Chapter 12
Legal Tools for Instream Flow Protection

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Across North America, flow alterations and diversions have led to the depletion of stream flow-reliant ecosystems and ecosystem services. In western states and provinces, the law historically considered water left in the stream to be wasted. Western state laws encouraged full appropriation of rivers and streams, primarily to satisfy the need to divert water to arid areas for economic and domestic purposes. In Eastern states and provinces, stream flows have been altered and depleted through channelization, dams, levees and other structural changes. By the 1970s, "salmon populations were crashing, riparian habitat was being lost, and... legendary rivers like the Rio Grande had become little more than concrete-lined conduits."1

In the mid-twentieth century, citizens began to demand protection for the rivers they valued for fishing, swimming, boating, inspiration and aesthetic pleasure. Legislatures responded with statutory provisions for wild and scenic rivers, water quality requirements and constraints on the exercise of water rights. Oregon is credited with adopting the first protective instream flow legislation in the United States in 1955.2 Montana and Colorado followed suit in 1969 and 1973, respectively.3 By the 1990s, instream flow laws had been adopted in many jurisdictions.4

Statutory parameters and on-the-ground implementation vary widely between jurisdictions. In western North America, key differences in instream flow laws include:

- restrictions on the allowable sources of water that may be used for instream appropriations, and
- limitations on who may obtain instream flow rights and the purposes for which instream rights may be appropriated.

Relatively few river miles have been protected by state water law. For example, since the passage of its instream flow legislation in 1984, only two percent (247 miles (397 km)) of Nebraska's streams have received protection through instream flow appropriations, 239 miles (384 km) of which are on the Platte River.5 Other Rocky Mountain states have similar track records; only one percent of Idaho's 93,000 stream miles is protected.6

Instream flow legislation in the states and provinces of Eastern North America tends to be less clearly delineated. Eastern jurisdictions rely heavily on the common law riparian concept of reasonable use, which may implicitly protect instream values.7 The protection of instream flows in the east is also driven by statutes that define reasonable use, some of which explicitly protect fisheries, water quality and other instream values.

In the United States, federal legislation also plays an important role in protecting instream values—primarily through hydropower licensing requirements, water quality provisions and endangered species protection. Rivers designated as wild, scenic or recreational under federal or state law receive special attention. In many cases, federal funding for water transfers, fishways and restoration initiatives has also been key to restoring and maintaining instream flows.
About this Chapter

This chapter provides a "big picture" overview of instream flow law, focusing primarily on U.S. common law and legislation, with comparison to Canadian laws throughout. It takes a straightforward, jurisdictional approach to the law of instream flow protection.

First, this chapter provides background on the recognition of the benefits of instream flows in law and public policy. It then examines the following topics in reference to the western jurisdictions:

- pertinent legal questions regarding available water sources,
- identity of authorized appropriators, and
- allowable purposes and other innovations or restrictions on instream flow appropriations.

For eastern jurisdictions, the following topics are examined:

- case law and legislation defining reasonable use, and
- establishing minimum flow levels for fisheries and other purposes.

This chapter then assesses U.S. federal statutes and common law with transboundary application, including:

- Federal Power Act,
- Endangered Species Act,
- Clean Water Act,
- Wild and Scenic Rivers Act, and
- reserved water rights.

The chapter then examines the takings clause, a potential restriction on securing instream flows, and addresses the countervailing public trust doctrine. The chapter's last section addresses the Canadian Fisheries Act.

The Benefits of Instream Flow Protection in Law and Public Policy

The legal protection of instream flows benefits both ecological and economic interests. Scientists have long known that adequate stream flows are the essence of what makes a stream or river, and that instream flows contribute to vital ecosystem services, including filtration, dilution of sewage and other effluents, fish and wildlife needs and recreational forms of all types, such as fishing, hunting, boating and aesthetics. Instream flows also supply water for electrical generating plants, hydropower, navigation and groundwater recharge. In addition, maintaining instream flows benefits riparian wetlands, which in turn help absorb flood waters and polluted runoff, provide migratory bird habitat, keep exotic species in check and promote economic vitality for nearby communities.

Given the tremendous value of these ecosystem services, economists have climbed onto the flow protection bandwagon as well. North America's future economic vitality could be enhanced substantially if instream flows were protected by effective legal provisions. Ecotourism and recreational uses provide a significant source of revenue. A 2001 U.S. Fish and Wildlife Service survey shows the following monetary values for recreational activities in Nebraska:

- fishing: $307 million;
- wildlife-watching: $211 million;
- hunting: $306 million.

Expenditures related to wildlife-watching on Nebraska's central Platte River alone totaled as much as $20 million, with 75% originating from residents of other states. In Wyoming, anglers spent over $420 million in 2002, and angling averaged $300 million annually in Montana. Meanwhile, whitewater recreational kayaking parks are becoming wildly popular and profitable in Colorado.

The law of instream flow protection, on the other hand, has been relatively slow to develop. In 2006, The Nature Conservancy conducted a survey of staff members of state and federal agencies and non-governmental organizations which found that an "overwhelming majority" of the respondents agreed that scientific understanding of riverine ecosystems and technical tools used in establishing instream flow levels were by and large sufficient, but...
Western North American instream flow laws range from simple recognitions of the ability to appropriate an instream flow to complex statutory schemes.

Western Instream Flow Law

While many western states and provinces have acknowledged the need for instream flow protections, the legislative adoption and implementation varies widely. Western North American instream flow laws range from simple recognitions of the ability to appropriate an instream flow to complex statutory schemes. To fully understand the laws they must be placed within the historical context of prior appropriation law.

Prior Appropriation 101

Prior appropriation arose during the late 1800s as a way to maximize the use of a scarce resource on non-riparian parcels in order to promote settlement and economic development. Common wisdom has it that western courts in the U.S. simply followed the customs of the mining camps in the use and allocation of water, but the underlying objectives were almost certainly more complex. The Colorado Supreme Court recently observed that the roots of Colorado water law reside in the agrarian, populist efforts of miners and farmers to resist speculative investment that would corner the water resource to the exclusion of actual users settling into the territory... Colorado's provisions reflect the anti-monopolistic undergirding of this state's water law.

The prior appropriation regime—often described as first in time, first in right—serves as a simple way to determine who gets water and how much they can use. A water right is measured by how much is diverted, and put to beneficial use.

This definition of water rights emphasizes the diversion of water, which compels the depletion of stream flows and perpetuates the idea that any water left in the stream is effectively wasted. In addition, the types of legally sanctioned beneficial uses has historically worked against instream flow protection. Acceptable uses include domestic, agricultural and industrial activities, but most states only recently began to recognize fisheries, recreation and other instream values. Although wasteful uses are not considered beneficial, definitions of waste are quite lenient. Excessively leaky canals have been prohibited in some cases, but the benchmark—historic, conventional uses and technologies—forgives many wasteful uses, and enforcement against waste has been the exception rather than the norm.

The Canadian Parliament recognized a similar doctrine for the western prairie provinces in 1894 (British Columbia followed suit in 1897). The doctrine was termed prior allocation. The Canadian model is quite similar to prior appropriation, but with a few important differences. Like prior appropriation, in times of shortage a senior licensee is entitled to receive the entire allotment of water specified in the license before junior licensees receive any water. The Crown is deemed to have ownership of all surface and ground water resources, however, the quantity of water allotted to the licensee is measured by the administrative decision reflected in the license instead of by the amount an individual appropriator puts to beneficial use. Transfers between users were generally disallowed by the requirement that every water license reflects a particular source of supply and point of diversion; any removal of water from a different point or for a different purpose was a breach of license terms and a statutory offense. The 1920 amendments to the Irrigation Act created a
narrow exception that allowed limited transfers of water rights away from the appurtenant land for preferred uses of water (as ranked by the legislature), if the new user provides compensation.\textsuperscript{20}

Given the pressure to divert water and put it to use and a lack of sophisticated record-keeping and enforcement mechanisms, over-appropriation quickly became an almost insurmountable problem in many watersheds of the west.\textsuperscript{21} By encouraging individuals to use water for maximum beneficial uses, prior appropriation promoted rapid depletion of the resource and, in some cases, the collapse of riparian communities.

Additional facets of prior appropriation, including abandonment and forfeiture, force water right holders into a use it or lose it mindset. These elements penalize water rights holders for conservation or innovation and motivate them to use as much water as possible. Prior appropriation in its pure form, then, leaves little room for conservation or recognition of other collective societal values, such as instream flows, ecosystem management or recreation. It does little to encourage sustainable water management.

**Statutory reforms in western Canada**

Like the common law of the western U.S., water law in western Canada was ill-designed to address instream values. Historically, water licenses of indefinite duration were granted free of charge. They were not readily transferable, and if license holders didn’t exercise their rights—if they left water in the stream—they risked their license being cancelled for non-use.\textsuperscript{22}

On a number of streams, over 150% of the flow has been allocated to agricultural purposes under existing permits.\textsuperscript{23} Although Saskatchewan and Manitoba generally have legislative authority to take water from existing users and to devote it to other public purposes, “it would be politically difficult—if not impossible—to exercise this power by telling a licensee that water that was formerly put to viable economic use is now required for environmental purposes.”\textsuperscript{24} In sum, the system enables water use “to adapt in the face of changing societal needs only in the most cumbersome manner.”\textsuperscript{25}

**Change in western Canadian water law**

Fundamental changes crept into western Canadian water law in the mid-1980s. Since then, Manitoba and Saskatchewan have implemented reforms and Alberta has tried new approaches. Both Manitoba and Saskatchewan created a legal mechanism to transfer water from licensees with excessive uses to new users or to increase instream flows in the river. Meanwhile, Alberta adopted a market-based approach to address the problems of inefficient water use by allowing voluntary transfers of all or part of existing allocations to new users. The process is highly regulated, however, and there have been but a handful of transfers since the Water Act came into effect in 1999. British Columbia also allows transferable water rights.\textsuperscript{26} Not all transfers are desirable, however; some may actually intensify water use by motivating licensees to transfer water that might otherwise return to the river or seep into wetlands.\textsuperscript{27}

Legislation in the western provinces generally fails to explicitly recognize environmental factors in the licensing process. The Saskatchewan Watershed Authority Act gives the Authority complete discretion on whether to issue a license and on setting the terms of the license. This approach is unusual because “it fails to even contemplate the possibility of environmental input into decisionmaking and creates no basic procedural safeguards which would allow environmental issues to be raised.”\textsuperscript{28} Manitoba does not formally require the consideration of environmental factors either, but its Water Rights Act does authorize several procedural steps in which environmental issues may be publicly raised. “The recent history of major water allocations in the prairie provinces suggests that in the absence of statutory requirements, the decisionmaker is unlikely to pay serious attention to environmental considerations.”\textsuperscript{29}
Alberta Water Act—a new approach

The Alberta Water Act modifies the traditional approach to water allocation by integrating the evaluation of applications for water licenses with certain aspects of the provincial environmental protection regimes. The director is authorized to consider the effect of the proposed license on the aquatic environment as well as its hydrological effects. In addition, the Act’s procedural requirements increase the likelihood that environmental concerns will be aired in licensing decisions by allowing input from those who are “directly affected,” such as property owners. As is the case in the U.S., once the waters of a river basin are fully allocated, it is difficult to restore instream flows because of threats to the rights of existing users. The Alberta Water Act’s transfer system helps to address instream flow deficiencies by authorizing a 10% conservation holdback from the amount of water being transferred. This water is to be kept instream and, in the government’s discretion, may be protected by a Crown instream license that has the priority of the transferred allocation. A conservation holdback is possible only if authorized in a Cabinet approved water management plan or by Cabinet order. Thus, the holdback provision is “modest and unlikely to restore large quantities of water to a river system.”

British Columbia’s Water and Fish Protection Act also includes improved water licensing tools to protect fish habitat. It complements the provincial Forest Practices Code, which is designed to protect streams from the adverse effects of logging.

Western Canadian sources for instream flow allocations

The four western provinces have not been consistent in their approaches to instream flow allocations. The Alberta Water Act enables the Director to issue a license to any person for the diversion of water or the operation of works, for any purposes set out in the regulations. The regulations authorize a number of instream uses, including wildlife management, habitat enhancement, and recreation. So long as an authorized instream use is a “diversion” or “operation of works,” privately held instream licenses are possible, but any such license must be appurtenant to a parcel of land. Only the government may hold an instream license specifically designed to implement a water conservation objective established by government under the Act. A Crown water conservation objective license does not have to be appurtenant to a parcel of land.

The Saskatchewan Watershed Authority Act gives considerable discretion to the water rights administrator to allocate water through licenses. The legislation does not limit the authorized purposes or require a diversion. The Manitoba Water Rights Act enables the Minister to issue a license to “any person who applies” for the “use or diversion of water for any purpose.” Accordingly, privately held instream licenses could be possible in both provinces. Moreover, neither the Saskatchewan nor the Manitoba legislation requires that a license be appurtenant to specific parcel of land.

The British Columbia Fish Protection Act enables the Cabinet to authorize a streamflow protection license to a community-based organization that has submitted a proposal for a fish habitat protection or enhancement project. The license does not need to be appurtenant to any parcel of land. These provisions will not be in force, however, until regulations have been promulgated.

Statutory reforms in the western U.S.

Most western states have adopted some type of legislation to sidestep the common law requirement that an actual, physical diversion be made, and also to allow at least limited protection of instream flows through the state water rights system. All western states except
In their instream flow legislation, western states typically restrict the source of water that can be utilized for instream flow appropriations. This can severely limit the use of water for environmental purposes.

Colorado and Oklahoma require new appropriations to satisfy some sort of general public interest test, which typically includes environmental considerations as well as economic and social factors. And most western states also impose a public interest test on transfers or changes in use (see Grant 2006 for a list of states that include instream values as part of the public interest review).  

Statutes in Alaska, California, Colorado, Wyoming, Montana, Idaho, Oregon, Washington, Kansas, Nebraska and Utah explicitly permit the appropriation and/or transfer of instream flows. Arizona and Nevada protect instream flows through administrative procedures, while New Mexico recognizes instream flow appropriations under an Attorney General opinion. Restrictions vary from state to state. Some of the states allow instream appropriations only from unappropriated waters, and some allow only state agencies to hold an instream flow right. A few states recognize a broad array of beneficial instream purposes, while others allow instream appropriations for fisheries only.  

In general, the western states’ handling of instream flows differ in three ways:  

1. sources for instream flow appropriations;  
2. who may appropriate instream flows; and  
3. allowable purposes for instream flows.  

These three areas are explored below.

**Sources for instream flow appropriations**  

In their instream flow legislation, western states typically restrict the source of water that can be utilized for instream flow appropriations. This can severely limit the use of water for environmental purposes. Alaska, Idaho and Nebraska statutes expressly require that water for instream flow appropriations come from unappropriated (surplus) sources (of which there are few). Other western states either explicitly allow additional sources or have no source restrictions.

Alaska  

Alaska’s legislation requires that the water used for an instream flow be unappropriated and “sufficient for the reservation.” It is unclear if “sufficient for the reservation” means that the water must be available 100% of the time, or just at some point during the time requested. In any case, very few of the state’s waterways have yet been inventoried to establish water volumes and availability. Alaska protects the basin of origin from adverse effects of proposed water exports by requiring the state commissioner to reserve “a volume of water in the lake or an instream flow in the river or stream for the use of fish and to maintain habitat for fish.”

Idaho  

In Idaho, the ability to seek appropriation for instream flows is limited by the requirement that an instream right can only be obtained by the Idaho Water Resource Board under the conditions of the instream flow statutes (Idaho Code, Title 42, Chapter 15). Three of these conditions require that:  

1. unappropriated water must be available, and  
2. the appropriation amount be restricted to only the minimum amount necessary to meet the goals of the application.  
3. historical data must show that the minimum stream flow can actually be maintained.

Special legislation on Idaho’s Lemhi River, however, authorizes a flow leasing program in that watershed. This allows the protection of instream flows even though the basin is fully appropriated.

Nebraska  

Appropriations for instream flows in Nebraska may utilize either available, unappropriated water or stored water (if there is insufficient unappropriated water available). The potential reach of instream flow recognition is limited by the fact that most surface waters in Nebraska are fully or over-appropriated, and many streams have only intermittent flows.  

According to the Nebraska Supreme Court, the statutory term “available” means “fairly dependable and
The instream flow statute further restricts “available” water by requiring that there be “unappropriated water available to provide the approved instream flow rate at least 20% of the time during the period requested.” The 20% limitation stands alone among the other western states, none of which require that water appropriated for instream flow use be available for any particular amount of time. In 2005, the Nebraska legislature considered a bill to increase the availability requirement to 80%. This would have drastically reduced the number of streams eligible for instream flow protection, but the bill did not pass.

Finally, Nebraska law specifies that instream flow appropriations can only be applied to the segment of the stream indicated in the application. Once the water passes through that segment, all rights to it are relinquished.

Arizona
In Arizona, any person can appropriate unappropriated water for recreation, wildlife, and fish. Arizona also allows any person to transfer an existing right to an instream flow use, but only the state may do so without losing the right’s original priority date. Although the state’s legislation does not explicitly authorize instream flow protection, the Arizona Court of Appeals has construed the statute’s broad definition of beneficial use to allow the Department of Water Resources to issue permits for instream flows. It also held that an actual physical diversion of water is not required under Arizona law if no diversion is necessary to put the water to beneficial use.

California
California’s Water Code allows any person who holds an appropriative right to change the purpose of their right to maintain instream flows for wetlands, fish, wildlife and recreation. In addition, the state’s Fish and Game Code provides substantive protection for fisheries, which indirectly benefits other instream resources. Although these are among the most advanced provisions for instream protection in western North America, observers have remarked that the number of actual transactions benefiting instream flows can be counted on two hands. This is because the state has rigorous transfer standards, including the requirement that there be no resulting harm to other appropriators. Moreover, “inter and intra agency procedures are convoluted and not easily understood,” thereby increasing transaction costs and limiting instream flow protection.

Colorado
Instream flow rights can come from a number of sources in Colorado, including purchase, donation, bequest, lease or other contractual agreement. However, the Colorado statute prohibits the state from using eminent domain to obtain water for instream flows. For an instream flow appropriation to be made, it must be determined that:

1. there is water available for the appropriation,
2. the natural environment will be preserved to a reasonable degree,
3. there is a natural environment that can be preserved; and
4. the appropriation can exist without material injury to water rights.

In addition, local governments in Colorado can obtain a “recreational in-channel diversion” to maintain flows for recreational uses in the stream. But unlike state-held instream flow rights, recreational in-channel diversions require flows to be diverted and controlled “between specific points defined by physical control structures.”

The Colorado Supreme Court has determined that although a junior instream flow right cannot preserve minimum streamflows by Taking water from existing senior uses, it can protect flow from subsequent appropriators. In other words, a junior holder of an instream flow right may protect flow remaining in the stream after decreed senior rights are satisfied. Augmentation plans by water users may be subject to terms and conditions protecting the instream flows from injury.

Kansas
The Kansas legislature has taken on the responsibility of setting minimum desirable streamflows for watercourses within the state. The chief engineer is directed to withhold from general appropriation the amount necessary to
meet that minimum streamflow. Domestic uses and senior vested rights, however, are not subject to the established minimum flows.64

Montana

Montana’s legislation does not delineate allowable sources for instream flow reservations, but it does limit reservations to 50% of the average annual flow of the stream for which the application is submitted.65 Instream flows are also protected to some extent by basin closure laws, which impose moratoria on processing or granting new appropriation applications in specific, over-appropriated regions of the state.66

Like other states, Montana law specifies that reservations for instream flow purposes may not adversely affect vested senior rights. However, it imposes unique restrictions that are designed to maintain options for future growth:

- Instream flow protection must be balanced against alternative future uses of water. This requires the periodic review of instream reservations.
- The Montana Department of Natural Resources and Conservation is authorized to modify existing instream reservations “so as to reallocate the state water reservation or portion of the reservation to an applicant who is a qualified reservant under this section.”67

Nevada

Nevada law states generally that “all water may be appropriated for beneficial use.”68 The Supreme Court of Nevada has held that “no absolute diversion requirement precludes the granting of an in situ water right” for recreation purposes.69

New Mexico

The New Mexico water code does not explicitly recognize instream flow appropriations, but a 1998 Attorney General’s opinion concluded that existing consumptive uses could be transferred to instream flows based on the common law.70 (Amos 2006) New Mexico’s surface waters are already fully appropriated, so instream flow appropriations can only be achieved by transferring an existing water right to instream use.71

Oregon

Oregon law allows appropriations of available (unappropriated) water for instream flow protection. The state allows the minimum quantity of water necessary for the requested instream use without requiring that the water be available for any specified time period.72 It also provides that “any person may purchase or lease all or a portion of an existing water right or accept a gift of all or a portion of an existing water right for conversion to an instream water right.”73

Instream flow appropriations can be subordinated to water storage projects, municipal uses and hydroelectric projects—but there is one exception.74 In 1955, Oregon established “minimum perennial stream flows.” These minimum flows are not subject to subordination.75

Utah

In contrast with Oregon, Utah law specifically disallows the use of unappropriated water for instream flow appropriations. Like Colorado, Utah prohibits the use of eminent domain to obtain water for instream flows.76 To obtain an instream flow reservation, the Wildlife Resources or Parks and Recreation Divisions must either:

- file for changes of water rights they already own, or
- purchase water rights with funds specifically earmarked by the state legislature for the purpose of securing instream flows.77

As of 2004, the Utah state legislature had never made such an appropriation. As a result, only four small instream rights have been protected; these were donated to the Division of Wildlife Resources.78

Washington

In Washington State, appropriations of instream flows may include (but are not limited to) unappropriated waters. The state may acquire existing water rights by purchase, gift, or any lawful means other than eminent domain, and the transferred water right keeps its seniority date.79 The statute allows both short term and permanent leases so long as the water is transferred to an accepted public use, including instream flow maintenance.
While Wyoming law allows any person to store water for fisheries purposes in reservoirs, only the state can own an instream flow water right. The state engineer is also authorized to declare as beneficial the appropriation of instream flows to maintain or improve existing fisheries.

As in other states, no appropriation may be issued if it would adversely affect senior water rights, and instream flow appropriations are generally given the same protection from subsequent appropriators, including subsequent groundwater withdrawals, as other water rights. Once acquired, instream flow rights are deemed trust water rights. Water rights that would otherwise be subject to relinquishment due to waste, abandonment or forfeiture can be maintained through the trust program.

Washington state has a policy of maintaining baseflows. Minimum flows are set by the Washington Department of Ecology. Streams can be closed to conventional appropriations when the minimum levels are met, and new permits are conditioned to ensure the maintenance of minimum levels. Withdrawals that conflict with the state's policy of maintaining baseflows are allowed, however, if "overriding considerations of the public interest will be served."

Permits to draw water from wells within a given river basin must be conditioned on maintenance of minimum flow rates if the Department of Ecology determines that the groundwater source is significantly connected with the river. Hydraulic continuity of an aquifer with a stream having unmet minimum flows is not, in and of itself, a basis for denial of a groundwater application, but where withdrawal of groundwater would impair existing surface water rights, including minimum flow rights, denial is required.

Wyoming

While Wyoming law allows any person to store water for fisheries purposes in reservoirs, only the state can own an instream flow water right. The state engineer is also authorized to declare as beneficial the appropriation of instream flows to maintain or improve existing fisheries. The water for this appropriation can come from unappropriated water flowing in any stream or drainage in Wyoming.

Instream flows can only be applied to the segment of the stream included in the application; once the water has passed through that segment all rights to it are relinquished. Moreover, instream flows cannot be appropriated if they "impair or diminish the rights of any other appropriator in Wyoming." The use of the phrase "any other" stands in contrast to most states' subordination of instream flows to senior water rights only.

Who may appropriate instream flows?

While many western states have adopted instream flow legislation, most states restrict the legislation by limiting who can seek the appropriation. Many states restrict instream flow rights to state agencies, but most allow individual citizens to petition the state for instream flow appropriations or otherwise become involved in the permitting process.

Alaska

Alaska was the first state to authorize private instream rights. Alaska law specifies that "the state, an agency or a political subdivision of the state, an agency of the United States or a person may apply to the commissioner to reserve sufficient water to maintain a specified instream flow."

Given Alaska's relative "developmental infancy" and lack of pressure on water supplies, one might reasonably assume that this provision creates an ideal setting for effective instream flow protection through private markets, "but instead, a combination of factors has discouraged and frustrated attempts at private instream flow protection in Alaska." These factors include:

- uncertainties in title,
- uncertainties in science,
- legal constraints on water transfers, and
- political opposition (Kimbrell 2004).

Of these impediments, political opposition is perhaps the most important (Kimbrell 2004).

Alaska's experience illustrates that, unless instream flow rights are integrated fully into the appropriation system and made equal to traditional beneficial uses, viable markets and effective instream flow protection will not develop. But in spite of these obstacles, private instream rights can still be a
viable means of securing protection in Alaska, if the support of state agencies (and in some cases federal agencies) is secured.

**Arizona**

Like Alaska, Arizona also allows persons other than state agencies to hold instream flow rights. For example, the Water Resources Department granted an instream flow right in Cherry Creek to the Tonto National Forest. The Phelps Dodge Corporation challenged the decision on the grounds that a diversion was required to perfect a water right under Arizona law. In 2005, the Arizona Court of Appeals upheld the decision, stating that:

1. it was not necessary to divert water to perfect an instream right, and
2. instream flow rights can be held in Arizona by non-state entities.

In spite of the state’s liberal view of parties that can hold instream rights, Arizona faces limitations similar to those in Alaska:

- a high informational burden (five years of data), a constraint on ownership not placed on consumptive rights (appurtenance to land), and a statutory hierarchy effectively making instream rights second class (in times of conflict the beneficial use of fish and wildlife can be superseded by domestic and municipal use, irrigation and stock watering, and power and mining uses).

**California**

In California, instream flow rights may arise from the modification of an existing appropriation. The statute allows "any person entitled to the use of water" to petition the board for a change in use to preserve or enhance wetlands habitat or fisheries. If the change in use is granted, the water right still belongs to the original right holder.

**Colorado**

Colorado’s water conservation board is given the exclusive authority to appropriate instream flows. Colorado does, however, allow local governments to appropriate recreational in-channel diversions, as previously described.

**Kansas**

Kansas also reserves the authority to appropriate instream flows to the state. The Kansas legislature has a duty to enact legislation establishing “minimum desirable flows” that must then be withheld from appropriation.

**Idaho**

In Idaho, any person can petition the water board to consider the appropriation of a minimum stream flow. Members of the public can provide comments during informational meetings and any subsequent hearing on the instream flow appropriation. The water board is charged with deciding whether or not to submit the application to the state director and, if approved, the board is the only entity authorized to hold instream flow appropriations. An unusual wrinkle in Idaho law also requires the approval of the state legislature before an instream flow appropriation may be made.

**Montana**

Montana limits acquisitions of instream flow rights to the government, but not just the state government: the

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**Box 12-3**

**Implementation: The Terror River**

The Kodiak National Wildlife Refuge is a unit of the National Wildlife Refuge system of federal lands specifically dedicated to the welfare and protection of wildlife. The Kodiak Refuge, administered by the U.S. Fish and Wildlife Service, consists of over one million acres. It was established “to conserve fish and wildlife populations [sic] habitats in their natural diversity including, but not limited to, Kodiak brown bears, salmonids, sea otters, sea lions and other marine mammals and migratory birds.” Pub.L. 96-487, Title Ill, § 303(5)(b)(i), Dec. 2, 1980, 94 Stat. 2391.

The Kodiak Electric Association proposed to construct a hydropower dam on the outlet of Terror Lake and diversion works in the upper Terror River within the boundary of the Kodiak National Wildlife Refuge. The Alaska National Interest Lands Conservation Act of 1980 provided that the Terror Lake Hydroelectric Project was not necessarily precluded within the Kodiak National Wildlife Refuge but “shall be determined...under existing law.” 16 U.S.C. § 3212. Under the federal Wildlife Refuge Administration Act, projects within wildlife refuges must be compatible with refuge purposes and with the mission of the National Refuge System. 16 U.S.C. § 668dd. The U.S. Fish and Wildlife Service is charged with insuring that hydropower projects be constructed in a manner compatible with the fish and wildlife resources of the Refuge, in other words, that such projects “will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge.” 16 U.S.C. § 668ee(1). The Alaska Department of Fish and Game is responsible for off refuge impacts under state law. See A.S. §§ 16.05.020(2), 16.05.050, Sec. 16.05.255.

In 1981, a Settlement Agreement was signed by the State of Alaska, the U.S. Department of the Interior, environmental groups and the Kodiak Electric Association. Its terms were incorporated in the order issuing the Terror Lake Hydroelectric Project license. Key elements of the agreement include habitat replacement, increased water storage, an instream flow mitigation plan and the Kodiak Brown Bear Research and Habitat Maintenance Trust, established by KEA with a capital contribution of $500,000.

The Agreement is described in detail in Chapter 8.
Nevada and New Mexico lack specific instream-flow-enabling legislation, but both recognize instream flows as a beneficial use in accordance with their existing appropriation statutes.

Nebraska
The Nebraska code is more restrictive, in that it allows only the Game and Parks Commission and the Natural Resource Districts to possess instream flow rights. Out of 23 Natural Resource Districts with authority to obtain instream flow appropriations, only one has applied for an instream flow appropriation; the Central Platte NRD holds instream flow appropriations on the Platte River for fish and wildlife purposes.

Curiously, Nebraska allows individuals to change the purpose of their water right to instream flows, but the effect of such a change is unclear. Nebraska statutes also impose various procedural requirements on instream flow applications:

- Before a hearing is conducted on a contested instream application, the applicant and opposing parties must attempt to resolve their differences through mediation or arbitration.
- Instream appropriations must be reviewed every 15 years to determine if they are still in the public interest.
- Instream appropriations may be amended if they would interfere with certain types of applications, such as induced recharge for public water supply wells.

These requirements are unique to instream flow appropriations, and are not imposed on other types of surface water rights.

Nevada and New Mexico
Nevada and New Mexico lack specific instream-flow-enabling legislation, but both recognize instream flows as a beneficial use in accordance with their existing appropriation statutes. As a result, it appears that anyone who could hold a conventional appropriation can hold it for instream flow use in these states.

Oregon
Oregon limits instream flow requests to the Department of Fish and Wildlife, the Department of Environmental Quality and the State Parks and Recreation Department. Unlike many jurisdictions, however, non-governmental organizations have been allowed to secure instream flow rights through participation in both litigation and water transfers.

Oregon irrigators and property rights proponents have attempted to block some instream flow appropriations in court and in administrative proceedings, but Oregon Waterwatch, a non-profit organization, has been found to have standing to participate in the review of appropriation permits. Regarding water transfers, Oregon’s 1987 amendments expanded the methods for restoring and maintaining streamflows by allowing the transfer of existing consumptive water rights to instream rights. This transfer can be made to any person, by sale, lease or donation. The new instream right keeps the priority date of the original right.

Oregon has also implemented the Conserved Water Program, a companion to the Instream Water Rights Act. The program benefits water users who improve the efficiency of their water use by allowing them to either keep a portion of the saved water or convey it to others for instream uses or other purposes. Again, they retain the original priority date.

As of 2006, the Oregon Water Trust’s portfolio has grown to 84 projects that protect a total of 117 cfs (3.3 cms) instream. In 2005, 303 cfs (8.6 cms) were restored instream statewide, due to the combined efforts of state agencies and non-profit groups.

Utah
Utah allows the Division of Wildlife Resources or the Division of Parks and Recreation to file applications for instream flows. In addition, Utah law
Most western jurisdictions have recognized instream flow maintenance as beneficial, but there is variation from state to state about which instream benefits are deemed worth the cost of having less water to appropriate for diversion.

**Washington**

Washington state law gives the authority for establishing minimum flow levels to the state’s Department of Ecology. It also allows the Department of Fish and Wildlife to request instream flow protection in areas under its jurisdiction.\(^{117}\)

**Wyoming**

Wyoming law plainly states that “no person other than the state of Wyoming shall own any instream flow water right.”\(^{118}\)

**Allowable purposes for instream flows**

Under the prior appropriation system, appropriations are allowed only for beneficial uses. Many types of diversionary uses for agricultural, municipal and industrial purposes are considered beneficial. In addition, most western jurisdictions have recognized instream flow maintenance as beneficial, but there is variation from state to state about which instream benefits are deemed worth the cost of having less water to appropriate for diversions.

Benefiting fisheries is the most widely cited purpose for appropriating instream flows.\(^{119}\) Most states also recognize recreation as a beneficial use.\(^{120}\) Several states have enacted legislation protecting certain waterfalls and wild and scenic river segments, and a few jurisdictions explicitly allow instream flow appropriations for general aesthetics.\(^{121}\)

**Alaska**

Alaska legislation recognizes an array of instream flow purposes. While allowing for recreation and fish and wildlife protection, Alaska law also specifies that navigation, sanitation and water quality are valid purposes for instream flow appropriations.\(^{122}\)

**Arizona**

In Arizona, instream flow rights stem from the statutory right to appropriate water for the beneficial purposes of recreation, wildlife and fish.\(^{123}\) Otherwise, the purposes for which an instream flow can be appropriated are neither explicitly authorized nor prohibited by the statute.

**California**

Similar to Alaska, California allows instream flow protection for “preserving or enhancing” wetlands habitat, fish and wildlife and recreation.\(^{124}\)

**Colorado**

Colorado’s stream flow statute is rather vague in its description of allowable purposes. Flows are allowed “to preserve the natural environment to a reasonable degree.”\(^{125}\) Exactly what might constitute the natural environment, or the definition of a reasonable degree is not clear. A Water Conservation Board report suggests that the law protects riparian areas and aquatic organisms, including fish, but not wildlife, recreation, aesthetics or water quality.\(^{126}\) “In practice, the board typically bases its minimum flows on the amounts needed to preserve coldwater fish—generally trout—habitat.”\(^{127}\)

**Idaho**

Idaho is not vague in its description of instream flow purposes, nor is it brief. Citing public health, safety and welfare objectives, the Idaho statute declares that “minimum stream flows [are] required for the protection of fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, transportation and navigation values, and water quality.”\(^{128}\) Although the prior statutory scheme contemplated an actual physical diversion, the state Supreme Court has ruled that the instream flow statute creates an exception to that requirement.\(^{129}\)

**Kansas**

Kansas water law allows stream flow appropriations for water quality, domestic purposes, fish and wildlife, aquatic life, recreation and aesthetics.\(^{130}\)

**Montana**

Montana law is expansive on permissible purposes, allowing instream flows to be used “for existing or future beneficial uses or to maintain a minimum
flow, level or quality of water. In 2002, the Montana Supreme Court affirmed that fish, wildlife and recreation are beneficial uses, and that an instream right may be allowed without a physical diversion as long as the water is put to beneficial use.

Nebraska

Nebraska law restricts instream flow appropriations to those that “maintain the existing recreational uses or needs of existing fish and wildlife species.” This provision appears to restrict instream flow purposes to the maintenance (but not enhancement) of existing recreational uses and fish and wildlife needs. The issue has not been litigated, but arguably instream flows could not be appropriated to feed man-made recreational lakes created after the law’s effective date, or to protect any species of fish or wildlife that is introduced into an area after the law’s effective date. Nebraska is the only western state that uses these particular limitations.

Nebraska imposes a public interest review on instream flow applications, but also requires that instream flow appropriations are weighed against specified economic and social values. In other words, although instream flows for recreation, fish and wildlife have been statutorily recognized as beneficial uses, an application for one of these uses may only be granted if the balance tips in favor of the application over other economic and social considerations.

The Nebraska Department of Natural Resources is charged with making these determinations. The department denied a trans-basin diversion under the public interest standard because of the potential for adverse effects on species in the basin of origin and the unavailability of a dependable flow. The Nebraska Supreme Court upheld this decision.

New Mexico

New Mexico law defines beneficial use to include only irrigation, mining, manufacturing and possibly fishing and recreation. As mentioned above, instream flow maintenance is not explicitly recognized. Although the 1998 Attorney General’s opinion concluded that existing consumptive uses could be transferred to instream flows, in actuality the state has recognized few instream rights.

Nevada

In Nevada, recreational uses are statutorily recognized as beneficial. Likewise, appropriations for wildlife needs have been determined to be beneficial by the Nevada Supreme Court.

Oregon, Utah, and Washington

Oregon, Utah, and Washington all have fairly broad provisions regarding instream flow purposes. Flow appropriations in Oregon are allowed “relating to the conservation, maintenance and enhancement of aquatic and fish life, wildlife and fish and wildlife habitat.” Utah allows flows for the propagation of fish, public recreation, or the reasonable preservation or enhancement of the natural stream environment. Similarly, Washington’s flows must be for the “purposes of protecting fish, game, birds or other wildlife resources, or recreational or aesthetic values.”

Wyoming

Wyoming has one of the most restrictive provisions governing the allowable use of instream flow appropriations. It recognizes the maintenance and improvement of fisheries—but no other in-channel or riparian-related purposes—as beneficial. It also requires that any water appropriated for instream flows be limited to the minimum flow necessary in order to maintain or improve existing fisheries. Minimum and fishery are generally defined in minimalistic terms though clearly the law could allow minimum to mean no more than is needed. Fishery could likewise be defined in a more consistent manner with fisheries science to mean long-term habitat maintenance and persistence of fish, and not just short-term fish survival. These restrictions indicate that “protection and restoration of instream flows is at best a low priority” for the state.
Integrated Approaches to Riverine Resource Stewardship

**Eastern Instream Flow Laws**

The common law concept of reasonable use has long guided the eastern states and provinces in governing riparian rights. Riparian landowners share usufructuary rights to water that flows through or past their land. Ordinary domestic uses are considered *per se* reasonable, regardless of adverse effects on the stream or on other users, but all other so-called *extraordinary* uses can be held liable for monetary damages or injunctive relief if they unreasonably alter the flow in a way that substantially harms other users. Disputes are typically resolved by courts, which are charged with balancing the reasonableness of one use versus another.\(^\text{145}\)

**Eastern Canada**

With the exception of Ontario, Newfoundland, and Labrador, the eastern provinces have only recently legislated or tabled bills to require permits for at least some types of water withdrawals. Approaches to instream flow protection vary.

**Ontario**

Ontario’s Water Resources Act, adopted in 1961, requires five to ten year permits for most large withdrawals (over 50,000 liters (13,208 gallons)) of ground or surface water. These are termed *permits to take water* (known as PTW).\(^\text{146}\) The Act delegates a great deal of discretion to the Ministry of the Environment in issuing permits to take water. Ministry regulations and guidelines establish permitting criteria aimed at promoting existing and planned uses of water along with water quality, conservation, the public interest and the "natural functions of the ecosystem."\(^\text{147}\) Standard permit conditions require:

- monitoring,
- recordkeeping,
- documentation of best management practices for conservation, and
- suspension or reduction of usage during drought.\(^\text{148}\)

Ontario’s Environmental Bill of Rights provides citizens with a right to challenge a permitting decision on the grounds that it was either:

- unreasonable in light of the applicable law and government policies, or
- "could result in significant harm to the environment."\(^\text{149}\)

**Newfoundland and Labrador**

Newfoundland and Labrador’s 2002 Water Resources Act, with a few exceptions, requires all water users other than riparian household users to obtain a license.\(^\text{150}\) Water rights existing at proclamation must be registered with the Minister, who may cancel such rights in whole or part and return the water to the Crown where necessary in the public interest.\(^\text{151}\) In addition to diversion licenses, the Act authorizes licenses "to use water in its natural state for the purpose of a commercial recreational use, conservation and for the propagation of plant, fish or other animal life."\(^\text{152}\) Priorities of use are recognized in accordance with a list of specified uses, but the list does not include leaving water in a natural state. However, the Cabinet may approve an alteration of priorities with respect to a body of water "adapted for or suited to a particular purpose." Although the Act contains no specific instream requirements relating to licenses, it authorizes the Minister, when necessary, to require newly constructed dams or other structures to "raise or lower the level or maintain the flow or level of the water in a body of water."\(^\text{153}\)

**Quebec**

In 2008, the Quebec legislature tabled Government Bill 92, which was an Act to affirm the collective nature of water resources and provide for increased water resource protection. The Act declares that water is a "collective resource that is part of the common heritage of the Quebec nation." If passed, both surface and groundwater withdrawals would be subject to conditional authorization from the Minister of Environment. Permits would be required for uses over 75,000 litres (19,813 gallons) of water a day. Although the bill does not explicitly require instream licenses, it does direct the Minister to consider the protection of the aquatic ecosystem in issuing water withdrawal authorizations. The
bill also authorizes water management plans that identify "zones of ecological interest and of ecologically fragile or degraded zones, measures to protect and restore the qualitative or quantitative status of waters."\textsuperscript{154}

**Eastern U.S.**

Among the eastern states with some type of instream flow laws are Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Maryland, Massachusetts, Minnesota, Mississippi, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Tennessee, Vermont, Virginia and Wisconsin.\textsuperscript{143} Most protect only minimum flows to provide for delineated purposes, typically fisheries and water quality.

The Water Law Committee of the American Society of Engineers has drafted a Model Water Code that reflects the society's views of the most efficient and effective approach to water law in riparian states.\textsuperscript{155} The Model Water Code incorporates reasonable use and public interest principles into water governance, and specifically provides for the preservation of minimum flows: "the State shall preserve minimum flows and levels in all water sources as necessary to protect the appropriate biological, chemical, and physical integrity or water sources by reserving such waters from allocation and by authorizing additional protections of the waters of the State."\textsuperscript{156} Florida, Georgia, Minnesota, Mississippi and North Carolina follow various aspects of the Model Water Code, but no state has adopted it in full.\textsuperscript{157}

Approaches in Florida and Massachusetts are highlighted here to provide a feel for the legal responses to instream flow concerns in eastern jurisdictions. This section also describes a notable innovation arising out of a proposed interstate compact for the Great Lakes.

**Florida**

In 1972 the Florida Legislature adopted the Florida Water Code, one of the most comprehensive water codes in the nation. The code's intent was to:

- provide more certainty for water users,
- retain enough flexibility to adjust water uses to reflect new conditions or changed priorities, and
- foster greater integration of planning and regulation to protect Florida's water resources.

**Florida Water Code**

The Florida Water Code authorizes certain "reasonable-beneficial uses," defined as "the use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest."\textsuperscript{158} The Florida Department of Environmental Protection oversees the Act's implementation.\textsuperscript{159} The five regional water management districts are also granted authority for managing water resources within their watersheds; this includes regulating almost "any use of water that involves withdrawing or diverting it."\textsuperscript{160} As a result, local governments are precluded from regulating consumptive use.\textsuperscript{161}

Instream flows are protected by a statutory provision that directs each water management district to establish "minimum flow for all surface watercourses in the area," defined as "the limit at which further withdrawals should be significantly harmful to the water resources or ecology of the area."\textsuperscript{162} The Florida Department of Environmental Protection's Water Resource Implementation Rule specifies that water management plans shall, where economically and environmentally feasible, promote water supply but also protect natural systems through the following measures:

1. establish minimum flows and levels to protect water resources and the environmental values associated with marine, estuarine, freshwater, and wetlands ecology,
2. mitigate adverse impacts resulting from prior alteration of natural hydrologic patterns and fluctuations in surface and ground water levels, and
3. utilize, preserve, restore, and enhance natural water management systems and discourage the channelization or other alteration of natural rivers, streams and lakes.\textsuperscript{163}

The Florida Water Code requires water districts to establish minimum flows
Integrated Approaches to Riverine Resource Stewardship

The Florida Water Code requires water districts to establish minimum flows and levels; it does not merely suggest that they do so. This was determined in a case where a citizens' group sought to compel a water management district to establish minimum flows and prevent additional consumptive permits from being issued until the minimum flows were established.164

In addition, the Florida Water Code gives the water districts and the Department of Environmental Protection discretion to reserve water from amounts sought in permit applications “in such locations and quantities, and for such seasons of the year, as... may be required for the protection of fish and wildlife or the public health and safety.”165 Reservations are not meant to diminish existing permitted uses, but consumptive uses of unallocated water reserved under this provision will not be permitted.166

Protected rivers

Two Florida rivers (the Myakka River and the Wekiva River) have been afforded special legislative protection as scenic or wild rivers. Through these designations, the state recognized the rivers’ “outstandingly remarkable” values that are unique within the state of Florida. The Department of Environmental Protection is authorized to regulate activities conducted (or proposed to be conducted) within the river area that may have an adverse impact on any of the remarkable ecological, fish and wildlife and recreational values in the river area.167 Beyond those two rivers (and several other Florida rivers which are designated under federal Wild and Scenic Rivers Act), Florida does not have an established state system of protected rivers.

Everglades restoration

Florida water law continues to make headlines for its role in one of the most massive restoration initiatives in U.S. history. By the late 1980s, wetlands loss, declining species and widespread contamination in the Everglades had attracted national attention.168 In 1985, Florida launched its Save Our Everglades program, an experimental effort to allow the unregulated flow of water into Everglades National Park. The following year, a Technical Advisory Council to the Governor of Florida made a number of additional recommendations, including the reduction of phosphorus and a nutrient-removal program.

Building on these efforts, the federal government authorized the South Florida Ecosystem Restoration Task Force in 1993, and launched an eight billion dollar federal-state initiative to re-plumb southern Florida and restore the Everglades in 2000.169 The goal is to capture one trillion gallons of rainwater, store it in new reservoirs and injection wells and then distribute it to farms, residents and the Everglades in the right amounts at the right times.170 Officials are committed to adaptive management principles, but the jury is still out on restoration accomplishments.171 Some have criticized the plan for devoting too much attention to expanding water supplies and ensuring flood control for South Florida’s exploding population, and too little attention to improving water flows to the Everglades.172 Incremental successes are being seen, however, as on the Peace River, described in Box 12-4.

Massachusetts

The Massachusetts Water Management Act of 1985 follows the Model Water Code in many respects. Like the code, it applies to both surface waters and groundwater. This is in stark contrast to common law systems, which treat each resource as completely separate systems.173 The Water Management Act:

- precludes the issuance of permits for large new withdrawals when the "safe yield" of the basin is exceeded, and
- requires the Massachusetts Department of Environmental Protection to consider various factors in issuing withdrawal permits, including
  - water quality,
  - groundwater recharge areas,
  - water-based recreation,
  - wetland habitat, and
  - fish and wildlife.

The Water Management Act specifies that these factors must be balanced with "reasonable economic development and the creation of jobs in the commonwealth."174 Meanwhile, de
The Massachusetts provisions do not impose a clearly delineated duty to protect instream flows and other natural ecological features from the adverse effects of water withdrawals.

Box 12-4
Implementation: The Peace River

Marjory Stoneman Douglas's book, River of Grass, changed the way the world viewed the Everglades. "After the book was published in 1947, no longer were the Everglades thought of as a desolate swamp that should be tamed, filled and manipulated by impersonal engineers who controlled the spigots on releases from Lake Okeechobee." Vicki Dean, The Peace is a River Like No Other, Sarasota Herald Tribune, Aug. 4, 2006, A16.

On the Peace River; restoration efforts are now moving forward to reverse the adverse effects of years of mining, agriculture, population growth and urban sprawl. Although some of the natural springs have dried up completely (and perhaps irreversibly) from excessive ground-water pumping, measures such as land acquisition and flow augmentation on the river and its headwaters may improve matters significantly.

The Southwest Florida Water Management District has developed a two-tiered approach for setting the Peace River instream flow prescription to ensure no significant harm, as required by the Florida Water Code. The district first identified a Low Flow Threshold and then developed a prescribed flow reduction. This approach was based on the district's understanding of the most current ecological principles and it has been identified as a best practice when it comes to instream flow studies. The plan is described in detail in Chapter 6.
Integrated Approaches to Riverine Resource Stewardship

Several of the eight states and two provinces bordering the Great Lakes have attempted to impose outright bans on water exports from the Great Lakes regions.

3. The state’s Wetlands Protection Act requires permits for fill in coastal and inland wetlands. The state’s Wetlands Protection Act requires permits for fill in coastal and inland wetlands.

4. The 1996 Rivers Protection Act extends the existing procedures of the Wetlands Protection Act to the banks of perennial streams. This Act (along with its implementing regulations) recognize that “land adjacent to rivers and streams can protect the natural integrity of these water bodies” and that “natural vegetation within riverfront areas is critical to sustaining rivers as ecosystems.” The Act is billed as “one of the strongest river corridor protection laws in the country.” It protects nearly 9,000 miles (14,484 km) of riverbanks, but non-perennial streams are not covered. For riverbanks and wetlands within the scope of the Act, construction permits may be denied to block activities that would have a significant adverse impact on the area. Permits also may be denied if there is a practicable and substantially equivalent alternative with less adverse impact.

Great Lakes innovations

The Great Lakes, which hold nearly 20% of the world’s fresh water supply, may seem so immense as to evade controversy over the depletion of stream flows and lake levels. Not so.

The vast quantities of water available in the Great Lakes make continued interest in the resource inevitable... In the spring of 1998, the Nova Group of Sault Ste. Marie, Ontario proposed to ship nearly 160 million gallons of Lake Superior water annually via tanker to Asia. Nova’s proposal coincided with declining water levels in the Great Lakes, and the resulting public outcry and pressure from other Great Lakes governments persuaded Ontario to revoke Nova’s permit just a few months later...[Previously, a] surge of interest in diversions from the Great Lakes occurred during the 1980s, when Western interests proposed to use Great Lakes water to recharge the Ogallala Aquifer, to supply water for a coal slurry pipeline in Wyoming, and to improve navigation on the Mississippi River... In 2002, the Perrier Company began pumping and bottling millions of gallons of groundwater within the basin, generating intense controversy in Michigan and Wisconsin.

Several of the eight states and two provinces bordering the Great Lakes have attempted to impose outright bans on water exports from the Great Lakes regions. In the United States, unilateral efforts by the states to protect “their” water supplies can offend the dormant commerce clause, a constitutional prohibition on discrimination against interstate commerce. Dormant commerce clause concerns are alleviated, however, when states enter into an interstate compact. To be effective, such compacts must receive congressional consent.

Great Lakes Water Resources Compact

In 2001, the states and provinces proposed a comprehensive approach to Great Lakes water management, called Annex 2001. It originally included an innovative (and even unprecedented) requirement that future diversions from the basin must contribute an “improvement” to waters and water-dependent resources. However this improvement concept became relegated to a minor role, in part due to difficulties in implementation and enforcement of such a standard.

Annex 2001 evolved into the proposed Great Lakes Water Resources Compact. The compact includes the following features:

- It places a ban on large new diversions of water to areas outside the Great Lakes Basin (with limited exceptions).
- It requires participating jurisdictions to regulate large consumptive uses by applying common criteria designed to prevent individual and cumulative effects.
- It facilitates data collection and information exchange and requires conservation and efficiency programs.

The Great Lakes Water Resources Compact was approved by the governors of the eight Great Lakes states in...
2005, and by July 2008, all of the state legislatures had ratified it. Congress approved the Compact and President Bush signed it in fall 2008, making the Compact the most recent comprehensive interstate water quantity compact to be adopted in the United States.197

Because states may only enter into binding agreements (treaties) with foreign governments with congressional authorization, Ontario and Quebec, the two Great Lakes provinces, are not party to the Compact. However, in 2005, the two provinces entered into a companion agreement with the states, entitled the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement.198

Model Interstate Water Compact
A more protective strategy for protecting instream flows can be found in the 2006 Model Interstate Water Compact, sponsored by the Utah Transboundary Resources Center. It notes that “there is little, if any, disagreement that a principal shortcoming of most state water allocation systems... was the failure to provide for maintenance of an adequate level of instream flows that would not be subject to diversion and consumptive use for traditional beneficial purposes.”199

Article V of the Model Compact, which directs that a present annual apportionment of quantities of water be made for each signatory state from basin waters within that state, rectifies this deficiency. It identifies instream flow protection as the first priority in the establishment of base apportionments, while satisfaction of existing perfected water rights is listed as the second priority.200 Although no states have yet adopted this Model Compact, it may express a future trend.


Key federal statutes that impact instream flows in the United States include:
- Federal Power Act,
- Endangered Species Act,
- Clean Water Act, and
- Wild and Scenic Rivers Act.

These provisions are discussed in the following section. Although they will not be covered in detail here, other federal statutes of note for instream flow purposes include:
- the various Flood Control Acts and Water Resources Development Acts implemented by the U.S. Army Corps of Engineers,
- the Reclamation Act of 1902, implemented by the U.S. Bureau of Reclamation.

The federal common law of implied reserved water rights is assessed in the following section, along with the “flip side” of the preservation coin: the Takings Clause. Finally, we turn to Canadian Law—specifically the federal Fisheries Act, which protects fish habitat from man-made destruction.

Federal Power Act
In the Federal Power Act of 1920,203 Congress established the Federal Power Commission (now known as the Federal Energy Regulatory Commission). The commission administers a comprehensive national program for the development and regulation of hydropower resources.204 To this end, any non-federal entity seeking to build or operate a hydropower project, including “any dam, water conduit, reservoir, power house, or other works incidental thereto,” across, along or in navigable waters or federal public lands must obtain and comply with a license issued by the commission.205

Over the years, federal authority over hydropower projects has been expanded through various amendments to the Federal Power Act. The 1920 Federal Power Act asserted licensing jurisdiction only for projects on navigable waters or federal public lands.206 But in 1935 Congress extended its reach to include any project on a non-navigable waterway under the following conditions:
if the stream was subject to Commerce Clause power, or if the project would affect interstate or foreign commerce.\textsuperscript{207} \textit{U.S. v. Appalachian Power}\textsuperscript{208} was an early case where the Federal Power Commission asserted jurisdiction over a partially completed dam on the New River in West Virginia, even though the navigability of portions of the river below the project was questionable. The power company argued that the Federal Power Commission lacked authority to impose conditions unrelated to navigation because such power would grant federal control over resources traditionally managed by the states in violation of the Tenth Amendment.\textsuperscript{209} The court rejected this argument with a sweeping affirmation of congressional power: both the states and those with state-sanctioned water rights “hold the waters and the lands under them subject to the power of Congress to control the waters for the purpose of commerce.”\textsuperscript{210} The Federal Power Act does not displace all state authorities over hydropower projects. Section 27 recognizes state-sanctioned water rights, and Section 9(b) provides that each license applicant must provide evidence of compliance with the law of the state in which the project is to be located.\textsuperscript{211} These provisions, however, have been read quite narrowly.

\textbf{Protecting stream flow}

In \textit{First Iowa Hydro-Electric Cooperative v. Federal Power Commission}, an opinion issued in 1946, the court found that Iowa’s provisions to protect stream flow were displaced by the Federal Power Act.\textsuperscript{212} The project diverted water from the Cedar River, depleting the entire flow for the lower twenty river miles.\textsuperscript{213} The applicant originally proposed a project that would have produced less power with less impact on the Cedar River, but changed course after it became clear that the commission favored a more ambitious design.\textsuperscript{214} The new proposal conflicted with an Iowa statute requiring dams to return water to the stream from which it was diverted “at the nearest practicable place.”\textsuperscript{215} The Court held that the Federal Power Act preempted state laws that could be inconsistent with Federal Energy Regulatory Commission licenses. According to the Court, Section 9(b) did not actually mandate compliance with state law; instead, the requirement that an applicant supply the commission with evidence that it has complied with state law merely suggests “subjects as to which the Commission may wish some proof submitted to it of the applicant’s progress.”\textsuperscript{216} The Court reasoned that, if Congress had intended for state consent to be a prerequisite to Federal Power Act licensing, it would have said so explicitly. Requiring the applicant to comply with Iowa law in addition to obtaining a Federal Energy Regulatory Commission license would effectively give the State “veto power” over the federal project. This result would be antithetical to the Federal Power Act’s overarching statutory scheme to establish a comprehensive regulatory scheme to promote full development of the nation’s water resources.\textsuperscript{217} Some years later, in \textit{California v. FERC}, the court spurned California’s effort to impose higher minimum streamflows on a hydropower project and unanimously reaffirmed First Iowa, even though all fifty states objected.\textsuperscript{218} Although California relied on Section 27 rather than Section 9, the Court applied the reasoning of First Iowa and refused “fundamentally to restructure a highly complex and long-enduring regulatory regime.”\textsuperscript{219}

\textbf{Involvement of other agencies}

Other federal agencies, by contrast, are explicitly authorized to exert influence over the licensing process. Section 4(e) authorizes the agency responsible for managing a federal reservation (such as a national park or an Indian reservation) to impose license conditions on hydropower projects as “necessary for the adequate protection and utilization of such reservations.”\textsuperscript{220} In \textit{Elsendido Mut. Water Co. v. La Jolla Band of Mission Indians}, the Supreme Court held that Section 4(e) imposes a nondiscretionary duty on the U.S. Federal Energy Regulatory Commission to include any conditions that the Secretary of the Interior prescribed that are reasonably related to the affected
During the 1980s, Congress took steps to force the Federal Energy Regulatory Commission to take environmental effects more seriously in its licensing decisions by passing the 1986 Electric Consumer Protection Act.

Adding consideration of environmental effects to licensing decisions

During the 1980s, Congress took steps to force the Federal Energy Regulatory Commission to take environmental effects more seriously in its licensing decisions by passing the 1986 Electric Consumer Protection Act. It revised Section 10 to require the commission to balance non-power interests with developmental interests by giving due weight to state and federal recommendations to “protect, mitigate damages to, and enhance, fish and wildlife” affected by the project and to ensure that licenses include conditions for the “protection, mitigation, and enhancement” of fish and wildlife. The commission also amended Section 4(e) to compel the commission to “give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife, ...the protection of recreational opportunities, and the preservation of other aspects of environmental quality.”

Removal of dams

In 1999, for the first time, the U.S. Federal Energy Regulatory Commission utilized Federal Power Act provisions to order the Edwards Dam removed from Maine’s Kennebec River. The dam was built in 1837. By the late 1800s, anadromous fish species above the dam had been decimated. Beginning in the 1970s, the state of Maine took steps to restore fisheries on the Kennebec River and it eventually adopted legislation requiring restoration of anadromous species to their historical range.

Reissuance of the license, which was due to expire in 1993, would have required the utilities to construct fishways to allow access to the upstream reaches of the rivers. This would have cost nearly three times as much as removing the dam. In a unique alignment of interests, state, federal and private entities all supported dam removal, although the utilities did not. The Federal Energy Regulatory Commission denied the relicensing application and ruled that the dam’s removal was compelled by the public interest. Once the commission issued its
order, Bath Iron Works and operators of other upstream dams agreed to fund the removal in order to:

- satisfy off-site mitigation requirements for wetlands lost to shipyard expansion, and
- delay imposition of fish passage requirements until there was sufficient fish restoration to justify it.

A demolition crew breached the dam in July 1999, allowing the river to flow freely for the first time in 162 years. The Condit Dam in Washington is another example where removal would be far less costly than installing fishways. However, the counties and private landowners with shoreline property on the reservoir have delayed the process with petitions to the Federal Energy Regulatory Commission and local zoning objections. Nearly a decade after the operator agreed to removal, the dam still stands.235

In 2005, as part of the Energy Policy Act of 2005, Congress passed amendments to the Federal Power Act that will likely make it more difficult for the Federal Energy Regulatory Commission to compel dam decommissioning.236 The 2005 amendments enable parties to a licensing proceeding to propose alternatives to environmental conditions and seek trial-like hearings on issues of material fact. Although these new provisions may be used to challenge or delay the imposition of stringent license conditions, they should not pose an insurmountable barrier to future efforts to restore fish passage because it will be difficult for opponents to meet the substantive requirement that any alternative prescription they propose is no less protective than that proposed by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.237

Involvement of other federal legislation

Even if the Federal Power Act itself does not compel minimum stream flows, flow protection and other environmental requirements may be imposed by state, tribal, federal or even private parties under the Endangered Species Act of 1973 and the Clean Water Act of 1972. Both these acts have changed the landscape significantly. More specifically, states have successfully wielded their authority to protect stream flows under Section 401 of the Clean Water Act, described below, even though First Iowa would not have allowed them to do so under the Federal Power Act.

Clean Water Act

The Clean Water Act is the primary federal law governing water pollution in the United States. Its modern form was enacted in 1972 with the goal of restoring and maintaining the "chemical, physical, and biological integrity of the Nation's waters."239 More specifically, the Act aims to:

- eliminate the discharge of pollutants, and
- ensure that surface waters meet standards necessary for fisheries and recreation.

To achieve these objectives, the Clean Water Act prohibits any person from discharging any pollutant into navigable waters (defined broadly as "waters of the U.S.") without a permit. Permits must incorporate technology-
based effluent limits for point source dischargers, as issued by the U.S. Environmental Protection Agency, and any additional requirements necessary to meet state-issued water quality standards. The U.S. Army Corps of Engineers implements a separate “404” permit program for discharges of dredge or fill material, but the agency is empowered to veto 404 permits if unacceptable adverse effects on the environment will occur. Many states and federally recognized Indian tribes have accepted delegated authority for implementing the Clean Water Act permit programs.

By regulating water quality, the Clean Water Act can, in effect, regulate water quantity as well. Minimum instream flows are often necessary to accomplish the Clean Water Act’s goal of maintaining and restoring chemical, physical and biological integrity. The Clean Water Act, however, does not directly address flows; instead, as a matter of federal policy, it explicitly states that state water quantity decisions “shall not be superseded, abrogated or otherwise impaired.” Yet implementation of certain provisions of the Act often compels information about instream flow levels and impacts of permitted activities on instream flows, and in some cases may influence water quantity decisions.

Distinct from their delegated authority to issue discharge permits, states are also required to adopt water quality standards that “protect the public health or welfare, enhance the quality of water and serve the purposes of [the Clean Water Act].” The state water quality standards must consist of designated uses of its waters and water quality criteria based on such uses. The resulting standards may be far more stringent than baseline federal requirements (see Box 12-6 for an example). State water quality standards must also include an anti-degradation policy to ensure that “existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.” State water quality standards and any amendments to them must be approved by the U.S. Environmental Protection Agency before they become effective.

Where water bodies are altered by hydropower or other federally licensed facilities, Section 401 of the Clean Water Act authorizes the states to issue water quality certifications before the federal license can be issued. Specifically, Section 401 requires a federal applicant conducting any activity “which may result in any discharge into the navigable waters” to obtain from the state a certification that the discharge will comply with the Clean Water Act. Section 401(d) adds that “any certification... shall set forth any effluent limitations and other limitations, and monitoring requirements necessary to assure that any applicant... will comply with any applicable effluent limitations and other limitations... and with any other appropriate requirement of State law set forth in such certification.” The limitations included in the certification become a condition on the federal license. Section 401 is intended to ensure that all federally licensed projects will comply with state water quality standards. It has proven to be a powerful tool for protecting instream flows.

The Supreme Court has consistently upheld the states’ Clean Water Act authority to condition discharges from hydropower facilities on instream flow protection. In S.D. Warren v. Maine, the company, Warren, sought to renew its federal licenses for five hydroelectric dams that generate power for its paper mill. Each dam impounds water, which is then run through turbines and returned to the riverbed, passing around a section of the river. Under protest, Warren applied for water quality certifications from the Maine Board of Environmental Protection pursuant to § 401. The board made the following findings:

Warren’s dams have caused long stretches of the natural river bed to be essentially dry and thus unavailable as habitat for indigenous populations of fish and other aquatic organisms; that the dams have blocked the passage of eels and sea-run fish to their natural spawning and nursery waters; that the dams have eliminated the opportunity for fishing in long stretches of river, and that the dams have prevented recreational access to and use of the river.
federal court upheld the pueblo's stringent water quality standards for the Rio Grande River, even though Albuquerque would be forced to implement expensive upgrades for its upstream wastewater treatment plant. 97 F.3d 415 (10th Cir. 1996), cert. denied, 522 U.S. 965 (1997).

**Box 12-6**  
City of Albuquerque v. Browner

In *City of Albuquerque v. Browner*, a federal court upheld the pueblo's primary contact ceremonial usage in the Rio Grande River, even though Albuquerque would be forced to implement expensive upgrades for its upstream wastewater treatment plant. 97 F.3d 415 (10th Cir. 1996), cert. denied, 522 U.S. 965 (1997).

Endangered Species Act

The Endangered Species Act is often described as the “pitbull” of federal environmental law. It has been instrumental in effectuating dramatic changes in river operations and water usage on rivers all across the nation. The first major battleground between development interests and environmental protection arose on the Little Tennessee River. In *Tennessee Valley Authority v. Hill*, the Supreme Court upheld an injunction of a nearly completed multi-purpose dam on the grounds that it would jeopardize the endangered snail darter, finding “beyond doubt that Congress intended endangered species to be afforded the highest of priorities.” The court commented that it “may seem curious to some that the survival of a relatively small number of three-inch fish among all the countless millions of species extant would require the permanent halting of a virtually completed dam for which Congress has expended more than $100 million,” but “the explicit provisions of the Endangered Species Act require precisely that result.”

Two Endangered Species Act provisions are particularly important in the context of water resources management: Section 9 and Section 7. Both apply once a species is included as endangered or threatened on the federal list.

Section 9, which applies to all persons, prohibits the “take” of any member of a listed species of fish or wildlife. Notably, this prohibition does not apply to plants. Listed plant species are protected under the statute only when they are destroyed in knowing violation of state law.
and when a federal action, such as fund-
ing or permit issuance, triggers Section 7 (described below). The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or col-
lect, or to attempt to engage in any such conduct. Regulations define harm to
 include "significant habitat modification or degradation where it actually kills or injures wildlife." This penalizes some
types of habitat destruction on water-ways and even private lands.

Section 7 applies to federal agency
action, which includes federal funding, permitting and other activities with a federal nexus. It imposes both proce-
dural and substantive duties. Substan-
tively, Section 7 prohibits federal agen-
cies from taking any action which may jeopardize the continued existence of a
listed fish, wildlife or plant species or adversely modify its critical habitat. Jeopardy is defined as lessening the
likelihood of survival and recovery of
a listed species.

To ensure that all federal agencies meet this substantive requirement, the En-
dangered Species Act imposes a procedural
duty on agencies to consult with either
the U.S. Fish and Wildlife Service or,
for marine and oceangoing species such
as salmon, the National Marine Fish-
eries Service, if the agency's proposed ac-
tion may adversely affect a listed species.
At the culmination of consultation, the
U.S. Fish and Wildlife Service issues a
Biological Opinion, which assesses the
effects of the proposed action on a listed
species. If the service determines that
the proposed action may jeopardize the
species, it must suggest "reasonable and
prudent alternatives" to avoid jeopardy
while meeting the purposes of the pro-
toceed if jeopardy would result.

If the agency wants to go ahead with
the proposed action despite a jeop-
dy opinion, it may seek an exemp-
tion from the Endangered Species
Committee, better known as the God
Squad. It must show, among other
things, that:
• there are no "reasonable and
prudent alternatives,"
• that the benefits of the project
clearly outweigh the benefits

Activities that impact either
water quality or quantity can be
affected dramatically by the Endangered Species Act's provisions.

Irrigation

There are few cases involving the
Endangered Species Act claims in the
case of irrigation use. A water with-
drawal would surely result in an illegal
take if it caused the death of a listed
species by extracting all of the water
from a river or lake. At least one irrigation district has been found liable for a take when they operated a diversion with inadequate fish screens, which killed listed fish. In addition, Section 7 has prevented the development of new water projects requiring federal permits and restricted the delivery of water from existing federal or federally permitted projects that could cause jeopardy to listed species. The U.S. Bureau of Reclamation has been required to reduce water deliveries to irrigators when the water is needed to ensure the survival of a listed species. In other words, irrigators’ rights to water from a federal project have been deemed “subservient” to the Endangered Species Act. “If Congress has directed that the Bureau reserve water for environmental purposes, [the irrigators] cannot be heard to insist that their water rights require the Bureau to disobey the law.” Although persons holding state-law water rights do not enjoy “a special privilege to ignore the Endangered Species Act,” they may claim that they are entitled to compensation under the U.S. Constitution, if their property rights in water are infringed.

**The Wild and Scenic Rivers Act**

Beginning in the early 1930s the United States went on a dam-building binge, constructing 75,000 public and private dams at least six feet (152 cm) in height. “If there was a stretch of free-flowing river anywhere in the country, our reflex action was to erect a dam in its path.” By 1970, the dam-building spree had begun to dwindle because of poor cost-benefit ratios and an increased awareness of dams’ negative environmental consequences.

The genesis of the wild and scenic rivers concept came about in 1962, when the President’s Outdoor Recreation Resources Review Commission launched the idea of giving special legislative protection to certain remaining sections of rivers. In 1965 (and again in 1967) the Johnson Administration recommended that Congress implement the President’s proposal to create a wild rivers bill. Within a few years there were 17 bills, only four of which proposed a national approach to river preservation.

Opponents to a national preservation effort, including reclamation associations, beneficiaries of federal water projects and state water control boards, claimed that efforts to designate single-use rivers would undermine state-sanctioned water rights and continued economic growth under the long-standing multiple-use concept of river management. Supporters testified that piecemeal legislation covering individual states was insufficient and that the federal government needed to “encourage” the states by establishing a “moderate and modest” national system with plenty of latitude for state and local participation.

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**Box 12-8 Implementation: The Cedar River**

The Cedar River flows out of the Cascade Mountains and empties into Puget Sound. The City of Seattle owns much of the upper watershed and claims a diversionary right dating from 1901 for municipal water supply. Access to the watershed is carefully controlled to ensure protection of water quality. In fact, Seattle even installed a diversion dam to block salmonids from spawning and rearing in the upper 11 miles (18 km) of the Cedar River in order to prevent decomposing fish from contaminating the watershed.

The state Department of Ecology had adopted instream flows for the Cedar River in 1979, but neither Seattle Public Utilities nor the U.S. Army Corps of Engineers believed that their activities were affected by this decision. Meanwhile, the Muckleshoot Tribe, which has treaty fishing rights to the Green/Duwamish and Cedar rivers, questioned the adequacy of the instream flows. Negotiations were initiated among Seattle, state and federal agencies and the Tribe to address the future of fish habitat in the watershed. The parties were further motivated when the Puget Sound Chinook salmon was listed under the Endangered Species Act.

Seattle sought an incidental take permit and a Habitat Conservation Plan under the Endangered Species Act to limit its potential for liability for a take of listed species and to better ensure a safe, reliable water supply. The Habitat Conservation Plan that resulted provides an umbrella for separate agreements related to water management, fish passage and land use. In exchange for the city’s commitment to maintain certain flow levels and restore fish habitat, the State agreed not to use its regulatory authority to alter flow requirements over the 50-year term of the agreement. Seattle also committed to continued monitoring to ensure that the Habitat Conservation Plan’s terms were met.

The Muckleshoot Indian Tribe brought suit against the state and the United States, alleging that too many concessions had been made to Seattle. The parties agreed to mediation and they reached a settlement agreement in 2006, which limits Seattle’s diversion and requires it to follow the natural hydrograph (as feasible) during and even beyond the expiration of the Habitat Conservation Plan. Muckleshoot Indian Tribe v. Washington Dept. of Ecology, 112 Wash.App. 712, 50 P3d 668 (2002); Muckleshoot Indian Tribe v. National Marine Fisheries Service, Slip Opinion, NO. C03-3775JLR (W.D.Wash.Aug 30, 2006).

The Habitat Conservation Plan is detailed in Chapter 3.
Congress responded by enacting the Wild and Scenic Rivers Act in 1968. It declared that "the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing conditions to protect the water quality of such rivers and to fulfill other vital national conservation purposes."299

Wild and Scenic Rivers Act designations can result in strict controls within the river's corridor. In City of Klamath Falls v. Babbitt, the city challenged the designation of a segment of the Klamath River as scenic because the designation would preclude the completion of a hydroelectric project. The designation, which was accomplished through a statewide voter initiative, was upheld as within the discretion afforded by the Act.312 The city's concern stemmed from Section 7 of the Act, which prohibits the Federal Energy Regulatory Commission from licensing "the construction of any dam, water conduit, reservoir, powerhouse, transmission line or other project works under the Federal Power Act on or directly affecting any river which is designated." Conversely, commission-licensed developments below or above a designated river are prohibited only if they "invade or unreasonably diminish" the values for which the river was designated.314

The Wild and Scenic Rivers Act also prohibits the U.S. Federal Energy Regulatory Commission and all other federal agencies from assisting "by loan, grant, license or otherwise" in the construction of any "water resources project" that would have a direct and adverse effect on the values of a designated river. Although the statute does not define "water resources project," the Department of the Interior follows a broad interpretation that includes "any type of construction that would result in any change in the free-flowing characteristics of a wild and scenic river." Examples include dams, bridges, transmission lines, bank stabilization and channelization projects, levees, dredge and fill activities, boat ramps and piers.317

If a water resources project would have direct and adverse effects on the river's values, the Acting agency may not proceed. In Sierra Club v. Pena, for example, the U.S. Army Corps of Engineers and Coast Guard permits for the construction of a bridge across a designated river were precluded when the river management
Integrated Approaches to Riverine Resource Stewardship

The federal government has a right to the continued flow of water as necessary to fulfill the purposes of federal lands.

agency, the National Park Service, determined that bridge construction, which would involve placing piers and fill materials in the riverbed, would have adverse impacts on the river's values.\textsuperscript{318} As for the bridge itself, the National Park Service concluded that it "would be visible for approximately three miles upstream and downstream, and would have a more significant visual impact at greater distances than any other developments in the area."\textsuperscript{319} Further, not only would the project negatively impact enjoyment of the natural scenery, but it would also create "noise intrusions and multiple in-stream obstructions that would further degrade the recreational experience."\textsuperscript{320}

The court upheld the National Park Service's decision over the objections of the Minnesota Department of Transportation, on the grounds that it was supported by detailed factual findings and was not arbitrary or capricious.\textsuperscript{321}

In\textit{Trout Unlimited v. Dept. of Agriculture}, however, the court rejected a challenge to the Forest Service's decision to approve an easement for a reservoir on a tributary to the Cache la Poudre "wild" river, even though it had failed to require maintenance of minimum bypass flows.\textsuperscript{322} According to the court, the Forest Service had properly determined that the easement would have no effect on the values for which the creek was designated because designation had been based on streamflows that had already been dwatered during the winter for over sixty years. It also noted that Congress had expressly protected existing water uses, including reservoir operations, when it designated the Cache la Poudre as a Wild and Scenic River.\textsuperscript{323}

Opponents of water resources projects have also been spurned when the project in question is specifically authorized by Congress. In 1961, Congress authorized the U.S. Army Corps of Engineers to construct three dams in the Rogue River basin. One of these projects, the Elk Creek Dam, spawned nearly a decade of litigation, much of which centered on the National Environmental Policy Act and, to a lesser extent, the Wild and Scenic Rivers Act.\textsuperscript{324} The Elk Creek project is located 57 miles (92 km) upstream from a Wild and Scenic Rivers Act segment of the Rogue River.\textsuperscript{325} Construction was allowed to proceed in spite of objections by the Bureau of Land Management and the Forest Service that the dam "unreasonably diminished" the fishery resources in the Rogue River, especially coho salmon and steelhead trout, and would "unreasonably diminish" scenic values if it was completed and operated as designed.\textsuperscript{326} According to the court, when "Congress is in the driver's seat," meaning the water resources project is not "federally assisted" by an agency but rather congressionally authorized, "it must have intended for the administering Secretary to be informed and to provide input—but not to have a veto."\textsuperscript{327}

Federal Reserved Water Rights and Indian Treaty Rights

Since the Revolutionary War, the United States has held both proprietary and sovereign interests in the federal lands.\textsuperscript{328} Under the U.S. Constitution, these interests, along with interests in water rights for federal lands, are explicitly authorized by the Property Clause, which gives Congress "power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States."\textsuperscript{329} Accordingly, the federal government has a right to the continued flow of water as necessary to fulfill the purposes of federal lands.\textsuperscript{330}

Water quantity

The first federal reserved rights to be asserted before the Supreme Court involved water for Indian reservations. In 1908, the United States asserted an implied, federally reserved water right for the tribes of the Fort Belknap Indian Reservation in Montana to prevent depletions by upstream irrigators.\textsuperscript{331} Congress had established the reservation in 1888 to provide a permanent home for the tribes. In\textit{Winters v. U.S.}, the Supreme Court awarded the tribes a right to the waters of the Milk River, in spite of the conflict with state prior appropriation law, reasoning that water was reserved appurtenant to the land because it was an "absolute necessity" to fulfill the reservation's purposes.\textsuperscript{332} The seniority date, for purposes of
Federal reserved water rights can protect instream values in National Monuments, Wild and Scenic Rivers, National Recreation Areas and National Parks.

**Water quality**

Along with water quantity, tribes have asserted rights to an adequate quality of water. Although the Supreme Court has not ruled definitively on this issue, it has noted that a right to fish includes more than just a right to dip a net in the water. Lower courts have concluded that tribes possess rights to adequate flows for fish habitat as well as sufficient water quantities to maintain appropriate water temperatures for native fish. Beyond federal reserved water rights, many tribal treaties include explicit provisions for on- and off-reservation fishing rights. The landmark Boldt decision held that the tribes in Washington State were entitled to the opportunity to harvest half of the salmon and steelhead at off-reservation fishing grounds pursuant to an 1855 treaty. The U.S. Supreme Court agreed that treaty language for a “right of taking fish… in common with all citizens of the Territory” secured the right to harvest a share of each run of anadromous fish that passed through tribal fishing areas. Subsequent decisions imply that treaties may also be construed to provide a right to protect fish habitat and instream flows.

**Water rights for non-Indian federal lands**

The Winters doctrine was extended to other federal lands in *Arizona v. California*. Reserved water rights for non-Indian federal lands, such as national forests and parks, extend only to the primary purposes for which the land had been withdrawn from homesteading and other disposition. With respect to federal lands destined for disposition through grants to homesteaders, railroads, veterans and others, the United States continues to espouse a policy of leaving water rights determinations to the states, unless there are navigational or other federal concerns.

Federal reserved water rights can protect instream values in National Monuments, Wild and Scenic Rivers, National Recreation Areas and National Parks. One of the earliest expressions of approval is found in the Supreme Court's opinion in *Cappaert v. U.S.*, where the court found a federal reserved right to protect water levels in an underground pool for the desert pupfish at the Devil’s Hole National Monument. Similarly, a Colorado water court upheld federal reserved rights for the Rocky Mountain National Park because instream flow protection was consistent with Congress’s concern for the preservation of natural conditions and scenic beauty. The Supreme Court of Idaho, however, refused to find reserved water rights for a national wildlife refuge and certain wilderness areas. The U.S. Supreme Court has not had occasion to address the issue explicitly, but it did authorize the assertion of reserved water rights for various wildlife refuges and recreation areas in *Arizona v. California*.

Where federal reserved rights do not exist, federal land managers may seek to secure water rights for instream purposes pursuant to state law. If federal reserved rights do exist in a particular area of federal land, however, there may be good reasons to choose to proceed under federal rather than state law, in spite of potential adverse implications for federal-state comity. Federal reserved rights in western states are highly desirable in terms of priority, as they typically carry very early seniority dates. Choosing to proceed under federal law is all the more attractive in states with restrictive instream flow legislation. Although the assertion of federal reserved rights will often trigger opposition from irrigation districts and private appropriators, in some cases it may be the only available option. For example, the states of Oregon, Washington, Colorado, Idaho and several others do not allow federal agencies to
A failure to assert federal reserved rights in lieu of state sanctioned rights may be considered a derogation of the duty to protect federal lands.

**Takings and the Public Trust Doctrine**

When a government imposes protection for instream flows in a manner that restricts water deliveries, irrigation districts and other appropriators have asserted claims for compensation for the “taking” of state-sanctioned water rights under the Fifth Amendment of the U.S. Constitution. Claims against the United States over ten thousand dollars must be lodged in the U.S. Court of Federal Claims, while claims against state agencies can be lodged in state court.\(^{350}\)

Takings claims may only proceed if the interest that has been curtailed is a legally protected property right. If not, affected parties may assert contract, tort or other types of claims, but not Fifth Amendment claims. Resolution of this issue typically turns on state law.\(^{351}\) However, whether a state-authorized permit to appropriate water is considered a form of property has been the subject of much legal commentary and is by no means settled.\(^{352}\) In fact, two cases arising out of Oregon and California reached opposite results:

- **In Klamath Irrigation District v. U.S.,** the Claims Court determined that the plaintiffs had contract rights only to reclamation water, not property, under Oregon law.\(^{353}\)
- **In Tulare Lake Basin Water Storage District v. U.S.,** a different judge within the Claims Court ruled that the curtailment of reclamation deliveries resulted in a taking of plaintiffs’ property rights to water requiring compensation under California law.\(^{354}\)

In both instances, restrictions were imposed to prevent jeopardy to listed species under the Endangered Species Act.\(^{355}\) The Tulare opinion has been widely criticized, but the U.S. did not appeal and instead paid some twenty million dollars to the irrigators to settle the claims.

**The public trust doctrine in the U.S.**

In some states, the public trust doctrine may be a viable defense against a taking claim. However it is virtually untested, and legislators and agencies have been fearful of pushing its limits.\(^{356}\)

In systems built on English common law, surface water is viewed as a type of public trust resource, where the sovereign retains rights and responsibilities to protect the resource for the public. The public trust doctrine, which traces its pedigree to Roman law, recognizes that water is an essential resource upon which entire societies depend for survival.\(^{357}\) As such, tidal and navigable waterways, shorelines and stream beds “should not be held exclusively in private hands, but should be open to the public or at least subject to what Roman law called the ‘jus publicum’: the ‘public right.’”\(^{358}\)

Although the doctrine was adopted in the United States through the incorporation of English common law, there is “an astonishingly universal regard for communal values in water worldwide.”\(^{359}\) A review of Asian, African, Islamic, Latin American, and Native American laws indicates that the headwaters of the public trust doctrine “arise in rivulets from all reaches of the basin that holds the societies of the world.”\(^{360}\)

The public trust doctrine has enjoyed modern staying power through the work of legal scholars and judicial

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**Box 12-9 Implementation: The Dungeness River**

The recognition of tribal rights not only to harvest fish but also to demand protection of fish habitat served as the impetus for cooperative efforts among tribal leaders and federal and state decision makers to restore stream flows and fisheries in the Dungeness River watershed of Washington State.

The Dungeness River Management Team developed a comprehensive restoration strategy in 2003. The strategy was shared with the public in a detailed brochure, *Restoring the Dungeness: How a Community Works Together to Restore a River.* Activities include the purchase of land from willing sellers, floodplain restoration, sediment management, protecting high-quality riparian and side-channel habitat, construction abatement or setback, water conservation and other instream flow improvements. The Jamestown S’Klallam Tribe plays a key role in flow restoration and fish recovery as a coordinator of the Dungeness watershed planning effort.

The strategy is described in detail in Chapter 4.
opinions at both the federal and state level. Courts have referenced the doctrine in granting public access for navigation and fishing, and, in some cases, in recognizing the right of the public to preserve its waters to support fish and wildlife species.

According to Professor Joseph Sax, who has written frequently on the nature of property rights, the uniqueness of water is universally recognized:

Box 12-10
Implementation: The Trinity River

The Trinity River in northwestern California is the longest tributary of the Klamath River. For thousands of years, the Hoopa, Yurok and other tribes depended on the fish, wildlife and plants of the Trinity ecosystem for subsistence and cultural and commercial uses. The river historically produced tens of thousands of chinook and coho salmon and steelhead trout.

Since the 1960s, however, dams on the Trinity River have impounded water for recreational purposes, hydropower and irrigation, blocking access to over 100 miles (160 km) of spawning and rearing habitat for salmon and steelhead. Much of the water from the reservoirs on the Trinity is exported to the Central Valley Project. The Central Valley Project is the largest water management project in the U.S., covering an area roughly 400 miles long by 120 miles wide (644 by 193 km). The state of California initiated the Central Valley Project, but in 1935, the United States took over the project’s administration under the Reclamation Act of 1902, Pub.L. No. 57-161, 32 Stat. 388. U.S. v. Gerlach Live Stock Co., 339 U.S. 725, 728 (1950).

Decline of salmonid populations led to the 1971 formation of the Trinity River Basin Fish and Wildlife Task Force, comprised of state, federal and tribal agencies. In 1984, Congress enacted legislation intended to develop a management program to restore fish and wildlife populations in the Trinity River Basin to levels that existed prior to construction of the dams. Meanwhile, the U.S. Department of the Interior acknowledged that the Hoopa Valley and Yurok Tribes’ reserved fishing rights included the right to harvest a sufficient number of fish for subsistence, ceremonial and commercial purposes.

In 1992 and again in 1996, Congress amended the Central Valley Project Improvement Act, Pub.L. No. 102-575, § 3406(b)(23), 106 Stat. 4600, to restore and enhance habitats in the Central Valley and Trinity River Basins and address impacts of the Central Valley Project on fish and wildlife habitats. More specifically, the amendments were intended to set permanent instream flow requirements and to meet federal trust responsibilities to the tribes and to meet restoration goals under the Endangered Species Act.

When it became clear that no single institution could address the complex, interrelated problems of water quality, watershed protection, water conservation and flood control, the participants joined forces to craft a comprehensive management plan. The plan, which was the preferred alternative in an Environmental Impact Statement issued in December 2000, allocates roughly half of the river’s flow to fish and the other half to agricultural, hydropower and other water users. It also includes sediment management and channel rehabilitation programs.

Water users and utilities, however, sued to prevent implementation. In 2001, a federal district court concluded that the decision to require increased flows required a Supplemental Environmental Impact Statement and enjoined implementation of the plan. The judgment was reversed by the Ninth Circuit, which allowed the restoration plan to proceed. Westlands Water Dist. v. U.S. Dept. of Interior, 376 F.3d 853 (9th Cir. 2004). After years of sustained effort, flows to restore the Trinity River fisheries were released.

The plan is described in detail in Chapter 9.

The roots of private property have never been deep enough to vest in water users a compensable right to diminish lakes and rivers or to destroy the marine life within them. Water is not like a pocket watch or a piece of furniture, which an owner may destroy with impunity. The rights of use in water, however long standing, should never be confused with more personal, more fully owned, property. Far from being a sudden and unpredictable change in the definition of property, recognition of the right of the state to protect its water resources is only a restatement of a familiar and oft-stated public prerogative.

In the eastern United States, the public trust doctrine underlies the law of reasonable use, where riparian landowners have rights to use water so long as they do not cause substantial harm to downstream users. In the western United States, the public trust doctrine is frequently cited by state courts, but it has rarely been utilized as a significant curb on private rights by imposing limitations on wasteful or otherwise harmful uses. In a path-breaking opinion, the Supreme Court of California imposed the doctrine on appropriators in National Audubon Society v. Superior Court (the Mono Lake case), when it stated that:

The state as sovereign retains continuing supervisory control over its navigable waters and the lands beneath those waters. This principle, fundamental to the concept of the public trust, applies to rights in flowing waters as well as to rights in tidelands and lakeshores; it prevents any party from acquiring a vested right to appropriate water in a manner harmful to the interests protected by the public trust.

As a result, in California, the state water board must consider the public trust in making decisions on the application for (or transfer of) water rights.

Hawaii has followed suit, and indeed its Supreme Court has applied the doctrine to both surface and groundwater resources, and has held that Hawaii law requires consideration of instream flows before the state may authorize diversionary uses of water. In reaching its conclusion, the court cited Article XI of the state constitution, which provides that “all public resources are held
Although the public trust doctrine arose from the same body of common law incorporated in both the U.S. and Canada, it has received far less attention in Canada.

The court noted that the state must balance resource protection against maximum reasonable and beneficial use of water, and must also consider domestic and native uses in administering the public trust. Although the court explicitly found that the public trust doctrine requires a "higher level of scrutiny" for off-stream private commercial uses, it did not indicate how off-stream trust uses, such as providing drinking water and growing kalo, should be reconciled with instream flow maintenance. Rather, it rejected the state water commission's conclusion that instream flow protection is a "categorical imperative," and directed the commission to assess each case individually in an effort to rectify competing public and private water uses.

Both the California and Hawaii decisions can be seen as an anomaly in western water law, however, as they have made little impact on the use and exploitation of water resources in other states of the west.

The public trust doctrine in Canada

Interestingly, although the public trust doctrine arose from the same body of common law incorporated in both the U.S. and Canada, it has received far less attention in Canada. Observers speculate that this may be a result of "the non-litigious nature of Canadians, lack of standing for citizens to enforce public rights, poor precedent, and the conservative role played by Canadian courts as reasons for the lack of development and use of the doctrine." Moreover, as mentioned earlier, western Canadian prior allocation water rights likely are not property based. Since the public trust doctrine is property based, it makes sense that this doctrine emerged in the U.S. to keep states from relinquishing public property to private interests, but it makes less sense in the western provinces.

The "fundamentally different path" of Canadian law regarding takings may also explain the relatively low profile of the public trust doctrine in Canada. Section 1(a) of the Canadian Charter of Rights and Freedoms declares that "individuals" are entitled to "due process" in the event of a "deprivation of property." However, the Supreme Court of Canada has virtually "emptied the guarantee of any independent force" by declaring that it "does not protect against the expropriation of property by the passage of unambiguous legislation." As a result, there is no compensation for so-called regulatory takings arising from use limitations or reduction in property values. Only outright "confiscation" will give rise to statutory compensation in Canada.

In 2004, however, the Supreme Court of Canada seems to have opened the door to a Canadian public trust doctrine. In British Columbia v. Canadian Forest Products Ltd., British Columbia sought recovery of ecosystem damages (in addition to fire fighting costs and stumpage value) against Canadian Forest Products Ltd. (Canfor) for negligently causing a forest fire on public lands. The government sued both on the basis of parens patriae, on behalf of the people of British Columbia, and in its proprietary capacity as owner of the public land. The Court found that the government could sue in parens patriae and, in principle, could recover for ecosystem damages. In the course of the decision, the Court compared the parens patriae cause of action with the U.S. public trust doctrine. The Court expressed concerns that public trust responsibilities could extend beyond the government's ability to seek compensation for environmental damage to public lands, and may even "include the Crown's potential liability for inactivity in the face of threats to the environment, ...and the specter of imposing on private interests an indeterminate liability for an indeterminate amount of money for ecological or environmental damage." In the end, the Court concluded that this case
The federal Fisheries Act applies to all coastal and inland waters throughout Canada that contain or support a fishery. The Act contains provisions that specifically protect fish habitat and water quality in waters frequented by fish.381 It prohibits any person from carrying on an undertaking that results in a harmful alteration, destruction, or disturbance (HADD) of fish habitat. Fisheries and Oceans Canada administers this provision, and, according to timber companies and other developers, Fisheries and Oceans Canada therefore "holds the 'big stick' on matters pertaining to fish-bearing waters."382

The water quality provision of the Act prohibits any person from depositing a deleterious (toxic or harmful) substance into waters frequented by fish or in or onto a place where the substance will enter waters frequented by fish (for example, the bank of a fish-bearing stream). As with the HADD provision, Environment Canada, which administers this provision, may authorize certain deposits of substances.384

The Fisheries Act also authorizes the Fisheries Minister to require modifications to a project’s plans or operations in order to prevent or mitigate adverse effects on fish habitat. The project proponent must submit plans, studies or analyses to allow the Minister to determine whether the project will “likely” result in the alteration or disruption of fish habitat.385

Fisheries and Oceans Canada applies the Fisheries Act to water withdrawals authorized under provincial licenses if the withdrawal would reduce instream flows and result in a HADD. But Fisheries and Oceans Canada has exhibited a willingness to work with provinces to safeguard instream flows while allowing for development. A recent example can be seen in the Joint Water Management Framework: Instream Flow Needs and Water Management System for the Lower Athabasca River, adopted in 2007 by Alberta Environment and Fisheries and Oceans Canada to govern water management in the face of major oilsands developments.386 The agreement incorporates instream flow assessments for the river and provides mechanisms to control water withdrawals by industry to avoid reducing flow below the Instream Flow Needs to sustain a healthy aquatic ecosystem. In turn, Fisheries and Oceans Canada limits the application of the HADD provisions to works or undertakings constructed after the HADD provisions came into effect in 1977.387

Navigable Waters Protection Act

Additional potential protections for instream flows can be found in Section 5 of the Navigable Waters Protection Act, which prohibits any "work" from being "built or placed in, on, over, under, through or across any navigable water" unless "the work and the site and plans thereof have been approved by the Minister, on such terms and conditions as the Minister deems fit, prior to commencement of construction."388 Exemptions under the Navigable Waters Protection Act, however, are frequently granted.389

Canadian Environmental Assessment Act

The Canadian Environmental Assessment Act requires that a federal environmental assessment be conducted where a proponent proposes a project and the federal government has a role in enabling the project to proceed by providing financial assistance, granting an interest in land where the project is sited, or by exercising certain regulatory duties.390 Unless an exclusion is provided by regulation, water related projects, including the authorizing a HADD under the Fisheries Act and carrying out large hydroelectric projects, trigger the assessment requirement.391 The assessment for the Oldman Dam in Alberta is described in Box 12-1.
Instream flow success stories can be found in contexts ranging from dam removal to less drastic measures for protecting stream flows and wildlife habitat, such as habitat conservation plans, water transfers and water permit conditions. The key appears to be establishing an environmental baseline of scientifically-based flow levels below which flows may not drop, along with mandatory caps on permit amounts for new and existing withdrawals to ensure that those flow levels are maintained.

**Canada Wildlife Act and Species at Risk Act**

A discussion of instream flow protection in Canada would not be complete without reference to Canadian federal laws on biodiversity protection. The Canada Wildlife Act covers all wild animals and plants that are migratory or threatened and considered of national significance. The Wildlife Act does not provide for the full protection of habitat of threatened species, however, and those species that are not found on federal land are especially vulnerable.

The federal Species at Risk Act was passed in 2002 to address Canada’s obligations under the International Convention on Biodiversity. The stated purposes of the Act are to prevent wildlife species from becoming extinct and to help in the recovery of species that are at risk as a result of human activities. Among other things, the Species at Risk Act prohibits any person from killing, harming or harassing an individual of a listed species or from damaging or destroying the residence of an individual of a listed species. A number of marine mammals and marine and freshwater fishes and mollusks are now listed and therefore protected under the Act. Although some observers have found “less evidence of a broad-scale commitment to preservation” on the Canadian side of the border, perhaps the Species at Risk Act evidences an emerging trend toward a more deep and lasting dedication to biodiversity and habitat protection.

State and provincial water laws can be dynamic and change over time within each state or province. As a consequence, some accounts presented here may have changed. We encourage the reader to determine whether any changes have occurred since this chapter was written. In addition, water laws vary between states and provinces so any generalities expressed here should be regarded as illustrative or general concepts except in those cases where the text relates to specific situations.

**Looking Forward**

On both governmental and private fronts, great strides have been made to protect instream flows in the past three decades. Statutory and regulatory requirements have been strengthened and, in many cases, stakeholders have been aggressively pursuing adaptive restoration options. Success stories can be found in contexts ranging from dam removal to less drastic measures for protecting stream flows and wildlife habitat, such as habitat conservation plans, water transfers and water permit conditions. The key appears to be:

- establishing an environmental baseline of scientifically-based flow levels below which flows may not drop, along with
- mandatory caps on permit amounts for new and existing withdrawals to ensure that those flow levels are maintained.

However, the efforts of regulators and citizens alike are hobbled by impediments such as:
- limited resources,
- gaps in environmental data,
- divergent values among constituents, and
- persistent political pressure to allow growth and development.

State and provincial legislatures could improve existing programs by:
- expanding the uses to which instream flow appropriations can be put,
- allowing both public and private entities to hold instream appropriations,
- eliminating obstacles to short-term and permanent transfers from diversionary uses to instream uses, and
- creating dedicated funding mechanisms for acquisitions to
Restoring free-flowing rivers often requires a great deal of political fortitude from the river management agencies along with a forum that fosters parity between conventional diversionary uses and environmental interests.

Although the removal agreement was reached in 1999, in 2008 the dam was still operating and the timing of removal was uncertain. The local counties, along with private landowners with shoreline property on the existing reservoir, have been major factors in slowing down the process and increasing the costs and uncertainties of dam removal.

The Condit Dam situation illustrates the danger of failing to bring all significant institutional parties to the table early in the decision making process. Yet given the intractable nature of the interests—the benefits of restoring instream flows versus the benefits of the status quo (particularly for shoreline properties on the reservoir)—perhaps obtaining complete local “buy-in” was simply not possible. As a matter of law, federal orders from the Federal Energy Regulatory Commission preempt inconsistent state and local requirements, and state orders displace local ordinances. Legal authority is not always enough, however. Restoring free-flowing rivers often requires a great deal of political fortitude from the river management agencies along with a forum that fosters parity between conventional diversionary uses and environmental interests.
### Instream Flow Provisions of the Western United States and Great Plains States as of May 2007

Prepared by Blake Carlile, JD Candidate 2009, at the direction of Professor Sandra Zellmer, University of Nebraska College of Law.

<table>
<thead>
<tr>
<th>Western States</th>
<th>Source of Instream Appropriation</th>
<th>Identity of Instream Appropriate</th>
<th>Allowable Instream Purposes</th>
<th>Basin Closure Authority</th>
<th>Establishment of Minimum Flow Levels Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>Unappropriated waters sufficient for the reservation</td>
<td>Any person</td>
<td>Fisheries, Wildlife, Riparian Areas, Recreation, Navigation, Water Quality</td>
<td>Appropriation laws effectively create this result</td>
<td>No</td>
</tr>
<tr>
<td>Arizona</td>
<td>Unappropriated waters sufficient for the reservation; transfers or conversions of existing water rights</td>
<td>Any person</td>
<td>Fisheries, Wildlife, Recreation</td>
<td>Appropriation laws effectively create this result</td>
<td>No</td>
</tr>
<tr>
<td>California</td>
<td>Only transfers or conversions to an instream use</td>
<td>The right remains with the original holder or transferee of the water right</td>
<td>Fisheries, Other Aquatic Organisms, Wildlife, Riparian Areas, Recreation, Aesthetics, Navigation, Water Quality</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Colorado</td>
<td>Transfers, conversions or new appropriations; new appropriations only if needed for preservation, not improvement</td>
<td>State Local Government</td>
<td>Fisheries, Other Aquatic Organisms, Wildlife, Recreation, Aesthetics, Navigation, Water Quality</td>
<td>Appropriation laws effectively create this result</td>
<td>No</td>
</tr>
<tr>
<td>Idaho</td>
<td>Unappropriated waters limited to the minimum amount needed to accomplish the goals set forth in the application as well as transfers or conversions of existing water rights</td>
<td>State</td>
<td>Fisheries, Other Aquatic Organisms, Wildlife, Recreation, Aesthetics, Navigation, Water Quality</td>
<td>Probably</td>
<td>Yes</td>
</tr>
<tr>
<td>Kansas</td>
<td>No Appropriation, instead minimum flows are established to withhold unappropriated waters from diversion; transfers and conversions are allowed</td>
<td>State</td>
<td>Fisheries, Other Aquatic Organisms, Wildlife, Recreation, Aesthetics, Water Quality, Domestic Uses, Protect Existing Water Rights</td>
<td>Probably</td>
<td>Yes</td>
</tr>
<tr>
<td>Montana</td>
<td>State law is not specific; transfers can be used</td>
<td>State Federal Agency</td>
<td>Fisheries, Wildlife, Recreation, Water Quality</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nebraska</td>
<td>Unappropriated waters that are available at least 20 percent of the time; transfers and conversions of existing water rights</td>
<td>Multiple state agencies</td>
<td>Fisheries, Wildlife, Recreation, Water Quality</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>New Mexico</td>
<td>Allowed by AG Opinion; Transfers only – all water has been appropriated</td>
<td>Any person</td>
<td>Fisheries, Wildlife, Recreation, Water Quality</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nevada</td>
<td>No specific statutes of protection; new appropriations, transfers and conversions are likely viable options</td>
<td>Any person</td>
<td>Fisheries, Wildlife, Recreation</td>
<td>Not specified</td>
<td>No</td>
</tr>
<tr>
<td>North Dakota</td>
<td>No protection</td>
<td>Not Allowed</td>
<td>None</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>No protection</td>
<td>Not allowed</td>
<td>None</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Western States</td>
<td>Source of Instream Appropriation</td>
<td>Identity of Instream Appropriator</td>
<td>Allowable Instream Purposes</td>
<td>Basin Closure Authority</td>
<td>Establishment of Minimum Flow Levels Required</td>
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<tr>
<td>Oregon</td>
<td>Available, Unappropriated Water; in addition, transfers and conversions of rights</td>
<td>Multiple state agencies</td>
<td>Fisheries, Wildlife, Riparian Areas, Recreation, Aesthetics, Water Quality</td>
<td>Probably</td>
<td>Yes</td>
</tr>
<tr>
<td>South Dakota</td>
<td>No specific statutes, but instream flow appropriations allowed by case law; new appropriations and transfers may be viable options</td>
<td>Federal agency</td>
<td>Fisheries, Wildlife, Recreation, Aesthetics, Navigation, Channel, Maintenance, Water Quality</td>
<td>Appropriation laws effectively create this result</td>
<td>No</td>
</tr>
<tr>
<td>Texas</td>
<td>New appropriations for instream flow are not allowed but transfers and conversions for instream purposes are allowed</td>
<td>State, Maybe federal agencies</td>
<td>Riparian Areas, Recreation, Aesthetics, Navigation, Channel, Maintenance, Water Quality</td>
<td>Maybe</td>
<td>Maybe</td>
</tr>
<tr>
<td>Utah</td>
<td>Transfers or purchase of existing water rights only</td>
<td>State (it is unclear if a private person can seek a change in their rights to an instream purpose or if it has to be done by the state)</td>
<td>Fisheries, Recreation, Environmental Protection</td>
<td>Appropriation laws effectively create this result</td>
<td>No</td>
</tr>
<tr>
<td>Washington</td>
<td>Unappropriated water; transfers or conversions of existing water rights</td>
<td>State</td>
<td>Fisheries, Wildlife, Recreation, Aesthetics, Water Quality</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Wyoming</td>
<td>Unappropriated water; transfers or conversions of existing water rights</td>
<td>State</td>
<td>Fisheries</td>
<td>Probably</td>
<td>No</td>
</tr>
</tbody>
</table>

**Endnotes**

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26 Percy 2101, 2098 (2005); Water Act, R.S.B.C., ch. 483, § 19 (1996) (Can.).
28 Percy 2103 (2005). “The decisions in both the Oldman River Dam and the Saskatchewan Water Corporation cases suggest that water rights for those controversial projects were granted on purely technical criteria, in the absence of any requirement that some level of attention should be paid to environmental concerns.” Id.
31 Percy 2005 at 2105
33 British Columbia's Fish Protection Act, Outdoor Canada, Apr. 1, 2001, citing Fish Protection Act, 1997 S.B.C., ch. 21 (Can.).
35 Water Act s. 51(1)
36 Water (Ministerial) Regulation, Alta. Reg. 205/98, s. 11
37 Kwasniak 224, 225 (2006)
38 Water Act s. 51(2)
39 C.C.S.M. c. W80, s. 15
40 Kwasniak 226, 229 (2006)
41 Fish Protection Act, supra note 33, s. 8
42 See Douglas L. Grant, Two Models of Public Interest Review, 9 U. Brain. L. Rev. 485, 496-497 (2006) (listing states that include in stream values as part of the public interest review).
43 Id. at 961.
44 Alaska Department of Fish and Game: Statewide Aquatic Resources Coordination Unit (SARCU), www.audg.state.ak.us/statewide/ instflow@fishcmt (last visited May 8, 2007).
45 Alaska Stat. § 46.15.035(c).
47 Id. at 975.
58 Cal. Fish & Game Code § 5937.
64 Id. § 82a-703(b).
69 State v. Marron, 766 P2d at 266 (Nev. 1988).
71 Covell 190 (1998).
73 Id. § 537.348.
74 Id. § 537.352.
75 Utah Code Ann. § 73-3-3(11)(g) (i)-(ii).
76 Utah Code Ann. § 73-3-3(11)(a).
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80 Wash. Rev. Code § 90.42.080(1)(a).
81 Id. §§ 90.14.215, 90.42.040(6).
82 Id. § 90.22.010.
83 Id. § 90.22.030; Wash. Admin. Code § 173-500-060(5).
85 Wash. Rev. Code § 90.44.030.
88 Id. § 41-3-1001(c).
112 Or. Rev. Stat. § 537.348(1).


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138 Amos 1251 (2006); Udall 1998.
140 Or. Rev. Stat. § 537.336(1).
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142 Wash. Rev. Code § 90.22.010.
143 Wyo. Stat. Ann. §§ 41-3-1001(b), 41-3-1002(d).
144 Benson 1287, 1302 (2006a).


149 Ontario Environmental Bill of Rights, S.O. 1993, ch. 28, § 41.

150 S.N.L. 2002, c. W-4.010

151 Newfoundland and Labrador Water Resource Act. § 10(2)
152 Newfoundland and Labrador Water Resource Act. § 14(1)(c)
153 Newfoundland and Labrador Water Resource Act §§ 14, 15, and 21
154 Bill 92, Quebec: 38th Legislative, First Session, June, 2008, preamble, and ss. 1, 124(4), and 17 (which amends the Environment Quality Act, R.S.Q. c. Q-2

156 Id. § 1R-1-11.

158 Fla. Stat. § 373.019(16).
159 Fla. Stat. § 373.026.
161 Fla. Stat. § 373.217.
162 Fla. Stat. § 373.042(a).
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165 Fla. Stat. § 373.223(4).


173 See Mass. Gen. Laws Ann. ch. 21G, § 3 (requiring regulations to manage ground and surface water in the commonwealth as a single hydrological system).


176 Compare Mass. Gen. Laws Ann. ch. 21G, § 4 (establishing a 100,000 gallon per day threshold, but authorizing the Department to lower that threshold through subsequent administrative action), and § 7 (specifying that permits are required for new withdrawals exceeding the threshold volume), with Model Code § 6R-101.


181 Id. at 612.

182 Id. at 600-602.


190 See Massachusetts Rivers Protection Act, www.mass.gov/dep/water/laws/rap01.htm (visited May 1, 2007); Colburn v. Dept. of Envtl. Protection, 57 Mass. App. Ct. 1103, 781 N.E.2d 70 (2003) (upholding Department’s determination that a disputed segment of Butter Brook was not a “river” under the Rivers Protection Act because it was dry during summer months).


199 Id. Art. V, p.49.


206 Id. at § 40.03, citing 16 U.S.C. § 817(1).


208 311 U.S. 377, 397-398 (1940).

209 See id. at 421-422.

210 311 U.S. at 423, 426-427.

211 16 U.S.C. §§ 802(b), 821.

212 328 U.S. 152 (1946).

213 Id. at 158.

214 Id. at 158-159, 166.

215 Id. at 164-166, quoting §§ 7767 and 7771 of the 1939 Iowa Code.

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658 P.2d at 727 (emphasis added).
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