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Native Water Protection Flows Through Self-Determination: Understanding Tribal Water Quality Standards and "Treatment as a State"

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Abstract: For Indigenous communities, protecting traditional lands and waters is of the utmost importance. In the U.S. context, scholars have documented an unfortunate neglect of water quality on tribal lands. Treatment as a State (TAS) provisions, adopted in the 1987 amendments to the Clean Water Act, and tribal Water Quality Standards (WQSs) programs are intended to address such problems. Importantly, tribal WQSs may be more stringent than neighboring state standards, and can be used to influence pollution levels coming from upstream, off-reservation users. Tribes can also develop WQSs that support unique tribal values, including ceremonial and cultural uses of native waters. Yet scholarly debates question whether tribal environmental self-determination strategies can fully succeed within dominant regulatory structures. Based on a synthesis of the published literature, this article examines tribal WQSs as a case of tribal environmental self-determination. The author discusses how U.S. tribes pursue WQSs under TAS, program outcomes, and why so few tribes have established WQSs to date. Because most scholarship was found within the legal literature, the author focuses on the legal and political outcomes that arise from tribal WQSs, and analyzes specific opportunities and constraints for program participants. The author also considers how some tribes use WQSs as a "third space" strategy—simultaneously working inside and outside of dominant government structures to advance tribal sovereignty (Bruyneel 2007). Additional research is needed to understand the diversity of tribal environmental self-determination strategies that occur through federal regulatory frameworks and under tribal law.

Keywords: *water governance, Indigenous environmental politics, Native American tribes, tribal sovereignty, U.S. water policy, Clean Water Act, cooperative federalism, collaborative management (co-management)*

"Mni waconi. Water is life. And life for indigenous peoples is about our right to control our lands and preserve our resources for future generations" (Curley 2016).

For Indigenous communities, protecting the waters on their traditional lands is of the utmost importance. Indigenous-led mobilizations around the Dakota Access Pipeline System (Curley 2016), the Salish Sea coastal region (Norman 2017), and the Gold King Mine Spill (Chief et al. 2016) all exemplify extraordinary efforts to address ongoing threats to native waters. Such Indigenous water protection initiatives are part of a broader cultural survival strategy, which includes working in a contemporary context to preserve and enhance the lands and waters that Indigenous communities continue to depend on (e.g., Marx et al. 1998; Suagee 1998; Diver 2016, 2017). While Indigenous water protection is partly driven by human health concerns and a desire for equal access to clean water (e.g., deLemos et al. 2009), for many communities, it is also part of deeply held Indigenous knowledge regarding the mutual responsibilities or reciprocal relations between Indigenous peoples and the waters that have long sustained them (Lake et al. 2010; McGregor 2014; Arsenault et al. 2018). Given their distinct regulatory authorities, close connections

to the land, and diverse cultures, tribes are well positioned to drive future innovation in water governance (Ranco and Suagee 2007; Warner 2015).

In the U.S. context, scholars and the media have documented an unfortunate neglect of water quality on tribal lands (e.g., EHN 2016; Teodoro et al. 2016; Conroy-Ben and Richard 2018). Although the U.S. federal government generally asserts regulatory authority over reservation environments, tribes have found that federal agencies are often unable or unwilling to provide the desired level of environmental protection due to lack of capacity and other challenges (Grant 2007; Sanders 2010). Recent research has demonstrated that regulatory enforcement is less rigorous for facilities discharging into waterways located on tribal lands, in comparison to non-tribal lands (Teodoro et al. 2016; Conroy-Ben and Richard 2018). In some cases, jurisdictional conflicts within and around reservations have contributed to the lack of enforcement by tribes, states, and the federal government (Rodgers 2004; Lefthand-Begay 2014; Anderson 2015). At the same time, access to safe water supply and/or waste disposal facilities is disproportionately low for many tribal communities (IHS n.d.).

These problems reflect a significant environmental justice issue for water quality: the environment and public health are less effectively protected on Indian reservations than elsewhere (Goldtooth 1995; Sanders 2010). Tribal community advocates have responded with a call for greater tribal environmental self-determination, in part, by developing enforceable environmental standards on tribal lands (Ranco and Suagee 2007; Sproat 2016). In international law, self-determination refers to the right of Indigenous peoples to "freely determine their political status and freely pursue their economic, social and cultural development" (United Nations 1976). Indigenous self-determination may also entail rejecting governance models rooted in European cultural values and reinstituting Indigenous governance traditions (Alfred 2005).

Tribal "Treatment as a State" (TAS) provisions, adopted in 1987 amendments to the U.S. Clean Water Act (CWA), are intended to address these problems. TAS provisions enable the federal government to delegate authority to eligible tribes for selected CWA programs, including Section 303 for Water Quality Standards (WQSs). Evolving out of federal policy on tribal self-determination, tribes meeting certain criteria can propose their own WQSs on tribal trust lands. Once approved by the U.S. Environmental Protection Agency (EPA), tribal WQSs are then implemented in coordination with the federal agency. Importantly, tribal standards may be more stringent than their neighbors' standards, can be driven by cultural or ceremonial uses, and can be used to influence pollution levels coming from upstream, off-reservation users (Grijalva 2006; Anderson 2015). Since 1987, a number of tribes have adopted WQSs under TAS to protect tribal waters across a wide diversity of contexts. These include industrial pollution sources discharging toxins in the Northeast, forestry operations adding sediment to salmon streams in the Pacific Northwest, large scale oil and gas development increasing risks of toxic spills in the Southwest, agricultural areas generating high levels of nutrients in Mountain States, mining operations discharging wastewater around the Great Lakes, and wastewater treatment plants affecting multiple reservations.[1]

There is a gap, however, between the vision and the reality of leveraging TAS provisions to increase tribal environmental self-determination. Out of the approximately 330 federally recognized tribes that meet TAS eligibility requirements,[2] there are 54 tribes that have received TAS status for administering a WQS program under Section 303. Only 44 of these have had their initial WQSs approved by the EPA—or less than 10% of eligible tribes (USEPA n.d.(a)) (see Figure 1).

1 For a current list of tribes with WQSs and additional case context see https://www.epa.gov/wqs-tech/epa-approvals-tribal-water-quality-standards-and-contacts, and https://www.epa.gov/wqs-tech/case-studies-video-and-publications-tribal-water-quality-standards.

2 To be eligible for TAS status under the CWA Section 518, tribes must be federally recognized and have a reservation, a term that is interpreted broadly by the EPA to include all tribal trust lands. (See the EPA's most recent discussion of this in its May 2016 revision to its CWA TAS regulations 81 CFR 30183, May 16, 2016). Because only one of Alaska's tribes has a formal reservation and other forms of trust land are uncommon in the state, most Alaska tribes are not eligible. Tribes that are unrecognized by the federal government are also not eligible.

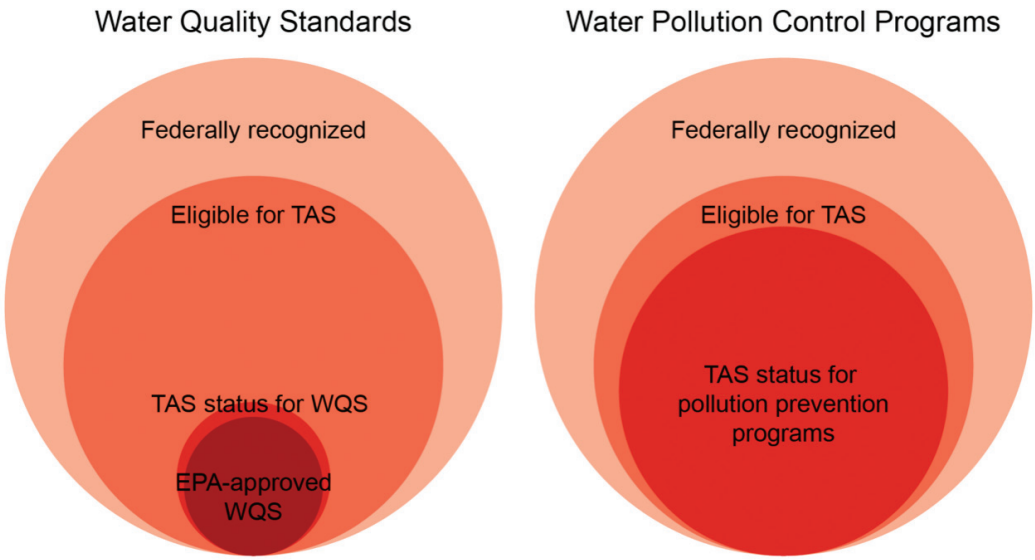

Figure 1. Proportion of eligible tribes gaining TAS status for Water Quality Standards (WQSs) Programs (Section 303) vs. tribes gaining TAS status for Water Pollution Control Programs (Section 106). Figure by Kelly Hopping.

This observation is not intended to overgeneralize, or suggest that TAS provisions are not helpful to tribes. For example, under Section 106, a different CWA program that provides federal grants for water pollution control programs, a much larger number of tribes have gained TAS status—about 75% of those eligible.[3] However, as a funding and monitoring program, Section 106 grants do not provide tribes with the same regulatory authority over native waters that they gain through Section 303 for WQSs. Nor do TAS applications for Section 106 funding programs require the same level of detail or scrutiny that are required for TAS approval of Section 303 standards.[4]

To better understand tribal environmental self-determination, this article synthesizes the published literature to discuss how U.S. tribes pursue tribal WQSs under TAS, program outcomes, and why so few tribes have established WQSs to date. The bulk of scholarship is in the legal literature, examining the environmental regulatory process, sources of tribal authority, and legal or political outcomes (e.g., Grijalva 2006; Anderson 2015), and there are few in-depth empirical studies evaluating the environmental and social impacts of tribal WQSs. Based on these existing studies, the author analyzes the legal and political outcomes that arise from tribal WQSs. To interpret these findings, the author turns to current scholarly debates questioning whether tribal environmental self-determination strategies can fully succeed within dominant regulatory structures. Key questions include, how and to what extent are federal environmental regulatory framework regulations helpful for tribes, and when do tribes need to create their own policies, laws, and regulations? Given that federal environmental regulations were initially constructed without the participation of tribal governments (Marx et al. 1998), the author considers how tribal WQSs under TAS can inform efforts to create new environmental governance institutions that authentically support tribal environmental self-determination.

Methods

For the literature review, the author conducted a search on Web of Science, Google Scholar, and HeinOnline for tribal water quality standards and Treatment as a State and selected relevant

3 For more information on tribal participation in Section 106 programs, see https://www.epa.gov/water-pollution-control-section-106-grants/tribal-grants-under-section-106-clean-water-act.

4 See the general requirements for TAS, which are set forth in CWA Section 518 and for the 106 program at 40 CFR 130.6(d) and 40 CFR 35.583.

Table 1. Selected historical events shaping Treatment as a State provisions, and tribal Water Quality Standards Programs.

1948 Federal Water Pollution Control Act (FWPCA) is passed.
1962 Rachel Carson's Silent Spring is published.
1964 Office of Economic Opportunity sets the precedent of directly funding tribal governments as part of their "War on Poverty" programs.
1970 Nixon signs the National Environmental Policy Act (NEPA) into law, the Clean Air Act is enacted by Congress, the first Earth Day is observed.
1970 U.S. Environmental Protection Agency is started.
1970 President Nixon issues a message to Congress emphasizing Indian self-determination by delegating federal program implementation responsibilities to interested tribes.
1972 FWPCA is amended, known as the Clean Water Act (CWA).
1973 FWPCA rule adds Indian facilities to the list of dischargers excluded from state regulation.
1974 The Boldt Decision, *U.S. v. Washington,* affirms treaty fishing rights, allocating 50% of fish returning to usual and accustomed areas to treaty tribes, inciting a violent backlash from non-tribal fishermen and states against tribes.
1974 EPA rule on prevention of significant deterioration (PSD) under the Clean Air Act enables "Indian Governing Bodies" to administer the PSD program on Indian reservations.
1975 Indian Self-Determination and Educational Assistance Act is passed by Congress.
1975 EPA Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) authorizes tribal programs for certifying commercial pesticide applicators on Indian reservations, enabling tribal programs to govern non-Indians on reservations.
1976 EPA approves the Northern Cheyenne's proposal to create a more protective status of their reservation's airshed in response to the planned expansion of a nearby coal-fired power plant (a "redesignation" under the PSD program).
1977 Clean Air Act amendments adopt the treatment of tribes as states, and the EPA PSD program.
1978 Congress amends FIFRA to codify the EPA 1975 FIFRA Rule, and authorizes tribes as being eligible for cooperative agreements and grants for pesticide management.
1978 Supreme Court case *Oliphant v. Suquamish Indian Tribe* limits tribal criminal jurisdiction over non-Indians within reservation borders.
1979 Council for Environmental Quality promulgates regulations implementing NEPA environmental analysis requirements for federal agencies to invite Indian tribes to participate in the scoping process.
1980 EPA Indian Policy is adopted as the agency's first cross-program Indian policy, becoming the first federal agency to establish an official Indian policy.
1981 Supreme Court case *United States v. Montana* limits tribal civil jurisdiction on reservations with exceptions that confirm the EPA's approach to tribal water quality issues.
1982 EPA rejects the State of Washington's request for RCRA interim hazardous waste responsibility throughout the State including Indian reservations.
1983 President Reagan issues his Indian Policy Statement supporting tribal self-government, and continuing the federal-tribal relationship.
1984 Acting on President Reagan's initiative, the EPA Indian Policy is signed by Administrator Ruckelshaus and includes implementation guidance.
1986 Congress adds treatment as a state (TAS) provisions to the Safe Drinking Water Act, Sec 1451.
1987 Congress adopts TAS provisions of the Clean Water Act, Section 518(e).

Table 1 Continued.

1989 Supreme Court case *Brendale v. Confederated Tribes and Bands of the Yakima Indian Nation* limits tribal civil regulatory authority over non-Indian fee lands.
1990 Congress passes TAS provisions of the Clean Air Act, Section 301(d).
1991 EPA issues its final rule for reservation water quality standards.
1994 EPA establishes its American Indian Environmental Office.
1994 President Clinton directs federal agencies to ensure meaningful consultations with tribes on regulatory policies and actions significantly affecting them.
1996 *City of Albuquerque v. Browner* is the first case challenging WQSs set by a tribe under TAS provisions, and confirms the ability of tribes to set more stringent standards than federal minimums.
1998 In *Montana v. EPA* 1998, the State of Montana challenged the EPA's grant of TAS status to the Confederated Salish and Kootenai Tribes. The court upheld the EPA's approval of the confederated tribes' TAS status based on substantial threats to tribal health and welfare from non-member activities (*Montana* test).
2000 When the Penobscot and Passamaquoddy Tribes request stricter permits for pulp mills impacting tribal waters, state opponents file a Freedom of Information Act (FOIA) lawsuit to gain all documentation related to tribal authority over water resources and other internal matters.
2001 In *Wisconsin v. EPA,* the court holds that EPA's grant of TAS status was consistent with CWA purposes, despite disputes over submerged lands within the Mole Lake Reservation.
2001 In *Nevada v. Hicks,* the U.S. Supreme Court further limits tribal regulation on reservation lands.
2004 The Pawnee Nation of Oklahoma gains TAS status and WQS approval, and the state responds by filing a lawsuit to challenge the EPA's decision. In addition, a Republican Senator adds a legislative amendment buried within a transportation bill, which has limited tribal sovereignty over their reservation environment.
2014 EPA's 1984 Indian Policy is reaffirmed by EPA Administrator Gina McCarthy.
2016 The EPA reinterprets TAS provisions enabling tribal WQSs, section 518(e)(2) of the CWA, to be based on Congressionally delegated authority to tribes for the purposes of the CWA.

articles. The author pursued additional citations from within these articles, as well as publications from established scholars in this field. The review included selected overview materials on TAS provisions and tribal WQSs available at Stanford University libraries.

Based on existing scholarship in legal journals, this synthesis provides insight into issues around tribal jurisdiction, historical origins, and self-determination arising from TAS provisions for tribal WQSs. These findings illuminate the legal and political outcomes for tribes that have developed EPA-approved WQSs, as an example of tribal environmental self-determination. Given the lack of published non-legal case studies, the author has included several EPA cases and white papers in the synthesis as a starting point for discussing the environmental and social outcomes of tribal WQSs.

Historical and Legal Origins: Treatment as a State

Complexities of Tribal Sovereignty

The following section outlines the historical and legal context for the EPA's TAS programs and tribal WQSs, which were first developed in the early 1970s (see Table 1). In U.S. federal policy, Native American tribes are widely recognized as having authority over their members and territories (Grijalva 2006). As legal scholar Charles Wilkinson explains, "Tribal sovereignty predated the formation of the United States and continued after it" (Wilkinson 1987, p. 103). This principle was affirmed in Chief Justice Marshall's Supreme Court decision in *Worcester v. Georgia* (1832), which rejected state authority over tribal nations based on the "preexisting power of the

nation to govern itself" (Anderson 2015, p. 199). As Wilkins and Lomawaima (2001, p. 5) write, tribal sovereignty is "inherent, pre- or extra constitutional, and is explicitly recognized in the constitution." Definitions of tribal sovereignty also reflect international law, where sovereignty "emanates from the unique identity and culture of peoples and is therefore an inherent and inalienable right of peoples to the qualities customarily associated with nations" (Barker 2005, p. 3). The political status of U.S. tribes positions them as a third sovereign (i.e., tribes, states, and the federal government). It is because of their unique political status that "Indian tribes enjoy a special relationship with the federal government," a status that is separate from and higher than the states (Kickingbird et al. 1983, p. 5).

At the same time, the U.S. government continues to assume jurisdictional authority over Indian territory, and under U.S. law, tribes are often viewed as "domestic dependent nations." A guiding principle for tribal land management is the "trust relationship" between U.S. tribes and the federal government, defined as "the unique and moral duty of the United States to assist Indians in the protection of their property and rights" (Kickingbird et al. 1983, p. 6). As Wilkins and Lomawaima (2001, p. 13) explain, "trust is the notion of federal responsibility to protect or enhance tribal assets." This means that the federal government holds a fiduciary obligation to protect tribal trust lands, or lands that are held by the federal government "in trust" for Native American tribes or tribal members. A key source of federal authority is the doctrine of Congressional plenary power, by which Congress assumes the ultimate "power to change and redefine the scope of the relationship" (Kickingbird et al. 1983, p. 6).

The legal doctrines that support U.S. federal Indian policy are not unproblematic. Different audiences have interpreted these doctrines in vastly different ways at different times. For example, the trust relationship is unfortunately associated with a history of paternalistic federal Indian programs (Grijalva 2006). U.S. federal Indian policy has been highly inconsistent, as evidenced by wide pendulum swings of policy orientations, e.g., from treaty-making to the removal of tribes onto reservations, or from assimilation to self-determination (Deloria and Lytle 1984). In addition, scholars strongly refute "plenary power" concepts suggesting that Congress could hold unlimited or absolute power over tribes, as being irreconcilable with tribal sovereignty, inconsistent with the U.S. Constitution, and contradictory to democratic governance (e.g., Wilkins and Lomawaima 2001). The term sovereignty is problematic in itself, with the origins of this word coming from European colonial law and Christian ideologies (Barker 2005).

Tribes today emphasize that "the relationship between American Indian tribes and the U.S. federal government is an ongoing contest over sovereignty" (Wilkins and Lomawaima 2001, p. 5). Tribes argue for inherent sovereignty, "powers that could only be surrendered on the initiative of the tribe or changed, but not abolished, by the Congress." This is in contrast to delegated sovereignty, since the idea of Congress delegating powers that might be radically changed or cancelled by a future legislature is highly problematic (Deloria and Lytle 1984, p. 159). Indigenous scholars also critique uneven political negotiations that limit tribal self-determination. In particular, scholars note the contradictions involved with recognizing the sovereignty of Indigenous peoples through colonial legal systems, which include Supreme Court decisions setting the terms of tribal sovereignty in the U.S. context (Barker 2005).

Given these concerns, many Indigenous peoples have long questioned the viability of working within dominant governance models that "recognized indigenous sovereignty yet always subsumed it to that of the state" (Alfred 2005, p. 35). As Deloria and Lytle (1984, p. 19) write, self-determination cannot exist at the "whim of the controlling federal government." Some Indigenous communities are now exploring opportunities for recovering longstanding Indigenous political traditions in a contemporary context, which Alfred (2005, p. 40) describes as an "uneven process of reinstituting systems that promote the goals and reinforce the values of indigenous cultures, against the constant efforts of the Canadian and United States governments to maintain the systems of dominance imposed on indigenous communities during the last century."

Thus, the backdrop for tribal environmental self-determination strategies is the ongoing tensions between "realism and idealism." Such tensions arise when elected tribal officials are working within existing political structures at the same time that traditional tribal leaders are working outside the dominant system to reinvent tribal governance (Deloria and Lytle 1984, p. 242). While both groups want self-determination, conflict often ensues. Elected officials may be criticized as being overly pragmatic and without moral principles, and traditionalists may be seen as being unrealistic and overly romantic. To balance the tensions that run through diverse tribal communities, some scholars explore possibilities for a middle ground, a tribal governance strategy, that is neither replicating dominant state structures nor creating tribal enclaves (e.g., Deloria and Lytle 1984). Bruyneel's (2007) "third space of sovereignty" concept provides an example of strategies that simultaneously engage with territorial and non-territorial struggles over tribal sovereignty. The third space analytic suggests a "politics-on-the-boundaries" approach, where Indigenous struggles exist "neither simply inside nor outside the American political system" (Bruyneel 2007, xvii p. 20). This approach includes identifying productive policy negotiation spaces that engage overlapping interests among multiple sovereigns, spaces where communities can both assert Indigenous sovereignty goals and push back on dominant state policies.

Conflicts Over Tribal Lands

Such complexities around federal Indian law doctrine and tribal sovereignty set the stage for U.S. EPA TAS policies to emerge in the early 70s. Galloway (1995) has characterized two main drivers for the policy shifts that enabled TAS provisions and greater regulatory control by tribes over tribal lands. These are 1) a long history of Indian and non-Indian conflict, and 2) the onset of the self-determination era in federal Indian policy, discussed below.

Ongoing conflict between Indians and non-Indians has led to increased competition over regulatory authority on tribal lands, and necessitated TAS provisions. In the U.S. context, many Native American tribes were removed from their traditional homelands to reservations, areas where the federal government holds title to the land in trust on behalf of the tribe.[5] Many contemporary jurisdictional conflicts over tribal lands stem from the 1887 Dawes Act (or General Allotment Act), which drastically changed the property regime of Indian reservations. By transferring communally held tribal lands to individual tribal members and transferring so-called "surplus" lands to the federal government, the Act created the "checkerboard" patterns of landownership that continue to deter adequate regulation on Indian reservations today. Whereas there were 138 million acres of tribal lands in 1887, only 48 million acres of land were held by tribes and their members when the allotment policy was ended in 1934, less than 50 years later (Corntassel and Witmer 2008, p. 11). Much of this loss was due to land speculation and fraud. Following the Dawes Act, Indian-owned allotments within a reservation could be transferred to non-Indians to become what is now referred to as "non-Indian fee lands" (Anderson 2015). When Congress passed the Indian Reorganization Act (IRA) in 1934, this established the current framework of tribal governments—a framework that has been sharply criticized for its departure from traditional Indigenous values of self-government (e.g., Deloria and Lytle 1984).

Following allotment and the resulting shift in reservation property regimes, Supreme Court rulings affecting tribal jurisdiction over Indian and non-Indian fee lands have led to the "checkerboarding of regulatory authority" on Indian reservations, and within Indian Country more broadly. For example, *Oliphant v. Suquamish Indian Tribe* (1978) determined that tribal courts do not have criminal jurisdiction over non-Indians (Galloway 1995). This was followed by *Montana v. United States* (1981), which limited tribes' civil jurisdiction over non-Indians on non-Indian fee lands within Indian Country (Anderson

5 The creation of reservations has also affected tribal water rights and ongoing disputes over water quantity. Although it is not the focus of this article, the Supreme Court decision *Winters v. United States* (1908) held that the right to use waters flowing through a reservation was reserved for the tribe by the legal agreement establishing the reservation. In some cases, water quality issues may be affected by a tribe's reserved rights for water quantity, including salt water intrusion problems (Marx et. al 1998).

2015).[6] Importantly, *Montana* established two exceptions enabling tribal civil jurisdiction within the reservation, regardless of land status or tribal membership. These are 1) a "consent" exception, when nonmembers enter into consensual arrangements (e.g., contracts, leases, etc.), and 2) a "health and welfare" exception that applies to activities that "threaten to have a direct effect on the political integrity, the economic security, or the health or welfare of the tribe" (Mazurek et al. 1998; Getches et al. 2005). In other words, when that conduct has a serious and substantial effect on the health and welfare of the tribe, tribes may exercise civil authority over non-Indian conduct on fee lands within the reservation (Rey-Bear 1995; Leisy 1999). By applying the so-called "*Montana* test" and recognizing the close connection between water quality and tribal health and wellbeing, the EPA effectively confirmed tribes' inherent authority over their reservations for the purpose of setting tribal WQSs, including tribal authority over non-Indians on fee lands (Moser 2004; Grijalva 2006). Importantly, following legal definitions of Indian Country established through Supreme Court case law, the EPA's definition of "reservation" encompasses both formal reservations and "informal" reservations (i.e., other forms of trust lands set aside for Indian people) (USEPA 2011, p. 3).[7] Courts have generally precluded state authority over tribal lands unless there is express Congressional delegation of authority to states under applicable statutes, and have also upheld EPA policies treating reservations as "single administrative units" (Mazurek et al. 1998; Anderson 2015).

U.S. Tribal Self-Determination Era

Following a confluence of events, including the Native American rights movement of the 1960s, a dramatic increase in court rulings on tribal issues, new federal legislation, and increased tribal government capacity, the 1970s ushered in a new era in federal Indian law of tribal self-determination (Wilkinson and AILTP 2004; Wilkinson 2005). Rejecting the extreme federal Indian policy positions of paternalism, termination, and assimilation held by previous administrations, President Nixon's 1970 Congressional Address called for delegating federal program implementation responsibility (as well as adequate federal financial support) to interested tribes, and moving away from direct federal operation of Indian programs (Nixon 1970). A few years later, the Indian Self-Determination and Education Assistance Act of 1975 encouraged tribes to "assume administrative responsibility for federally funded programs that were designed for their benefit" (Wilkinson and AILP 2004, p. 17). In 1983, President Reagan affirmed Nixon's policy approach in his Indian Policy Statement supporting tribal self-governance and the federal-tribal relationship (Reagan 1983).

The policy shift of delegating program administrative authority to tribes fit with the cooperative federalism governance models underpinning the 1972 Clean Water Act (Sanders 2010). Cooperative federalism envisions a "structured federal-state partnership acknowledging both the national interest in environmental management as well as states'

6 Indian Country is a technical legal term, defined at 18 U.S.C. Section 1151 to include a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation; b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state; and c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

7 The EPA's definition of "reservation" encompasses both formal reservations and "informal" reservations, i.e., trust lands set aside for Indian tribes. The EPA considers on a case-by-case basis whether other types of lands may be considered "reservations" under federal Indian law even though they may not be formally designated as such. Following legal definitions of Indian Country, the Agency recognizes two categories of lands: Pueblos and tribal trust lands (which can be owned by individuals or a tribe). In defining Indian Country, the EPA has had to interpret the law in light of Supreme Court case law. See for example, *Oklahoma Tax Comm'n v. Sac and Fox Nation*, 508 U.S. 114, 123 (1993); 56 Fed. Reg. 64876, 64881 (1991); or 63 Fed. Reg. 7254, 7258 (1998). See the EPA's May 16, 2016 revised reinterpretation of the CWA Tribal Provision at 81 CFR 30183. Available at: https://www.gpo.gov/fdsys/granule/FR-2016-05-16/2016-11511. Also see EPA Office of Science and Technology. TAS for the Water Quality Standards Program. Frequently Asked Questions (FAQ). September 2017. EPA-820-F-17-020. Available at: https://www.epa.gov/sites/production/files/2017-07/documents/tas-wqs-faq.pdf.

historic responsibility over public health and welfare" (Grijalva 2006, p. 198). Using the cooperative federalism approach, the EPA establishes certain federal environmental quality standards as a floor or baseline. A state then has the option of assuming regulation authority over relevant government programs by submitting a plan with standards that meet or exceed federal minimums. Once a state program is approved, the state assumes primary enforcement authority, or "primacy," and implements its own program in lieu of the federal agency implementing federal standards (Mazurek et al. 1998). To ensure compliance, the EPA retains "preemptory federal enforcement power" (Grijalva 2006, p. 200).

For the EPA, applying a cooperative federalism model to tribal environmental management in Indian Country was "born simply of practical necessity" (Grijalva 2006, p. 292). Because states lacked regulatory authority in Indian Country, the EPA was faced with a regulatory void for water quality. If state WQSs did not apply to tribal lands, what was the appropriate standard? This became an issue for the EPA, in part due to increased federal liability associated with the potential mismanagement of tribal trust lands (Grijalva 2006). The EPA's alternative solution was to substitute tribes for states as its cooperative partner. The agency's new approach amounted to recognizing tribes (like states) as "'local governments' with site-specific knowledge of their territories, and governmental responsibility for protecting legitimate local interests" (Grijalva 2006, p. 228).

Prior to Congress adopting TAS provisions, the EPA began to carve out a state-like role for tribes within some of its regulatory processes in the early 1970s (see Table 1, Timeline). This was, in part, stimulated by U.S. federal policy on tribal self-determination. Despite a backlash from states rejecting the increased recognition of tribal governments and their jurisdictional authority, the EPA proceeded with its efforts with delegating environmental regulatory responsibility to tribes (Hanna et al. 2012). In 1980, the EPA became the first U.S. federal agency to establish a formal Indian policy (Baker 1996). The 1980 EPA Indian Policy was centered on tribal implementation of federal environmental programs on Indian reservations (Grijalva 2006). When initial policy implementation proved lacking, agency leadership approved the EPA's 1984 Indian Policy that introduced implementation guidelines, funding commitments, and a plan for applying the agency's new Indian Policy across EPA programs. These initial EPA policies viewed inherent tribal sovereignty as the basis of tribal regulatory authority, and no statutory amendments were deemed necessary for policy implementation. By incorporating tribal provisions and TAS guidelines into its 1987 CWA amendments, Congress later confirmed the EPA's approach under Section 518.

As a caveat to the EPA's stated goals of supporting tribal self-determination, tribes harbor significant concerns regarding federalist governance models that transfer federal powers to state governments. In multiple cases, the shift towards federalist models has forced tribes out of exclusive federal-tribal government relationships based on treaties, etc. and into more direct political and legal relationships with state governments, which have historically challenged the nationhood status of tribes (Corntassel and Witmer 2008). In the 1970s, for example, states began to apply for delegated authority over environmental programs, including the CWA. It was at this time that states such as Oklahoma, New Mexico, and Washington attempted to assert state environmental permitting authority in Indian Country, despite lacking the legal authority to do so. These events forced the EPA to engage with the jurisdictional implications of delegating environmental regulatory authority in the context of Federal Indian law (Chandler 1994; Goldtooth 1995; Grijalva 2006). By transferring the same federal regulatory powers to tribes that had been provided to the states, TAS provisions in the CWA represent an effort to maintain equal footing among sovereigns within the cooperative federalist framework. Because the strong power imbalances that characterize state-tribal relations are still an issue, TAS provisions and associated EPA regulations on water quality have emphasized the direct government-to-government relationship between federal agencies and tribes. However, the challenges to tribal sovereignty that arise from federalist governance models are still a concern (Corntassel and Witmer 2008).

Program Functions for TAS (Section 518) and WQSs (Section 303) under the CWA

Originating from amendments to the Federal Water Pollution Control Act of 1948, the 1972 Clean Water Act aims to restore and maintain the integrity of U.S. waters, primarily by eliminating or controlling the discharge of pollutants into surface waters. The CWA's pollution control strategy is based on three main components. First, the approach applies technology-based standards for point source pollution, which are regulated through National Pollutant Discharge Elimination System (NPDES) permits. Second, the CWA requires states and tribes to create WQSs as a backup or safety net to the technology-based limitations on pollution discharges. Third, the Act establishes an anti-degradation policy, which requires protection of existing water quality. With this "always cleaner, never dirtier" approach, federal law does not permit the degradation of "high quality waters" without sufficient justification, thereby encouraging the "ratcheting up" of water quality over time. Additionally, Section 319 was added through 1987 CWA amendments to require the implementation of "non-point source management programs" (Salzman and Thompson 2014).

When Congress adopted TAS provisions as Section 518 of the 1987 CWA amendments, it authorized the EPA to treat eligible Indian tribes in a manner similar to states (TAS) for the purpose of administering CWA regulatory programs and receiving related federal grants. To be eligible for TAS status, tribes must meet several criteria. These criteria include being federally recognized, having a governing body carrying out substantial governmental duties and powers, having appropriate jurisdictional authority over desired regulatory areas, and being capable of carrying out program functions—a set of criteria that excludes many tribal communities (see note 2). TAS provisions, where Indian tribes play essentially the same regulatory role for Indian Country that states do for state lands, apply to the Clean Air Act, Clean Water Act, and Safe Drinking Water Act programs (USEPA n.d.). While statutory law legitimizes the TAS approach, the EPA's regulatory framework has played an even greater role in guiding tribal water governance (Berry 2016).

Once the EPA has approved a tribe's TAS status at a basic level, tribes submit separate TAS applications for the different programs to become eligible for delegation (see Table 2) (USEPA 1993). This "tiered" approach allows tribes to "ramp up" their capacity, and take on greater regulatory authority over time (Sanders 2010). The format for tribal applications varies. Depending on available time and resources, as well as preexisting jurisdictional conflicts with neighboring states, tribes can choose to 1) negotiate a cooperative agreement with an adjoining state to apply state standards, 2) adopt an adjoining state's standards with or without revision (thereby directly exercising tribal regulatory authority), or 3) adopt independent standards "from scratch" in order to account for unique site-specific conditions and designated uses (Galloway 1995). Mirroring the application process for states, TAS tribes must submit a formal application, seek out public comment, and work through EPA decision-making processes (Mazurek et al. 1998). Alternately, tribes may ask the EPA to promulgate standards for water on tribal lands—an approach that only one tribe, the Confederated Tribe of the Colville Reservation, has followed to date (Sanders 2010; USEPA n.d.(a)).

Regardless of their chosen approach, tribes must meet or exceed federal minimum requirements for WQSs under the CWA (Sanders 2010). WQSs consist of **designated uses** (e.g., fish and wildlife protection, recreation, cultural use) and **water quality criteria** (numeric or descriptive) that are based on those designated uses. To address CWA anti-degradation provisions, standards may include separate **classifications** for high-quality waters of recreational or ecological significance (Galloway 1995). For example, tribes or states may upgrade the classification of specific water bodies from lower class (good quality) to higher quality (excellent or extraordinary quality) to ensure greater levels of protection. EPA staff are tasked with providing technical assistance through the application process. Tribes are also eligible to apply for EPA program funding to support program development, including the development of tribal WQSs (Mazurek et al. 1998).

Table 2. Selected EPA Programs Available to Tribes, under the Clean Water Act (USEPA 1993).

Section 104(b)(3) – Special Projects (wetlands, non-point source, point source)
Section 104(g)(1) – Onsite Assistance for Waste Water Treatment
Section 106 – Water Pollution Control Funds
Section 303 – Water Quality Standards
Section 314 – Clean Lakes
Section 319(h) – Non-point Source Pollution Control
Section 401 – Certification for Point Source Discharge Permits
Section 402 – National Pollutant Discharge Elimination System
Section 404 – Wetlands Protection
Section 518 – Treatment as a State (TAS)
Title II Grants for Construction of Waste Water Treatment Facilities
Title VI State Water Pollution Control Revolving Funds
Other Programs: Ground Water, Mining Waste, Environmental Assessment

As discussed above, tribal WQSs can apply to all individuals within the entirety of a tribe's reservation boundaries, without distinguishing different categories of on-reservation land. Thus, for the purposes of water quality, a tribe's inherent authority over reservation waters is not necessarily determined by who owns the title to the land (Kannler 2002). This approach is intended to discourage "checkerboarded" environmental regulation in Indian Country. EPA regulations have confirmed the civil jurisdiction of tribes over non-Indians (and non-members) across the reservation, including jurisdiction over activities occurring on non-Indian fee lands (Anderson 2015, p. 244). As mentioned earlier, the EPA interprets the term "reservation" broadly to include formal reservations, and "informal" reservations (i.e., trust lands such as individual or tribal allotments, and Pueblos)—an approach that is consistent with Supreme Court rulings and legal definitions of Indian Country in federal statutes (Anderson et al. 2010). EPA policies on tribal jurisdiction are applied on a case-by-case basis, however. Until recently, tribes with checkerboarded reservations still needed to demonstrate their jurisdictional authority over fee lands under the *Montana* test. And tribes with more complex land ownership regimes might obtain TAS for only a subset of water resources within its reservation borders (Marx et al. 1998) or not at all.

Program requirements for demonstrating tribal jurisdictional authority have recently changed, however. To provide greater access to tribes for TAS programs, the EPA issued a new rule on May 16, 2016 with a revised reinterpretation of the CWA Tribal Provision (81 CFR 30183). Following the May 2016 reinterpretation, the EPA now recognizes tribal authority to administer CWA programs as an express delegation of authority by Congress. This effectively eliminates the need for tribes with non-Indian fee lands within their reservations to demonstrate inherent authority under the *Montana* test. Rather, as with the current TAS application process under the Clean Air Act, tribes will simply indicate the exterior boundaries of their reservation (see note 8). This new approach significantly streamlines the application process for TAS status and WQSs (Anderson 2015; USEPA n.d.(b)).

Tribal WQSs are typically enforced through NPDES permits in coordination with the EPA, as well as through non-point source control programs (USEPA 1990). In order to address differences across multiple jurisdictions, the same EPA regulations that apply to interstate water quality disputes can apply to tribes. For example, through the permitting process, the EPA has the authority to

require an upstream NPDES discharger to comply with downstream state or tribal WQSs (Anderson et al. 2010). Congress has designated the EPA as the final arbiter of inconsistent tribal and state water regulations. Tribes or states, but not others, may raise cross-jurisdictional conflicts through an established EPA dispute mechanism (Anderson 2015, p. 243).

As discussed earlier, these are opt-in programs that follow principles of self-determination, and not all tribes have elected to pursue TAS status or tribal WQSs. It is important to recognize that TAS is not the only regulatory framework available to tribes. Tribes often adopt their own laws and water codes, which primarily apply to tribal members on tribal lands. In some cases, tribal law may continue informal practices of culturally specific decision-making (Vesely 2014; Berry 2016). Tribes may also pursue regulation through partnership agreements with neighboring sovereigns, including strategies that facilitate the cross-deputizing of enforcement agents to enable regulation across tribe-state borders (Hanna et al. 2012). Non-TAS tribes can still participate in environmental programs (regulatory or non-regulatory), e.g., through cooperative agreements, grants, and other programs based on tribal law (USEPA 2008; Grijalva 2010; Warner 2015).

In instances where tribes have not formally asserted regulatory authority over water quality, however, the EPA retains regulatory authority to enforce federal environmental laws within Indian Country, as the appropriate federal agency tasked with implementing federal trust responsibility (Getches et al. 2005; Anderson 2015). Thus far, the EPA has declined to impose federal WQSs on Indian reservations (Getches et al. 2005), although the agency has recently considered issuing baseline WQSs in Indian Country (Sanders 2010; USEPA n.d.(c)).

Discussion: TAS Implications for Protecting Native Waters and Tribal Sovereignty

Opportunities

The literature on tribal WQS programs documents a wide range of opportunities for tribes. This section unpacks these opportunities, their broader significance, and TAS program mechanisms that provide for them.

Compared to laws set by tribal governments that may apply only to tribal members on tribal lands, EPA-approved WQSs offer a significant **increase in tribal authority** over reservation waters, particularly for point source pollution discharges. One of the primary advantages of the EPA's tribal WQS program is that it can provide a consistent regulatory policy covering the entire Indian reservation, regardless of land ownership status—especially following the May 2016 reinterpretation of CWA tribal provisions. This is highly significant given Supreme Court decisions that have limited tribal jurisdiction over non-Indians within reservation boundaries, especially on non-Indian fee lands (Anderson 2015). By partnering with the EPA, tribes can influence off-reservation water users, a strategy that is especially relevant when tribes set WQSs that are more stringent than neighboring state standards (Galloway 1995). Even for tribes that place a high priority on tribal self-determination, working within EPA structures to resolve complex environmental regulation issues can be advantageous because of the substantial deference that the U.S. legal system offers to the EPA's interpretation of environmental statutes (Rey-Bear 1995; Leisy 1999; Grijalva 2003; Maccabee 2015). EPA determinations in respect to tribal authority to regulate under the CWA have consistently been upheld in court (Anderson 2015).

TAS status for water quality can help tribes by **facilitating both off-reservation and on-reservation enforcement**. The standards themselves do not impose any direct enforceable requirements, but they become actionable when they are incorporated into a permit or used as a basis for some other regulatory decision. When drafting a permit, the EPA seeks certification from the state or from a tribe that the proposed permit will not violate existing WQSs (Chandler 1994). Thus, EPA protocols for certifying federal discharge permits require the agency to notify any downstream tribes with approved WQSs of potential discharges affecting the tribe's water quality. Under section 401 of the CWA, a tribe with federally approved WQSs can challenge and sometimes veto the issuance of federal discharge permits. If the tribe

denies certification, the federal agency may not issue the permit. In some cases, tribes can impose terms or conditions on a discharge permit to ensure compliance with tribal standards, enforceable by federal law (Grijalva 1995; Sanders 2010). As an example of on-reservation enforcement, the Coeur d'Alene Tribe and the Shoshone Bannock Tribe have denied certification for a NPDES permit that would allow small suction dredges for Idaho mines. Tribes have also used section 401 to limit multi-sector general permits that allow stormwater discharge from industrial activities, such as mining, manufacturing, and oil and gas extraction (Maccabee 2015). No tribe has used section 401 to object to federal permits regarding discharges originating off-reservation thus far, however (Maccabee 2015).

Extending beyond discharge permits, new or revised state-issued WQSs must comply with tribal standards. If this is not the case, the EPA may reject the proposed state program and promulgate federal standards. In addition, U.S. Superfund laws (CERCLA) regulating hazardous waste site clean-up require the EPA to comply with all applicable pollution standards, including tribal WQSs (Anderson 2015). TAS tribes can use their EPA-approved WQSs to develop their own total maximum daily load (TMDL) determinations for impaired waters under section 303(d) of the CWA (Grijalva 2003).[8] Finally, the EPA has established a voluntary **dispute resolution process**, which can only be initiated by states or tribes. Although litigation is always an option, the time and expense involved in lawsuits may make dispute resolution an attractive alternative for resource-strapped tribes (Galloway 1995).

In addition, EPA regulations flowing from EPA Indian policy on tribal self-determination offer tribes substantial **flexibility with how they choose to engage** with CWA programs under TAS. Tribes may select the CWA programs that they wish to assume at a given time (see Table 2). Once they qualify for TAS under the CWA for one program, they can apply this status to future applications for other CWA program and simply submit additional, program-specific information. Tribes can also submit their application for TAS application and tribal WQSs at the same time, for simultaneous consideration. In addition, tribes have substantial flexibility in developing their own independent standards, or basing their standards on the WQSs of neighboring states. As mentioned earlier, tribal WQSs must meet minimum federal standards, but tribes can also access the same policy tools that are available to states for balancing environmental and economic interests. These include policy tools for developing variances, mixing zones, and low-flow exemptions for certain discharges (USEPA 1990). This level of flexibility is highly significant for tribes because, as Grijalva (2006, p. 293) points out, "once [tribal WQSs are] approved by EPA, tribal value judgments balancing environmental quality and economic development become federally enforceable."

Rodgers (2004, p. 820) describes the "creative touch that is open to tribes under the TAS provisions." In developing independent WQSs, tribes set their own designated uses based on **their own values and goals,** which then inform the tribe's water quality criteria. Designated uses may include cultural or ceremonial uses, a regulatory approach that the courts have endorsed as not involving any "excessive entanglement" between government and religion (Galloway 1995). Establishing ceremony as a beneficial use illustrates the deference to tribal values that is permitted within the regulatory framework (Dussias 1999). As Reinhard (2009, p. 559) points out, "EPA decides to approve or reject a use by evaluating whether it is attainable and consistent with the CWA's objective, not by evaluating the principles behind the use." As an additional source of flexibility, pollution criteria can be expressed in multiple ways: through numerical values (e.g., parts per billion), bioassay results (e.g., LC50 value, or a concentration of a pollutant that will kill one half of a given number of test organisms), or narrative criteria (e.g., aspirational statements, like free from odor or toxins). Tribes may add their own classification systems for protecting high quality waters (Galloway 1995). There is significant latitude for creating **more stringent standards**, as long as they meet the federal baseline (Reinhard 2009). In the case of the Pueblo of Isleta, for

8 See EPA regulations on tribal TMDLs, finalized in 2016. Available at: https://www.epa.gov/tmdl/whats-new-impaired-waters-and-tmdls.

example, the Pueblo's water quality standard for arsenic was 1,000 times more stringent than the State of New Mexico standards. In a decision that was backed by the courts, EPA regulators affirmed the Pueblo's standard (Bilut 1994).

Tribal managers in one case study reported **protecting public health** to be one of the top two reasons why tribes pursue their own WQSs (Lefthand-Begay 2014). Although it is often difficult to quantify direct policy impacts on human health (e.g., Sabatier et al. 2005), there are multiple cases documenting tribal WQSs that have contributed to water pollution reductions from off-reservation sources. For example, in New Mexico in 1996, the Pueblo of Isleta successfully leveraged its WQSs through EPA permitting processes to improve the water quality of City of Albuquerque water treatment facility discharges, as an upstream, off-reservation point source affecting reservation waters (Galloway 1995).

Tribal water quality programs have helped the Confederated Salish and Kootenai Tribes (SKT) of the Flathead Reservation in Montana **with reducing pollution** from non-point sources, particularly high nutrient levels from agricultural wastes (USEPA 2006a). Similarly, the Seminole Tribe of Florida has used its WQSs to address high nutrient inputs from large-scale, off-reservation agriculture, which was followed by a measurable decrease in nutrient levels entering reservation waters (USEPA 2003a). For the Hualapai Tribe in Arizona, WQSs have provided an enforceable mechanism for modifying grazing and wildlife management off-reservation, which has improved the quality of culturally important spring waters (USEPA 2006b). By applying the water body classification of Outstanding National Resource Waters (ONRW) to all reservation waters, the Sokaogon Chippewa Community in Wisconsin used their WQSs to help prevent off-reservation resource extraction producing mining wastewater discharges (USEPA 2006c).

Other tribes have leveraged their water quality programs to generate more **effective monitoring and regulation** of tribal waters. For instance, the Fort Peck Tribes (Assiniboine and Sioux Tribes) have used their water quality programs to prioritize degraded waters requiring restoration treatment through biological assessments, particularly to prevent grazing impacts (USEPA 2003b). The Hoopa Valley Tribe is measuring temperature and turbidity, among other criteria, as important indicators of forestry practices that affect soil runoff in order to avoid negative impacts on culturally important salmon (USEPA 2006d).

Expanding access to clean water for tribal members is another important opportunity. In the case of the Navajo Nation, the EPA's limited staff experienced difficulties with administering the public water systems supervision program for Navajo lands, a large area that extends across three southwestern states. Given public health concerns about radium-226, natural uranium, arsenic, and potential drinking water problems, the Navajo Nation decided to administer its own program, and substantially increased the Nation's institutional capacity for regulating water quality (Grant 2007). Similarly, after the Lummi Nation in western Washington experienced ongoing water quality problems from water services administered by the Bureau of Indian Affairs (BIA), the tribe created the Lummi Tribal Sewer and Water District to self-administer services, and provide water and sewer infrastructure for all reservation residents (Sanders 2010).

Tribal managers have also identified **funding opportunities** as a key benefit from TAS program participation (Lefthand-Begay 2014). While only 54 tribes have TAS status for WQS programs under Section 303, a much larger number of tribes have TAS status for other CWA programs that provide significant financial assistance for **capacity building** (Ranco and Suagee 2007). For example, tribes may apply for prevention and reduction grants (Section 104), develop pollution prevention and reduction programs (Section 106), or develop management programs for non-point source pollution (Section 319) (Grijalva 2003). Federal grants have helped TAS tribes improve and grow their natural resource programs. Tribes often use federal grant funds to create additional **job opportunities** for tribal members, which is especially important for tribes in rural areas with high unemployment. For tribes with established natural resource programs, like the Confederated SKT of the Flathead Reservation who recently employed about 135 staff members, sustaining operational program funding is a key priority

(USEPA 2006a). TAS funding can also provide resources for tribes to create new programs, including tribal water monitoring. Some Navajo Nation staff view TAS programs as being more effective than non-TAS programs (Grant 2007), specifically because TAS funding has facilitated greater tribal implementation and enforcement of Navajo Nation environmental policies.

Finally, by working more closely with federal agencies on water quality, TAS tribes are strengthening federal and tribal government-to-government relationships to **increase tribes' political access** to federal policy-makers, i.e., additional time and opportunity for tribes to educate agency officials about their interests (Sanders 2010). Tribal WQSs are part of a broader set of issues that are being negotiated among multiple governmental bodies at any given time. In addition, formal tribal water quality programs can help raise the profile of environmental concerns within tribal governments. This can help ensure that tribal governments remain committed to protecting water quality, by providing the internal funding and political support needed to do so.

Constraints

As with any complex water management policy, multiple challenges arise from implementing tribal WQSs, and participating in TAS programs. In the section below, the author explains some of the primary challenges with tribal WQSs discussed in the literature.

While the purpose of tribal WQSs includes closing a key regulatory gap for tribal lands to ensure equal access to clean water, the program is **not accessible to all tribes.** This is due to the narrow criteria for program eligibility. Only federally recognized tribes with trust lands (formal or informal reservations) can apply, which excludes all unrecognized tribes, some recognized tribes with limited jurisdictional authority over relevant water bodies, and almost all Alaska Natives (Sanders 2010). The land status of tribes based in Oklahoma has created particular problems for tribes that want to access TAS programs (Williams 1993; Chandler 1994). As an additional concern, a tribe must have the financial and technical capacity to deal with the EPA's application process, and potentially with litigation.

A study of two geographically distinct tribes with EPA-approved WQSs found the **highly technical requirements** for the application process to be among the top concerns reported (Lefthand-Begay 2014). Until the EPA's May 2016 reinterpretation, applications required substantial technical support with generating documentation that ranged from a tribal government's source of authority, to maps of tribal jurisdictional areas, to locations of surface waters targeted for WQSs (Grijalva 1995). Tribes often need to hire attorneys or other specialists to complete their applications (Lefthand-Begay 2014). While there do not appear to be any court decisions rejecting a tribal application for TAS for failure to meet the *Montana* test, the need to demonstrate tribal jurisdictional authority has historically placed a significant administrative burden on tribes applying for WQSs (Grijalva 2003; Anderson 2015). In addition, tribes must enumerate the qualifications of their technical and administrative staff, and include a funding plan for how they will provide technical training (Sanders 2010; Lefthand-Begay 2014). While tribes with TAS status can apply for funding to support program application costs, funding access is limited and competitive (Ranco and Suagee 2007). Tribes may face challenges with hiring staff with advanced degrees, which can jeopardize program approval (e.g., Grant 2007). In addition, problems with the EPA review process can occur when individual EPA staff lack an adequate understanding of treaties, federal trust responsibilities, and tribal law (Lefthand-Begay 2014).

Financial limitations were another key problem (Lefthand-Begay 2014), as tribes may consider WQS programs too expensive to implement (Porter 2007). Lack of independent funding has long been a problem for tribal environmental programs, even on energy rich reservations (Ambler 1990; Ludvig 2013). In terms of federal funds, tribes may unfortunately be "late to the party." While tribes only began applying for tribal WQSs in the early 90s, states were developing their WQS programs and associated water treatment infrastructure in the 70s and 80s—at a time when more federal funding opportunities were available for institution-building and program implementation (Grijalva 2006). Thus, the federal financial support that once helped non-tribal facilities gain compliance with

environmental laws and assume environmental regulatory authority is no longer available to tribal governments (Teodoro et al. 2016). The EPA has attempted to address this challenge through instituting a low matching funds requirement for tribes (much lower than for states), and in some cases waiving the matching funds requirement (Dussias 1999). In some cases, tribes pursue creative strategies for overcoming cost barriers. For example, Marx et al. (1998) describe how one tribe joined a tribal consortium with common interests in order to share application costs. Still, limited resources present a significant structural barrier for tribes that wish to forward self-determination and environmental protection through TAS and WQS programs.

As an additional constraint, recent U.S. Supreme Court decisions that have limited tribal jurisdiction may lead tribes to avoid TAS programs, as a potential source of **increased risk of conflict,** particularly with non-Indians (Fort 1995). Several TAS tribes have been met by strong resistance from states and business interests, as discussed below. The ongoing threat of lawsuits from entities that are hostile to tribal sovereignty, e.g., states, political groups, or individuals, especially non-Indians located within reservations, is a primary driver for the EPA's intensive application process, and the agency's conservative interpretations of tribal jurisdiction (Galloway 1995; Rey-Bear 1995). To preempt potential legal challenges, the EPA has conducted a careful case-by-case review of tribal jurisdictional authority for each application to date (Grant 2007). To put concerns regarding lawsuits in perspective, however, there have been only three legal challenges to tribal WQSs in over twenty-four years, and these have generally upheld the validity of the EPA's approach (Anderson 2015).

A common reason for tribes to forego TAS programs, or to proceed cautiously, is a tribe's concern about potential state challenges to tribal sovereignty (Grijalva 2003). In some cases, tribes addressing WQSs within a hostile political environment have experienced serious problems. For example, when the Penobscot and Passamaquoddy Tribes requested stricter levels for dioxin discharges by paper and pulp mills in 2000, state opponents filed a lawsuit, which leveraged the Maine Freedom of Access Act to gain all materials on tribal authority (Rodgers 2004). As a second example, after the Pawnee Nation of Oklahoma gained EPA-approved WQSs in 2004, the State of Oklahoma filed a lawsuit. Opponents also inserted a legislative amendment in an unrelated bill, which has since limited the ability of tribes in Oklahoma to obtain EPA approval for TAS status (Grant 2007; Sanders 2010). In other cases, jurisdictional tensions between tribal natural resource managers and non-native businesses located on trust lands have led to some businesses evading tribal enforcement, thereby increasing health risks to the tribal community (Lefthand-Begay 2014).

This political reality suggests that tribes may need to balance "the reality of opposition" with the "certainty of benefits" (Sanders 2010, p. 21). Depending on their ability to engage with legal uncertainty and potential jurisdictional challenges from non-Indian governments, some tribes may choose to prioritize conflict avoidance and forego applying for WQSs (Galloway 1995; Sanders 2010). Others may avoid asserting tribal water protection standards in controversial areas of their reservation with competing jurisdictional claims. In some cases, tribes like the Navajo Nation have purposefully taken a more conservative approach in order to prevent major delays in EPA approval processes (Grant 2007). Unfortunately, limiting tribal WQSs to only parts of a reservation increases the **likelihood of "checkerboard" environmental regulation** and limited protection for tribal waters, an outcome that frustrates one of the main drivers for the EPA's TAS policy under the CWA.

Given that the CWA was not designed to meet the specific needs of tribes, TAS programs include a number of **contradictory messages for tribal self-determination**. One fundamental challenge is reflected in the program title "Treatment as a State." For many tribes, the idea of being treated as a state is an affront to tribal sovereignty, and overlooks the government-to-government relationship that tribes have with federal agencies (Porter 2007). In response to complaints from tribes, in 1994, the EPA shifted its language to "treatment in a manner that is similar to states" (Marx et al. 1998), but the original TAS language is still widely used. As discussed above, tribal self-determination advocates are deeply concerned that using U.S. legal frameworks as the primary

basis for tribal governance will only further embed tribes within ongoing colonial systems (Fleder and Ranco 2004; Alfred 2005). Alternately, scholars argue that when tribes are more fully empowered (politically and financially) to develop their own governance structures based on tribal law and traditional knowledge, tribes stand a better chance to push past colonial legacies and develop policies that fit their culture and local conditions (Borrows 1997; Craft 2013; McGregor 2014).

TAS programs can also force tribes into a problematic legal debate over sources of tribal authority (e.g., Kannler 2002). When the EPA issued its May 2016 reinterpretation of CWA tribal provisions as a Congressionally "delegated authority," tribal water quality programs were no longer entirely dependent on inherent authority for their legitimacy. From an administrative perspective, this shift conveyed a substantial advantage to tribes applying for TAS because delegated authority is not subject to the *Montana* test (Anderson et al. 2010). However, delegated authority suggests that Congress has used its plenary power to return, or reinvest, the original regulatory powers to an individual tribe, which raises concerns for tribes with a strong sense of their inherent rights and responsibilities (Tweedy 2005). This goes back to the Supreme Court's understanding of Congress maintaining "plenary power" over tribes. Regardless of EPA policy, tribes emphasize their "inherent authority," or the authority tribal governments have retained over their people and land base throughout history, which continues to exist alongside any Congressional delegations or authority. However, inherent authority has proven to be more amorphous and difficult for courts to interpret (Tweedy 2005).

As a related challenge, tribes that gain regulatory authority through TAS programs are still working within the context of environmental federalism and are subject to the **EPA's final decision-making authority**. This includes the TAS application process, where the EPA was granted substantial control to interpret the scope of a tribe's inherent authority. And it is still the EPA that makes the permitting decisions for discharges affecting tribal waters. This becomes a concern when there are strong **differences in values between federal agencies and tribes**. Grijalva (2006, p. 278) shares a more pessimistic view on the possibility of alignment between tribal and federal governments. He anticipates that the EPA has retained responsibility and final authority for decisions affecting human health and the environment and would therefore "disregard tribal interests and objections perceived in conflict with human health and/or environmental interests." There is an additional concern that affirming agency control over the reservation environment during a hostile administration could pose great risk for tribes (Fleder and Ranco 2004). And because the federal government's greater national interests may conflict with tribal interests, some tribes may simply choose to adopt and enforce their own tribal water code (Vesely 2014).

Tribes electing to participate in TAS and WQS programs must operate within the constraints of federal laws that are intended to prevent and address conflict between multiple sovereigns (Sanders 2010). For example, when designating uses of a water body and the appropriate criteria for those uses, a tribe must ensure its WQSs for reservation waters do not interfere with WQSs for downstream waters. Tribes must follow requirements for reviewing standards every three years, and maintain public records of the decision-making process and public involvement (USEPA 1990; USEPA 2016). These are important elements of due process that are at the heart of state-tribe jurisdictional conflicts and have been addressed through the Indian Civil Rights Act (Monette 1996; Marx et al. 1998). Some tribes may view this as a reasonable limitation, since a highly mobile resource like water requires a common legal framework for regulating across jurisdictions. At the same time, operating within standard policy used for states can cause unique problems for tribes. For instance, public comment periods required through the review process for tribal WQSs can open up complex legal questions of tribal jurisdiction over reservation lands for broad public debate within communities that have limited understanding of federal Indian policy (Galloway 1995). Thus, as Sanders (2010, p. 545) writes, "tribal governments applying for TAS status may be exposed to challenges that risk their sovereign ability to protect their lands and natural resources as well as their relationship with the federal government."

To be clear, TAS offers only a **partial delegation of authority** (Whyte 2011). This speaks to some of the structural problems with U.S. federal Indian law and self-determination. At the same time, the policy does empower tribes with a similar level of authority as states (Leisy 1999), and it is a rare case of a clear and consistent federal policy on tribal jurisdiction over non-Indians (Marx et al. 1998). Partial delegation is a significant step up from other alternatives available to tribes. For example, when TAS status is not offered, as in the regulation of solid waste through the Resource Conservation and Recovery Act (RCRA), tribes are treated more like municipalities. As a result, there is a notable difference in the ability of tribes to influence environmental outcomes of solid waste on their reservation (Goldtooth 1995).

The practical reality is that sovereignty is always limited, but the extent of these limitations, their outcomes, and the manner in which these limitations came to be is highly important. For this reason, some tribes may take a pragmatic approach and evaluate the power sharing that occurs through the EPA's TAS programs through a critical collaborative management framework. This approach considers the degree of tribal participation at different levels of decision-making authority (e.g., Schlager and Ostrom 1992; Diver 2012, 2016). At the operational level (e.g., day to day management decisions), for example, tribes gain extensive authority and capacity to create and implement tribal WQSs. At a policy level (e.g., rule-making on rights/responsibilities), EPA regulations provide tribes with the flexibility to set standards that reflect an individual tribe's values. At the constitutional level of authority (e.g., rules for rule-making), it is the EPA and Congress that set the rules of engagement, with some consultation with tribes. This line of analysis suggests tribal WQSs provide significant gains at the operational and policy levels. It also points out the limitations on power sharing at the constitutional level.

For those tribes that attain TAS status for WQSs, there is a question of whether the existing program framework can fit their needs. For example, in terms of reaching desired environmental outcomes, the CWA has been criticized for being **less effective for non-point source pollution** than for point source discharges (Salzman and Thompson 2014; Warner 2015). There is also a question of a **lack of "cultural match"** between the application of EPA policy frameworks to tribal WQSs and the diversity of U.S. tribes that they are intended to serve. Cultural match refers to "the match between governing institutions and the prevailing ideas in the community about how authority should be organized and exercised" (Cornell and Kalt 1998, p 201). Despite the concept of tribes having the flexibility to develop their own policies, studies report that the EPA generally recommends for tribes to adopt the standards from adjacent states when first setting tribal WQSs (Ranco 2009). In some cases tribal managers report EPA staff resisting proposals to incorporate traditional knowledge into tribal WQSs (Lefthand-Begay 2014). This may be based on a presumption that tribal programs resembling federal or state WQSs are more likely to survive litigation. Some tribes have reported that mimicking existing federal programs has significantly sped up EPA approvals, and has facilitated agreements with non-Indian owned facilities on the reservation (Grant 2007). These findings suggest that the stated goal of recognizing the distinct cultural values of tribes is not fully met in practice.

Policies that limit tribes to a single approach disregard the purpose of TAS as a self-determination strategy. At its core, TAS provisions are intended to enable tribes to develop WQSs that are "protective of their unique lifestyles, which generally would not be possible under most state or current federal water quality regulations" (Lefthand-Begay 2014, p. 73). Tribes may require more protective regulatory standards to address their individual needs. This may include tribal standards developed to protect ceremonial practices that involve bathing or ingesting water, as exemplified by the Pueblo of Isleta's WQSs. In addition, economic realities on the reservation may require an individualized approach to working with reservation businesses, e.g., a more collaborative regulatory approach that does not lead with a threat of closure (Lefthand-Begay 2014). The issue at hand is the increased risk of substituting state or federal values for the values of an individual tribe, and losing the opportunity for tribal environmental programs to act as "laboratories for creativity," which can draw from multiple knowledge systems to create new innovations for water governance (Ranco and Suagee 2007, p. 702).

Another concern for tribes is the **political risk regarding the longevity of EPA programs** enabling tribal WQSs. As Sanders (2010, p. 564) describes, tribes opting to enact their own WQSs are often "confronted with vague EPA support, non-Indian jurisdictional challenges, and the ongoing threat of changing federal law and policy." Funding to sustain tribal environmental programs, including administrative requirements, is a primary concern. Just like states, EPA-approved tribes must develop all of the laws and regulations within their own governments to authorize tribal environmental activities. They must also meet WQS program requirements under federal law (Grant 2007). As one tribal manager reported in a case study interview "With TAS there comes more authority and the responsibility to be in compliance with regulations. This costs money and tribes often don't have the funding sources that states have" (Lefthand-Begay 2014, p. 46). If tribes are to devote time and resources to gaining EPA-approved WQSs, it is reasonable to question whether these programs can survive to benefit future generations.

Developing tribal WQSs also involves accepting some level of political risk and uncertainty about future court decisions. To date, there has not been a Supreme Court case on tribal authority for WQSs, so there is always the risk of litigation if non-members find the tribal regime unfair (Anderson 2015). Litigation over tribal authority, particularly further limitations on tribal civil jurisdiction over non-Indians on non-Indian fee lands, could place both tribal WQSs and broader tribal jurisdictional concerns at risk (Sanders 2010). As an additional concern, Anderson (2015) discusses the risk of the EPA shifting its position if the agency were to determine that it is too time consuming and expensive to administer the programs. It is unclear how funding cuts under the current Pruitt EPA administration may impact TAS programs in the near future. Indicating a more positive trajectory, EPA officials have just announced the approval of two new tribal WQSs in California.[9]

9 On April 5, 2018 at the 2018 California Tribal Water Summit, agency officials announced that the EPA had just approved (as of April 3, 2018) TAS for WQSs for two new tribes in California. The standards are not yet available on the EPA website. These approvals will increase the total number of tribes with TAS for WQSs from 54 to 56.

Conclusion

Tribal water quality standards under TAS provisions enhance tribal self-governance of native waters through the comprehensive statutory framework of the Clean Water Act. Given the highly mobile nature of water resources, CWA tribal provisions address water pollution across multiple jurisdictions, yet the legal framework also allows for (and anticipates) differences among sovereigns. Some tribes are successfully assuming program implementation authority under the CWA and developing their own WQSs to protect and improve water quality across the entire reservation. Such improvements in environmental quality can benefit fish and wildlife, and tribal and non-tribal people—both on and off the reservation. Thus, tribes are using their WQSs to further tribal self-determination and additional benefits (see Table 3). As a strong caveat, however, the program is not a good fit or a priority for all tribal governments. There have also been significant challenges for tribes seeking to establish and enforce tribal environmental jurisdiction over reservation lands.

Overall, EPA-approved WQSs have resulted in important legal and political outcomes for tribes. This is a case of Congress and the EPA attempting to work with tribes to "uncheckerboard" environmental regulation on Indian reservations. When adopted, tribal WQSs facilitate greater tribal environmental self-determination over their territories in the form of increased tribal jurisdiction over reservation waters. Tribal WQSs also enable tribes to work in partnership with the EPA to influence off-reservation areas, where upstream discharges may be originating. In response to concerns over cooperative federalism models eroding tribal self-determination, tribal WQS programs still facilitate substantive government-to-government relationships between tribes and federal agencies. In addition, tribal standards are distinct from those of neighboring states, and are often motivated by tribal community values, including ceremonial uses. In this way, TAS programs offer some insight into how federal regulatory institutions can better support culturally appropriate water governance, which embraces Indigenous knowledge and self-determination. Thus, by working through CWA legal structures,

Table 3. Summary of key opportunities and constraints arising from Treatment as a State (TAS) provisions and tribal Water Quality Standard (WQS) programs.

Opportunities	Constraints
• increases tribal authority • facilitates tribal enforcement (on-reservation and off-reservation) • provides a dispute resolution process • offers flexibility of engagement • recognizes tribal values • allows more stringent standards • protects public health • enables pollution reduction • supports monitoring and regulation • expands access to clean water • program funding, capacity building, and jobs • increases political access	• not accessible to all tribes • highly technical application process • financial limitations • increased risk of conflict • persistence of "checkerboard" regulation • contradictions for self-determination • federal agency is the final decision-maker • differences in values • partial delegation of authority (operational and policy levels) • less effective for non-point source pollution • lack of cultural match • political risk to program longevity

tribes leverage a highly developed federal legal framework to actualize their values for protecting reservation water quality.

From a pragmatic viewpoint, increased access to technical assistance and federal funds has significantly helped tribes to grow their own tribal governance institutions, and improve water treatment infrastructure that benefits tribal members. Through the process of creating and implementing tribal WQSs, TAS tribes also gain increased access to federal level decision-makers. Evaluating the EPA's TAS programs through a critical collaborative management framework suggests that tribal WQSs provide significant gains for tribal self-determination at the operational and policy levels.

At the same time, scholarly critiques demonstrate how TAS provisions offer a highly contingent form of tribal self-determination. Since pre-existing regulatory frameworks were not developed with or for Native American tribes, it is not surprising that TAS provisions place significant restrictions on what tribal water governance looks like. The EPA retains ultimate decision-making power through agency approval processes that determine everything from tribal eligibility, to WQS frameworks, to the public review process. To be fair, EPA regulations do leave significant flexibility for tribes to self-determine the goals and content of their WQSs (Bilut 1994). But the EPA remains central to the regulatory processes governing tribal waters.

Structural limitations prevent many tribes from meeting eligibility requirements for TAS programs, including almost all Alaska tribes. For those tribes that are eligible, lack of resources, technical barriers, and jurisdictional requirements have prevented many tribes from accessing WQSs under Section 303. In contrast, tribes have been more successful accessing CWA funding programs through Section 106. Although the May 2016 reinterpretation of TAS authority may address some of the WQS application barriers, the TAS approval process remains slow and political, depending on the political will of federal agencies. In this way, tribal WQSs may be viewed as shoring up the problematic political framework of "nations within" (e.g., Alfred 2005).

Yet, Indigenous-led institutions are always operating within imposed political constraints. As

part of exercising Indigenous self-determination, scholars assert that Indigenous peoples are choosing for themselves how and when to operate within these constraints (Bruyneel 2007; Cornell 2013). As a case in point, TAS programs may be providing tribes with a useful "pivot point," i.e., an existing government policy that provides a starting point for Indigenous communities to negotiate meaningful policy change (Diver 2016, 2017). In contrast to conflicts over water quantity, water quality may function as a productive "third space" for negotiating tribal environmental self-determination. This is in part, because water quality is not necessarily a zero-sum game: one group's gain in water quality may provide benefits to their neighbors, representing an area where multiple sovereigns can negotiate more effectively based on overlapping interests. In one sense, developing tribal WQSs is a territorial strategy, where tribes are working within existing regulations to reestablish jurisdictional authority over their entire reservation, regardless of colonial legacies that have led to the "checkerboarding" of Indian Country. In this way, tribal WQSs offer tribes an opportunity to push back on property regimes that have limited tribes' ability to regulate their reservation environments. But WQSs are also an extra-territorial strategy, where tribes are affecting water quality governance off-reservation and throughout a broader watershed area. By applying tribal WQSs upstream, the TAS approach reflects a more holistic approach to environmental governance, where we may better recognize how the health and welfare of fish, wildlife, tribal, and non-tribal peoples are all interconnected through our shared waterways and across multiple jurisdictions.

Importantly, the legal and policy analysis of tribal WQSs impacts provides only a partial view of tribal self-determination strategies. Developing EPA-approved regulatory standards is only one approach that tribes are taking to protect reservation waters—an approach that may be paired with more tribally-centered strategies, such as tribes using customary law to create their own tribal water codes (Reinhard 2009; Warner 2015), engaging in direct action protests around water quality impacts, or teaching tribal youth about longstanding Indigenous water relations. Additional research is needed to understand the diversity of tribal strategies for environmental self-determination. Of particular interest is how some tribes may use tribal WQSs as a "third space" strategy—simultaneously working inside and outside of government structures (Bruyneel 2007)—and how such strategies may contribute to an individual tribe's ability to realize its full range of aspirations for self-determination.

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