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THE EDWARDS AQUIFER HABITAT CONSERVATION PLAN

RESOLUTION TO OVER 50 YEARS OF WATER DISPUTE

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INTRODUCTION

When we last came to you in 2008, the water and environmental stakeholders of South Central Texas were embarking on a grand and somewhat desperate attempt to find a solution to a dispute that had alternately raged and smoldered for over 50 years. *See* Gulley & Votteler, *Resolving ESA-Water Conflicts: The Edwards Aquifer Recovery Implementation Plan*, *TWR* #58).

The use of the Edwards Aquifer had inspired regional antagonism and open conflict in courts and the state legislature. It was a seemingly intractable dispute concerning whether pumping from the Aquifer should be regulated. The dispute included municipalities, industrial and agricultural users, environmental interests, as well as downstream water right holders with rights to surface water fed by Edwards Aquifer springs. Today, we can report that the framework for managing and potentially resolving this dispute, i.e., the Edwards Aquifer Habitat Conservation Plan, is in place and functioning — even in the face of a drought of similar to the one it was originally created to handle. It should be noted, however, that there has not yet been time to fully implement all of the components of the plan and that significant challenges remain. *See* Gulley & Cantwell, *The Edwards Aquifer Water Wars: The Final Chapter*? 4 Texas Water Journal 1 (2013).

As discussed further below, in the early 1990s, obligations under the federal Endangered Species Act brought about state regulation which ended unrestricted water withdrawals from the Edwards Aquifer. In 2006-2007, the United States Fish and Wildlife Service (FWS) 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.

THE EDWARDS AQUIFER

The Edwards Aquifer (Aquifer) is a unique groundwater resource, extending 180 miles from Brackettville in Kinney County to Kyle in Hays County. *See* **Figure 1** (page 2). It is the primary source of drinking water for over two million people in south central Texas and serves the domestic, agricultural, industrial, and recreational needs of the area. The Aquifer is the source of the two largest springs remaining in Texas — the San Marcos Springs and the Comal Springs. These springs feed the San Marcos River and the Comal River, which are tributaries to the Guadalupe River that provides freshwater inflow to San Antonio Bay.

Drought of Record

"Drought of record" is defined as follows in Texas administrative law under 30 TAC §297.1:

> "The historic period of record for a watershed in which the lowest flows were known to have occurred based on naturalized streamflow."

Generally, this term refers to the drought that occurred in Texas from 1947 to 1957. By the end of 1956, 94% of Texas' 254 counties were classified as disaster areas. The State Water Plan and regional water plans are 50-year water supply plans designed to meet water needs during a recurrence of the drought of record. In some watersheds more recent droughts have exceeded the drought of record and are now the new planning standard for those watersheds.

A study published by the Texas Water Journal in 2011 by Cleaveland, et al, demonstrated using tree ring reconstructions of climate beginning in 1500 that droughts exceeding the 1947 to 1957 have occurred over regions of Texas.

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The Aquifer is a karst aquifer flowing through highly porous limestone. Pertinent to this discussion, the Aquifer is divided for regulatory purposes into two pools — the Uvalde Pool, under Uvalde County, and the San Antonio Pool under the remainder of the Aquifer to the east. Aquifer levels vary with rainfall, recharge, and the rate of groundwater withdrawals. Prior to regulation of the Aquifer in 1993, withdrawals from the Aquifer had increased from approximately 100,000 **a**cre-**f**eet (AF) in 1934 to a peak of 542,400 AF in 1989. The total water demand for the Edwards Aquifer region is projected to increase over 34 percent over the next 30 years.

Eight species that depend directly on water in the Aquifer, or water discharged from Comal and San Marcos springs, are listed as threatened or endangered under the federal Endangered Species Act (ESA). These species include: fountain darter; San Marcos salamander; San Marcos gambusia; Texas blind salamander; Peck's cave amphipod; Comal Springs dryopid beetle; Comal Springs riffle beetle; and Texas wild-rice. The San Marcos gambusia has not been seen since 1982 and may be extinct. *See* FWS, "*San Marcos & Comal Springs & Associated Aquatic Ecosystems (Revised) Recovery Plan*," 1996, at 28-29. Additional listing petitions have been filed pursuant to section 4 of the ESA with respect to other aquatic species that depend directly on water in, or discharged from, the Edwards Aquifer springs.

The primary threat to these aquifer-dependent listed species is the intermittent loss of habitat from reduced springflows. Springflow loss is the combined result of naturally fluctuating rainfall patterns and groundwater pumping across the region. Other threats include: invasive non-native species; recreational activities; predation; direct or indirect habitat destruction or modification by humans; and other factors that decrease water quality (FWS, 1996).

In Texas, a severe drought which lasted from the late 1940s through most of the 1950s is referred to as the "drought of record" (*see* sidebar). In 1956, the Edward Aquifer's Comal Springs ceased to flow for 144 days, and the fountain darter population in the Comal Springs system was extirpated. Fountain darters were successfully reintroduced into the Comal River in the mid-1970s from the San Marcos Springs. The drought of record serves as a reference point when engaging in water planning for severe conditions.

EDWARDS AQUIFER DISPUTES: A BRIEF HISTORY

Use of groundwater in Texas is governed by the common law Rule of Capture. In *Houston & Texas Central Railway Co. v. East*, 81 S.W. 279 (1904), the Texas Supreme Court adopted this English common law rule that the owner of the land may pump unlimited quantities of water from under his land regardless of the impact that action may have on his neighbors' ability to obtain water on their own land. Demonstrating the extent of this principle, in 1954 the Texas Supreme Court relied on the Rule of Capture to allow a major spring in West Texas to dry up due to groundwater pumping. *Pecos County Water Control and Improvement District No. 1 v. Williams*, 271 S.W.2d 503 (Tex. Civ. App.-El Paso 1954, writ ref'd n.r.e.).

Edwards Aquifer HCP

Local Management

Groundwater Decisions

In the 1950s, Texas began the movement toward local management by groundwater conservation districts. The Edwards Underground Water District (EUWD) was created in 1959. Until 1993, however, withdrawal of groundwater from the Edwards Aquifer remained largely unregulated. In 1988, EUWD, pursuant to an express grant of authority, prepared a Drought Management Plan which did include a limited amount of regulation related to conservation measures. Otherwise, EUWD was not authorized to regulate or manage withdrawals from the Aquifer.

Prior to 1993, efforts to bring about regulation of Aquifer withdrawals remained unsuccessful. In 1989, a suit was filed asking the court to declare that the water in the Aquifer is an underground river, and, thus, under Texas law, owned by the State. *Guadalupe-Blanco River Authority v. Royal Crest Homes*, No. 89-038 (22nd Dist. Ct., Hays County, Tex. June 15, 1989). In 1992, while this case was still pending, the Texas Water Commission determined that the Edwards Aquifer was an underground river and, thus, subject to state regulation. This determination was overturned by a state district court. *McFadden v. Texas Water Comm'n*, No. 92-05214 (Dist. Ct., Travis County, Tex. 1992).

Edwards Aquifer Authority

Sierra Club v. Babbitt

In 1993, the decision regarding an ESA lawsuit filed by Sierra Club resulted in the Texas Legislature's creation of the Edwards Aquifer Authority and the regulation of withdrawals from the Aquifer. *Sierra Club v. Lujan*, No. MO-91-CA-069, 1993 WL 151353 (W.D. Tex.) (subsequently *Sierra Club v. Babbitt*). On February 1, 1993, the court in *Sierra Club v. Babbitt* held that FWS's failure to develop and implement a recovery plan that identifies springflow levels at which "take" and "jeopardy" (*see* sidebar) occurs for the species in Comal and San Marcos springs violated the ESA. The court ordered FWS to determine within 45 days the springflows at which "take" and "jeopardy" occur for the fountain darter, the Texas blind salamander, and other listed animal species. Springflow levels at which Texas wild-rice would be damaged or destroyed were to be determined. The court also ordered FWS to determine the minimum springflow required to avoid destruction or adverse modification of critical habitat defined for any ESA-listed species.

FWS "Take" Determinations

Response of US Fish and Wildlife Service to the Decision in *Sierra Club v. Babbitt*

In response, on April 15, 1993, FWS filed its "take" determinations ("*Springflow Determinations Regarding 'Take' of Endangered and Threatened Species*") with the Court. On June 15, 1993, FWS filed with the court its "jeopardy" and "adverse modification" determinations — "*Springflow Determinations Regarding Survival and Recovery and Critical Habitat of Endangered and Threatened Species*."

With respect to its determinations, FWS acknowledged that the numbers reflected FWS's best professional judgment and that, because insufficient data were available, it had taken a conservative approach in making these estimates. FWS recognized that the court's order required it to make its estimates in the absence of a specific project or action. Accordingly, it had to make assumptions regarding the duration, timing, extent, and impacts of possible actions.

Fountain Darter Flows

FWS estimated that "take" and "jeopardy" or "adverse modification" of critical habitat would occur when springflows fell below the flow rates, expressed in **c**ubic **f**eet per **s**econd (cfs), as shown in **Table 1.** FWS estimated that flow levels could be reduced to 150 cfs without resulting in "take" of the fountain darter if effective control of the giant ramshorn snail could be accomplished. With effective ramshorn snail control and the ability to control the timing and duration of low springflows, FWS also found that flow levels could be reduced to 60 cfs for short time periods, during certain times of the year, without jeopardizing the continued existence of the fountain darter.

Table 1
FWS 1993 DETERMINATION OF MINIMUM SPRINGFLOWS NEEDED TO PREVENT TAKE, JEOPARDY, OR ADVERSE MODIFICATION OF CRITICAL HABITAT

Species	*Take*	*Jeopardy*	*Adverse Modification*
Fountain darter in Comal	200 cfs	100 cfs	100 cfs
Fountain darter in San Marcos	60 cfs	50 cfs	150 cfs
San Marcos gambusia	100 cfs	100 cfs	60 cfs
San Marcos salamander	50 cfs	N/A	100 cfs
Texas blind salamander	100 cfs	60 cfs	N/A
Damage and Destruction			
Texas wild-rice	100 cfs	100 cfs	100 cfs

While the ESA does not prohibit the "take" of plants determined to be threatened or endangered, the conditions putting these plants in jeopardy must still be determined. FWS estimated that sufficient damage and destruction of Texas wild-rice would occur at 100 cfs to cause jeopardy. However, FWS estimated that short-term reductions in flow levels below 100 cfs might avoid jeopardy for Texas wild-rice if: exotic species could be effectively controlled; an aquifer management plan was implemented to control timing and duration of lower flows; and the status of the species improved throughout its historic range.

Edwards Aquifer HCP

Withdrawal Cap

Reductions Required

Historic Use

Water Costs

ESA Terms

Under the ESA, the "**take**" of a threatened or endangered species is defined as: "To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct; may include significant habitat modification or degradation if it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering."

ESA Section 10(a)(1)(B) allows for permits for the "**incidental take**" of threatened or endangered species, defined as a take which "results from, but is not the purpose of, carrying out an otherwise lawful activity." Application for an **Incidental Take Permit** is subject to certain requirements, including preparation by the permit applicant of a species conservation plan, generally known as a **Habitat Conservation Plan (HCP)**.

Source: US Fish & Wildlife "*Endangered Species Glossary*" www.fws.gov/ENDANGERED/esa-library/pdf/glossary.pdf

Response of the Texas Legislature to the Decision in *Sierra Club v. Babbitt*

The court in *Sierra Club v. Babbitt* also made clear that it would entertain motions for further injunctive relief if the Texas Legislature did not develop a regulatory system to limit withdrawals from the Aquifer to protect listed species. Subsequently, in May 1993, the Texas Legislature passed Senate Bill 1477 (SB 1477) creating the Edwards Aquifer Authority (EAA). It authorized the EAA to issue permits and regulate groundwater withdrawals. SB 1477 directed EAA to initially cap the permits that could be issued at 450,000 AF annually. However, SB 1477 also required EAA to limit withdrawals to 400,000 AF by December 31, 2007, by proportionally reducing issued permits or by purchasing and retiring issued permits. The Texas Legislature required that the cost of reducing withdrawals or permit retirement to get to the 450,000 AF cap was to be borne solely by the Aquifer pumpers. SB 1477 § 1.29(a)(1). The cost of retiring the water rights to get from 450,000 to 400,000 AF was to be borne equally by Aquifer pumpers and downstream water rights holders. *Id*. at 1.29(a)(2).

While SB 1477 set specific pumping caps, it also required EAA to issue permits with minimum pumping rights based on historic use and guaranteed specific withdrawal rights for qualifying use. When the applications were submitted, EAA determined that the minimum permitted rights created by the Legislature totaled at least 549,000 AF, well above the 450,000 acre-foot pumping cap. Further, EAA had not addressed the requirement to ensure minimal continuous flow that SB 1477 required be done by the end of 2012. The Legislature attempted to address these problems in 2003 and 2005, but was not successful.

Thus, in 2007, the withdrawal cap issue was unresolved. Meanwhile, the cost of an acre-foot of Edwards' water had risen to over $5,000/AF. The total cost to the Aquifer pumpers of buying down permits from 549,000 AF and retiring permits to get to 400,000 AF was estimated to be $745 million. The costs to downstream surface water users responsible for one-half of the cost of retiring permits to get from 450,000 to 400,000 AF was an additional $125 million. SB 1477 further required EAA to adopt a Critical Period Management Plan to reduce pumping during droughts and to implement and enforce measures by December 31, 2012 to ensure "minimum continuous spring flows" to protect the listed species to the extent required by federal law.

THE EDWARDS AQUIFER RECOVERY IMPLEMENTATION PROGRAM

In late 2006, FWS brought together stakeholders from throughout the region to participate in a "**r**ecovery **i**mplementation **p**rogram" (RIP) to develop a plan to contribute to the recovery of ESA-listed species dependent on the Edwards Aquifer. RIPs are multi-stakeholder initiatives, developed with FWS input, that seek to balance water use and development with the recovery of ESA-listed species. To achieve this balance, the stakeholders develop a comprehensive document that outlines: program goals; activities; timelines; measurements of success; and roles of the participants. RIP participants then execute an agreement to implement the activities outlined in the program document.

Meanwhile, with the deadline looming to reduce the permitted withdrawals to 400,000 AF and water costing in the thousands of dollars per acre-foot, the Texas Legislature once again tried to resolve the problem. In May 2007, the Texas Legislature passed Senate Bill 3 (SB 3), which raised the pumping cap to 572,000 AF and adjusted the critical period management requirements established by EAA in its regulations. SB 3 also directed the EAA and certain other state and municipal water agencies to participate in an Edwards Aquifer RIP (EARIP) and to prepare a FWS-approved plan by 2012 for managing the Aquifer to preserve the listed species at Comal Springs and San Marcos Springs. The Legislature directed that the plan must include recommendations regarding withdrawal adjustments during critical periods that ensure that ESA-listed species associated with the Edwards Aquifer will be protected, including during conditions as severe as the drought of record.

SB 3 directed the Edwards Aquifer Authority to "cooperatively develop a recovery implementation program" through a facilitated, consensus-based process that involved input from FWS, other appropriate federal agencies and all interested stakeholders, including specified state agencies. The stakeholders in EARIP included: state agencies; local water resource authorities; water purveyors; environmental groups; municipalities; public utilities; and other individuals and groups interested in the Aquifer and the species residing in the Aquifer. Approximately 60-to-80 persons routinely attended the monthly meetings of EARIP and its Steering Committee, representing more than 39 stakeholder groups and individuals. The stakeholders met at least monthly, often twice a month. Including work group meetings, many Stakeholders were attending EARIP meetings on a weekly basis.

EARIP differed from other RIPs in several ways. The typical RIP involves federal land and/or federal agencies managing water (e.g., the operation of a dam) and the federal agencies contributing significant funding to the RIP process. EARIP, by contrast, did not involve federal land and federal agencies are not involved in managing the Aquifer. As for funding, SB 3 directed "EAA and the other stakeholders" to

Edwards Aquifer HCP

provide money to finance the activities of EARIP. While limited amounts of federal and state monies were eventually secured, EARIP stakeholders themselves remain the primary source of funding.

Another key difference between EARIP and other RIPs was the Texas Legislature's involvement in structuring the EARIP. While RIPs are typically voluntary associations, participation in EARIP was not entirely voluntary for some of the stakeholders. SB 3 required EAA and certain other state and municipal water agencies to participate in EARIP. Moreover, development of the program document in a typical RIP can take many years. The Texas Legislature, however, limited development time to less than five years. The Legislature also established specific tasks and deadlines for accomplishing these tasks.

EARIP Tasks & Deadlines

Specific EARIP tasks and deadlines set out in SB 3 included:

- Create a Steering Committee by September 30, 2007
- Hire a Program Manager by October 31, 2007
- Enter into a Memorandum of Agreement by December 31, 2007
- Appoint an expert Science Subcommittee by December 31, 2007
- The Science Subcommittee was required to submit to the Steering Committee and stakeholders initial recommendations on issues identified in SB 3 by December 31, 2008
- Establish a Recharge Facility Feasibility Subcommittee (no deadline)
- Enter into an implementing agreement to develop a program document by December 31, 2009

SB 3 called for the creation of a Steering Committee to oversee and assist in the development of EARIP. SB 3 § 1.26A(e). The Steering Committee of EARIP included twenty-six members representing environmental, water authorities and purveyor, industrial, municipal, public utility, state agencies, and agricultural interests related to the Edwards Aquifer. Twenty-one of the members of the Steering Committee were established in SB 3. The remaining five members were added by the Steering Committee to ensure a broad diversity of representation. In early 2008, some 39 stakeholder groups or individuals executed a Memorandum of Agreement with FWS setting out how the EARIP process would be conducted.

Specific Issue Work Groups

EARIP used small work groups and committees to examine and make recommendations regarding specific issues. The use of these groups proved very effective in facilitating resolution of complex or contentious issues in the decision-making process. A list of the various committees and work groups used by EARIP are set out in Section 1.7.1 of the HCP.

Each of the SB 3 mandates was met within the required timeframe and accomplished in the collaborative spirit the Legislature expected.

In the summer of 2011, EARIP, after much debate and compromise, accomplished the final task mandated by the Legislature: agreement on the Edwards Aquifer Habitat Conservation Plan.

THE EDWARDS AQUIFER HABITAT CONSERVATION PLAN

Elements of the Edwards Aquifer Habitat Conservation Plan

Habitat Protection

The term of the Edwards Aquifer Habitat Conservation Plan (HCP) is 15 years. The implementation of the HCP is divided into two phases. In the first phase, habitat protection measures to increase the viability of the species will be implemented immediately at Comal Springs and San Marcos Springs. These measures include: habitat restoration including replacement with native vegetation favored by the listed species; maintenance of dissolved oxygen through removal of decaying aquatic vegetation during low flows; sediment removal; predator control; and fountain darter gill parasite control. The HCP submitted to FWS can be found on the documents page of the EAA website: www.eahcp.org/files/uploads/Final20HCP.pdf.

Recreation Impacts

The minimization of the impacts of recreation at times of low flow will be aided by the creation of scientific study areas by the Texas Parks and Wildlife Department. *See* TPW Code § 81.501. Access to sensitive habitat, such as areas of Texas wild-rice, will be limited during such periods — as is the case during the current drought. Water quality measures include: an incentive program for low impact development; Best Management Practices; support for banning coal tar sealant for roads to avoid detrimental leaching; and expanded water quality monitoring.

Minimum Streamflows

In addition, the HCP's Phase I includes a package of actions to ensure continuous minimum springflow during a repeat of the drought of record conditions. The flow protection measures include: a **v**oluntary **i**rrigation **s**uspension **p**rogram **o**ption (VISPO) during severe drought; a regional municipal conservation program; and the use of the San Antonio Water System's (SAWS') Aquifer Storage and Recovery (ASR) facility to store water to offset pumping during severe drought. The EAA Drought Plan includes response to successive stages of increasingly critical drought conditions and HCP Phase I incorporates additional emergency Stage V Critical Period Management cutbacks. *See* **Tables 2** and **3** (page 6).

Edwards Aquifer HCP

Adaptive Management

Biological Goals

ASR Use

Flow Objectives

Incidental Take Agreement

All of the measures are being evaluated through a comprehensive monitoring program and adjustments made through a robust adaptive management process. The adaptive management process includes an applied research program to test the assumptions underlying the biological goals and objectives. The research focuses on the biological effects of low flows on species and habitat. In addition, the existing MODFLOW model will be improved, and a mechanistic ecological model developed to evaluate all of the impacts on habitat.

In the HCP's Phase II, EARIP will implement any additional measures needed to achieve the biological goals. The decision regarding whether any additional measures are needed will be based on the best available science at that time and will rely heavily on information developed in the adaptive management process.

The HCP establishes a presumptive measure for Phase II of the HCP, should it be determined that additional measures are needed to achieve the biological goals. Should no other alternatives be agreed upon, the presumptive measure involves the continuation of the Phase I measures with the expanded use of the SAWS' ASR. In the event that expanding the availability of the ASR is unable to fully meet the additional springflow necessary to meet the minimum flow objectives, the balance of that minimum flow will be obtained through increased Stage V Critical Period withdrawal reductions.

The HCP also established long-term biological goals and objectives for each species. With respect to springflows, the minimum springflow objective is 45 cfs (monthly average) at Comal Springs and 52 cfs (monthly average) at San Marcos Springs. HCP § 4.1. These objectives are not to exceed six months in duration followed by 80 cfs (daily average flows) for three months. *Id*. Further, the long-term average springflow objective for Comal Springs is 225 cfs and, for San Marcos Springs it is 140 cfs. *Id*. Many of the other objectives are stated in terms of water quality and habitat. *See* HCP, Section 4.2.

The permittees for the HCP's Incidental Take Permit include the City of San Marcos, the City of New Braunfels, the EAA, Texas State University, and the City of San Antonio through the San Antonio Water System (SAWS). The understandings among the permittees as to how the HCP will be managed and implemented are set out in the Funding and Management Agreement. The implementation of the HCP will be overseen and managed by an Implementing Committee consisting of the applicants. Guadalupe-Blanco River Authority will be a non-voting member of that Committee. EAA will have primary responsibility for

Tables 2 & 3: Critical Period Triggers, Stages and Withdrawal Reductions at The San Antonio and Uvalde Pools

EDWARDS AQUIFER AUTHORITY

The following Critical Period triggers and percent reductions apply to all Municipal, Industrial and Irrigation users authorized to withdraw more than 3 acre-feet.

Table 2: San Antonio Pool

TRIGGER (based on 10-day average)	CRITICAL PERIOD STAGE I	CRITICAL PERIOD STAGE II	CRITICAL PERIOD STAGE III	CRITICAL PERIOD STAGE IV	CRITICAL PERIOD STAGE V
Index Well J-17 Level (MSL)	<660	<650	<640	<630	<625
San Marcos Springs Flow (CFS)	<96	<80	N/A	N/A	N/A
Comal Springs Flow (CFS)	<225	<200	<150	<100	<45/40*
Withdrawal Reduction	20%	30%	35%	40%	44%

Table 3: Uvalde Pool

TRIGGER (based on 10-day average)	CRITICAL PERIOD STAGE I	CRITICAL PERIOD STAGE II	CRITICAL PERIOD STAGE III	CRITICAL PERIOD STAGE IV	CRITICAL PERIOD STAGE V
Index Well J-27 Level (MSL)	N/A	<850	<845	<842	<840
San Marcos Springs Flow (CFS)	N/A	N/A	N/A	N/A	N/A
Comal Springs Flow (CFS)	N/A	N/A	N/A	N/A	N/A
Withdrawal Reduction	N/A	5%	20%	35%	44%

Definitions: (MSL) Mean Sea Level; (CFS) Cubic Feet Per Second

Adapted from Edwards Aquifer Authority website: www.eahcp.org/index.php/flow_protection/stage_v_critical_management_period

Edwards Aquifer HCP

managing the day-to-day activities related to the HCP and responsibility for the flow protection measures except for the SAWS ASR facility (for which SAWS will have responsibility). The cities of San Marcos and New Braunfels, and Texas State University will have primary responsibility for implementing the habitat measures within their respective jurisdictional boundaries.

Participant Approvals

Approval of the HCP

Starting on October 18, 2011, with the City of San Marcos, the HCP and its supporting documents was presented to the permittees for approval. Approval of the plan was unanimous by the San Marcos City Council and SAWS board. The City of New Braunfels passed the plan with only one vote in opposition. On October 24, 2011, the administration of Texas State University approved the plan.

At the November 7, 2011 meeting of EARIP, the Steering Committee recommended the HCP and the supporting documents receive final approval by the EAA Board of Directors. The EARIP's recommendation passed with one objection and one abstention. This vote marked a huge step forward for the region that had long seemed unattainable. The one stakeholder who objected did not object to the HCP itself but to the method of paying for its implementation.

Acting on the EARIP's recommendation, on December 13, 2011, the EAA Board of Directors voted to approve the HCP. However, by an 8-7 vote the Board also tabled a decision on the HCP-related Funding and Management Agreement (FMA). Disagreements were resolved over the next two weeks, however, and on December 28, 2011, the EAA Board of Directors approved the FMA by a vote of 15-0.

Record of Decision

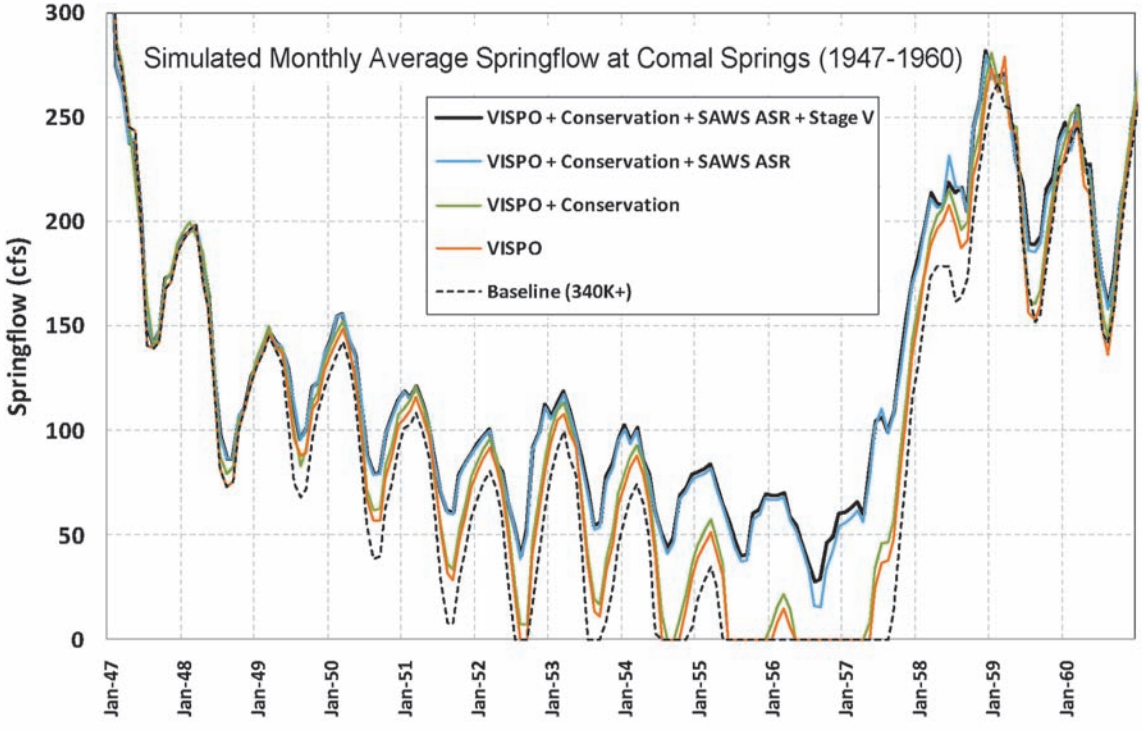
The HCP and supporting documents were submitted to FWS along with the Incidental Take Permit application on January 5, 2012. On February 15, 2013, the FWS issued its Record of Decision approving the issuance of the Incidental Take Permit and the HCP. 78 Fed. Reg. 11,218 (Feb. 15, 2013). While awaiting this decision, the Implementing Committee developed work plans and budgets for each task in the HCP and put a management structure in place to oversee the work. The preparatory work for actually implementing the HCP began in January 2012.

Flow Protection Modeling

Effectiveness of the HCP

The simulated effects of the flow protection measures on springflow have been modeled over the historical record — including a repeat of the drought of record — to assess whether they are capable of ensuring continuous minimum springflows. Simulated discharge rates covering the drought of record period at Comal Springs can be seen in **Figure 2**.

Figure 2:
Simulated Drought of Record Flows Under Various Management Regimes



VISPO: Voluntary Irrigation Suspension Program Option

Adapted from Edwards Aquifer HCP Section 5

Edwards Aquifer HCP

Minimum Springflow Modeling

The Phase I package of springflow protection measures provides substantial benefit to the listed species. It ensures minimum continuous springflow even during a repeat of the drought of record. Under current baseline conditions (without the HCP measures in place), modeling predicts that Comal Springs would cease to flow for 38 months during a repeat of drought of record conditions, and the springflows are predicted to be below 30 cfs (monthly average) for 54 months (**Table 4**). At San Marcos Springs, in the simulation of a repeat of the drought of record, the minimum flow would be 2 cfs, and springflows would be below 52 cfs (monthly average) for 20 months (**Table 5**).

Comal Springs

Table 4
COMAL SPRINGS DISCHARGE STATISTICS

SPRINGFLOW STATISTICS (Evaluated for 1947-2000)		SCENARIO			
		SB 3 assuming full pumping of the EAA permits	SB 3 assuming pumping of 381,000 AF of EAA permits annually	Phase I	Phase II
Minimum Monthly (cfs)		0	0	27	47
Minimum Rolling 6 Month Average (cfs)		0	0	39	54
Long-Term Average (cfs)		178	237	196	196
Number of Months Below	150 cfs	221	165	185	185
	120 cfs	157	128	127	125
	80 cfs	99	82	53	53
	45 cfs	62	56	7	0
	30 cfs	54	47	2	0
	0 cfs	38	36	0	0

Source: HCP Section 4.2

San Marcos Springs

Table 5
SAN MARCOS SPRINGS DISCHARGE STATISTICS

SPRINGFLOW STATISTICS (Evaluated for 1947-2000)		SCENARIO			
		SB 3 assuming full pumping of the EAA permits	SB 3 assuming pumping of 381,000 AF of EAA permits annually	Phase I	Phase II
Minimum Monthly (cfs)		2	5	51	52
Minimum Rolling 6 month Average (cfs)		12	14	53	55
Long-term Average (cfs)		153	160	155	155
Number of Months Below	100 cfs	121	113	114	114
	80 cfs	52	51	48	47
	50 cfs	19	17	0	0
	30 cfs	7	6	0	0
	10 cfs	3	2	0	0

Source: HCP Section 4.2

Protection Benfits

By contrast, with the implementation of the Phase I springflow protection measures, Comal Springs is predicted to have continuous springflow during a repeat of drought of record conditions. As set out in **Table 4**, the minimum springflow projected at Comal Springs for Phase I is 27 cfs (monthly average) and springflow only falls below 30 cfs on a monthly average for only two months over a simulated repeat of the drought of record. The long-term average springflows at Comal Springs is projected to decline to 196 cfs.

At San Marcos Springs, the simulated minimum monthly springflow for Phase I is 50.5 cfs. Springflow would fall below the flow objective of 52 cfs only twice during a simulated drought of record conditions. The long-term average springflows at San Marcos Springs is projected to decline to 155 cfs.

Edwards Aquifer HCP

Continuous Springflows

A study conducted by the River Systems Institute at Texas State University found that springflows at these levels will not appreciably reduce the likelihood of survival and recovery of the listed species over the first seven years of the HCP, even if a repeat of drought of record conditions were to occur during that time, so long as all recommended measures are implemented to restore and protect the habitat of the listed species. *See* Hardy, et al, *Evaluation of the Proposed Edwards Aquifer Recovery Implementation Program Drought of Record Minimum Flow Regimes in the Comal and San Marcos River Systems* (Dec. 28, 2010). The springflow protection measures ensure continuous springflows at both Comal and San Marcos Springs, offering significant improvements over the environmental baseline. The hydrograph found in **Figure 2** (page 7) shows a simulation of a repeat of the drought of record that compares the effects of the pumping cap and Critical Period reductions in SB 3 with the HCP measures at Comal Springs.

Low Flows & "Pulses"

Currently available information indicates that, if necessary, the presumptive Phase II measure will provide the necessary additional springflow to meet the minimum flow objectives necessary to attain the biological goals as currently defined. If the presumptive Phase II measure expanding the use of SAWS'ASR facility is implemented with an additional three percent EAA Drought Plan Stage V cutback, the minimum monthly average springflow at Comal Springs would be 47 cfs. The minimum monthly average springflow at San Marcos Springs would be 52 cfs.

The adaptive management process will include applied research to evaluate the impact of low flows on the listed species and their habitat. It will also evaluate the long term average flow requirement and the requirement for 80 cfs "pulses" during periods at minimum flow levels.

Funding Requirements

The EARIP developed a Funding and Management Agreement (FMA) which obligates the five incidental take permitees to implement the HCP. The FMA established the procedures and mutual commitments among the permittees for funding and management of the HCP and the adaptive management process. This FMA was executed only by the five incidental take permittees.

In addition to the HCP and FMA, the permittees entered into a Implementing Agreement (IA) with the FWS. The IA is an agreement that, among other things, "defines the obligations, benefits, rights, authorities, liabilities, and privileges of all signatories" to the HCP. *See* FWS, "*Habitat Conservation Planning and Incidental Take Permit Process Handbook*" (FWS Handbook), Nov. 1996 at 3-37. The decision to develop an IA is within the sole discretion of the FWS's Regional Director. *Id*.

HCP Costs

The Cost of the HCP

The annual cost of implementing the HCP is substantial. During the first seven years, those costs are estimated to average over $18.6 million per year. *See* **Table 6**. The municipal and industrial users of the Aquifer will bear almost all of the cost of implementing the HCP through increased Aquifer Management Fees (AMFs). AMFs are collected by the EAA, which will then be responsible for distributing the funds for the purposes of fulfilling the obligations of the HCP. Downstream surface water right holders, who benefit from the increased springflow from the Aquifer, will contribute $736,000 annually towards the cost of implementing the HCP.

Table 6: Annualized Implementation Costs — Years 1-7

Flow Related Measures	CPM Stage V	$0
	Use of SAWS ASR	
	Obtaining Water Leases	$4,759,000
	Share of SAWS O&M Based on Use	$2,194,000
	Regional Water Conservation Program	$1,620,679
	Voluntary Irrigation Suspension Program Option	$4,172,000
Habitat and Water Quality Measures	Comal Springs	$1,272,857
	San Marcos Springs	$1,295,143
Modeling and Research		$892,857
NFHTC Refugia		$1,678,597
Project Management		$750,000
Average Annualized Cost		$18,635,133

The decision regarding how to fund the implementation of the HCP was perhaps the most contentious one with which EARIP had to deal. Indeed, the use of the AMFs was not the first choice of EARIP because it did not generate any contributions from the irrigators that pump substantial amounts of groundwater directly from the Aquifer. These irrigators, who use about 30 percent of the water pumped from the Aquifer, will not share in the increased costs associated with the HCP because their AMFs are capped at $2/AF by state law (EAA Act §1.29(e)). In early 2011, bills were introduced in the Texas House and Senate on behalf of EARIP that would have allowed voters in the Edwards region to decide whether to pay for the HCP through revenues from a sales tax. None of the bills gained any real traction. At that point, serious discussions began regarding the use of AMFs and contributions from the downstream interests to pay for the HCP.

Edwards Aquifer HCP

"Consensus"

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The Decision-Making Process: How Was It Possible to Reach Consensus?

In SB 3, the Texas Legislature directed that EARIP develop its plan through a facilitated, consensus-based, stakeholder process. Accordingly, the Steering Committee conducted itself in a manner which regarded consensus as the absence of any vote in opposition to a decision. Although the rules established in SB 3 provided for consensus decision-making by a supermajority of 75 percent of the Steering Committee members, this option only needed to be relied upon twice during the six years of negotiations.

The key to consensus decision-making for EARIP was the stakeholders themselves. Throughout the process the stakeholders evinced a clear understanding that EARIP offered the last realistic chance for a regional decision rather than one imposed by a federal judge or the Texas Legislature. Furthermore, the final stages of the decision-making process played out against the backdrop of severe drought conditions that sharpened the realization that litigation was a likely alternative if they failed to come up with a plan to protect the ESA-listed species.

The process developed by the stakeholders also aided decision-making. The fact that the process was required to be an open and transparent process enabled the stakeholders to develop trust amongst themselves. Further, early in the process, the stakeholders agreed that no decision was final until all the issues had been resolved. This agreement encouraged the stakeholders to reach important interim decisions without fear that they would be bound by that decision if subsequent issues were not resolved in a manner acceptable to them. Moreover, the deadlines imposed by SB 3 kept the stakeholders focused on the issues before them and helped maintain momentum in the process. Frequently, when the stakeholders found themselves unable to reach consensus on an issue, they moved on the other issues with less controversy and returned later to the unresolved issue.

Finally, and most importantly, the stakeholders took ownership of the process. At several points in the process, EARIP was perilously close to impasse. At each of those points, one of the stakeholders would remind the others that they had come too far to let the process fail — soon thereafter a compromise was reached. Indeed, the first time that happened was really the defining moment for the EARIP.

CONCLUSION

IS HCP COMPLETION THE FINAL CHAPTER IN THE EDWARDS AQUIFER WATER WARS?

Perhaps the decades-old war over the use of the Edwards Aquifer is rapidly drawing to a close. We now have a regional consensus on how to use the Aquifer to protect the ESA-listed species in the spring systems. The solution incorporated in the HCP protects the listed species while recognizing the region's need for water from the Aquifer.

The requisite measures to ensure continuous minimum springflow levels are being implemented. To the extent refinement of these measures is needed because of the new science that will be developed during the adaptive management process, FMA sets out a process for resolving any disputes that may arise. With the issuance of the incidental take permit, protection exists against suits under the ESA regarding the use of the Aquifer so long as the Incidental Take Permit holders comply with the requirements of the permit. Control of the Aquifer is staying in the region rather than moving to a federal District Judge.

The completion of the HCP does not mean that all of the issues have been resolved. The region needs a more equitable funding mechanism — such as a regional sales tax. At very least, the region should be allowed to vote on such a tax as an alternative to the AMFs.

The permittees and stakeholders are now implementing the HCP, and it appears likely a robust adaptive management process will be needed. This will include a decision in year seven as to whether additional measures must be implemented. This decision has the potential to be contentious. EARIP, however, has taken steps to facilitate the decision-making process that includes an Adaptive Management Science Committee to advise the Implementing Committee and stakeholders and the independent National Research Council that is serving as the formal review body to "provide resolution of major scientific issues." The National Research Council also will determine whether the scientific record supports the specific findings regarding the need for additional measures. The stakeholder's experience in the open, transparent EARIP process should foster cohesive, productive conversations during implementation of the HCP.

The Edwards Aquifer Habitat Conservation Plan demonstrates what can be achieved by stakeholders who are committed to working through a process to obtain a compromise that they can all accept. There are many other intractable water disputes, some focused on endangered species and some not, that could benefit from a process similar to the one that resulted in an historic agreement for the Edwards Aquifer. The approach of EARIP to decision-making should be an asset to those who are prepared to try and resolve their disputes — instead of being satisfied with either temporary victories in courts and administrative agencies in ongoing battles, or perpetual stalemates.

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CALIFORNIA'S NEW INDUSTRIAL STORM WATER PERMIT

by Wendy L. Manley, Wendel Rosen Black & Dean, LLP (Oakland, CA)

California Industrial Storm Water Permits

April Milestone

Numeric Effluent Limits

BAT/BCT, NELs & NALs

Permit effluent limits, whether narrative or numeric, set a standard for the quality of storm water discharged from a facility. The 1997 narrative limits provided that pollutants must be reduced or prevented through implementation of **b**est **a**vailable **t**echnologies and **b**est **c**onventional **t**echnologies (BAT/BCT). Numeric Effluent Limits (NELs) provide a simple means of evaluating sample results, but as a measure of permit compliance for purposes of defining violations, NELs must be scientifically and legally defensible. Numbers that are used in the iterative process of storm water management to trigger further efforts, are Numeric Action Levels (NALs).

INTRODUCTION

April 1, 2014 marked a milestone for California's regulation of storm water from industrial facilities. On that date, the State Water Resources Control Board (State Water Board) adopted the third generation Industrial General Storm Water Permit (IGP) to replace the current 1997 edition. General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ, NPDES No, CAS000001, at: www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0057_dwq.pdf (the IGP will eventually be posted on the State Water Board's Storm Water Page: www.waterboards.ca.gov/water_issues/programs/storm water/industrial.shtml).

When the IGP takes effect July 1, 2015, industrial storm water dischargers will have operated an unprecedented 18 years with no revision to regulatory requirements — a highly unusual event in the storm water world where permit re-issuance is on a 5-year cycle. As one might surmise, significant changes were proposed, debated, and in some cases, adopted. This article explores the evolution of industrial storm water requirements in California through a summary of the new regulatory requirements and a review of the process that culminated with the 2014 IGP.

THE TWISTS AND TURNS OF PERMIT DEVELOPMENT

It was a long road for the agency from the first draft revised permit proposed in 2002, through seven drafts, numerous public workshops, hundreds of public comments, and a time-out to explore the feasibility of numeric effluent limits. They tweaked it right up to the very end, only to receive a legal challenge when the dust settled.

The lengthy process was due in large part to a controversy over **n**umeric **e**ffluent **l**imits (NELs). Like the 1997 permit, the first draft proposed in 2002 did not contain NELs, a point that drew strong criticism from the environmental community. Subsequent efforts to incorporate the "Benchmarks" in EPA's Multi Sector General Permit (MSGP) alarmed the regulated community — worried that such numbers, which were not established as a measure of permit compliance, would fuel enforcement.

In response, the State Water Board convened a Blue Ribbon Panel of experts to examine the feasibility of including NELs in industrial, construction, and municipal storm water permits (RE: New California MS4 Phase II permits *see* Manley, *TWR* #109). The Panel concluded that NELs are feasible for some industrial categories, but it advised that the derivation of NELs necessarily requires strong data: a reliable database characterizing the discharges by industry type and performance metrics for various Best Management Practices (BMPs). The Panel also found that the monitoring data gathered by industrial facilities under the 1997 IGP was not sufficiently reliable to form the basis for NELs. (The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 19, 2006), at: www.waterboards.ca.gov/water_issues/programs/storm water/numeric.shtml). Setting industry NELs is further complicated by the variety of industrial activities and the number of industrial pollutants encompassed by the IGP. In short, establishing NELs for industry will not be a simple task.

In yet another draft, the State Water Board included Numeric Action Levels (NALs) that would convert to NELs. The NEL/NAL debate continued. So the agency set the IGP aside and issued a new Construction General Permit (CGP) with just two NELs — for pH and turbidity. However, these NELs met a swift death at the hands of a judge who said NELs must be derived from performance data for available technologies so that dischargers are able to select suitable methods to control discharges with some reasonable assurance the technologies are capable of achieving the limits. *California Building Industry Association v SWRCB*, No. 34-2009-80000338, January 10, 2012.

When the State Water Board resumed its efforts on the IGP, NELs were no longer under serious consideration. Instead, NALs were proposed and ultimately adopted, along with a monitoring program for industry groups that the agency hopes will generate data that can be used to derive NELs.

Another court decision altered the character of the IGP, with criticism of the Municipal General Storm Water Permit regulations for allowing permittees to essentially write their own requirements in their Storm Water Management Plans (SWMP) without any agency oversight or opportunity for public involvement. *Environmental Defense Center v. EPA,* 344 F.2d 832 (2003, 9th Cir.). The decision stopped a number of states from issuing their Municipal General Permits (MGP) by the March 10, 2003 deadline. Not long after, another court made a similar finding, raising questions about the viability of general permits.

California Industrial Storm Water Permits

General Permits

Waterkeeper Alliance, Inc. v. EPA, 20065 US App. LEXIS 3395 (2005, 2nd Cir.) (holding that nutrient management plans, similar in character to SWPPPs, must be available for public review). This was unsettling for the agencies, who rely on general permits as a streamlined means to categorically regulate large numbers of facilities. In California before the economic downturn, over 9,600 industrial facilities were regulated by the IGP, and nearly 20,000 construction sites were regulated by the CGP.

California issued its MGP, meeting the court's requirement by establishing a procedure to review and approve SWMPs, and offering public hearings on request. It was not long, however, before the agency was severely bogged down in processing MGP SWMPs. To address judicial concerns about general permits, the second generation MGP issued in 2013 and the IGP embraced a more prescriptive approach, and became substantially more voluminous as a result.

PERMIT OVERVIEW

BMPs

Minimum BMPs

Advanced BMPs

Seasoned facility operators, accustomed to wide discretion in selecting BMPs, must now implement a suite of prescribed BMPs. The new permit provides a menu of options in two categories: "Minimum BMPs" and "Advanced BMPs." Minimum BMPs are generally housekeeping details such as covering pollutant sources, cleaning up spills, keeping the facility tidy, maintaining equipment in good repair, training employees, etc. Advanced BMPs are required when minimum BMPs do not adequately reduce or prevent pollutants in storm water discharges to meet the permit's narrative effluent limitations. The IGP Effluent Limitations provide: "Dischargers shall implement BMPs that comply with the BAT/BCT requirements of this General Permit to reduce or prevent discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability." Sec. V.A. They are typically structural solutions that include shelters to minimize exposure, treatment systems, and detention basins to retain or reduce runoff volume.

Facility operators will find the BMP requirements much more detailed than before, as illustrated by the examples in **Table 1**. Such detail is helpful to developing a facility's Storm Water Pollution Prevention Plan (SWPPP), but creates an extensive, ongoing documentation obligation.

BMPs Compared

Table 1: Comparison of BMP Requirements

1997 IGP	2014 IGP
Preventative Maintenance Preventative maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems. Section A.8.a.ii.	Preventative Maintenance The discharger shall: i. Identify all equipment and systems used outdoors that may spill or leak pollutants; ii. Observe the identified equipment and systems to detect leaks, or identify conditions that may result in the development of leaks; iii. Establish an appropriate schedule for maintenance of identified equipment and systems; and iv. Establish procedures for prompt maintenance and repair of equipment, and maintenance of systems when conditions exist that may result in the development of spills or leaks. Section X.H.1.b.
Material Handling and Storage This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of	Material Handling and Waste Management The discharger shall: i. Prevent or minimize handling of industrial materials

Monitoring, Sampling and Analysis

Storm Event Sampling

The new IGP makes several adjustments to the basic monitoring, sampling, and analysis requirements, including more frequent dry weather observations (monthly now instead of quarterly) and less frequent wet weather observations (four times annually rather than monthly in the wet season.) Twice as many storm events will need to be sampled: two storm events in each six-month time frame (July-December and January-June). Constrained to sampling the first hour of runoff after 72 hours of no runoff, many facilities in the arid climate of California have failed to sample even two events annually. To improve sampling rates, the State Water Board relaxed the criteria for the "qualifying storm event" (QSE) in the new IGP. Samples can be collected up to four hours after runoff begins from an event that follows just 48 hours of no runoff. If a storm hits overnight, the four hours begins when the facility opens the next morning.

California Industrial Storm Water Permits

Discharge to Impaired Waters

The basic list of analytical parameters remains much the same — total suspended solids, oil & grease, pH, and other industry-specific pollutants — except specific conductance has been dropped. In addition, facilities discharging to a waterbody listed as impaired under §303(d) must test for the impairing parameters.

At the next level of detail, sampling provisions are more complicated. Facilities that discharge to the ocean, or to "Areas of Special Biological Significance" in the ocean, are subject to special monitoring requirements in the California Ocean Plan (2012 Ocean Plan available at: www.waterboards.ca.gov/water_issues/programs/ocean/index.shtml). And new facilities that will discharge to 303(d) impaired waters are not even eligible for IGP coverage unless they demonstrate their discharge will not contribute to the impairment. Moreover, the amendment to the definition of "Waters of the U.S." proposed by the US Environmental Protection Agency (EPA) and Army Corps of Engineers may create an additional complication for some facilities. *See* Water Briefs, *TWR* #122.

Analytical Assessments

Numeric Action Levels and Exceedance Response Actions

While the 1997 permit provided little direction in the assessment of analytical data, the new IGP establishes a whole new set of requirements to evaluate, report, and act on monitoring results. First, the analytical results for each parameter must be assessed relative to the NALs, which were taken from the Benchmarks in EPA's MSGP. Analytical results for each parameter must be averaged over the monitoring year and compared against the Annual NAL. Individual results for total suspended solids, pH, and oil & grease must be compared to the instantaneous maximum NAL.

Facility Status

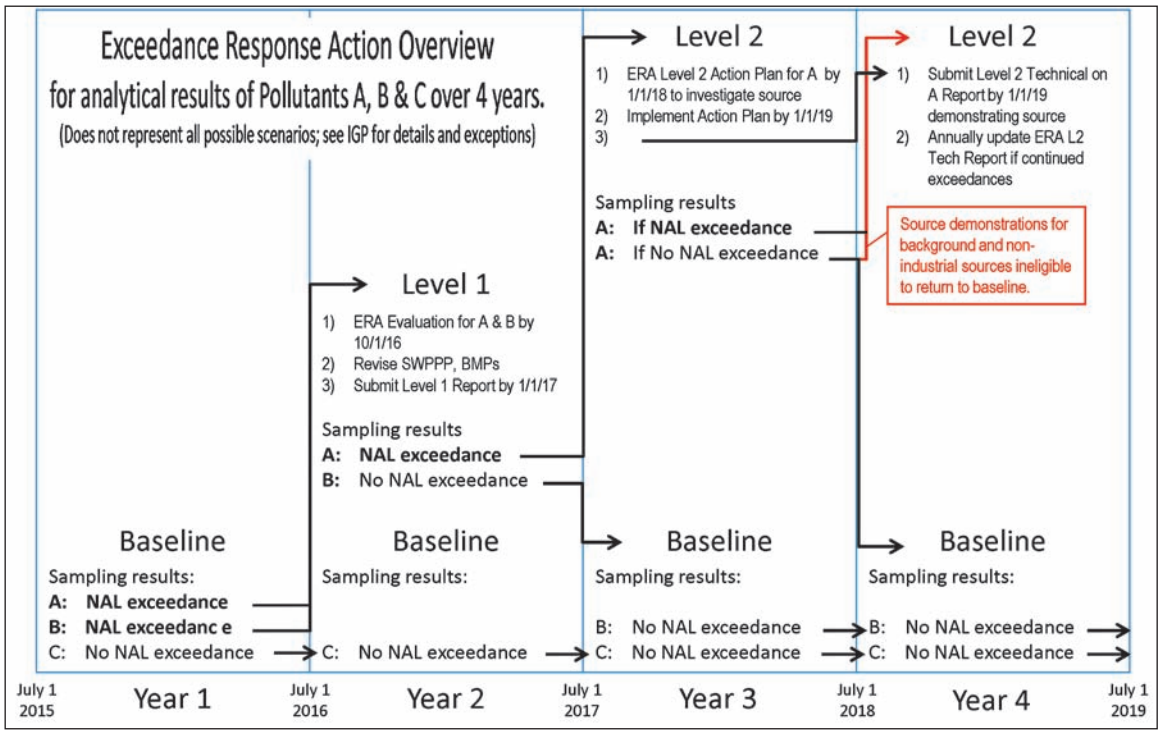
The first time a test result exceeds an NAL, the facility's status changes from "Baseline" to "Level 1" for that parameter. The facility operator must perform a Level 1 Exceedance Response Action (ERA) Evaluation and submit a Level 1 ERA Report that identifies additional BMPs to prevent future exceedances. Once those BMPs are implemented and four consecutive samples are below the NAL, the facility may return to Baseline status. However, if the same NAL is exceeded while the facility's status is Level 1, the facility advances to Level 2 status, which triggers a Level 2 ERA Action Plan and Technical Report. If the Level 2 investigation demonstrates that the exceedances resulted from non-industrial or natural background sources, the facility is ineligible to return to Baseline status.

"ERA" Exceedance Response Action

The ERA process is outlined in **Figure 1**. While the basic framework of the ERA process is straight forward, implementing the process within the prescribed timeline may become complicated, particularly for facilities at different status levels for different parameters.

ERA Process

FIGURE 1: Exceedance Response Action Overview



Expected NAL Exceedances

A review of reported sampling data reveals that a small percentage (< 10%) of industrial facilities will exceed NALs for the standard parameters pH, Total Suspeded Solids (TSS), and oil & grease. However, 40-50% of facilities are expected to exceed NALs for copper, zinc, or aluminum and be required to enter the ERA process. As an incentive for better-than-NAL achievement, facilities can reduce the locations and number of storm events sampled for parameters that are not detected in four consecutive events.

Editors' Note
TMDL Terms

Under federal Clean Water Act (CWA) section 303(d), a water body determined to be unable to meet water quality standards set to be protective of its designated beneficial uses due to pollution is identified as "water quality impaired" in terms of the associated pollutants and placed on a "**303(d) list**." A Total Maximum Daily Load (TMDL) is subsequently set for the 303(d)-listed water body based on a determination of that water body's capacity to assimilate a limited amount of each problematic pollutant and still provide for beneficial use(s). The TMDL allocates allowable pollutant discharge levels. These allocations are divided into two types: 1) **Waste Load Allocations (WLAs)** which aim at equitably distributing water-protective effluent discharge limits among "end-of-pipe" dischargers (point sources); and 2) **Load Allocations (LAs)**, which are set for more diffuse "nonpoint" sources, such as runoff from agricultural lands. Typically there is also a "reserved capacity" set-aside to accommodate effluent from anticipated growth. WLAs have specific point-of-discharge effluent monitoring and compliance requirements which are written into a point source discharger's National Pollution Discharge Elimination System (**NPDES**) permit. LAs, on the other hand, typically require only the implementation of **b**est **m**anagement **p**ractices (**BMPs**) by affected parties — though these BMP requirements may change over time in response to subsequent water quality assessments and determinations as to BMP efficacy.

Total Maximum Daily Loads (TMDLs)

Of the Total Maximum Daily Loads (TMDLs) established for pollutants that impair California waterbodies, 36 identify industrial sources. However, TMDLs may not be written in a way that can be directly incorporated in storm water permits or applied to individual storm water dischargers. Waste load allocations in the identified TMDLs will need to be translated into TMDL-specific requirements applicable to industrial dischargers. To avoid further delay in the re-issuance of the IGP, the State Water Board set a deadline of July 1, 2016 for Regional Water Boards to propose TMDL-specific requirements for incorporation into the IGP.

QISP Certification (Personnel)

Like the CGP, the new IGP establishes a requirement for credentialed personnel to perform certain functions. In contrast, the Qualified Industrial Storm Water Practitioner (QISP) is needed for only a few IGP tasks while the CGP specifies a number of requirements that must be performed by a Qualified SWPPP Developer (QSD) or Qualified SWPPP Practitioner (QSP). Industrial facilities will need a QISP only when a facility enters Level 1 or 2 status, or when a new facility prepares eligibility documentation for new discharges to impaired waters.

The IGP does not require any particular professional credentials to be eligible for certification as a QISP. This is in contrast to the CGP, which requires QSPs and QSDs to be registered professionals such as professional engineer, professional geologist, professional hydrologist, landscape architect, etc. QISPs must register with the State Board following training and certification under a State sponsored or approved training course. Training programs are expected to be offered in the spring of 2015.

Compliance Groups (Monitoring)

The 1997 IGP allowed facilities with similar operations and pollutants to form a monitoring group in which a group leader inspects facilities and assists with compliance, and evaluates monitoring results in an annual report. Small, resource-limited businesses and companies with multiple locations have benefited from Group Monitoring, which enables more cost effective and streamlined program administration through pooled resources, reduced sampling, and ready access to compliance assistance. During the IGP re-issuance process, Group Monitoring was both criticized as a cover for lax implementation of permit requirements, and championed by group participants benefiting from access to expertise in permit compliance. In the various draft permits, the State Water Board experimented with both eliminating group monitoring entirely and proposing extensive group program requirements. In the final IGP, facilities of the same industry type that have similar types of activities, pollutant sources, and pollutant characteristics may form a Compliance Group. While remaining ultimately responsible for their compliance, Compliance Group participants receive benefits similar to those of Group Monitoring. In addition, ERA reports may be consolidated, and Compliance Group Leaders will be required to complete special training.

Documentation and Reporting

The new IGP requires substantially more documentation and reporting than the 1997 permit. For the first time, a facility's SWPPP must be submitted at permit registration, and SWPPP modifications, ERA plans and reports, and Annual Reports must all be submitted by specified deadlines. Dischargers will need to establish a routine of submitting sampling results within 30 days rather than annually. Most notably, everything must be submitted electronically to the Storm Water Multiple Application Reporting and Tracking System (SMARTS), where it will be available for public review.

No Exposure Certification

Regulated facilities that meet certain conditions and can certify that storm water is not exposed to industrial pollutants at their facility need not implement the permit if they annually submit a No Exposure Certification (NEC) and fee (currently $242). The State Water Board estimates over 20,000 facilities, currently unregulated as "light industry," will file an NEC. Those that cannot meet the NEC requirements must register for the permit.

Notices of Non-Applicability (No Discharge)

Under the Clean Water Act, a permit is required to discharge storm water associated with industrial activity. In other words, no permit is required if no storm water is discharged. Facilities that retain onsite or infiltrate their storm water are therefore technically not required to obtain the permit, though it can be a difficult task to convince a skeptical agency representative or citizen enforcer that storm water never leaves the site. And the penalties for being wrong are steep: $37,500 per violation per day (pursuant to the Debt Collection Improvement Act of 1990, EPA adjusts civil monetary penalties for inflation by rule. 28 U.S.C. 2461 note, as amended by the DCIA, 31 U.S.C. 3701 note). For the first time, the IGP includes a process for demonstrating no discharge: the Notice of Non-Applicability, or NONA. California Water Code §13399.30. A professional engineer must prepare a technical report to accompany the NONA filing. A NONA minimizes the possibility of a later dispute over discharging without a permit.

California Industrial Storm Water Permits

Costs Increasing

Cost

Nor surprisingly the cost of compliance is expected to increase under the new IGP. The State Water Board estimates IGP costs would exceed 1997 permit costs by an average of 15% for all permittees. In the first year, facilities (all in Baseline status) are estimated to spend an average of $37,200 implementing the IGP, an increase of $4,500 over the 1997 permit. Facilities that advance from Baseline to Levels 1 or 2 will experience greater increases in subsequent years. After five years, the costs for Level 2 facilities are projected to be 33% more than under the 1997 permit. In total, the State Water Board estimated the cost of compliance for all facilities over a five-year period would increase $170 Million, from $1.57 Billion to $1.74 Billion. The State Water Board's five-year figures are compiled in **Table 2** (*see* 2013 Update of Report on the Compliance Costs for the Final (2013) Draft IGP, September 6, 2013).

Table 2: Cost of Compliance over Five Years

Status	Number of Facilities (%)	% increase from 1997 permit	5-year cost
Baseline	6,489 (70%)	13%	$183,400
Level 1	1,854 (20%)	17%	$188,900
Level 2	927 (10%)	33%	$215,700

Estimates Low

Many skeptics believe the cost estimates are low. For example, the calculations assume Level 1 and 2 facilities return to baseline after one year in each status; individual costs, such as sample collection and analysis, and BMP implementation, are assumed to remain constant over the five year period; and 70% of facilities are expected to remain in Baseline status and experience less of a cost increase. As noted above, existing monitoring data suggest that NAL exceedances may be more common than 30%.

CONCLUSION

LOOKING AHEAD

Modifications Sought

Before many had even read the new requirements, California Coastkeeper Alliance appealed the IGP with a petition seeking modifications in two areas. *California Coastkeeper Alliance v. SWRCB*, No. RG14724505 (filed in Alameda Superior Court). First, Petitioner claims the IGP violates the Clean Water Act by failing to include monitoring requirements that would demonstrate compliance with Receiving Water Limitations, which provide, among other things, that discharges "do not cause or contribute to an exceedance of any applicable water quality standards in any affected receiving water." IGP Order §VI.A.

Petitioner also asserts that the State Water Board is without discretionary authority to delay TMDL implementation or excuse dischargers from meeting waste load allocations. Petitioner demands TMDLs be incorporated into the IGP immediately and asserts that such TMDLs should be numeric.

Suggested Approach

Without doubt, the proposed IGP spells significant change for storm water programs at regulated industrial facilities. While some may not be inclined to review the permit until the July 1, 2015 effective date draws near, others recognize the invaluable opportunity of the next year to prepare — and avoid potentially costly surprises. For example, all facilities must file a SWPPP when they register by July 1, 2015, so time must be allowed for a substantial redraft in accordance with new requirements. In addition, a comparison of historic sampling results with the NALs could help identify potential problem areas in time to make some adjustments before the 2015-2016 monitoring season. Those considering facility construction or renovation can incorporate site design features and other facility considerations that will reduce the cost and effort required to implement the IGP, improve compliance, and reduce the risk of enforcement for years to come. And facilities planning to file a No Exposure Certification can examine the checklist now to make sure they qualify. Now is the opportune time to explore opportunities and chart a course for compliance.

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Washington Water Allocation

"OCPI" Overriding Considerations of Public Interest

Instream Rule Invalidated

"MIFs" Minimum Instream Flows

Water Reservations

OCPI Interpretation

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WATER ALLOCATION IN WASHINGTON STATE

INSTREAM FLOWS VERSUS MAXIMUM NET BENEFITS

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Introduction

Last October, the Washington State Supreme Court decided *Swinomish Indian Tribal Community v. Ecology*, 178 Wn.2d 571, 311 P.3d 6 (2013) (hereinafter *Swinomish*), holding that the Washington State Department of Ecology (Ecology) exceeded its authority to use the "**o**verriding **c**onsiderations of **p**ublic **i**nterest" (OCPI) exception to grant reservations for future water rights in the Skagit River basin. *See* Moon, *TWR* #116. The decision invalidated an amended instream flow rule that had been relied upon for the construction of hundreds of homes in rural areas using exempt wells. [Editor's Note: Prospective water users must obtain authorization in the form of a water right permit or certificate from Ecology before withdrawing groundwater. The groundwater permit exemption allows users of small quantities of groundwater to develop their water supplies without first obtaining a permit from Ecology.]

This article describes how the decision is the product of forty years of problematic instream flow regulation, which led to an unexpected closure of groundwater to further appropriation and over-reliance on narrow statutory exceptions to fill the gaps. Likely impacts of the *Swinomish* decision and suggestions of how the Legislature could address these problems are also discussed.

Synopsis of the Decision

In 2001, Ecology adopted the Skagit River Basin Instream Flow Rule (chapter 173-503 WAC), which included **m**inimum **i**nstream **f**lows (MIFs) for rivers and streams but did not allocate or reserve water for other future uses. Skagit County appealed the 2001 rule but dismissed its appeal after Ecology issued an amended rule in 2006. In the amended rule, Ecology used the OCPI exception in RCW 90.54.020(3)(a) to establish 27 reservations of water for specified future uses, including exempt wells in rural areas and various municipal, domestic, irrigation, and stock watering uses. Reservations of water for future uses are authorized by RCW 90.54.050. Following adoption of a reservation, applicants may file water right applications for beneficial uses authorized by a reservation. If granted, these water rights have a priority date that relates back to the effective date of Ecology's reservation rule. In the Skagit Basin Amended Rule, the reservations were for "uninterruptible" water rights, i.e., rights that were not subject to MIFs established by an earlier rule.

Ecology and the Washington Department of Fish and Wildlife found that the total quantity of the reservations was less than the amount that would have significant impacts on fish populations in the basin. The Swinomish Indian Tribal Community (Tribe) challenged the amended rule two years later under the Administrative Procedure Act, contending that Ecology's use of OCPI to establish the reservations exceeded its statutory authority. The superior court denied the Tribe's petition, but the Washington State Supreme Court (Court) reversed and invalidated the amended rule.

The principal basis for the Court's decision was its rejection of Ecology's interpretation of the OCPI exception. RCW 90.54.020(3)(a) requires Ecology to preserve the natural environment by retaining base flows in perennial rivers and streams, but includes this exception: "Withdrawals of water which would conflict therewith shall be authorized only in those situations where it is clear that overriding considerations of the public interest will be served." The Court specifically rejected Ecology's simple economic balancing test and found that the OCPI exception "is a *narrow* exception, not a device for wide-ranging reweighing or reallocation of water through water reservations for numerous future beneficial uses." *Swinomish*, 178 Wn.2d at 585 (emphasis in decision). In its balancing test, Ecology determined: to what extent important public interests would be served by the proposed reservations; the extent to which the reservations would harm any public interests; and whether the public interests served would clearly override harm to public interests. *Id*. at 583. By declaring the amended rule invalid, over 475 new groundwater uses established after adoption of the amended rule — primarily rural homes built since 2001 with exempt wells — were instantly subject to uncertainty about the legal status of their water supplies. Ecology and the Swinomish Tribe have since announced measures to resolve this legal ambiguity. *See* Text Box, next page.

The Court went further in its analysis than was necessary to decide the case. It could have rejected Ecology's balancing test for OCPI as inconsistent with its statutory authority and invalidated the amended rule on that basis, but it also found that the use of OCPI that impairs an existing instream flow conflicted with the Prior Appropriation Doctrine itself. *Id.* at 588-590. Even if this part of the majority opinion is regarded as dicta with no precedential value, its impact may be considerable because it was thoroughly analyzed and forcefully stated.

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Narrow Exception

Clarification Needed

OCPI Uncertainty

Dicta Impact

Legislation Needed

The Court's conclusion also has an inherent contradiction. Because the OCPI exception specifically refers to authorizing water uses that conflict with protected instream flows, the majority's "prior appropriation" analysis appears to contradict both RCW 90.54.020(3) and the Court's own conclusion, which states, "A narrow exception is found in the statute that permits impairment of minimum flows set by rule in situations where it is clear that overriding considerations of the public will be served." *Swinomish* at 602. To avoid the circular logic of one statute violating another, the majority opinion should be read *not* as eliminating OCPI, but as severely narrowing its scope, as indicated in the preface to the decision — "The exception is very narrow, however, and requires extraordinary circumstances before the minimum flow water right can be impaired." *Id*. at 576.

Thus, the door is narrowly open for OCPI findings in the future. The potential for appeals, however, has increased significantly and may stymie decisions by Ecology and/or discourage watershed planning advocates and water right applicants from proceeding without legislative clarification on of the scope of the exception. What constitutes "extraordinary circumstances," and how does one analyze the public interest? Whether a proposed use is "public" and qualifies for OCPI was also addressed by the Court, which characterized exempt wells for domestic use as a "private use, generally speaking, not a public use." *Id*. at 587. Tribes and environmental groups may use the *Swinomish* decision to argue that OCPI cannot be used at all in the context of rule amendments or water right application decisions when the new or changed water use would conflict in any way with existing MIFs. It could also prompt challenges to the implementation of adopted basin rules and prevent others from being finalized. This is an unfortunate cloud on the use of OCPI by an agency that has become dependent on it, and may lead to administrative dysfunction, conflicts involving property rights and growth management, increased litigation involving water right decisions, and multiple calls for legislative correction.

This kind of impact from a Washington Supreme Court water law decision is not unprecedented. Dicta in *Dep't of Ecology v. Theodoratus*, 135 Wn.2d 582, 957 P.2d 1241 (1998) suggesting that the holding might apply to municipal water rights led to changes in administrative practices and substantial uncertainties about the scope of unperfected municipal water rights. This led to the Municipal Water Law of 2003 (SESSHB 1338, 58th Leg., Reg. Sess. (Wash. 2003) — the Court decided facial constitutional challenges to this law in *Lummi Indian Nation v. State*, 170 Wn.2d 247; 241 P.3d 1220 (2010)). The potential impact of the dicta in *Swinomish* is likely to be as great as or greater than *Theodoratus*.

The Court's opinion may have resolved one question about the scope of OCPI authority, but it raises several other questions that will have significant consequences for communities seeking new water rights and for counties engaged in watershed planning to allocate or reallocate water for future uses. As explained below, legislation is needed to clarify when and how OCPI can be used in the context of issuing new water rights or other water management decisions under Chapter 90.54 RCW. One cannot reach that conclusion, though, without examining Washington State's history of instream flow protection, the incomplete implementation of state water allocation policy, and the recent evolution of groundwater science.

Skagit Groundwater Use Secure While Water Supply Solutions Are Developed

The Washington Department of Ecology (Ecology) will not require Skagit Basin well owners who established groundwater rights between April 14, 2001 and October 2, 2013 to curtail their water use after a recent court decision overturned a 2006 state water rule. This decision was announced in a joint press release by Ecology and the Swinomish Indian Tribal Community issued on October 10, 2013.

In 2001, Ecology adopted an administrative rule establishing minimum instream flow rights for the Skagit River system. In 2006, Ecology amended the rule to establish 27 reservations of water that were not subject to the senior minimum instream flow rights. On October 3, 2013, the Washington state Supreme Court ruled in *Swinomish Indian Tribal Community v. Department of Ecology* that Ecology exceeded its authority in establishing the 2006 reservations. The decision reinstates the 2001 Skagit Instream Flow Rule. Under the 2001 rule, water rights established on or after April 14, 2001, are subject to curtailment when the senior minimum instream flow rights are unmet.

Ecology Director Maia Bellon has decided to exercise enforcement discretion and not curtail the water use of 475 homes and 8 businesses that have relied on the 2006 reservations for their water supplies since April 14, 2001. The Swinomish Indian Tribal Community, which successfully challenged Ecology's decision to establish the 2006 reservations, supports Ecology's decision if the impacts of the 483 water uses are fully mitigated. "The Swinomish Tribe supports the 2001 Rule because it is a good rule based on sound science that was the result of a collaborative effort by the State of Washington, Skagit County, the public water purveyors, and the three Skagit Treaty tribes," said Swinomish Tribal Chairman Brian Cladoosby. "We recognize that nearly 500 landowners are in a difficult situation and support Ecology's decision not to take enforcement action while mitigation plans are developed and implemented to ensure that their water use and any future water use does not impair the senior instream flow rights and does not adversely affect salmon. The Swinomish Tribe is committed to collaborating with Ecology on this effort."

"We are grateful to the Swinomish Tribe for their cooperation and understanding of our efforts to assure well owners that their water supplies are secure while we focus on finding sustainable water supply solutions for the Skagit Basin," Bellon said. "We welcome the tribe's advice and consultation on the Skagit Basin's water supply problems as we work with local partners to ensure stream flows are protected and the needs of existing and future water users are met," Bellon said.

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Instream Benefits

State Policy

"Maximum Net Benefits"

Instream Flow Rules

MIF Priority Date

Exceedence Flows

MIF Impairment Affects

"Maximum Net Benefits" Not Applied

Instream Flow Protection and Net Maximum Benefits

Instream flow protection serves vital interests by protecting the health of natural watersheds, including: preservation of fish production; water quality; recreation; navigation; power production; and scenic and aesthetic values. Hundreds of millions of dollars have been spent by the federal and state governments to preserve and enhance the quality and quantity of water in Washington's rivers, streams, and lakes. The economic, ecological, and myriad other benefits resulting from these expenditures are beyond dispute.

In 1955, the Washington State Legislature declared the policy of the state to have sufficient water in streams to support fish populations and authorized rejection of water right applications that would impair these flows. Laws of 1955, ch. 12, §75.20.050 (codified as amended at RCW 77.57.020). In 1969, the Legislature authorized the newly created Department of Ecology to establish MIFs and lake levels throughout the state. RCW 90.22.010.

Washington State's Water Resources Act of 1971 (the Act) established fundamental state policy for the utilization and management of the waters of the state including, but by no means limited to, the retention of base flows in perennial rivers and streams. RCW 90.54.020(3). The primary purpose of the Act was to insure that waters of the state are both protected and fully utilized for the greatest benefit to the people of the state. Among the other beneficial uses of water enumerated in this law, the Legislature declared that, "[A]dequate and safe supplies of water shall be preserved and protected in potable condition to satisfy human domestic needs." RCW 90.54.020(5). The Act established a balancing test for choices between competing uses of water, providing that, "[A]llocation of waters among potential uses and users shall be based generally on the securing of the maximum net benefits for the people of the state. Maximum net benefits shall constitute total benefits less costs including opportunities lost." RCW 90.54.020(2). This does not mean economic benefits alone. *Swinomish* at 600.

The maximum net benefits policy, elaborated by a 1979 statute (RCW 90.03.005), states in part:

> …it is the policy of the state to promote the use of public waters in a fashion which provides for obtaining maximum net benefits arising from both diversionary uses of the state's public waters and retention of waters within streams and lakes in sufficient quantity to protect instream and natural values and rights.

This balancing test may favor leaving water in streams and lakes in certain cases, leading to denial of water right applications, but it does not mandate that result exclusively. RCW 90.03.005 also supports new appropriations for out of stream uses that might impact instream flows if they have a greater benefit.

Instream flows have been set by rule in less than half of the 62 drainage basins in the state. *See* WAC chapters 173-500 to 173-563 (the status of instream flows is periodically updated at: www.ecy.wa.gov/programs/wr/instream-flows/isf-rule.html). Once established by rule, MIFs constitute an appropriation like other water rights with a priority date, and cannot be impaired by subsequent surface or groundwater withdrawals. *Swinomish* at 584; *Postema v. Pollution Control Hearings Bd.*, 142 Wn.2d 68, 81, 11 P.3d 726 (2000). The priority date of a MIF is the date of its establishment by rule. RCW 90.03.345.

There are many possible methods for creating and quantifying MIFs, but the primary method used by Ecology was to select a percentage of exceedence flows — numbers that represent a likelihood that historical flows will be met on a given day. These exceedence flows generally ranged from 50% to 80% of historical flows, meaning that on any given day there was a 50% to 20% chance that the MIF would not be met. *See*: *Final Environmental Impact Statement and Program Overview, Western Washington Instream Resources Protection Program,* Ecology, Appendix D (June 1979). This method provides mathematical assurance that the MIFs adopted by rule will *not* be met all the time, which means that any water right thereafter issued is subject to curtailment whenever actual flows are below the MIF. Groundwater withdrawals with effects on MIFs that cannot be eliminated or mitigated when minimum flows are not met would likely have their application denied as an impairment of the MIF water right.

Unfortunately, the maximum net benefits policy was not employed when Ecology adopted MIF regulations. Ecology apparently decided that there were no criteria for determining maximum net benefits, so it didn't apply the policy. For example, Ecology wrote in the Water Resources Management Program for the Colville River Basin (1977): "Because there are no specific criteria to determine 'maximum net benefit' in the allocation of available surface water, public input through public meetings, questionnaires, and the citizen advisory committee have been utilized for establishing water use preferences." In most other basin regulations, such as the Puyallup-White River Basin, the criterion "maximum net benefits" was not mentioned and no balancing test was documented as the basis for allocating water among instream flows and other uses. *See*, e.g., *Puyallup River Basin IRPP*, March 1980. Ecology's Instream Resources Protection Program (IRPP) for Western Washington, created in 1979, was the framework for Ecology's adoption of minimum flow regulations in dozens of Washington river basins in Western Washington, but it did not attempt to balance the needs for future surface or groundwater rights for other purposes before adopting MIFs. *See* www.ecy.wa.gov/programs/wr/instream-flows/isf-rule.html.

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Instream Protection v. Maximum Benefits

In fact, Ecology interpreted the various laws relating to instream flow protection as creating a priority for instream flow protection *before* evaluating other potential uses of the state's waters. The statutory language, however, does not support this interpretation. The Snohomish River Basin IRPP, adopted in August 1979, includes a comment by then Seattle Mayor Charles Royer that the documents provided no indication of any assessment regarding maximum net benefits, or that sufficient data had been collected upon which to make this determination. Ecology's response was that they were setting instream flows first and would assess maximum net benefits later: "[I]t has been the department's view that in the implementation of the acts, it is necessary to provide a base level of protection for instream resources from further water allocation activities, and that setting these levels does not require the test of maximum benefits. The result is, in effect, reservation of water for these uses (uses that cannot readily be quantified in terms of dollars) and a de facto priority for these uses. The maximum net benefits test applies to appropriation of water to uses above these basic protection levels." In 2005, Ecology adopted Policy/ Interpretive Statement 2025 regarding when to perform a maximum net benefits analysis. While it declares that maximum net benefits will be implanted in rulemaking to create reservations for future uses under RCW 90.54.050(1) and watershed plans under chapter 90.82 RCW, it perpetuates Ecology's policy of not applying maximum net benefits to MIF settings.

Allocation Policies

Water allocation policies at RCW 90.54.010 and 90.54.020(2) are phrased in terms of providing the greatest benefit to the people of the state. RCW 90.54.020(3) follows those policies in the statute, and provides for the protection of "base flows," a term the Washington Supreme Court has used interchangeably with "minimum flows." *See Swinomish*, 178 Wn.2d at 580. However, one cannot balance the allocation of water between instream flows and other uses if all water, including groundwater, has already been committed to protecting instream flows by the setting of MIFs.

Statutory Interpretation

Ecology's past interpretation of RCW 90.03.005 — to protect instream flows first and then allocate remaining waters according to maximum net benefits — violates two important canons of statutory interpretation. First, statutes related to the same subject matter or having the same purpose should be read in pari materia (i.e., as together constituting one law). *State v. Yokley (In re Yim)*, 139 Wn.2d 581, 592, 989 P.2d 512 (1999); *Premera v. Kreidler*, 133 Wn. App. 23, 36, 131 P.3d 930 (2006). Second, and critically here, is the canon that a court (or administrative agency) must not interpret a statute in a way that renders any portion of the statute meaningless or superfluous. *Broughton Lumber Co. v. BNSF Ry*., 174 Wn.2d 619, 634, 278 P.3d 173 (2012); *Svendsen v. Stock*, 143 Wn.2d 546, 555, 23 P.3d 455 (2001). The "maximum net benefits" provision has no meaning if interpreted to apply only after MIFs are protected, precisely because all other uses of water were made junior to MIFs by the adoption of the instream flow rules and subsequent court rulings.

Protection From Appropriation

Does the statutory balancing test, in the form of "maximum net benefits" or the OCPI exception, permit Ecology to allow new water uses it considers more valuable to impair or conflict with an existing MIF? The Washington Supreme Court has twice answered "no" to this question while leaving the narrowest of doors open for use of OCPI in the future. In *Postema*, the Court rejected arguments that MIFs were "limited" water rights containing a "direct and measurable impact" standard in order to account for, among other things, economic factors or the future availability of groundwater. The Court found that, once established by rule, MIFs are "appropriations which cannot be impaired by subsequent withdrawals of groundwater in hydraulic continuity." 142 Wn.2d at 82. However, the Court recognized that OCPI provided a "narrow exception." *Id*. at 81.

MIFs Status

In *Swinomish*, the Court held that Ecology had no authority to establish reservations for future water rights that might impair established MIFs, either by using the OCPI exception or by applying the maximum net benefits policy. 178 Wn.2d at 585. The Court construed the entire statutory scheme for instream flow protection and water allocation, including OCPI and the maximum net benefits policy, and found no qualifications in the statutes that diminish MIF water rights once they are established by rule. *Id*. at 595.

Groundwater Assumptions

Many of Ecology's instream flow rules included assumptions that significant portions of groundwater would not be regulated as a result of the minimum flow setting and stream closures, and include regulations stating that groundwater would not be subject to the MIF rules unless there was, for example, a "direct, and measurable, impact on stream flows in streams for which closures and instream flows have been adopted." *See* e.g., WAC 173-510-050. Perhaps it was this assumption — that urban, suburban and rural communities could still access groundwater after adoption of MIF regulations — that prompted Ecology to proceed with MIF rulemaking before determining the need for other future water uses, and without balancing competing water uses as directed by the Legislature according to the maximum net benefits. If Ecology assumed that they were not allocating all groundwater to maintaining MIFs, and that most of it was still available for new uses, then they may also have assumed that allocating waters according the maximum net benefits was still possible and viable. Regardless, the assumption that groundwater was available for new uses after adoption of MIF regulations has proven to be incorrect, as explained in the next section of this article.

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MIF Purposes

Hydraulic Continuity

Groundwater Reliance

Negligible Impacts?

Steady-State Condition

Ecology Reversal

Groundwater Permitting

The existence of this assumption, false though it may have been, appears to be validated by a February 20, 1986, memorandum from former Senior Assistant Attorney General Charles B. Roe to the former Water Resources Program Manager for Ecology. Mr. Roe, one of the drafters of the 1971 Water Resources Act, interpreted RCW 90.22.020 and RCW 90.54.030(3) as embodying the first phase of instream flow protection by Ecology for the minimum or base flows necessary to insure that instream values are protected by "keeping streams alive." Such minimum or base flows, however, should not have been "greater than necessary to ensure continued existence of the instream values associated with the stream on a minimum basis." The second phase of instream flow retention, per Mr. Roe's memorandum, is contained in RCW 90.54.020(2), which sets forth the "maximum net benefits" test. Under this test, "a higher instream flow is required if it is determined by the department that instream values bring about the 'maximum net benefit' usage of the waters of the stream." It is worth noting that many of the MIF regulations adopted before and after Mr. Roe's memorandum established minimum flows that were higher than base flows needed to keep streams alive, and did not engage in a maximum net benefits analysis to support these higher flows. Therefore, reliance on Mr. Roe's statutory interpretation to defend MIFs, set for example at 50 to 80% exceedence of historic flows, would appear to be misplaced.

Moving Goalposts for Appropriating Groundwater

DE FACTO GROUNDWATER CLOSURE

When the first MIF regulations were adopted in the mid-1970s, Ecology was aware of various degrees of connection between surface and groundwaters, known as hydraulic continuity. Ecology generally drew a distinction between "direct continuity" with measurable effects on surface water, which would be subject to the MIF rules, and aquifers that were deeper or further away from streams with lesser or unmeasurable effects on streamflow, which would be available for new water rights for municipal growth and other future uses of water. The Puyallup River Basin IRPP (March 1980) states: "…it is believed that there are adequate groundwater resources to support future growth forecasts" and "future growth in demands for municipal and industrial water will fall upon groundwater supplies." In the Snohomish River Basin IRPP (August 1979), alternative sources of groundwater were described as mitigation for any adverse effects of regulating MIFs. The Chambers-Clover Basin IRPP (November 1979) states: "deeper aquifers appear to contain large quantities of water and do not readily affect surface waters." The Green-Duwamish IRPP (April 1980) notes: "Groundwater remains open for future appropriation in all the Green-Duwamish River Basin. It is anticipated that groundwater will be relied upon in many instances where surface water rights will not be available due to this program or because of water quality considerations." There are many other such statements in the instream flow rules.

New permits for groundwater withdrawals were issued for projects throughout the state for many years following adoption of MIF rules, based on the assumption that they had negligible or unmeasurable effects on protected streams. However, advances in groundwater science over the next fifteen years led Ecology to change course. In November 1993 Ecology published guidelines for hydrogeologic investigations, including "minimum hydrogeologic conclusions common to all hydraulic continuity analyses." These guidelines included the following statement regarding "steady state" determinations:

> When pumping for a permit will occur year around, the effects of the pumping will eventually reach a steady-state condition…The time needed to reach a steady-state may vary from less than a day to many thousands of years, depending upon the hydrogeologic setting. In the strict and exact sense, once the steady-state occurs, *100% of the pumped groundwater will be captured from streamflow, somewhere in the drainage basin and not necessarily from the closest stream reach*.

Procedural Guidelines for Hydrogeologic Investigations, Open File Technical Report 93-6, p. 4 (emphasis added). This technical report and a later report by the US Geological Survey (USGS) coincided with the reversal of Ecology's assumption that groundwater was available for appropriation and with the emergence of a new assumption that all groundwater pumping is eventually captured from streamflow. *See Numerical Model Analysis of the Effects of Ground-water Withdrawals on Discharge to Streams and Springs in Small Basins Typical of the Puget Sound Lowland, Washington*, Morgan and Jones, (USGS, 1996). This article is not a scientific paper intended to dispute the steady-state assumption, or to label it as the sole or leading cause for changing assumptions about groundwater availability. However, it was obvious to those involved in water rights permitting in Washington during the mid-1990s that there was a sea change at Ecology regarding groundwater application processing based on these reports.

In 1995-96, Ecology issued over 600 decisions on pending groundwater applications in twelve watersheds throughout the state, most of which were denials based on simple findings of hydraulic continuity between groundwater and surface water protected by instream flow rules.

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Rights Approval Elements

There are four tests for approval of a water right application, codified at RCW 90.03.290(3):

1) that the use of water is "beneficial"
2) that water is "available" for appropriation
3) that the proposed withdrawal of water will not "impair" existing rights (including MIFs)
4) that the proposed use is not detrimental to the public welfare

Ecology must deny an application it finds that one or more of those elements cannot be satisfied. Over 130 of those denial decisions were appealed to Washington State's Pollution Control Hearings Board (PCHB), which consolidated the appeals and addressed eleven threshold issues on summary judgment. After final rulings, a number of these appeals were later consolidated for appeal to the Washington Supreme Court. The Court's decision on those appeals was that a finding of hydraulic continuity with a stream for which MIFs were not being met was not enough by itself to deny a groundwater application — there also needed to be evidence and a finding of impairment with MIFs. *Postema*, 142 Wn.2d at at 78-79. However, the Court disagreed with the appellants' arguments that MIF rules must be interpreted as intended by Ecology years earlier — to allow appropriation of groundwater *unless* its withdrawal has a direct and measurable impact on stream flow using standard stream measurement equipment.

New Science Findings

Rejecting that argument, the Court stated (*Id*. at 88-89):

> [T]he argument would effectively freeze Ecology's ability to implement the statutes, requiring it to rely on scientific knowledge which is now outdated…It is true that all parties to this case originally expected that only nearby and shallow groundwater withdrawals would affect surface waters. However, expectation is not intent. While the undisputed facts show a change from the original manifestation of Ecology's intent, Ecology's intent was and is to prevent interference with instream flows.

De Minimus Impairment

Ecology has not adopted a rule establishing hydraulic continuity as a sufficient basis for finding impairment and denying groundwater applications — thus, impairment must be established factually in each case. However, because of the combination of steady-state theory and the manner in which MIF rules were established, impairment can be found in virtually every case where an aquifer is in continuity with a stream that has a MIF rule, unless the applicant proposes adequate mitigation to prevent any diminishment in flow. Even minor or "de minimis" effects on MIFs would be grounds for denial due to the priority date of the instream flow water right. "The statutes do not authorize a de minimis impairment of an existing right." *Id*. at 92. With respect to streams administratively closed to further appropriation in the instream flow rules, the Court concluded that "a proposed withdrawal of groundwater from a closed stream or lake in hydraulic continuity must be denied if it is established factually that the withdrawal will have *any effect* on the flow or level of the surface water." *Id*. at 95 (emphasis added.) "Any effect" taken literally could mean a computer model demonstration that continuous pumping of a well would result in one less molecule of water reaching any part of a stream that is closed.

MIFs Constitute Appropriations

The Court did not address whether the instream flow rules relevant to the applications in *Postema* were based on false assumptions or violated the maximum net benefits statute. The Court also did not address more recent arguments that the instream flow rules themselves violated the four-part test of RCW 90.03.290 and are therefore ultra vires (i.e., beyond Ecology's authority). In *Swinomish*, the Court held that reservations of water must satisfy the four-part test because they are "appropriations of water" under RCW 90.03.345. 178 Wn.2d at 588-89. MIFs are also appropriations under RCW 90.03.345, which provides: "The establishment of reservations of water…or minimum flows or levels…shall constitute appropriations within the meaning of this chapter… ." One can argue that Ecology failed to make the required four-part test findings for each MIF it adopted by rule. For instance, if flows were set at a level that predicted they would not be met, how could Ecology find that water was available for such flows? Also, if a maximum net benefits test was omitted, how could Ecology find that the MIFs were not detrimental to the public welfare?

Benefits Test Omission

De Facto Groundwater Closure

These arguments were not made in *Postema*. But the Court's decision in *Postema* effectively killed the default balance struck in Ecology's MIF regulations (setting minimum flows but not closing groundwater to further appropriation) by requiring Ecology to use new information (e.g., steady state theory) and scientific methodology (computer modeling) for determining hydraulic continuity and protecting MIFs. The result is a de facto closure of unappropriated groundwater throughout the state, without any public debate or appeal regarding the appropriateness of allocating all unappropriated groundwater to the sole purpose of maintaining MIFs. These standards do not distinguish between a large municipal or industrial well and much smaller exempt wells for a single domestic or small group domestic use. For example, chapter 173-539a WAC, withdraws all unappropriated groundwater in Upper Kittitas County and requires mitigation and "water budget neutral" determinations for new exempt wells. Similar findings are affecting exempt well usage in the Skagit and Dungeness basins, requiring mitigation for single-family exempt wells.

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Mitigation Required

The de facto groundwater closure ushered in a new era of water rights permitting based on mitigation plans that include various methods for eliminating or offsetting the impacts of new appropriations on instream flows — such as pumping additional water to streams, groundwater infiltration, storage projects, and relinquishing existing water rights or placing them in trust to protect instream flows. *See* Moon, *TWR* #118. Several cases inconclusively shaped the boundaries of water right decisions incorporating mitigation plans. *See*, e.g., *Squaxin Island Tribe v. Ecology*, PCHB No. 05-137 (2006) (Ecology has the authority under chapter 90.03 or chapter 90.44 RCW to grant a permit for groundwater consumption based on a mitigation proposal if it would otherwise be denied because of its adverse impact on surface water); and *CPM Development Corp. v. Ecology*, PCHB No. 03-071 (2007) (vegetation removal does not fall within the plain language of the reference in RCW 90.44.055 to "other resource management techniques").

Rules Lacking

Ecology issued guidance on the subject, but it did not adopt, and was not compelled to adopt, rules regarding mitigation plan contents or approval standards. *Squaxin Island Tribe*, PCHB No. 05-137 (2006). Municipal and other water users also turned to water right transfers as the means to increase their supplies, which led to several cases involving relinquishment of existing water rights for nonuse (right proposed for transfer). This direction, however, did not answer the larger problem of the de facto groundwater closure and noncompliance with the maximum net benefits policy.

Is OCPI the Appropriate Relief Valve?

OCPI Relief Valve

After *Postema*, how did Ecology approve new groundwater applications and allocate water for future municipal, industrial, domestic, and irrigation uses in basins with MIF rules? Despite the de facto groundwater closure, Ecology continued to regard instream flow protection as its primary responsibility and did not update or replace MIF rules to reallocate water in compliance with the maximum net benefits policy. Instead, it began to use the OCPI exception as a relief valve for communities and applicants in need of additional water. Continued reliance on the narrow OCPI exception is a failed policy.

Amendment Authority

Ecology has the authority to amend instream flow rules, and is even encouraged or mandated to update them as needed. RCW 90.54.040(2) provides: "[T]he department is further directed to modify existing regulations and adopt new regulations, when needed and possible, to insure that existing regulatory programs are in accord with the water resource policy of this chapter…. ."

The Legislature even made this process financially viable by adopting the Watershed Planning Act (chapter 90.82 RCW) and appropriating tens of millions of dollars from 1998 through the current biennium for grants to local watershed planning groups for planning, technical assistance, and implementation. The Watershed Planning Act (Act) may be the closest the state has come to a process for implementing maximum net benefits in the allocation of water. Thirty-four of the state's 61 watersheds adopted plans under the authority of the Act and another 13 watershed plans are in some stage of completion or adoption. Not all of these watershed plans led to instream flow rule amendments, but some of them did, like the 2006 Amended Rule for the Skagit watershed. As noted above, in *Swinomish* the Supreme Court rejected Ecology's use of the OCPI exception for reservations in the 2006 Amended Rule, despite Ecology's determination that the environmental impacts of reservations for future uses were minor and the economic benefits were significant.

OCPI Use Rejected

Vulnerable MIF Rules

There are other adopted MIF rules in Washington with similar fact patterns and similar reliance on OCPI that may be vulnerable to challenge. Many of these MIF rules implemented watershed plans by planning units that attempted to balance instream flow protection with the need for additional water for communities. In some of these basins, establishment of reservations for domestic and municipal uses may have been a compromise or "relief valve" for establishing minimum flows while avoiding stream closures that would prevent the grant of surface and groundwater rights. This position was taken in a recent petition to reopen instream flow rulemaking for the Dungeness River Basin, based on the *Swinomish* case. The petition by Olympic Resource Protection Council (Jan. 21, 2014) states: "Without the relief provided by the reservations, the attempted compromise embedded in the Dungeness rule is a failure." The petition also contended that adoption of MIFs violated the four-part test for approval of a water right application (RCW 90.03.290(3). [Editor's Note: Ecology denied this petition on March 18, 2014. *See* www.ecy.wa.gov/programs/wr/instream-flows/dungeness.html.]

Municipal Growth

With respect to water right applications for municipal growth, Ecology has also used OCPI, typically when proposed mitigation achieves substantially greater environmental and other public benefits than the harm to MIFs and closed streams. Even where mitigation plans effectively over-mitigate impacts on instream flows, OCPI findings are probably required whenever hydrogeologic studies predict any effect on remote streams or lakes that are closed or have MIFs. Especially in remote and upper reaches of watersheds, it may be impossible to effectively mitigate all impacts at all times of the year. However, OCPI cannot be characterized as a "narrow" exception when it is required for every groundwater application decision that uses comprehensive hydrogeologic analysis.

Washington Water Allocation

Tribal Consultation

Foster Case Distinguished

OCPI Findings Guidance

Instream Importance

Undisclosed Issue

Burdens & Uncertainty

Community Disparity

When applicants prepare mitigation plans in consultation with affected tribes and environmental groups, OCPI findings tend not to be appealed. For example, OCPI was used to approve the Cascade Water Alliance's (CWA's) Lake Tapps project, and the approved application (S2-29920) was not appealed by the Muckleshoot or Puyallup Tribes, who entered into a natural resources enhancement agreement with CWA. Neither did the Nisqually Tribe or Squaxin Island Tribe appeal applications approved for the cities of Olympia, Lacey, and Yelm after they were consulted on and approved a regional mitigation plan for those cities' water right applications. However, tribes and environmental groups have routinely criticized Ecology for over-using OCPI. The *Swinomish* decision adds force and precedent to their complaints.

Sara Foster v. Ecology, PCHB No. 11-155 (2012) may provide a model for how OCPI can be used for water right permit application decisions in the future. In *Foster*, the Pollution Control Hearings Board (PCHB) upheld an OCPI finding for a groundwater right granted to the City of Yelm. Yelm had participated in regional mitigation planning for new water rights with the cities of Olympia and Lacey. The OCPI finding used the same or a similar "balancing test" by Ecology as the one rejected by the Supreme Court in *Swinomish*. The PCHB might have rejected that balancing test, but upheld the water right decision and OCPI finding based on evidence that Ecology had considered twelve additional factors in its decision, which it considered comprehensive and consistent with Ecology's statutory authority. The PCHB decision stated that Ecology should establish the framework of a policy or rule for the use of OCPI, but did not require that to uphold the Yelm permit. The decision noted that the OCPI finding would not have been sustainable were it based merely on the need to serve additional populations with increased water supplies or if the mitigation offered was "frail in comparison to the effects on instream flows and closures." These factors distinguish the *Foster* case from the Supreme Court opinion in *Swinomish*, and provide guidance for how a similar OCPI finding could be made and upheld in other water right applications. However, after the *Swinomish* decision it is hard to imagine that more than a rare handful of municipal water right applications will be approved. Ecology's OCPI authority needs to be clarified if communities are to be given any chance to appropriate groundwater with comprehensive mitigation plans.

The *Foster* decision is on appeal and is currently being briefed to the Thurston County Superior Court (Case No. 13-2-01080-9; hearing date May 8, 2014). As of the date of this article, Ecology has stated that the *Swinomish* decision will not change how it applies OCPI in permitting cases like the City of Yelm's. However, the *Swinomish* decision will surely be briefed to the superior court by the parties to the *Foster* case, and could have an effect on the outcome.

Importance of Flow Allocations and Future Water Rights

There is no question that instream flow protection was a top, if not the top environmental priority and public policy goal of the late 1960s, the 1970s, and beyond. The benefits are innumerable and beyond rational calculation using economic metrics alone. In fact, the goals of instream flow protection are not fully met due to many rivers and streams having been over-appropriated before MIF rules were adopted. The state continues to purchase water rights in fish critical basins to restore instream flows, improve fish habitat and water quality, and decrease the economic impacts of drought. Why not leave MIF rules and the de facto groundwater closure alone and let communities, businesses, and individuals who need more water either pay for water transfers and mitigation, or move proposed water-consumptive uses where water is already appropriated by public utilities and available for purchase?

If that is the cost of instream flow protection, it was not disclosed or debated when the MIF rules were adopted. Affected communities and their residents, and property owners in water-deficient areas cannot be expected to have guessed the outcome of future Supreme Court decisions and groundwater science when they decided to locate or remain in their communities decades ago. Should they now be forced to bear a disproportionate financial burden of protecting instream flows? The current status of instream flow protection rules and de facto ground water closures — with no OCPI relief valve — is creating widespread uncertainty for local land use planning authorities and property owners. It is imposing significant regulatory and transaction costs that are out of proportion to the benefits the regulatory system provides to the protection of instream values. Without OCPI or similar authority to set aside allocations of water for rural growth or the expansion of towns and cities, planning units throughout the state may have little incentive to update MIF regulations, including measures that would improve water quality and fish habitat. This was not the Legislature's intention when it created and funded the Watershed Planning Act.

More troubling is the prospect of a growing economic divide in the state of Washington between "have" and "have not" communities based on whether they have adequate senior water rights or need additional water supplies to meet the demands of planned growth. Many older cities gained substantial water capacity with the closing of industrial mills and implementation of conservation programs, but other cities and rural communities have not had the same opportunities and now face a tougher time finding new water supplies for growth. It is expensive and complicated for cities and other water utilities to obtain

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additional water rights through the application process, but this ability provides these communities with self-determination and self-governance of their water systems and the rates they charge their customers for water. To the extent these "have not" communities are forced by the failure of state water allocation policy to buy water from the "have" communities, they may have no control over the price of water. Their residents and commercial/industrial customers may also be forced to pay for massive infrastructure investments by other cities, whether or not those investments were wise or the use of groundwater would have fewer impacts to instream flows. They may also lose opportunities for new jobs and industries if they have insufficient water or if new customers must pay higher water system development charges caused by expensive wholesale water contracts.

Veto Authority

To the extent OCPI continues to be relied upon to approve applications for new mitigated groundwater rights, legal uncertainties remain and expensive appeals are a significant risk. Interested parties may legitimately comment on water right applications and appeal those they believe violate the Water Code (chapter 90.03 RCW) but they should not have a virtual veto authority. Public policy, not fiat, should govern the allocation of water between instream flows and other uses. Best available science and fair, predictable rules and standards should govern the process for deciding groundwater applications and judging mitigation plans, not threats of litigation and unpredictable regulatory standards.

Can the Legislature Come to the Rescue? Alternative Solutions

MIFs Modification

Footnote 13 of the Supreme Court's majority opinion in *Swinomish* acknowledges that MIFs can be modified, up or down, according to the same process as for establishing them in the first place. What is less clear is the allowable impact that such amendments can have on existing MIFs. The Court recognized the complexity of this issue and virtually invited the Legislature to address the problem:

> The overriding-considerations exception and Ecology's use of it to justify appropriations of water that otherwise could not be approved presents complex issues of water law and policy. We have considered the questions posed in the context of the many relevant provisions of the state water code. Insofar as this case implicates policy determinations about reallocating the water that is presently needed to satisfy minimum flow water rights to other uses…*the policy determinations are for the legislature*. If reallocation of instream flow necessary to meet minimum flow water rights is to be a part of state water policy, *it should come by way of legislative action*.

Swinomish, 178 Wn.2d at 601 (emphasis added).

Existing MIFs Protection

An interesting question raised in other recent cases is whether the Legislature can authorize changes to MIF regulations or expand the use of exceptions like OCPI in a manner that allows existing MIFs to be impaired or diminished. The Prior Appropriation Doctrine is the foundation of the Water Code and protects existing water rights from impairment by new water rights (first in time is first in right). Can the Legislature modify instream flow water rights or authorize Ecology to do so, unlike other water rights in the priority system that are owned by private entities or municipal corporations? Indian tribes and environmental groups have argued in multiple cases that instream flow rights are "vested rights" in the sense that they cannot be diminished once they are created without upsetting the priority system inherent in the Water Code. Contrary arguments have been made by state and municipal water systems that instream flow rights are not immutable and can be modified by subsequent legislation or rulemakings. These are not simple issues from either a policy or legal perspective, but the Legislature has taken on such issues before, with the blessing and approval of the Supreme Court.

"Vested Rights"

Municipal Water Law Challenges

When the Legislature adopted the Municipal Water Law in 2003, several Native American tribes and environmental organizations challenged the constitutionality of the law, among other reasons, because they perceived that it diminished existing MIF water rights. They also challenged the Municipal Water Law as a violation of separation of powers, alleging that the law altered the Supreme Court's decision in *Theodoratus v. Ecology*, 152 Wn.2d 582, 957 P.2d 1241 (1998) regarding the manner in which water rights are perfected. The Supreme Court unanimously upheld the Municipal Water Law from these constitutional challenges in *Lummi Indian Nation v. State of Washington*, 170 Wn.2d 247, 241 P.3d 1220 (2010), granting considerable deference to the Legislature's policy choices and clarifications of existing legal uncertainties. That decision provides a pathway to legislative clarification of the water allocation statutory scheme and the scope of Ecology's OCPI authority, so long as the Legislature does not attempt to change the result in *Swinomish*, which could violate the separation of powers doctrine.

***Lummi* Decision & Legislative Policy Options**

There are multiple alternatives for providing solutions to the unplanned state-wide closure of groundwater and failure to allocate sufficient waters for domestic, municipal, and other out-of-stream needs in individual basins. The following suggestions do not exclude other possible mechanisms or processes.

For basins without existing instream flow rules, Ecology has the authority to allocate or reserve water for future uses before adopting MIFs, using the maximum net benefits policy. The watershed planning process under chapter 90.82 RCW is one way to determine maximum net benefits through best available science, local planning, and consensus decision-making. OCPI findings are not required for these allocations if they are established prior to MIF water rights.

Washington Water Allocation

Allocation Decisions

Cummulative Impacts

For basins with existing MIF regulations, the Legislature needs to clarify Ecology's authority to modify MIFs or allow exceptions — through watershed planning, OCPI or otherwise — so that uninterruptible water can be made available for other purposes concurrently with efforts to improve conservation practices, habitat, and water quality. The state's maximum net benefits policy should be implemented in whichever manner the Legislature chooses to modify existing MIFs, such as the watershed planning process.

With regard to impacts on closed streams, there is a conflict between OCPI and the availability prong of the four-part test that the Legislature also needs to resolve. Legislation could clarify Ecology's authority to use OCPI for the purpose of reserving future uses or approving water right applications that have insignificant effects on closed streams that cannot practically be mitigated. Tribes and environmental groups will likely argue that permitting numerous minor impacts to closed streams or MIFs will result in significant impacts to streams already over-appropriated and violate state policy to protect and enhance base flows. However, best available science should be the tool for addressing individual and cumulative impacts on streamflow, implemented in rule-making or on a case-by-case basis for water right applications.

Alternatively, the Legislature could leave existing MIFs alone but clarify state water allocation policy in light of *Swinomish* and define criteria for permitting "exceptions" to established minimum flows, lake levels, and surface water closures. One possible mechanism is to define "vital public water uses" that can be approved despite minor unmitigated impacts to MIFs or streams closed by rule.

Conclusion

Failure to implement state policy, mistaken reliance on the availability of groundwater, and overuse of narrow statutory exceptions is no way to allocate valuable water resources between instream flow protection and other uses. The system is not working as intended by the Legislature and needs to be fixed. The significant benefits of legislative clarification are obvious. Scarce public financial resources and the efforts of community volunteers are better spent on planning processes that are not fodder for litigation, or lead to invalidation like the Skagit Basin amended rule in *Swinomish*. As more and more stakeholders realize that the current water allocation policies are broken, the debate over whether and how to fix these problems will be lively and lead to more articles on this topic.

For Additional Information:
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Thomas Por's law practice emphases water rights and land use, including project permitting and environmental review, water quantity and quality issues, water supply development and planning, regulatory compliance, and related litigation. He has extensive experience representing private and municipal clients in planning and advocacy roles before state and federal courts, agencies and commissions, hearing examiners, planning commissions, appeals boards, and city and county councils. Mr. Pors is a frequent speaker on water rights issues at local and regional seminars and conferences.

Author **Thomas Pors** will be presenting on
"**Potential Legislative Solutions**"
as part of the
"***Swinomish v. Ecology*: Different Perspectives and the Path Forward**" panel
at the upcoming
"**Water Law in Washington**" conference to be held **June 19 & 20** in **Seattle**.

WATER BRIEFS

INSTREAM FLOW CA
IRRIGATORS' AUGMENTATION

To keep sufficient flows in the mainstem Scott River, several members of Farmers Ditch Company are working with the California Department of Fish and Wildlife (CDFW) and collaborating on an agreement between the Farmers Ditch Company and the Scott River Water Trust (Water Trust). The agreement will return surface water rights back to the river to augment flows for the distribution of yearling coho salmon, a threatened species, and for emerging coho fry that migrate to the tributaries. Chinook salmon and steelhead trout will also benefit from the additional flows. The water transaction is part of an accumulative effort by landowners, agencies and resource organizations in the Scott Basin to ensure salmon survival in 2014.

Allowing for approximately 20 cubic feet per second of water to be added through critical reaches of the Scott River, the transaction provides improved rearing conditions, natural migration, and reduces the need to relocate fish that could become stranded in problematic areas of the river during the extreme drought. The transaction also allows for data to be collected by the Water Trust and CDFW that will assist Farmers Ditch Company with future management.

For info: Preston Harris, Scott River Water Trust, 530/ 643-2395 or preston@scottwatertrust.org

COOLING WATER INTAKES US
EPA STANDARDS FINALIZED

On May 19, EPA finalized standards to protect fish and other aquatic life drawn into cooling water systems at large power plants and factories. An estimated 2.1 billion fish, crabs, and shrimp are killed annually by being pinned against cooling water intake structures (impingement) or being drawn into cooling water systems and affected by heat, chemicals, or physical stress (entrainment).

The rule establishes requirements under the Clean Water Act (CWA) for all existing power generating facilities and existing manufacturing and industrial facilities that withdraw more than two million gallons/day of water from waters of the US and use at least 25% of the water they withdraw exclusively for cooling purposes. This rule covers roughly 1,065 existing facilities; 521 of these facilities are factories, and the other 544 are power plants. The technologies required under the rule are well-understood, have been in use for several decades, and are already in use at over 40% of facilities.

The national requirements, implemented through CWA National Pollutant Discharge Elimination System (NPDES) permits, are applicable to the location, design, construction, and capacity of cooling water intake structures at the facilities and are based on the best technology available for minimizing environmental impact. The rule establishes a strong baseline level of protection and then allows additional safeguards for aquatic life to be developed through site-specific analysis. It puts implementation analysis in the hands of the permit writers so requirements can be tailored to the particular facility.

There are three components to the final regulation. Existing facilities that withdraw at least 25% of their water from an adjacent waterbody exclusively for cooling purposes and have a design intake flow of greater than two million gallons/day are required to reduce fish impingement. To ensure flexibility, the owner or operator of the facility will be able to choose one of seven options for meeting best technology available requirements for reducing impingement. Facilities that withdraw very large amounts of water — at least 125 million gallons/day — are required to conduct studies to help the permitting authority determine what site-specific entrainment mortality controls, if any, will be required. This process will include public input. New units at an existing facility that are built to increase the generating capacity of the facility are required to reduce the intake flow to a level similar to a closed cycle, recirculation system. Closed cycle systems are the most effective at reducing entrainment. This can be done by incorporating a closed-cycle system into the design of the new unit, or by making other design changes equivalent to the reductions associated with closed-cycle cooling.

For info: http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/

ILLEGAL SEWAGE DUMP WA
PRISON TIME & FINE

On April 14, US Attorney Jenny Durkan (Western Dist. Washington) announced that a Longview septic tank pumping business and its owner were sentenced for multiple felony criminal CWA violations. Ray Caldwell and his company, All-Out Sewer and Drain Service, Inc. (All-Out), were found guilty in December 2013, following a bench trial before US District Judge Benjamin Settle. Caldwell was sentenced to 27 months in prison, three years of supervised release, and a fine of $250,000 for twenty-five counts of violating the CWA, six counts of mail fraud, and two counts of making false statements. The company shares in the $250,000 fine and will be on probation for three years.

Judge Settle will soon determine the amount of restitution owed by Caldwell and the company. At the sentencing hearing Judge Settle said, "You saw an opportunity to essentially deprive public entities of money they were entitled to receive…It's very important to communicate to the community that if you engage in fraud on local government, you will realize consequences."

According to records filed, the defendants' scheme to defraud the City of Longview, Cowlitz County, and the Three Rivers Regional Wastewater Authority went on for more than ten years. All-Out was engaged in the business of pumping, hauling, and disposing of septic tank waste, grease trap waste, and industrial wastewater. Federal, state, and local regulations require that all trucked and hauled wastes of the type handled by All-Out be discharged to approved treatment facilities. All-Out's practice was to transport the waste to its facility in Longview where it was minimally treated and stored in a 10,000 gallon storage tank. While some of the tank contents were appropriately trucked to treatment facilities, a majority of the commingled waste was routinely dumped down an unauthorized sewer port at the All-Out facility.

Based on video surveillance footage seized by law enforcement authorities, Caldwell and his business partner, Randy Dingus, undertook the illegal discharges in the early morning hours to avoid being detected by passersby or unsuspecting employees. When a records review conducted by the City of Longview in 2010 threatened to expose the scheme, the defendants began submitting false documents underreporting the true volume of trucked and hauled waste. This deception worked until August 2012

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when law enforcement surveillance activities prompted by citizen complaints revealed the early morning dumping.

In August, 2012, EPA executed a search warrant at the All-Out facility and seized video footage from the company's surveillance system. The footage depicted twenty-four separate illegal dumping incidents over a six-week period in July and August of 2012. EPA returned to the facility in the early morning of December 18, 2012 after receiving reports that the illegal dumping was still occurring. EPA agents arrested Caldwell after observing him using large flexible hoses to dump waste from the storage tank directly into the sewer port.

Caldwell was convicted of illegally dumping waste on each of the days captured on the video footage as well as the December 18, 2012 dumping event. Caldwell was also convicted of using the mail system to further his scheme of defrauding the public utilities. Finally, Caldwell was convicted for making false statements in a mandated user survey seeking information regarding All-Out's discharges to sewers, and for lying to EPA when confronted in August 2012.

Caldwell's business partner, Randy Dingus, 54, had previously pleaded guilty to violating the CWA for his participation in the illegal dumping scheme. He was sentenced in January 2014 to 30 days in prison, two months of home detention, one year of supervised release, 40 hours of community service, and a $15,000 fine.

The case was investigated by EPA with assistance from the Washington State Department of Ecology, Cowlitz County, the City of Longview, and the Three Rivers Regional Wastewater Authority.

For info: US Attorneys' Office at: www.justice.gov/usao/waw/press/2014/April/caldwell.html

HUMAN HEALTH US

WATER QUALITY CRITERIA

EPA has updated its national recommended water quality criteria for human health for 94 chemical pollutants to reflect the latest scientific information and EPA policies. EPA will accept written scientific views from the public on the draft updated human health criteria until July 14, 2014. Once finalized, EPA's federal water quality criteria provide benchmarks to states and tribes authorized to establish water quality criteria and standards of equal or greater stringency under the CWA.

For info: http://water.epa.gov/scitech/swguidance/standards/criteria/health/

CLIMATE REPORT US

NATIONAL CLIMATE ASSESSMENT

On May 6, the National Climate Assessment was released. The Assessment documents the changes already observed and those projected for the future. A team of more than 300 experts guided by a 60-member Federal Advisory Committee produced the report, which was extensively reviewed by the public and experts, including federal agencies and a panel of the National Academy of Sciences. The following information provides a few notable points from the report.

Average US precipitation has increased since 1900, but there are regional differences, with some areas having larger increases, and others, decreases. More winter and spring precipitation is projected for the northern US, and less for the Southwest. The contrast between wet and dry areas will increase both in the US and globally — in other words, the wet areas will get wetter and the dry areas will get drier.

The length of the frost-free season (and the corresponding growing season) has been increasing nationally since the 1980s, with the largest increases occurring in the western US, affecting ecosystems and agriculture. Across the US, the growing season is projected to continue to lengthen. During 1991-2011, the average frost-free season was about 10 days longer than during 1901-1960. The lengthening of the frost-free season has been somewhat greater in the western US than the eastern US, increasing by two to three weeks in the Northwest and Southwest, one to two weeks in the Midwest, Great Plains, and Northeast, and slightly less than one week in the Southeast. These differences mirror the overall trend of more warming in the north and west and less warming in the Southeast. In the Northwest the expected increase is 16 days, with the Southwest expected to have 19 more frost-free days. The largest increases in the frost-free season (more than 8 weeks) are projected for the western US, particularly in high elevation and coastal areas.

For info: Assessment at: http://nca2014.globalchange.gov/

GROUNDWATER USE WA

LAND USE DECISIONS

Washington State Department of Ecology Director Maia Bellon has signed the Kittitas County Settlement Agreement, dated May 15, which establishes conditions on new uses of groundwater in Lower Kittitas County. The agreement helps ensure water resources are protected in the Yakima Basin when new land use decisions are made in Kittitas County. It is protective of senior water rights and stream flows while providing options for new development. The agreement was negotiated in response to the state Supreme Court's decision in 2011 upholding a finding of the Eastern Washington Growth Management Hearings Board that Kittitas County's Comprehensive Plan was inadequate to protect the quantity and quality of water in rural areas of the county. *Kittitas Cnty. v. E. Wash. Growth Mgmt. Hearings Bd*., 172 Wash. 2d 144, 256 P.3d 1193 (2011). *See GMA Compliance on Water/Land Uses – 2014* for more information on the phases of the settlement agreement and the mitigation requirements for new water use (www.co.kittitas.wa.us/cds/comp-plan/2013/default.aspx).

For info: Settlement Agreement at: www.ecy.wa.gov/programs/wr/cro/yakimabasin.html

CRITICAL HABITAT RULES US

PROPOSED RULES & POLICY

On May 9, the US Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (together, the Services) — the two federal agencies responsible for administering the Endangered Species Act (ESA) — proposed two rules and a policy to improve the process of designating areas of "critical habitat" and consulting on the effects of federal actions on critical habitat. These proposals are designed to increase the predictability and transparency of the Services' actions related to critical habitat under the ESA.

The first proposed rule revises the definition of "adverse modification." The current regulatory definition has been invalidated by the courts, and the Services are now proposing to replace the invalidated definition with one that is consistent with ESA legislative history and circuit court opinions.

The second proposed rule clarifies the procedures and standards used for

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designating critical habitat, making minor changes to the regulations to: better describe the scope and purpose of critical habitat; add and remove some definitions; and clarify the criteria for designating critical habitat. This proposed rule would also revise the Services' regulations to be consistent with statutory amendments made in 2004 that make certain lands managed by the Department of Defense ineligible for designation as critical habitat.

The third proposal is a policy to provide greater predictability, transparency, and consistency regarding how the Services consider exclusions from critical habitat designations. Under the ESA, the Services evaluate the economic, national security and other impacts of an ESA-listing and may exclude particular areas if the benefits of doing so are greater than the benefits of designation. This proposal describes the general policy position of the Services for considering different types of impacts (e.g., impacts to voluntary conservation agreements, impacts to national security, economic impacts) and is intended to provide greater predictability and transparency to the process of considering exclusions within a critical habitat designation.
For info: www.fws.gov/endangered/improving_esa/reg_reform.html

WaterSMART FUNDING CA
RECLAIM & REUSE PROJECTS

Secretary of the Interior Sally Jewell announced May 15 that the US Bureau of Reclamation (Reclamation) will invest $20 million in nine water reclamation and reuse projects in California. Reclamation's WaterSMART Program provided the funding for the projects under Title XVI of the Reclamation Wastewater and Groundwater Study and Facilities Act. Through that program, Reclamation provides funding for projects that reclaim and reuse municipal, industrial, domestic or agricultural wastewater and naturally impaired ground or surface waters. The California projects will receive cost-shared funding for planning, design and construction of their projects (details on website listed below).

Reclamation Acting Commissioner Lowell Pimley said, "Through comprehensive Title XVI efforts, we helped conserve nearly 390,000 acre feet of water in 2013 — enough to supply 1.5 million people with water for an entire year." Since its establishment in 2010, WaterSMART has provided more than $180 million in competitively awarded funding to non-federal partners, including tribes, water districts, municipalities, and universities through WaterSMART Grants and the Title XVI Program. *See* Briefs, *TWRs* #73, #75, #90, #98 & #111, Morgan, *TWR* #92, and *WaterSMART Update, TWR* #105.

Proposals were ranked through a set of criteria in which points were awarded for projects that: effectively stretch water supplies and contribute to water supply sustainability; address water quality concerns or benefit endangered species; incorporate the use of renewable energy or address energy efficiency; deliver water at a reasonable cost relative to other water supply options, and meet other program goals.

The Watsonville Area Water Recycling Program, for example, will receive $3.9 million to reduce over-drafting of groundwater resources and subsequent seawater intrusion. The program recycles 4,000 **a**cre-**f**eet per **y**ea**r** (AF/YR) of effluent from the city's wastewater treatment plant that is blended with higher quality water to reduce salinity. The recycled water is then transported to agricultural users for irrigation purposes in the Pajaro Valley.

The Victor Valley Subregional Water Reclamation Authority will receive $3 million to assist construction of two sub-regional water reclamation plants to produce high quality effluent that will be used to recharge the groundwater basin and serve recycled water to customers in Hesperia and Apple Valley. The two plants will provide 4,480 AF/YR of recycled water with a build-out capacity of 17,920 AF/YR. This recycled water will replace groundwater and water imported through the State Water Project from the Sacramento-San Joaquin River Delta.
For info: www.usbr.gov/WaterSMART/title/

CLIMATE CHANGE VIEWER US
WEBSITE TOOL

On May 8, Secretary of the Interior Sally Jewell unveiled the National Climate Change Viewer (Viewer), a climate-visualization website tool from the Interior Department's US Geological Survey (USGS). The new tool gives citizens and resource managers the opportunity to look at climate-driven impacts on watersheds and map projected changes at the local, regional, state and watershed levels. The announcement follows on the heels of the release of the Third National Climate Assessment (*see* related Brief above). USGS developed the Viewer in collaboration with the College of Earth, Oceanic and Atmospheric Sciences at Oregon State University.

The Viewer finds that across the United States to the year 2100, consistent with other research and observations, projected warming will continue to cause a loss of snowpack, particularly in the Northeast and mountainous West. As a result, in many locations the seasonal timing of peak runoff will occur earlier in the spring. Summer runoff will be reduced, even though the total amount of annual runoff will remain similar to current levels.

The Viewer has been expanded to provide information on associated projected changes in snowpack, soil moisture, runoff and evaporative deficit for US states and counties and for USGS Hydrologic Units or watersheds as simulated by a simple water-balance model. The model provides a way to simulate the response of the water balance to changes in temperature and precipitation in the climate models.
For info: Catherine Puckett, USGS, 352/ 278-0165; Viewer at: www.usgs.gov/climate_landuse/clu_rd/nccv.asp

FRACKING DISCLOSURE US
EPA RULEMAKING

On May 9, EPA announced that it will seek public comment on what information could be reported and disclosed for hydraulic fracturing chemicals and mixtures and the approaches for obtaining this information, including non-regulatory approaches. EPA is also soliciting input on incentives and recognition programs that could support the development and use of safer chemicals in hydraulic fracturing.

EPA's Advance Notice of Proposed Rulemaking (ANPR) includes a list of questions for stakeholders and the public to consider as they develop their comments. Following the 90-day comment period, EPA will evaluate the submitted comments as it considers appropriate next steps. ANPRs are intended to engage the public and solicit comments and/or information from the public for EPA's consideration in

addressing a particular issue, including information that EPA could consider in developing non-regulatory approaches or a proposed rule.
For info: Cathy Milbourn, EPA, 202-564-7849 or milbourn.cathy@epa.gov; EPA's ANPR: www.epa.gov/oppt/chemtest/pubs/prepub_hf_anpr_14t-0069_2014-05-09.pdf

LOS ANGELES RIVERS CA

STORMWATER RUNOFF CASE

On May 5, the US Supreme Court (Supreme Court) in *Los Angeles County Flood Control District v. NRDC* declined to review a Ninth Circuit Court of Appeals ruling that found Los Angeles County (County) liable for untreated stormwater runoff, which discharges to the Pacific Ocean through the Los Angeles and San Gabriel rivers. The decision stems from a lawsuit initiated by the Natural Resources Defense Council (NRDC) and Los Angeles Waterkeeper in 2008. The Supreme Court previously remanded the case to the Ninth Circuit Court, which sided with NRDC and Waterkeeper last August; the County petitioned the Supreme Court for review in January 2014. *See* Rich, *TWR* #120.

Denying review of the case allows the lower court ruling to remain in place and holds Los Angeles County liable for water pollution, with documented and persistent violations of its Clean Water Act permit in the Los Angeles and San Gabriel Rivers since 2003. This final resolution of liability now obligates Los Angeles County to take immediate action to clean up its stormwater runoff.
For info: Jackie Wei, NRDC, 310/434-2325 or jwei@nrdc.org; Case history available at: http://www.nrdc.org/media/2014/140505.asp

LA RIVER RESTORATION CA

CORPS GUIDANCE

The US Army Corps of Engineers (Corps) received guidance from Assistant Secretary of the Army for Civil Works Jo-Ellen Darcy on May 27 regarding further development of the Los Angeles River Ecosystem Restoration Study and future documentation (*see* related Brief above). Based on information presented by the Corps, as well as consideration of the correlation of the project with key administration initiatives (including the Climate Action Plan, America's Great Outdoors initiative, and the Urban Waters Federal Partnership), Darcy concluded, "there is substantial federal interest in the LPP (Locally Preferred Plan)" known as Alternative 20 and requested by the Mayor of Los Angeles Eric Garcetti. Darcy also directed the Corps to consider recommending the federal government cost share the project equally with the local cost share sponsor, the City of Los Angeles.

Alternative 20 would include a restoration plan costing around a billion dollars that the Corps had previously rejected. The plan addresses restoring approximately 11 miles of the Los Angeles River and would include: restoring natural channel; creating wetlands; and adding bike paths and connections to other public green spaces.
For info: Jay Field, Corps, 213/ 452-3920, thomas.j.field@usace.army.mil or www.spl.usace.army.mil/Media/NewsReleases.aspx

GROUNDWATER CA

CALIFORNIA RECOMMENDATIONS

On May 5, the California Water Foundation (CWF), a nonpartisan and independent organization dedicated to addressing the state's water needs, released a report of findings and recommendations to achieve sustainable groundwater management in California. The report is based on an ongoing stakeholder dialogue that was launched earlier this year by CWF at the request of the California Governor's Office. CWF brought diverse groups impacted by the state's groundwater issues together to discuss potential solutions, including: water agencies; farmers; local elected officials; agricultural associations; environmental justice representatives; and conservation groups.

California groundwater provides 40% of California's water supply during an average year and up to 60% during drought years. Groundwater withdrawals have led to significant depletion of California groundwater supplies (overdraft), creating critical problems across the state, including: less groundwater being available to help address drought; land subsidence; degraded water quality; reduced streamflow; and harm to fish and wildlife.

CWF's report states that California's groundwater challenges have reached crisis level and action cannot be put off any longer. Agreement must be reached and solutions set in motion.

CWF developed a framework to improve groundwater management to be considered by the administration and state legislature including: 1) establishing statewide goals and a definition for sustainable groundwater management; 2) empowering local groundwater management entities to provide locally developed solutions for sustainable groundwater management in their areas, and provide them with the tools to succeed; and 3) authorizing the state to provide technical support, funding, oversight, and where necessary, enforcement to ensure the sustainable groundwater management goals are achieved.
For info: Marycon Razo, CWF, 916/442-5057, mrazo@resourceslegacyfund.org or www.californiawaterfoundation.org/

PESTICIDE USE US

USDA NOTES USE REDUCTIONS

The US Department of Agriculture in May released an 86-page report entitled "*Pesticide Use in U.S. Agriculture: 21 Selected Crops, 1960-2008.*" The Abstract of the report notes: "Pesticide use has changed considerably over the past five decades. Rapid growth characterized the first 20 years, ending in 1981. The total quantity of pesticides applied to the 21 crops analyzed grew from 196 million pounds of pesticide active ingredients in 1960 to 632 million pounds in 1981. Improvements in the types and modes of action of active ingredients applied along with small annual fluctuations resulted in a slight downward trend in pesticide use to 516 million pounds in 2008. These changes were driven by economic factors that determined crop and input prices and were influenced by pest pressures, environmental and weather conditions, crop acreages, agricultural practices (including adoption of genetically engineered crops), access to land-grant extension personnel and crop consultants, the cost-effectiveness of pesticides and other practices in protecting crop yields and quality, technological innovations in pest management systems/practices, and environmental and health regulations."
For info: Report at: www.ers.usda.gov/publications/eib-economic-information-bulletin/eib124.aspx

WATER BRIEFS

WATER HARVESTING AZ
TOOLBOX RELEASED

The Desert Water Harvesting Initiative (DWHI), a program of the Water Resources Research Center at the University of Arizona, released its new Water Harvesting Assessment Toolbox on May 6. This decision-support guide aims to help communities in the arid and semi-arid Southwest evaluate water harvesting as a strategy for meeting water resource challenges and providing multiple additional benefits, such as mitigating urban heat island effects, reducing energy costs and meeting stormwater quality regulations.
For info: seden@cals.arizona.edu; Toolbox & additional water harvesting resources available at: wrrc.arizona.edu/DWHI

FRESHWATER SUPPLY US
GAO REPORT

A review released May 20 by the US Government Accountability Office (GAO) notes that the key issues related to freshwater availability and use — such as: concerns about population growth straining water supplies; lack of information on water availability and use; and trends in types of water use — remain largely unchanged since 2003. Certain issues — such as the impacts of climate change and extreme weather events (including droughts and floods) on water resources and the effect of the energy sector on water quantity and quality — have gained prominence.

Freshwater shortages are expected to continue into the future according to state water managers, experts, and literature that GAO reviewed. In particular, 40 of 50 state water managers expected shortages in some portion of their states under average conditions in the next 10 years. Uncertainty stemming from factors, such as patterns of economic growth and land use change, is likely to complicate future state water managers' planning efforts.

GAO's review found that over the last decade states have taken a number of steps to improve management of freshwater availability and use. These include: conducting freshwater resource studies and assessments; developing drought preparedness plans; developing water management tools; taking conservation actions; and taking steps to address climate change impacts on water resources.

Since 2003, federal agencies have taken various actions to support freshwater management. For example, USGS initiated the National Water Census to assess water availability and use across the nation. Also, numerous agencies participate in the National Drought Resilience Partnership, created in 2013. In addition, state water managers, experts, and literature GAO reviewed identified actions the federal government could take to support state water management efforts, including increased collaboration among federal agencies and with states and other stakeholders, and maintaining and collecting key data.
For info: Anne-Marie Fennell, GAO, 202/ 512-3841 or fennella@gao.gov; Report at: www.gao.gov/products/GAO-14-430

PCB CONTAMINATION NV
RECORD CIVIL PENALTY

On May 14, EPA announced that Titanium Metals Corporation (TIMET), one of the world's largest producers of titanium parts for jet engines, has agreed to pay a record $13.75 million civil penalty and perform an extensive investigation and cleanup of potential contamination stemming primarily from the unauthorized manufacture and disposal of PCBs (**p**oly**c**hlorinated **b**iphenyls) at its manufacturing facility in Henderson, Nevada. The penalty is the largest ever imposed for violations of the federal Toxic Substances Control Act (TSCA) at a single facility. TIMET will pay an additional $250,000 for violations related to illegal disposal of hazardous process wastewater, in violation of the federal Resource Conservation and Recovery Act (RCRA).

In addition to the penalty and performing investigation and cleanup, the settlement requires TIMET to electronically submit monitoring data biannually to EPA for three years showing it is appropriately managing PCBs. TIMET has also agreed to allow the Nevada Division of Environmental Protection (NDEP) to make public TIMET's EPA-approved work plans and completed work reports through a dedicated website. TIMET has already spent approximately $6 million on investigation, site cleanup, and compliance measures. This work has included: extensive sampling; draining and relining of a surface impoundment; analyzing the extent of PCB contamination in its solid waste landfill; removing PCB waste from that landfill; and decontaminating processing equipment. TIMET estimates that it will spend at least another million dollars to complete the settlement.

In EPA's complaint alleged that EPA inspections conducted in 2005, 2006, and 2008 revealed that TIMET had been unlawfully manufacturing PCBs as a by-product of its titanium manufacturing process, without an exclusion from TSCA's ban. The 2008 EPA inspection also revealed that the company had disposed of PCB-contaminated waste in a solid waste landfill and a trench at the plant. The complaint further alleges that, on several occasions during 2005 and 2007, the company had unlawfully disposed of acidic, corrosive hazardous process wastewater into an unpermitted surface impoundment at the facility, in violation of RCRA.

TIMET was purchased by Precision Castparts Corporation in 2012. The consent decree, lodged in the US District Court for the District of Nevada, is subject to a 30-day public comment period and approval by the federal court.
For info: Settlement info and Consent Decree at: www2.epa.gov/enforcement/timet-settlement

FORESTRY GROUNDWATER US
FOREST SERVICE MANUAL

The US Forest Service is adding a new groundwater chapter to its Water Resources Management Manual. Chapter 2560 is a new chapter setting forth direction on managing groundwater resources associated with National Forest System lands and clarifies roles, responsibilities, and procedures for addressing groundwater resource management. The proposed directive was issued on May 6, 2014.
For info: Joe Gurrieri, USFS, 303/ 275-5101, jgurrieri@fs.fed.us or www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3798964.pdf; Directive at: http://fs.federalregisterwatch.com/a/2014/5/2014-10366/FS-proposed-directive-groundwater-resource-management-forest-service-manual-2560

CALENDAR

June 16-18 CA
3rd International Salinity Forum, Riverside. For info: https://wrrc.arizona.edu/sites/wrrc.arizona.edu/files/Salinity%20Forum%20Announcement_1_0.pdf

June 17 WEB
Hydrophilanthropy: The Road to Help (Is Paved With Good Intentions) - Webinar, WEB. Presented by AWRA. For info: https://www2.gotomeeting.com/register/754056394

June 18-20 CO
Colorado Water Workshop, Gunnison. Western State University. For info: www.western.edu/water

June 18-20 CA
Bay Delta Tour, Sacramento. Presented by Water Education Foundation. For info: www.watereducation.org/toursdoc.asp?id=2979

June 18-20 MA
Water Systems, Science & Society Under Global Change: UCOWR/NIWR/CUAHSI 2014 Conference, Medford. Tufts University. Presented by Universities Council on Water Resources. For info: http://ucowr.org/conferences/ucowr-niwr-annual-conference-registration

June 19-20 WA
Washington Water Law Seminar, Seattle. Red Lion Hotel, 1415 Fifth Ave. For info: Law Seminars Int'l, 800/ 854-8009, registrar@lawseminars.com or www.lawseminars.com

June 20 AZ
Water Reuse Conference: Reclaimed Water as a Resource for an Arid Future, Prescott. Yavapei College. For info: www.nau.edu/WREP/

June 23-25 OH
Principles of Groundwater: Flow, Transport & Remediation Course, Westerville. Presented by National Ground Water Ass'n. For info: www.ngwa.org/Events-Education/shortcourses/Pages/131jun14.aspx

June 25 WA
Stormwater Law & Regulation Seminar, Seattle. City University of Seattle, 521 Wall Street. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

June 25 WA
Fish, Water and Health Water Quality Stds. In Washington Workshop & Celebrate Water Fundraiser, Seattle. Ivar's Salmon House, CLE at 4-5pm; Fundraiser 5:30-7:30pm. Presented by Center for Environmental Law & Policy. For info: www.celp.org/events/celebrate-water/

June 26 CA
3rd Annual Stormwater Workshop, Los Angeles. Metropolitan Water District of Southern California. Presented by Southern California Water Committee. For info: www.socalwater.org/events-and-calendar/event-registration

June 26 TX
Dam Safety Workshop, Granbury. Granbury Resort Conference Ctr. Presented by TCEQ. For info: www.tceq.texas.gov/p2/events/dam-safety.html

June 28 OR
Collaborative Forestry Field Trip, Tigard. Suislaw National Forest. Presented by the Sustainable Future Section, Oregon BAR. For info: http://osbsustainablefutures.files.wordpress.com/2010/04/2014-1q.pdf

June 30-July 2 NV
2014 Summer Speciality Conference: Integrated Water Resources Management: From Theory to Application, Reno. Nugget Casino Resort. Presented by American Water Resources Ass'n. For info: www.awra.org

July 13-16 OR
National Ass'n of Clean Water Agencies Summer Conference, Portland. The Nines. For info: www.nacwa.org/index.php?option=com_content&view=article&id=7&Itemid=4

July 15 WEB
Citizen Science - Webinar, WEB. Presented by AWRA. For info: https://www2.gotomeeting.com/register/780653874

July 16-18 MT
Western States Water Council's 175th (Summer) Council Meeting, Helena. Holiday Inn Conference Ctr. Downtown. For info: www.westernstateswater.org/upcoming-meetings/

July 15-18 South Africa
International Ass'n for Sediment Water Science Conference, Grahamstown. Rhodes University. For info: www.iasws2014.co.za/

July 17 TX
Dam Safety Workshop, Conroe. Lone Star Convention Ctr. Presented by TCEQ. For info: www.tceq.texas.gov/p2/events/dam-safety.html

July 17-19 CO
Rocky Mt. Mineral Law Foundation 60th Annual Institute, Vail. For info: www.rmmlf.org

July 18 HI
Hawaii's Shoreline & Coastal Law & Regulation Seminar, Honolulu. YMCA. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

July 18 CO
Identification of Riparian & Wetland Plants of Colorado's West Slope Workshop, Grand Junction. Presented by Tamarisk Coalition. For info: http://tamariskcoalition.wildapricot.org/

July 22-25 TN
The Environmental Bootcamp, Nashville. For info: www.epaalliance.com/publictraining.html#

July 23 NM
Hydrology and the Law Seminar, Santa Fe. La Fonda Hotel. For info: Law Seminars Int'l, 800/ 854-8009, registrar@lawseminars.com or www.lawseminars.com

July 23-25 OR
Oregon Ass'n of Clean Water Agencies (ACWA) Annual Conference, Bend. Mount Bachelor Village Resort. For info: ACWA, 503/ 236-6722, gillaspie@oracwa.org or www.oracwa.org

July 24-25 NM
Natural Resource Damages Seminar, Santa Fe. La Fonda Hotel. For info: Law Seminars Int'l, 800/ 854-8009, registrar@lawseminars.com or www.lawseminars.com

July 27-August 1 TX
16th Annual EPA Region 6 Stormwater Conference, Fort Worth. Renaissance Worthington Hotel. For info: Nelly Smith, 214/ 665-7109, smith.nelly@epa.gov or http://epa.gov/region6/water/npdes/sw/ms4/2014conference/index.html

July 28-29 ID
Water Law in Idaho Seminar, Coeur d'Alene. Coeur d'Alene Golf & Spa Resort. For info: Law Seminars Int'l, 800/ 854-8009, registrar@lawseminars.com or www.lawseminars.com

The Water Report
Water Rights, Water Quality & Water Solutions in the West
260 N. Polk Street • Eugene, OR 97402

CALENDAR

(continued from previous page)

July 31-August 1 CA
14th Biannual Symposium on Managed Aquifer Recharge, Orange. DoubleTree Hotel. Presented by Groundwater Resources Ass'n of California & Arizona Hydrological Society. For info: www.grac.org/BSMAR14.asp

August 3-7 OR
StormCon: North American Surface Water Quality Conference & Exposition, Portland. Oregon Convention Center. For info: www.stormcon.com

August 7-8 CA
Tribal Natural Resources Law Conference, San Diego. The Westin. For info: CLE Int'l, 800/ 873-7130 or www.cle.com

August 8 WA
Liability in Hydraulic Fracturing Seminar, Seattle. City University of Seattle, 521 Wall Street. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net

August 12 CA
Hydraulic Fracking in California Seminar, Los Angeles. TENTATIVE. For info: Law Seminars Int'l, 800/ 854-8009, registrar@lawseminars.com or www.lawseminars.com

August 14-15 AZ
Arizona Water Law Conference, Phoenix. Arizona Biltmore. For info: CLE Int'l, 800/ 873-7130 or www.cle.com

August 15 CA
Habitat Conservation Planning Course, Sacramento. Sutter Square Galleria, 2901 K Street. For info: UC Davis Extension, http://extension.ucdavis.edu/

August 19-20 CA
2014 California Adaptation Forum!, Sacramento. Sheraton Grand Sacramento Hotel. Presented by Local Government Commission & State of California. For info: www.californiaadaptationforum.org/

August 19-22 CO
The Environmental Bootcamp, Colorado Springs. For info: www.epaalliance.com/publictraining.html#

August 20-22 CO
Colorado Water Congress Summer Conference, Snowmass. Westin Resort. For info: www.cowatercongress.org/cwc_events/Summer_Conference.aspx

August 25-26 Canada
Grey to Green: A Conference on the Economics of Green Infrastructure, Focusing on Health, Toronto. For info: wwww.greytogreenconference.org

August 26-28 TX
Texas Groundwater Summit, San Marcos. Embassy Suites & Conference Ctr. Presented by Texas Alliance of Groundwater Districts. For info: www.regonline.com/builder/site/Default.aspx?EventID=1453503