

**Enhancing the Understanding and
Importance of Granting Instream Flow
Water Rights in Arizona**

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*Funded by The UA Technology and Research Initiative Fund 2004/2005 Water
Sustainability Fellowship Program*

Abstract

Because of the rising demand for water supplies in urbanized, agricultural, and industrialized Arizona, water has been diverted from many rivers and streams to serve socio-economic needs. These diversions have often resulted in diminished stream flows and, when not properly managed, have had a negative impact on the riparian resources of Arizona's rivers and streams. To achieve a better economic and environmental balance in water allocations between instream and offstream uses, a more comprehensive understanding of the values of instream flows and the laws and regulations that affect allocations of these flows is needed.

The Governor of Arizona issued an executive order dealing with the importance of riparian areas in Arizona in 1991. The order recognized the value of riparian corridors to the state and made an initiative in Arizona policy to encourage the preservation, maintenance, and restoration of instream flows throughout the state. Several government agencies received instream flow rights, and once granted have preserved instream values such as aquatic habitats, water based recreation, and fish and wildlife populations.

The purpose of this study is to further enhance the understanding of instream flow water rights in Arizona. This will undertake a research of Arizona laws and regulations affecting the granting of instream flow rights, of the beneficial uses associated with instream flow, of the legal challenges in obtaining instream flow rights, of instream flow rights that have been adjudicated to the U.S. Forest Service, and of current instream flow applications in process.

At Issue

Water is a precious resource in Arizona the precipitation in the desert portions of the state average 12 inches a year, and our groundwater resources are being diminished at a faster rate than they can be replenished. Therefore, Arizonans need to recognize the need for conservation of these resources, not only in the household uses of water, but also in our appreciation

of keeping the water flowing in the few perennial streams in the state. However, with the current water laws based on 19th century values that favor “use it or lose it” water uses there is a need to change the current status quo of old western water laws as they are no longer justifiable. One thing is for certain: the presence of instream flows in the state of Arizona is a benefit to all.

Understanding Current Arizona Water Law

The general definition of an instream flow right is: “The legal authority to use, within the stream channel, a flow of water sufficient for the purpose of preserving values and uses, such as wildlife, fish, recreation and aesthetics”.¹ An instream flow water right is a non-transformational use, meaning that the geomorphology, or shape of the stream, does not change through this legal use. One of the most important factors that separate this type of water right from traditional water rights is that it is a non-consumptive use of water. The water is put to “beneficial use” by simply staying in the stream channel and not being diverted out of the stream, as is the case of most water right holders. Individual state laws dictate beneficial use of water, and for Arizona this includes using instream flows for fish, wildlife, and recreation. More generally, an instream flow water right is a request for appropriation of water, which is setting aside, by a formal action (legal), the water for a specific use.

Importance of Instream Flows

In February of 1991 The Governor of Arizona Rose Mofford issued Executive Order No. 91-6 stating “The state of Arizona shall encourage the preservation, maintenance, and restoration of instream flows throughout the state.”² This order set a priority for the Arizona Department of Water Resources (ADWR) to react to the increasing need of legal protection of water in the streams for the wildlife, riparian, and recreation resources of the state. ADWR began approving instream flow permits in 1983 and defined an instream flow right as a surface water right that remains in-situ or “in-stream,” and is not physically diverted or consumptively used, and is for maintaining the flow of water necessary to preserve wildlife, including fish, and/or recreation.

Furthermore, in Arizona the beneficial use of water “includes but is not limited to use for domestic, municipal, recreation, wildlife including fish, agricultural, mining, stock watering and power purposes.”² This beneficial use of water is how the waters are used by the appropriator, historically by the first person who claims use of the water, more familiarly known as “first in time, first in right.” In 1983 the first instream flow permit was issued to the Arizona Nature Conservancy in Ramsey Creek of the San Pedro River. There were some legal issues raised about what Arizona law would allow, since most beneficial uses included water consumption and/or diversion of the water out of the stream. However, the Arizona Court of Appeals provided ADWR with guidance, and the decision was made that it was within Arizona law to appropriate water for instream uses without a diversion.³ This was the creation of the instream flow water rights program in Arizona.

Process of Obtaining Water Rights

Attaining an instream flow water right through the ADWR is a five step process. First one fills out an Application for Permit to Appropriate Public Water. This form requires information such as the applicant name, address, proposed use of the water, amount of proposed flow, and the location of the stretch, or reach, of stream intended to appropriate. Additionally, a copy of the recorded deed showing land ownership needs to be attached to the application. If the applicant is not the landowner, then a letter from the landowner authorizing the appropriation is required. Next, the applicant submits a report with pertinent information about the specific beneficial uses and a description of the streamflow and the surrounding characteristics that contribute to the importance of granting an instream flow permit. Most importantly a minimum of one year of stream flow measurement data is required to issue a permit to appropriate water and this must be included in the report. After an application is approved, a public notice is posted so that any affected parties may respond to the new request to appropriate. The grounds on which the proposed appropriation may be protested are that it; 1) impacts a prior vested water right, 2) is not in the best interest of the public,

or 3) presents a hazard to public safety. Once these items are cleared, a permit is issued that states the amount of flow appropriated. After issuance of a permit the permit holder has four years to demonstrate that the water right is being used within the terms of the issued permit through streamflow measurement data. With this data, the proposed appropriation is considered perfected and the applicant is issued a Certificate of Water Permit. Currently there are 28 certificates issued, 1 permit issued, and 58 applications pending, with the date of priority for the water right as the date of the application.²

Past Issues of Instream Flow Appropriation

The priority of a water right is both its most important and its most controversial feature. All water right holders are ranked according to their dates of appropriation to make beneficial use of the water. In the early 1900's during the rapid western expansion, the Prior Appropriation Doctrine was founded on the "first in time, first in right" ideology. Therefore, many of the appropriators that have senior priority water rights are the first to "beneficially use" the water in the stream, and many times this consumptively uses all the water in the stream, known as "dewatering" the stream. Instream flows were traditionally considered to be a waste of water today they are fundamental to public values of environmental trust.⁴

Just how much instream flow is necessary? There are no standardized methods of quantifying the amount of flow an appropriator requires, thus causing concerns that one may request more or less instream flow than necessary. However, after a year of obtaining streamflow measurement data, one can compute a mean or median average of the amount of water that flows through a specific point, or "point of concentration," in the stream. ADWR recommends using median flow as opposed to mean flow as it provides the most probable amount of flow available in a stream. Using a mean flow would show a skewed distribution on a hydrograph due to the monsoon-like precipitation events that occur in Arizona. The rate of instream flow aids in quantifying the amount of streamflow available that the appropriator is requesting. The amount of available streamflow also helps to quantify the

relationship between claimed flows and beneficial uses, such as how much water a kayaker or a fish may need.

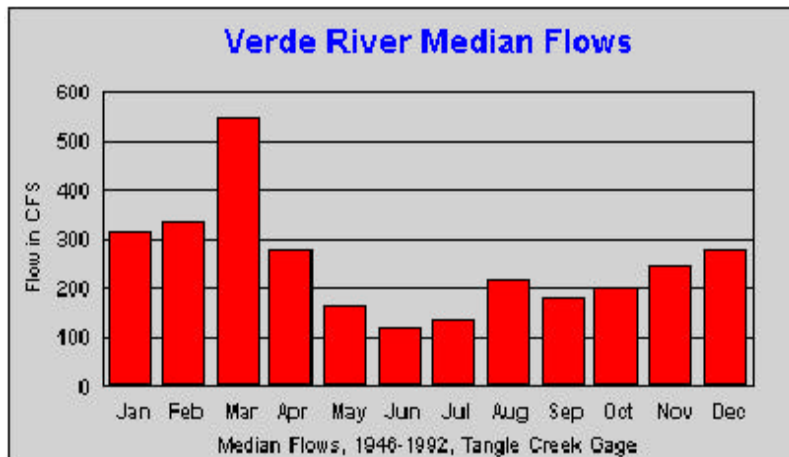


Figure 1. An example of median flows on the Verde River

(Courtesy of Wild and Scenic Rivers system website <http://www.nps.gov/rivers/wsr-verde.html>)

Another consequence of the absence of instream flows is the failure to provide for consistent streamflows, which results in a number of ill effects such as accumulated sediment, frequent flooding, and reduced streamside vegetation.

Attaining Instream Flow Water Rights

Obtaining an instream flow water right through ADWR is not the only way to attain the right to appropriate water in a stream. An example of implied instream flow water rights, are Federal Reserved Indian water rights, where priority is determined as the date the federal "reservation" was established. The federal reserved rights doctrine was created to ensure that Indian lands and public lands set aside by the government for a particular purpose or mission would have adequate water to fulfill the purposes of the land reservation. These rights have a priority date set back to when the particular federal reservation was established. Therefore, on many Indian reservations where water is flowing, water may be diverted for agriculture and household purposes and some water may be left in the stream "in-situ" purely for the aesthetics or for the wildlife.⁵

On non-Indian federal lands such as national parks or national forests, each reservation is treated separately. This is because each forest or national park has had different missions at different times of the century. The stated purpose in the Organic Act of 1897, which states the guidelines for national forests, were for national forests established during that time, and included water use only in furnishing a timber supply and protecting watersheds. There was no mention of reserved rights for instream flows in the Organic Act of 1897. Therefore, each forest that was established during that time must now apply for instream flow rights through the state just like any other landowner. Conversely, national parks were established to preserve the current values that exist within the boundaries of the park, so these are implied instream flow rights to keep the streams in their current state.

The Wild and Scenic Rivers Act of 1968 is a powerful piece of legislation set at preserving instream flows. It typically takes an act of Congress to designate a stretch of river as a Wild and Scenic River and can take a considerable amount of time to finally obtain designation. The process can be so cumbersome that unless it is a controversial river it is unlikely to be so designated. The importance of this designation of a Wild, Scenic, or Recreational River is that it creates an Implied Federal Reserved Right for instream flow with priority set as the designation date.⁶ In Arizona, The Verde River was designated in 1984 and is the only wild and scenic river in the state. It is also one of the largest perennial rivers in the state. The designated portion of the river totals 40.5 miles and flows through the Prescott, Coconino, and Tonto National Forests.

The Endangered Species Act of 1973 (ESA) works in conjunction with the purpose of preserving instream flow rights. Many times an endangered species needs the presence of instream flow and requires a quantifiable amount of water in order to survive. With the aid of the ESA, it is possible to keep other water appropriators from using the water in the stream, even if they have a legal right to use it. If an endangered species is at risk due to low flows, it is the government's responsibility to ensure that water is made available to the

species, when reasonably possible. There are many examples across the country of issues arising from the use of water to save an endangered species because of conflicts with water use by other users. However, within the ESA the following statement is written; "It is further declared to be the policy of Congress that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species." (Sect 2,c2).⁷ It seems that the two purposes have much in common, but it also evidences a need for change in the current state of water laws in Arizona and the west.

Examples of Active Instream Flow Water Right Programs



Figure 2. Fossil Creek

Fossil Creek in central Arizona is an example of a stream that has gone through the ADWR application process with a relatively successful outcome. Fossil Creek is a unique waterway in the Tonto National Forest that emanates from a series of springs, allowing for perennial flow and rich blue waters. The stream itself is a lure for nature lovers because of the travertine formations and the abundant wildlife that take advantage of the mostly undisturbed riparian area. For these remarkable values, Fossil Creek is potentially eligible for status as a Wild and Scenic River. Likely the biggest success story for Fossil Creek is the decommissioning of a hydroelectric plant that has diverted a large portion of the water from the stream for the past 90 years. The decision by the plant operator, Arizona Public Service (APS), was made in part by the

realization that the environmental benefits of tearing down the plant outweighed the economic benefits of keeping it functional. Additionally, there are seven threatened and endangered species occupying Fossil Creek. There has been a recent attempt at repatriation of a native fish, the roundtail chub, into the stream. By removing the dams conservationists are hopeful that the creek will have a restored ecosystem. Although a certificate of water right has not been issued yet, the Tonto and Coconino National Forests are hopeful that they will soon hold a water right to instream flows in Fossil Creek.⁸

In Colorado, Utah, and Wyoming, the Upper Colorado Endangered Fish Recovery Program is a partnership of public and private organizations working together to recover endangered fish of the Colorado River. The group works toward a common purpose with many missions, one of which is attaining instream flow water rights to sustain the endangered fish in the stream. Similarly, Arizona Game and Fish has been active in acquiring riparian habitats and water rights within the Little Colorado River drainage in order to restore endangered fish species. They have found working with other partners with common interest to be beneficial.

Conclusion

The history of water rights in the west fall under the Prior Appropriation Doctrine, which determined that the best water rights were given to those who first used the water, thus giving them the senior water rights. However that was at a time of establishing the west and delivering water to people that were far from the water for the sake of development. The values that exist today for the use of water are vastly different than in the past. Therefore, a need exists to introduce a change in the current water laws because they are still based on the Prior Appropriation Doctrine. Charles Wilkinson, a popular western water law writer and professor at the University of Colorado Law School claims that "the prior appropriation doctrine first announced in 1855 is the law of the American west that is most out of kilter, and cannot remain in place much longer."⁹ So is this goal realistic? Can we actually change old laws? It may sound like trying to rewrite the constitution, but I believe it is not only realistic

but is necessary in order to preserve the streams, fish, wildlife, recreation, and riparian vegetation for future Arizonans as well as the rest of the Western U.S.

The methods of achieving a change in water uses is through partnerships, education, and political power. This is achievable with the existence of public willingness to change current ideas and uses of water, with informing and educating society and children at an early age, with political changes of old policies and ideas, and with detailed planning by all interested parties to devise a plan of action to efficiently obtain instream flow water rights. Together we can conserve our water resources through a change of the current laws, views, and uses of water to provide for an enjoyable experience out on the river.

References

1. Kulakowski, L., Tellman, B. *Instream Flow Rights: A strategy to protect Arizona's streams* (Water Resources Research Center 1994) Issue paper number six.
2. Arizona Department of Water Resources. *A guide to filing applications for instream flow water rights in Arizona* (Phoenix, 1991) Second edition.
3. Dishlip, H. *Instream flow protection in the west* (Natural Resources Law Center, University of Colorado School of Law 1989) Ch. 9
4. Hobbs, G.J. *Priority: The most misunderstood stick in the bundle* (Articles 32, Environmental Law 2002) issue 37.
5. Getches, D.H. *Water law in a nutshell* (West publishing 1997)
6. Goldfarb W. *Water Law*. (Lewis Publishers 1991)
7. Benson, R.D. *So Much Conflict Yet So much In Common: Considering the Similarities between Western Water Law and the Endangered Species Act* (Natural Resources Journal, Winter 2004) 44.29
8. Nelson, K. *Fossil Creek Instream Flow Assessment* (Coconino and Tonto National Forests, 2003)
9. Wilkinson C. F. *Crossing the Next Meridian: Land, Water, and the Future of the West* (Island Press, Washington D.C., 1992)