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CLEAR AS MUD: RECREATING PUBLIC WATER RIGHTS THAT ALREADY EXIST

Kathryn A. Tipple*

In accumulating property for ourselves or our posterity, in founding a family or a state, or acquiring fame even, we are mortal; but in dealing with truth we are immortal, and need fear no change or accident.¹

I. INTRODUCTION

The federal government has a history of deferring to state water law even in federally owned territories, a deference memorialized in statutes such as the Desert Lands Act of 1877,² the Reclamation Act of 1902,³ and the Federal Power Act.⁴ However, in certain circumstances, the federal government continues to assert its primacy with respect to water through reserved land, for federal purposes. Most prominently, the federal government has overriding plenary authority to protect, maintain, and improve navigation for interstate commerce in navigable waters, an authority that gives rise to the federal navigation servitude and that overrides both state and private property interests.⁵ Moreover, when the federal government reserves public lands for particular purposes, it impliedly reserves water rights sufficient to support those purposes.⁶ Such federal reserved water rights, or *Winters* ⁷ rights, ensure as a matter of federal law that tribes, national parks, national forests, and other specifically reserved federal areas have legal rights to the water that they need.⁸

Federal public lands that the U.S. Bureau of Land Management (BLM) manages have a more complicated water rights history. Few BLM lands are reserved for a particular use, and as the following will illustrate, this makes

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¹ HENRY DAVID THOREAU, WALDEN 87 (E.P. Dutton & Co., Inc. 1959) (1854).

² 43 U.S.C. §§ 321–23, 325, 327–29 (2012).

³ 43 U.S.C. §§ 371–616 (2012).

⁴ 16 U.S.C. §§ 791a–828 (2012).

⁵ See Gibson v. United States, 166 U.S. 269, 271–72 (1897).

⁶ See United States v. State, 959 P.2d 449, 451–52 (Idaho 1998).

⁷ Winters v. United States, 207 U.S. 564 (1908).

 $^{^8}$ See id. at 576–77; A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES \S 9:38–56 (2013).

traditional federal reserved water rights difficult to establish. 9 In 1926, President Calvin Coolidge reserved to the federal government land containing water to be managed for livestock watering in the Public Water Reserve Number 107 (PWR 107). ¹⁰ These reserves were established to promote western settlement and prevent monopolization of scarce water resources, and are still important sources of water for serving public use on federally managed lands, such as BLM lands. 11 Nevertheless, the history of PWR 107 illustrates how defined federal priorities for public water use can become unclear over time. Initially, federal authority to reserve water from state allocation expanded during the early twentieth century as it was unclear how broad the original purpose was meant to be; however, the federal authority has since been limited and refined as growth in local demands on limited water and reserved land restrict expansive reservations. 12 This expansion and contraction in the scope of federal authority to reserve water has done little to completely identify and quantify the water sources reserved by PWR 107. Today, PWR 107 reservations are an ambiguous legal concept. 13

Diverging interests in public water and land in the Interior West have muddied PWR 107's significance and implied legal duties. This public water reserve will become an important right to identify in Utah and Nevada in particular because it withdraws and reserves the surrounding federal lands that may limit project development on public lands. Where states and local BLM offices endeavor to use more water and land for energy and resource development, especially in areas where PWR 107 reserves may exist, the federal government needs to clarify what PWR 107 sets aside and how other uses of BLM land may interact with these reserves. It is unclear how completely PWR 107 waters are recorded with state water administrators and further uncertain what federal duty is owed to these claims in light of climate change or state adjudication. These uncertainties will likely be challenged through litigation. Citizen groups can file legal claims in response to interference with reserved waters, demanding federal administration of

⁹ The BLM has a multiple-use mission to sustain and administer several aspects of public lands under the Federal Land Policy and Management Act of 1976 (FLPMA). 43 U.S.C. § 1701 (2012). By contrast, land reserved for particular purposes has been deemed to carry with it a reservation of sufficient water to accomplish the government's purpose. See, e.g., Cappaert v. United States, 426 U.S. 128, 147 (1976) (involving a national monument that was reserved specifically to preserve a unique pool environment and therefore included a reservation of the amount of water needed to fulfill this purpose).

¹⁰ Public Water Reserve No. 107, Exec. Order of Apr. 17, 1926, 3 C.F.R. § 297.5 (1938); see also 43 C.F.R. § 297.5.

¹¹ See James Muhn, Public Water Reserves: The Metamorphosis of a Public Land Policy, 21 J. LAND RESOURCES & ENVIL. L. 67, 68-69 (2001); BUREAU OF LAND MGMT., FEDERAL RESERVED WATER RIGHTS, available at http://www.blm.gov/pgdata/etc/medialib/ blm/co/field offices/denca/DENCA Advisory Council/extra materials for.Par.33214.File .dat/FedResWaterRights.pdf (last visited Aug. 25, 2014), archived at http://perma.cc/3WB Y-H79S; Roger Flynn, Daybreak on the Land: The Coming of Age of the Federal Land *Policy and Management Act of 1976*, 29 Vt. L. Rev. 815, 823, 823 n.47 (2005). ¹² See Muhn, supra note 11, at 68–69, 145.

¹³ See id. at 145.

PWR 107 claims through the judiciary. 14 In Colorado, some PWR 107 claims have been decreed under state water law through formal adjudication. 15 However, in Nevada, conflicting priorities for public water and land uses have animated litigation, pitting mineral development against water reserves. ¹⁶ Ultimately, multiple uses and scarce resources will pressure the federal agencies and federal courts to consider clarifying the effect of PWR 107.

This Note describes the history that both broadened and refined the use of public waters initially reserved by the federal government, illustrates several issues western states may face in dealing with PWR 107 waters, and discusses several legal issues that will prove formative for PWR 107 legal claims in the coming years. Part II illustrates the long history of implied federal water reserves and PWR 107, and it demonstrates how federally reserved waters confound the autonomy of state-governed prior appropriation and state water rights. Part III lays out several pressing federal water reserve and PWR 107 issues in the western states including Utah—describing how these issues are created by divergent interests in water use and are unique to western states. These imminent water issues will require legal action to define PWR 107 claims within states' water rights records, as well as the actual authority underlying federal public water claims. Part IV pursues the potential for legal controversy in Utah if federally reserved water claims are not quantified. Should the federal government not defend the PWR 107 rights in the face of public land development, the muddy definition of these rights will become an important legal tool for members of the public to assert citizen-suit claims against those charged with protecting public water interests on federal lands.

The law will ultimately develop through judicial opinions, out of a necessity to clarify the confusion surrounding the modern objectives of PWR 107. This Part will also discuss implied federal reserved water rights generally to further demonstrate uncertainties over federal water interests, federal and state cooperation, and the burdens on state water allocation. Importantly, these water reservations were judicially created and geographically established at creation. They also encompass very large amounts of quantified water rights in some cases, unlike the PWR 107 springs. Nonetheless, because PWR 107 rights were created in

¹⁴ See, e.g., Great Basin Mine Watch v. Hankins, 456 F.3d 955, 966-67 (9th Cir.

^{2006).}See generally Env't & Natural Res. Div., Federal Reserved Water Rights and State

Liter//www.instice.gov/enrd/3245.htm, archived at http://perma.cc/Y95P-HB2L (last updated Sept. 2013) (noting adjudication of PWR 107 water rights in Colorado Courts).

¹⁶ See, e.g., Lisa J. Wolf, Nevada Groups Challenge Molybdenum Mine Over Public Water Rights, ENVIL. NEWS SERV. (Feb. 28, 2013), http://ens-newswire.com/2013/02/28/ nevada-groups-challenge-molybdenum-mine-over-public-water-rights/, archived at http:// perma.cc/5FLP-HPUF (reporting PWR 107 litigation over proposed mine); Great Basin Res. Watch v. U.S. Dep't. of Interior, No. 3:13-cv-00078-RCJ, 2014 WL 3696661, at *7-*8 (D. Nev. July 23, 2014) (holding that PWR 107 lands are not withdrawn from potential mining claims).

a blanket executive reservation, these springs may create greater uncertainties than other federal reserved water rights.

II. WATER IN THE WEST: NECESSITY DRIVEN DOCTRINES

A. A New Right in a New Land

Water is an essential public resource in the western United States, where a semiarid climate challenged early settlers. ¹⁷ The history of western water law demonstrates a disconnect between federal policy and western realities. Initially, the federal government owned most of the land in the West, having secured title to land that was either ceded by the original states or obtained through agreement with Native Americans and foreign powers. ¹⁸ The riparian water rights doctrine, which controlled water rights in the comparatively wet eastern United States during the nineteenth century, recognized that owners of land that abut surface waters have shared rights to the common source of water. ¹⁹ The riparian doctrine had little practical application in the federally owned, arid West where water was generally scarce. ²⁰ As a result, Colorado miners, among other early settlers, created water-use practices that led to a new system of water rights:

Imperative necessity, unknown to the countries which gave it birth, compel[led] the recognition of another doctrine in conflict therewith [T]he first appropriator of water from a natural stream for a beneficial purpose has, with the qualifications contained in the constitution, a prior right thereto, to the extent of such appropriation. ²¹

And, Colorado enacted this new water law doctrine, known as prior appropriation, for its state. ²² Eventually the U.S. Supreme Court formally recognized that western water rights on public lands could be acquired under state prior appropriation law. ²³ In 1907, the U.S. Supreme Court held in *Kansas v. Colorado* ²⁴ that states had the authority to choose the foundation of their water law, be it either riparian rule or prior appropriation, though many state legislatures were already permitting

¹⁷ Cal. Or. Power Co. v. Beaver Portland Cement Co., 295 U.S. 142, 156–57 (1935).

¹⁸ United States v. City & Cnty. of Denver, 656 P.2d 1, 6 n.9 (Colo. 1982); *see generally* PAUL W. GATES, HISTORY OF PUBLIC LAND LAW DEVELOPMENT (1968) (outlining the history of U.S. government land acquisition in the West).

¹⁹ See Tyler v. Wilkinson, 24 F. Cas. 472, 474 (Cir. C.D.R.I. 1827) (No. 14,312).

²⁰ See Cal. Or. Power Co., 295 U.S. at 151–55; City & Cnty. of Denver, 656 P.2d at 6 n.9 (quoting California v. United States, 438 U.S. 645, 653 (1978)).

²¹ City & Cnty. of Denver, 656 P.2d at 6–7 (quoting Coffin v. Left Hand Ditch Co., 6 Colo. 443, 447 (Colo. 1882)) (alterations in original).

²² *Id.* at 6–9; Coffin v. Left Hand Ditch Co., 6 Colo. 443, 446–47 (Colo. 1882).

²³ City & Cnty. of Denver, 656 P.2d at 7–8.

²⁴ 206 U.S. 46 (1907).

water rights for beneficial uses based on prior appropriation. ²⁵ As states throughout the West adopted prior appropriation, the Court subsequently allowed states to limit the federal government's control over water. 26 In 1935, the Court discussed the formative role that the Desert Land Act of 1877 played in severing water rights from land ownership for appropriation and use elsewhere. 27 By 1978, California v. United States²⁸ summarized the state of western water law by holding that the federal government would both recognize prior private water use in western states and "confirm[] the policy of appropriation for a beneficial use, as recognized by local rules and customs, and the legislation and judicial decisions of arid-land states, as the test and measure of private rights in and to the non-navigable waters on public domain." ²⁹ However, the federal government still reserved, either expressly or implicitly, its rights to water necessary for interstate commerce and navigation, and to fulfill the mission of federally reserved lands. 30 While Congress signaled substantial deference to state appropriation and use of western water through the enactment of several laws including the 1902 Reclamation Act, the federal government continued to assert its interest in western waters, winning a series of cases decided by the U.S. Supreme Court. 31 Thus, while states seemed to gain control over water use in the West, the federal government found it necessary to retain some control over a key component of the land value—the water.³²

²⁵ *Id.* at 94.

²⁶ See A. Dan Tarlock, *The Future of Prior Appropriation in the New West*, 41 NAT. RESOURCES J. 769, 770 (2001) ("Prior appropriation was so entrenched in the West by the end of the nineteenth century that it allowed western states to limit the federal government's role for most of the twentieth century to that of a water provider to state water right holders").

²⁷ Cal. Or. Power Co., 295 U.S. at 157–58.

²⁸ 438 U.S. 645 (1978).

²⁹ Id. at 657 n.11 (quoting Cal. Or. Power Co., 295 U.S. at 155) (alterations in original).

³⁰ See United States v. Rio Grande Dam & Irrigation Co., 174 U.S. 690, 703, 707–09 (1899) (construing common law and congressional acts to protect the United States' interest in navigable waters); see also Winters v. United States, 207 U.S. 564, 577 (1908) (acknowledging federal authority to reserve water but determining the reservation was later repealed); Desert Lands Act of 1877, 43 U.S.C. § 321 (2012) (opening nonnavigable waters to public appropriation and use).

³¹ Reed D. Benson, Deflating the Deference Myth: National Interests vs. State Authority Under Federal Laws Affecting Water Use, 2006 UTAH L. REV. 241, 266–67; see also Winters, 207 U.S. at 577 ("The power of the [federal] Government to reserve the waters and exempt them from [state] appropriation under the state laws is not denied, and could not be."); Kansas v. Colorado, 206 U.S. 46, 117–18 (1907) (recognizing a federal interest in interstate water rights though denying the United States' attempt to intervene in the case); Rio Grande Dam & Irrigation Co., 174 U.S. at 708–09 ("[T]he navigable waters of the United States should be subjected to the direct control of the National Government, and . . . nothing should be done by any State tending to destroy that navigability without the explicit assent of the National Government").

³² See J. W. POWELL, LANDS OF THE ARID REGION OF THE UNITED STATES 41 (Harvard Press ed., 1983) ("Monopoly of land need not be feared. The question for

B. What Is Land Without Water: Federal Reserved Water Rights

In 1908, in conjunction with the recognition of western state authority and the prior appropriation doctrine, the U.S. Supreme Court recognized the federal government's need and authority to reserve some of the water in the West.³³ In Winters v. United States, 34 the Court ruled that land reserved for tribes included the implicit reservation of sufficient water to fulfill the purpose of the land reservation. 35 The priority date for the implied water reservation was to be the date that Congress, or later the executive, reserved the land for a particular purpose.³⁶ This was a major shift from prior appropriation water rights. 37 Under prior appropriation, water use became a right once the water was diverted and used for a beneficial purpose.³⁸ The seniority of this right was the date the water was put to use, prioritizing against other uses of the water. ³⁹ By contrast, federal reserved water rights were created based on the designated use the land was set aside for and could be quantified later, though the priority date of the water right was set as the time of the land reservation. 40 In essence, federal reserved water rights set aside unspecified amounts of water with very old priority dates to serve particular uses of designated federal lands.⁴¹

While several types of nontribal federal public lands are also subject to the Winters doctrine, including national parks and national forests, 42 lands managed by the BLM have a particularly convoluted history regarding federal reserved water

legislators to solve is to devise some practical means by which water rights may be distributed among individual farmers and water monopolies prevented."); Benson, supra note 31, at 267 ("[T]he western states retained their lead role in water allocation. . . . [but] decisions in [the Supreme Court] were very significant [in] establish[ing] that federal law had not entirely ceded the field of water allocation to the western states.").

³³ The long and full history of the federal government's interest in public water reserves, including both reserves by the legislative and executive branches, was in part motivated by desires to protect the West and the land resources from private land ownership monopolies and in part motivated by the American ideal of agriculture and stockmen. See Muhn, supra note 11, at 142-44.

³⁴ 207 U.S. 564 (1908). ³⁵ *Id.* at 573–78.

³⁶ *Id.* The priority date may also be the date of a treaty entered into between the U.S. and an Indian tribe. See United States v. Adair, 723 F.2d 1394, 1414 (9th Cir. 1983) ("[P]riority for a particular water right dates from the time of first use. . . . [W]here, as here, a tribe shows its aboriginal use of water . . . and then enters into a treaty with the United States that reserves this aboriginal water use, the water right thereby established retains a priority date of first or immemorial use.").

See ROBERT W. ADLER, RESTORING COLORADO RIVER ECOSYSTEMS: A TROUBLED SENSE OF IMMENSITY 119 (2007).

³⁹ *Id.* This is why prior appropriation is known as the "first in time doctrine." *Id.*

⁴⁰ *Id*.

⁴² United States v. State, 959 P.2d 449, 451 (Idaho 1998).

rights. Until 1926, the General Land Office, which merged with the Grazing Service to become the BLM in 1946, had ad hoc authority to reserve federal water claims for the public lands that it controlled. 43 In 1926, President Calvin Coolidge invoked his authority under the Pickett Act of 1910 to issue an executive order withdrawing public lands, as well as reserving public water used for livestock watering. 44 The Pickett Act granted the President authority to withdraw lands and reserve them for public purposes "to be specified in the orders of withdrawals, and such withdrawals or reservations [would] remain in force until revoked by him or by an Act of Congress." 45 This authority was further referenced in the Stock Raising Homestead Act of 1916 (SRHA), which stated that lands containing water needed for public use may be reserved under the Pickett Act and managed by delegated authority under the secretary of the interior. 46 Subsequent to the passage of the SRHA, the secretary of the interior sent a proposed executive order to President Coolidge. 47 In it, the secretary stressed the need to retain title and supervision of springs and water holes in the unreserved public domain before additional private users could control the waters by exercising claims under the pending Taylor Grazing Act. 48 The same day the draft order was received, President Coolidge created PWR 107 by executive order, reserving all unreserved public land containing a spring or water hole. 49 In the executive order creating PWR 107, President Coolidge declared:

[T]hat every smallest legal subdivision of the public land surveys which is vacant, unappropriated, unreserved public land and contains a spring or water hole, and all land within one quarter of a mile of every spring or water hole located on unsurveyed public land be, and the same is hereby, withdrawn from settlement, location, sale, or entry, and reserved for public use in accordance with the provisions of Sec[tion] 10 of the act of December 29, 1916. 50

The purpose of reserving land to reserve the water through a public water reserve "was to prevent the monopolization by private individuals of springs and

⁴³ See Siobhan McIntyre & Timothy P. Duane, Water, Work, Wildlife, and Wilderness: The Collaborative Federal Public Lands Planning Framework for Utility-Scale Solar Energy Development in the Desert Southwest, 41 ENVTL. L. 1093, 1158 n.551 (2011)

<sup>(2011).

44 43</sup> U.S.C. § 141 (1970) (repealed 1976) (providing the President of the United States the authority to withdraw, reserve, or revoke public lands for water use or public purposes).

⁴⁵ *Id*.

⁴⁶ 43 U.S.C. § 300 (1970) (repealed 1976).

⁴⁷ United States v. State, 959 P.2d 449, 452 (Idaho 1998).

⁴⁸ *Id.*; 43 U.S.C. § 315 (2012).

⁴⁹ Public Water Reserve No. 107, Exec. Order of Apr. 17, 1926, 3 C.F.R. § 297.5 (1938); see also 43 C.F.R. § 297.5.

⁵⁰ *Id*.

waterholes on public lands needed for stockwatering."51 PWR 107 land reserve includes a "federal reserved water right and [provides] that the United States has the right to administer those water rights."52 For example, after the Taylor Grazing Act was passed, the federal government permitted grazing rights on federal land that included access to the reserved waters. 53 Several states have recognized PWR 107 water claims during state water adjudications. 54 Courts have since recognized that this reserved water right, reserved and withdrawn, 55 has the priority date of the executive order. The date the withdrawal was made, April 17, 1926, is the priority date for these water claims. ⁵⁶ Only an executive act may revoke the PWR 107 reserve. 57 Like Winters reserved water rights, PWR 107 waters were reserved for federal priorities and were otherwise reserved from state allocation. As will be discussed, PWR 107 reserves create even greater uncertainty than Winters reserves. Not only is the quantity of water reserved not identified in the reservation but the locations of springs and water holes included in the reserves were also not specified at the time PWR 107 was issued—setting the stage for federal ambiguity over the quantity and location of protected waters and the scope of use permitted under PWR 107.

C. Ebb and Flow of Federal Authority Under Federal Reserved Water Rights and PWR 107

While federal reserved water rights were first recognized in 1908, the scope of these kinds of rights has been the subject of ongoing debate. In 1963 the U.S. Supreme Court held that federal reservations and the reserved water rights they entail are not limited to habitable land with water resources for Indian reservations, but apply equally on lands reserved for other government purposes, such as national forest land. Secure V. United States extended the scope of federal reserved water authority to a federal monument, prohibiting groundwater pumping that would lower water levels in a subterranean pool in the Death Valley National

⁵¹ Great Basin Mine Watch v. Hankins, 456 F.3d 955, 966 (9th Cir. 2006) (quoting United States v. State, 959 P.2d 449, 453 (Idaho 1998)) (internal quotation marks omitted); *see also* United States v. City & Cnty. of Denver, 656 P.2d 1, 32 (Colo. 1983) ("The purpose of the reservation was to prevent monopolization of water needed for domestic and stock watering purposes.").

⁵² United States v. State, 959 P.2d 449, 453 (Idaho 1998).

⁵³ *Id.* at 452–53.

⁵⁴ See, e.g., id. at 453; City & Cnty. of Denver, 656 P.2d at 32.

⁵⁵ See, e.g., Memorandum M-37005 from Office of Solicitor, U.S. Dep't of the Interior, to Sec'y and Dir., U.S. Bureau of Land Mgmt. (Jan. 9, 2001), available at http://www.doi.gov/solicitor/opinions/M-37005.pdf, archived at http://perma.cc/A7UM-8GM4.

⁵⁶ United States v. State, 959 P.2d 449, 453 (Idaho 1998).

⁵⁷ Muhn, *supra* note 11, at 135.

⁵⁸ Id

⁵⁹ 426 U.S. 128 (1976).

Monument because the pumping would have harmed the purpose of the monument. 60 United States v. New Mexico 61 established the applicability of the reserved rights doctrine to National Forest Service lands. 62 In 1979, Solicitor for the Department of the Interior Leo Krulitz attempted to expand federal reserved water right authority even further, claiming that "non-reserved" federal water rights could "aris[e] out of the land management functions of the federal agencies... independent of whether the public lands are reserved or not... [and] have a priority date as of the date the water was first applied to use." 63 The Department of Justice later denied that non-reserved rights exist. 64

In addition to the general attempt to expand the scope of federal reserved water rights, federal agencies also sought to broaden the scope of PWR 107 claims. In a 1979 Department of the Interior opinion analyzing PWR 107 claims, Krulitz called for the entire flow of springs to be reserved under PWR 107 and stated that the water could be used for purposes beyond stockwatering. ⁶⁵ This broad interpretation, however, was muted by the Department of Justice and the Department of the Interior; these departments clarified that reserved spring water must only be for the amount of flow "necessary" to serve the use outlined in PWR 107 and that PWR 107 only reserved water from important, large enough springs, as opposed to all springs. ⁶⁶ Despite clarifications, PWR 107 claims and other federal water reserves have expanded the scope of federal authority over water use in the West since the early part of the century. ⁶⁷

Changes in executive interpretations of federal reserved water rights and PWR 107 are not the only factors complicating a determination of the continuing vitality and scope of these water claims. Judicial and legislative developments also contribute to the complicated picture. Initially, the federal government was not

⁶⁰ See id. at 141.

⁶¹ 438 U.S. 696 (1978).

⁶² See id. at 715-17 (recognizing reserved rights for stockwatering in the national forests).

⁶³ Lawrence MacDonnell, Federal Interests in Western Water Resources: Conflict and Accommodation, 29 NAT. RESOURCES J. 389, 398 (1989) (emphasis added); see also Federal Water Rights of the National Park Service, Fish and Wildlife Service, Bureau of Reclamation and the Bureau of Land Management, 86 Interior Dec. 553, 588–616 (June 25, 1979).

⁶⁴ See MacDonnell, supra note 63, at 398.

⁶⁵ Angela A. Liston, Note, Reevaluating the Applicability of the Reservation Doctrine to Public Water Reserve No. 107, 26 ARIZ. L. REV. 127, 133 (1984).

⁶⁶ Purposes of Executive Order of April 17, 1926, Establishing Public Water Reserve No. 107, 90 Interior Dec. 81, 81–83 (1983); *see also* Liston, *supra* note 65, at 134, 134 n.70 (limiting reserved water on PWR 107 lands to amounts required for human and animal consumption). While these subsequent decisions limit the application of PWR 107, they still affirm the federal government's authority to claim PWR 107 rights on federal land.

⁶⁷ The Wilderness Act, 16 U.S.C. §§ 1131–36 (2006 & Supp. II 2008), and the Wild and Scenic Rivers Act, 16 U.S.C. §§ 1271–87 (2006), allow for federal water reserves to be attached to federal designations as long as the primary purpose is explicit and the water reserve is necessary to meet the purpose of the federal designation.

subject to jurisdiction in state courts for water rights adjudications. ⁶⁸ The McCarran Amendment provided a limited waiver of federal sovereign immunity to involuntary joinder, allowing for general adjudication of water right claims, including those claims held by federal entities, to occur in state courts. ⁶⁹ Through this amendment, Congress recognized the primacy of state prior appropriation.⁷⁰ To date, state adjudication of federal reserved water claims has served to limit federal claims to state water resources. Some parties originally argued during adjudications that the federal interests in state waters were divested under the equal footing doctrine. 71 Under this doctrine, each western state admitted into the union was to be on equal footing with the original states, 72 the waters and soils of all states were reserved to the states, and new states had the same rights over these waters and soils. 73 Despite this, courts have repeatedly held that federal water reservations made prior to statehood have continuing vitality after statehood where there is no indication of congressional intent to cede these water reserves to the new state. 74 Nonetheless, the federal government's claims to water reserves are subject to adjudication in state courts. And given that state water adjudications are

⁶⁸ See United States v. City & Cnty. of Denver, 656 P.2d 1, 8 (Colo. 1982) ("As sovereign, the United States was privileged to withhold such consent [to state adjudication].").

⁶⁹ McCarran Amendment, 651, Title II, § 208(a) to (c), 66 Stat. 560 (1952) (codified as amended at 43 U.S.C. § 666 (1952)); *see also City & Cnty. of Denver*, 656 P.2d at 8 ("Until the enactment of the McCarran Amendment, however, the prior appropriation system in Colorado could not be applied to the adjudication or administration of the water rights of the United States, because Congress had not consented to the determination of such water rights by state courts."); Bureau of Land Mgmt., *supra* note 11 ("Prior to [the McCarran Amendment], the federal government had reserved the right not to be included in general basin adjudications conducted under state law. The McCarran Amendment, however, recognized that the exemption of the federal government from these adjudications would undermine the state's water allocation systems.").

⁷⁰ City & Cnty. of Denver, 656 P.2d at 8–9.

⁷¹ See, e.g., id. at 4–5 ("The acts admitting the western territories into the United States, which guaranteed each state 'equal footing' with the original states, reserved ownership of unappropriated lands within the state to the federal government but made no provision with respect to unappropriated waters.").

⁷² See id. The equal footing doctrine is based on U.S. CONST. art. IV, § 3, cl.1.

⁷³ Pollard v. Hagan, 44 U.S. 212, 230 (1845).

⁷⁴ See, e.g., City & Cnty. of Denver, 656 P.2d at 20–34 (finding several reserved rights survived Colorado statehood and articulating the rule that "[t]he extent of federal reserved water rights is controlled by the intent of Congress and the purposes for which the lands are reserved"); cf. Idaho v. United States, 533 U.S. 262, 273, 280–81 (2001) (finding title to submerged lands reserved by the government prior to Idaho statehood remained federal lands held in trust after statehood, where there was no evidence of congressional intent that the lands be given to the State); United States v. Milner, 583 F.3d 1174, 1183 (9th Cir. 2009) (rejecting a party's recourse to the equal footing doctrine because the doctrine is inapplicable where the federal government has expressly reserved the lands and where Congress has recognized the reservation in a manner that demonstrates its intent not to transfer the lands to the new state).

ongoing for decades, this leaves the federal water claims rather uncertain. 75 Without knowing how much water has been reserved, or without a formal state decree for a PWR 107 right, federal reserved waters are dubbed an intrusion, and even "a wild card that may be played at any time."⁷⁶

It has also been argued that PWR 107 is no longer valid because the purpose of the order has been nullified by a subsequent public land use act. ⁷⁷ In 1976, the Federal Land Policy Management Act (FLPMA) was enacted and directly repealed the Pickett Act and the SHRA. 78 However, in a savings clause, FLPMA explicitly stated that the Act would not terminate or affect any already existing reservations, including any federal right to water on public lands. 79 Courts consistently recognize that FLMPA, rather than abrogating the purpose of PWR 107, sustained the full force of these reserved rights.⁸⁰

Today, reserved water rights claims reflect a tenuous balance between federal authority and state law. Reserved water rights do not expressly mandate the BLM to file a claim with the state. 81 So, unless the federal government is hailed into court for general adjudication or is required by state law to file a statement of claim, or files for a decree, the extent of the water right may remain unquantified. The primary purpose of the reservation, and therefore the nature of the uses allowed under the reserved right, may also remain in question. Moreover, a PWR 107 claim would only reserve from state control the amount of water necessary to meet the primary purpose of the reservation, 82 and PWR 107 applies only to the

⁷⁵ The Gila River General Stream Adjudication, for example, began in 1974 and is still ongoing. See Ariz. Dep't of Water Res., Gila River and Little Colorado River General Stream Adjudications, http://www.azwater.gov/AzDWR/SurfaceWater/Adjudications/Gila RiverandLittleColoradoRiverGeneralStreamAdjudications.htm, archived at http://perma.cc /DEP6-LSSA (last updated Mar. 27, 2014).

⁷⁶ Janice L. Weis, Note, Federal Reserved Water Rights in Wilderness Areas: A Progress Report on a Western Water Fight, 15 HASTINGS CONST. L.Q. 125, 125 (1987) (quoting F. Trelease, Federal-State Relations in Water Law 160 (1971)).

⁷⁷ E.g., United States v. State, 959 P.2d 449, 453 (Idaho 1998).

⁷⁸ Federal Land Policy Management Act § 702, Pub. L. No. 94-579, 90 Stat. 2787 (1976).

79 43 U.S.C. § 1701 (1976).

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⁸⁰ United States v. State, 959 P.2d 449, 453 (Idaho 1998).

⁸¹ See Federal Water Rights of the National Park Service, Fish and Wildlife Service, Bureau of Reclamation and the Bureau of Land Management, 86 Interior Dec. 553, 576, 587 (June 25, 1979) (noting that state appropriation requirements do not apply to reserved water rights and that the PWR 107 reserves are made "regardless of whether the water source has been the subject of an official finding as to its existence and location"). But the combination of the McCarran Amendment and state law could lead to such a requirement.

⁸² See BUREAU OF LAND MGMT., supra note 11; see also United States v. New Mexico, 438 U.S. 696, 718 (1978) (clarifying that implied water rights refer to the necessary amount of water for the purpose of the reservation); United States v. City & Cnty. of Denver, 656 P.2d 1, 31-33 (Colo. 1982) ("Any amount in excess of the amount needed to prevent monopolization [of public waterhole or spring waters] is not reserved water.").

amount of water needed for human consumption and stock watering.⁸³ Reserved water sources can therefore be shared among multiple users, and states may appropriate the excess waters in accordance with state law.⁸⁴ Notably, many reserved water rights claims, including PWR 107, have not been adjudicated or quantified with the states.⁸⁵ Further, while some records may be incomplete, the BLM also has authority to approve land exchanges and leasing that may inadvertently extinguish undocumented PWR 107 claims on federal lands conveyed into state ownership.⁸⁶

III. WATER PRIORITIES: BEYOND COWS IN THE DESERT

The booming western states today have countless more water demands than the federal government could have imagined in the early 1900s. The federal government initially intended PWR 107 to be used for the public purpose of stock watering and human consumption, ultimately allowing life to be sustained on the western frontier. 87 The issue, clear as the virgin spring, was that while there was plenty of open land in the West, there was not the equivalent bounty in water.⁸⁸ The scopes of both federal water reserves and the PWR 107 executive order expanded and contracted over time in terms of what waters could be reserved for federally defined purposes. Concurrently, western states grew and the doctrine of prior appropriation developed. The actual legal reach and implication of the federal reserved water rights and PWR 107 in the face of state water appropriation and growing—often conflicting—resource demands have become crucial for resource planning. As will be discussed, PWR 107 claims are sometimes quantified and included in state water management plans and administrative records. However, conflicting interests in limited water resources could potentially become a legal issue where federal reserved water rights and PWR 107 are not identified or completely quantified, such as in Utah. Finally, climate change considerations may further confuse how much water is actually available for competing water uses.

⁸³ City & Cnty. of Denver, 656 P.2d at 51.

⁸⁴ See, e.g., id. at 32 ("The law of prior appropriation still governs the allocation of excess waters.").

⁸⁵ BUREAU OF LAND MGMT., supra note 11.

⁸⁶ See Public Land Order No. 7820; Partial Modification, Public Water Reserve No. 107; Utah, 78 Fed. Reg. 52,561, 52,561 (Aug. 23, 2013); BUREAU OF LAND MGMT., U.S. DEP'T. OF THE INTERIOR, ENVIRONMENTAL ASSESSMENT OF UTAH RECREATIONAL LAND EXCHANGE (March 2013) (revoking water reserves in a land exchange in Utah).

⁸⁷ See Public Water Reserve No. 107, Exec. Order of Apr. 17, 1926, 3 C.F.R. § 297.5 (1938); see also 43 C.F.R. § 297.5.

⁸⁸ See Muhn, supra note 11, at 73.

A. PWR 107 and the West

1. Western States That Manage PWR 107

Nationally, PWR 107 was a withdrawal and reservation of federal land from appropriation and was intended to guarantee that water would be available for stockwatering and domestic use. Initially, the order was "construed to withdraw those springs and water holes capable of providing enough water for general use for watering purposes," which would not include tiny springs or perennial streams. 89 The order reserved "every smallest legal subdivision of the public land surveys which is vacant unappropriated unreserved public land and contains a spring or water hole."90 The actual water sources included under the order were not itemized because the United States Geological Survey (USGS), the federal office charged with surveying water sources, "did not have the data to be more specific."91 The USGS began conducting surveys to designate PWR 107 waters but because the Department of the Interior had not defined the amount of water needed to qualify a water source as providing enough water to be reserved, the USGS adopted a case-by-case determination of what was large enough. 92 This left the actual definition of a source reserved under PWR 107 unclear. States that had abundant water sources or less stockwatering demand, where water reservations would serve little purpose, were eventually exempted by executive order and agency rules from the PWR 107 reserves. 93 The exemption indicated that not all public domain was withdrawn and reserved simply because there was a spring that could function as a public water reserve. 94 Individuals in these exempt states could continue to make entries for public domain land under other laws without having to survey the land for possible PWR 107 springs. 95

Each state not exempted has managed public domain for PWR 107 very differently. Nevada has long had a policy of not championing PWR 107 water reservations, as well as BLM assertions of water resource claims. ⁹⁶ There have

⁸⁹ *Id.* at 111, 117–120 (internal quotation marks omitted).

⁹⁰ Public Water Reserve No. 107, Exec. Order of Apr. 17, 1926, 3 C.F.R. § 297.5 (1938); *see also* 43 C.F.R. § 297.5.

Muhn, *supra* note 11, at 116 ("The location of the watering places intended to be included in the order, however, was not definitely defined because the information available was insufficient for that purpose.") (internal quotation marks omitted).

⁹² *Id.* at 118–20, 122–23.

⁹³ *Id.* at 123–24. Alabama, Alaska, Arkansas, Florida, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Nebraska, North Dakota, Oklahoma, South Dakota, and Wisconsin were exempt from filing PWR 107 affidavits during the surveys. *Id.*

⁹⁴ Muhn, *supra* note 11, at 123–24.

⁹⁵ Id.

⁹⁶ See House Comm. On Appropriations Survey and Investigations Staff, Report on the Water Rights Policy of the Bureau of Land Management Relating to the Grazing Management Program 14–16 (1984), available at http://www.gardnerfiles.com/14-b%20Policy%20Adopted%20by%20the%20Bureau%20of%20Land

been a few recent administrative decisions and cases brought in Nevada District Court considering whether mining developments on BLM land would disrupt PWR 107 waters. 97 With certain state interests in ranching and mining, Nevada, through the state engineer, has enforced a strong policy against granting BLM water permit claims in general. 98 The BLM has participated in claim negotiations with the state but ultimately has yielded to the state's assertion of primacy over water. 99 Conversely, in Montana, the state and even individual permittees have readily recognized BLM's claims and applications for federal water rights during adjudication. 100 The Montana state BLM officials have even reached out to federal BLM officials to quantify federal water claims in a show of cooperative policy administration. 101 Montana manages public waters by quantifying the very amount of water reserved by various federal reserves. Similarly, Colorado has recognized PWR 107 claims and other federal reserved waters, albeit on an ad hoc basis, through adjudication in the state's water courts. 102 This allows for Colorado, like Montana, to administratively manage the source and amount of water that is reserved, thereby managing more completely the remaining water resources under state law.

2. PWR 107 Is a "Known Unknown" in Utah

Unlike other states in the West, Utah has no strong policy for small PWR 107 water reserves. Neither the state nor the BLM field offices have completely recorded or quantified these waters in resource management plans. Uncertainty over quantification of federal reserved water rights exists in Utah. The state also has not settled two much larger federal water reserves for tribes. The lack of accounting of the PWR 107 springs could become another large issue for the state. In the late 1870s, John Wesley Powell wrote of the "great numbers of cool springs" in the Uinta-White Valley, in eastern Utah, documenting for Congress that "[m]any good springs are found in this region, and eventually this will be a favorite district for pasturage farms." ¹⁰³ It is likely that the federal executive

^{%20}Management.pdf, *archived at* http://perma.cc/CQ4F-MNK5 [hereinafter REPORT ON BLM WATER].

⁹⁷ See Great Basin Mine Watch v. Hankins, 456 F.3d 955, 966 (9th Cir. 2006); Desert Survivors, 80 IBLA 111, 115 (Apr. 3, 1984); Complaint for Declaratory and Injunctive Relief, Great Basin Res. Watch v. U.S. Bureau of Land Mgmt., No. 3:13-cv-0078-RCJ-VPC (9th Cir. Nov. 22, 2013) [hereinafter Great Basin Complaint].

⁹⁸ REPORT ON BLM WATER, *supra* note 96, at 14–16.

⁹⁹ *Id*.

¹⁰⁰ *Id.* at 16–17.

¹⁰¹ *Id.* at 17–18.

¹⁰² Env't & Natural Res. Div., *supra* note 15. New Mexico and Idaho have also formed similar state/federal cooperation on a case-by-case basis, as in Colorado. *Id.* This is exemplified by the several visible and politicized adjudications, including the Gila River Adjudication and Snake River Adjudication, respectively. *Id.*

¹⁰³ JOHN WESLEY POWELL, THE ARID LANDS 118–19 (Wallace Stegner ed., 2004).

intended to reserve some of these springs under PWR 107 for stockwatering. To better account for these waters, each BLM field office could report the locations of PWR 107 springs, seeps, and waterholes, formally in a centralized location online, on maps, or in administrative record keeping. 104 More completely, the BLM could file with the state engineer for a formal decree, or the BLM could file the claims, by basin, during a basin-wide adjudication by the state. The state would then be able to more accurately account for state water resources available for appropriation or reallocation.

Utah state law allows for allocation of water rights under the prior appropriation doctrine. 105 The state engineer holds the authority to grant new appropriation of water if the proposal includes a beneficial use and if a five-part test is met:

(1) [T]here must be unappropriated water available, (2) the proposed appropriation cannot impair existing rights or interfere with more beneficial uses, (3) the proposed plan must be physically and economically feasible and not detrimental to the public welfare, (4) the applicant must have the financial resources to complete the proposed project, and (5) the application was filed in good faith and not for purposes of speculation or monopoly. 106

As described, the state may grant applications to appropriate waters of a spring or water hole in excess of the PWR 107 reservation under state law. But, the existence of unaccounted for and unquantified PWR 107 reserves, and unquantified federal reserved water rights with senior priority dates, would make it difficult for the state engineer to reasonably administer the prior appropriation system because granting new appropriations requires the aforementioned showing that existing rights will not be impaired.

The lack of complete accounting is indicative of the history of PWR 107 in Utah. Initially, the Utah state engineer decided not to concern himself with PWR 107 and proceeded with water rights appropriation in accordance with state law

¹⁰⁴ Limited information is currently available from the BLM on PWR 107 claims in Utah. For example, the Department of the Interior Bureau of Land Management maintains a digital Public Status Serial Register, and from this page it is possible to query a variety of land and resource information, including Public Water Reserves. BUREAU OF LAND MGMT., Reporting Application, U.S. DEP'T OF INTERIOR, http://www.blm.gov/landandresourcesrepo rts/rptapp/criteria_select.cfm?rptId=206&APPCD=2&, archived at http://perma.cc/3BFU-BGF7 (last visited Sept. 3, 2014) (requiring the user to select "Other Query Parameter," set the "Casetype" field to "231104," and further narrow the search by the appropriate geographical unit).

105 UTAH CODE ANN. § 73-3-1 (West 2014).

¹⁰⁶ John C. Ruple & Robert B. Keiter, Water for Commercial Oil Shale Development in Utah: Allocating Scarce Resources and the Search for New Sources of Supply, 30 J. LAND RESOURCES & ENVIL. L. 95, 97 (2010) (citing UTAH CODE ANN. § 73-3-8 (West 2014)).

only. ¹⁰⁷ In *United States v. Schmutz*, ¹⁰⁸ the state engineer granted private water rights in central Utah, even though the waters had been used as stock water for over thirty years. ¹⁰⁹ The state engineer disregarded that PWR 107 had reserved the land and water, allowing private grantees to block access to the area and declaring, "all public waters... the property of the state and... subject to appropriation under the laws of the state." ¹¹⁰ The court spoke of the apparent shared interests between the state and the federal government in preserving water resources for the public, but ultimately decided the case on other grounds, refusing to rule on PWR 107's preemption of state law. ¹¹¹

Since the 1930s, Utah has partially recognized federal reserved water rights, including some PWR 107 waters, but to this day has not fully quantified the reservations, leaving a gap in the data and information available through the BLM and the state. 112 Utah's 1990 State Water Plan expressed concern for the lack of federally reserved water rights on record—both the sources and the reserved quantities—to be used in conjunction with other state planning and management decisions. 113 By 2001, the state water plan recognized that progress had been made to rectify some of the information gap through cooperation with the BLM; however, actual PWR 107 rights were not specified in the water plan. Some BLM offices are including PWR 107 information in their resource management plans, though more complete records of these reserved waters are not readily evident. 114 Further, the progress to account for federal reserved water rights was only generally stated without further elaboration or discussion of PWR 107 water record keeping. 115 The state water plans still do not delineate all federally reserved water rights—or PWR 107 waters—in Utah, though it appears the state and BLM are aware of the importance of defining these waters for the sake of water resource planning.

¹⁰⁷ United States v. Schmutz, 56 F.2d 269, 270 (D. Utah 1931).

¹⁰⁸ 56 F.2d 269 (D. Utah 1931).

¹⁰⁹ *Id.* at 270–71; Muhn, *supra* note 11, at 74–75, 126.

¹¹⁰ Muhn, *supra* note 11, at 126 (internal quotation marks omitted).

¹¹¹ *Id.* at 126–28.

See, e.g., Grant L. Hacking, 50 IBLA 154, 155 (Sept. 30, 1980) (using a memorandum to establish that the BLM State Solicitor in Utah had identified PWR 107 waters that would prohibit a pipeline right-of-way).

¹¹³ UTAH DIV. OF WATER RES., UTAH DEP'T OF NATURAL RES., UTAH STATE WATER PLAN 2–12 (1990), *available at* http://www.water.utah.gov/planning/swp/Swp_2.htm, *archived at* http://perma.cc/4YBK-4NA3.

See, e.g., UTAH BUREAU OF LAND MGMT., RICHFIELD DRAFT RESOURCE MANAGEMENT PLAN & ENVIRONMENTAL IMPACT STATEMENT app. 5 at A5–5 to A5–7 tbl.A5–7 (2007), available at http://www.blm.gov/pgdata/etc/medialib/blm/ut/richfield_fo/planning/rmp/draft_rmp_eis/appendices.Par.14829.File.dat/Appendix%205.pdf, archived at http://perma.cc/T6NR-Y9DP.

¹¹⁵ UTAH DIV. OF WATER RES., UTAH DEP'T OF NATURAL RES., UTAH'S WATER RESOURCES: PLANNING FOR THE FUTURE 59–60 (2001), *available at* http://www.water.utah.gov/waterplan/SWP_pff.pdf, *archived at* http://perma.cc/Q9J8-8E64.

B. Federal Waters, PWR 107, and Utah: Where Are the Issues?

Federal reserved water rights and PWR 107 can muddy state management of water resources, as well as federal management of public lands. Federal waters have been reserved on federal lands that were withdrawn for a stated purpose. These lands include Indian reservations, national forests created as forest reserves, and national parks and monuments. Currently there are several uncertainties about these reservations that will make state water management in light of federal interests very difficult. Moreover, PWR 107, by order, reserved public lands and public water to meet federal purposes of preventing water monopolization and providing for stockwatering in the arid West. This order most immediately affected lands that were already federally held, withdrawing them from the public disposal, though not specifying the location of the reserves. If these water sources are not identified and quantified, there are several issues regarding PWR 107 and federal reserved water rights claims that will confound BLM and state management of water resources and public lands. In the face of continued development on BLM land and climate change, these unquantified rights will demand clarification in the near future.

1. Federally Reserved Lands with Federal Water Interests

(a) Indian Reservations

Arguably the most important federal reserved waters rights for Utah are those that are implied with land withdrawals made for Indian reservations. ¹¹⁶ These reserved rights are the most important because of the large volume of water potentially involved, the early priority date associated with reservation establishment, and because federally reserved water rights, unlike rights granted under state systems, cannot be lost due to nonuse. ¹¹⁷ The combined effect of these three attributes means that the largest and most senior rights within a river basin may be lying dormant. If developed, these dormant rights could force existing water users with a later priority date to curtail their appropriated water use.

When the federal government created Indian reservations, it generally expressly reserved only the land. The U.S. Supreme Court held, however, that with the land came a reservation of sufficient quantities of water to fulfill the purpose of Indian reservations. ¹¹⁸ A "permanent homeland" would be otherwise unsupportable without water. ¹¹⁹ Undoubtedly, these reserved waters have some of

NAT'L RESEARCH COUNCIL, WATER TRANSFERS IN THE WEST: EFFICIENCY, EQUITY, AND THE ENVIRONMENT 92–93 (1992). The purpose of the reservation was defined in terms of agriculture potential and the amount of irrigable acreage available on the Indian reservation. *Id.* at 94; *see also* Winters v. United States, 207 U.S. 564, 572 (1908).

¹¹⁶ Ruple & Keiter, *supra* note 106, at 119.

 $^{^{117}}$ Id

¹¹⁹ NAT'L RESEARCH COUNCIL, *supra* note 118, at 93.

the earliest priority dates in Utah. ¹²⁰ Colorado, California, Montana, Nevada, Idaho, and Arizona have all negotiated court-approved settlements to quantify how much water was intended to be reserved to fulfill the needs of many Indian reservations. ¹²¹ However, Indian reserved water rights have not been quantified in Utah. ¹²²

In the Uintah Basin, in northeastern Utah, several demands on water resources make quantifying the Uintah and Ouray Indian Reservation water rights imperative. These demands include irrigation purposes, existing and proposed energy development projects, population growth, and changes in water availability resulting from a changing climate. The Department of the Interior, the State of Utah, and the Northern Ute Tribe are currently in negotiations to settle Indian reserved rights claims for the Ute Indian Tribe. 123 These negotiations have been ongoing for many years. A settlement would clarify the amount of water reserved for the reservation, where the water would come from, and whether the water would be restricted to particular uses. 124 Given the development demands on water in this particular region of the state, desire to settle the quantification of the reserved waters is high. 125

Once the amount of water for an Indian reservation is quantified and agreed upon, the concept of beneficial use may not be traditionally applicable under the terms of the settlement; Indian reserved rights may be put to any beneficial use without a change application typically required for other beneficial use changes. ¹²⁶ Another important aspect of Indian reserved waters is that under at least some settlement agreements, Indian reserved water rights may be leased to support off-reservation uses. ¹²⁷ "[S]everal Indian tribes believe that the most productive and profitable uses of their reserved water rights are off the reservation." ¹²⁸ Ultimately, the federally created land and water reservations for tribes could significantly serve both the tribes that have been denied full administration of their water rights and

¹²⁰ See Ruple & Keiter, supra note 106, at 119. The Uintah and Ouray Indian Reservation was established in 1861. *Id*.

NAT'L RESEARCH COUNCIL, *supra* note 118, at 93. Difficulties with implementation of these established settlements are not discussed in this Note.

One reservation in Washington County has quantified their water reservation; however, this is the only settlement in Utah to have been approved. H.R. REP. No. 106-743, at 1 (2000).

¹²³ Ruple & Keiter, *supra* note 106, at 119–21.

¹²⁴ *Id.* Under one scenario there would be limited restrictions on the Tribe's use of water, allowing for leasing or selling the water or water rights and transferring the water for uses occurring by non-Indians and off the reservation. *Id.* at 121.

¹²⁵ *Id.* at 121.

¹²⁶ NAT'L RESEARCH COUNCIL, *supra* note 118, at 94 ("[R]ights quantified on the basis of the amount of practicably irrigable acreage within a reservation can be applied to mining, municipal uses, irrigating a resort's golf course, or even maintaining instream flows for a fishery.").

The actual legal right to "transfer water off the reservation remains unresolved in the courts, and Congress has chosen to deal with the issue in an ad hoc manner." *Id.* at 95. 128 *Id.* at 94.

energy development on public lands, if the tribes seek to pursue such options. Without finality in the water settlement, all parties are stalled from moving forward with future planning and management. Further, should a settlement agreement be ratified, the state engineer will need to consider how the ratified senior water rights would affect other state appropriated water uses from the same water sources. There reasonably could be issues of over appropriation and disruption to current water uses caused by a call of the river, or exercise of these senior priority water rights that the state has otherwise not had to consider.

(b) National Parks and Wilderness Areas

The first withdrawal of public lands to create a national park, and the implied reservation of water with it, was for what was to become Hot Springs National Park in Arkansas. 129 In Utah, there are several national parks that have been created since the Hot Springs National Park, though the ensuing water rights have been fiercely debated. The federal government ultimately settled with the State of Utah over water rights reserved for Zion National Park. 130 This settlement, like all settlements involving federal reserved water rights, demanded a careful balancing of already allocated water rights, state priorities for the implicated water resources, and purposes of the federally reserved national park. The parties agreed that the state would recognize the federal reserved water rights claims by the National Park Service; the parties quantified how much water and which water supply source would be claimed; and the parties stipulated that federal government claims would be subordinate to already allocated state water rights from the same water sources and subject to administrative management by the state engineer. 132 Achieving a settlement and recognizing the reserved water right, the state went on to resolve the details of additional federal reserved water rights claims for Rainbow Bridge, Hovenweep, Cedar Breaks, Timpanogos Cave National Monuments, and the Golden Spike National Historic Site. 133

Wilderness Areas are designated under the Wilderness Act of 1964 and, after legal consideration and negotiation, also may include implied federal water rights in the land designation. ¹³⁴ Each federal land designation in Utah could implicate more federal water reservations. Given the nature of federal land ownership in

¹²⁹ See Act of Apr. 20, 1832, ch. 70, 4 Stat. 505 (reserving the land and the springs from future disposal); S. Res. 160, 110th Cong. (2007) (enacted).

¹³⁰ See Zion National Park Water Rights Settlement Agreement (Dec. 4, 1996), available at http://www.wcwcd.org/downloads/agreements/, archived at http://perma.cc/E C2G-VVSE. The settlement also involved the local water conservancy districts of Washington and Kane counties. See id.

¹³¹ See id.

 $^{^{132}}$ Id.

¹³³ Env't & Natural Res. Div., *supra* note 15.

¹³⁴ See, e.g., Kelly J. Latimer, Federal Reserved Water Rights Doctrine Under the Wilderness Act: Is It Finally Here to Stay?, 20 J. LAND RESOURCES & ENVTL. L. 335 (2000).

Utah, another federal land designation could involve additional claims of federal reserved water rights and could necessitate additional careful settlements between the state and the federal government in potentially over-allocated water basins.

2. Federal Reserves on Public Lands Competing with Private Interests

Federal reserved water rights and PWR 107 claims have also protected public water use for private interests. The flocks of settlers who would originally use PWR 107 to access watering holes, for example, were dependent on this withdrawal and reservation of land for establishing their personal livelihood in the West. Public lands also offer opportunities for multiple use and development through leasing; in Utah there is strong interest in energy development that would involve leases on public land. ¹³⁵ Potential private interests in resource extraction or access across multiple use BLM lands could be in direct conflict with existing PWR 107 reserves. However, because the location of PWR 107 waters and the amount of other federal reserved water rights are unknown, these unclear conflicts will likely require judicial attention in a variety of possible legal disputes. This could serve to only further muddle the claims.

(a) Proposed Resource Development

The desert West is a frontier for energy resource extraction. Where the federal government once reserved water from federal disposal and state appropriation for the purposes of Indian reservations, human consumption, and livestock watering, future natural resources projects may divert the primary purposes of these reservations. Utah needs to carefully consider how to allocate water for mining and energy development on BLM land with unquantified federal reserved water rights and possibly unidentified PWR 107 reservations. Should uses of the same water and land conflict, the state engineer will need to work with the BLM to resolve the conflict or else face judicial scrutiny. ¹³⁶

An oil shale proposal in Utah and Colorado illustrates how water rights and land use for energy development on public lands may conflict with federal

¹³⁵ Cf. John C. Ruple, Water for Power in the Twenty-First Century: What a Growing Population, Changing Climate, and Energy Development Mean for Utah's Water Resources, Symposium, 32 UTAH ENVTL. L. REV. 363, 364–65, 370–72 (2012) (describing the increased demand for liquid energy driven by population growth in Utah and the United States that will require additional water resources to develop).

suggests that PWR 107 must be adjudicated by the state engineer to be legally reserved and that PWR 107 never withdrew the land from metalliferous mining claims. Great Basin Res. Watch v. U.S. Dep't. of Interior, No. 3:13-cv-00078-RCJ, 2014 WL 3696661, at *5–8 (D. Nev. July 23, 2014) (holding that though the BLM had notified the Nevada state engineer of the status of springs as PWR 107, the springs had not been adjudicated and it was proper for the BLM to decide now the springs were too small to be PWR 107 springs).

reserved water rights and PWR 107. 137 The Government Accountability Office (GAO) released a report in 2010 stating that oil shale in the Green River Formation could play a large role in helping meet domestic energy demand. ¹³⁸ An estimated seventy-two percent of the oil shale is located under federal lands managed by the BLM. ¹³⁹ The GAO currently estimates that 42 to 504 gallons of water are needed per barrel of oil produced depending on the type of operation. 140 Water for oil shale development must be appropriated under governing state law. 141 The Green River Formation considered for oil shale development spans states with prior appropriation law. 142 The GAO also notes that private companies currently operating in Utah and Colorado hold enough private water rights to start the initial oil shale development in the area. ¹⁴³ In addition to possibly being able to purchase additional water rights from private permit holders, like legacy agricultural users, state officials informed oil shale companies that the Ute Indian Tribe might consider leasing water rights to the development project. 144 Federal reserved water rights will need to be quantified completely in this area to help the state manage future water supplies for all users; this quantification could lend certainty to water available for oil shale development.

PWR 107 also makes energy development in the West uncertain. Much of the development would occur on BLM land. In Utah, the only federal reserved water rights that the BLM holds result from PWR 107. 145 Unlike other federal reserved

¹³⁷ Ruple & Keiter, *supra* note 106, at 99–106, 112–23.

¹³⁸ U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-12-740T, UNCONVENTIONAL OIL AND GAS PRODUCTION: OPPORTUNITIES AND CHALLENGES OF OIL SHALE DEVELOPMENT (2012), *available at* http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/HHRG-112-%20SY20-WState-AMittal-20120510.pdf, *archived at* http://perma.cc/UN7P-TSFN.

¹³⁹ *Id.* at 8; *see also id.* at 3 (stating that the Rand Corporation estimates that thirty to sixty percent of the oil shale in this formation could be recovered, amounting to roughly one and one half trillion barrels of oil); BUREAU OF LAND MGMT., U.S. DEP'T OF THE INTERIOR, ENERGY FACTS: ONSHORE FEDERAL LANDS 8 (2005), *available at* http://www.bl m.gov/pgdata/etc/medialib/blm/wo/Communications_Directorate/general_publications/ene rgy_facts.Par.76690.File.dat/energy_brochure_2005.pdf, *archived at* http://perma.cc/LLP9-J2QK.

J2QK.

140 U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-11-35, ENERGY-WATER NEXUS: A BETTER AND COORDINATED UNDERSTANDING OF WATER RESOURCES COULD HELP MITIGATE THE IMPACTS OF POTENTIAL OIL SHALE DEVELOPMENT 15 (2010), available at http://www.gao.gov/assets/320/311896.pdf, archived at http://perma.cc/A6HN-3G9F.

¹⁴¹ BUREAU OF LAND MGMT., FEDERAL RESERVED WATER RIGHTS, *supra* note 11.

¹⁴² U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 140, at 6.

¹⁴³ *Id.* at 26–27; *see also* Ruple & Keiter, *supra* note 106, at 99–101 (discussing the difference between waters actually diverted and waters consumed by agriculture rights, in terms of how much water is actually available for reallocation, and finding that irrigation rights in this area are some of the oldest, having advantageous priority dates for new users).

¹⁴⁴ U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 140, at 27.

 $^{^{145}}$ Bureau of Land Mgmt., Federal Reserved Water Rights, supra note 11, at 2.

water rights, PWR 107 waters would not be available for development and the oil shale companies may only consider applying to the state to use any excess water from a PWR 107 spring. Should PWR 107 water not be recorded properly, the spring and reserved land could be inadvertently disturbed by development, possibly drawing legal attention that could stall the development. Without complete records with the BLM's and the state water engineer's offices, it is uncertain whether a lack of PWR 107 accounting will upset proposed oil shale development.

(b) Existing Private Interests

Additional concerns over quantification of federal reserved water rights and PWR 107 claims include current water allocation. Throughout Utah, agriculture and grazing is heavily permitted. Should impending quantification of federal reserved water rights claims expose overallocation, existing state water permit holders may find their water rights have a less valuable priority date or they may be entitled to use less water during times of shortage.

Further, once a PWR 107 water claim is identified, other historic uses of the land could also be disrupted. In Kane County v. United States, 146 the Utah District Court held that historic use of a road that traversed PWR 107 reserves could establish a nonfederal title to the land. 147 The local county had sued to quiet title to several roads including one running across PWR 107 land. 148 The county argued that the roads were valid R.S. 2477 rights-of-way with vested rights to continued access based on historic use. 149 The court noted that the secretary of the interior, by Interpretation No. 92, had identified the specific PWR 107 springs and land reservations on the land in question, and where an established road crossed the reserved land, title to the land could only be held by the United States and not the county. 150 The court ultimately decided that the road could not establish nonfederal title through R.S. 2477 because the already-existing PWR 107 had reserved land from the public domain for public access, regardless of road use. 151 The court further noted that a coal withdrawal on the same land could not preempt the PWR 107 reservation because the withdrawal only precludes certain private appropriation while a reserve, like PWR 107, withdraws the land and dedicates the

¹⁴⁶ No. 2:08-cv-00315, 2013 WL 1180764 (D. Utah Mar. 20, 2013).

¹⁴⁷ *Id.* at *58–60.

¹⁴⁸ See id. at *1-3, *58-60.

¹⁴⁹ *Id.* at *1–3. These rights-of-way were granted by An Act Granting the Right of Way to Ditch and Canal Owners over the Public Lands and for Other Purposes. Ch. 262, § 8, 14 Stat. 251, 253 (1866) (repealed 1976). FLPMA later repealed this act, but like PWR 107, grandfathered in already existing rights-of-way. *Kane Cnty.*, 2013 WL 1180764, at *2. Kane County was asserting that their use of the road pre-dated FLPMA though the court recognized that PWR 107 reserved the land first. *Id.*

¹⁵⁰ Kane Cnty., 2013 WL 1180764, at *58–59.

¹⁵¹ *Id*.

land to a specific public use.¹⁵² As uses of federal lands overlap with reservations such as PWR 107, literally and figuratively, courts will likely be called upon to continue to define how PWR 107 claims may preclude other rights to water and land.¹⁵³

C. Additional Concerns: Climate Change on the Western Front

Finally, PWR 107 relies upon springs and seeps in a semiarid region that have not all been identified. With prolonged drought and changes in precipitation and snowpack, it is unclear whether a once-designated water source will continue to flow, let alone provide enough water to remain important under PWR 107, or even satiate any use for that matter. Climate change could alter the recharge of the springs or potentially dewater the spring entirely, altering how agencies are supposed to quantify the reserved waters. Reduced stream flow is also evident, which would interfere with the amount of water available for larger implied federal reserved water rights that have yet to be settled. 154

With changes in water supply, it will become imperative to clarify what a PWR 107 claim actually is. Uncertainties still exist over what an unadjudicated PWR 107 claim creates. Without being formally quantified, the amount of water that would be reserved could also be disputed, and should the spring have a reduction in flow, either from basin use or climate change, it is unclear if the status of a reserved water and land can be lost with diminished water flow. 156

The technological development for resource extraction, legislative limitations on federal water reserves, and possible ramifications of climate change greatly increase the need for complete administrative records and adjudication of federally reserved waters. And without clear records of PWR 107 claims, these specific federal reservations could create judicial hassle and legal liabilities much larger than the springs themselves. It will be unclear what legal duties the BLM owes to public water reserves should these claims not be fully defined.

¹⁵² *Id.* at *58.

as public rights-of-way and coal reserves, another impending issue that has not been resolved is whether mitigation may offset these competing rights. For example, if one claim to the public land should interfere with the public water reserve on that land, does the BLM have the authority to mitigate impairment to the water reserve by designating another spring a water reserve?

154 Cf. Ruple, *supra* note 135, at 376–77 (concluding Utah's future development plans

¹⁵⁴ *Cf.* Ruple, *supra* note 135, at 376–77 (concluding Utah's future development plans of the Upper Colorado River already exceed the available water flow and citing the National Research Council and Bureau of Reclamation who both find that drought and warmer temperatures in Utah will likely reduce stream flow in the Colorado River).

¹⁵⁵ See Great Basin Complaint, supra note 97.

¹⁵⁶ See id. at 9–11, 19.

IV. THE FUTURE OF PWR 107 IN UTAH

Utah has a history of managing water resources for local interests. Otherwise undeterred by the "Semidesert with a Desert Heart," Utah's early Mormon settlers "attacked the desert full-bore" and irrigated the valleys with determination. The federal government had little to do with this initial irrigation industry; instead, it was the U.S. Bureau of Reclamation (BOR) that was guided by these local experienced Mormon settlers. At present, the leaders of Utah may once again influence federal policy pertaining to water resources through local policy development. PWR 107 is ripe for clarification; as demonstrated by unique cases in Nevada, there is a vacuum of clear legal definitions of the authority and liabilities under PWR 107 claims on BLM land. Utah should now seek to establish clear administrative records of these water sources to avoid similar litigation. Moreover, complete administrative record keeping of all federal reserved water rights and PWR 107 claims will mitigate legal conflict regarding scarce and likely overallocated resources. ¹⁵⁹

A. State and Federal Tensions

First, impending PWR 107 legal conflicts are likely to arise between the state and the BLM because the federal government has been unclear about what these claims are legally, as well as passive in managing other federal reserved water rights. Utah has yet to formalize recognition of PWR 107 completely in the state records, though BLM field offices record these waters in federal land use records. It may seem desirable for the state to assert primacy and request full property and administrative rights over all federally reserved waters and PWR 107 claims while the federal records and legal authority are unclear. Such a movement would allow the state to set clearer land and water resource objectives. However, a modern Sagebrush Rebellion 160 would be a difficult action for the states to take.

In 1982, federal legislative representatives from Nevada attempted to effect revocation of PWR 107, declaring that PWR 107 was "no longer valid and there was no useful purpose for [the withdrawals'] continuance." The primacy of state law over water rights was not a wholly compelling argument, though the interior

 $^{^{157}}$ Marc Reisner, Cadillac Desert: The American West and its Disappearing Water 1–2 (1986).

¹⁵⁸ *Id.* at 2. The Bureau of Reclamation launched a federal irrigation program in 1902 based on Utah's model. *Id.*

¹⁵⁹ See Muhn, supra note 11, at 142–45.

See, e.g., Bruce Babbitt, Symposium, Federalism and the Environment: An Intergovernmental Perspective of the Sagebrush Rebellion, 12 ENVTL. L. 847, 848 (1982). But see Adam Nagourney, A Defiant Rancher Savors the Audience That Rallied by His Side, N.Y. TIMES, April 23, 2014, http://www.nytimes.com/2014/04/24/us/politics/rancher-proudly-breaks-the-law-becoming-a-hero-in-the-west.html?_r=0, archived at http://perma.c c/BD3P-JRVR.

¹⁶¹ REPORT ON BLM WATER, supra note 96, at 8–9.

solicitor did determine that the amount of water actually reserved could be determined on a case-by-case basis and all water deemed not reserved could be claimed pursuant to state law. 162 Utah may similarly step in and try to manage reservations should the state interest be great enough. 163 For now it appears that Utah instead prefers some joint ownership and coordination with management of PWR 107 resources. Whether in negotiations or in legal controversy over public water rights, Utah will certainly raise state primacy concerns for the federal government to consider.

Presently, for its part, the BLM has been unclear about specific PWR 107 duties. The BLM is responsible for carrying out the prerogatives ordered in PWR 107:

It is . . . incumbent on BLM to: protect existing water rights of the United States; oppose applications for water detrimental to U.S. rights or interests; protect the quality of water resource values; provide food and habitat for fish and wildlife; manage the public lands on the basis of multiple use and sustained yield. 164

However, strong, transparent policy posture about how the agency should manage PWR 107 waters that may conflict with other uses of public land is wanting.

There is a similar lack of federal duty regarding federal reserved water rights. Agencies such as the BOR and the BLM, who already manage large amounts of water and land in the West, are deferring to state prerogatives in certain circumstances such as small scale water projects; "the federal government's role at the present time is largely passive." 165 This is both disquieting, given the importance of the history of constitutional federal supremacy in the West, ¹⁶⁶ and "[i]ronic," given that the federal government played a huge role in creating the West through water and land use policies that still exist. ¹⁶⁷ The Department of the Interior likewise supports granting state actions deference regarding water resource

¹⁶² *Id.* at 9.

¹⁶³ In an analogous situation, in October of 2013, Utah stepped in during the partial federal government shutdown and asserted the state interest in tourism dollars while the federal government grappled with national spending priorities. Michael Muskal, Zion and Bryce Open. Utah Sidesteps Shutdown, Pays to Open Parks, L.A. TIMES (Oct. 11, 2013), http://www.latimes.com/nation/nationnow/la-na-nn-utah-reopen-national-parks-governmen t-shutdown-20131011,0,4417862.story#axzz2if0Ru0C7, archived at http://perma.cc/PQL6-YXDZ.

164 REPORT ON BLM WATER, *supra* note 96, at 4.

¹⁶⁵ See NAT'L RESEARCH COUNCIL, supra note 118, at 87–88.

¹⁶⁶ See, e.g., United States v. California, 694 F.2d 1171, 1176 (9th Cir. 1982) (finding, after a long legal history, that state law could be used to manage a federally funded water project provided that state control not be contrary to "the clear and manifest purpose of Congress").

¹⁶⁷ NAT'L RESEARCH COUNCIL, *supra* note 118, at 87.

management and water transfers. 168 However, while the Department of the Interior requires that water transfers comply with seven different principles protecting third party interests, federal interests, and environmental impacts, the Department of the Interior has also chosen to "pursue a reactive, rather than proactive, posture regarding specific potential" water management decisions by the states. ¹⁶⁹ The federal government has been legislating matters of unenumerated Indian reservation water rights since 1982 and has been concurrently grappling with water rights concerning federal interests in wildlife; however, Congress has yet to "put its imprimatur on any general statement of law either approving or limiting federal water transfers." Provided "the national interest in the environment and in the well-being of Indian tribes toward which the nation has a trust obligation, this inaction is difficult to justify." ¹⁷¹ In the 1980s it was found that the BLM was not implementing policy to protect federal interests in water rights, even "subordinating the Federal position to State water laws, ceasing to assert or defend Federal property rights by nonassertion of reserved water rights, and declining to appeal State court rulings detrimental to Federal rights and interests." ¹⁷² The response has been threatened legal action and more difficult settlement negotiations by the tribes themselves. Utah needs to be able to anticipate a stronger federal push to quantify federal reserved water rights in Utah and possible liability over PWR 107 claims.

Utah and the BLM have been working cooperatively to align local and national interests in Utah land and water resources. In 1984, the state and federal government demonstrated cooperative potential in the hearings for the Utah Land Management and Improvement Act. 173 The BLM has a policy of not asserting federal water rights when the state can serve the interests of PWR 107 at least as well as the BLM, if not better. 174 The BLM does not formally recognize that states are able to protect public water rights better than the federal government, but there is much room for Utah to assert state priorities, ¹⁷⁵ be it through development or conservation of the water resources. Even with cooperative management of the water resources, adjudication may still be difficult if water users feel the reserved rights to water are being disregarded.

¹⁶⁸ Id. at 89. The Department of the Interior has formal policy supporting and facilitating voluntary water transactions. Id.

¹⁶⁹ *Id*.

¹⁷⁰ *Id.* at 90.

¹⁷² REPORT ON BLM WATER, *supra* note 96, at 4.

¹⁷³ See Utah Land Management and Improvement Act of 1984: Hearing on S. 2471 and S. 2949 Before the Subcomm. on Pub. Lands and Reserved Water of the Comm. on Energy and Natural Res., 98th Cong., 2d Sess. 1–2 (1985).

174 REPORT ON BLM WATER, supra note 96, at 10.

¹⁷⁵ See id.

B. Public Assertions Against the BLM in Utah

Second, it is imperative that Utah and the BLM take note of public standing in PWR 107 lawsuits. PWR 107 was initiated to withdraw a particular amount of land and water from the public domain and state appropriation to guarantee a public purpose. It is more likely that the public will demand to be involved in ad hoc claims over PWR 107 and potential water transfers and public land leases than it is that the executive or Congress will clarify the current duties owed PWR 107 and other federal reserved water rights. 176

Historically, asserting a PWR 107 water claim depended heavily on the testimony of living witnesses "who could verify that the claimant or his predecessor(s) was in fact the first to use a certain water on the federal lands for stock water." Today, water claims that are not protected from other permissible BLM land uses may be asserted by more than just the original stockmen. With the court recognition of standing for water users beyond these stockmen in a PWR 107 judicial complaint, both the states and the BLM could face public liability for inadequate protection of the public interest in reservations.

Public interest reviews are one manner by which Utah and the BLM could engage the public and avoid litigation over lack of information about PWR 107 claims and administration. A public interest review process identified by the National Research Council includes first identifying "elements that constitute the public interest" in the proposed water management decisions and then stating "policy guidance to resolve conflicts among competing interests." ¹⁷⁸ To be successful, "[p]ublic participation in the review processes is essential" because broad participation will increase the likelihood that all elements of the public interest are identified. ¹⁷⁹ This policy recommendation implicates administrative law procedures. The National Research Council encourages procedures that would increase the amount of third-party participation, as well as the burdens to the state agency, including permission to present and speak, legal ability to influence management decisions and representation, and financial and legal support to investigate the impacts. ¹⁸⁰ The Administrative Procedures Act already legally

¹⁷⁶ See, e.g., Great Basin Mine Watch v. Hankins, 456 F.3d 955 (9th Cir. 2006) (hearing Great Basin Mine Watch's appeal, in which it was claimed the United States Department of the Interior and Bureau of Land Management violated the National Environmental Policy Act and the Administrative Procedure Act, 42 U.S.C. § 4312 and 5 U.S.C. § 704–06); Great Basin Res. Watch v. U.S. Dep't. of Interior, No. 3:13-cv-00078-RCJ, 2014 WL 3696661, at *1–3 (D. Nev. July 23, 2014) (hearing the Great Basin Resource Watch argument that the BLM had an inadequate Record of Decision and Final Environmental Impact Statement).

 $^{^{177}}$ Wayne Hage, Storm over Rangelands: Private Rights in Federal Lands 164 (3d ed. 1994).

¹⁷⁸ NAT'L RESEARCH COUNCIL, *supra* note 118, at 98–99.

¹⁷⁹ See id. at 99.

¹⁸⁰ *Id.* at 100–01.

requires many of these procedures for interested parties, ¹⁸¹ though it is not necessarily clear whether Utah has formal public review guidance that extends to general members of the public. ¹⁸² The National Research Council advocates for comprehensive planning as well, encouraging states to create plans that outline clear policy interests and guidance, thus creating predictability in water management decisions. ¹⁸³ But this would require the BLM and Utah to fully document the water rights already appropriated and the purpose of PWR 107 rights.

Citizen groups have recently wielded PWR 107 rights to attempt to defeat mining projects that allegedly conflicted with the water reserves in Nevada. ¹⁸⁴ In Nevada, *Great Basin Mine Watch v. Hankins* has paved the way for future cases to be brought by the public challenging land leasing when the BLM appears to not defend PWR 107 rights. ¹⁸⁵ And though Utah limits water disputes to water right holders, the standing recognized in *Hankins* for the public could expose state and BLM decisions regarding energy development to litigation over public interests in PWR 107.

V. CONCLUSION

"Speculation. Water monopoly. Land monopoly. . . . John Wesley Powell was pretty well convinced that those would be the fruits of a western land policy based on wishful thinking, willfulness, and lousy science." 186 PWR 107 was created to avoid water monopolization through land reservation. However, it would seem that management of public water reserves on federal lands has succumbed to some of John Wesley Powell's concerns: management has been incomplete, ad hoc, and potentially based on incomplete hydrological data. PWR 107, as well as federal water reserves in general, pits western states against the BLM where there is a lack of comprehensive and clear reserves. As priorities for water uses on public lands shift, well-founded policy for resource allocation must include quantification and clarification of federally reserved waters. Public citizens will possibly leverage PWR 107 to challenge energy development where the BLM is otherwise complicit, especially as new technologies allow for extraction of resources previously inaccessible. Energy development companies will need to work more with federal and state water authorities as prior appropriation has already tied up most water resources in the West. These pressures will inevitably require federal courts to further define the scope and intentions of PWR 107. Utah faces additional uncertainty over federal reserved water rights claims involving Indian water

¹⁸¹ See, e.g., 5 U.S.C. §§ 553(c), 553(e), 554(c) (2012).

¹⁸² See, e.g., Utah Admin. Code R655-6-11 (2014).

¹⁸³ Id at 99

¹⁸⁴ See, e.g., Great Basin Mine Watch v. Hankins, 456 F.3d 955, 966 (9th Cir. 2006).

¹⁸⁵ See id.; see also Great Basin Res. Watch v. U.S. Dep't. of Interior, No. 3:13-cv-00078-RCJ, 2014 WL 3696661, at *1–2 (D. Nev. July 23, 2014) (challenging the approval of a mining operation on several environmental grounds including PWR 107).

¹⁸⁶ REISNER, *supra* note 157, at 43.

reservations, national parks, and wilderness reserves. As these demands for water become more relevant and valuable, Utah and the federal government will need to define competing reservation priorities and legal duties. This will need to be done through clear policy definition, assertions of federal authority, comprehensive planning, and consideration of public interests and involvement. Should competing interests come to a head as they have in Nevada, the Utah public may be able to leverage PWR 107 to assert public interests in unclear water claims. This would require the judiciary to instead grapple with clarifying what water reservation purposes and duties are and could lead to further confusion. Western water rights were originally secured despite competing interests, priorities, and governments. While complete monopolies may have been avoided, and life in the desert has been supported, the next juncture in federal reserved water rights and PWR 107 claims will no doubt be momentous. The present circumstances in Utah provide a ripe environment for defining the next phase of PWR 107 legal authority—possibly recreating or changing what these water rights actually are.