

**WATER IN INDIAN COUNTRY:
CHALLENGES AND OPPORTUNITIES**

**A REPORT PREPARED BY
THE TRIBAL WATER WORKING GROUP**

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EXECUTIVE SUMMARY

Throughout Indian Country, water is considered sacred. It is used in ceremonies and in prayer and serves as a symbol of the interconnectedness of all life. Native American communities throughout the United States are faced with external circumstances that govern their relationship to water. Some tribes are water rich, living in areas with abundant, high quality supplies which support important fisheries, commerce and navigation. Other tribes face acute problems of shortage and impaired quality. Inevitably, nearly all tribal communities address trade-offs between the use of water for cultural, drinking, agriculture, energy production, and economic development. Complicating the management of water resources is the serious threat of global climate change.

Persistent drought, reduced snowpack, altered runoff patterns, and warmer water present new challenges for tribes as they seek to access water of sufficient quantity and quality. In response to these pressing challenges, the Tribal Water Working Group formed to identify opportunities for improving the resolution of Indian water rights and other water resource issues critical for the development of their water supplies.

INTRODUCTION

This report introduces the Tribal Water Working Group (TWWG) and samples the present state of water in Indian Country by looking briefly at water quantity, water quality, ecosystems and fisheries, water and energy, supply and infrastructure and the effects of global climate change on existing supplies and hydrologic patterns. In each area, the report examines challenges and opportunities, and then looks at some of the contributions that the TWWG could make to help water issues in Indian Country progress beyond the current state.

THE TRIBAL WATER WORKING GROUP

Formed in 2010, the TWWG is an informal affiliation of tribal, federal and state entities, non-governmental organizations, professionals and academic experts involved with tribal water rights and water issues in Indian Country. Organizers include: the National Congress of American Indians (NCAI), the Native American Rights Fund (NARF), the Utton Center, the Sandia National Laboratories and the U.S. Institute for Environmental Conflict Resolution.

Mission of the TWWG

The mission of the TWWG is to improve the resolution of Indian water supply issues through identification of legal, financial, cultural, and technological challenges and opportunities that exist in existing water supply paradigms.

Activities of the TWWG

In November of 2010, the TWWG convened a meeting at the Indian Pueblo Cultural Center in Albuquerque, New Mexico of tribal, federal and state leaders, professionals and experts in the

field of Indian water rights to discuss the challenges and opportunities for resolving tribal water rights and to define a role of the TWWG. The goals of the meeting were to discuss:

- The current and future state of Indian water rights resolution;
- Barriers to - and opportunities for - resolving Indian water rights issues;
- The possibility of developing a foundation and framework for a collaborative, intergovernmental and nongovernmental water rights working group, and
- Provide direction for the group's work, including an inclusive approach to developing tools and strategies (both technical and political) to facilitate water rights resolution.

The meeting was well attended and many good ideas were developed relative to the above goals. Participants identified six critical areas in need of further development to improve the resolution of Indian water rights:

- **Resources:** Identifying new resources and tapping into existing resources to make funds available to gather data critical to watershed planning; to facilitate and pay for professional services; to support tribal water (both quantity and quality) management activities; and to facilitate litigation, settlement negotiation, and implementation of settlements;
- **Capacity Building:** Helping tribes, partner communities and states gain knowledge and access to resources to better support resolution efforts;
- **Information and Technology Transfers:** Learning from other communities' and states' experiences and sharing information to guide new efforts and develop best practices;
- **Stakeholder Engagement:** Effectively engaging all stakeholders in meaningful processes with level playing fields through public education and outreach;
- **Thinking Outside the Box:** Thinking creatively about the future of water resource shortages, development, climate change, and scarce economic resources and about what kinds of new strategies for managing water conflicts can be developed; and
- **Creating More Synergies:** Building on the strengths of existing organizational efforts by creating networks of organizations whose whole is greater than the sum of its parts.

Current Activities

- The TWWG is preparing a webinar as an Introduction to Tribal Water Codes to be held in the second week of December 2012.
- The TWWG has developed this white paper on the state of water in Indian Country. The paper addresses the challenges and opportunities facing Tribes relative to the interaction between water quality, ecosystem and fisheries, infrastructure, energy development, climate change, and the quantification and resolution of Indian water rights.

Plans and Goals for the Future

The TWWG will

- In the **Short Term:** conduct a webinar as an introduction to Tribal Water Codes held on December 14, 2012 (weblinks are available on the NCAI and Utton Center websites);
- In the **Near Term:** seek guidance from tribal, state and federal leaders for identifying projects that identify critical needs, priorities, and opportunities for improving upon the Indian water supply issues; and

- In the Long Term: coordinate with tribal, federal and state governments and non-governmental organizations to communicate and publish the findings, reports and projects that the TWWG produces.

WATER RIGHTS - WATER QUANTITY

Background

Securing and managing water rights are critical concerns in Indian Country. Water rights provide access to water for tribes to conduct cultural practices, irrigate crops, support instream flows for fisheries, provide drinking water to tribal communities, and support commercial and industrial development: in short, for self-sufficiency. Formal recognition of water rights in Indian Country provides tribes and the communities around them with certainty about resource allocation, as well as a basis for managing, protecting and developing uses of water in the face of growing population and climate pressures.

The task of identifying and formally recognizing tribal water rights in the United States has just begun. As of late 2011, twenty-nine settlements have resulted in Congressional Acts. Twenty-one tribes are in on-going negotiations. Thus, of the 566 federally recognized tribes (Aug. 2012), most have yet to quantify and secure their water rights. This situation bodes for increasing uncertainty for Indian and non-Indian communities alike. It has been estimated that tribal claims could potentially amount to as much as 45 million acre feet of water per year.¹ Improving the process for determining Indian water rights is of increasing importance given the growing demand for water, the necessity of ensuring functioning ecosystems, and the challenges of global climate change.

Fora and Form: In the western United States, the most common method of recognizing Indian water rights is through an adjudication of all water rights in a specified stream system. The water rights can be determined in either federal or state court, but are generally found in the latter. In 1952, Congress passed the McCarran Amendment² which waived the United States' sovereign immunity in comprehensive water rights cases thereby allowing federally reserved water rights – including Indian water rights – to be adjudicated in state court. State court has been the preferred forum ever since.

The determination of water rights may be accomplished by litigation or negotiated settlement, both of which can be expensive in time, money and emotions. It is generally believed, however, that settlement is less expensive on all fronts and that the results are more practical and successful for all involved.³ Settlements can resolve additional contested matters, such as environmental concerns or conservation of existing supplies through improvements in the delivery and use of water. Over the last several decades, settlements have proven to be an effective way to resolve intractable litigation over tribal rights, while also offering the

¹ A. Dan Tarlock, *One River, Three Sovereigns: Indian and Interstate Water Rights*, 22(2) LAND & WATER L. REV. 631 (1987).

² McCarran Amendment, 43 U.S.C. §666 (1952).

³ Robert T. Anderson, *Indian Water Rights, Practical Reasoning, and Negotiated Settlements*, 98 CALIF. L. REV. 1133 (2010).

opportunity to build cooperative relationships and to achieve solutions that would not otherwise be possible.⁴

Legal Basis: The legal basis of federal Indian water rights flows from federal law through treaties, presidential executive orders, grants from previous sovereigns, and case law.⁵ Most often, tribal water rights are derived from the federal reserved rights, or “*Winters*” Doctrine. The 1908 *Winters* decision of the US Supreme Court held that when Congress set aside land for a federal reservation, sufficient water is implicitly set aside to support the purposes of the reservation.⁶ Tribes may also hold Indian reserved rights, that is, rights which tribes retained or reserved unto themselves when ceding lands to the federal government⁷ or rights arising out of continued ownership since before the appearance of Europeans⁸. Tribes may also hold water rights based on state law and contracts.

Quantification and Priority: Water rights are described by elements such as quantity, priority, place of use, source, and other descriptors. The quantification method for *Winters* water rights is based on the purpose of the reservation.⁹ Historically, the purpose of reservations was viewed as developing an agricultural lifestyle among its inhabitants. Thus, the measure of water was deemed to be that which is necessary for irrigating and growing crops. The irrigation standard is expressed as the amount of water needed to irrigate all practicably irrigable acreage (PIA) on the reservation.¹⁰ Courts have also found purposes other than agriculture, including fishing or grazing.¹¹ In 2001 the Arizona Supreme Court held that the water right should be based upon the purpose of creating a homeland. The Court limited the right to sufficient water to meet the minimal need of the reservation, but enough to satisfy both present and future needs of the reservation as a livable homeland. The economic development plans used to quantify the right must be reasonably feasible from an engineering standpoint, practical and economically sound.¹² The homeland purpose allows water to be allocated on the basis of tribal economic development plans, cultural needs, and historic water uses and may offer tribes more flexibility in making their water claims.

⁴ Colby, Bonnie G., John E. Thorson, and Sarah Britton, Negotiating Tribal Water Rights: Fulfilling Promises in the Arid West (2005).

⁵ Cappaert v. United States, 426 U.S. 128 (1976); In re General Adjudication of All Rights to Use Water in Big Horn River System, 753 P.2d 76 (Wyo. 1988), *aff'd by split decision*, 492 U.S. 406, *reh'g denied*, 492 U.S. 938, *cert. denied*, 492 U.S. 926 (1989) (Big Horn I).

⁶ Winters v. United States (Winters), 207 U.S. 564 (1908). (When lands were reserved for the Ft. Belknap Tribe, water rights were also reserved by implication.)

⁷ United States v. Klamath & Moadoc Tribes, 304 U.S. 119 (1938); United States v. Adair, 723 F.2d 1394, 1410 (9th Cir.1983), *cert. denied*, 467 U.S. 1252 (1983) (Adair).

⁸ New Mexico, ex rel. State Engineer v. Aamodt, 618 F.Supp. 993, 1010 (D.N.M. 1985) (Aamodt II).

⁹ Adair, 723 F.2d at 1419.

¹⁰ Arizona I, 373 U.S. at 600-601.

¹¹ Adair, 723 F.2d 1394; Arizona v. California, 373 U.S. 546, 600 (1963) (Arizona I); and Big Horn I, 753 P.2d at 94 (The purposes of Indian reservations include preserving the tribes’ traditional fishing); Aamodt II, No. CV-66-6639, Partial Judgment Concerning Reserved (Winters) Water Rights of the Eastern Reservation of San Ildefonso Pueblo (April 30, 1998) (purpose to support livestock)

¹² Big Horn I, 753 P.2d at 101; In re General Adjudication of All Rights to Use Water in the Gila River System and Source, 35 P.3d 68 (Ariz. 2001) (Gila V)

Another means of quantifying Indian water rights is through negotiated settlement. Settlements quantify Indian water rights and often include federal funds for development of Indian and non-Indian water infrastructure. A tribe may agree to an amount of water which is considerable less than its claims and agree to subordinate priority under certain conditions in order to obtain funding and other conditions for new infrastructure and improvements.¹³

Priority is determined not by application of water to a beneficial use, but by the date on which a reservation was established¹⁴ - usually the earliest in the river basins – or on aboriginal occupation, that is occupation prior to the entry of Europeans,¹⁵ which is always first.

Challenges and Opportunities in Indian Country

To date, less than one tenth of the 566 federally recognized tribes have begun or completed the process of securing their water rights. Many tribes, if not most, will seek to secure their water rights. Challenges and opportunities to resolving Indian water rights are outlined below.

Forum and Form: Numerous legal, political, economic and cultural realities will affect whether a tribe can successfully secure water rights in a general stream adjudication in state court or through a negotiated settlement. The McCarran Amendment provides that state court is the preferred venue for determining Indian water rights, a frustrating and constant irritant for tribal governments. State courts can be hostile to tribal interests, particularly when the Indian water rights are likely to upset established state-based rights. Many tribes and Indian scholars assert that this venue leaves tribes at a distinct and unfair disadvantage.¹⁶

The Amendment provides for concurrent jurisdiction over federal and Indian reserved water rights. If a party so chooses, a case which includes Indian water rights could be determined in federal court. In New Mexico, six of the twelve active cases are in federal court. As tribal governments gain political clout through their increased economic impact on local and regional economies, the opportunities for tribes to place water right adjudications in federal court increase.

This situation presents the occasion to study and assess outcomes in state and federal courts, weighing satisfaction in tribal, surrounding communities and state and federal participants, with the goal of seeking mechanisms for improving perceptions and outcomes in either venue.

Whether litigated or negotiated, tribal water rights determination generally takes place in the context of a stream wide adjudication. If a tribe's water rights are adjudicated through litigation, its water right is identified and formalized, but tribe receives no means of turning the right into a useful asset. Litigation is expensive and takes decades to wend through the court system,¹⁷ untold millions of dollars in studies, expert reports and attorney fees and disruption of

¹³ See e.g., San Juan River Basin in New Mexico – Navajo Nation Water Rights Settlement Agreement, (Dec. 2012) <http://www.usbr.gov/uc/rm/navajo/nav-gallup/NavStlmt/NavSanJuanStlmtAgr.pdf> (Last viewed Nov. 13, 2012)

¹⁴ *Winters*, 207 U.S. at 577.

¹⁵ *Adair*, 723 F.2d at 1413

¹⁶ See Stephen M. Feldman, *The Supreme Court's New Sovereign Immunity Doctrine and the McCarran Amendment: Toward Ending State Adjudication of Indian Water Rights*, 18 HARV. ENVTL. L. REV. 433 (1994)

¹⁷ The *Aamodt* case was filed in federal court on April 20, 1966 and is not yet complete, making it the oldest case on the federal docket.

community life. The expense in time and money as well as the inherent uncertainty of outcome¹⁸ has led parties to seek, and the federal government to prefer, a resolution through negotiated settlements. If a tribe's water rights are quantified through negotiation, a more comprehensive solution, which can include other issues, may be achieved. Negotiated settlements, however also present challenges. Negotiations often require confidentiality, which delays or eliminates input from stakeholders, including Indian allottees whose rights are being negotiated by the tribal government. Negotiations also take years to complete, although probably far fewer than litigation, and the cost is considerable. Finally, whether a settlement agreement can make it through Congress depends on current economic, political and sponsorship conditions. This can be a source of acute frustration for all parties involved given the many years of hard work necessary to forge a compromise.

The existing litigation and settlement processes for securing water rights are lengthy, costly, cumbersome, hard to understand, and arguably insufficient to handle the tribal water rights claims. Either process causes tensions, which can disrupt relations between the various communities throughout affected watersheds, however, it's largely agreed that negotiated settlement offers the greatest opportunity for a resolution for all parties and to bring tribes the funds necessary to put their water to use.¹⁹ Evaluations of processes and outcomes will improve choices made in selecting fora and forms when resolving Indian water rights. Such examination of the processes, their outcomes and their effect on communities and governments through documentation, analysis, and reporting can lead to making each process better and more efficient. If successes, pitfalls, opportunities and challenges were shared, progress could be made by building on the work that has gone before. It is even possible that new ways of approaching the identification and formalization of Indian water rights may be found.

A major concern arising from resolution of tribal water rights is integration of allottees and non-tribal communities into the process – beyond strict legal requirements. Generally, allottees have access to tribal water rights.²⁰ Because it is the tribal government that represents the allottees during litigation or negotiation, they have little or no power to affect the course of litigation or the terms of the settlement agreement even though they hold their land in fee, rather than as a part of a reservation. These same tensions exist in communities and individuals located outside of tribal lands. Failure to achieve better integration and education lead to a distinct possibility of settlement rejection, watershed community strife and increased expenditures of money, time and political capital.

Legal Basis: In the western United States, the doctrine of prior appropriation governs the use and administration of state law based water rights. Priority and quantity are determined by actual use. Federal Indian water rights are administered through prior appropriation in concert with state

¹⁸ Arizona I resulted in a large award of almost one million acre-feet per year to five tribes and New Mexico ex rel. Reynolds v. Lewis, Nos. 20292, 22600 (Chaves County 1956) (consolidated) where the court rejected the Mescalero Apache Tribe's claim of 17, 705.4 acre-feet because it did not accept the proposed projects supporting the PIA claim as economically feasible. Instead, the court awarded the Tribe its existing uses and another 950 acre-feet for future non-agricultural uses.

¹⁹ Colby, *et al.*, Negotiating Tribal Water Rights.

²⁰ United States v. Powers, 305 U.S. 527, 532 (1939); General Allotment Act, 25 U.S.C. 381 § 7 (1887); JOHN D. LESHY, SOLICITOR, MEMORANDUM RE TRIBAL WATER RIGHTS SETTLEMENT AND ALLOTTEES, U. S. DEPARTMENT OF INTERIOR (January 18, 2001)

law based water rights, but are determined under federal law which does not require that priority and use be governed by actual use.²¹

The intricacies of state water law and the differences found in the federal water law are difficult for practitioners, judges and the public to understand and apply. District court judges are often ill equipped to take on the mammoth task of a general stream adjudication, which requires specialized knowledge and enormous amounts of time and court resources. The cases, law and equities are difficult for the non-Indian public to understand and to track through the decades. Non-Indians tend to believe that Indian water rights should be subject to the same rules as themselves, that is, state law, and do not understand or appreciate basis for the requirement that Indian water rights are determined under federal law. These concepts generally are not communicated to stakeholders in a clear, timely and ongoing fashion, thus adding to community stressors, opposition and delay in resolving the claims.

Much more needs to be done in the area of public outreach and public participation. Information needs to be collected in this area to document, evaluate and analyze processes, expectations and outcomes in both settlement and litigation settings. This work will help negotiators and stakeholders understand and develop approaches to keeping their communities informed and to address concerns as they arise in an appropriate fashion.

Quantification and Priority: Tribal claims to water can be large, even huge.²² Since non-Indian water use is often well established, the assertion of a large tribal claim to water in streams, rivers and groundwater, that in many instances are over-appropriated, will have a profound effect on all the communities that share the resource.²³ Increasing competition for water, annual supply variability and uncertainty can fuel tensions and contentiousness among and between communities sharing the resource. Overlaying federal reserved rights, *e.g.*, Indian water rights, presents numerous challenges to Indian and non-Indian communities alike and lead to decades of rancor and enormous expense.

Much has been written about the inadequacies of the PIA standard for quantifying federal Indian water rights.²⁴ Most Indian reservations are located in semi-arid or mountainous regions of the United States and the lands are unsuitable for growing crops. Some tribes have other economic traditions which the PIA measure does not adequately accommodate. PIA may not secure

²¹ A. Dan Tarlock, *Prior Appropriation: Rule Principle or Rhetoric?*, 76 NORTH DAKOTA LAW REVIEW 881 (2000); Jessica Lowery, Notes & Comments, *Home Sweet Home: How the 'Purpose of the Reservation Affects More Than Just the Quantity of Indian Water Rights*, 23 COLO. J. INT'L ENVTL. L. & POL'Y 201 (2012)

²² In the New Mexico adjudication of the San Juan stream system, the federal government filed claims for a diversion right of just under a million acre-feet on behalf of the Navajo Nation. These claims include existing contract rights. New Mexico ex rel. State Engineer v. United States, CV-75-184, Case No. AB-07-1, Claims of Navajo Nation, United States; Statement of Claims of Water Rights in the San Juan River Basin on Behalf of the Navajo Nation (January 3, 2001)

²³ Colby, *et al.*, Negotiating Tribal Water Rights, 79; Franks, Martha, *The Uses of the Practicably Irrigable Acreage Standard in the Quantification of Reserved Water Rights*, 31 NAT. RESOURCES J. 549, 551 (W. 1991), quoting United States v. New Mexico, 438 U.S. 696, 705 (1976). (As the U.S. Supreme Court observed, "an increase in federal reserved rights in a fully appropriated system would mean a 'gallon-for-gallon reduction in the amount of water available for water-needy state and private appropriators.'")

²⁴ *E.g.*, Franks, Martha and Barbara A. Cosens, *The Measure of Indian Water Rights: The Arizona Homeland Standard, Gila River Adjudication*, 42 NAT. RESOURCES J. 835 (2002).

adequate water for tribal communities and/or instream flows for cultural practices. Even where a tribe has lands suitable for irrigated agriculture, it may not be awarded a PIA claim if the court does not accept its evidence supporting the claim. Where PIA is accepted as the measure of a tribe's water rights, community tensions arise because tribes are not required to use the water for irrigation and the awards can be huge. The move to identifying water rights based on a homeland purpose encourages acceptance within the larger community which looks with skepticism at water for irrigation where farming is not viable or desirable. Tribes can plan and develop projects for quantifying their water which fit their needs and conditions in either a litigation or a settlement setting.

Settlement allows tribes to negotiate for the funds necessary to develop or sustain projects and goals by relinquishing some of their claims or making adjustments to priorities under certain conditions thus protecting non-tribal water rights or contributing in other ways to the livelihood and condition of the greater community. Tribal water right settlements are complex agreements that can involve more than tribal water and affect more than tribal communities. During negotiations, upon reaching an agreement, and during implementation, tribes, states and other stakeholders must undertake a concerted and sustained effort to explain the process and the details of an agreement to tribal and non-tribal communities alike. Community outreach is vital to keep the public informed, for building support for a settlement and to heal rifts resulting from misunderstanding, long standing grievances or suspicions created by litigation. Litigation results in a decree which allocates an amount of water to a tribe and describes its elements, nothing more. Settlement offers the stakeholders an opportunity to address these concerns with creative solutions.

For the most part, Indian reserved water rights remain unquantified and unused by the tribes. This state of affairs hampers tribes as they provide for their members and make plans to develop their economies. The unknown and unrecognized size and priority of Indian water rights create enormous uncertainty for state water administrators, water users, and political and economic leaders who fear disruption of established water allocation regimes once reserved rights are identified and exercised. It is important to learn at how to effectively communicate with the Indian and non-Indian public about the nature of Indian water rights, and the litigation or settlement processes to reduce tensions and opposition to the determination of these water rights.

Potential TWWG Projects

The TWWG could provide a forum for sharing information and building capacity in the following areas:

- **Water Right Settlement Repository**: Collect and inventory the documents, histories, methodologies, experts, challenges and successes of settled tribal water rights. Tribes and other stakeholders who have not yet begun the process or are in the midst of it can research, and analyze the experience and approaches of others and thus achieve better results through the experiences of others;
- **Water Administration Inventory**: The TWWG could collect information, analyze and report on how tribes are implementing the administration of tribal water rights, providing templates and guidance to tribes who will be developing administrative structures;
- **Implementation Workshop**: The TWWG could conduct a workshop that focuses strictly on the implementation of tribal water right settlements and the administration of tribal

water rights. Tribes have begun to implement water right agreements and there are many lessons that can be shared with other tribal leaders and staff regarding the drafting of a water code, administration of water permits and the development of water and wastewater infrastructure;

- **Community Outreach Inventory:** Community outreach before, during and after adjudication is essential to ensure full representation and ownership of the process by tribal and non-tribal communities. The TWWG could develop an inventory of community outreach processes that focuses on approaches/process, required resources and results. It could then analyze and develop or sponsor reports and templates to assist tribes and other stakeholders in conducting successful settlements.

WATER QUALITY

Background

Tribes across the U.S are faced with numerous challenges in the management of water quality. Variation among tribes in geography, governance and resources leads to vast differences in the state of water quality and the capacity of tribes to effectively manage it. Some tribes have access to abundant supplies of clean water, the technical expertise to address water quality issues, ample financial resources and the authority to regulate. Others struggle with limited or severely polluted supplies, limited technical capacity and limited or ambiguous authority.

Foremost among these challenges is the ability of tribes to regulate water quality within their reservations. Federal Indian policies, such as the General Allotment Act²⁵, resulted in significant non-Indian ownership of lands within reservation boundaries.²⁶ Consequently, different governing authorities - tribal, state, county and federal – either claim the authority to regulate land use or to promulgate water quality standards or challenge the ability of others to do so. Tribes that wish to develop water quality standards or regulate certain activities in order to protect or enhance water quality may be prevented from doing so by challenges to their authority and sovereignty.

Water quality standards (WQS) serve as the foundation for the water quality based approach to pollution control and are a fundamental component of watershed management. Sources of water pollution in Indian Country include point sources caused by manufacturing or sewage effluent and non-point sources such as agricultural and urban run-off. These sources may originate within or outside of Indian lands. WQS can be used as a basis for states and tribes, or Environmental Protection Agency (EPA) to protect water quality from upstream, off-reservation discharges.

Like many federal environmental programs, EPA is obligated to delegate authority to enact water quality standards to qualified state and tribal governments, and 96% of the delegable programs

²⁵ General Allotment Act (or Dawes Act, or Dawes Severalty Act of 1887), 25 U.S.C. 331), 49th Cong. Sess. II, Ch. 119, p. 388-391. (1887)

²⁶ Colby, *et al*, Negotiating Tribal Water Rights 5.

are now operated by the states.²⁷ Most, if not all, states have held delegated authority to implement water quality standards for decades. For tribal governments, the circumstances regarding the implementation of water quality standards stand in stark contrast. Nearly 40 years since the enactment of the Clean Water Act (CWA)²⁸, only 36 of the 565 federally recognized tribes have EPA approved WQS,²⁹ resulting in regulatory gaps across much of Indian Country.

Challenges and Opportunities

As sovereign nations, tribes have opportunities to establish innovative water quality programs and practices. Many tribes have initiated integrative water quality programs that aim to protect water not only for human health, but cultural practices and ecological well-being. Water codes adopted under tribal law are able to do so in innovative ways that are often not possible under state and federal law. The small and streamlined nature of many tribal water and natural resources offices also can facilitate a more collaborative approach to addressing the complex problems that lead to water quality degradation. Through the adoption of water quality standards and regulatory authority under Section 518 of the CWA, tribes can set WQS standards that are more comprehensive than those currently mandated under federal and state laws.

In spite of these opportunities, tribes face tremendous challenges in addressing water quality issues. These barriers include:

- Limited data necessary to establish baseline water quality standards;
- Limited technical capacity and resources to perform the ongoing data collection necessary to establish and enforce standards;
- Limited resources and human capital to administer and maintain a water quality program generally; and
- Administrative barriers in obtaining federal recognition and funding to support tribal water quality programs.

One of the most significant barriers to effective water quality management in Indian Country is the current administrative process involved in obtaining delegated authority to implement water quality standards under federal law. In 1985, the federal CWA was reauthorized with a new provision (Section 518(e)) recognizing the sovereignty of tribal governments to regulate water quality in a manner similar to state governments under federal law. The provision recognized the right of tribes to adopt independent water quality standards and assume regulatory authority within the legal boundaries of their nations. Such provisions had been a cornerstone of state-level water quality management since the CWA was adopted in 1972. Numerous barriers in the process effectively block many tribes from obtaining federal approval of WQS and regulatory authority. The lengthy and costly administrative process (which is commonly known as obtaining "Treatment in the same manner as states" or simply, TAS), status requires a tremendous amount of time, resources, and know-how that many tribes do not have the capacity to leverage. Once standards are established, tribes must have the resources and capacity to operate and maintain a functioning water quality program. Where tribes are unable and/or

²⁷ Delegation by Environmental Act, ECOS http://www.ecos.org/section/states/enviro_actlist

²⁸ Clean Water Act, 33 U.S.C. §1251 *et seq.* (1972).

²⁹ Water Quality Standards, State, Tribe and Territory Programs, EPA <http://www.epa.gov/region9/water/waterquality/st-tribe-terr-progs.html> (Last visited Nov. 12, 2012)

unwilling to engage in this process, water quality programs are administered either by the federal government or by states. The federal government does not have sufficient resources to effectively address water quality programs on all tribal lands, leaving tribal waters vulnerable. State enforcement of water quality standards poses numerous problems in the government-to-government relationships and the sovereign jurisdiction tribes retain over their lands.

Many obstacles contribute to the lack of EPA delegations or authorizations to tribes, including: the lack of adequate and consistent funding for tribes to build the capacity to assume and implement WQS authority; the uniquely burdensome nature of the approval process for tribes to achieve TAS status; opposition by states, cities, local governments and non-members living within reservations to tribal assumption of regulatory authority; and federal acts and statutes barring tribes in the states of Alaska, Oklahoma and Maine from exercising environmental regulatory authority.

Potential Solutions: Under Principles 2 and 3 of the EPA's Indian Policy, the Agency recognizes "tribal governments as the primary parties for setting standards, making environmental policy decisions and managing programs for reservations," and commits to "take affirmative steps to encourage and assist tribes in assuming regulatory and program management responsibilities for reservation lands." Principle 3 of the EPA's Indian Policy also states that "[u]ntil Tribal Governments are willing and able to assume full responsibility for delegable programs, the Agency will retain responsibility for managing programs for reservations." Thus, the EPA has direct implementation responsibility, which it exercises on a discretionary basis.

Under this framework, tribes and the EPA have five options for implementing water quality standards:³⁰

- Support for Tribal WQS applications: Greater federal support is required for tribes to develop and implement EPA approved WQS through the TAS process. This support includes baseline, adequate, and consistent funding for the Clean Water Act's Section 106 program which allows tribes and other to establish and implement ongoing water pollution control programs; implementation of the funding and technical support to enable tribes to develop TAS applications; and continued commitment to the EPA's strategy to improve the TAS process.³¹
- EPA Promulgation of Federal Water Quality Standards (without TAS): A tribe can request the EPA to promulgate WQS for the waters of its reservation. This EPA promulgation enables the tribe to utilize direct federal authority for water quality protection on its own land and for those waters that flow into its land from adjacent

³⁰ EPA Policy for the Administration of Environmental Programs on Indian Reservations, EPA (Nov. 8, 1984) <http://www.epa.gov/tribal/pdf/indian-policy-84.pdf> (Last Visited Nov. 12, 2012); STEPHEN L. JOHNSON, EPA ADMINISTRATOR, MEMORANDUM: EPA INDIAN POLICY (Sept. 26, 2005) <http://www.epa.gov/tribal/pdf/reaffirmation-indian-policy.pdf> (Last visited Nov. 12, 2012); *American Indian Environmental Office Tribal Portal: Indian Policies* EPA <http://www.epa.gov/tribal/basicinfo/presidential-docs.html> (Last visited Nov. 12, 2012).

³¹ MARCUS PEACOCK, EPA DEPUTY ADMINISTRATOR, MEMORANDUM: STRATEGY FOR REVIEWING TRIBAL ELIGIBILITY APPLICATIONS TO ADMINISTER EPA REGULATORY PROGRAMS (January 23, 2008) <http://water.epa.gov/scitech/swguidance/standards/wqslibrary/upload/strategy-for-reviewing-applications-for-tas-01-23-08.pdf> (Last visited Nov. 12, 2012)

jurisdictions. The EPA and tribes have also considered promulgation of a proposed rule that would apply federal water quality standards on tribal lands without WQS standards on an opt-in basis. Such a rule would include commitments to federal technical and funding resources that ensure meaningful implementation and protections.

- **Water Quality Protection Based on “Direct Implementation of Tribal Cooperative Agreements” (DITCAs):** This option involves executing a cooperative agreement between a tribe and the EPA allowing the agency to exercise its authority on behalf of the tribe. This option allows tribes to address their high priority environmental issues without facing the same legal and jurisdictional concerns fomented by tribal water quality primacy. Under this option, the EPA must provide dedicated and substantive funding to DITCAs, and continue to advocate for the establishment and funding of the Multimedia State and Tribes Grants Program.
- **Implementation of Tribal WQS under Tribal Law:** Under a non-federal/Tribal regulatory option, tribes can pursue water quality standards that would be adopted as ordinances under tribal law pursuant to their inherent authority as sovereign governments. This option allows tribes to enforce water quality protection standards specific to their tribal land or reservation needs.
- **Trust Responsibility:** For tribes in states which have taken over environmental regulatory authority, EPA must exercise its trust responsibility and ensure that the states are implementing their WQS programs on waters on or near tribal lands and communities in ways equal to the protection afforded other local governments and communities within the state.

Tribes can use the water right settlements to negotiate solutions to some of their water quality issues. In the Navajo settlement of water claims to the San Juan river basin in New Mexico, the Nation negotiated the construction of a water system that will deliver potable water to many of the communities that have never access to water, much less potable water. In the water rights settlement of the Chippewa Cree Tribe of Rocky Boy’s Reservation, the tribe negotiated an in-kind contribution from the state of Montana to cover water quality discharge monitoring wells and a monitoring program.³²

Potential TWWG Projects

The TWWG could provide a forum for sharing information and building capacity in the following areas:

- Developing and setting tribal water quality standards;
- Obtaining TAS;
- Setting up, administering and maintaining a water quality program;
- Developing and enforcing water quality standards; and
- Identifying and accessing federal, state and non-profit funding resources to support this work.

³² Northwestern New Mexico Rural Water Projects Act, Pub. L. No. 111-11; 123 Stat 1367 (2009); Chippewa Cree Tribe of Rocky Boy’s Reservation Indian Reserved Water Rights Settlement Act of 1999, Pub. L. 106-163, 113 Stat. 1778 (1999).

ECOSYSTEM AND FISHERIES

Background

Maintaining and restoring healthy ecosystems are among the most pressing water-related concerns facing tribes. The protection and conservation of ecosystem resources often implicates fundamental treaty rights and bears directly on tribal cultures and ways of life. All tribes, however, have some dependence on ecosystem resources that are affected by water – whether they are fisheries and aquatic and riparian habitats, cultural and medicinal plants, forest health, wildlife or recreation-based activities.

For tribes along and near coastal regions, water sustains fisheries that have provided sustenance, trade and commerce since time immemorial. Tribes in the northwest continue to depend on fisheries for food, income, and maintenance of tribal customs. Fish populations, however, have been shrinking for decades due to impaired habitat, primarily from hydropower development, logging and agricultural practices.³³ In 2008, salmon fishing was banned in parts of California, Oregon, and in 2009, salmon fishing was banned along the entire West Coast. This action was taken in an attempt to recover the salmon populations. It was the first closing since 1848.³⁴

Ecosystem health is often a function of water quantity and quality, and, wetlands affect both of these attributes. Wetlands provide a critical link between surface waters and groundwater. They help to reduce sediment, mitigate flooding and act as a nutrient sink; thus, improving water quality. They provide habitats for culturally important plants and wildlife. Coastal wetlands act as buffers to storm surges. Although today the United States has an abundance and diversity of wetlands, less than half of the wetlands that existed when the first European settlers arrived in North America remain today.³⁵ There are many reasons for this, including the draining and filling of wetlands for agricultural and urban development, reduced or altered runoff patterns and changes in water quality.

Securing water for ecosystem health, however, is not entirely accepted as a legal use of water. Historic water uses are extractive in nature and most state water policies are based on the application of water away from a water source rather than preserving in-stream flows for the benefit of the ecosystem and fisheries. For tribes without treaty fishing rights, obtaining water for ecosystem protection might be difficult.

Tribes have successfully negotiated provisions for the protection and restoration of habitat for fisheries and wildlife. The Shoshone Bannock Tribes of the Fort Hall Indian Reservation negotiated authority and funding to develop a flexible water management system, including instream flows, to support fish, wildlife and the environment on the reservation. Under the Truckee-Carson-Pyramid Lake settlement, the Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation negotiated a Fisheries Fund to enhance, restore and conserve Pyramid Lake fish.

³³ See, e.g., Wilkinson, Charles F., Crossing the Next Meridian: Land, Water, and the Future of the West (1993) (discussing salmon population decline and logging in the northwest).

³⁴ Peter Fimrite, All Salmon Fishing Banned on West Coast, S.F. Chron., May 2 2008 at 2. <http://www.sfgate.com/green/article/All-salmon-fishing-banned-on-West-Coast-3217024.php> (Last visited Nov. 12, 2012)

³⁵ William J. Mitsch and James G. Gosselink, Wetlands (1986).

The Nez Perce Nation negotiated significant appropriations for salmon and steelhead restoration.³⁶

Challenges in Indian Country

Many Indian people continue to rely on subsistence fishing and gathering, especially in the Pacific Northwest and Alaska. Water availability is critical to ensure that fisheries, habitat, and subsistence foods are available for those that depend on them. These practices can continue in perpetuity if tribes reserved them in treaties with the United States.

Fisheries: Diminished instream flow presents a serious threat to fish populations, thereby impacting tribal subsistence, ceremonial practices and commercial fisheries. Environmental impacts from reduced instream flows include altered fish migration patterns, elevated temperature, passage barriers, increased predation and enhanced conditions for disease. Further, agricultural run-off, over-forested land, and industrial pollution continue to significantly contribute to stream pollution, affecting fisheries habitat and riparian areas. Hydropower development has impeded surface water ways for fish and resulted in a precipitous decline in stocks of native salmonids to the point that many species have been listed as threatened or endangered under the Endangered Species Act, have been extirpated from former habitat, or have been declared extinct.

State groundwater laws are also having a significant effect on instream flows and tribal fisheries. Many states have groundwater policies that favor heavy extraction, often with few ecosystem protections. Tribes are finding that groundwater withdrawals are affecting in-stream water quantity and quality, thereby adversely affecting fishery habitat. These effects are negatively impacting treaty fishing rights. The legal relationship between surface and ground water is not well enough established to protect federal rights, potentially eroding tribal water rights.

Cultural and Medicinal Plants: Many important traditional medicines and foods grow in wetland environments. Draining these environments for agricultural and urban development, or allowing cattle to graze in these areas, has resulted in a precipitous decline of plant species important to tribes. These effects damage treaty gathering rights and ultimately human health and ways of life.

Opportunities in Indian Country

Fisheries:

- The treaty-fishing cases (Boldt decisions from federal court in Washington State) affirmed tribes' right to take up to 50% of the annual fish harvest. The court held that there is a right to have the fishery habitat protected from man-made despoliation and that this was "implicitly incorporated in the treaties' fishing clause."³⁷ An "implied environmental right" exists to fulfill the purpose of the fishing clause, a right that may

³⁶ Fort Hall Indian Water Rights Act of 1990, Pub. L. 101-602, 104 Stat. 3059 (1990); Truckee-Carson-Pyramid Lake Water Rights Act, Pub. L. 101-618, 104 Stat. 3294 (1990); Snake River Water Rights Act of 2004, Pub. L. 108-447, 118 Stat. 2809, 3432-41 (2004).

³⁷ United States v. State of Wash., 506 F. Supp. 187, 203 (W.D. Wash. 1980) *aff'd in part, rev'd in part*, 694 F.2d 1374 (9th Cir. 1982) *on reh'g*, 759 F.2d 1353 (9th Cir. 1985).

support ecosystem health and water necessary to protect the fishery habitat. Though the Boldt cases support such environmental protections, courts may be hesitant to extend their scope to require broad watershed protections of fisheries' habitat for Indian tribes. Further, a tribe must be careful in seeking judicial support for application of this right as a court may drastically reduce the right if it believes the tribe is overreaching.

- Support tribal involvement in state water policy development, especially as it pertains to groundwater and in-stream flow protection.
- Support water quality standards that promote healthy fisheries habitats.
- Look for innovative solutions to acquire and secure in-stream flows for ecosystem health.

Plants and Wildlife: Treaty rights to gather medicinal plants and culturally significant foods, and to hunt on open and unclaimed lands provide significant leverage for tribes to act as co-managers of these resources. The assertion of treaty rights in non-legal forums, particularly with federal agencies required to consult with tribes on a government-to-government basis, gives tribes an avenue to promote sustainable management of culturally important plants and wildlife dependent on clean, abundant water.

Potential TWWG Projects

The TWWG could provide a forum for sharing information and building capacity in the following areas:

- Planning with tribes about the potential for asserting instream flow and ecosystem water rights based on treaty fishing and gathering rights;
- Building partnerships with tribal, federal, state and non-governmental entities for more effective ecosystem management;
- Leveraging treaty rights, where appropriate, to protect critical habitats;
- Securing and utilizing water rights to protect and restore ecosystems;
- Implementing water conservation; and
- Providing information about water banking and other mechanisms to insure adequate instream flows during drought.

WATER AND ENERGY

Background

Energy development potential on tribal lands is enormous. The Department of Interior (DOI) estimates that wind power on tribal lands could supply 14% of the United States' electric demand and that solar resources could generate 4.5 times the amount of electricity necessary to power the entire country. It also estimates that undeveloped reserves of oil, natural gas and coal on tribal lands could generate nearly \$1 trillion in revenue for tribes and surrounding communities.³⁸ However, water and energy are inextricably linked: the production of power from traditional sources such as coal, gas and oil requires large amounts of water and the

³⁸ Indian Country Budget Request, FY 2012, National Congress Of American Indians, at 85-86 http://www.ncai.org/resources/ncai-publications/indian-country-budget-request/fy2012/FY2012_Budget.pdf (Last visited Nov. 12, 2012).

development of water resources requires large amounts of power. If tribes are to develop their energy resources, they must carefully consider the inherent trade-offs and the potential impacts of utilizing scarce and sacred water resources to develop energy supplies. Additionally, the availability of tribal water rights must be considered in any development scheme. Water-poor tribes may wish to develop energy supplies that require little water use, such as solar and wind. Tribes that are blessed with abundant water resources may wish to develop hydropower, tidal, or oil and natural gas supplies.

Challenges and Opportunities for Developing Energy Supplies on Tribal Lands

Issues of capacity, geography, funding, access to markets, demographics, cultural practices and politics will influence how, or even if, tribes will develop their energy sources. Tribes must consider whether they wish to be a power producer, a power distributor or both. Renewable and non-renewable energy supplies require different considerations.

Renewable Sources of Energy

- **Solar:** Solar technologies use energy from the sun to produce heat, light, hot water and electricity for homes, businesses and industry. The potential for solar development is huge, but currently provides only 1% of the United States' energy needs. Solar potential on tribal lands, particularly in the southwestern and southern United States, offers the greatest potential for utility scale projects.³⁹ The challenge is access to transmission facilities. If suitable transmissions lines are not available, they will have to be built, which creates other environmental concerns. However, small-scale utility projects may offer a viable solution for residential and small commercial developments. Solar technologies produce few negative environmental impacts during operation but there are environmental concerns associated with the production of the collectors and storage devices. Tribal water rights will generally not be affected by solar development, which is a major advantage of developing this type of power in areas with scarce supplies. The Agua Caliente Band of Cahuilla Indians replaced their costly propane system with a solar system to run their Indian Canyons Trading Post.⁴⁰
- **Wind:** Wind energy can generate electricity, charge batteries, and pump water. Large wind farms can be profitably developed on lands in close proximity to transmission lines and larger populations. Commercial scale development of wind power is occurring in many areas of the country. Tribes must keep in mind that these large projects require large amounts of land. Additionally, tribes must factor in the potential impacts to human health, aesthetic considerations and impacts to avian populations. Small turbines, however, offer opportunities homeowners and remote villages to help meet their energy needs. Generally, tribal water rights will not be affected by wind power developments. The Yurok Tribe is assessing the development of wind power on its reservation.

³⁹ Solar Energy Resources in the United States, Tribal Energy & Environmental Information Clearinghouse <http://teeic.anl.gov/er/solar/restech/dist/index.cfm> (Last visited Nov. 12, 2012).

⁴⁰ *Id.*

- Geothermal: Geothermal power uses the natural sources of heat from within the Earth to produce heat or electricity. Most geothermal power is generated using steam or hot water from underground. Some water loss associated with evaporation in certain types of geothermal plants occurs, but others rely on a closed loop system so no replacement water is necessary.⁴¹ The Assiniboine & Sioux Tribes of the Fort Peck Indian Reservation are conducting a feasibility analysis of developing geothermal resources for electrical generation on the Reservation.
- Hydropower: Hydropower plants capture the kinetic energy of falling water to generate electricity, using a turbine and a generator to convert the energy from the water to mechanical energy and then to electrical energy. Hydropower projects range in size from small, micro-hydro systems which divert small amounts of water through a turbine and then back to a stream, to large 1000 + MW projects that consist of large dams and reservoirs the size of large lakes. Low head hydrokinetic systems are gaining in popularity because they do not require a dam and reservoir to operate.

Privately owned hydropower plants require a license from the Federal Energy Regulatory Commission. When privately held licenses expire, tribes could compete with the holders of the existing licenses for the right to operate the projects. This ability to compete for a hydropower license offers tribes the opportunity to form partnership with existing utilities or take over ownership of a hydro project altogether. For example, the Warm Springs Tribe in Oregon partnered with the Pacific Gas & Electric for an ownership interest in the Pelton Round Butte project after it developed a competing application that addressed fish passage and temperature impacts that the previous licensee failed to address.

Development of new hydroelectric projects requires water rights and tribes must consider the availability of water, the cost of development and the environmental impacts, especially to fish and other aquatic resources. Small, micro-hydro projects are gaining in popularity due to their low cost of development, minimal environmental impact and utility for rural residences or businesses not connected to the grid.

The Warm Springs Power and Water Enterprises is a corporate entity owned by the Confederated Tribes of the Warm Springs Reservation, located in central Oregon. The organization is responsible for managing electrical power generation facilities on tribal lands, including the Pelton Round Butte Hydropower Project. Recent projects included the assessment of the wind power resources on the Reservation.

- Biomass: Biomass is organic material derived from plant or animal residues. The energy captured from these resources can create fuel for transportation or electricity. Nearly about any plant material can be used as feedstock for a biomass plant, including corn, oats, barley, wheat stubble, grasses. Additionally, timber and pulp waste and methane

⁴¹ *Id.*

captured from landfills or manure can also be a fuel source. Recent developments in the use of algae as a fuel source are generating considerable attention as well.

Energy produced from biomass requires incineration, which produces air pollution and generates some greenhouse gasses. Some biomass plants consume large amounts of water for cooling, and often the heated discharge creates water quality problems in the receiving water body. Tribes must carefully consider the benefits and costs of the water use involved with this type of energy development.

The Shakopee Mdewakanton Sioux Community, in partnership with the Rahr Malting Company operates a biomass plant that generates an average of 12.5 megawatts. Fuel consists of oat hulls and other agricultural by-products.⁴²

Non-Renewable Sources of Energy:

- Coal, Oil, Natural Gas and Uranium: Many tribal lands have large supplies of oil, natural gas and uranium. These traditional sources of power supply the bulk of United States' power needs and will continue to play an important role in energy production. Tribes generally partner with established energy companies to develop these resources due to the enormous expense and technical requirements.

Development of these resources, particularly of natural gas through "hydrofracking" of shale, requires large amounts of water and often results in management problems due to the toxic nature of the wastewater. Further, burning fossil fuels is well-known contributor to global warming. Tribes must consider the impact of developing these resources on their water supplies, human health and the cultural trade-offs inherent with these industries.

The Southern Ute Tribe Department of Energy oversees a large oil and gas industry on the tribal lands.

Potential TWWG Projects

The TWWG could provide a forum for sharing information and building capacity in the following areas:

- Technical, economic, political, legal and ecological analysis of potential energy development options and the related impacts to water resources and tribal water rights; and,
- Developing and implementing public education and outreach materials on the water-energy nexus in Indian Country.

⁴² *Id.*

WATER SUPPLY AND INFRASTRUCTURE IN INDIAN COUNTRY

Background

Throughout Indian Country, communities lack access to safe drinking water, basic sanitation, and adequate irrigation infrastructure. In 2007, the Indian Health Service (IHS) reported that 13% of American Indian/Alaska Native homes did not have access to safe water and/or wastewater disposal, 36,000 tribal homes lacked potable water and 71,000 lacked adequate sanitation. In all, the IHS estimated that 341,909 tribal homes experience some degree of deficiency in their drinking water and/or sanitation systems. These numbers are staggeringly disproportionate in comparison to the 0.6% of non-native homes that lack such infrastructure.⁴³ Lack of access to adequate water, sanitation, and irrigation infrastructure threaten the public health, economies, environments, and general well-being of tribal communities. In spite of alarming statistics and a strong interest among tribal leaders to address these issues, numerous constraints at the tribal and federal levels continue to impact tribal household access to water.

Challenges and Opportunities in Indian Country

Within Tribal Communities: Several challenges stand out as common themes across Indian Country. Many tribal governments lack the economic resources to build and maintain infrastructure and services and do not have the revenue generating, bonding, and investment capacities of state governments or the federal government. Limited budgets result in reduced project planning, design, construction oversight, and technical capacity. Housing in tribal communities varies greatly: older homes built before modern water and sanitation were available; public housing projects built with tribal and federal monies; manufactured and mobile homes; and, homes built by individuals. Lastly, many communities lack the resources to provide education, training, and stable competitive salaries to employees to support the construction and maintenance of water and sanitation systems.

Challenges within the Federal Government and Tribal Government Relations: Five federal agencies have primary responsibility and authority in providing drinking water and wastewater infrastructure services in Indian Country. These include: the EPA, DOI, Department of Health and Human Services (HHS), Department of Housing and Urban Development (HUD), and Department of Agriculture (USDA). In the area of water and sanitation, these agencies and the tribal governments they work with face two major challenges: funding and interagency coordination.

Funding Challenges: The fundamental barrier to addressing water and sanitation infrastructure problems in Indian Country is insufficient funding. This is evidenced by the huge discrepancies in federal funding for water and sanitation access. For example, in 2009, the federal government spent over \$3 billion on water projects in foreign countries and less than 1% of that amount, around \$2.29 million, to support tribal access to safe drinking water across all five agencies in 2006.

- **Increase Funding for Infrastructure Development:** In order to reduce the number of homes without access to water and sanitation by 50%, federal funding for infrastructure would need to be increased by 40%-50% over current levels (an additional \$53.2 million

⁴³Meeting the Access Goal, EPA <http://www.epa.gov/tp/pdf/infra-tribal-access-plan.pdf> (Last visited Nov. 12, 2012).

per year). To obtain adequate funding, tribes and NCAI have advocated for a change in how funding is allocated under the Clean Water and Drinking Water State Revolving Funds. This could be achieved through Congressional amendments to the CWA and the Safe Drinking Water Act that would increase funding for tribes from 1.5% to 3% to provide funding on par with other state and local funding.

- **Increased Funding for Operation and Maintenance:** There is currently no source of sustained federal funding for the operation and maintenance (O&M) of drinking water and wastewater infrastructure on tribal lands, and funding for technical assistance is decreasing. This problem is compounded by the fact that O&M costs are often high in tribal communities where housing densities are low, systems are operated in remote locations and/or a harsh climate, and tribes have scarce resources to train and retain technical and managerial staff.
- **Make Funding More Accessible:** Across the federal government, there are numerous programs that support tribal water systems. Some sources of funding are underutilized because tribes are not aware of them or they are difficult to access. For example, it was reported in July 2007 that \$9.4 million in drinking water and wastewater funds remained available to tribes out of \$16.3 million appropriated to USDA Rural Development. This problem could be addressed through programs that better educate tribal officials about what resources are available and provide assistance in accessing them. The allowable uses of currently available monies could also be expanded through the revision of guidelines. And, agencies can make existing funds go further through greater interagency coordination and the establishment of common guidelines which will allow more efficient use of both government and tribal staff time, and keeping construction projects on schedule.

Increase Coordination Between Agencies: Because multiple agencies have authority to work on tribal water issues there are administrative inefficiencies and redundancies in water project management. There is a need for federal partners to work together to formally coordinate technical assistance services and adopt common standards for water and sanitation provision. To the extent feasible, a lead federal agency could be designated to oversee water projects. For example, one federal agency might provide the authority to manage a drinking water project from aquifer to faucet, to consolidate funding sources, to use such funding with some degree of flexibility, and to streamline and eliminate redundant administrative processes related to standards and grant reporting requirements.

Most water right settlements contain provisions for the construction of infrastructure and protections for water supply on tribal lands. The Sosoba Band of Luiseno Indians negotiated a 50 year plan in which the Band and water districts using the resources of the San Jacinto River basin agreed to manage water to create a safe yield in the basin. The Navajo Nation negotiated a water system that will benefit not only the Nation but also the Jicarilla Apache Nation and the city of Gallup, New Mexico.⁴⁴

⁴⁴ Sosoba Band of Luiseno Indians Settlement Act of 2008, Pub. L. 110-297, 122 Stat. 2975; Northwestern New Mexico Rural Water Projects Act), Pub. L. No. 111-11; 123 Stat 1367 (2009).

Potential TWWG Projects

The TWWG could provide a forum for sharing information and building capacity in the following areas:

- Facilitating efforts to improve cooperation and coordination across tribal governments and federal agencies to improve infrastructure funding and development efforts;
- Planning, fundraising, implementing and maintaining tribal infrastructure projects;
- Identifying tribal, federal, state, and non-governmental resources to finance projects; and,
- Identifying and implementing appropriate alternative low-tech, low-cost technologies to meet immediate household water and sanitation needs.

CLIMATE CHANGE

Background

Global climate change presents one of the most difficult challenges for the sustainable management of water resources. Though scientific consensus squarely affirms climate change, public policy has reacted slowly. However, the federal government is currently adopting plans to adapt to changes of hydrological patterns.⁴⁵ Few communities – Indian or non-Indian – have pursued climate change adaptation and/or mitigation plans. Climate change adds pressure and urgency to existing challenges in securing Indian water rights as well as threatening existing water resources and infrastructure. Prolonged drought, severe weather events, warmer temperatures, and changes in seasonal hydrologic patterns increase uncertainty over water supplies and water administration, making the assertion of water rights extremely important for tribes.

Challenges and Opportunities in Indian Country

Climate change creates additional challenges for Indian tribes with respect to water rights. The added uncertainty about weather and hydrologic patterns brought on by climate change increases the urgency of obtaining water rights and water infrastructure. For fishing tribes, climate change can adversely affect fish habitat by increasing surface water temperatures or changing seasonal runoff patterns to which the fish are adapted. Tribes in the arctic region face challenges with retreating sea-ice, making annual whaling hunts more difficult. Many other tribes may face severe drought and warmer temperatures, increasing the difficulty in achieving water rights settlements where the resource is dwindling. The challenges grow as all communities and water users become increasingly stressed. Tribes will have to collaborate and/or compete with everyone else for water. Tribal governments are faced with a myriad of pressing issues – housing, economic development, education, and health and though climate change is recognized as a threat, few tribes have the resources necessary to make climate change a priority.

⁴⁵ National Action Plan: Priorities for Managing Freshwater Resources in a Changing Climate (Draft), Interagency Climate Change Adaptation Task Force (Jun. 2, 2011) http://www.whitehouse.gov/sites/default/files/microsites/ceq/napdraft6_2_11_final.pdf (Last visited Nov. 12, 2012).

Potential TWWG Projects

The TWWG could provide a forum for sharing information and building capacity in the following areas:

- Educating leadership and communities about climate change and its potential impact on water resources;
- Facilitating climate adaptation programs; and,
- Facilitating efforts to improve awareness, cooperation, and partnership-building across tribal, federal, state and non-governmental entities working on climate change issues.

CONCLUSION

Based on existing research and the information shared by tribal, federal and state leaders at the initial gathering of the Indian Water Working Group forum at the Pueblo Cultural Center in Albuquerque, it is clear there are no easy answers for improving the resolution of Indian water rights and other issues. Further, water rights considerations must be viewed through the lens of larger water resources concerns in Indian Country. What is clear, however, is the need for a more integrated and coordinated problem-solving, where existing human and financial resources can be leveraged.

In a sense, to avoid the pitfalls of litigation and adjudication of water rights, tribes, states and the federal government must carefully choreograph all aspects of the process, including the development of realistic and legally supportable claims; communication of tribal goals to surrounding non-Indian communities; and, consideration of other pressing resource concerns which may help unify the parties around a common undertaking and settlement. Finally, political and economic realities must be considered early in the process in order to ensure bi-partisan support when a settlement is achieved.

Despite the well-documented challenges to resolving Indian water rights and water resource concerns affecting Indian Country, major opportunities exist for improving the process and ensuring a just and equitable outcome for all parties. Negotiated settlements offer flexibility to address not just water rights, but also environmental issues of mutual concern, infrastructure development needs and perhaps most importantly, the opportunity for adversaries to come together, build trust and to heal past grievances. With over two dozen settlements completed, tribes who have yet to begin the process of securing their water rights can learn from the mistakes and successes of previous efforts. Each water right settlement, while unique, offers lessons that can be adopted by others. Technical information is more readily available than ever before and the legal pitfalls are well known. With an eye on the past, tribes, states, and the federal government can improve the process in the future.

The TWWG can serve a vital role in the resolution of Indian water rights and with water resource issues in Indian Country. The TWWG is comprised of experts in the fields of water law, science, inter-governmental relations and public policy. The TWWG can act as a

clearinghouse of critical information to ensure efficient use of financial and human resources and can provide direction to all who seek the sustainable use of the most critical resource of all – water.

Two projects which the TWWG is involved are the Tribal Water Code webinar held on December 14, 2012 which lays the foundation for thinking about water codes and the Native American Water Rights Settlement e-repository which went live in December 2012. The repository is a collection of indexed settlement documents such as federal legislation, settlement agreements, state legislation, and court documents. This collection makes settlement document and the information contained in them readily available to tribes as they think about, plan and develop their own water rights settlements which address those issues, including some outlined above, which are most important to them.