

No. 137, ORIGINAL

IN THE
SUPREME COURT OF THE UNITED STATES

STATE OF MONTANA, Plaintiff

v.

STATE OF WYOMING

AND

STATE OF NORTH DAKOTA, Defendants

BEFORE THE HONORABLE BARTON H. THOMPSON, JR.
SPECIAL MASTER

WYOMING'S BRIEF IN OPPOSITION TO MONTANA'S MOTION FOR SUMMARY
JUDGMENT ON THE COMPACT'S LACK OF SPECIFIC INTRASTATE
ADMINISTRATION REQUIREMENTS

PETER K. MICHAEL*
Interim Attorney General of Wyoming

JAY JERDE
Deputy Attorney General
JAMES KASTE
Senior Assistant Attorney General
CHRISTOPHER BROWN
Senior Assistant Attorney General
MATTHIAS SAYER
Assistant Attorney General
ANDREW KUHLMANN
Assistant Attorney General
123 Capitol Building
Cheyenne, WY 82002
(307) 777-6196

**Counsel of Record*

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SUMMARY OF ARGUMENT

In its motion for summary judgment the State of Montana raises the issue of whether the Compact imposes specific intrastate regulation requirements as a prerequisite to the States' enjoyment of their pre-1950 rights. It does. At Montana's insistence, the United States Supreme Court has held that the State of Wyoming's enjoyment of its pre-1950 rights must be subjected to prior appropriation regulation requirements embedded in the doctrine of appropriation; in that instance, requirements related to consumptive use. In reaching that conclusion, the Court more generally held the States' pre-1950 rights enjoy protection under prior appropriation applied across the state line, with the details to be determined "in accordance with the laws governing the acquisition and use of water under the doctrine of appropriation." Art. V(A). While Montana is free to administer its water rights in whatever manner it sees fit, once Montana seeks to assert its pre-1950 Compact rights against Wyoming, Montana's internal administration must be sufficiently robust to conform to the requirements of the doctrine of appropriation.

Fundamental among the laws of prior appropriation is beneficial use — the basis, the measure, and the limit of all water rights. To establish beneficial use, Montana must determine whether the needs of its pre-1950 appropriators are being met as a prerequisite to making a call. Such a determination necessarily requires Montana to ensure that its appropriators confine themselves strictly within the rights which the law gives them; that is, to the amount of water within the extent of their appropriation which they actually apply to some beneficial use.

One incident of prior appropriation law is that, as the Special Master found in his First Interim Report, Montana must exhaust intrastate remedies prior to seeking curtailment of Wyoming diversions. Failure to exhaust these remedies would unavoidably obscure the cause of

deficiencies experienced by Montana pre-1950 rights and could coerce Wyoming to provide water to post-1950 users in Montana in excess of Montana's percentage allocations under Article V(B). To avoid these results, Montana must engage in some form of intrastate administration to ensure that it has not run afoul of its Compact obligations.

To satisfy the Compact's intrastate administration requirements, Montana need not adopt Wyoming's system of administration and regulation, or any other system it does not choose. In fact, its current system includes rules and authority which appear to be wholly consistent with the Compact and the doctrine of appropriation. So long as its rules of intrastate regulation do not conflict with the Compact and the doctrine of appropriation, the Compact does not pre-empt them. Montana must simply employ those consistent rules properly before attempting to enforce its Compact rights against Wyoming.

Wyoming does not oppose Montana's Motion to the extent Montana merely seeks to repel what it perceives as forced adoption of Wyoming's system of administration and regulation. Wyoming opposes Montana's Motion to the extent Montana seeks to erase its Compact obligations under Articles V(A) and V(B) or subvert the doctrine of appropriation.

ARGUMENT

I. Article V(A) of the Compact Requires Intrastate Regulation and Administration in Accordance with the Doctrine of Appropriation

Montana's current Motion requests a partial summary judgment on grounds that the "Yellowstone River Compact does not impose specific requirements on intrastate regulation and administration of water rights as a prerequisite for a State's enjoyment of its pre-1950 Compact rights." Montana's Mot. for Summ. J. on the Compact's Lack of Specific Intrastate Administration Requirements and Br. in Support (hereinafter "Montana's Motion"). This

question has already been decided. Once Montana seeks to assert its pre-1950 Compact rights against Wyoming, its internal administration must be measured against “the laws governing the acquisition and use of water under the doctrine of appropriation.” Art. V(A).

The Special Master (as later approved by the Supreme Court) settled the issue of administration under Article V(A). He was aware that “the Compact does not explicitly spell out a procedure for enforcing the requirements of Article V.” Mem. Op. of the Special Master on Wyoming’s Mot. for Partial Summ. J. (Notice Requirement for Damages), p. 2. Nevertheless, he decided that Article V(A) rights in Montana enjoy protection against upstream diversions in Wyoming under a rule of prior appropriation applied across the state line, with the rule’s details determined “in accordance with the laws governing the acquisition and use of water under the doctrine of appropriation.” Special Master’s 1st Interim Rep. at 37 (hereinafter “FIR”); *Montana v. Wyoming*, 131 S. Ct. 1765, 1771 (2011).

He reached this conclusion in the face of Wyoming’s argument that the lack of specific regulatory provisions and the Compact’s history showed that the drafters merely recognized pre-1950 rights in each state and did not provide affirmative interstate protection for them. Wyoming further argued that those rights would be administered solely in each state subject to the doctrines of appropriation in the two states. FIR at 19; Wyo. Mot. to Dismiss at 42-43.

After considering Wyoming’s claims, the Special Master did not reject Wyoming’s argument as to how pre-1950 rights in each state would interact across state lines but instead rejected the premise that the Compact lacked any means by which downstream Montana pre-1950 rights could assert their rights against upstream Wyoming post-1950 rights under the doctrine of appropriation. See FIR at 29 (“Western states regularly require junior appropriators

to reduce their diversions when needed to protect the water rights of senior appropriators. Article V(A) establishes a similar, interstate requirement for the waters of the Yellowstone River tributaries in those situations where it is necessary to protect pre-1950 appropriations in Montana.”). Montana has already insisted that the Compact imposes rules of prior appropriation against Wyoming's rights, and the Supreme Court has accommodated Montana's request. For example, Montana wrote a call letter to Wyoming in 2006 saying that Wyoming should curtail post-1950 rights to satisfy pre-1950 Montana rights. Ex. 2 to Aff. of Patrick T. Tyrrell at 1 (Sept. 12, 2011) (Montana stated: “Article V. A of the Yellowstone River Compact provides that each State is entitled to satisfy its pre-1950 water rights before either state may supply its supplemental or post-1950 uses. As a practical matter, that means that the upstream state, Wyoming cannot allow its post-1950 users to take their water if pre-1950 users in Montana are not being satisfied.” and “Wyoming is required by the Compact to regulate its post-1950 uses on the Tongue, including uses on the mainstem, until Montana's pre-1950 uses are satisfied.”)

Thus, it sought to impose the doctrine of appropriation on those Wyoming rights. It won that argument, and this case is now going forward on that very theory. Montana cannot impose the prior appropriation doctrine upon Wyoming and yet escape elements of the doctrine that apply against Montana as the senior appropriator. Therefore, when Montana seeks to assert its pre-1950 Compact rights against Wyoming, Montana must engage in whatever administrative regulation is necessary to ensure that its pre-1950 rights are continuing to be enjoyed in accordance with the doctrine of appropriation.

A. Under the Doctrine of Appropriation, Beneficial Use Limits the Amount of Water Necessary to Satisfy Montana Pre-1950 Rights

In addition to the concept of priority, beneficial use is a central principle within the doctrine of appropriation. Beneficial use works as a perpetual limit to existing rights and, as Montana argued when it attempted to restrict efficiency improvements in Wyoming, junior users are not without rights. Junior users can insist that senior users “confine themselves strictly within the rights which the law gives them, that is, to the amount of water within the extent of their appropriation which they actually apply to some beneficial use.” *Montana*, 131 S. Ct. at 1773 (2011) (citing 2 C. Kinney, *Law of Irrigation and Water Rights* § 784, p. 1366 (2d ed. 1912)).¹ Water rights in both states are “limited by the concept of ‘beneficial use.’ That concept restricts a farmer ‘to the amount of water that is necessary to irrigate his land by making a reasonable use of the water.’” *Id.* at 1772 (citations omitted). Beneficial use is the basis, the measure and the limit of all rights to the use of water. *McDonald v. Montana*, 722 P.2d 598, 605 (Mont. 1986); Wyo. Stat. Ann. § 41-3-101. As applied here, any Wyoming post-1950 use Montana might seek to curtail can insist that senior appropriators in Montana be confined to the amount of water within the extent of their appropriation that they actually apply to some beneficial use.

But the amount of water needed for beneficial use is not static. It is not established by a permit, an adjudication, or by the signing of the Yellowstone River Compact. An appropriator’s

¹ Wyoming’s focus here is on the core prior appropriation maxim of beneficial use. This focus should not be read to exclude other considerations which may require some type of administration by Montana such as water right abandonment determinations, or administration necessary to prevent violation of the no-injury rule such as changes in use or increases in irrigated acreage not originally contemplated. Tr. of Telephonic Status Hr’g at 10:11-22 (July 29, 2011); *Montana v. Wyoming*, 131 S. Ct. 1765, 1773-74 (2011).

need and use at any given time establishes beneficial use. “Always to be borne in mind is that no matter how the water right is expressed in the decrees of the water court, either in flow rate or in acre feet or a combination thereof, such expression of amount is not the final determining factor.” *McDonald*, 722 P.2d at 605 (Mont. 1986). The rate and volume of a water right are at all times subject to the requirement of beneficial use. *Id.* at 606. The rule simply observes the variable nature of agricultural irrigation. “[I]t is seldom, if ever, that an agricultural water right, adjudicated or otherwise, is used absolutely without any interruption throughout the irrigating season; therefore, the fact that no limitations in hours or days were expressly imposed on any of the water rights by the 1913 decree cannot logically be taken as an adjudication that the appropriations were of such absolutely uninterrupted flow.” *Quigley v. McIntosh*, 103 P.2d 1067, 1074 (Mont. 1940). The senior appropriator can demand that the junior appropriator give way to his superior claim only when the senior appropriator actually needs the water. *Cook v. Hudson*, 103 P.2d 137, 146 (Mont. 1940)(disapproved of on other grounds by *Grimsley v. Estate of Spencer*, 670 P.2d 85 (1983)). Determination of these contemporaneous needs is paramount under the Compact because, as instructed by the Special Master, Wyoming’s obligation under Article V(A) is focused specifically on the amount of water necessary to satisfy the rights of the pre-1950 appropriators in Montana. Tr. of Telephonic Status Hr’g at 22:11-14 (July 29, 2011).

The inherent variable need of appropriators and the inconsistent nature of stream flows led the Special Master to conclude that Montana must place a “call” on Wyoming when its pre-1950 users were not receiving adequate water to satisfy their rights. Mem. Op. of the Special Master on Wyoming’s Renewed Mot. for Partial Summ. J. (Notice Requirement for Damages), p. 9-11 (Sept. 28, 2012). He noted that Montana is “in the best position to determine and know

whether its pre-1950 uses were not being met.” *Id.* at 11. It follows that Montana must actually determine whether the needs of its pre-1950 uses are being met as a prerequisite to making a call. Such a determination necessarily requires Montana to ensure that its users confine themselves strictly within the rights which the law gives them; that is, to the amount of water within the extent of their appropriation which they actually apply to some beneficial use. Montana cannot make a “call” prior to determining actual need because it cannot make “a valid claim to an amount of water in excess of the beneficial use to which it is applied, and when the appropriator or his successor ceases to use the water for such beneficial purpose, the right ceases.” *Huffine v. Miller*, 237 P. 1103, 1104 (Mont. 1925). If the Compact effected a dramatic reframing of this ordinary appropriation principle, “the rest of Article V(A), which expressly states that ‘the laws governing the acquisition and use of water under the doctrine of appropriation’ control, would make little sense.” *Montana*, 131 S. Ct. at 1778-79.

Closely coupled with beneficial use is the concept of waste. Waste not only incorporates the idea of substandard diversion and water application practices but also the idea that a prior appropriator cannot insist upon the delivery of water he will not beneficially use. 1 Wells A. Hutchins, *Water Rights Laws in the Nineteen Western States* 574-5 (1971). Guided by this concept of using water before it is lost, the Montana Supreme Court has stated that “it is to the interest of the public that water be conserved for use, rather than be permitted to go to waste, to the end that the arid lands of the state may be put under irrigation and thus be made productive.” *Quigley*, 290 P. at 268 (citations omitted); *See* Mont. Code Ann. § 85-2-102(23) (defining waste as “the unreasonable loss of water through the design or negligent operation or water distribution facility or the application of water to anything but a beneficial use.”). To that end, only when the

prior appropriator actually needs the water can he demand that the junior appropriator or appropriators give way to his superior claim. *Cook*, 103 P.2d at 146. Here, Montana cannot insist that Wyoming junior users forgo their rights when Montana users do not need, or will not beneficially use, the water made available. For example, under the doctrine of appropriation, it would be wasteful to curtail three cfs of water diversions in Wyoming if Montana users will simply allow that amount of flow, or more, to run past their diversions and reach the Yellowstone River. Those curtailed Wyoming rights would be rendered hollow for no useful purpose.

Even though the law of the case clearly requires Montana to enjoy its pre-1950 uses in accordance with the doctrine of appropriation, Montana appears to yet again assert that the Compact guarantees it a set quantity of water (“[T]he Compact made block allocations of pre-1950 rights to each State, to be administered within each State’s borders according to State laws and practices.”) Montana’s Mot. at 13. But according to the Special Master, “I think both explicit to and fundamental in the first interim report [and] the Supreme Court's decision is the requirement that Montana show that a pre-1950 appropriative right has not been satisfied.” Tr. of Telephonic Status Hr'g at 11:15-19 (July 29, 2011). The Supreme Court also squarely rejected Montana's contention as “simply unpersuasive.” *Montana*, 131 S. Ct. at 1779. The Court held that nothing in Article V(A) of the Compact overrides the basic concept of beneficial use and that Montana could not show any entitlement to a particular quantity of water beyond that acquired and used under the doctrine of appropriation. *Id.* at 1778-1779 (citation omitted). And, “if Article V(A) were intended to guarantee Montana a set quantity of water, it could have done so as plainly as other compacts that do just that.” *Id.* at 1779.

Instead, it is settled that Article V(A) means that pre-1950 appropriative water rights in both Montana and Wyoming “shall” continue to be enjoyed under “the laws governing the acquisition and use of water under the doctrine of appropriation.” Montana can claim injury if it can show that Wyoming post-1950 rights interfere with flows that would otherwise be available for diversion by pre-1950 Montana rights downstream. *Montana*, 131 S. Ct. at 1170-71. But, beneficial use limits Montana’s rights at all times, so Wyoming’s curtailment is conditioned on the corollary to beneficial use that the downstream senior be ready, willing, and able to use the water passed by the upstream junior appropriator. *Worley v. U.S. Borax and Chem. Corp.*, 428 P.2d 651, 654 (1967).

B. Montana Must Curtail Its Post-1950 Rights Before Seeking Curtailment of Wyoming’s Post-1950 Rights

The Compact also apportions between the states Tongue River waters that are “unused and unappropriated” by the States’ pre-1950 rights under the doctrine of appropriation. Art. V(B). Rights under Article V(B) can only be enjoyed after the States’ pre-1950 rights are satisfied. But, Montana’s Motion implies that Montana need not curtail its post-1950 rights to satisfy deficiencies suffered by its pre-1950 rights unless its laws independently require such regulation. This result could allow Montana to evade its Article V(B) obligations, and prevent Montana from identifying the source of deficiencies experienced by its pre-1950 rights.

Article V(B) of the Compact guarantees that through any given date in a given water year, Wyoming water users with post-1950 rights are allotted 40% of the cumulative annual divertible flow on the Tongue River. If Montana fails to curtail its post-1950 uses at times when Wyoming’s cumulative post-1950 diversion through that date is below 40%, and Montana makes a call under Article V(A) that closes a Wyoming post-1950 headgate, Montana could use “the

doctrine of appropriation” in Article V(A) as a sword to undermine Wyoming’s percentage entitlement under Article V(B). More simply, Montana could potentially force curtailment of post-1950 Wyoming rights while Montana post-1950 rights continue receiving water, even though Wyoming has diverted less than its percentage of the total divertible flow through that date, and even though Montana post-1950 appropriators are already receiving the entire percentage, or more, of the total divertible flow to which they are entitled.

Only when there is “unused and unappropriated” water flowing in the Tongue River can post-1950 users in either state divert water under the Compact. Art. V(B). If Montana disregards intrastate measures (thereby allowing its post-1950 users to keep diverting water) and seeks relief against Wyoming on behalf of pre-1950 users, Montana would effectively be redirecting pre-1950 water to post-1950 diversions within Montana. The Compact does not permit this result. The Compact does not require Wyoming to provide water to post-1950 diversions in Montana except in accordance with the percentage allocations set out in Article V(B) and (C).

Consistent with Wyoming rights under Article V(B), the Special Master determined that Montana could not always call off post-1950 diversions in Wyoming to satisfy its pre-1950 diverters who could thereby benefit. Instead, he held that, when possible, Montana must first remedy shortages of pre-1950 appropriators in Montana through purely intrastate means rather than by a call to Wyoming to curtail any post-1950 Wyoming diversions in operation. FIR at 27. He wrote:

Under what circumstances Wyoming must respond to shortages suffered by pre-1950 appropriators in Montana by immediately reducing post-1950 diversions or withdrawals in Wyoming is a factual inquiry. Where Montana can remedy the shortages of pre-1950 appropriators in Montana through purely intrastate means

that do not prejudice its other rights under the Compact, an intrastate remedy is the appropriate solution. Where this is not possible, however, the Compact requires that Wyoming ensure that new uses in Wyoming do not interfere with pre-1950 appropriations in Montana. The questions of when “intrastate” remedies are adequate under the Compact and, alternatively, when Wyoming must curtail post-1950 uses pursuant to Article V(A), are best addressed in subsequent proceedings in this case after discovery is complete and an appropriate factual record can be developed.

Id. at 27-28.

When a pre-1950 water user in Montana is short of water, Montana’s law of appropriation permits that user to demand that any other Montana water user with a later priority date cease diversion so that the senior water right may be satisfied. See, e.g., *Granite Ditch Co. v. Anderson*, 662 P.2d 1312, 1317 (Mont. 1983). Only when post-1950 rights in Montana have ceased can Montana show that post-1950 rights in Wyoming are interfering with Montana’s pre-1950 rights. Those Montana post-1950 diversions may be the cause of Montana’s shortage. If after curtailing the Montana junior diversions a shortage still exists and Montana makes a valid call, Wyoming must curtail its post-1950 rights as required by Article V(A). But, failing to require Montana to curtail its junior diversions would permit Montana to make a call or assert a Compact breach even when Wyoming has done nothing to prevent Montana’s pre-1950 appropriators from enjoying their rights under the Compact.

The Special Master’s curtailment conditions prevent the prior appropriation doctrine incorporated in Article V(A) from significantly interfering with Wyoming’s V(B) allocations. Thus, the Special Master’s recommendation vindicates the “cardinal principle of contract construction,” “that a document should be read to give effect to all its provisions and to render them consistent with each other.” See *Mastrobuono v. Shearson Lehman Hutton, Inc.*, 514 U.S.

52, 63 (1995). This cardinal principle is applicable to the Compact, which is both a contract and a law of the United States. *See Oklahoma v. New Mexico*, 501 U.S. 221, 235 n.5 (1991).

The need for Montana to avail itself of intrastate remedies necessarily requires that it engage in some form of intrastate administration. Montana must be able to determine which of its post-1950 rights are receiving water at any given time. If, in its administration, Montana determines that no Montana resource is available to curtail in order to satisfy a pre-1950 right, then Montana will be poised to make a valid demand on Wyoming. Moreover, Article V(B) of the Compact already implicitly requires both states to adequately measure post-1950 diversions to determine the quantity of water subject to percentage allocation. In fact, in 1953, shortly after the Compact's enactment, the Montana Legislature passed an act requiring post-1950 diverters to install measuring devices for this very purpose. Mont. Code Ann. §§ 85-20-102 through -106. Through this form of intrastate administration, Montana can and must determine which of its post-1950 rights are receiving water at any given time.

The Montana Legislature's passage of its 1953 act which required intrastate measures to enable Montana to comply with the Yellowstone River Compact illustrates another point which contradicts Montana's motion for summary judgment. Montana contends in its motion that the Compact nowhere requires it to take actions as a prerequisite to enforcing its Compact rights. Montana Mot. at 13. This argument echoes the argument that Colorado appropriators on the La Plata River made in *Hinderlider v. LaPlata River & Cherry Creek Ditch Co.*, 304 U.S. 92 (1938). There, the Colorado irrigators contended that their water rights, which pre-existed Congress's passage of the La Plata River Compact between Colorado and New Mexico, trumped provisions of the compact that diminished the value of those rights. *Id.* at 805-6. Particularly,

they argued that they should not have to curtail diversions on the bi-weekly basis provided in the compact since their rights were senior to New Mexico rights downstream that would receive the water so passed. *Id.* But the Supreme Court held that the Compact's handling of those rights trumped how the State of Colorado's intrastate law would handle them, because Colorado had entered the compact representing the Colorado appropriators employing the *parens patriae* doctrine. *Id.* at 809-10.

The same rule applies here. Montana entered into the Compact on behalf of its appropriators within the Yellowstone River drainage, and to the extent that the Compact, as superior federal law, conflicts with Montana's own laws, rules or practices, the latter must give way. The 1953 Montana Legislature apparently had little trouble understanding this, for following the Compact's enactment it promptly passed a set of statutes which imposed previously non-existent requirements on its water users so that it could compile data on its diversions necessary for the enforcement of the Article V(B) allocations. Mont. Code Ann. §§ 85-20-105 through -106. In fact, the Montana Legislature did not impose these new, and presumably costly, measuring device requirements anywhere else in Montana, but only on the four tributaries of the Yellowstone covered by the Compact. *Id.* The legal concept accepted by the Montana Legislature, and accepted by Wyoming in this litigation, is that when a state solemnly commits to a compact with another state, it commits to do what any other contracting party commits to do, perform the Compact. If such compliance takes adjustments to laws, policies, and practices, then so be it. Otherwise, a compact would not have the sanctity of a contract or of supreme federal law, but would instead be illusory.

II. Constrained by the Doctrine of Appropriation, Montana is Free to Administer and Regulate its Tongue River Water Rights in Any Way it Chooses

Montana relies on Article XVIII of the Compact for the proposition that the Compact does not affect a State's authority to administer the waters within its borders according to its own State law and practices. Article XVIII provides that nothing in the Compact "shall be construed or interpreted to divest any signatory State or any of the agencies or officers of such States of the jurisdiction of the water of each State as apportioned in this Compact." As applied to Montana, the purpose of Article XVIII is clear; Montana and its agencies or officers, not Wyoming, the United States or the Yellowstone River Compact Commission, maintain authority to administer its apportioned Tongue River water. But, as Montana has previously asserted, "[t]he enactment of the Compact into federal law had the effect of pre-empting state law to the contrary with respect to interstate waters in the Yellowstone River Basin." Montana's Letter Br. Re Mem. Op. on Mot. to Dismiss, p. 12 (July 17, 2009). The Montana Supreme Court echoed the principal when stating "Montana's water statutes are subordinate to the [Yellowstone River] Compact provisions." *State ex rel. Intake Water Co. v. Bd. of Natural Res. & Conservation of State of Montana*, 645 P.2d 383, 387 (Mont. 1982) (citing *Hinderlider*, 304 U.S. 92 (1938)). As Montana recognizes, the Compact is the supreme law of the river, and the Compact governs when it conflicts with Montana law. State water rights and laws must give way to Compact apportionments, but at the same time, Montana retains the substantive and procedural responsibility to ensure that it complies with the deal it struck. *Hinderlider*, 304 U.S. 92 (1938). The jurisdiction to administer and regulate its apportioned Tongue River water remains with Montana as per Article XVIII, but so does the duty and obligation to ensure its own Compact compliance before seeking to enforce the Compact against Wyoming.

Wyoming has not claimed that Montana's laws regarding administration and regulation of its water rights necessarily conflict with the Compact. The Montana Department of Natural Resources and Conservation (DNRC) administers and regulates water rights in Montana. If the DNRC ascertains that a person is wasting water, using it unlawfully, or depriving a prior appropriator, it may petition the District Court to "regulate the controlling works of an appropriation as may be necessary to prevent the wasting or unlawful use of water or to secure water to a person having a prior right to its use." Mont. Code Ann. § 85-2-114(1)(a). The DNRC may also petition the District Court to "order the person wasting, unlawfully using, or interfering with another's rightful use of the water to cease and desist from doing so and to take steps that may be necessary to remedy the waste, unlawful use, or interference." *Id.* at § 85-2-114(1)(b). Finally, the DNRC may request a temporary, preliminary, or permanent injunction to prevent violations of Montana's water statutes. *Id.* at § 85-2-114(1)(c). The county attorney or the attorney general may also bring such actions to prevent violations. *Id.* at § 85-2-114(4). On their face, none of these regulatory provisions appear to conflict with the Compact, but, to the contrary, they enable Montana to comply with the Compact since they embrace prior appropriation concepts. Other regulatory provisions contained in Montana law also appear consistent with the doctrine of appropriation.

If Montana regulates consistently with its laws, and consistently with the laws governing the acquisition and use of water under the doctrine of appropriation, then its actions will not conflict with the Compact. If, however, Montana decides to adopt a completely different scheme

of administration, such as the riparian doctrine, then the Compact would pre-empt its laws.² Additionally, to the extent that the laws of either state vary from the doctrine of appropriation, or from the explicit terms of the Compact, the Compact would control. For example, Article VII of the Compact would pre-empt a State's law if that law wholly prohibited the other State from obtaining a right to appropriate water within its borders. Likewise, if Montana ignored its own law and allowed its post-1950 users to divert water at a time when there are no "unused and unappropriated" waters of the Tongue River, and at a time when it has called for the curtailment of Wyoming's post-1950 rights, Montana's disregard of its own law would violate Article V(B) of the Compact.

Wyoming understands that it must comply with the Compact as well, regardless of its contrary laws or administration practices. For instance, if a junior post-1950 Wyoming appropriator is diverting Tongue River water during a time when no senior Wyoming appropriator has called for that water, Wyoming prior appropriation law allows the junior to continue diverting. Such a scenario is more likely just south of the Montana border where fewer senior appropriators reside and return flows augment the river. Also, absent the Compact, Wyoming law would not require that junior Wyoming appropriator to forego his diversion for the benefit of any Montana appropriator regardless of priority. However, under the right circumstances, if Montana were to make a valid Compact call on behalf of its pre-1950 appropriators, the Compact would trump Wyoming law, and Wyoming would be obligated to

² Montana asserts that the Compact does not affect the manner in which it must administer its water rights, but it is worth noting that the Compact itself is also a Montana law. Mont. Code Ann. § 85-20-101.

shut off the junior Wyoming appropriator. While Wyoming would still have charge of its own water administration, it must carry out that administration in accordance with the Compact.

Montana attempts to rely on *Tarrant Reg'l Water Dist. v. Herrmann*, 133 S. Ct. 2120 (2013), for the proposition that its own water law somehow trumps the Compact, but that reliance is misplaced. In *Tarrant*, the Supreme Court was called upon to interpret whether the Red River Compact's silence regarding state lines meant that the Compact pre-empted Oklahoma's export statute. *Id.* at 2130. After finding that the applicable Compact language was ambiguous, the Court employed interpretive tools to determine the drafters' intent. *Id.* at 2132. Through use of those tools, the Court determined that the Compact did not grant cross-border rights because "the well-established principle that States do not easily cede their sovereign powers, including their control over waters within their own territories; the fact that other interstate water compacts have treated cross-border rights explicitly; and the parties' course of dealing." *Id.* Thus, the Court held that Compact did not pre-empt Oklahoma's export statute as a result of its interpretation. *Id.* at 2137.

Unlike the question faced by the Court in *Tarrant*, the Supreme Court here has already upheld the Special Master's finding that Compact Article V(A) clearly and unambiguously imposes the doctrine of appropriation upon the enjoyment of pre-1950 rights. FIR at 16-17; *Montana v. Wyoming*, 131 S. Ct. at 1771 (referencing its issuance of orders for findings to which the States did not object). The Special Master and the Supreme Court have decided that V(A) rights in Montana enjoy protection against upstream diversions in Wyoming under a rule of prior appropriation applied across the state line, with the rule's details determined "in accordance

with the laws governing the acquisition and use of water under the doctrine of appropriation.” FIR at 37; *Montana*, 131 S. Ct. at 1771.

In addition to already deciding the issue, the Special Master has also conducted a thorough review of the Compact’s history. FIR at 30-37. He concluded that any historical references to regulation and administration were limited and only meant to exclude pre-1950 appropriations from the percentage allocations of divertible flow under Articles V(B) and V(C), or to exclude all pre-1950 water rights, no matter where located, from a unified and integrated regulatory system under the management of the Yellowstone River Compact Commission. FIR at 36-37. Wyoming disagreed with this analysis, but accepted it. Montana did not object to those findings. Moreover, it would be inequitable for Montana to reject the findings as applied to Montana pre-1950 rights, while seeking to enforce the findings against Wyoming’s pre-1950 rights. Consequently, the argument Montana now seeks to make is foreclosed both by the Court’s decision to overrule Montana’s exception and by Montana’s failure to object to the First Interim Report more broadly.

Furthermore, the members of Montana’s Compact delegation were well-versed in Montana prior appropriation law and implementation. They surely would not be surprised that the Special Master would recommend that Article V(A) requires some due diligence by Montana when it seeks a Wyoming curtailment in order to benefit from the doctrine of appropriation. Having obtained a decision that the laws governing the doctrine of appropriation incorporated in Article V(A) observe a general doctrine of appropriation that allows interstate curtailment, Montana cannot now deny the components of that doctrine which the Special Master has found, and may find, to be necessary to make the Compact function with internal consistency. FIR at

29 (“There is nothing inconsistent in protecting pre-1950 appropriative rights through the typical process for protecting senior appropriative rights under the prior appropriation doctrine[.]”).

III. Wyoming Does Not Assert that Montana Must Administer its Water Rights in Accordance with Wyoming Law and Practices of Administration

At no point in this litigation has Wyoming taken the position that Montana must adopt Wyoming's system of water administration. Even so, Montana asserts that “Wyoming has taken the position that the Compact requires Montana to administer its water rights and uses in a particular manner (following Wyoming law and practices of administration) before Wyoming is required to deliver Article V(A) water to Montana.” Montana's Mot. at 5. As the primary source for this assertion, Montana draws inferences from the report of a Wyoming expert, Bern Hinckley, but those inferences are incorrect.

Mr. Hinckley's report does not state or imply that Montana must administer its water rights in any particular way. While Wyoming could take that position as a litigant, the act of taking such a position would not fall within the purview of the types of scientific opinions appropriate for expert testimony. Consistent with his role as a scientific expert, Mr. Hinckley cites in his report the lack of water right regulation in Montana during the years in question for the purpose of contradicting the conclusions reached by a Montana expert, Dale Book. Bern Hinckley, P.G., Review of Expert Reports Submitted by Montana, 7-9, 22-24 (April 2, 2013)(Hinckley Report, attached as Exhibit A). Mr. Book reaches the ultimate conclusion that the needs of pre-1950 water rights in Montana are not being met at times when the flow of the Tongue River at the state line falls below certain amounts. Dale E. Book, P.E., Evaluation of Yellowstone River Compact, 9-11 (Jan. 4, 2013) (attached as Exhibit B). However, as Mr. Hinckley points out, Mr. Book's assumptions of Montana water demands based on modeling are

not supported by facts which reflect actual need by Montana pre-1950 appropriators. Thus, Mr. Hinckley does not purport to take a broad legal position on behalf of Wyoming as to what Montana must do to comply with the Compact, but instead, stays well within his charge as an expert by simply critiquing the basis of an ultimate opinion of an opposing expert witness. To be sure, this factual dispute between these experts is directly relevant to the doctrine of appropriation because it is only when the senior appropriator actually needs the water that he can demand that the junior appropriator give way to his superior claim. *Cook*, 103 P.2d at 146. Still, Mr. Hinckley's position in that factual tussle does not impute to Wyoming the position that Montana ascribes to it. Wyoming does not, and has not, through Mr. Hinckley or otherwise, posited that Montana can never employ its own water rights laws on the Tongue River or that Montana must adopt Wyoming's administrative system.

Wyoming has attempted to discover whether or not Montana's pre-1950 water rights were actually in need of water at times Montana claims Wyoming was violating the Compact. These attempts were a response to the Special Master's instruction that "Montana would need to show that at least some pre-1950 appropriative rights were not satisfied in a given year; furthermore, that they were not satisfied because of one of the specific allegations in Montana's complaint." Tr. of Telephonic Status Hr'g at 29:21-25 (July 29, 2011). Factual focus must be on the Montana pre-1950 rights and their actual demand during the times in question and not the amount of water that Montana was hypothetically using to satisfy those rights in 1950. *Id.* at 30:5-9. Thus, by investigating Montana's water right administration practices, Wyoming merely attempted to determine whether any Montana pre-1950 rights went unsatisfied during the periods at issue. Wyoming was not attempting to impose the details of its system of administration on Montana.

While Wyoming is not attempting to force its system of water rights administration on Montana, it bears noting that the natural consequence of a favorable ruling on Montana's motion would effectively impose Montana's system on Wyoming. In fact, Montana seeks to force Wyoming to accede to Montana's unilateral determinations of entitlement without giving Wyoming any assurance that those determinations follow the doctrine of appropriation. In effect, Montana seeks to create a black box into which Wyoming has no right to look to determine if Montana's system of administration on paper or in practice results in beneficial use of water in priority. Wyoming expects that Montana's system, whatever its particulars may be, will be required to perform adequately under the doctrine of appropriation as it is imposed by the Compact.

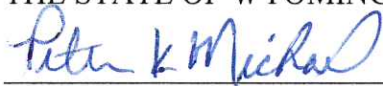
CONCLUSION

Wyoming agrees that Montana remains free to administer its Tongue River waters within Montana in any manner it sees fit. However, once Montana seeks to assert its pre-1950 Compact rights against Wyoming, its internal administration must be measured against the laws governing the acquisition and use of water under the doctrine of appropriation.

The Special Master should recommend that Montana's Motion be denied.

Dated this 2nd day of August, 2013

THE STATE OF WYOMING



Peter K. Michael, Interim Attorney General
and Counsel of Record

Christopher M. Brown
Senior Assistant Attorney General

James Kaste
Senior Assistant Attorney General

123 Capitol Building
Cheyenne, WY 82002
307-777-6946

CERTIFICATE OF SERVICE

The undersigned certifies that a true and correct copy of Wyoming's Brief in Opposition to Montana's Motion for Summary Judgment on the Compact's Lack of Specific Intrastate Administration Requirements was served by electronic mail and by placing the same in the United States mail, postage paid, this 2nd day of August, 2013.

Jeanne S. Whiteing
Whiteing & Smith
1628 5th Street
Boulder, CO 80302
jwhiteing@whiteinglaw.com

John B. Draper
Jeffrey Wechsler
Montgomery & Andrews
325 Paseo de Peralta
Santa Fe, NM 87501
jdraper@montand.com
jwechsler@montand.com

James J. Dubois
United States Department of Justice
Environmental and Natural Resources
Division of Natural Resources Section
999 18th St. #370 South Terrace
Denver, CO 80202
James.dubois@usdoj.gov


Michael Wigmore
Bingham McCutchen, LLP
2020 K Street NW
Washington, DC 20006-1806
Michael.wigmore@bingham.com

Cory J. Swanson
Montana Attorney General's Office
P.O. Box 201401
Helena, MT 59620-1401
coswanson@mt.gov

Jennifer Verleger
North Dakota Attorney General's Office
500 North Ninth Street
Bismarck, ND 58501
jverleger@nd.gov

Solicitor General of the United States
US Department of Justice
950 Pennsylvania Avenue, Room 5614
Washington, DC 20530-0001
SupremeCtBriefs@usdoj.gov

Barton H. Thompson Jr.
Susan Carter, Assistant
Jerry yang and Akiko Yamazaki
Environment & Energy Building, MC-4205
473 via Ortega
Stanford, CA 94305-4205
Susan.carter@stanford.edu


Wyoming Attorney General's Office

Montana v. Wyoming and North Dakota
No. 137, Orig., U.S. Supreme Court

Review of Expert Reports Submitted by Montana

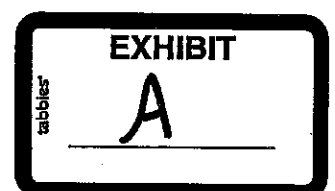
by

Bern Hinckley, P.G.
Hinckley Consulting
Laramie, Wyoming

for

Wyoming Attorney General
Cheyenne, Wyoming

April 2, 2013



WY043007

Tongue River Reservoir has not been managed to maximize storage at all times. The historical operations demonstrate that Book is incorrect to simply total the estimates of non-irrigation season depletions by post-50 rights in Wyoming and assert that this volume of water represents injury to Montana's pre-1950 Tongue River Reservoir right for the entirety of any year in which the Tongue River Reservoir did not achieve a physical fill to the current capacity (e.g. Book, Table 12).

3. Book's concept of injury fails to account for foregone storage opportunities.

Under the doctrine of prior appropriation, the Tongue River Reservoir must bypass natural flow to satisfy downstream rights with priority dates senior to the 1937 priority of the reservoir. This potentially limits the ability of the reservoir to store through the winter in preparation for the summer irrigation season. Review of the Montana water rights database for appropriations from the mainstem of the Tongue River downstream of the Tongue River Reservoir with priority dates senior to 1937 finds⁹:

A. 59 irrigation rights. These rights have designated "Period of Use" beginning dates varying from February 15 to May 15 and ending dates varying from August 15 to December 4. For the purposes of this report, I assume that outside the conventional May 1 to September 30 irrigation season, the minimal demands under these rights are satisfied from otherwise-available flows and do not generate significant additional demand for natural flow bypasses at Tongue River Reservoir¹⁰.

B. 22 stock rights. These rights have a designated "Period of Use" of Jan. 1 through Dec. 31 (e.g. right 42B 183639 00).

C. 1 municipal right. This right has a priority of 1935, for Miles City, Montana for 2,000 gpm (4.5 cfs) with a "Period of Use" of Apr. 15 to Sep. 15, and abstract "purpose clarification: swimming lake".

The stock rights are quantified on the basis of "30 gallons per day per animal unit", but carry the additional qualification of "the flow rate is limited to the minimum amount historically necessary to sustain this purpose" (e.g. Montana Water Right Number 42C 27283 00). The only

⁹nris.mt.gov/dnrc/waterrights/default.aspx. Pre-1914 irrigation rights were adjudicated through the 1914 Miles City Decree, but these and all subsequent water rights remain under review as part of the ongoing Tongue River adjudication.

¹⁰This is consistent with Book's approach, e.g. his Table 5, where he estimated no direct-flow demand deficits outside the May - September period. Hayes testified that "we try to be done [irrigating] by September" (Hayes deposition, p. 37). The only available data on post-September diversions is for a short period for the T&Y Canal, which show October diversions averaging 38 cfs.

streamflow-based quantification of the stock rights from the Tongue River in Montana that I have located is in an April 16, 1982 memo by the Chief of the Montana DNRC Water Management Bureau (McBeath, 1982). His conclusion regarding the stock-water demand from the Tongue River below the Tongue River Reservoir was:

“A flow rate of 0.034 cfs is required for consumptive use by the livestock. A much larger flow is required to move the water from its source to its place of use. It is my estimation based upon professional judgement that a flow of 50 cfs would be required to deliver the consumptive flow rate a minimum of 190 miles downstream from the dam. Therefore, the livestock flow rate claim will be 50 cfs with a consumptive annual volume of 29 AF per year.”

Other year-round rights from the mainstem below Tongue River Reservoir include a 338 cfs year-round in-stream flow appropriation for “Fishery” purpose (right 42C 30017759), but its priority of 1978 is junior to the storage right of Tongue River Reservoir.

The general issue of pre-irrigation-season “bypass” or “pass-through” flows has received considerable attention over the years. Smith (2013) asserts that “... the discharges from the reservoir need to be maintained at the historic levels, which are higher than 175 cfs ...” He cites the 2004 Operating Plan: “The minimum flow of the Reservoir during the winter low flow period, from Oct. 1 to Mar. 1, will generally be the inflow or 175 cfs, whichever is less”. He notes that, “Per a review of the same gage station data available from the USGS from the beginning of dam operations through 1949, the mean monthly flows for the months of October through April ranged from 428 cfs to 173 cfs.” to support the suggestion that these levels of bypass were established prior to the 1950 Compact.

A December, 1982 memorandum entitled, “Documentation and Supporting Data for the Tongue River Project Direct Flow Right for Stock Watering” received from DNRC (Montana-03298 to 300) also compiles average historical bypass flows, and quotes an earlier report entitled “Tongue River Project - Basic Design (DNRC, 1969)” which “determined that ... The minimum release required for fish and municipal uses is understood to be 35 cfs. An October through April average release of 75 cfs is judged to be necessary to provide a live stream and prevent ice jams.”

The extensive modeling developed to support the dam enlargement (e.g. GeoResearch, 1991) had to address this issue in order to project reservoir performance. They came to the same conclusion as indicated above: “The winter pass-through is not a formalized right”, and go on to describe:

“but an agreement was reached between the State of Montana and the Tongue River water users to maintain sufficient flow in the river in the winter to keep the river free of ice and allow stock watering. The only documentation of this right is a Montana Water Resources Board memorandum to the Tongue River Water Users Association. In this memorandum, the Board states that the winter release for this purpose would not exceed

the inflow to the reservoir (Sullivan, 1967). The winter pass-through right is therefore modeled as a release no larger than the reservoir inflow with a maximum value of 75 cfs (4,500 acre-feet). The release is made from October through March, although the October release is reduced to 1,400 acre-feet because it is not needed for the full month.”

The 1996 Final Environmental Impact Statement for the Tongue River Reservoir enlargement included the results of this modeling, describing future reservoir operations as, “Releases to water users are made on demand with a minimum instream flow of 75 cfs maintained for fish and wildlife through the winter.” (MDNRC, 1996; p. 3-8).

Operations since the enlargement of the reservoir in 1999 verify the discretionary nature of larger bypasses. When the dam operator has felt it necessary, bypasses have been reduced to well below the 175 cfs “need” suggested by Smith. In 2005, for example, January to April bypasses averaged only 74.4 cfs (and stateline flows exceeded this amount). The reservoir subsequently filled to the current capacity. Art Hayes, the TRWUA President who actually makes the day-to-day decisions on Tongue River Reservoir storage, described his operational decisions: “I look at snowpack, I look at storage, I look at ground moisture, you know, winter flows coming into the reservoir, how much we’re storing, weather predictions. ... I talk to Kevin Smith and other people and make that decision on how to operate on as much information as I can gather.” (Hayes deposition, p. 92).

This reservoir operation is generally consistent with understanding expressed by Roger Muggli, the long-time manager of the largest diversion from the Tongue River, the T&Y Canal, that, “The state says that we can’t reduce the flow below 150 cfs in the river, for the health of the river.”; but, “In the dry years we have a variant to go down to 75 cfs, but it was on a year-to-year basis.” (Muggli deposition, p. 127).

Figure 4 also shows the reservoir bypass flows. In water year 2001, for example, there were considerable available inflows, but storage contents declined through most of the winter. The reservoir failed to fill to either the 1950 or the current capacity that year. Again in 2004, the reservoir bypassed inflows of 100 to 150 cfs. Storage was built somewhat over the winter, but the reservoir failed to fill to either the 1950 or current capacity that spring.

To assess the potential impact of foregone storage opportunities on the storage in Tongue River Reservoir, I have calculated what the storage contents would have been with varying rates of bypass and compared those with the physical capacity of the reservoir on Figures 5a, 5b, and 5c. For this analysis, all inflows above the stated minimum bypasses are stored, i.e. the outflow from the dam is the lesser of the reservoir inflow and the required bypass. Bypasses are controlled by the stated minimum targets from Oct. 1 through April 30, at which point the irrigation season begins. For May through September, only the quantities historically stored are included (the difference between inflow and outflow, adjusted for evaporation) because bypasses during those months are potentially controlled by downstream direct-flow demands for irrigation rather than by “winter” minimum release targets. This will underestimate the benefit of the reduced bypass

due to conveyance and application losses between the river headgate and the crop roots.) As an estimate of the actual consumption of irrigation water by crops, this idealized approach to CIR has at least two limitations:

A. The Book CIR values are theoretical maximums, based on continuous coverage of healthy, well-watered crops across the entire assigned acreage. In practice, crops are not so ideal, and the actual crop evapotranspiration (ET) is correspondingly less. Estimation of the discount on water consumption due to non-ideal conditions can be accommodated in various ways. For example, “ET_{act} [actual ET] may be less than ET_{pot} [potential ET] when the soil water supply to the vegetation is constrained or if other stress factors such as disease, salinity, insects, low plant density or freezing occur. In that case, ET_{act} is reduced from ET_{pot} by multiplying ET_{pot} by some type of stress coefficient, K_s that is determined as a function of soil water shortage or salinity or crop density” (Allen, p. 3). *Nebraska v. Wyoming* (2001) provides an example of the accommodation of less-than-ideal CIRs through the use of yield-based adjustment factors.

The Book analysis of consumptive use in Wyoming provides a demonstration of the actual deviations in field-by-field ET rates immediately adjacent to the Montana Tongue River Basin. In Wyoming, Book used the results of satellite-based energy-balance calculations to estimate water consumptive use on individual 30-meter tracts. This analysis was provided by Allen, using the METRIC (Mapping Evapotranspiration at high Resolution using Internal Calibration) program. Figures 3 and 4 from the Allen report are reproduced here as Figure 7. These plots show the wide range in realized consumptive use. Each dot represents the estimated total ET averaged across an individual irrigated field. (“The dark horizontal lines on the two figures represent the average ET_{act} of nonirrigated agricultural parcels over the April-October periods” (Allen, p. 9).)

B. The method Book used to estimate CIR values in Montana predicts total crop ET, then subtracts a calculated “effective precipitation” to arrive at a CIR value. This approach assumes that precipitation is the only source of water other than applied irrigation water. In practice, “that ET may be supplied by precipitation, stored soil water, shallow groundwater, and irrigation.” (Allen, p. 9). Examination of the METRIC results developed by Allen along the Tongue River in Montana commonly show only small differences between irrigated tracts and adjacent non-irrigated tracts. This is likely due to the concentration of irrigation immediately along the river, where a high groundwater table can make substantial contributions to the estimated total crop ET, thus reducing the demand for irrigation diversions.

7. The Book analysis is insensitive to annual variations in cropping patterns.

Book uses a constant crop mix based on periodic surveys completed under the federal Census of Agriculture for Rosebud and Custer counties. Book divides the Tongue River in Montana into three reaches, condenses the crop census into four effective crops, and applies a constant set of crop proportions to each modeled year (i.e. no changes over the modeled period). This approach to the estimation of crop-water requirements is insensitive to the actual, year-to-year variations

in individual crop acreages, irrigation management, harvesting practices, and crop production, all of which affect the actual irrigation diversion demand.

8. The Book analysis is contrary to the history of regulation on the Tongue River in Montana.

There is little history of regulation on the Tongue River in Montana to support the direct-flow shortages modeled by Book. In Wyoming, where there are permanent, full-time water commissioners actively monitoring and regulating diversions, calls²⁰ for regulation are commonplace and provide an immediate, contemporaneous identification of direct-flow shortages. In Montana, deposition testimony (e.g. Kerbel deposition, p. 159) paints a picture of informal, undocumented communications between water users to work out relative diversion priorities, with occasional input by the Montana Water Resources Division to help sort out disputes. When shortages reach some unquantified threshold of sufficient concern, Montana provides for court appointment of a seasonal water commissioner upon petition by the affected water users²¹.

The Book analysis (Book Table 5) concludes that direct flow was insufficient to meet Montana pre-1950 demands in nearly every August and September over the 1961 - 2007 period modeled, in most Julys, and in occasional Mays and Junes. Yet the parties to this lawsuit have failed to find documentation of a request for regulation of water rights either within Montana or between Montana and Wyoming for any years prior to the appointment of the first Commissioner in 2000. Hayes testified that he “never made a call on my neighbors ...” (p. 45) and stated that “in years there’s no commissioners appointed, we usually have sufficient water” (p. 41). Muggli indicated generally ample water supplies prior to the 2000s and described the Tongue as generally “a stream that isn’t over allocated” (pp. 100, 130). The first time a commissioner was requested by the water users was in 2000.

Review of Montana water-rights database finds 37 surface water rights on the Tongue River mainstem and 219 water rights on Tongue River tributaries with priority dates later than January 1, 1950 above the T&Y Canal headgate²² (see Figure 8 for locations). Thus, there are 256 Montana water rights that would come under priority regulation along with the proposed regulation of post-1950 rights in the Tongue River Basin of Wyoming, if a call were to originate

²⁰As used here, a “call” is a formal request by a senior appropriator for curtailment of diversions by upstream juniors to satisfy the senior right.

²¹“Water Right Dispute Options”; Montana Water Resources Division (http://www.dnrc.mt.gov/wrd/water_rts/wr_general_info/wrforms/609-ins.pdf)

²²Not including water rights in the Pumpkin Creek basin, a Tongue River tributary that crosses the T&Y Canal without diversion facilities (Muggli deposition, p. 72).

at the T&Y Canal headgate²³. These values exclude 663 post-1950 surface water rights for stock or domestic use, 199 rights for groundwater use, and 1,056 wells from which groundwater is produced in association with coalbed methane (CBM) production.

The great majority of the post-1950 Montana water rights are for irrigation, typically for small acreages (72 acres per water right - mainstem; 36 acres per water right - tributaries), but the total acreage represented is 2,299 acres on the mainstem and 4,623 acres on the tributaries. The largest of the irrigation rights is for 6,500 gpm (14.5 cfs) for irrigation from the mainstem approximately 15 miles upstream of the T&Y Canal headgate (right 42C 21435 00).

Based on testimony of the 2000 - 2008 Commissioner for the Tongue River, Charles Kepper, there has never been regulation²⁴ of any tributary or groundwater rights in the Tongue River Basin in Montana (Kepper deposition, pp. 28, 29). The only mainstem rights subject to priority regulation have been irrigation rights. Furthermore, even in those years for which Commissioners have been appointed, their regulation authority has varied from simply the accounting of Tongue River Reservoir storage releases to monitoring direct-flow rights established by the 1914 Miles City Decree (see Kepper deposition and exhibits). We have found no evidence of a level or frequency of priority administration remotely comparable to what Fritz (2013) describes for the Tongue River Basin in Wyoming.

9. The Book analysis is contrary to the historical use of storage water.

Although the availability of storage water to meet diversion demands is not part of a direct-flow analysis, the exercise of storage is an obvious indicator of water-supply conditions. "All the major existing users of water on the Tongue River below the reservoir are members of the Tongue River Water Users Association and hold contracts for stored water." (GeoResearch, 1991; p. 3-9). Thus, the use of storage water provides a reasonable gauge of the diversion demands that are not met with direct flow.

Furthermore, as explained by Hayes: 1) the established contracts for Tongue River Reservoir storage water are based on a fixed annual fee rather than a unit cost, i.e. there is no financial disincentive to taking the full volume of storage under contract²⁵; and 2) storage water is available beyond the normal contracts through temporary purchase of Northern Cheyenne Tribe

²³The T&Y Canal is the second-most senior irrigation priority under the 1914 Miles City Decree on the mainstem of the Tongue River in Montana.

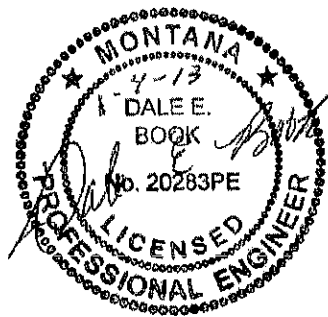
²⁴"Regulation" as used here means the documented application of priority administration; no information is available on informal neighbor-to-neighbor communications.

²⁵Muggli cites an annual cost of \$29,000 for the T&Y Canal storage-water contract for 5,280 acre-ft; i.e. \$5.49/acre-ft (Muggli deposition, p.11). Hayes describes contracts within the Tongue River Water Users Association in the \$6.00 to \$7.50/acre-ft range, and his own purchase of tribal water in 2001 for "around \$6.00/acre-ft" (Hayes deposition, pp. 27, 36).

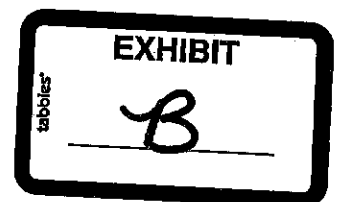
Montana v. Wyoming and North Dakota
No. 137, Orig., U.S. Supreme Court

Evaluation of Yellowstone River Compact
Analysis of Article V(A)
Tongue River

Expert Report Prepared by
Dale E. Book, P.E.
Spronk Water Engineers, Inc.



January 4, 2013



MT-14473

records define the storage and release of water. The monthly records were analyzed to determine the amounts stored and released from storage.

The historical reservoir content is summarized in Table 4-A and Figure 5. The reservoir was enlarged in the late 1990's, and the available capacity reached 79,000 ac-ft in 1999. Prior to that, the maximum capacity, as indicated by storage records, was approximately 69,000 ac-ft. Reservoir outflow, as measured by the USGS gaging station at the dam, is provided in Table 4-B.

The amount of water accrued to storage on a monthly basis is summarized in Table 4-C. This was computed as the difference between the reservoir inflow and outflow, less the net evaporation, for any month when the inflow exceeded the outflow. The amount of release for each month when the reservoir content declined was calculated as the change in storage contents less the net evaporation. This represents the amount in excess of the inflow being passed through the reservoir. Table 4-D shows the historical reservoir releases. Releases normally occur after the reservoir fills in May or June, as the demand for irrigation exceeds the river flow. Releases during the months of July – September have averaged 28,500 ac-ft/yr, ranging from 13,500 to 43,700 ac-ft. The inflows that the reservoir historically bypassed are summarized in Table 4-E.

The reservoir is drawn down by releases during the irrigation season. The average content at the end of September has been 25,600 ac-ft over the period of record. Since 1999, the reservoir was filled in four of the eight years to 2007.

The reservoir did not fill in several recent years specifically 2001, 2002, 2004 and 2006. These are years when diversions upstream in Wyoming, by post-1950 water rights, reduced the available supply to the reservoir when it did not fill. In other years, the reservoir has filled and spilled.

During the winter, inflows at the reservoir are partially stored and partially bypassed. This operation has consistently occurred since the reservoir became operational in 1939. The reservoir outflow during the months of November - March have been compiled for the pre-compact period of 1942 – 1950. Figure 6 shows the reservoir inflow and outflow for the season of November - March. The outflows for these months are aggregated and plotted against the inflows, as measured at the Stateline gage. Also plotted on Figure 6 are the outflows at the reservoir for the years 2000 – 2006. The average outflow for this period prior to 1950 was 83,100 ac-ft per season, equivalent to 277 cfs. For the years since 2000, the outflow rate for this period averaged 124 cfs, or approximately 45% of the rate prior to 1950.

4.3 Pre-1950 Direct Flow Demand

The pre-1950 water rights on the Tongue River in Montana are documented by the Miles City decree, later claims for irrigation with priority dates earlier than 1950 and the irrigated acreage

documented as served by pre-1950 facilities (County Surveys). Available streamflow is used satisfy diversions before releases from storage are made. As streamflows decline each year, the irrigators request water from the reservoir pursuant to contracts through the Tongue River Water Users (TRWUA). An evaluation was made to determine the amount of flow necessary to satisfy the demands for irrigation by pre-1950 uses on the Tongue River in Montana.

The following assumptions were made for this analysis.

- The pre-1950 acreage was as reported in the County Surveys. The acreage upstream of the T&Y Canal was 9,908 acres.
- The demand for water at the river is equal to the water right flow rate for the peak diversion months of July and August, and is scaled down to account for relatively lower rates of crop demand in the other months of May, June and October.
- Computations are made on a reach by reach basis, with the diversion demand in each reach determined by the acreage.
- A value for stream gain was included. This was derived from review of the wintertime gage record at Miles City and the reservoir outlet. A constant gain of 15 cfs was included for the entire reach.
- Return flows are calculated and assumed to be available for diversion in the next downstream reach.
- The T&Y Canal diversion is at the downstream end of the study area and is assumed to divert all available flow, less a minor amount passing the headgate. A flow of 10 cfs was assumed to be undivertable at the headgate.

The amount of the water right flow rate was taken from the Miles City decree. The rate for the T&Y Canal was established in that decree. This rate was 187.5 cfs. The rate for the other water rights was established at a rate of 1 cfs to 40 acres, which was used for this analysis.

The parameters and results of analysis are described in more detail in Appendix E.

The amount of flow necessary in the stream was computed at the reservoir outlet for each month, May – October. The highest month is July, with a required flow rate of 350 cfs. This rate is reduced as the season progresses due to the increasing amount of return flow to the stream. The rate computed at the reservoir outlet was increased for the acreage located upstream of the reservoir.

An analysis was made to determine the approximate timing for the groundwater return flows from irrigation on pre-1950 lands to accrue to the stream and become available to downstream reaches for diversion. An analytical method (Glover, 1977) was used for this purpose. This method considers the geologic properties of the aquifer and the distance from the service area to the river. The primary parameters needed for the analysis are transmissivity and distance. The parameters used and results are summarized in Appendix E- 8 to 9. Return flows accruing to the

stream during the irrigation months were considered divertable to downstream reaches and available to satisfy a portion of their demand.

The direct flow demand rates for pre-1950 uses in Montana at the Stateline, computed for the months of May – September, are:

Estimated Direct Flow Demands for Pre-1950 uses in Montana, at the Stateline

Month	(cfs)
May	195
June	325
July	350
August	335
September	280

4.4 Conclusions Regarding Pre-1950 Uses in Montana

To provide protection to the pre-1950 water uses in Montana, it is necessary to curtail post-1950 uses in Wyoming at times when the supply is inadequate to satisfy the pre-1950 uses in Montana. The pre-1950 uses on the Tongue River in Montana consisted of direct flow diversions and reservoir storage in the Tongue River Reservoir. In addition there were other needs being satisfied with river flows downstream of the reservoir during the non-irrigation season, which resulted in flows passing the reservoir during the winter.

The shortages at the reservoir are evident for years when the reservoir did not fill prior to the release season, starting normally in June or July. This occurred for the years 2001, 2002, 2004 and 2006. These were years when the annual stateline flow ranged from 32% to 42% of average. During years when this condition occurs, post-1950 storage and use in Wyoming reduces the supply available to the Tongue River Reservoir when additional water was necessary to fill. Figure 7 shows the flow for the four years compared to the average flow at the Stateline.

The direct flow needs of the pre-1950 uses on Montana are normally below the stateline flow during the latter part of the irrigation season, July or August to September. During such times, the Montana irrigators resort to reservoir storage to supplement river flow. During such times, post-1950 use in Wyoming reduces the river supply available and results in increased demand for storage release beyond what it would have been without the post-1950 depletions. It is necessary for the protection of the direct flow water rights in Montana to prevent post-1950 uses in Wyoming at such times. Table 5 shows the stateline flow rates for the period of 1961 - 2007 compared to the computed demand rates. Figures 8- A-E show frequency curves of stateline flow compared to the direct flow demand rates for the months May – September.