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Indian Tribal Rights to Groundwater

by

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INDIAN TRIBAL RIGHTS TO GROUNDWATER

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This article was part of a symposium that explored whether institutional groundwater management works. Addressing tribal groundwater in light of that question raises two related issues. First, state groundwater management in states with tribal populations will not work, at least in the long term, unless that state management takes account of tribal rights to groundwater. The second involves tribal institutional groundwater management. Relatively few tribes regulate groundwater use and allocation,[1] so tribal groundwater institutions are generally still in the developmental stages. Whether that institutional management works is a matter to be determined by each tribe. This article will consider the basis of the first issue. If state groundwater managers need to take account of tribal groundwater rights, then the most basic question is what groundwater rights tribes have.

Groundwater is vital to Indian tribes. In some cases, groundwater is the primary or even the sole source of water supply for a reservation. The Stockbridge-Munsee Tribal Law, for example, declares that its people "depend exclusively on groundwater for a safe drinking water supply."[2] The Sac and Fox Nation of Oklahoma also depended entirely on groundwater for its drinking supply, until oil and gas production on tribal lands contaminated the aquifer and rendered it permanently unfit for drinking water.[3] Other tribes

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1. A number of the water settlement acts discussed at infra Part IV provide for tribal groundwater management of one sort or another. One tribe currently managing its groundwater is the Salt River Pima-Maricopa Indian Community. SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY, CODE OF ORDINANCES ch. 18, art. II §§ 18-22. The Community's general policy toward groundwater management provides that "[t]he owners of the land have a right to reasonable and beneficial use of such waters to the extent that such use does not defeat the right of other landowners to reasonable and beneficial use of such waters." *Id.* §§ 18-22. Groundwater use "should be subject to an equitable system of control, distribution, allocation and regulation so as to achieve the maximum beneficial use and conservation of such waters." *Id.*

2. Stockbridge-Munsee Tribal Law § 37.1, *available at* http://www.mohican-nsn.gov/TribalOrdinances/TribalOrdinances.htm.

3. *See* S. Rep. No. 101-21 at 132 (1989); *see also Federal Government's Relationship with American Indians, Hearings Before the Spec. Comm. on Investigations of the S. Select Comm. on Indian Affairs*, 101 Cong. 31-33 (1989) (statement of Curtis Canard, Consultant, Sac and Fox

have more varied sources of water available, but use groundwater for drinking water, irrigation, and other uses.[4]

There are a number of methods or analyses under which Indian tribes may claim rights to groundwater. Several tribes have asserted rights to groundwater as part of their federally-reserved water rights under the *Winters* doctrine.[5] Untested so far is an alternative theory of reserved rights under the *Shoshone* rule that constituent elements of trust land are, like the land itself, held in trust for the tribes.[6] In addition, state law groundwater rights, based on ownership or use, should be available to tribes that wish to assert them. Finally, several water settlement acts address tribal rights to groundwater as well as surface water. This article surveys those approaches to Indian groundwater rights.

I. *WINTERS* RESERVED WATER RIGHTS

Under the *Winters* doctrine, the federal government, when it created Indian country, impliedly reserved sufficient water for the purposes for which the reservations were set aside.[7] These reserved rights potentially attach to all waters that were not subject to prior vested state law water rights.[8] Because there was generally little non-Indian settlement and use of water at the time most Indian country was created, Indian reserved rights to water predate most water rights created under state law.[9] This prior and paramount nature of federal reserved rights to water for Indian tribes is protected by the *Winters* doctrine. Tribal reserved rights attach to water sources that are within or that border Indian reservations,[10] and in some cases may extend even to water sources that are not physically located in Indian country.[11] Although these reserved rights have traditionally been adjudicated for surface waters, recent cases have addressed reserved rights to groundwater resources as well.

The developing majority opinion of state and federal courts[12] is that the

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Nation with Tribal Geotechnical Serv., Inc.).

4. *See, e.g.*, New Mexico *ex rel.* S.E. Reynolds v. Aamodt, 618 F.Supp. 993, 1010 (D.N.M. 1985).

5. Winters v. United States, 207 U.S. 564 (1908). *See generally* COHEN'S HANDBOOK OF FEDERAL INDIAN LAW § 19.03 (Mitchie 2005).

6. United States v. Shoshone Tribe of Indians of Wind River Reservation in Wyo., 304 U.S. 111, 116 (1938).

7. *Winters*, 207 U.S. 564 (1908); *see also* Arizona v. California, 373 U.S. 546, 600 (1963).

8. Most *Winters* rights to water carry a priority date of the date the reservation was created, and thus are junior only to pre-existing vested state rights. *See generally* COHEN'S HANDBOOK OF FEDERAL INDIAN LAW § 19.03[3] (Mitchie 2005). Other water rights, in use since time immemorial, predate all state-law water rights. *See, e.g.*, United States v. Adair, 723 F.2d 1394, 1414 (9th Cir. 1983).

9. *See, e.g.*, New Mexico *ex rel.* Martinez v. Lewis, 861 P.2d 235, 238 (N.M. Ct. App. 1993).

10. *See* COHEN'S HANDBOOK OF FEDERAL INDIAN LAW § 19.02[2][a] (Mitchie 2005).

11. Arizona v. California, 373 U.S. 546, 595 nn. 97 & 600 (1963) (affirming rights to Colorado River water for the Cocopah Reservation, which does not abut the river).

12. State courts are authorized to determine tribal reserved rights to water as part of general stream adjudications under the McCarran Amendment, 43 U.S.C. § 666. Nothing in the

Winters doctrine of tribal reserved water rights encompasses groundwater as well as surface water.[13] Most recently, a federal district court in Washington held unequivocally that "reserved *Winters* rights on the Lummi Reservation extend to groundwater, and that the Lummi hold rights to the groundwater under the Lummi Peninsula."[14] Similarly, the Arizona Supreme Court held that tribal reserved rights to water extend to "whatever particular sources each reservation had at hand," expressly including groundwater.[15] Both state and federal courts in Montana have refused to exclude groundwater from the reserved rights doctrine.[16] The Federal Circuit has noted the availability of groundwater as well.[17]

Only one court has directly rejected a tribal right to groundwater under the *Winters* doctrine. In its decision in *Big Horn I*, the Wyoming Supreme Court recognized that "[t]he logic which supports a reservation of surface water to fulfill the purpose of the reservation also supports reservation of groundwater."[18] Nonetheless, the court also noted that "not a single case applying the reserved water doctrine to groundwater is cited to us."[19] Therefore, the court ruled, *Winters* rights do not extend to groundwater.[20] In other words, the Wyoming court declined to be the first to find such a right despite the admitted "logic" of doing so. The Arizona Supreme Court, in its closely reasoned decision finding that *Winters* rights do extend to groundwater,

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McCarran Amendment, however, divests federal courts of jurisdiction over reserved rights claims, although federal courts generally abstain in favor of state court proceedings. *See generally* COHEN'S HANDBOOK OF FEDERAL INDIAN LAW § 19.05[1] (Mitchie 2005).

13. Pueblo water rights, which arise under a doctrine different from *Winters* rights, extend to groundwater that is "physically interrelated to" surface waters. New Mexico *ex rel.* Reynolds v. Aamodt, 618 F. Supp. 993, 1010 (D.N.M. 1985). For a discussion of Pueblo water rights, *see* COHEN'S HANDBOOK OF FEDERAL INDIAN LAW § 4.07[2][c] (Nell Jessup Newton 2005).

14. United States v. Washington Dep't of Ecology, 375 F.Supp.2d 1050, 1058 (W.D. Wash. 2005).

15. *In re* the General Adjudication of All Rights to Use Water in the Gila River System and Source, 989 P.2d 739, 745, 747-48 (Ariz. 1999). For an analysis of the case, see Debbie Shosteck, *Beyond Reserved Rights: Tribal Control over Groundwater Resources in a Cold Winters Climate*, 28 COLUM. J. ENVTL. L. 325, 331-38 (2003).

16. Confederated Salish and Kootenai Tribes v. Stults, 59 P.3d 1093, 1099 (Mont. 2002) ("We see no reason to limit the scope of our prior holdings by excluding groundwater from the Tribes' federally reserved water rights in this case"); Tweedy v. Texas Co., 286 F.Supp. 383, 385 (D. Mont. 1968) ("The *Winters* case dealt only with surface water, but the same implications which led the Supreme Court to hold that surface waters had been reserved would apply to underground waters as well").

17. Gila River Pima-Maricopa Indian Community v. United States, 695 F.2d 559, 561 (Fed. Cir. 1982) (rejecting tribal rights to water in the Salt River because "Gila River water and groundwater constituted the intended sources for irrigation of the Gila River Reservation").

18. Big Horn I, 753 P.2d 76, 99 (Wyo. 1988), *aff'd by an equally divided Court*, Wyoming v. United States, 492 U.S. 406 (1989). The court cited Tweedy v. Texas Co., 286 F.Supp. 383, 385 (D. Mont. 1968).

19. Big Horn I, 753 P.2d 76, 99 (Wyo. 1988).

20. *Id.* at 100. For a critique of this aspect of the *Big Horn I* decision, *see* Paige Graening, *Judicial Failure to Recognize a Reserved Groundwater Right for the Wind River Indian Reservation, Wyoming*, 27 TULSA L.J. 1 (1991).

politely stated: "We can appreciate the hesitation of the *Big Horn* court to break new ground, but we do not find its reasoning persuasive."[21]

The Arizona court relied heavily on the 1976 Supreme Court decision in *Cappaert v. United States*.[22] A non-Indian water rights case, *Cappaert* concerned an underground pool at Devils Hole National Monument, home to a unique species of fish. The Court upheld a lower court order enjoining nearby groundwater pumping by private landowners on their own land because the pumping was dangerously lowering the water level in the underground pool.[23] Although the Court avoided the issue of a federal reserved right to groundwater by labeling the pool underground "surface water,"[24] the decision establishes that reserved rights are protected against diversions of both surface water and interconnected groundwater.[25] The Arizona Supreme Court noted that *Cappaert*, because it did not differentiate between surface water and groundwater in determining diversions, "suggests that federal reserved rights law would similarly decline to differentiate surface and groundwater when identifying the water to be protected."[26]

Moreover, a failure to recognize rights to groundwater could potentially leave a tribe without a water supply. For example, prior to 1950, the only natural source of drinking water on or under the lands of the Sac and Fox Nation of Oklahoma was the Vamoosa-Ada aquifer.[27] When secondary recovery operations for oil permanently contaminated the aquifer, the Sac and Fox Nation was forced to turn to off-reservation supplies that often proved inadequate.[28] A settlement agreement with Tenneco Oil required the oil company, in addition to $3.5 million in payments, to purchase three off-reservation tracts of land, drill supply wells, construct treatment systems, and lay pipeline to ensure a potable water supply.[29] If the tribe had no right to its groundwater,[30] the Sac and Fox Nation would have been left with no source of

21. *In re* the General Adjudication of All Rights to Use Water in the Gila River System and Source, 989 P.2d 739, 745 (Ariz. 1999).

22. Cappaert v. United States, 426 U.S. 128 (1976).

23. *Id.* at 141.

24. *Id.* at 142.

25. *Id.* at 143.

26. *In re* the General Adjudication of All Rights to Use Water in the Gila River System and Source, 989 P.2d 739, 747 (Ariz. 1999).

27. *Federal Government's Relationship with American Indian, Hearings Before the Spec. Comm. on Investigations of the S. Select Comm. on Indian Affairs, Part 9*, 101st Cong. 31-32 (1989) [hereinafter *Hearings*]; *see also* FINAL REPORT AND LEGISLATIVE RECOMMENDATIONS: A REPORT OF THE SPEC. COMM. ON INVESTIGATIONS OF THE S. SELECT COMM. ON INDIAN AFFAIRS, 132 (1989). For a description of the Sac and Fox Nation's twenty-year search for justice on its groundwater contamination, see Judith V. Royster, *Oil and Water in the Indian Country*, 37 NAT. RESOURCES J. 457, 476-79 (1997).

28. *Hearings*, *supra* note 27, at 31-33.

29. *See* United States v. Tenneco Oil Co., No. CIV-96-017-C, ¶¶18, 24-25 (W.D. Okla. June 2, 1997) (consent decree).

30. The Sac and Fox Nation's use of the groundwater was clear, but legal rights to the groundwater were not adjudicated or determined under the *Winters* doctrine.

drinkable water.

The fact that every court but one to consider the issue has recognized a *Winters* right to groundwater does not mean that the right may be exercised without restrictions. Groundwater use recognized under the *Winters* doctrine is subject to the same doctrinal conditions as surface use: the water must be necessary to fulfill the purposes for which the reservation was set aside.[31] The Arizona Supreme Court, however, imposed an additional condition, holding that "[a] reserved right to groundwater may only be found where other waters are inadequate to accomplish the purpose of a reservation."[32] In contrast to its extensive analysis of the existence of a groundwater right, the state court offered nothing but the bare conclusion restricting groundwater rights to situations where surface water is not adequate.

There are at least three substantial objections to the Arizona court's limitation on groundwater use. First, the court did not attempt to give any content to the term "inadequate." Surface water supplies are inadequate if there is insufficient surface water available to satisfy tribal rights. But surface water supplies will equally be inadequate if there is sufficient water available, but the water quality is so degraded that it cannot be used to "accomplish the purpose of a reservation." In Arizona, for example, soil salinity may so contaminate irrigation return flows that the surface waters are too saline for downstream use in irrigation of salt-sensitive crops.[33] In those situations, surface waters should be considered "inadequate" and groundwater should be available for tribal use.

Even assuming that adequacy encompasses both water quality and water quantity, however, the Arizona court's ruling is unnecessarily limiting. Given that the *Winters* doctrine extends to groundwater, there is no principled reason to allow groundwater use only if surface waters are inadequate. In most cases, groundwater and surface waters are hydrologically interrelated.[34] Drawing from surface waters may be a sensible way to prevent undue drawdown of an aquifer, but drawing from groundwater may represent the better choice when rivers are low. In any given case, either groundwater or surface water may be a more economical choice, more feasible from an engineering perspective, or of higher quality than the other. When multiple water sources are available from which tribal reserved rights may be satisfied, more should enter into the decision of which source to draw from than the mere categorization as ground

31. *See, e.g.*, Arizona v. California, 373 U.S. 546, 600 (1963).

32. *In re* the General Adjudication of All Rights to Use Water in the Gila River System and Source, 989 P.2d 739, 748 (Ariz. 1999).

33. *See* United States v. Gila River Irrigation Dist., 920 F. Supp. 1444 (D. Ariz. 1996), *aff'd*, 117 F.3d 425 (9th Cir. 1997). *Gila River* was not a *Winters* doctrine case. Instead, the San Carlos Apache Tribe claimed a right to water of sufficient quality under a consent decree that guaranteed water "from the natural flow in said river." The court found a right to water of sufficient quality, ordered the parties to negotiate a plan to restore the water quality of the river, and enjoined the upstream irrigators against interference with the tribe's water when the tribal water right was in actual use.

34. *See* 3 WATERS AND WATER RIGHTS ch. 18 (LexisNexis Supp. 2005).

or surface. Instead, both sources should be fully available to tribes to satisfy their *Winters* rights.

An alternative is to recognize economy and engineering feasibility as aspects of adequacy. That is, surface water supplies would be considered inadequate not only if there is insufficient surface water, or insufficient quality of surface water, but also if obtaining surface water would be less economical or feasible than obtaining groundwater. In either case, tribes should have access to and use of whichever water source or sources best meet tribal needs.

The final objection to the Arizona court's approach is when a determination of surface water inadequacy will be made. If a reserved right to groundwater exists only if surface waters are inadequate, then one of two possibilities exists. First, tribes may turn to groundwater whenever surface waters are inadequate—that is, at any time surface inadequacy exists. While this approach benefits tribes and is consistent with the purpose of the reserved water rights doctrine, it introduces a potentially significant element of uncertainty into Arizona water use. In western states with short supplies of water, certainty and stability in water rights are much prized. If tribes may turn to groundwater at any time, then supplies available to non-Indian users are not as certain as if tribal rights encompassed a definite right to groundwater.[35] On the other hand, if certainty is to be maintained, then the inadequacy of surface water supplies should be determined once, likely at the time of quantification of the tribal water right. This approach, however, potentially works to the serious detriment of the tribes. If surface water supplies are adequate at that point in time, the tribal right to groundwater would be terminated, even if surface water supplies later became inadequate for tribal uses. If surface water supplies were inadequate at that point in time, tribes would be awarded a certain amount of groundwater, even though at a later time surface waters might again be adequate and a more economical or higher quality alternative. In either case, choosing one point in time to determine the adequacy of surface waters carries the potential to substantially undermine the purpose for which waters are reserved to Indian tribes.

Use of the *Winters* doctrine to assert groundwater rights, therefore, is not an ideal approach. Because of state court determinations of tribal water rights, even the recognition of groundwater rights varies from state to state. States that do clearly recognize the right may nonetheless limit it in ways that render groundwater generally unavailable as a primary source, rather than leave the determination of the best water source to the tribes themselves.

35. Arizona groundwater law follows a complicated scheme of integrating surface and groundwater rights. *See* A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES §§ 6:21-6:30 (1988); *see also* 6 WATERS AND WATER RIGHTS 371-85 (LexisNexis Supp. 2005). Outside certain designated areas, however, groundwater is allocated by the reasonable use rule. *Id.* § 6:29. Under the reasonable use rule, overlying landowners may make reasonable uses of groundwater to benefit the overlying land. *See id.* §§ 4:6-4:7.

II. *SHOSHONE* RIGHTS TO CONSTITUENT ELEMENTS OF THE LAND

In 1938, in *United States v. Shoshone Tribe*, the Supreme Court ruled that when land is set aside for the benefit of Indian tribes, tribal rights to the land extend as well to the "constituent elements of the land itself."[36] Land, the Court explained, encompasses not only the surface soil, but the other incidents of property ownership.[37] Thus, timber and minerals are held in trust for the Indian landowners,[38] as are other resources such as embedded fossils.[39] The United States can retain the surface and subsurface resources for itself when it creates Indian country, but unless it does so clearly, the resources belong to the tribes.[40]

Groundwater does not appear to have been retained by the United States in any treaty, statute, agreement, or executive order setting aside Indian country. In fact, *any* mention of water in these documents is a rarity. The "rule" announced in *Shoshone* for other natural resources that are "elements" of the land would thus provide that, interpreting those documents liberally in favor of the tribes,[41] and bearing in mind that treaties are grants of rights from the Indians rather than grants of rights to them,[42] tribes are the beneficial owners of the groundwater beneath their lands.

Some Indian tribes assert this title to the groundwater beneath their lands. For example, the Navajo Nation Water Code provides that the tribe "is the owner of the full equitable title" to certain waters,[43] including specifically "all surface and groundwaters which are contained within hydrologic systems located exclusively within the lands of the Navajo Nation; and . . . all groundwaters located beneath the surface of the lands held in trust by the United States of America for the Navajo Nation."[44] Similarly, the Eastern Band of Cherokee Indians asserts "exclusive" rights and full equitable ownership of its waters,[45] defined as including "[a]ll waters located upon or bordering Cherokee trust lands . . . whether above or below the surface of the ground."[46]

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36. United States v. Shoshone Tribe of Indians, 304 U.S. 111, 116 (1938).

37. *Id.*

38. *Id.*

39. Black Hills Inst. of Geological Research v. South Dakota School of Mines & Tech., 12 F. 3d 737, 742 (8th Cir. 1993) (stating dinosaur skeleton "was a component part of [the allotted] land, just like the soil, the rocks, and whatever other naturally-occurring materials make up the earth of the ranch").

40. United States v. Shoshone Tribe of Indians, 304 U.S. 111, 117-18 (1938).

41. *Id.* at 117. For a general discussion of the Indian law canons of construction that formed a significant part of the *Shoshone* Court's reasoning, *see* COHEN'S HANDBOOK OF FEDERAL INDIAN LAW § 2.02[1] (Mitchie 2005).

42. *See* United States v. Winans, 198 U.S. 371, 381 (1905).

43. 22 Navajo Nation Code § 1103(A).

44. *Id.* § 1104.

45. EASTERN BAND OF THE CHEROKEE NATION, CHEROKEE WATER CODE §§ 131-1-2(a) (1999).

46. *Id.* § 131-3(a).

The application of the *Shoshone* approach to groundwater has much to recommend it. Groundwater, encompassed within the soil, would be treated the same as all other resources growing upon or embedded within the land. Ownership of groundwater resources would be clear, and determined by a consistent and easily-applied rule.

Moreover, tribal ownership of groundwater beneath Indian lands would also be consistent with the general understanding of groundwater in the mid-to-late nineteenth century, when most Indian country was created. At that time, the common law of groundwater in most of the United States was the rule of absolute dominion or absolute ownership: the owner of the overlying land had an absolute right to capture and use the groundwater lying beneath.[47] It would thus be logical under the common law of the day that tribal landowners were understood to have a right to absolute dominion over the groundwater beneath tribal lands. The federal government's failure to retain the right to groundwater under tribal lands appears to indicate adherence to that general common law.

Nonetheless, the use of *Shoshone* to determine groundwater rights presents issues for states and tribes. One objection may be that aquifers are often not confined by political boundaries: a source of groundwater may stretch beneath both Indian country and off-reservation lands. The same is true, however, of resources such as oil; yet Indian tribes hold beneficial ownership of the oil resources beneath their lands, even if a particular oil reservoir extends beyond Indian lands. Groundwater could certainly be governed by similar rules that recognize tribal equitable ownership of groundwater beneath Indian lands, and yet account for the fact that the resource is shared across political boundaries.

Another objection may be that awarding groundwater on the basis of *Shoshone* rather than *Winters* splits groundwater and surface water determinations. *Winters*, decided thirty years before *Shoshone*, did not consider whether Indian tribes simply "owned" the surface waters of their lands. A rule of absolute dominion over surface waters, however, makes little sense. While aquifers tend to be relatively contained,[48] surface waters flow freely. The Milk River, at issue in *Winters*, is typical: the river flowed from non-Indian lands to form the northern boundary of the reservation and then back onto non-Indian lands.[49] "Ownership" of such waters may be more akin to "ownership" of migratory species than resources contained on or in the land. In addition, a common law rule of absolute dominion over surface waters never existed. Surface waters had always been allocated by some system of sharing among users, whether riparian law in the east or prior appropriation in the

47. *See, e.g.*, TARLOCK, *supra* note 35, §§ 4:6-4:7.

48. TARLOCK, *supra* note 35, § 4:3 (stating that aquifers may be confined or unconfined, but those that flow do so generally at a very low rate of speed).

49. *See Winters*, 207 U.S. at 565 (indicating the reservation boundary, in fact, was "the middle of the main channel" of the Milk River).

west.[50] There was thus no general nineteenth century understanding of dominion over surface water as there was over groundwater.

In addition, use of the *Shoshone* approach for groundwater has a serious potential drawback for Indian tribes. The *Winters* doctrine is premised on the concept that Indian tribes are entitled to sufficient water to fulfill the purposes for which their reservations are set aside,[51] and water rights in Indian country have been quantified on that basis.[52] If Indian tribes have rights of absolute dominion over groundwater resources beneath their lands, groundwater resources might be sufficient to satisfy the "fulfill the purposes of the reservation" standard.[53] In that case, tribes with adequate groundwater resources could be cut off from any *Winters* rights to surface water. That possibility, in turn, implicates some of the same concerns as the Arizona Supreme Court's approach to groundwater under *Winters*.[54] In any given situation, one source of water or the other may be of greater immediate quantity, better quality, more economical to use, or more feasible from an engineering perspective. Forcing tribes with groundwater resources to use those to the exclusion of surface water resources is no more sensible than forcing tribes to use surface water to the exclusion of groundwater.

Any consideration of *Shoshone* as a basis for groundwater rights is likely theoretical. Tribes asserting rights to groundwater are doing so under the *Winters* doctrine used for surface waters, and the courts are considering *Winters* as the doctrine for determining both surface and groundwater rights. Not only is this approach more consistent with the increasing legal understanding that surface waters and groundwater form an interrelated hydrologic system,[55] but it now forms the law in several jurisdictions.

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50. TARLOCK, *supra* note 35, §§ 3, 5.

51. *See Winters*, 207 U.S. at 575; COHEN'S HANDBOOK OF FEDERAL INDIAN LAW § 19.03[4] (Mitchie 2005).

52. COHEN'S HANDBOOK OF FEDERAL INDIAN LAW § 19.03[5][a] (Mitchie 2005).

53. Perhaps surface waters would nonetheless be available in addition to groundwater, with the surface waters alone subject to the "fulfill the purposes" standard. This remote possibility arises from claims in the *Winters* case. There, the non-Indian irrigators argued that there were several "springs" and streams on the reservation that could supply water to the tribes so that water from the Milk River would not be necessary. *Winters*, 207 U.S. 564, 570 (1908). Springs are generally understood to be the surface eruptions of confined aquifers. *See* 3 WATERS AND WATER RIGHTS 371-85 (LexisNexis 2003). It thus appears that the defendants in *Winters* argued that groundwater as well as other surface water was available to satisfy the tribe's needs. The Court, however, focused solely on tribal rights to waters of the Milk River. Why the Court did not address the "springs" on the reservation is not known. It may be that the springs did not exist, or provided so little water as to be negligible, or that the Court believed that the springs were within the sole ownership of the tribes but that the Milk River water was nonetheless necessary to fulfill the purposes for which the reservation had been set aside. What is clear from the opinion is that the Court understood the waters of the Milk River, specifically, to be necessary for tribal irrigation.

54. *Winters*, 207 U.S. 564, 570 (1908).

55. The law runs about a century behind the hydrologists in recognizing this fact. *See generally* TARLOCK, LAW OF WATER RIGHTS AND RESOURCES § 4:5 (2005); 3 WATERS AND WATER RIGHTS § 18.03 (LexisNexis Supp. 2005).

Introducing a new basis for groundwater rights at this point in time is thus unlikely.

III. STATE LAW RIGHTS

Indian tribes are free to perfect or assert state law water rights for additional water. Such state-law rights may be claimed in addition to reserved groundwater rights under *Winters*[56] or as the sole basis of groundwater rights in states, such as Wyoming, that do not recognize *Winters* rights to groundwater.[57] In asserting rights to groundwater under state law, Indian tribes would be treated as any other state-law water user—fully subject to all state rules and regulations.

In some states, Indian tribes may benefit by asserting state-law groundwater rights rather than *Winters* rights. In particular, those few states that follow the absolute dominion rule would give tribes, under state law, full rights to capture the groundwater beneath their lands.[58] State law adopting the correlative rights approach may also be useful to tribes. The correlative rights doctrine awards equitable rights in the groundwater to all overlying landowners.[59]

The primary advantage to tribes in these states would be the acquisition of groundwater rights in addition to *Winters* rights. Tribes could restrict their *Winters* claims to surface water resources, and obtain their entire groundwater allocation under state law. The result would not only be more water in general, but more groundwater than *Winters* would award.[60] The primary disadvantage, in addition to subjecting tribal use and allocation to state law, is that state law can change. Although the correlative rights approach appears to have gained adherents over the decades, most states abandoned absolute ownership in the late nineteenth and early twentieth centuries.[61] Because the rule of absolute dominion over groundwater seems inconsistent with a modern understanding of the need to conserve and share water resources,[62] states following that rule may be the most likely to abandon it in favor of a different approach in the future.

Most of the common law states that abandoned the absolute ownership rule a century or so ago adopted instead the reasonable use approach to

56. *Winters*, 207 U.S. 564, 570 (1908).

57. Big Horn I, 753 P.2d 99-100. *See supra* text accompanying note 53.

58. *See* TARLOCK, *supra* note 35, § 4.6. Texas, Connecticut, Louisiana, Maine, and Rhode Island continue to use the absolute ownership rule and the issue is unresolved in a few other states. *Id.*

59. *See* TARLOCK, *supra* note 35, § 4.14. This doctrine, developed in California, has also been adopted in a number of other states, including Minnesota and Nebraska. *Id.* § 4:15.

60. *Winters* rights are awarded on the basis of water necessary to fulfill the purposes for which reservations are set aside. *See supra* text accompanying note 53.

61. *See* TARLOCK, *supra* note 35, §§ 4:7, 4:15.

62. *See* 3 WATERS AND WATER RIGHTS § 20.06 (LexisNexis 2003).

groundwater.[63] Reasonable use, described as "a modified law of capture," requires that the landowner's use of groundwater be reasonable and for a beneficial purpose on the overlying land.[64] Because the reasonable use approach essentially grafts the requirements of reasonableness and beneficial use onto the rule of absolute ownership, it would appear to share most of the benefits of the absolute ownership approach. In particular, tribes are likely to acquire rights to more groundwater than they would under *Winters*. The reasonable use doctrine, however, provides more significant drawbacks than either capture or correlative rights. The most important of these is that reasonable beneficial use is defined by state law. Even if states define beneficial use broadly, tribal needs and uses for groundwater may not always harmonize with state law choices.

The problems with state definitions of reasonable use are illustrated by a recent decision interpreting the reasonable use rule of Arizona. The court held that because the groundwater was pumped for a beneficial use on the overlying land, the pumping was not unreasonable even though it dewatered adjacent overlying land, destroying the landowner's pecan orchards.[65] Under this approach to reasonable use, adjacent non-Indian landowners could, without liability, deprive tribes of the functional use of their state-law groundwater rights. A tribe could sink deeper wells to reach the lowered water table, but the difficulty and expense of doing so may be prohibitive.

By comparison, a tribe with groundwater rights under the *Winters* doctrine is protected against dewatering by adjacent non-Indian landowners. Reserved water rights are federal-law rights, protected against interference from later-acquired state-law rights. The Supreme Court has specifically applied this doctrine to enjoin groundwater pumping under state law that was lowering the water level of an underground pool at a national monument, causing injury to the indigenous fish species.[66] Thus, although both federal reserved rights and state rights under the reasonable use approach are protected against injury,[67] the notion of harm is fundamentally different. Interference with a reserved right *is* the injury, while state-law reasonable use rights are not legally injured even by dewatering if use on the adjacent overlying land is beneficial. For tribes, then, assertion of *Winters* rights to groundwater rather than state-law reasonable use rights offers significantly greater protection against interference by state-law users.

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63. *See* TARLOCK, *supra* note 35, § 4:7 (stating that states in the east, including Florida, New York, and North Carolina, follow this rule). *Id.* In addition, Arizona employs the reasonable use rule outside certain designated areas where groundwater use is more strictly controlled. *Id.* § 6:29.

64. *Id.* § 4:8.

65. Brady v. Abbott Laboratories, 433 F.3d 679, 681-83 (9th Cir. 2005).

66. Cappaert v. United States, 426 U.S. 128 (1976).

67. *See* TARLOCK, *supra* note 35, § 4:10 (noting that "[t]he American or reasonable use rule protects small pumpers from injury, but it does not specify what is injury. Groundwater pumpers are seldom deprived of water; they are deprived of water at shallow levels").

The remaining primary state-law system of groundwater allocation may prove even more problematic for tribes, at least as the primary source of groundwater rights. Prior appropriation, used by many of the states that also use prior appropriation for surface water allocation,[68] may serve as a source of secondary groundwater rights for Indian tribes. As a primary source, however, this state law system has too great a potential to subordinate tribal rights to those of other state-law water users.

Like prior appropriation for surface waters, prior appropriation of groundwater uses a first-in-time, first-in-right approach.[69] Virtually all tribes in groundwater appropriation states would be claiming state-law rights very late in temporal priority.[70] The temporal priority of *Winters* rights to groundwater would be the date the reservation was created, or even time immemorial,[71] but state-law priority would be the date at which the tribe perfected its groundwater right. Because tribes would thus be very junior users, their state-law groundwater rights would be vulnerable to curtailment to protect more senior non-Indian uses.

State-law groundwater rights are thus of varied usefulness for tribes. In some jurisdictions, particularly those that adhere to the rule of absolute ownership or those that have adopted correlative rights, tribes may benefit from the assertion of state-law rights, even in lieu of *Winters* rights. Other state-law systems of groundwater pose greater obstacles for tribes. The reasonable use doctrine may permit dewatering of Indian lands, and the prior appropriation system subordinates recent tribal groundwater rights to all existing non-Indian uses. Nonetheless, state-law rights in any state system remain available to Indian tribes as sources of groundwater over and above any reserved rights.

IV. WATER SETTLEMENT RIGHTS

Indian tribes are increasingly turning to negotiated settlements of their water rights.[72] Litigation has proven costly and time-consuming, often leaving tribes with an award of paper rights but no actual water. Tribes are often

68. *Id.* § 6:4 (2005). Idaho, Kansas, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming, and Colorado use prior appropriation for certain areas and for tributary groundwater.

69. *See id.* §§ 6:8-6:12 (discussing some of the problems of applying the surface water prior appropriation doctrine to groundwater).

70. This is the problem faced by the Wind River tribes of Wyoming in claiming groundwater. The Wyoming Supreme Court rejected their assertion of a *Winters* right to groundwater. Big Horn I, 753 P.2d 76, 100 (Wyo. 1988), *aff'd by an equally divided court*, Wyoming v. United States, 492 U.S. 406 (1989). If the tribes are left with only state-law rights in Wyoming, a state that uses prior appropriation for groundwater, their ability to access a dependable supply of groundwater is questionable.

71. *See generally* COHEN'S HANDBOOK OF FEDERAL INDIAN LAW § 19.03[3] (Nell Jessup Newton 2005).

72. *See generally id.* § 19.05[2].

averse as well to having to litigate their federal rights in state court, and state court decisions have varied widely in their recognition of tribal reserved rights to groundwater.[73]

Of the twenty or so water settlement acts since 1978, more than half contain some provisions concerning tribal rights to groundwater. In general, groundwater is addressed as a primary source in settlements for tribes in the southern United States, while northern tribes' settlements tend to focus on surface water supplies.[74] There is little uniformity or consistency in the groundwater provisions of water rights settlements. Several settlement acts specify a quantity of groundwater for tribal use,[75] or set an upper limit on tribal pumping of groundwater.[76] Other settlements provide generally that tribes have rights to the use of the groundwater beneath their lands,[77] or in one instance to the groundwater "springs and fountains" on federal lands ceded by the tribe.[78] In some settlements, tribal rights to use groundwater are incorporated into the rights to surface water. For example, the Warm Springs

73. As noted at *supra* text accompanying note 53, state courts have been inconsistent in their approach to determining federal *Winters* rights.

74. *See* BONNIE G. COLBY, ET AL., NEGOTIATING TRIBAL WATER RIGHTS: FULFILLING PROMISES IN THE ARID WEST 80 (2005) (noting that northern settlements tend to treat groundwater "as a bonus, a secondary source for reservation needs," while groundwater "is usually a component" of southern settlement acts).

75. *See, e.g.*, Water Right Claims-Ak-Chin Indian Community Act of 1978, Pub. L. No. Pub. L. No. 95-328, §2(b), 92 Stat. 409 (1978); Shivwits Band of the Paiute Indian Tribe of Utah Water Rights Settlement Act of 2000, Pub. L. No. 106-263, §7(a)(3), 114 Stat. 737 (2000); JON C. HARE, INDIAN WATER RIGHTS: AN ANALYSIS OF CURRENT AND PENDING INDIAN WATER RIGHTS SETTLEMENTS Part IV § 8 (1996) (discussing the Salt River Pima-Maricopa Indian Community Water Rights Settlement; *ratified by* Zuni Indian Tribe Water Rights Settlement Act of 2003, Pub. L. No. 108-34, § 8(e), 117 Stat. 782 (2003)); Indian Water Rights: An Analysis of Current and Pending Indian Water Rights Settlements pt. IV § 8 (1996) (Salt River Pima-Maricopa agreement, *ratified by* Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988, Pub. L. No. 100-512, 102 Stat. 2549 (1988)).

76. *See, e.g.*, Southern Arizona Water Rights Settlement Act of 1982, Pub. L. No. 97-293, §§ 303(c) & 306(a), 96 Stat. 1261 (1982) (Papago Tribe, now the Tohono O'Odham Nation); Southern Arizona Water Rights Settlement Act of 2004, Pub. L. No. 108-451, §307(a)(1),118 Stat. 3478 (2004) (Tohono O'Odham Nation).

77. *See, e.g.*, Seminole Water Rights Compact, § III(C)(1), *reprinted in Seminole Indian Land Claims Settlement Act: Hearings on S. 1684 Before the Senate Select Comm. On Indian Affairs*, 100th Cong., 1st Sess. 101-102 (1987), *incorporated in* Seminole Indian Land Claims Settlement Act of 1987, Pub. L. No. 100-228, § 7, 101 Stat. 1556 (1987) (providing for a tribal preference in the use and withdrawal of groundwater resources underlying tribal lands); JON C. HARE, INDIAN WATER RIGHTS: AN ANALYSIS OF CURRENT AND PENDING INDIAN WATER RIGHTS SETTLEMENTS Part IV, § 7 (1996) (providing that the tribe may withdraw hydrologically-connected groundwater, but withdrawals from certain larger wells are deducted from tribe's total entitlement to water; *ratified by* Northern Cheyenne Indian Reserved Water Rights Settlement Act of 1992, Pub. L. No. 102-374, 106 Stat. 1186 (1992)).

78. The Snake River Basin settlement accords the Nez Perce Tribe a right to water from many "springs or fountains" located on federal land within an area ceded by the Nez Perce Tribe in an 1863 treaty. *See* Snake River Water Rights Act of 2004, Pub. L. No. 108-447, 118 Stat. 2809 (2004).

settlement quantifies a tribal water right from surface water sources, but provides that the water right "may be exercised in whole or in part from ground water within the Reservation."[79] The Snake River settlement quantifies a reserved right from various surface waters, but provides that the "source" of the waters subject to the right is generally both the surface waters and "groundwater sources hydrologically connected thereto."[80] Restrictions on groundwater use are sometimes incorporated into settlements as well. Tribal groundwater rights may, for example, be restricted to supplemental water in times of need,[81] to particular types of uses,[82] or to uses which do not adversely impact other water sources.[83]

Only a few of the settlement acts address tribal institutional management of groundwater resources. One act provides for a tribal groundwater management plan;[84] another requires a tribal water code that would apply to both groundwater and surface water, and establishes a groundwater monitoring program.[85] A second act also mandates a tribal water code, which would apply to groundwater as well as surface water, because water sources are defined to include both surface waters and the hydrologically connected groundwater.[86] One compact provides that neither the state nor the tribe will authorize groundwater uses that interfere with protected groundwater uses authorized by the other government.[87]

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79. Confederated Tribes of the Warm Springs Reservation Water Rights Settlement Agreement art. IV, §§ B.3-4 ; art. V, § A.2 (Nov. 17, 1997).

80. *See* Pub. L. No. 108-447, 118 Stat. 2809 (2004).

81. *See* JON C. HARE, INDIAN WATER RIGHTS: AN ANALYSIS OF CURRENT AND PENDING INDIAN WATER RIGHTS SETTLEMENTS Part. IV § 4 (1996) (Fort Hall agreement recognizes tribal right to groundwater for augmentation in times of shortage; *ratified by* Fort Hall Indian Water Rights Act of 1990, Pub. L. No. 101-602, 104 Stat. 3059 (1990)).

82. *See* PETER W. SLY, RESERVED WATER RIGHTS SETTLEMENT MANUAL 29 (1988) (stating that Colorado Ute settlement accords groundwater right for domestic and livestock purposes); *In re* SRBA, No. 39576 (Idaho Dist. Ct, 5th Jud. Dist June 29, 2005), http://www.srba.state.id.us/nezperce.htm ; Pub. L. No. 108-447, 118 Stat. 2809 (2004) (Nez Perce right to water from springs on federal lands may not be used for an in stream flow right).

83. *See* JON C. HARE, INDIAN WATER RIGHTS: AN ANALYSIS OF CURRENT AND PENDING INDIAN WATER RIGHTS SETTLEMENTS Part. IV § 6 (1996) (Jicarilla Apache Tribe settlement contract includes right to withdraw groundwater if usage does not deplete San Juan River system; ratified by Jicarilla Apache Tribe Water Rights Settlement Act, Pub. L. No. 102-441, 106 Stat. 2237) (1994).

84. Yavapai Prescott Indian Tribe Water Rights Settlement Act of 1994, Pub. L. No. 103-434, title I, § 111(c), 108 Stat. 4526 (1994).

85. Southern Arizona Water Rights Settlement Act of 1994, Pub. L. No. 108-451, §§ 308(b) (tribal water code) & 311(c) (groundwater monitoring program), 118 Stat. 3478 (1994) (Tohono O'Odham Nation).

86. Snake River Water Rights Act, Pub. L. No. 108-447, § 7(b), 118 Stat. 2809 (1994) (Nez Perce Tribe). The Snake River consent decree defines the source of water subject to tribal rights as both surface and interconnected groundwaters. *In re* SRBA, No. 39576, Consent Decree § 3 & Attachment 4 (Idaho Dist. Ct, 5th Jud. Dist June 29, 2005), *available at* http://www.srba.state.id.us/nezperce.htm.

87. Fort Peck-Montana Compact, art. V.D., MONT. CODE ANN. § 85-2-702 (1985). The Fort Peck Compact is not ratified by a federal settlement act.

The lack of uniformity in groundwater provisions of water rights settlements is thus evident. But that diversity also means that the settlements are flexible, adapting as required to meet the needs of the tribes and other parties to the agreements. Groundwater rights may be specifically quantified or addressed if necessary, or simply incorporated within the general water right if that best represents the interests and understanding of the tribes. Tribes may have full authority to allocate and determine the use of their groundwater rights, or the rights may be specifically restricted in some way to protect the interests of non-Indian parties.

Water settlements likely represent the future of Indian water law. As those agreements incorporate provisions regarding groundwater use, allocation, and institutional management, they can address many of the issues left unresolved by any of the other approaches to tribal groundwater rights.

V. CONCLUSION

The various approaches to determining tribal rights to groundwater, with their advantages and disadvantages, are outlined in the preceding sections. Asserting reserved rights under the *Winters* doctrine appears to be the preferred approach, but may leave determinations to the inconsistent conclusions of state courts. Full beneficial ownership under the *Shoshone* doctrine would lead to greater groundwater allocations, but is untested in litigation and may interfere with a tribe's ability to assert full *Winters* rights to surface waters. State-law groundwater rights are always available to tribes willing to be subject to state regulation, but state approaches to groundwater vary widely. In some jurisdictions, state-law rights may accord tribes the greatest allocation of groundwater, but in other states, tribal groundwater rights would be subordinate to non-Indian rights and therefore vulnerable.

As with allocation of surface waters, settlements addressing groundwater rights are increasingly common. Nearly half of the current water rights settlements make some provision regarding groundwater allocation, use, or management. As groundwater issues become a more typical part of tribal water rights settlements, those agreements can address many of the difficulties and obstacles posed by the other approaches to tribal groundwater rights. Moreover, the recognition of and provision for tribal groundwater in these settlements help ensure that tribal rights will be fairly considered in state institutional groundwater management. Groundwater provisions in settlements will also encourage and promote tribal institutional groundwater management, which is necessary for the full tribal use of and tribal benefit from groundwater resources.