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Wading Into the Water Market: The First Five Years of the Oregon Water Trust

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Wading Into the Water Market: The First Five Years of the Oregon Water Trust

In the summer of 1993, an unlikely foursome gathered to charter a corporation: the president of a large land management company who was also a member of the Oregon Cattleman's Association; the director of Oregon Trout, Oregon's leading wild fish environmental group; the manager of one of the state's largest irrigation districts; and an attorney who had been a long-time activist for in-stream flows.¹ The four individuals formed a non-profit corporation called the Oregon Water Trust (Trust). The idea was to apply the experience of private land trusts in the water arena and to test "market environmentalism." The Trust

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Although the facts herein are based upon the authors' direct experience with the Water Trust, any opinions expressed in the Article are those of the authors alone. Further questions about this Article should be directed to the authors.

¹ William Smith is president of William Smith Properties, Inc., a firm that owns and/or manages 500,000 acres of rural agricultural, timber and recreational properties in central Oregon, including large livestock operations. Geoff Pampush is the executive director of Oregon Trout. He came to the post after several years of experience with the Trust for Public Lands. Oregon Trout's mission is "to protect and restore native wild fish and their ecosystems." *The Riverkeeper*, OREGON TROUT (Oregon Trout, Portland, OR), Summer 1999, at 2. Ronald Nelson is the manager of the Central Oregon Irrigation District, which serves 3,752 irrigators and 44,784 acres of land, making it one of the largest irrigation districts in the state. Robert Hunter, an attorney in southern Oregon, had been active in helping to draft the Oregon instream water rights law adopted in 1987. He was also the president of the board of directors of WaterWatch in 1993, an environmental organization "committed to full enforcement of Oregon's water laws and to reform of those laws to protect instream uses." A PROPOSAL TO THE NORTHWEST AREA FOUNDATION FOR THE TRUST FOR PUBLIC WATER (on file with the Oregon Water Trust).

intended to purchase consumptive water rights and convert them to instream water rights under Oregon law for enhancement of fish habitat and other instream uses. The Trust founders recruited four more Board members, two academics and two tribal representatives,² and waded into the water market.

Just over five years later, by the end of the 1999 irrigation season, the Oregon Water Trust held a portfolio of fifty-one water rights transactions on thirty-two streams in eight basins around the state, providing enhanced streamflows on more than 300 river miles.³ Eleven of these transactions represented permanent acquisitions, and the remainder were leases of varying duration.⁴ In some streams, the Trust's transactions have probably meant the difference between a dry stream and flowing water during the dry months of the year.⁵

The first five years of the Oregon Water Trust's operations have been a learning experience. In this Article, the Trust's authors (its President and Associate Director of Communications and Development) describe their experience for the benefit of policy-makers, water lawyers, and other organizations who may want to test the waters of water marketing for in-stream purposes. Part I describes the Oregon in-stream water rights law that provides the legal context for the Oregon Water Trust's formation and work. Part II summarizes the Trust's activities during its first five years. Part III discusses key challenges and remaining barriers to successful use of the market to restore in-stream flows. Finally, Part IV concludes with recommendations to start-up organizations like the Trust and to policy-makers, lawyers,

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³ *1999 Instream Water Rights Acquired by the Oregon Water Trust*, FISH FLOW NEWS (Oregon Water Trust, Portland, OR), Fall 1999, at 4-6.

⁴ *Id.*

⁵ See WASHINGTON WATER TRUST, OPPORTUNITIES AND OBSTACLES, ACQUIRING AND PROTECTING INSTREAM WATER RIGHTS IN WASHINGTON 65-66 (April 1999). The streams are Buck Hollow Creek and Squaw Creek, both in central Oregon, and South Fork Little Butte Creek in southwestern Oregon.

and water managers interested in improving Western water markets.

I

OREGON'S IN-STREAM WATER RIGHTS LAW

A. *The History of In-stream Flow Protection in Oregon*

Oregon lawmakers realized early in this century that water was sometimes more valuable left instream than removed for consumptive uses. In the early 1900s, the state legislature adopted a statute that withdrew from appropriation thirty-one streams “forming waterfalls or cascades in view of, or near, the Columbia River Highway” in the scenic Columbia River Gorge.⁶ Additional protections were put into place in the 1950s in the form of minimum streamflow statutes.⁷ The minimum streamflow requirements were passed in response to a 1953 report commissioned by the legislature describing problems of overappropriation on many of Oregon’s streams.⁸ The statutes required the state Water Resources Board to identify flows needed to protect fish and wildlife resources. Those flows were then supposed to be protected from appropriation and depletion.⁹

The minimum streamflow statutes did not solve the problem of insufficient flows, even in streams that were not yet overappropriated when the law was adopted.¹⁰ In 1987, the legislature tried a new and more ambitious approach. In that year the Oregon instream water rights law was adopted to help protect, conserve, and restore streamflows in Oregon streams and rivers.¹¹

B. *The Current Statutory Scheme of Instream Water Rights*

The in-stream water rights statute declares that “public uses are beneficial uses,” and creates a water right for public in-stream uses that “shall have the same legal status as any other

⁶ OR. REV. STAT. § 538.200 (1997).

⁷ 1955 Or. Laws 707.

⁸ Scott B. Yates, *A Case for the Extension of the Public Trust Doctrine in Oregon*, 27 ENVTL. L. 663, 663-64 (1997); see Joseph Q. Kaufman, *An Analysis of Developing Instream Water Rights in Oregon*, 28 WILLAMETTE L. REV. 285 (1992).

⁹ 1995 Or. Laws 707, §§ 10(3)(g), 16(1).

¹⁰ Kaufman, *supra* note 8, at 304-05.

¹¹ Kaufman, *supra* note 8, at 286.

water right.”¹² An in-stream water right is defined as “a water right held in trust by the Water Resources Department for the benefit of the people of the State of Oregon to maintain water in-stream for public use [without the need for a] diversion or any other means of physical control over the water.”¹³

The statute provides three ways for in-stream water rights to be established. First, all minimum perennial streamflows already established under the 1955 statutory scheme would be converted to in-stream water rights under the 1987 law.¹⁴ Additionally, three state agencies (the Departments of Fish and Wildlife, of Environmental Quality, and of Parks and Recreation) were given authority, respectively, to request establishment of new in-stream water rights to protect fish and wildlife habitat, water quality, and scenic and recreational uses.¹⁵ Finally, the statute provided that “any person” could “purchase or lease . . . or accept a gift of an existing water right or portion thereof for conversion to an in-stream water right.”¹⁶

The provision for transfer and conversion of private rights to in-stream rights was a critical piece of the new law, because it offered the only route for an in-stream water right to obtain a valuable senior priority date. The rights requested by the three state agencies all have post-1987 priority dates, and the rights created by conversion of minimum perennial streamflows all have post-1955 priority dates. Since many streams were already overappropriated before the minimum streamflow statutes were adopted, neither of those categories of in-stream rights were certain to be satisfied in dry months or years.

The explicit authority to convert existing private rights with early priority dates into in-stream rights by voluntary private transactions of sale, lease, or donation opened the door for an entity like the Oregon Water Trust. Voluntary market transactions between senior water rights holders as willing sellers (or

¹² OR. REV. STAT. §§ 537.334(1), 537.350(1) (1997). In fact, the status of in-stream rights under the 1987 statute may not be quite the same as any other water right. For instance, Oregon Revised Statutes (ORS) § 537.352 provides that in-stream rights applied for by state agencies can be subordinated to storage, municipal or hydroelectric rights. Additionally, ORS § 537.354 makes in-stream rights subject to emergency drought curtailment.

¹³ OR. REV. STAT. § 537.332(3).

¹⁴ OR. REV. STAT. § 537.346 (1).

¹⁵ OR. REV. STAT. § 537.336.

¹⁶ OR. REV. STAT. § 537.348(1).

lessors or donors) and a private, non-profit trust as a willing buyer (or lessee or donee) could help put water back into the streams. Perhaps the market could succeed where regulation so far had failed.¹⁷

II

THE OREGON WATER TRUST'S FIRST FIVE YEARS

A. *The Vision Behind the Oregon Water Trust*

The vision behind the formation of the Oregon Water Trust was to take the tools of the land trust movement, employed so successfully by the Trust for Public Lands and the Nature Conservancy, and apply the same approach to the acquisition of water.¹⁸ The land trust's approach to protecting special parcels of land with sensitive resources or environmental values is not to regulate such protection through regulation or litigation but simply to buy the land, or a partial interest in it, and thus preserve it directly.¹⁹ Many groups argue vociferously for protection of in-stream flows in the regulatory and judicial settings, relying on such authorities as the public trust doctrine,²⁰ the Endangered

¹⁷ For a general discussion of various in-stream flow protection devices tried by states, see DAVID M. GILLILAN & THOMAS C. BROWN, *INSTREAM FLOW PROTECTION: SEEKING A BALANCE IN WESTERN WATER USE* (1997).

¹⁸ In 1991, Bill Kloos, an attorney in private practice who had been involved in drafting the 1987 in-stream water rights law, observed that:

There may be a niche for a private water trust—an organization set up like . . . [The Nature Conservancy], but limited to transfer of water rights for the purpose of streamflow restoration. The idea would be to specialize in water rights and provide a vehicle to promote transfers or loans under the new Oregon Statute

Letter from Bill Kloos, Johnson and Kloos, to Tom Simmons, WaterWatch of Oregon, Inc. (October 24, 1991) (on file with the Oregon Water Trust).

¹⁹ See generally LAND TRUST ALLIANCE, *STARTING A LAND TRUST: A GUIDE TO FORMING A LAND CONSERVATION ORGANIZATION* (1990); THE NATURE CONSERVANCY, *IMPLEMENTING CONSERVATION BY DESIGN: OUR STRATEGIC FOCUS FOR THE NEXT TEN YEARS* (1998); Melissa Waller Baldwin, *Conservation Easements: A Viable Tool for Land Preservation*, 32 LAND & WATER L. REV. 89 (1997).

²⁰ See, e.g., National Audubon Soc'y v. Superior Court of Alpine City, 658 P.2d 709 (Cal. 1983); see generally Harrison C. Dunning, *Instream Flows and the Public Trust*, in *IN-STREAM FLOW PROTECTION IN THE WEST* at 4-1, (Lawrence J. MacDonnell et al. eds., Univ. of Colo. Sch. of L. Nat. Resources L. Ctr. 1993) [hereinafter *IN-STREAM FLOW PROTECTION*]; Richard Ausness, *Water Rights, the Public Trust Doctrine, and The Protection of Instream Uses*, 1986 U. ILL. L. REV. 407 (1987); Michael C. Blumm & Thea Schwartz, *Mono Lake and the Evolving Public Trust in Western Water*, 37 ARIZ. L. REV. 701, 727-33 (1995).

Species Act,²¹ or the Clean Water Act.²² However, these arguments are often met with equally adamant resistance by consumptive users of water who claim that any forced change to historic methods or water use quantities amounts to an unconstitutional taking of property without just compensation.²³ The obvious solution in the water arena is thus simply to buy the water in order to protect it. This approach is but one variation on the rising theme of "market environmentalism," which uses the market rather than regulation or litigation to accomplish environmentally protective goals.²⁴

The membership of the Board of Directors of the Water Trust was selected to match this vision. The four Board members who founded and chartered the corporation attempted to carefully balance the Board with both consumptive water users and groups actively working to improve in-stream flows in the state, as well as members knowledgeable about state water law, in order to begin testing the market for acquiring water rights for in-stream flow restoration.

B. Early Successes

1. Start-up Funding

The proposal to bring the tools of the land trust movement into the water area, and to test the use of a water market to restore in-stream flows, struck a responsive chord in the grantmaking community. The four founders were able to secure start-up funding in the form of a three-year, \$370,000 grant to test the concept. Additionally, even before the Trust had hired its first staff members and opened its office, it was named as the main beneficiary of an escrow account containing another \$475,000 that could be used for acquisition of water rights.²⁵ The Trust's

²¹ See, e.g., *United States v. Glenn-Colusa Irrigation Dist.*, 788 F. Supp. 1126 (E.D. Cal. 1992); see generally A. Dan Tarlock, *The Endangered Species Act and Western Water Rights*, 20 LAND & WATER L. REV. 1 (1985).

²² See, e.g., *Riverside Irrigation Dist. v. Andrews*, 758 F.2d 508 (10th Cir. 1985); see generally A. Dan Tarlock, *Future Issues in In-stream Flow Protection in the West*, in IN-STREAM FLOW PROTECTION, *supra* note 20, at 8-1.

²³ See, e.g., Gregory Hobbs, *Water Rights Takings in the Post-Lucas Era*, 11 A.B.A. WATER L. CONF. (1993).

²⁴ See generally TERRY L. ANDERSON & DONALD R. LEAL, *FREE MARKET ENVIRONMENTALISM* (1991).

²⁵ The escrow account was created as part of a settlement between an energy company and an environmental group, when the group challenged the company's proposed withdrawal of water from the Columbia River for use in a gas-cogeneration

first Executive Director thus assumed his job with a three year budget for operational expenses in the bank, and a substantial acquisition fund to draw upon. This gave the Trust an enviable position for a brand-new, non-profit organization testing a new idea.

2. Good Staff Hires

The new Trust attracted a lot of interest, and the Board waded through more than 120 applications for its first Executive Director. Andrew Purkey began work in January of 1994, and over the next two years hired a staff of four.²⁶ The Board and Purkey worked together to identify additional staffing needs. A clear decision was made to build the Trust's activities on a credible scientific foundation. Thus, one of the first staff hires was an hydrologist with experience in in-stream flow enhancement and watershed restoration. Initial staff also included an individual with a combination of "inside" and "outside" skills, which included computer and accounting abilities necessary to set up and run an entirely new organization and experience conducting outreach, publicity, and focus group activities in the environmental arena. Early on, the Board and staff realized that a field presence would also assist in the Trust's efforts at building relationships with water rights holders. During the first five years, the Trust has worked off and on with four part-time employees in eastern and southern Oregon, where acquisition activities have been concentrated.

The skills and dedication of the start-up staff contributed substantially to the Trust's successes during the first five years. The staff was able to work well on two levels, paying attention to the

plant. Although the Oregon Water Trust was not involved in the dispute, the Trust was chosen by the parties to the dispute as the recipient of settlement funds to mitigate the effects of the water withdrawal by acquiring other water within the Columbia Basin to put back in-stream. Settlement Agreement between Hermiston Generating Company, L.P., a Delaware Limited Partnership, and Columbia Basin Institute, a Washington Non-profit Corporation (Jan. 28, 1994) (on file with the Oregon Water Trust).

²⁶ Purkey brought an important combination of background and experience to the job as the Trust's first Executive Director, including a crucial "Oregon connection." He grew up in Eugene, Oregon, and graduated from the University of Oregon. He worked for Oregon Congressman Jim Weaver and the Oregon Legislature. After earning a masters degree with a concentration in natural resources policy from Harvard's Kennedy School of Government, he worked as a legislative and policy analyst for a Washington, D.C. environmental consulting firm, and then for the Nature Conservancy in both Washington, D.C. and Colorado.

fundamentals of building a start-up, non-profit corporation into a "going concern," while at the same time working on the larger policy issues of creating a brand new market for in-stream water rights and testing the parameters of an untried provision of Oregon law.²⁷ Within a year and a half of starting operations, the Trust had gone from a concept on paper to a thriving organization with a staff of five, a well-run office with excellent accounting and computer systems (which included a geographic information system data base for tracking acquisition opportunities), overseen by an involved, engaged Board that met regularly and kept careful track of the Trust's finances and the larger policy issues.²⁸

3. *Strategic Planning*

In the spring of 1994, just three months after hiring the Executive Director, the Trust's Board and staff conducted a strategic planning process to guide its activities. The most important choices made in the strategic plan were: (1) adopting a clear, focused, single-purpose mission for the Trust, (2) choosing a limited number of targeted river basins in the state within which to work, (3) identifying a list of legal tools with which to acquire in-stream rights, and (4) establishing a list of short term goals for

²⁷ The Oregon Water Trust was not the first entity to try to buy or lease water for conversion to in-stream flows in Oregon. The Environmental Defense Fund, the Nature Conservancy, the Bonneville Power Administration, and the Bureau of Reclamation had begun dabbling in such conversions at about the same time that the Trust was formed. In those cases, however, the purchasers were buying land with the purpose of retiring the irrigation use of water to put it back in-stream. The Trust was the first group formed specifically to buy water rights apart from land, and as a new single-purpose entity rather than an established group. See generally Zach Willey & Adam Diamant, *Water Marketing in the Northwest: Learning by Doing*, 10 WATER STRATEGIST 1 (1996).

²⁸ The Trust has been assisted additionally during its start-up phase by excellent legal counsel. When the Trust's formation was announced in a press release, the Trust was contacted by Richard Glick, a leading Portland water and environmental attorney. Glick offered the Trust the services of his firm, Davis Wright Tremaine LLP, on a pro bono basis. From the firm's perspective, the Trust's activities in market environmentalism offered opportunities for attorneys to work on environmental issues without the potential for conflict with the firm's regular business clients, which included municipal water developers, irrigation districts, and the like. From the Trust's perspective, the offer meant that the firm's experts in everything from water law to employment law were available to help at no cost. The arrangement has been extremely beneficial to the Trust, and the organization has received many hours of excellent legal work and advice that it could not have possibly afforded otherwise.

staff to accomplish within the coming year to ensure the success of the Trust.²⁹

a. Focused Mission

The Board developed a statement of purpose: “The Oregon Water Trust acquires water rights through gift, lease or purchase and commits these water rights under Oregon law to in-stream flows in order to conserve fisheries and aquatic habitat and to enhance the recreational values and ecological health of water-courses.”³⁰ This statement represents a clear choice to concentrate solely on one thing: acquiring water rights on a voluntary basis for conversion to in-stream flows.

The statement directs and focuses the Trust activities in a number of ways. The emphasis was on acquisition of water rights, not on regulatory or other mechanisms for protecting in-stream flows generally. The Trust would get involved in legislative or regulatory matters only to the extent necessary to conduct its business and accomplish its goals. A number of acquisition methods would be pursued, but always with an eye toward the ultimate goal of providing necessary flows for fish habitat and other public values and uses of water.

b. Targeted Basins of Interest

With the help of a planning facilitator and two additional advisers,³¹ the Board and staff developed criteria for deciding where to concentrate their acquisition efforts and applied those criteria to choose four target basins. Within those areas, staff members prioritize geographic areas of greatest interest and ac-

²⁹ Memorandum to the Board of Directors and Staff of the Oregon Water Trust summarizing the June 24, 1994 Board Meeting (Jul. 5, 1994) (on file with the Oregon Water Trust).

³⁰ Statement of Purpose for Oregon Water Trust (attachment to Oregon Water Trust Minutes Aug. 19, 1993) (on file with the Oregon Water Trust).

³¹ Pamela G. Wiley, a consultant in planning and facilitation, worked with the Trust on strategic planning. She had previously served as Deputy Director of the Oregon Division of State Lands and as the Government Relations Coordinator for the Oregon field office of the Nature Conservancy. Attorney Janis E. Carpenter previously worked for the Department of Interior Solicitor’s Office, and was the director of The Fish and Wildlife Division of the Northwest Power Planning Council. Clay J. Landry advised the Trust on the valuation of water rights. He has worked as a natural resource economist for the Oregon Water Resources Department, has also served as a legislative analyst for Montana Trout Unlimited, and is now with the Political Economy Research Center.

tively seek acquisition opportunities. In other parts of the state, staff do not actively seek deals, but instead conduct an outreach campaign to educate individuals and groups about the opportunities to work with the Trust, and then pursue contacts from interested water rights holders.

The criteria for choosing the basins of interest included scientific, legal, economic, and practical factors. The Trust decided to focus its efforts in basins where low flows caused by withdrawals for consumptive use were causing significant, but still redressable, ecological impacts, and where restoration of in-stream flows would produce the greatest ecological benefits. For this reason, the Trust has also decided to work primarily in smaller tributaries where acquisition of small amounts of water would actually have a measurable impact on stream flows. Efforts are also concentrated in basins that are relatively free of legal entanglements such as pending general stream adjudication proceedings³² or threatened litigation of some sort. To be of interest to the Trust, individual water rights also need to be legally "clean," that is, the rights need to be identifiable, enforceable, and senior enough to be of value in putting water back into the stream in low flow periods.

The Trust Board and staff also identified a number of practical concerns which serve as additional screens for selecting the targeted basins and the individual transactions to pursue within those basins. These considerations included such factors as the number and attitudes of water rights holders in a particular working area, the cost of water rights, the availability of funds, the ability to measure the effectiveness of any water acquired, and other governmental and non-governmental activities within a target area that might either support or undermine the Trust's actions.

After examining detailed information for seventeen major river basins in the state, the Board and staff decided to target the Trust's resources and active acquisition efforts in four primary basins of interest; the Rogue Basin in southwestern Oregon, and three sub-basins of the Columbia River Basin in central and east-

³² "General stream adjudications" are legal proceedings that review all claims to use of water from a particular water body, resulting in a decree of water rights for all parties. The proceedings are complicated and typically last many years. See generally DAR CRAMMOND, NORTHWEST WATER LAW & POLICY PROJECT, COUNTING RAINDROPS: PROSPECTS FOR NORTHWESTERN WATER RIGHTS ADJUDICATIONS (1996).

ern Oregon: the Deschutes, the John Day, and the Umatilla Basins.³³ Six other basins in the eastern and southern parts of the state were identified as “runners-up,” or basins of secondary interest where the Trust would do outreach, but not active solicitation.³⁴

c. The Trust's Toolbox

In adopting the strategic plan, the Trust's Board and staff considered a wide range of options for improving in-stream flows in Oregon. In a discussion that eventually led to the adoption of the narrow mission statement, the group also narrowed its choice of tools to those directly supporting the mission of acquiring water for conversion to in-stream flow. Primarily, the Trust acquires senior water rights, preferably through outright gift or purchase, but also through leasing where necessary. The Trust also seeks rights which are nearing cancellation for non-use and works with the state conserved water program by offering financial support for conservation efforts in exchange for dedicating

³³ The Rogue River flows about 200 miles through the southwest corner of Oregon, and is nationally recognized for the quality and unique nature of its fishery. The river is the number one producer of anadromous fish for the coastal fishery. Fish species supported by the Rogue system include coho, spring and fall chinook, summer and winter steelhead, and resident trout. Coho are listed as threatened. Endangered and Threatened Species, 62 Fed. Reg. 24,588 (1997) (to be codified at 50 C.F.R. pt. 227), and steelhead are candidates for listing. Endangered and Threatened Species, 63 Fed. Reg. 13,347 (1998) (to be codified at 50 C.F.R. 227). The Deschutes River Basin, which drains over 10,000 square miles of land, is one of the largest in Oregon. The Deschutes River supports one of the most important in-river fisheries in the state. It contains one of the few remaining wild spring chinook populations in the Columbia Basin, as well as fall chinook and summer steelhead. The resident fishery includes rainbow, brown, golden, bull and eastern brook trout. In the Deschutes, steelhead are listed as threatened. Endangered and Threatened Species, 64 Fed. Reg. 14,517 (1999) (to be codified at 50 C.F.R. 223). The John Day Basin drains 8,100 square miles of interior plateau between the Blue and Cascade mountain ranges. The John Day is the longest free-flowing river with wild anadromous salmon and steelhead in the Columbia Basin. The basin contains one of the few remaining wild spring chinook runs in the Columbia Basin. The John Day also supports important populations of steelhead and resident trout. In the John Day, steelhead are listed as threatened. *Id.* The Umatilla Basin drains the Deschutes-Umatilla Plateau and the Blue Mountains. The tributaries provide important spawning and rearing habitat for anadromous fish. The Umatilla Basin once supported runs of fall and spring chinook, coho salmon, steelhead and trout. Coho and chinook were eliminated from the basin earlier this century. Of the remaining fish, steelhead are listed as threatened. *Id.*

³⁴ The six secondary basins were the Grande Ronde, Powder, Malheur, Goose and Summer Lakes, Klamath, and the Umpqua. The Umpqua was later “upgraded” to the fifth primary basin of interest.

saved water to in-stream flows. Additionally, the Trust explores exchanges or use of alternative water sources by users in place of water left in-stream, and explores using Trust funds to provide alternative sources of livestock food such as hay or alfalfa to enable conversion of irrigation water rights to in-stream rights.³⁵

d. Short-Term Goals

As the Board proceeded with its strategic planning process, the group simultaneously focused on short-term and long-term planning. While discussing the larger vision and the leaders' dreams of what the Oregon Water Trust might accomplish, the Board also discussed what needed to happen quickly to enable the organization to thrive and grow. In addition to adopting the short term goal of a final strategic plan, including a detailed water rights acquisition strategy, the Board also set a goal of achieving "meaningful, measurable, on-the-ground results" within the first twelve months of full scale operation.³⁶ The Board translated this into acquiring at least one water right and converting it to an in-stream right.

Furthermore, the Board set goals for developing a plan for internal organizational systems to support the external activities laid out in the strategic plan. This partly included development of a public outreach program to provide education on the in-stream water rights law and associated issues, whereby trust among the community of water rights holders would be developed. The written strategic plan eventually adopted by the Board included the narrow mission, the short-term goals, the analysis of the basins of interest, the detailed acquisition strategy (including the list of preferred tools), and the plan for developing organizational strength and infrastructure. The plan is a concise, thoughtful, comprehensive document that has served well as hands-on guidance for the staff on a daily basis.

4. The First Deal

The Trust opened in January of 1994, and began its strategic planning process that spring. The Trust had actually received its first water right earlier, in August of 1993, when Jackson County

³⁵ OREGON WATER TRUST, OREGON WATER TRUST ACQUISITION STRATEGY, 1995-1997 (1995) [hereinafter 1995-1997 ACQUISITION STRATEGY] (on file with the Oregon Water Trust).

³⁶ *Id.* at 22.

donated a 4.86 cfs Rogue River water right to the Trust under a one-year lease agreement.³⁷ But the first real deal, as far as accomplishing benefits for in-stream flows and attracting public attention to the Trust's work, came in 1994, when the Trust leased a water right from a rancher in central Oregon.

Rocky Webb is a Sherman County cattle rancher who holds water rights in Buck Hollow Creek, a tributary of the Deschutes River. The Deschutes, a tributary of the Columbia River, is a world famous fly-fishing river containing populations of rainbow trout, steelhead, and other fish. Buck Hollow Creek had historically provided critical summer steelhead habitat.³⁸ Additionally, Buck Hollow is the only steelhead spawning tributary of the Deschutes downstream from a natural barrier known as Sherars Falls.³⁹ However, in the years since Webb and his family had

³⁷ The Jackson County Board of Commissioners and the Oregon Water Resources Commission (Commission) had executed a document entitled *Agreement for Use of an Individual Water Right in Jackson County for an In-stream Flow* on August 12, 1992. The document noted that the Governor had declared a drought in Jackson County under a state emergency drought law. The agreement provided that the county would not "use or exercise" the water right appurtenant to a 122.8 acre parcel known as Given Park, and that the Commission "may exercise this right for 2.43 cubic feet per second for in-stream flow purposes during the 1992 irrigation season." The agreement is on file with the Oregon Water Trust. The Board of Commissioners then authorized the county administrator to execute an agreement leasing the Given Park water rights to the Oregon Water Trust in an order dated July 28, 1993. The county and the Trust executed a lease of water rights on August 19, 1993, even though the Trust had not yet hired staff. In September, the county submitted a transfer application to the Oregon Water Resources Department (Department). This was apparently the first time that any water right holder in the state sought to use ORS § 537.348 and the Department had not yet developed special application forms nor any procedural rules. The Department did not act immediately on the transfer application, and it was withdrawn in October of 1994 after the county received assurances that the 1992 agreement would protect the county's water right from forfeiture until 1997. A second transfer application was finally submitted and approved in 1995 after the Trust worked with the Department to develop procedures.

³⁸ The Buck Hollow Ranch was proposed for federal government acquisition in 1992 by the Wilderness Society, as an area containing primitive Native American grave sites as well as anadromous fish spawning areas, river otter, elk, and coyote. Scott Sonner, *Environmental Groups Ask for Land Purchases*, THE OREGONIAN, Feb. 5, 1992, at B1.

³⁹ Anadromous fish are "hatched in fresh water but spend a large part of their lives in the ocean before returning to fresh water to reproduce." Carol Savonen, *Salmon Have Lived Here for Millions of Years*, in A SNAPSHOT OF OREGON SALMON 2 (Or. State Univ. Extension Serv. 1998). In contrast, resident fish, "remain in fresh water throughout their lifecycles." *Id.* at 3. There are few anadromous streams in the lower Deschutes Basin, and preservation and recovery of the Buck Hollow stock is important to the overall Deschutes fishery. The reach associ-

been irrigating hay pasture from the creek, the creek had often been entirely dewatered during late summer, causing the steelhead population to dwindle. Although Webb's priority dates were fairly recent (1962 and 1975), and his water needs small (1.23 cfs), Webb was the only appropriator on Buck Hollow Creek. Thus, allowing his irrigation water to remain in the stream would reestablish flows in a tributary crucial to fish habitat.

The Trust negotiated a lease agreement with Webb whereby Webb agreed not to divert any water from the creek, and the Trust agreed to purchase the hay that Webb needed to feed his cattle. The Buck Hollow lease attracted a great deal of attention for the Water Trust, and very positive media coverage of the potential for win-win solutions to streamflow problems.⁴⁰ The arrangement with Webb was originally a one-year lease agreement, followed by further short-term leases.⁴¹ The Rocky Webb hay-for-water lease got the ball rolling for the Water Trust, and each year since then, the number of water rights transactions has steadily grown.

C. *Current Status and Accomplishments*

During its first summer, the Water Trust obtained a total of five water rights leases. In addition to the Rocky Webb hay-for-water lease and the donated lease from Jackson County, the Trust negotiated three more lease agreements on Sucker Creek in the Rogue River Basin. During the second summer of opera-

ated with Webb's water right contains some of the better habitat in the creek, and streamflow through this reach insures connectivity from the creek to the Deschutes River. See Oregon Water Trust Acquisition Summary Outline for Buck Hollow Creek (on file with the Oregon Water Trust).

⁴⁰ See, e.g., *Conservation group buys water rights from Sherman farmer*, PLADRAS PIONEER, June 22, 1994, at 12A; *Hay-for-water deal pays off for fishery*, BULLETIN, June 19, 1994, at B-3; *Innovative water lease benefits fish, rancher*, THE EUGENE REGISTER GUARD, June 17, 1994, at 5A; *Making Hay for Fish*, THE OREGONIAN, June 19, 1994 at B2, available in 1994 WL 4554645; *Rancher leases water rights for steelhead*, DAILY ARGUS OBSERVER, June 17, 1994, at 10A; *Webb trades water right to save fish*, DALLAS DAILY CHRONICLE, June 17, 1994, at 1; *Workable plan: Rancher will get paid to give up water rights for one year*, CAPITAL PRESS, June 24, 1994, at 4.

⁴¹ The Trust has also discussed permanent acquisition of Webb's water rights. However, the 50 acre parcel irrigated out of Buck Hollow Creek is part of the several thousand acre Buck Hollow Ranch. The ranch is currently the subject of a family partition suit, and until the lawsuit is concluded the rights cannot be acquired permanently. Cf. *Webb v. Underhill*, No. 91-4954-C; CA A77449 (Or. Ct. App. April 29, 1994).

tion, the number of transactions doubled to ten, with continuation of the five leases entered previously and the addition of five new leases, three in the Rogue Basin, one in the John Day Basin, and one in the Hood Basin.⁴² All but the Webb lease were donated to the Trust. The next year the number of transactions more than doubled to a total of twenty-five, including sixteen donated leases, seven compensated leases, and two permanent acquisitions. Although the rapid growth rate slowed somewhat during the next two seasons, reaching thirty-one transactions in 1998, there were several significant accomplishments during that time period. The Trust made its first permanent acquisition,⁴³ completed the first project under the Oregon Conserved Water Rights law,⁴⁴ and accomplished at least one acquisition in each of the target basins. At the end of the 1999 irrigation season, after five years of operation, the Trust had a portfolio of fifty-one water rights acquisitions, including eleven permanent in-stream water rights. With these fifty-one acquisitions, the Trust had put approximately 32.28 cubic feet per second (or 14,488 gallons per minute) of water back into the streams of the state. About 3.57 cfs, or 1,602 gallons per minute, had been restored on a permanent basis. These protected in-stream flows provide critical spawning and rearing habitat for anadromous (migratory) and resident fish during the irrigation season.

The Trust's first opportunity to make a permanent purchase of water rights for in-stream use arose in the Rogue Basin from three deals that began as donated leases.⁴⁵ Three landowners held water rights in Sucker Creek, an important fishbearing tributary of the Illinois River, which is itself a tributary of the Rogue River. Water had been diverted into an irrigation ditch and was used to flood irrigate twenty-nine acres of relatively low-value pastureland. The landowners initially entered into leases with the Trust, in part to eliminate the expense of irrigating and at the same time to avoid cancellation of their water rights on the basis of forfeiture for non-use. The three leases were donated to the

⁴² Although the Trust had not identified the Hood basin as a basin of either primary or secondary interest, it is immediately adjacent to the Deschutes basin, and also drains into the Columbia River.

⁴³ See *infra* text accompanying notes 45-48.

⁴⁴ See *infra* text accompanying notes 49-52.

⁴⁵ The following discussion of the details of the Sucker Creek transactions come from Oregon Water Trust Acquisition Opportunity Summaries, on file with the Oregon Water Trust.

Trust without compensation, and all three landowners expressed some willingness to consider selling some or all of their water rights. The resultant win-win situation is typified by the land's subsequent use for dryland grass production during the terms of the leases.

Sucker Creek supports runs of chinook, coho, steelhead, and resident trout that contribute to the world-rekknowned Rogue River fishery.⁴⁶ Irrigation withdrawals had substantially reduced the naturally low summer flows of the creek, adversely affecting flows, habitat, and water quality of important spawning and rearing grounds. The ditch serving the three landowners who leased their rights to the Trust held a priority date of 1857, the second oldest water right on the creek. Once the consumptive water rights were permanently acquired and converted to in-stream rights, the entire ditch could be shut down and .57 cfs, or 255 gallons per minute, of water could be protected for a distance of more than two and a half miles of Sucker Creek.⁴⁷

The Sucker Creek permanent acquisitions evolved over a period of five years. In 1994, the Trust first approached the water rights holders, and all three agreed to donate a two-year lease for the 1994 and 1995 irrigation seasons.⁴⁸ In 1996, one of the three water rights holders agreed to sell his right to the Trust. The other two holders continued leasing their water rights to the Trust through the 1997 season, and in 1998, both agreed to sell their rights to the Trust. The Trust acquired the entire suite of water rights on the ditch for a total of \$31,000. This amount rep-

⁴⁶ Although the Rogue River has historically been the number one producing stream of anadromous fish for the state's coastal fishery, some of the fish have been placed on the endangered species list. *See supra* note 33.

⁴⁷ While diversion has historically been required to perfect a water right for out-of-stream consumptive uses, the 1987 in-stream water right law specifically provides that "[a]n in-stream water right does not require a diversion or any other means of physical control over the water." OR. REV. STAT. § 537.332(3) (1997); OR. ADMIN. R. 690-077-0010(15) (1999).

⁴⁸ One of the three water rights holders, Erwin Sawall, voluntarily stopped irrigating his pasture during the drought years of the early 1990s, though other irrigators along Sucker Creek continued to divert from the stream. Sawall learned of the 1987 in-stream water rights law, but upon inquiry to the Oregon Water Resources Department (Department), discovered that no implementing procedures had been developed. With the assistance of WaterWatch, a statewide organization advocating for streamflows, and the Siskiyou Regional Education Project, a local group working to preserve the ecological health of the region, Sawall applied to the Department to temporarily transfer his water right to in-stream use under an emergency drought law in 1993. *See SUSTAINABLE NORTHWEST, FOUNDERS OF A NEW NORTHWEST* 32 (1997). He then began working with the Oregon Water Trust in 1994.

resents a valuation of about \$130 per acre-foot of water, or slightly more than \$1,000 per acre of land.⁴⁹

In addition to outright acquisitions of all or part of a water right, the Trust's portfolio also includes a number of conserved water projects. The Trust assisted these projects in funding efficiency improvements for irrigators in exchange for conversion of all or part of the water saved to a permanent in-stream right. The attractiveness of such a project is that the farmer or rancher can continue to raise the same crops on the same amount of acreage as before, but simply accomplish his or her irrigation by using less water. Conserved water transactions thus represent classic win-win projects for both the fish and irrigators.⁵⁰

The Trust's first participation in the conserved water program, enacted into Oregon law in 1987, also arose in the Rogue River Basin on a stream known as South Fork Little Butte Creek. The Trust had entered into a long-term donated lease with one water rights holder on the creek in 1995, but in 1997 additional water right holders became interested in working with the Trust, because a push-up dam used to divert water from the creek to the fields had been washed away in a flood. One of these additional water rights holders was a landowner who held water rights to divert .27 cfs from the creek to flood-irrigate thirteen acres of hay and pasture land, with a priority date of 1882. While this particular landowner wanted to keep irrigating, he was interested in changing to a more efficient irrigation system that would use

⁴⁹ This particular acquisition was funded by the Flintridge Foundation, a California based foundation with a strong interest in preserving the natural ecosystems in the Pacific Northwest, and the Trout and Salmon Foundation, which funds fishery restoration projects nationwide.

⁵⁰ Likewise, the irrigators may experience positive gains such as enhanced control over the timing and delivery of water to their fields, thereby improving productivity. However, there may also be increased operational costs for the improved system, such as electricity costs if the irrigator has converted from flood irrigation to pumps and sprinklers. Although conservation projects seem ideal for both improving in-stream flows and sustaining agriculture, the efficiency improvements tend to be expensive, and the Water Trust must examine each proposal carefully for true costs and benefits. See *infra* section II, C. The Trust has begun to develop project viability criteria for evaluating conserved water projects, including the cost ratio of the public share of the project compared to the price for outright purchase of the right. For example, a project that results in half of the water right being converted in-stream with a cost to the public of \$1,000 per acre of land would have a 2:1 cost ratio if the entire right was also valued at \$1,000 an acre. Water acquired for in-stream use through conserved water projects is expected to cost more per unit of water than water acquired through outright purchase, but in some cases such a project may be the only feasible way to return water to in-stream use.

less water and eliminate the need for a dam. In exchange for financial assistance to design and install a sprinkler irrigation system, the landowner agreed to donate the saved water for in-stream use to improve fish habitat.⁵¹

South Fork Little Butte Creek is one of the most important coho spawning and rearing tributaries in the Upper Rogue Basin, and it also supports spring chinook, summer and winter steelhead, and cutthroat trout. The 1882 water right is the second oldest on the creek, and its point of diversion was approximately 3.5 river miles from the mouth of the creek, a stretch in which other junior irrigation diversions almost dry up the creek. This in-stream right, even though it totals only approximately .06 cfs, or 26.93 gallons per minute, can thus put water back into the stream for a substantial distance in what might otherwise have been dry creekbed. Enhanced streamflow reduced water temperatures and improved habitat, and elimination of the push-up dam removed a fish passage barrier and stream disturbance.

This landowner initially entered into a one-year donated lease with the Trust in 1997, while planning the conserved water project.⁵² The project was implemented in 1998, and the Trust then applied to the Oregon Water Resources Department for transfer of the saved water to permanent in-stream use starting in the 1999 irrigation season. The project cost was \$9,632.81. The in-stream water right is thus valued at \$532 per acre-foot of water, or about \$1,927 per acre of land.⁵³ The South Fork Little Butte Creek conserved water project was the first conserved water project to be approved by the state since adoption of the conserved water rights law in 1987.

⁵¹ Under Oregon's conserved water program 25 percent of the saved water is allocated to the state and 75 percent is allocated to the land owner. If public funds are used to finance the water conservation project, the state's portion may be increased up to a maximum of 75%. The state portion must be converted to an in-stream water right if the Water Resources Commission determines that the water is necessary to support in-stream flow purposes. Otherwise, the state's portion reverts to the public for appropriation by junior users. The land owner's portion may be retained and transferred to other property owned by the same land owner, may be sold and transferred to another person, or may be transferred to in-stream use. OR. REV. STAT. § 537.470(3).

⁵² The Trust and the Little Butte Creek Watershed Council both worked with the landowner in the planning and design of the conserved water project.

⁵³ In addition to the funds contributed by the Trust, the landowner received funding from the Governor's Watershed Enhancement Board, now known as the Oregon Watershed Enhancement Board. OR. REV. STAT. § 541.375(8).

The Trust Board and staff are pleased with the growing portfolio of water rights transactions. Leases provide infusions of much-needed water, and also pave the way for permanent transactions by demonstrating to water users the possible benefits of putting some of the water back in the stream. Permanent acquisitions are beginning to restore crucial flows in some tributaries. Conserved water projects accomplish both streamflow restoration and agricultural improvements, with clear mutual benefits. However, challenges and barriers remain to the widespread use of the market to restore in-stream flows.

III

CHALLENGES AND BARRIERS

A. *The Lack of Economic Data and the High Cost of Acquisitions*

One of the first challenges faced by the Trust was the dearth of economic data to use in valuing water rights for purposes of making acquisition offers. In contrast to some other states, where water rights have been actively bought and sold for years,⁵⁴ Oregon has not had much of an active water market until recently, particularly in terms of acquisitions for in-stream flow purposes. When the Board was considering its first transaction, the Rocky Webb deal, Board and staff discussed the price at some length. How much was a one-year lease of 1.23 cfs of water worth? To Rocky Webb, the water was worth 78 tons of hay, which was what he normally cut from the irrigated pasture for his cattle.⁵⁵ To the Trust, the water was valuable for what it could do for fish habitat, but it was hard to put a definite monetary value on that, especially when the deal being negotiated was only a short-term lease.⁵⁶ In the end, the Trust adopted Rocky Webb's method of valuation, and leased the water by buying the hay.

⁵⁴ See Willey & Diamant, *supra* note 27. For further information, see WATER STRATEGIST, a quarterly publication of Stratcom, Inc., in Claremont, California, that tracks water market transactions.

⁵⁵ The going price for hay was \$85.00 per ton, or a total of \$6,630.00 annually. This amount initially seemed high to the Trust, particularly since Webb would be avoiding costs he would normally incur to produce that hay, including labor, maintenance and electricity.

⁵⁶ One of the board members kept asking "How many baby fish are we going to make?" This captured the Trust's goal for water rights acquisition perfectly, but did not translate easily into dollars and cents. The problem is two-fold. First, as discussed, there is no single, accepted, and proven methodology for translating in-

The Board members decided that they needed to broaden their information base about water rights valuation to aid them in negotiating future transactions. The Trust contracted with Clay Landry, then a master's degree candidate in the Agriculture and Natural Resource Economics program at Oregon State University, to provide some additional data. Landry prepared two reports for the Trust.

In the first report, Landry outlined four possible methods for assigning dollar values to water rights. One method is the *sales comparison approach*.⁵⁷ This method involves comparing the subject water rights with similar water rights that have been sold or leased. While this approach is relatively straightforward, the lack of sufficient sales data for comparable water rights may preclude this method for most transactions, at least until more transactions occur.

The second method, which was subsequently used by the Trust, especially for leases, is the *income capitalization approach* or the *farm-crop budget analysis*. This method involves determining the total crop revenue and adjusting this total by all the costs of production except irrigation water; the residual value is the maximum amount an irrigator will pay for water. This method accounts for the avoided costs of production, a factor that had concerned the Trust in the Webb deal. However, this method

creased in-stream flows into quantifiable improvements in fish populations. Second, even with a projected fish count, economic benefits are difficult to pin down, particularly for a one-year lease. See generally Bonnie G. Colby, *Benefits, Costs and Water Acquisition Strategies: Economic Considerations in In-stream Flow Protection*, in *INSTREAM FLOW PROTECTION*, *supra* note 20, at 6-1 (discussing challenges of attaching dollar values to in-stream benefits and noting that even when valuation methods can be used to measure in-stream economic benefits, those generic benefits cannot actually be captured as cash to be used to bid for water rights in the market place).

One study referenced by Colby considered the economic benefits associated with improving fish runs in the Columbia River Basin and came up with average economic benefits of \$68 per fish. D. Olsen et al., *Existence and Sport Values for Doubling the Size of Salmon and Steelhead Runs*, 2 *RIVERS* 44, 54 (1991). The Oregon Department of Fish and Wildlife has estimated that with adequate late summer flow, Buck Hollow Creek could support 500-600 breeding pairs of summer steelhead. That translates to \$81,600 worth of fish using the average benefits figure. Again, trying to determine the relationship at that value to a one-year lease is problematic.

⁵⁷ This discussion of valuation methods is taken from Bonnie G. Colby, *Alternative Approaches to Valuing Water Rights*, *THE APPRAISAL JOURNAL*, Apr. 1989, at 180, 180-196.

also has limitations and may oversimplify the relationship of water to the rest of the production process.⁵⁸

A third method is the *land value differential approach* which compares the value of agricultural land with water rights to land without water rights. While this method is easy to observe and calculate, it provides, at best, a rough estimate of the value of water and may overestimate water's market value. The Trust has used this approach, especially for permanent acquisitions that separate water from land.

A fourth method of valuation, the *development-cost approach*, relates to the cost users are willing to pay to develop new water supplies. This approach has not been used by the Trust to date, though there may be some applicability in the context of conserved water projects.

Landry's second report was an empirical study in which he reported the results of a survey conducted on water rights sales in the state over a five year period.⁵⁹ Landry examined the records of the Water Resources Department to identify water rights transfers. He then sent a survey to the parties on both sides of those transactions asking questions about the reason for the transfer and the sale price for the water right.⁶⁰ Landry's review of Oregon Water Resources Department files revealed 140 transfer applications between 1989 and 1994.⁶¹ The survey collected information from parties to 114 of these transfers, thirty-nine of which were determined to be bona fide market transactions.⁶² Several survey respondents were reluctant to discuss transfer of

⁵⁸ A variation of the farm-crop budget analysis is the comparison of irrigated land to dry land crop production. Such comparisons rely on estimates of crop yields available from the Natural Resource Conservation Service (formerly the Soil Conservation Service), and is the method preferred by the United States Water Resources Council because it is relatively straightforward. The Trust has used this comparison method in valuing water rights for a long term (10 year) lease.

⁵⁹ Clay J. Landry, *Giving Color to Oregon's Gray Water Market: An Analysis of Price Determinants for Water Rights* (1995) (unpublished Master of Science thesis, Oregon State University, on file with the Oregon State University Library). For a revised version of Landry's thesis, see Clay J. Landry & Siân Mooney, *Price Information in Oregon's Developing Market for Water Rights*, 21 *REVIEW OF AGRICULTURAL ECONOMICS* (forthcoming 2000).

⁶⁰ Landry, *supra* note 59, at 116.

⁶¹ Landry, *supra* note 59, at 57.

⁶² Landry, *supra* note 59, at 62. This is obviously a small sample size, and the statistical validity may be questioned. However, some information is better than nothing, and the Trust Board was grateful to have at least some guidance on existing water prices.

their water rights, and some even denied that such a transfer had occurred, despite the fact that changes in name and place of use are matters of public record.⁶³ Despite this difficulty in data collection, the survey yielded sufficient responses to conclude that the mean value in 1994 dollars was \$331.70 per acre-foot of water, or approximately \$921.65 per acre of land.⁶⁴

As a result of Landry's two studies, one theoretical and one empirical, the Board decided to use the farm crop budget analysis approach as the primary methodology for valuing water rights, and also to use the approximate price of \$330 an acre-foot as a guideline when evaluating transactions. The valuation data has served the Trust well, although the guidelines are simply a place to start the valuation discussion. Each water right is carefully valued on a case-by-case basis, and the dollar value of each deal reflects the unique characteristics of that particular transaction.

For example, a senior water right that historically receives its full rate and duty is normally more valuable than a junior right.⁶⁵ Water that could be transferred to an alternative location and use that can generate higher economic returns, either now or in the future, will usually be more valuable than those water rights that cannot be transferred. Both quantitative and qualitative factors require making a range of rough estimates to determine an offering price.

Experience from other Western states reflects the importance of such site-specific factors in influencing the price paid for water

⁶³ Landry, *supra* note 59, at 62. This reluctance is apparently attributable to an Oregon statute that may, under some circumstances, limit how a water right is valued to the cost of perfecting the right. See OR. REV. STAT. § 537.390 (1997). This provision has not yet been interpreted or applied by agencies or the courts, nonetheless, it casts a specter of uncertainty over water transactions. Some water right holders seem to erroneously believe that this provision prohibits the sale of a water right.

⁶⁴ Landry, *supra* note 59, at 71. Converting a per acre-foot value to a per acre value involves multiplying the number of acre-feet of water allowed to be applied per acre of irrigated land (known as the "duty" of water) by the value. For instance, a common duty is between two and three acre-feet per acre, hence the average value of \$331.70 per acre-foot translates to approximately \$922 worth of water per acre of land.

⁶⁵ Water rights are limited to a certain rate of diversion at any given moment in time (i.e., a flow rate) and a total volume of water over the length of the irrigation season (i.e., the total duty). The rate is usually expressed in cubic feet per second (cfs). Cfs is a measure of the flow of water that would fill an imaginary cube one foot on each side that passes by a given point in a second. The duty is expressed in acre-feet, a measurement of a volume of water that would cover one acre of land one foot deep in water.

rights. In those areas where new growth is anticipated and municipal demand is expected to increase, current market prices may exceed \$3,000 an acre-foot.⁶⁶ However, in areas with an absence of such municipal demand, market prices for agricultural water acquired westwide for in-stream flow purposes have ranged from \$65.00 to \$850.00 an acre-foot, with an average purchase price of about \$400.00 an acre-foot.⁶⁷

The Trust's experience in Oregon is limited to acquiring irrigation water to meet environmental needs. To date in Oregon, there has been little demand by municipalities for agricultural water.⁶⁸ Furthermore, this state lacks an infrastructure to move large volumes of water between basins around the state from rural areas to urban areas, and thus large farm-to-city sales are unlikely. From 1994 through 1999, the Trust permanently purchased ten water rights (the eleventh permanent acquisition was donated), at prices ranging from \$102.84 to \$366.67 an acre-foot, and averaging \$145.60 an acre-foot.

Although gathering the valuation data helped the Trust refine a method and a process for setting acceptable prices for water rights deals, and informed the negotiations with water rights holders, valuation of water rights continues to present some thorny issues. The method that the Trust is using focuses primarily on the value of the water right to the water rights holder in his or her operation rather than on any value associated with the eventual benefits of converting the water to in-stream flows. There are at least two reasons for this. One is that it is much easier to come by dollar values from the water rights holders' perspective. The amount of hay or crop production a rancher or farmer achieves by irrigating a certain field can easily be ascertained, at least on an average basis. The same is true for variations in assessed value and market value for land with water rights compared to land without such rights, which can be gleaned from county tax records. On the other hand, it is much more difficult to put a numerical dollar value on what the short or long term ecological benefits will be of any particular water rights acquisition.⁶⁹

⁶⁶ See CLAY J. LANDRY, *SAVING OUR STREAMS THROUGH WATER MARKETS: A PRACTICAL GUIDE* 14 (1998).

⁶⁷ See *id.* at 12.

⁶⁸ See Willey & Diamant, *supra* note 27.

⁶⁹ See *supra* section III, A. However, several economic studies suggest that in many situations in-stream uses of water have greater dollar value than out-of-stream

Another reason why the valuation methods used so far emphasize the landowners' point of view is since the Trust can only make a deal with willing sellers, the Trust must pay attention to the numbers that matter to the sellers. However, this one-sided focus means that it is difficult for the Trust to make true cost/benefit calculations on its transactions. Although the Board and staff can determine whether the cost is reasonable in terms of the average value, and in terms of the actual value of the water to the farmer or rancher, the benefits are qualitatively described, and hoped-for, rather than precisely predicted and quantitatively measured.

Working on conserved water projects in particular has highlighted this dilemma. One particular conserved water proposal that was brought to the Trust for funding participation illustrates the problem. In the Rogue Basin, one of the Trust's priority basins, several landowners on Rough and Ready Creek began discussing improving their irrigation methods with the Illinois Valley Watershed Council. An irrigation ditch diverted water from the creek and carried it more than a mile to seven property owners who irrigated approximately 150 acres of land. The diversion was accomplished with the aid of a concrete abutment and logs across the creek, which completely block fish passage in the stream. The ditch itself also loses large quantities of water through seepage and evaporation. In fact, during many summers the last two or three landowners supplied from the ditch receive little or none of the water they are entitled to under their water rights. This has been the case for years, but the landowners have kept diverting the water in order to avoid forfeiture of their water rights.

Removing the diversion structure and replacing it with an infiltration gallery, and replacing the open ditch with a pump and pipe, was estimated at a total cost of \$250,000. Extending the pipes onto the individual properties of the water rights holders would add an additional \$250,000, for a total project cost of

consumptive uses. GILLILAN & BROWN, *supra* note 17, at 104. Ascertaining the value of a specific in-stream water right is an exercise fraught with uncertainty. In-stream flows may benefit fish and other aquatic organisms, wildlife and riparian areas, recreational opportunities, aesthetics, ecosystem functioning and improved water quality, especially on small streams and tributaries where the Trust focuses its work, as well as contributing to hydropower production and navigation on larger streams and main-stem rivers. But there is no standard method of measuring these benefits as a basis for determining a market price for in-stream flows.

\$500,000. The amount of water conserved would have been a flow of less than 1 cfs, or a volume of 340 acre-feet over the course of the irrigation season. The Trust's proposed contribution was \$250,000, which would have secured a permanent in-stream flow of .8 cfs in Rough and Ready Creek. The cost of the transaction was thus \$735.00 per acre-foot of water considering only the Trust's contribution, and \$1,470.00 per acre-foot if the total project financing were included; given the applicable water duties, costs per acre of land thus amounted to \$1,666 for the Trust portion or \$3,333 for the whole project. These costs range from twice to almost five times the "average" guideline price of \$330 per acre-foot.

What would the benefits be for that investment? The seven parcels served by the ditch are used for growing hay and other land uses, including a church camp. The area is not one of major agricultural producers, but rather is characterized by hobby farms and rural residences. Since the lands served by the ditch are not in commercial agricultural production, even the benefits to the landowners are thus more qualitative than quantitative. Though the water rights may contribute to higher property values, the immediate benefit of the irrigation is primarily a green lawn or field.

The benefits to the fishery were perceived to be significant, at least in a qualitative sense. The creek supports populations of fall chinook, coho, winter steelhead and resident trout, and the diversion exacerbates low flows in the late summer. More significantly, the diversion structure creates a three-foot drop in the stream in the mid-to-late summer, presenting a major barrier to fish passage. The conserved water project would both enhance flows and remove the passage barrier. However, those benefits cannot necessarily be quantified in dollars and cents. Thus, the Trust was presented with a proposal to spend \$250,000, to participate in a project the total cost of which was twice that much, in order to deliver water to seven non-agricultural irrigators in a way that, although clearly more efficient and fish friendly, was of unknown economic benefit. The entire Trust Board of Directors thought the project was one that should be done, but at the same time they balked at the significant overall cost, not feeling entirely comfortable that such a project was the best use of the Trust's limited acquisition funds.

The high cost of the Rough and Ready Creek project highlights the need for substantial acquisition funds in order for the Trust to have a significant impact on placing water back in the streams, especially on a long term basis. During its first five years of operation, the Trust's entire acquisition budget totaled \$872,000.⁷⁰ Even if staff had been able to find enough willing sellers to spend all of that money on permanent acquisitions, the total fund would have purchased only 2,642 acre-feet of water at an average price of \$330 an acre-foot. At higher prices, such as the South Fork Little Butte Creek deal⁷¹ or the Rough and Ready Creek proposal, the total purchases would only amount to between 1,186 and 1,639 acre-feet of water. With twenty fish species on the threatened and endangered list in the Trust's priority basins, at least partly due to habitat losses, and hundreds of stream segments listed as "water quality limited" throughout the state, at least partially for temperature or flow reasons, converting a mere one or two thousand acre-feet of water to in-stream flows is certainly the proverbial drop in the bucket.⁷²

B. Scientific Uncertainty

The difficulty of assigning dollar values to the fisheries habitat and other in-stream benefits of the Trust's water rights acquisitions has already been described. However, the lack of information about in-stream benefits goes even deeper than mere economics. The Board and staff also encountered a good deal of

⁷⁰ Just over half this amount, \$475,000, was provided by a mitigation escrow account, discussed *supra* note 25, that constituted the Trust's initial acquisition budget. The remainder consisted of an additional \$20,000 received from a timber company for mitigation, \$55,000 raised from private foundations, and \$322,000 awarded through local, state, and federal government to fund specific acquisitions and projects. During the Trust's first five years of operations (1993-1998), the value of water rights acquired totaled \$670,000. Of this amount, \$370,000 represents the value of donated water rights, and the balance of \$300,000 represents the estimated value of seventeen compensated leases and eleven purchases.

⁷¹ See *supra* text accompanying notes 50-52.

⁷² For a comparison of magnitude, the Central Valley Project Improvement Act passed by Congress in 1992 provided for dedication of 800,000 acre-feet of project water to fish and wildlife restoration purposes. Cf. Central Valley Project Improvement Act of 1992, Pub. L. No. 102-575, 106 Stat. 852 (1992). And in the Pacific Northwest, the Bureau of Reclamation recently set a target of finding one million acre-feet of water for in-stream flows in the Snake River to aid the threatened and endangered fish runs. NORTHWEST POWER PLANNING COUNCIL, 1994 COLUMBIA RIVER BASIN FISH AND WILDLIFE PROGRAM 5-21 (1994).

scientific uncertainty in assessing the impact of in-stream flow improvements.

As described earlier, one of the fundamental principles adopted by the Trust was that its efforts were to be grounded in good science. The third staff person hired was a scientist experienced in both hydrology and fisheries. The Board and staff agreed that one component of measuring the Trust's effectiveness would be to monitor the in-stream flows acquired to determine the impact on fisheries habitat and other in-stream benefits. But the Trust personnel quickly discovered that this would be no easy task for a number of reasons. First, there is considerable disagreement within the scientific community of fishery biologists as to how best to determine the interaction of flow and habitat. Federal agencies pioneered the use of a method called the In-stream Flow Incremental Methodology (IFIM). IFIM uses computer software to evaluate "microhabitat" variables (such as depth and velocity of a stream at a given point) and "macrohabitat" variables (such as water quality and temperature along a stream segment), and results in a prediction of usable habitat along a river segment over a period of time.⁷³ IFIM requires large amounts of data and a complete analysis may take many years and dollars to complete for just a single stream segment.

The Oregon Department of Fish and Wildlife is also working in conjunction with the Oregon Water Resources Department to establish streamflow restoration priorities. Oregon fisheries agencies instead use what has come to be known as the "Oregon Method." This method uses manual rankings of various biological and physical factors, such as the number of anadromous species, physical habitat conditions, water quality, natural low flow problems along with water use patterns, and a ranking of "restoration optimism," meaning an estimate of how well fish stocks would respond to restoration.⁷⁴ This method lacks the scientific

⁷³ See GILLILAN & BROWN, *supra* note 17, at 82-83 (citing CLAIR B. STALNAKER ET AL., THE INSTREAM FLOW INCREMENTAL METHODOLOGY A PRIMER FOR IFIM, BIOLOGICAL REPORT 29, 4-6 (Nat'l Biological Serv., U.S. Dep't of the Interior 1995)).

⁷⁴ Communication from Rick Kruger, Instream Water Rights Coordinator, Oregon Department of Fish and Wildlife, to Cheyenne Chapman, Director of Communications and Development, Oregon Water Trust (Dec. 16, 1999) (on file with the Oregon Water Trust). For discussion of the "Oregon Method" for identifying flow requirements for fish, see *Determining Minimum Flow Requirements for Fish*, OREGON DEPT. OF FISH AND WILDLIFE, Jan. 20, 1984; Allan K. Smith, *Development and*

rigor of IFIM, though it does provide an approach to evaluating and comparing flow needs among stream systems and watersheds.

Neither the IFIM nor the Oregon Method readily met the Trust's needs. What the Trust eventually settled upon was an evaluation and monitoring approach that represents more of a qualitative judgment about flow impacts than a quantitative methodology. First and foremost, on each acquisition, it is the Trust's policy to monitor the acquisition simply for assurance that the in-stream right is being protected and not diverted, either by the original water rights holder or another appropriator. One of the factors considered early in the acquisition process is the enforceability of an in-stream water right.

Trust staff will usually have discussed measuring and monitoring needs during the acquisition process with the landowner, adjoining water right holders, the local Water Resources Department watermaster, and the district fish biologist of the Oregon Department of Fish and Wildlife. When an acquisition is made, the staff adds the new in-stream water right to the annual monitoring plan, noting both any special conditions, such as the absence or presence of active water measurement gauges, and historical enforcement patterns for other water rights on the stream, and specifies the monitoring needs for the particular right. For example, the 1999 monitoring plan for the Sucker Creek in-stream water rights states, the "[w]atermaster expects flow conditions to be sufficient to meet most water rights, even those junior to in-stream right. Watermaster will install staff gauge near mouth and will read every two weeks throughout the irrigation season."⁷⁵ The Trust staff attempts to make at least one visit to the site of each in-stream water right each irrigation season, often in conjunction with the local watermaster.

Beyond simply assuring that the required water is in the stream, the more important goal of monitoring is to determine whether the enhanced flows are actually improving habitat. Progress toward this goal is evaluated by periodic field visits, snorkeling the streams to do fish counts, and working closely

Application of Spawning Velocity and Depth Criteria for Oregon Salmonids, in 102 TRANSACTIONS OF THE AMERICAN FISHERIES SOCIETY 312 (1973).

⁷⁵ 1999 Flow Monitoring Needs for In-stream Water Rights Protection (May 1999) (unpublished manuscript, on file with the Oregon Water Trust). This particular acquisition will thus be monitored largely by the watermaster himself. For many other acquisitions, Trust staff may need to use portable gauges and do the monitoring.

with the state's district fisheries biologists to obtain their assistance in evaluating habitat conditions and productivity. At the end of the day, the Water Trust's efforts will be vindicated when there is a documented answer to the question, "How many baby fish did we make?"⁷⁶ The answer will most likely pass through phases of "we don't know" to "some" to "quite a few" before it ever gets to the point of an answer like "300 breeding pairs of steelhead between the mouth and river mile two of Big Creek."

Even before an acquisition is made, evaluating the potential benefits of proposed acquisitions and then determining the impacts of in-stream water rights acquired is made even more difficult by the absence of complete baseline data on streamflows and water rights usage throughout the state. Although state statutes authorize the Water Resources Department to require measurement of all water users,⁷⁷ this authority has not been exercised. Most water users do not meter or otherwise carefully measure their water use.⁷⁸ There are substantial gaps in stream gauging and flow data.⁷⁹

The Trust has compensated for this lack of data by developing its own in-house methodology for identifying and prioritizing water rights for acquisition. First, it focuses on the primary basins of interest and then on selected watersheds or stream systems within the basin. The staff gathers all available ecological, hydrological, and water rights information through consultations with the Oregon Water Resources Department, Oregon Fish and Wildlife Department, and local watershed councils.

Once a particular stream is targeted, information on existing water rights is available online through the state's Water Rights Information System (WRIS), thereby providing basic information about the water right (priority date, rate, point of diversion, etc.) and the land to which the water right is appurtenant. The names of the water rights holders are then gleaned from county tax records. Copies of water rights permits and certificates are usually then obtainable from the land owners themselves, but can also be discovered through public record searches at the Water Resources Department. However, in all cases field work is re-

⁷⁶ See *supra* note 52.

⁷⁷ OR. REV. STAT. § 540.578(2) (1997).

⁷⁸ See Karen A. Russell, *Wasting Water in the Northwest: Eliminating Waste as a Way of Restoring Streamflows*, 27 ENVTL. L. 151, 188-89 (1997).

⁷⁹ See RICK BASTASCH, *WATERS OF OREGON* 12 (1998).

quired to determine the validity and actual use of a particular water right. Some rights may be subject to cancellation due to non-use for a five year period, while others may be valid for a lesser amount than that shown in the public records due to survey mapping errors or changes in irrigation practices. Unfortunately, the relationship of any particular water right to other water rights on the system must be determined on a case-by-case basis, usually without the benefit of adequate gauging data.

How much flow exists in a stream to begin with, how much water the users actually divert and use consumptively, and how converting the consumptive uses to in-stream flows will affect the system both hydrologically and biologically, are difficult questions to answer. These uncertainties can combine to create difficulties for the Trust in obtaining administrative approval for converting its water rights acquisitions to in-stream flows.

In order for the Oregon Water Resources Department (Department) to approve an administrative "transfer" (including a change of the type of use from irrigation to in-stream), the Department must find that there will be no injury to other water rights holders.⁸⁰ It is sometimes difficult to determine whether this will be the case with a conversion from consumptive use to in-stream flows. For instance, an irrigator diverts certain amounts of water at certain times during the growing season. He or she applies the water to the fields, and any water that is not taken up by the crops or lost through deep seepage or evaporation may flow above ground or at shallow depths back into the stream from which it was diverted.

Any such "return flow" that makes it back into the stream is then available for appropriation by others. The return flow reenters the stream some time after the initial diversion, with the actual timing dependent on the soil type, local topography, and many other site-specific factors. Since water diversions and use are not carefully measured or monitored in most places, it is usually impossible to quantify precisely how much return flow any particular user contributes, or when, or where. But on many transactions that the Trust has worked on, neighboring water users absolutely insist that their own water rights are heavily dependent on other irrigators' return flow. Thus, these neighboring water users are very wary of any transaction that simply leaves

⁸⁰ OR. REV. STAT. § 540.578(2).

the entire amount of a water user's right in the stream, because doing so will disrupt the established pattern of diversions and return flows and possibly deprive other irrigators of flows in the stream at certain times of year—flows on which they have come to depend to satisfy their own rights. In the absence of data, this feared injury cannot easily be supported or disproven.

However, despite the frequency of discussions of the return flow issue during the initial negotiations, the Trust has never reduced nor has it been asked to reduce the amount of water applied for because of anticipated effects on return flows. During the Trust's first five irrigation seasons, more than fifty in-stream water rights have been in place, many of them for a few years. Only recently, at the conclusion of the 1999 irrigation season, has a complaint arisen about alleged return flow related injuries due to a protected in-stream water right. This paucity of complaints may be in part because many of the Trust's acquisitions are temporary leases rather than permanent purchases. The Trust Board and staff consider return flow issues as a part of evaluating all potential deals, but no deal has failed to go through solely based on concerns related to return flows.

Moreover, the Trust has negotiated with the Department and other water users on a case-by-case basis to establish the stream reach in which an acquired in-stream flow will be protected. When a watermaster regulates a stream for consumptive users, he or she only needs to make sure that each user has the amount of water to which he is legally entitled at that person's point of diversion (such as at the head of a canal or ditch, at a pumphouse, or at a diversion dam) at the time specified for that person to exercise his or her right. However, when the Trust converts a consumptive right to an in-stream right, it is not sufficient to determine only that the right is being satisfied at some particular point in space and time, because that would defeat the purpose of an in-stream flow right. The same amount of water that was both physically and legally unavailable to other water users when it was being used consumptively must remain legally unavailable for appropriation by others even though it is now physically present in the stream as an in-stream right. That is the whole point of allowing in-stream rights to be created from consumptive rights with senior priority dates. Once the water is protected in-stream it must remain so.

Since the statute does not specify the reach over which an in-stream water right is to be established,⁸¹ this issue was addressed by the state in an administrative rulemaking proceeding. A diversity of viewpoints was represented. These ranged from agricultural interests arguing that in-stream rights should be designated only at a single point on the stream rather than along a reach of the stream, to environmental interests arguing that the protected reach should extend from the previous point of diversion all the way to the ocean. The Trust participated in the proceedings and helped draft a workable compromise that relates the protected reach to measurability of the in-stream flow. Wherever the flow can be detected and measured, it should be protected. In general, this compromise allows in-stream flows to be protected to the mouth of the stream. The protected segment may be shorter if necessary to avoid injury to other water rights holders. The current Department administrative rules thus provide that in-stream rights will be designated for and protected throughout a particular stream reach.⁸²

As a practical matter, the choice of the appropriate segment has become a matter for negotiation with the local watermaster and the Department for each and every transaction. A good example is provided by the Sucker Creek acquisition.⁸³ In this case, three water rights holders were served by a ditch that diverted water at river mile 2.6; that is, 2.6 miles upstream from the mouth of Sucker Creek at its confluence with the East Fork Illinois River. The protectible reach, under the general rule, would normally extend along this entire 2.6 mile segment. However, for a short half-mile stretch of the creek immediately below the original point of diversion, the creek loses water flow during some years in its gravelly bed. In other words, the stream "subs out," disappearing underground and resurfacing further down the creekbed. The Department order approving the in-stream water right specifies that the right is not protectible through the stretch

⁸¹ The point of diversion, or "p.o.d.," is that place along the stream where water is physically diverted from the stream, whether by a pump, ditch, or diversion dam.

⁸² OR. ADMIN. R. 690-077-015(7) (1999). The administrative rule provides:

Normally, a new instream water right shall be maintained downstream to the mouth of the affected stream; however, it may be maintained farther downstream if the amount of the instream water right is a measurable portion of the flow in the receiving stream or for a point or shorter distance if needed to account for return flow or to prevent injury.

Id.

⁸³ See *supra* text accompanying notes 45-48.

that may “sub out,” though it is otherwise protectible to the mouth of the creek.⁸⁴ To date the administrative rule has allowed workable solutions for all in-stream water right transfer applications.⁸⁵

C. Public vs. Private Holdership of In-stream Rights

The Oregon Water Trust was formed specifically to take advantage of the 1987 change in Oregon law that allowed “any person” to purchase, lease, or accept a gift of an existing water right for conversion to an in-stream flow.⁸⁶ From the beginning, the Trust’s founding Board assumed that it would be able to hold in its own name in-stream water rights acquired through market transactions, just as the Nature Conservancy and the Trust for Public Lands hold title to the properties that they acquire for protection. However, as the Trust began operation and started working through administrative issues with the state Water Resources Department, the Department resisted private holdership of in-stream rights by the Trust. The Department took the position that although the Trust could certainly find parties willing to sell, lease, or donate their consumptive rights for conversion to in-stream rights, only the state could actually possess in-stream rights.⁸⁷ After conversion, then, the in-stream rights belong to the state. The state based its position on the definition of in-stream right given in the Oregon In-stream Water Rights Law. The law defines the in-stream right as a “water right held in trust by the Water Resources Department for the benefit of the people of the State”⁸⁸

Within months of its inception, the Trust found itself in an awkward position. Instead of being a full-fledged “trust for water” holding water rights in its own name for long-term protec-

⁸⁴ OREGON WATER RESOURCES DEP’T, SPECIAL ORDER, VOL. 52, at 391 (Apr. 13, 1998) (certificate of water right in the county of Josephine in the state of Oregon, Number 75571) (on file with the Oregon Water Resources Department and the Oregon Water Trust).

⁸⁵ Unsuccessful objections to this approach have been raised by irrigation interests on the basis that protecting an in-stream water right to the mouth of a creek may “enlarge” the original right beyond the land owner’s boundaries. Letter from Laura A. Schroeder, Schroeder Law Offices, to Andrew Purkey, Executive Director, Oregon Water Trust (June 3, 1996) (on file with the Oregon Water Trust).

⁸⁶ See *supra* section I, B.

⁸⁷ Summary of October 31, 1994 meeting between Oregon Water Resources Department and Trust staff (November 1, 1994) (on file with the Oregon Water Trust).

⁸⁸ OR. REV. STAT. § 537.332(3) (1997).

tion of in-stream flows, the Oregon Water Trust was suddenly relegated to being only a "broker," merely arranging deals whereby willing sellers would turn over their water rights to the State of Oregon. Worse yet, in this case the broker would put up the money for the water rights transaction, but would have no ownership interest in what the broker had just bought and paid for. If there is a cliché that is the opposite of "having your cake and eating it, too," this was it.

The Trust eventually decided on a three-pronged strategy to overcome this hurdle. First, the Trust would forge ahead as a broker for in-stream water rights to see if the lack of private holdership would hamper its ability to work with the farming and ranching community. Second, when appropriate, the Trust would formally request that the Department issue an in-stream water right in the name of the Oregon Water Trust, as a possible test case to build an administrative record for possible later court challenge or legislative proposal to address the issue. Finally, if necessary, the Trust would pursue trust ownership of in-stream rights through clarifying legislation or other appropriate means.⁸⁹

Just at the time that the Trust was puzzling over the private holdership issue, a graduate student at Harvard's Kennedy School of Government, Janelle Schmidt, contacted the Trust about doing research and analysis on some aspect of the Trust's efforts. Executive Director Purkey suggested that Schmidt examine the holdership issue, from both a policy and empirical perspective. Schmidt conducted a survey and interviews of selected individuals in the consumptive water user community and presented the Trust with a final written study that described attitudes about public or private ownership of in-stream water rights and how that would affect the Trust's ability to accomplish its mission.

Schmidt's study addressed the question of "whether the Trust should initiate a legislative campaign to change Oregon water law so that it allows the Trust to be cited as the holder of the in-stream water rights it acquires."⁹⁰ The study concluded that the

⁸⁹ 1995-1997 ACQUISITION STRATEGY, *supra* note 35.

⁹⁰ Janelle L. Schmidt, *Instream Water Rights in Oregon: To Hold or Not to Hold?* at iii (1995) (unpublished Master of Public Policy in Environment and Natural Resources Thesis, John F. Kennedy School of Government, Harvard University) (on file with The Oregon Water Trust); *cf.* Jack Sterne, *Instream Rights & Invisible Hands: Prospects for Private Instream Water Rights in the Northwest* 27 ENVTL. L. 203 (1997) (arguing for privately held in-stream rights).

potential negative impacts of such a campaign outweighed possible benefits.⁹¹ The agricultural community, specifically agricultural lobbying groups and rural legislators, expressed the strongest opposition to Trust holdership, based on the fear of “environmentalists gaining too much power in water distribution.”⁹² Since the Trust’s work requires the voluntary cooperation of water users, the majority of whom are agricultural irrigators, the Trust saw a campaign for holdership as potentially alienating those with whom the Trust most needed to build partnerships. On the other hand, individual irrigators were less concerned with who holds in-stream rights than they were with the existence of particular in-stream rights and the implications for their communities. Other interested parties such as environmentalists and corporate executives, both with mitigation needs, were also relatively unconcerned with the holdership issue, instead focusing on the political profile of groups selected to receive mitigation funds that might be used to acquire water rights. Schmidt also examined the effects of holdership on monitoring and enforcing in-stream rights, and concluded that regardless of holdership the Trust can call for enforcement of in-stream rights by the state and provide for monitoring through contractual agreement with the water rights holder.⁹³

On the strength of the information gleaned from the Schmidt study, and on the Trust’s own early experiences as it began to negotiate with water rights holders, it concluded that the state’s position precluding private holdership of in-stream water rights was not the death knell that it originally seemed to be. Even though the Trust had received anecdotal evidence that water rights holders would not want to give up their water rights to the state, apparently this was not as widely held an attitude as suspected, and it looked like the state’s involvement would not be a substantial handicap. There appeared to be a valuable role for the Trust to play as a broker, especially since so many of the early transactions were short-term leases rather than permanent conversions to in-stream water rights.

Just to keep its options open, the Trust, nevertheless, made a formal request for an in-stream water right in its own name, when it submitted its first permanent purchase to the Depart-

⁹¹ Schmidt, *supra* note 90, at iii.

⁹² Schmidt, *supra* note 90, at 39.

⁹³ Schmidt, *supra* note 90, at 18-20; *but cf.* Sterne, *supra* note 90, at 16-18.

ment for conversion to an in-stream water right under the transfer approval process.⁹⁴ The Trust expected the Water Resources Department to refuse the request. The Board would then need to make a decision about whether to challenge the Department in court in order to get a judicial ruling on the correctness of the Department's position. The Department surprised the Trust by proposing to issue a water right in the Trust's name, which nonetheless would not be an actual in-stream right, but instead a "flow augmentation" right.⁹⁵

As a result of its success negotiating water rights transactions, and the Department's issuance of a flow augmentation right to the Trust, the Trust has not felt it necessary to take up the private holdership issue with either a court or the state legislature. However, if and when that time comes a number of both legal and policy choices represented by public versus private holdership of in-stream rights would need to be fully explored.

Of those states that have explicitly provided for in-stream water rights, a majority has limited them to public agencies.⁹⁶ Only Alaska and Arizona unambiguously authorize privately held in-stream rights.⁹⁷ There are some obvious reasons why most of the state legislatures have chosen public ownership. For instance, the purposes behind consumptive and non-consumptive in-stream uses of water are inherently divided, representing the difference between private and public purposes, respectively. Consumptive water rights allow private parties the exclusive use of a portion of the public resource for their own private profit or gain. Irrigators use their water rights to support family farms or

⁹⁴ This transaction was with one of the water rights holders on Sucker Creek, *see supra* notes 45-48 and accompanying text.

⁹⁵ For a variety of reasons, the Trust withdrew the original Sucker Creek request and submitted a different water right with the request for private holdership. The Trust has thus now acquired one right in its own name; this right is called a "fish enhancement" or "flow augmentation" right to distinguish it from in-stream water rights held by the state. This acquisition provides a .09 cfs (40.4 gpm) flow along approximately one mile of Courtney Creek in the Grande Ronde Basin in Eastern Oregon. Courtney Creek provides spawning and rearing habitat for summer steelhead, resident rainbow trout and possibly spring chinook.

⁹⁶ *See* Christopher H. Meyer, *In-stream Flows: Integrating New Uses and New Players into the Prior Appropriation System*, in *INSTREAM FLOW PROTECTION*, *supra* note 20, at 2-8.

⁹⁷ ALASKA STAT. § 46.15.145, 46.15.260 (1998); ARIZ. REV. STAT. ANN. § 45-141A (West 1998); *see also* State v. Morros, 766 P.2d 263 (Nev. 1988). Montana allows leasing to private parties for in-stream purposes, but not permanent private holdership. MONT. CODE ANN. § 85-2-408 (1999).

ranches, or large commercial agribusiness operations. Industries use their water rights in support of private enterprise. Even municipalities and other public water suppliers, though public entities themselves, supply water to be used primarily by private customers for their own purposes.

Non-consumptive, in-stream uses of water instead support the common weal rather than any particular private enterprise. In-stream flows support fish and wildlife habitat, recreation, scenic and aesthetic enjoyment, and pollution absorption and dilution. These represent uniquely public benefits rather than the opportunity to use water for private gains. The definition of an in-stream water right in the Oregon statutes, as a water right held in trust for the benefit of the people, captures this notion of the public character of, and public interest in, in-stream flows.

There are some compelling arguments on the side of allowing private holdership of in-stream rights as well, however. First of all, the line between public and private purposes is not always a bright one. In-stream flows can provide very definite private benefits, as well as more diffuse public ones. For instance, in-stream flows can be valuable to protect private investments in water treatment facilities, to help meet water discharge permit requirements, to provide mitigation for development projects, and to enhance private property values through aesthetic and scenic attractions.⁹⁸ Furthermore, the fact that a statute provides a mechanism for state agencies to apply for in-stream water rights does not mean that this method is exclusive unless the statute also clearly prohibits private or non-state holdership.⁹⁹

Another reason for allowing private holdership is to provide clear accountability for enforcement of rights. When a state agency is the holder of in-stream water rights, and at the same time is responsible for allocating water for consumptive uses, the

⁹⁸ Christopher H. Meyer, *In-stream Flows: Integrating New Uses and New Players into the Prior Appropriation System*, in *INSTREAM FLOW PROTECTION*, *supra* note 20, at 2-6.

⁹⁹ Christopher H. Meyer, *In-stream Flows: Integrating New Uses and New Players into the Prior Appropriation System*, in *INSTREAM FLOW PROTECTION*, *supra* note 20, at 2-8. On this point, Oregon's law is ambiguous. The definition in the Oregon Revised Statutes (ORS) § 537.332(3) declaring that "an instream right is a water right held in trust by the Water Resources Department," seems to be in conflict with ORS § 537.348, which provides that "[a]ny person may purchase or lease . . . or accept a gift of an existing water right . . . for conversion to an in-stream water right." In fact, Meyer even suggests it might be unconstitutional in some states to restrict in-stream rights to public agencies.

agency can find itself in somewhat conflicting positions. Consumptive water rights holders are a large and economically motivated constituency that can bring substantial pressure to bear on the agency to regulate in their favor. In-stream rights have less of a "voice," especially when there is no comparable outside owner to argue for protection of the right.¹⁰⁰ Watermasters in Oregon have a close working relationship with the consumptive water users they serve, and in fact, local counties and communities provide office space, equipment, and a portion of watermaster staff salaries.¹⁰¹ Furthermore, state water agencies are notoriously underfunded for field work and enforcement. Water rights enforcement is a complaint driven process, and the squeaky wheel gets the grease; that is, when a water right holder complains that his right is not being met, the watermaster surely investigates. If it is the Department itself that is the squeaky wheel for in-stream rights, complaining is not likely to occur because the enforcement staff is already overworked trying to respond to user complaints.¹⁰²

Allowing private parties to hold in-stream water rights would solve some of these problems. Each in-stream right would have a champion and a defender, not dependent on the vagaries of state funding or politics for its protection. In-stream rights could then truly take their place as equivalent rights in the prior appropriation system.¹⁰³

D. Ongoing Legal and Policy Hurdles

The private holdership issue was not the only legal barrier encountered by the Oregon Water Trust in its formative years, although it appeared to be the largest legal barrier because it seemed to strike at the very foundation of the Trust's governing principles and reason for being. A number of smaller challenges and barriers also cropped up during those first five years. Since the Trust is really the first entity to try out the section of the

¹⁰⁰ See generally Sterne, *supra* note 90; see also JANIS E. CARPENTER, ENFORCEMENT OF INSTREAM WATER RIGHTS (1995).

¹⁰¹ OR. REV. STAT. § 540.075, 540.080(1) (1997). See generally Sterne, *supra* note 90; CARPENTER, *supra* note 100 (discussing political pressures on watermasters that may prevent them from protecting state held in-stream rights).

¹⁰² See generally CARPENTER, *supra* note 100.

¹⁰³ See generally Christopher H. Meyer, *In-stream Flows: Integrating New Uses and New Players into the Prior Appropriation System*, in INSTREAM FLOW PROTECTION, *supra* note 20; Sterne, *supra* note 90; CARPENTER, *supra* note 100.

Oregon in-stream water rights law which allows the conversion of existing consumptive water rights to in-stream rights, it has had to work out the kinks in the system and assist in developing the procedures for implementing the law.

1. *Developing the Legal Infrastructure for Administering In-stream Water Rights*

Even though the in-stream water rights law had been on the books for several years, when the Trust opened its doors in 1993, the Department had not developed implementing rules or even appropriate application forms. This lack of infrastructure has proven to be a barrier to parties interested in using the new law.¹⁰⁴ The Trust was fortunate to have the resources to support working with Department staff and participating in administrative rulemaking processes to help develop, influence, and test the evolving programs. For example, when it became apparent that leasing rather than permanent transfer was preferred by most water right holders, the Trust had to work with the Department and interest groups to explore the authority and develop the legal framework within which leases could operate. Trust staff became key participants in a two year process of rule development for a leasing program, helping to “road-test” the process as it went along. Other issues, such as identifying the reach of in-stream rights and quantifying rights in the absence of good gauging and measurement, have also necessitated negotiation, administrative rule-making, and ongoing policy discussions with the Department.¹⁰⁵

2. *Consistency in Treatment for Consumptive and Non-Consumptive Rights*

The Trust has had to exercise vigilance to assure that in-stream water rights are not treated as second class water rights, and thus not afforded the same lack of respect and proper handling as out-of-stream consumptive rights. For example, in discussing proposed water rights acquisitions and conversions with the Department, the Trust discovered an interesting problem. In a couple of cases, the Department told the Trust that it would not approve conversion of the full amount of a water right holder’s paper

¹⁰⁴ See *supra* notes 37-48 (discussing the challenge for private parties trying to use in-stream water rights law before the Department had adopted rules).

¹⁰⁵ See *supra* text accompanying notes 81-84.

water right to an in-stream right because the watermaster believed that a portion of the right had been forfeited for non-use, such as by failing to irrigate a certain parcel of land continuously for more than five years at some time during the past fifteen years. Still the Department had no intention of pursuing cancellation of the right, and in fact, would not object if the irrigator started applying water to that parcel again, or even if a transfer was proposed to another irrigator. However, if a transfer was proposed to an in-stream right, the Department would not allow the unused portion to be transferred, unless it was first "recaptured" by at least one season of agricultural use. This blind eye toward enforcement of forfeiture is questionable, and at the very least, it represents inconsistency between the treatments of in-stream and consumptive uses. If the forfeiture is going to be ignored in agricultural transfers, it should be ignored in in-stream transfers, as well. Otherwise, cancellation proceedings should be consistently initiated for all unused water rights, regardless of what new use is proposed for the water.

3. *Split-season, Split-duty Transfers*

The most difficult acquisition for the Water Trust has proven to be the transaction in which it is proposed to permanently remove all or a portion of an irrigation water right from a parcel of land to which the right is appurtenant. Even when the Trust can find a water rights holder willing to sell a water right, neighboring water rights holders often object to the transaction because they are either concerned that the transfer will somehow interfere with their use of water or they are generally opposed to converting consumptive rights to in-stream rights or both.¹⁰⁶ The fear is grounded in the argument that the sale of appurtenant water rights will justify the broad separation of those supposedly inviolable rights entirely from the land. The Trust is thus always looking for win-win situations where in-stream flows can be improved without entirely eliminating irrigation. This is why several of the Trust's permanent acquisitions have come about as a result of conserved water projects, where the Trust's funds help an irrigator become more efficient, and the water savings are then converted to in-stream flows without any diminishment in land base or crop production by the irrigator.¹⁰⁷

¹⁰⁶ See *infra* discussion of the politics of in-stream water rights in section III, E.

¹⁰⁷ See *supra* text accompanying notes 49-52.

However, conserved water projects are not always possible, or feasible, from a cost-benefit perspective¹⁰⁸ so the Trust has sought other types of arrangements whereby irrigated agriculture can continue while still converting a portion of the water right to in-stream flows. One possible arrangement has been called “split-season” or “split-duty” leasing or sale. Take the example of a rancher who uses his water right to irrigate hay pasture. He usually irrigates throughout the spring and summer in order to get three cuttings of hay from his pasture. However, he could still support his operation by only irrigating until a certain point in the season, and then taking his chances after that, either being able to get a third cutting without additional irrigation, or getting by with only two cuttings of hay. He would thus be willing to forgo late-season irrigation, thereby giving up a portion of the water he would normally consume, in exchange for some income. Since the late summer and early fall are critical periods for the fish as well (when low streamflows can interfere with migration and spawning) putting even small amounts of water back in the stream at those times can be very beneficial.

However, the Oregon Water Resources Department has so far been unwilling to entertain such “split-season” transactions.¹⁰⁹ The Department is wary of this approach for a number of reasons. The first reason has to do with the strict legal parameters of appropriative water rights. A water right is limited to a particular beneficial use, such as irrigation.¹¹⁰ If a rancher is still accomplishing his intended and permitted beneficial use, but doing so with somewhat less water for whatever reason, his water right correspondingly shrinks.¹¹¹ He does not have a right to control the additional portion of water just because he might have used

¹⁰⁸ See *supra* text accompanying notes 68-69.

¹⁰⁹ A related concept is a “split duty” transaction, in which the consumptive user’s paper water right would be divided in amount throughout the whole season, with some going to the consumptive use and the rest being protected in-stream, rather than allocated sequentially over the season. For example, if an irrigator had a paper water right for a total water use of 100 acre-feet, only 50 acre-feet would be used for irrigation, and 50 acre-feet would be leased to an in-stream right. This approach has been proposed by the nursery industry in particular, because their water needs vary in different years. They see a benefit to leasing a portion of their water to a group like the Water Trust to protect the water rights from forfeiture and obtain income at the same time.

¹¹⁰ See generally Janet C. Neuman, *Beneficial Use, Waste, and Forfeiture: The Inefficient Search for Efficiency in Western Water Use*, 28 ENVTL. L. 919 (1998).

¹¹¹ To avoid this result, a water user must use the conserved water statutes, to get “credit” for a demonstrated reduction in water use. See *supra* note 50.

that much in past seasons. Therefore, the Department does not consider a split season, split duty lease, or a sale a legal use of a water right. Furthermore, the use of split-season or split-duty transactions would not necessarily be limited to in-stream conversions, and the Department is concerned that the practice could result in enlargement of water use and "water spreading" to additional acreage currently without water rights. An irrigator might want to lease a portion of his or her right to another consumptive user, and the result could be more consumptive water use altogether than if no such leasing were allowed. The problem, of course, for both the Trust and Department is that in most cases it is impossible to establish, with any precision, how much water an irrigator has been using on a regular basis.¹¹²

The Trust is certainly not interested in transactions that transfer water to in-stream rights on paper, while in fact diminishing flows because they result in greater consumptive water use. However, in appropriate cases, a farmer or rancher might have good records showing a stable amount of water consumption over a period of years, and demonstrating that but for the transaction with the Trust, he or she would have continued that use pattern. In those circumstances, if the water user wants to give up a portion of that consumption for in-stream flows in exchange for some income, it seems that the state should be willing to approve that transaction. The Trust has thus proposed that the Department consider a pilot project to test this concept in certain limited circumstances to see if the agency's concerns can be adequately addressed.¹¹³

Another policy challenge for the Water Trust has been the question of how to handle transactions in which a water rights holder wants to sell a surface water right to the Trust, and then use the proceeds of the sale to convert to groundwater, continuing the consumptive water use exactly as before but with groundwater instead of surface water.¹¹⁴ At the present time, Oregon

¹¹² See *supra* text accompanying notes 76-78.

¹¹³ Although the Department initially seemed interested in pursuing such a pilot project under the authority of the conserved water statutes, it seems that the issue has been dropped.

¹¹⁴ Such a substitution may be attractive to a water rights holder, because groundwater tends to be of higher quality and a more reliable source of satisfying a water right because of its even flow and temperature. Although groundwater may be more expensive because of the capital investment needed in drilling a well, installing a pump, and the ongoing pumping costs, if a water user can obtain these funds elsewhere (i.e., the Trust) the changeover may be worth it in the long run.

law only partially and imperfectly accounts for the hydrologic connections between groundwater and surface water.¹¹⁵ Thus, if the same amount of water is ultimately being extracted from the same hydrologic system by groundwater pumping, it is very possible that an in-stream right obtained in this type of a transaction would not accomplish the goal of improving streamflow in the surface water body. The Trust has thus rejected some proposed deals where there was insufficient information to make a judgment about what the effect would be of substituting groundwater for a surface water right.

E. Political and Philosophical Barriers

The Oregon Water Trust was founded on the simple principle that the market can work for the restoration of in-stream flows. Rather than arguing over whether a water rights holder could be legally regulated to improve in-stream flows,¹¹⁶ the Trust simply finds individual water users who are willing to make a voluntary, mutually beneficial transaction. Indeed, market environmentalism does not fight the claim of water rights holders that water rights are inviolable individual private property rights, but embraces it. The Trust's founding Board was thus somewhat surprised at the amount of resistance it encountered to the voluntary sale of water rights within the community of agricultural water rights holders. It appears that some segments of the farming and ranching community hold firm to the private property rights claim when resisting government regulation or environmentalists' criticism, but are more willing to consider water rights a communal resource when one of their neighbors proposes to sell a right for conversion to in-stream flows. In that case, the individual's right to make a voluntary deal with his own property takes a back seat to the neighbors' and interest groups' view that the water should stay on the land in irrigation rather than go in-stream to help fish.

The Trust has encountered this resistance on several fronts. The Oregon legislature has entertained proposed legislation every session since 1995 attempting to prohibit transfer of agri-

¹¹⁵ See, e.g., OR. REV. STAT. § 390.835 (9)(a) (1997) (placing a high burden of proof on the Department in order to deny a groundwater permit that might affect surface flows in a scenic waterway); OR. REV. STAT. § 540.531.

¹¹⁶ See *supra* text accompanying notes 20-23.

cultural water rights to any use other than agricultural use.¹¹⁷ In 1995, an even broader salvo was launched against in-stream rights in general, with a bill that proposed to repeal the entire Oregon In-stream Water Rights Law.¹¹⁸ None of these bills have yet become law, but in 1995, at least one of them did pass one house of the state legislature.¹¹⁹

Certain agricultural interest groups have stated varying levels of opposition to converting agricultural water rights to in-stream flow rights. The Oregon Water Resources Congress, an interest group representing irrigation districts, initially took an official position that would support only leasing of water rights for in-stream purposes, and not permanent transfers. The Oregon Farm Bureau took a similar position. The Cattlemen's Association has stated general opposition to in-stream rights at various times, although the group has not taken an official position to that effect.

The concern of agricultural interest groups is certainly understandable. Western agriculture finds itself in an increasingly defensive position about the environmental impacts of farming and ranching activities, with water quantity and quality problems at the heart of the debate. Meanwhile, western demographics and land uses are changing, placing physical and economic pressure on farmers and ranchers. Since water for irrigation is absolutely critical to much of the West's agriculture, the resistance to separating water from the land is powerful indeed. It is thus not possible to completely avoid these larger political tar pits even while implementing what seemed to be a fairly straightforward mission of using voluntary market transactions to restore in-stream flows one acquisition at a time.

Individual water rights holders are certainly not required to align their own views with those of official agricultural interest groups, and the Trust has found many farmers, ranchers, and other water users who are willing and eager to deal with the Trust for any number of their own personal reasons. However, the Trust has also encountered skepticism among the water rights holders themselves, and has found it much easier to negotiate

¹¹⁷ See, e.g., H.R. 3100, 68th Leg., Reg. Sess. (Or. 1995); H.R. 2628, 69th Leg., Reg. Sess. (Or. 1997); H.R. 3280, 70th Leg., Reg. Sess. (Or. 1999).

¹¹⁸ See H.R. 3100, 68th Leg., Reg. Sess. (Or. 1995).

¹¹⁹ *Id.*

short-term leases than long-term leases or permanent acquisitions.

There is still no broad consensus that rivers need water,¹²⁰ at least not if it means any loss of consumptive water use to accomplish that goal. Generations of farmers and ranchers have grown used to the idea that if there is water in the stream, and their water right is not being satisfied, they can take it, unless an irrigator with more senior priority is waiting downstream. When that senior right is in fact an in-stream right, it is very difficult for an irrigator with dry ground to let the water go by, even though he would certainly do so with respect to another irrigator. Sharing with other irrigators in times of shortage seems to be easier to accept than sharing with the fish. It will take many years of education, building trust, accomplishing successful transactions, and shared joy in seeing aquatic ecosystems rebound before these attitudes will begin to change.

IV

RECOMMENDATIONS: ADVICE AND COUNSEL FROM THE OREGON WATER TRUST

A. *Practical Advice to Start-up Water Trusts*

The four most important pieces of advice that the launch of the Oregon Water Trust provides are (1) to bring diverse interests into the organization; (2) to build organizational strength early; (3) to establish cooperative working relationships with agencies and interest groups; and (4) to prepare for the long haul. Measured against these four guidelines, the areas in which the Oregon Water Trust has excelled have helped it take great strides toward using the market to restore in-stream flows in Oregon.

1. *Bringing Diverse Interests into the Trust*

The variety of perspectives and experience intentionally represented on the Trust's Board of Directors has consistently been one of the organization's greatest strengths. Each of the Board members brings a very distinctive take on the issue of in-stream flows to his or her work with the Water Trust. The Board in-

¹²⁰ This is not a simple statement of fact, but has instead become a political slogan on the environmental side of the water battles, as the motto of the environmental group WaterWatch. Meanwhile, one of the agricultural interest groups has named itself "Water for Life."

cludes representatives of environmental groups who are actively advocating for increased in-stream flows in many forums. Other Board members are representatives of water users whose job it is to defend those water users' interests. Tribal representatives advance the particular interests of the Native American water management community, which often combine environmental and user interests in unique ways. Academic Board members bring an interest in and perspective on policy analysis, and corporate Board members place the Trust's efforts into a larger business context. What emerges from a combination of these perspectives is synergy and even alchemy. The decisions reached by the full Board are clearly different than an individual Board member's decision would be, and the outcomes are definitely greater than the sum of the parts.

The extent to which each perspective is important and valued is revealed by the reluctance of the Board to reach final resolution on any significant issue without the involvement and consensus of each and every member. The members often note that, although they may have a predilection on certain questions or issues, they want to hear what the others have to say before making a final call. The discussions of both policy questions and practical matters at Board meetings are detailed and thoughtful, and the participants often comment on how the discussion has either changed their mind or refined their thinking.

This process of cross-fertilization, mutual education, and synergistic decision-making supports the Trust's basic mission of attempting to use voluntary market transactions to aid in-stream flow restoration. In order for a voluntary process to work, it must have something for everyone; not only for the parties to the transactions, but also for the agencies overseeing the process and the watchdog interest groups who are capable of challenging and even interfering with the transactions. Thus, the more the various perspectives can be fleshed out and accommodated throughout the process, the more successful the Trust's efforts ultimately will be.

2. Building Organizational Strength Early

Another step that has paid off tremendously for the Trust is the process of developing and adopting a plan that addressed the need to build both internal and external capability from the Trust's earliest days. Taking the time and money necessary to

prepare plans, adopt decent pay scales, develop worker-friendly personnel policies, acquire necessary equipment, and develop the computer systems to support the organization's mission, was hard for this start-up organization when it was impossible to say whether the Trust would exist in a few years' time. But, in the end, committing to these practices early gives the employees the tools they need to do their jobs, and builds external credibility for the organization with funders, agencies, and others with whom the staff and Board need to work.

One of the features that helped the Trust build organizational strength was the fortuitous combination of knowledge and commitment brought to the enterprise by the founding Board members. The Trust has been very fortunate to find Board members who have had considerable experience at building and leading other organizations, and who are also willing to invest significant time as a hands-on Board to lend that experience to a brand new organization. The experience level also guarantees that the Board generally knows their own limits, and though they are more than willing to spend significant time in meetings and planning retreats, they also know when to turn to outside experts. The Trust has utilized outside help for planning, financial and accounting advice, computer system development, and legal assistance. The approach chosen has resulted in the development of excellent internal systems supportive of the Trust's mission, without overworking the Board.

3. Building Relationships with Agencies and Others

From the beginning, the Water Trust Board and staff have worked to cultivate positive relationships with state and federal agencies and other groups interested in water management issues. Trust staff consult on an almost daily basis with staff of the Water Resources Department—both central office policy staff and field personnel—and with field staff from the Department of Fish and Wildlife. The Trust has tried to strike a balance between becoming an expert in its own right on issues of in-stream flow restoration and utilizing the expertise of others in the field. Although the Trust is happy to claim expert status in the very narrow area of acquiring water rights to convert them to in-stream flows, the Trust staff depends on others to be the experts in hydrology, irrigation, water management, and fisheries biology. This approach appears to be paying off in a growing atmos-

phere of mutual respect. The Trust has become acknowledged as a significant player in the in-stream water rights field. Trust staff and Board members are often invited to participate in policy discussions with agency personnel, both state and federal, local and farflung, and to speak in numerous forums about our experiences. Trust staff and Board members enthusiastically participate in educational conferences all around the country to describe the Trust's efforts and programs. Trust staff are regular participants in ongoing rulemaking efforts to more fully implement the in-stream water rights laws.

Building productive working relationships with governmental agency offices and personnel has been relatively easy since the agencies are centrally located and normally have clearly understood organizational lines. A more concerted effort is required to build relationships with local entities all over the state, such as agricultural interest groups, local governments, watershed councils, chambers of commerce, real estate groups, and other community leaders. The Trust continues to suffer somewhat from the perception of many that it is just another Portland-based environmental group, however inaccurate that may be. However, continued efforts at public outreach have been clearly identified as an important part of the Trust's strategic plan and work on this challenge is ongoing.

4. Prepare for the Long Haul

One of the most significant lessons that the Water Trust can pass on to other similar organizations is the need to prepare for the long haul. The Trust began its work with a certain amount of optimism, planning to jump right in and take advantage of the opportunities presented by the Oregon in-stream water rights law to convert consumptive water rights to in-stream flows using private market transactions. But the experience in the first five years of the Trust's efforts demonstrates that even with a favorable legal structure, the process of changing the way the system has operated for more than a hundred years, and fully integrating in-stream rights into the prior appropriative system, is a slow and challenging one. An effort that depends on voluntary sellers requires at least a certain amount of good will and public acceptance for any transactions to take place. Yet there is a great deal of skepticism and defensiveness among agricultural water users about whether any program that separates water from the

land can possibly be a good thing; whether it occurs through regulation or voluntary individual action. Only time will solve that problem, either by changing attitudes or demonstrating a critical mass of mutually beneficial transactions. Organizations that want to participate in this long-term change will need to prepare for the long haul. That means doing the groundwork necessary to build a stable, long-term funding base, and establishing a credible reputation as a significant player in both the areas of in-stream flow restoration and market environmentalism.

Furthermore, the Trust's experience shows that using the market to convert significant amounts of water to in-stream flows will be a fairly expensive proposition. This means that creation of a successful market for in-stream water rights cannot be accomplished by a few non-profit organizations on shoestring budgets. Substantial acquisition funds need to be developed, using a combination of private foundation money, direct individual private contributions, government funding, and corporate funds, whether in the form of charitable contributions or mitigation payments. Only a broad-based, diversified funding base will be capable of producing the necessary magnitude of funding.

B. Advice to Policy Makers

An important role for policy makers in improving the climate for entities like the Water Trust who want to use the market to restore in-stream flows is to help with educating the public that rivers need water. The philosophical and concomitant political resistance to allowing a certain amount of water to remain in-stream is one of the most significant barriers to successful use of the market to restore in-stream flows. But it represents an archaic view of properly functioning aquatic systems. When the foundational components of the western prior appropriation doctrine were sketched out in the late 19th century, scientific and societal understanding of water resources was rudimentary. What was good for short-term, immediate human interests (such as irrigating arid land) was good, period. But now, at the beginning of the twenty-first century, scientific knowledge is far more complex. One hundred years' worth of activities that dried up rivers and streams have been recognized to have significant costs, not only to the natural systems themselves and the creatures that directly depend on them, but also to long-term human social and economic interests. Agencies charged with water resources man-

agement, and water policy leaders in Oregon as well as elsewhere, should be at the forefront of disseminating and interpreting this improved understanding.

Other barriers to market restoration of in-stream flows are in the nature of legal structure which policy makers can address more directly than attitudes. For instance, policy makers in states that have not yet officially recognized in-stream flows as a beneficial use of water ought to do so. Those states that have not yet provided a mechanism for converting consumptive water rights to in-stream rights should move ahead to create such a mechanism consistent with local law. Allowing individual water rights holders to contribute to in-stream flow restoration when it is also in their own best economic interests, without being forced to do so by regulation or other government action, certainly seems like one of the least painful ways to accommodate the growing recognition that both in-stream and out-of-stream uses need to coexist in order to support sustainable agricultural economies over the long term.

Finally, once those foundational barriers are eliminated, policy makers need to be flexible in determining how to integrate in-stream water rights into the preexisting prior appropriation system. In-stream rights do not fit neatly into all the defined boxes of existing law and practice. Creative and innovative approaches will be necessary to place in-stream rights into their proper place into the hierarchy.

CONCLUSION

The Oregon Water Trust was the first trust for water in the country. As with all pioneering efforts, the first five years of operation have been a learning process. Overall, however, the experience of the Trust has been tremendously successful. With a portfolio of nearly fifty water rights transactions, and milestones in the form of permanent acquisitions and conserved water projects, the Trust is well on its way to building the market for in-stream water rights in Oregon, and by example, throughout the West. The advice to other water trusts interested in using market environmentalism to restore in-stream flows is "Come on in, the water's fine!"