely environmental flow purposes which do not involve the diversion or storage of state water.[12]

During the 78th Regular Legislative Session, the Legislature acted to further address environmental flows by enacting Senate Bill 1639 ("SB 1639"). In part, SB 1639 added Water Code Section 11.0235, which affirmed that the Legislature has not authorized the granting of water rights exclusively for environmental flows, inflows to the state's bay and estuary systems, or other similar uses.[13] Through SB 1639, the Legislature clarified that further consideration of these issues is needed and created the Study Commission on Water for Environmental Flows ("Study Commission").[14] The Legislature also prohibited the Commission from granting any environmental flow permits until the Study Commission and the Legislature have had the opportunity to look into this issue over the course of the next two years.[15]

III. Environmental Review of Water Rights Applications

As discussed, Water Code Sections 11.147, 11.150 and 11.152 were adopted in 1985 to provide the Commission with the express authority to evaluate, and reserve from appropriation, water necessary to maintain the health of Texas' aquatic communities. Specifically, Section 11.147 requires the Commission to "assess the effects, if any, of the permit on the bays and estuaries in Texas."[16] Section 11.152 requires the Commission to "assess the effects, if any, on the issuance of the permit

---

[12] *See, for example,* Tex. Comm. on Env. Quality, *Application of the Caddo Lake Institute, Inc. for a New Water Right*, Docket No. 2603-0719-WR (Dec. 19, 2003) (final order denying application).
[13] Act effective May 23, 2003, 78th Leg., R.S., S.B. 1639, § 2.
[14] *Id.*
[15] *Id.*
[16] TEX. WATER CODE ANN. § 11.147 (Vernon 2000).

on fish and wildlife habitats."[17] Section 11.150 is the broadest of all provisions, requiring the Commission to "assess the effects, if any, of the issuance of the permit on water quality in this state."[18] Once these three "assessments" are made, the Commission is authorized to either deny the application, or to include special conditions within any appropriation that may be issued, if necessary, to protect environmental needs.

Water right applications filed with the Commission are either applications to request a new appropriation or applications to amend an existing authorization. Water Code Section 11.121 addresses new appropriations;[19] Water Code Section 11.122 addresses amendments to existing appropriations.[20] Both types of applications undergo an environmental review process by Commission staff when they seek to appropriate additional water, add or move diversion points, or increase the rate of water diversion.

During the environmental review process, Commission staff consider the "effects" of a proposed application on the instream uses of water. This instream-use assessment typically involves an analysis of representative stream gages near the proposed application site, and a quantification of base median flows necessary to maintain aquatic life. This analysis, often referred to as the Lyons method,[21] is then used as the foundation to impose restrictions within a permit if the base median flow patterns are impacted by the proposed application. During the environmental review

---

[17] *Id.*, § 11.152.
[18] *Id.*, § 11.150.
[19] *Id.*, § 11.121.
[20] *Id.*, § 11.122.
[21] Robert L. Bounds and Barry W. Lyons, Existing Reservoir and Stream Management Recommendations Statewide Minimum Stream Flow Recommendations, Texas Parks and Wildlife Department, Oct. 16, 1979.

process, Commission staff also consider the impacts of the proposed application on wildlife, terrestrial and riparian habitats, and bay and estuary inflows.[22] Each of these analyses often requires detailed site-specific study, and coordination with federal permitting agencies.[23]

IV. Four Corners Doctrine

Notwithstanding the assessment described above, the Water Code recognizes that some applications, specifically amendments to existing appropriations, may not impact the environment, and therefore do not require an environmental review process. Those applications, often referred to as "minor amendments" or requests within the "four corners of the existing water right," are addressed in Water Code Section 11.122(b). The "Four Corners Doctrine" of Water Code Section 11.122 provides that if an application to amend a water right "will not cause adverse impact on other water right holders or the environment on the stream of greater magnitude than under circumstances in which the permit, certified filing or certificate of adjudication that is sought to be amended was fully exercised according to its terms and conditions as they existed before the requested amendment," the amendment "***shall*** be authorized."[24] The mandate of Section 11.122(b) requires the Commission to grant an amendment to a water right, regardless of other considerations such as notice and hearing, or environmental review, when the request is fully within the existing authorization, assuming full use of the right. This

[22] 30 Tex. Admin. Code § 297.53-.56.
[23] The U.S. Army Corps of Engineers retains jurisdiction for permitting affected wetlands under Section 404 of the Clean Water Act.
[24] TEX. WATER CODE ANN. § 11.122(b) (Vernon 2000), *emphasis added.*

doctrine, enacted with Senate Bill 1 ("SB1") in 1997,[25] was fairly clear until a recent decision by the Third Court of Appeals in the case *City of Marshall v. City of Uncertain, et al.*[26]

In 2001, the City of Marshall submitted an application to the Commission to amend its surface water right to add an industrial purpose of use to its already authorized municipal purpose of use of state water. Through its application, Marshall sought to supply raw water for industrial purposes so it could more efficiently and economically use its water right. Without explicit authorization to use raw water for industrial purposes, Marshall would be required to treat raw water to potable water standards before selling to industries that only required raw water quality. Such a requirement, Marshall contended, was wasteful of the City's resources and rendered the City at a disadvantage when competing with other water purveyors for industrial customers.

In its application, Marshall suggested that the Commission was obligated to grant its request pursuant to Water Code Section 11.122(b) because the request was within the "four corners" of Marshall's existing authorization. Marshall was not seeking to divert or use more water than had already been appropriated to it, or to affect any authorization other than the right to use water without treating it to drinking water standards. Commission staff agreed with Marshall's request and granted the amendment without notice or opportunity for hearing. The City of Uncertain and others, alleging that Marshall's amendment would impact Caddo Lake, filed a motion

---

[25] Act effective September 1, 1997 75th Leg. R.S., S.B. 1.

[26] *See, City of Marshall v. City of Uncertain, et al.*, 2003 WL 22348892 (Tex. App. – Austin Oct. 16, 2003, pet. for rev. pending) (not designated for publication).

to overturn the Commission's decision and a motion for rehearing. TCEQ Commissioners denied both motions, and Uncertain brought suit in Travis County District Court, where summary judgment was subsequently granted to these protestants. The district court concluded that the Commission erred by determining that Marshall's amendment request did not require notice and the opportunity for contested case hearing, although the court failed to include findings in its decision that would have explained this alleged error.

In its appeal of the district court decision, Marshall contended that, based on Water Code Section 11.122(b) and the Supreme Court's decision in the case of *Lower Colorado River Authority v. Texas Dept. of Water Resources*, 689 S.W.2d 873 (Tex. 1984) (the "Stacy Dam case"), the City's amendment request must be granted because Marshall sought to appropriate no more water than it was already authorized under its existing right. Marshall contended that the Commission was obligated to grant the amendment request without notice and hearing because Water Code Section 11.122(b) mandates that an amendment "shall be authorized if the requested change will not cause adverse impact on other water right holders or the environment..." The Four Corners Doctrine of Water Code § 11.122(b), Marshall argued, required the Commission to grant the amendment.

In defending the appeal, Uncertain contended that Marshall's amendment request required compliance with Water Code Sections 11.132 through 11.134, wherein notice and hearing are contemplated for all applications not specifically exempt from such requirements. Significantly, Uncertain contended that without notice and an opportunity for hearing, there would be no way to demonstrate that

Marshall's amendment request would not affect downstream senior water rights or the environment.

Notwithstanding Marshall's argument that under an assumption of full use of its existing rights, as contemplated by the Stacy Dam case and Water Code § 11.122(b), the protestants could not carry their burden of proof at a contested case hearing, the Austin Court of Appeals affirmed the district court's decision. According to the court of appeals, without an "evidentiary record," such as a contested case hearing record, the Commission cannot make a determination as to whether an amendment request will affect water right holders or the environment.[27]

Both Marshall and the Office of the Attorney General have filed petitions for review with the Texas Supreme Court. This is a significant case with respect to minor amendment applications that, until now, would not have been subject to notice, the opportunity for hearing, or the environmental review contemplated by Water Code Sections 11.147, 11.150 and 11.152. The fate of the "Four Corners Doctrine" now rests with the state's highest court.

V. Use of Reclaimed Water

Use of reclaimed water is an emerging source of available water for communities strapped with increasing demands and decreasing supplies, and has also been caught in the debate over environmental flows. In the 2002 State Water Plan, reclaimed water is estimated to meet almost 500,000 acre-feet of the state's Year 2050 projected water demands.[28] In Texas, there is a distinction between the

---

[27] *Id.*, at 6.

[28] Water for Texas - 2002, p. 71 Texas Water Development Board (January 2002).

direct reuse and the indirect reuse of such water. Direct reuse of treated effluent produced by wastewater treatment plants is authorized pursuant to and based primarily on restrictions as to water quality.[29] In other words, the water right that was the basis of the original supply of raw water often does not have to be amended to reflect the direct reuse of treated effluent. Indirect reuse, on the other hand, is now highly regulated. Indirect reuse contemplates the conveyance of treated effluent within a watercourse, and the diversion of such discharged effluent downstream.

Proponents of indirect reuse argue that this practice has been authorized since at least the early 1950's.[30] They historically have argued that there is a property interest in water discharged, subject only to the Commission's authority to authorize the discharge. Because there is no requirement to discharge treated effluent -- only an authorization to do so in accordance with conditions of a water quality discharge permit -- any discharge of treated effluent should be the property of the entity generating the discharge, with the right to redivert the discharged water downstream, after considering carriage losses. Opponents of this property interest argument historically used the same caselaw, but suggested that, without explicit authorization pursuant to the Water Code, no right to maintain continued beneficial use of water after it is discharged into a state watercourse existed. Opponents relied heavily on the legal theory of abandonment, and on early caselaw regarding the waste of water. Since 1997 and the passage of SB1, however, this debate has been somewhat quieted.

---

[29] *See*, 30 Tex. Admin. Code Chapter 210.

[30] *See*, *Harrell v. F.H. Vahlsing, Inc.*, 248 S.W.2d 762 (Tex. Civ. App. – San Antonio 1954, writ ref'd n.r.e); *South Tex. Water Co. v. Bieri*, 247 S.W.2d 268 (Tex. Civ. App. – Galveston 1952, writ ref'd n.r.e.).

The omnibus water legislation from 1997, SB1, directly addressed the issue of indirect reuse. In amending Water Code Sections 11.042 and 11.046, the Legislature established a procedure whereby indirect reuse projects could obtain separate authorizations, either in the form of new appropriations or amendments to existing water rights.[31] Additionally, the Legislature created a mechanism to authorize the use of the "bed and banks" of state streams to transport treated effluent.[32] Because indirect reuse projects seek, at a minimum, the authorization to add an additional diversion point for the diversion of effluent discharged upstream, and based on the clear language of §§ 11.042 and 11.046, applications for such projects trigger an environmental review under the Commission's rules. As such, historical discharges are the subject of environmental flow consideration when they are the subject of indirect reuse projects.

There is some debate over what portion of a water right is "opened up" for environmental review during this type of amendment process. Arguably, a request for a new appropriation would trigger an environmental review, and potentially the imposition of special conditions, on that portion of a right that is "new." However, when one seeks to amend an existing water right to add an indirect reuse component, does that also require, or allow, the Commission to review the entire appropriation in light of Water Code Sections 11.147, 11.150 and 11.152? This question has not yet been fully answered.

A recent analysis by the Commission's Water Availability Modeling ("WAM") team shows that a number of basins in the state are "overappropriated." That is,

---

[31] TEX. WATER CODE ANN. § 11.046 (Vernon 2000).
[32] *Id.*, § 11.042.

more paper water rights have been issued in those basins than can be supplied in a drought of record while still maintaining sufficient stream flows to protect the environment.[33] Concerns have been expressed by environmental interests that, while post-1985 water rights have been granted under an environmental flow review, rights issued before 1985, when Water Code §§ 11.147, 11.150 and 11.152 were adopted, make up the majority of the appropriations in Texas, and those rights were issued often without any regard to environmental needs. Some have gone so far as suggesting that the Legislature should authorize the Commission to "reopen" existing rights to bring about a balance between human and environmental demands.

Indirect reuse projects are caught in the middle of this debate. While recognizing that some portion of those projects may need to be set aside for the environment, water supply developers are fearful that filing future amendment applications could affect even the conditions of their existing water rights. If this policy is engaged, it will deter much needed reuse projects, and stifle a source of water that has been identified to meet Texas' future water demands.

VI. The Future of Environmental Flows in Texas

Water development interests and environmental interests often address water issues from different perspectives, and water for the environment is no different. But, our state is faced with millions of acre-feet of water demands that may go unmet if we do not determine how to address both the needs of people and the needs of

[33] *See, http://www.tnrcc.state.tx.us/permitting/waterperm/wrpa/envflow.pdf.*

the environment. Indeed, we must reach some consensus if our state is to fulfill the promise of Senate Bill 1, the regional water group planning process, and the state water planning process.

The Texas Water Conservation Association created a committee two years ago in an effort to try to formulate a policy concerning environmental flows. Through that process, several principles have been identified that should be considered as the Study Commission proceeds to do the job it has been charged with doing in SB 1639. Many of these principles are, or should be, principles that the water development community and the environmental community can agree upon:

- Sound Science: determinations of flows necessary to protect the environment should be based on sound science. And the science used should be continually updated and improved, be validated and widely accepted, and be inclusive of all available knowledge.
- Certainty: environmental flow criteria should be known at the initiation of planning for new water supplies and in the permitting of new water resource projects, so as to provide certainty to the process of developing new water supplies for human needs. And, *ad hoc* decision-making in contested case hearings concerning environmental flows should be avoided.
- Balance: the administration of Texas water law to protect the environment should respect the evolving nature of the science related to environmental flows and the important balance between human and environmental needs.

- Basin-wide Management: environmental flow criteria should be developed basin by basin, to respect the unique nature and man-made systems existing in each basin. Such criteria should be proposed by regional planning groups, then considered and adopted by the Commission through rulemaking. Once adopted, rules setting environmental flow criteria should be utilized by regional planning groups in developing revisions to the regional water plans, by the TWDB in developing revisions to the State Water Plan, and by the Commission as it considers water rights applications for water supply projects.
- Integrated Planning: decisions regarding the development and application of environmental science, development of basin-wide management objectives and criteria for environmental flows, and the balance between environmental and human needs, should be formulated as an integrated process. The SB 1 regional and state water planning processes are the appropriate venue for this integrated planning process.
- Consistency: environmental criteria should be established basin by basin through rulemaking. That will enable these criteria to be consistently applied across the basin rather than incorporating special conditions on a case-by-case approach -- some contested, others not.

With these principles in mind, a new approach for addressing environmental flow conditions should be considered.

- Regional Planning: use the SB1 regional planning process to foster a better understanding of existing science, to provide insight and input on competing demands for water within each basin, and to develop recommendations for environmental flow protection for the Commission's consideration in a rulemaking process.
- Rulemaking: use TCEQ rulemaking as a process to establish environmental flow criteria for future permitting decisions, instead of the current system of permanent, *ad hoc*, decisions.
- Legislative Oversight: create a legislative oversight committee to monitor the process for addressing environmental flows.
- Reopener: for permits issued after the new legislation is passed but before the TCEQ adopts applicable environmental flow criteria, provide a mechanism in the permits to allow the Commission to adjust those permits, with some limitations, to address environmental flow criteria subsequently established through rulemaking.

Issues surrounding environmental flows are difficult to resolve. And, as our efforts to reuse water or amend existing rights to allow for the more efficient use and administration of existing water resources are pursued, environmental flow issues will also be raised. However, our state cannot afford to fail in its resolution of these issues, if the promise of Senate Bill 1 is to be realized. That promise -- supplying water to the next several generations of Texans while ensuring that the environment is protected -- is as important today as it has ever been.

MARTIN C. ROCHELLE

Lloyd, Gosselink, Blevins, Rochelle,
Baldwin & Townsend, P.C.
111 Congress Avenue, Suite 1800
Austin, TX 78701
512-322-5810
FAX: 512-472-0532

BIOGRAPHICAL INFORMATION

Martin Rochelle is a Principal of the law firm of Lloyd, Gosselink, Blevins, Rochelle, Baldwin & Townsend, P.C. As head of the firm's Water Practice Group, Mr. Rochelle focuses his practice on water quality, water rights, and water reuse matters. He frequently practices before the TCEQ and EPA, representing a variety of clients, including cities, river authorities, and water districts across the state.

Prior to joining his firm, Mr. Rochelle served as Committee Counsel to the Texas Senate, 1978-79, and Staff Attorney at the Texas Department of Water Resources (a predecessor agency of the TCEQ), 1979-1984. He is a frequent speaker and he has authored numerous water-related articles, including "Water for the 21st Century -- Extending a Finite Supply" for the State Bar of Texas' Professional Development Program, "Developed and Reuse Waters: Growing the Bucket" for CLE International's Water Law Conference, "Return Flows – Permitting and Planning Implications" for the Water for Texas Conference, and "Watershed Management in Texas: A Survey of Local Government Authority to Regulate" for the State Bar of Texas' Environmental Law Journal. Mr. Rochelle also co-authors and maintains the chapter on Agency Structure in the *Environmental Law Handbook* for West's *Texas Practice* Series.

Mr. Rochelle is a member of the State Bar of Texas (Sections on Environmental and Natural Resources Law, and Administrative and Public Law). He is a 1977 graduate of the University of Houston Law Center.