6-3-1997

Missouri River Basin: Balancing Upstream and Downstream Uses

John E. Thorson

Follow this and additional works at: https://scholar.law.colorado.edu/dams-water-and-power-in-new-west

Missouri River Basin: Balancing Upstream and Downstream Uses (Summer Conference, June 2-4)

Citation Information
https://scholar.law.colorado.edu/dams-water-and-power-in-new-west/15

Reproduced with permission of the Getches-Wilkinson Center for Natural Resources, Energy, and the Environment (formerly the Natural Resources Law Center) at the University of Colorado Law School.

Reproduced with permission of the Getches-Wilkinson Center for Natural Resources, Energy, and the Environment (formerly the Natural Resources Law Center) at the University of Colorado Law School.
MISSOURI RIVER BASIN: 
BALANCING UPSTREAM AND DOWNSTREAM USES

John E. Thorson
Special Master
Arizona General Stream Adjudication

DAMS: WATER AND POWER IN THE NEW WEST

June 2-4, 1997

Natural Resources Law Center
University of Colorado
School of Law
Boulder, Colorado
MISSOURI RIVER BASIN: 
BALANCING UPSTREAM AND DOWNSTREAM USES

John E. Thorson

I. Introduction

The Missouri River basin covers a vast 130,000 square mile area extending throughout the northern Rockies and Great Plains. All of Nebraska is located within this basin, along with portions of nine other states: Montana, Wyoming, North Dakota, South Dakota, Minnesota, Iowa, Colorado, Kansas, and Missouri. The terrain extends from alpine peaks and meadows, approaching 14,000 feet, to lush floodplain at an altitude of 400 feet. The "Big Mo" itself, of course, is responsible for this basin. This longest American river, which once flowed into Hudson Bay, now, as a result of glacial activity, joins the Mississippi upstream of St. Louis. See Map 1.

II. Human Alteration of the Missouri River Basin

A. Dams and Canals. While the native Missouri lives on in western myth and legend, most notably in the chronology of the Lewis and Clark expedition of 1803-05, human activities in the twentieth century have vastly altered this waterscape. These activities are principally the six federal dams constructed in the 1940s under the auspices of the Pick-Sloan Plan (joining the non-Pick-Sloan impoundment at Canyon Ferry in Montana) and the channelization of the lower basin by the Corps of Engineers starting in a serious way in 1912. Together, these projects have tamed the marauding flood-prone Missouri River through a usually controllable series of reservoirs and regulated navigation channels. The detrimental features of these projects, coupled with disarray in public policy, have resulted in the Missouri being listed by American Rivers this year as the most-threatened river in America.

B. Products of the Progressive Era. It was not always this way. Missouri River development was a child of the progressive conservation era which promised maximum utilization of the basin's resources for the benefit of basin residents and the national economy. Although dams and canals were constructed, the dream was never realized, leading to several decades of accusations and conflicts among basin governments. As law professor Dan Tarlock has observed, this dispute is unique in
that these river basin conflicts occur in the midst of usually generous river supply. (A. Dan Tarlock, *The Missouri River: The Paradox of Conflict Without Scarcity*, *Great Plains Nat. Resources J.* (forthcoming 1997)). This fact alone should encourage basin leaders that mutually satisfactory policies can be reached for the river.

C. **Corps of Engineers' Navigation Improvements.** The physical alteration of the Missouri River began in the 1830s when the U.S. Army Corps of Engineers, in exercise of its authority over navigable waterways, began to remove submerged trees and other hazards to navigation. (John Ferrell, *Soundings: One Hundred Years of the Missouri River Navigation Project* 5 (1996)). The Corps soon realized that successful navigation would require the channelization of this often meandering river so as to concentrate flows and maintain channel depth. While the Corps attempted to implement an overall plan for navigation improvements, sufficient congressional funding was sporadic and often yielded to priorities of local residents for bank stabilization. By 1902, the Corps had only managed to dredge a six-foot deep canal for a length of 45 miles. (Id. at 25). A greater effort would be necessary as assist navigation along the lower reaches of the river.

D. **First of the Missouri River Dams.** In the upper basin, the Great Northern Railroad and land availability under the homestead acts combined to dramatically increase population in the states of North and South Dakota, Montana, and Wyoming during the first decades of the twentieth century. Many of these new residents soon discovered that dry-land farming would be very difficult, if not impossible, in this semi-arid and often changeable climate. By the 1930s, the Depression had brought joblessness and even more hardship to residents throughout the basin. In 1933, President Franklin Roosevelt seized upon the Corps of Engineers' proposal for a flood control dam near Wolf Point, Montana, as a public works project for the northern plains. Using his power under the National Industrial Recovery Act, Roosevelt authorized construction of Fort Peck Dam, the first federal dam on the river. While Roosevelt continued to argue for a Missouri River Authority, modeled after the Tennessee Valley Authority in the southeast, the political leaders from basin states successfully stalled and defeated this proposal out of concerns for state authority.
E. **Need for Flood Control and Jobs.** By the mid-1940s, other pressures contributed to the perceived need for continuing Missouri River development. A series of floods in the 1940s resulted in loss of life and tremendous damage to many towns and cities along the river in the lower basin. Also, Congress was concerned that a new series of public works projects would be necessary to employ World War II veterans and avoid the widely-feared return to depression conditions like those in the 1930s. This receptive political climate emboldened both the Corps of Engineers, still endeavoring to complete its navigation improvements on the lower river, and the Bureau of Reclamation, interested in supporting farming and rural economic development in the upper basin.

F. **Pick-Sloan Plan.** These agencies had their plans for Missouri River development but many basin interests feared that regional development would fall victim to competition between these two powerful organizations. Colonel Lewis Pick of the Corps of Engineers and engineer Glenn Sloan of the Bureau of Reclamation came to realize that Missouri River development need not involve only a choice between these two agencies' plans. Through what has often been called a "shotgun wedding," these adversarial agencies agreed to build both plans, and their historic compromise was authorized by Congress in the Flood Control Act of 1944. (Pub. L. No. 78-534, 58 Stat. 887 (codified in scattered sections of 16 U.S.C. & 43 U.S.C.)). As a condition for completing navigation improvements in the lower basin, however, Senators O'Mahoney of Wyoming and Millikin of Colorado successfully added an amendment which subordinated downstream navigation uses to present and future upper basin consumptive uses. (Act of Dec. 22, 1944, ch. 665, § 1, 58 Stat. 887 (codified at 33 U.S.C. § 701-1)).

G. **"Build-out" of the Plan.** With Fort Peck already complete in the 1930s, construction of the five other Pick-Sloan dams rapidly followed over the next decade. Construction of Garrison Dam in North Dakota was started in 1946 and completed in 1955. Construction of Oahe, Big Bend, and Fort Randall (all three in South Dakota) and Gavins Point (between South Dakota and Nebraska) followed. With construction largely completed, the Missouri River dams were first operated in 1967 as an integrated system. During the 20 years following passage of Pick-Sloan, the Corps was also completing navigation improvements in the lower basin. By the early 1970s, the Corps had transformed the river into a 300 foot wide and 9 foot deep shipping canal from Sioux City, Iowa, to the mouth.
III. Evaluation of Missouri River Development

A. Primary Purposes Not Fulfilled. Fifty-three years after its passage, the Pick-Sloan Plan could be denominated a major failure if evaluated against two of its primary, original features: to support productive commercial navigation in the lower basin and to develop irrigated agriculture in the upper basin. Neither of these has occurred in any major way.

1. Only ten percent of the promised five million acres of irrigated agriculture has been developed in upper basin states. (JOHN E. THORSON, RIVER OF PROMISE, RIVER OF PERIL 80 (1994) (Table 4.2)).

2. While the Corps had estimated in 1950 that annual navigation tonnage on the river would reach five million tons per year by 1980, commercial navigation has never reached that level and, in the last decade, it has generally declined to a level of 1.5 million tons in 1996. (U.S. ARMY CORPS OF ENGINEERS, 1996-97 MISSOURI RIVER MAINSTEM RESERVOIRS ANNUAL OPERATING PLAN 79 (Dec. 1996)).

B. Flood Control and Hydropower Have Become More Important. The utility of the reservoirs' flood control capacity, however, has been amply demonstrated through several heavy precipitation incidents--most recently the major floods of 1993 and 1995. In spite of record anticipated run-off this season, lower basin flooding is likely to be avoided because the Corps of Engineers has prepared the reservoirs for large inflows. Hydropower generation, originally a secondary purpose of the dam projects, has also emerged as a major benefit of the system. The six main stem power plants normally produce 10 billion kWh each year. This year, electricity generation is expected to reach a record 14.2 billion kWh. (U.S. Army Corps of Engineers, Missouri River Div., News Release (Apr. 7, 1997)).

C. Uneven Allocation of Benefits and Costs. Relationships among upper basin states, lower basin states, and Indian tribes have been strained due to the uneven distribution of Pick-Sloan Plan benefits and costs. Table 1 illustrates how, in one author's opinion, the results of the Pick-Sloan Plan have largely favored lower basin states.
### Table 1
Distribution of Benefits and Costs of Pick-Sloan Plan

<table>
<thead>
<tr>
<th>State</th>
<th>Acres Lost to Reservoirs</th>
<th>Irrigation Promised (ac)</th>
<th>Irrigation Developed (ac)</th>
<th>P-S Hydro Generation Capacity (%)</th>
<th>P-S Hydro Received (%)</th>
<th>Navigation Benefits</th>
<th>Flood Control Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Big Winner</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nebraska</td>
<td>15,162</td>
<td>1,009,375</td>
<td>164,100</td>
<td>18.72</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>Winners</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kansas</td>
<td>193,490</td>
<td>32,500</td>
<td></td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Minnesota</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Iowa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Missouri</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Losers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorado</td>
<td>102,999</td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Wyoming</td>
<td>158,100</td>
<td>88,200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td><strong>Big Losers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Dakota</td>
<td>584,060</td>
<td>1,266,400</td>
<td>9,000</td>
<td>19.49</td>
<td>12.33</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Montana</td>
<td>590,000</td>
<td>1,313,930</td>
<td>76,200</td>
<td>15.06</td>
<td>10.94</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>South Dakota</td>
<td>520,390</td>
<td>972,510</td>
<td>24,100</td>
<td>64.45</td>
<td>19.45</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Multistate projects</td>
<td>107,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>1,709,612</td>
<td>5,016,804</td>
<td>501,600</td>
<td>100.00*</td>
<td>100.00*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figures may not total because of rounding.


Reprinted from JOHN E. THORSON, RIVER OF PROMISE, RIVER OF PERIL 81 (1994) (Table 4.2).
1. Upper Basin Perspective. In the upper basin, this imbalance was aggravated in the 1980s as Montana encountered lower basin resistance to its efforts to settle Indian water right claims. North Dakota saw funding dissipate for the long-promised Garrison diversion project. South Dakota's efforts to market water from Oahe Reservoir for coal slurry purposes was stymied by lower basin objections and litigation. The last years of the 1980s brought drought to the basin. While the Corps of Engineers drafted the main stem reservoirs to support lower basin navigation, upper basin residents saw their favorite boating marinas grounded high above the receding water and dust and mud flats where inviting fishing waters recently had been.

2. Lower Basin Perspective. Lower basin leaders have responded by noting that a majority of the basin's residents live in the lower four states. Clean, stable water supplies are necessary to meet the domestic, municipal, and industrial water needs of these people. The existence, if not the actual use, of the navigation channel is important to maintain rail and truck freight rates throughout the region as a result of what economists call "water-compelled rates." (FERRELL, SOUNDINGS at 134; see also U.S. Army Corps of Engineers, Missouri River Div., Transportation Rate Analysis: Missouri River Master Manual Review (1994)). Lower basin residents also wish to protect the recreational and wildlife values the river affords. They often chafe at the perceived unwillingness of the upper basin states to rethink systematically the law of the river.

3. Tribal Perspective. The basin's Indian tribes, now organized as the 23-member Mni Sose Intertribal Water Rights Coalition (three other tribes sit as non-members; see Map 2), assert that they have lost on all counts. The large reservoirs flooded much of their land leading to the relocation of entire communities. (See MICHAEL LAWSON, DAMMED INDIANS: THE PICK-SLOAN PLAN AND THE MISSOURI RIVER SIOUX, 1944-1980 (1982)). Until recently, they did not receive sufficient compensation for these lands. While many reservations are close to the river or reservoirs, the tribes have not been able to use the water sufficiently for domestic or agricultural purposes. Nor have they shared the benefits of the hydropower produced at the dams. (See Mni Sose Intertribal Water Rights Coalition, Inc., Briefing Document (1997) (on file with the author)).
The Missouri River Basin Tribes

Mni Sose Intertribal Water Rights Coalition, Inc. Members

1. Cheyenne River Sioux Tribe
2. Chippewa Cree Tribe
3. Crow Creek Sioux Tribe
4. Spirit Lake Tribe
5. Fort Belknap
6. Assiniboine & Sioux Tribes
7. Kickapoo Tribe in Kansas
8. Lower Brule Sioux Tribe
9. Northern Cheyenne Tribe
10. Oglala Sioux Tribe
11. Omaha Tribe of Nebraska
12. Ponca Tribe of Nebraska
13. Prairie Band of Potawatomi
14. Rosebud Sioux Tribe
15. Sac & Fox Nation of Missouri
16. Santee Sioux Tribe
17. Sisseton-Wahpeton Sioux Tribe
18. Standing Rock Sioux Tribe
19. Three Affiliated Tribes
20. Turtle Mountain Band of Chippewa
21. Winnebago Tribe of Nebraska
22. Yankton Sioux Tribe
23. Blackfeet
24. Iowa of Kansas
25. Flandreau Santee Sioux Tribe
26. Crow Tribe
27. Wind River (Shoshone & Arapahoe)

Map 2
D. **Lack of Regional Dispute-Resolution Capacity.** The last fifteen years have also seen upheavals in the laws, policies, and institutions that once governed the river.

1. **Basin Commission.** In 1981, the Reagan Administration terminated the Missouri River Basin Commission, which had served since 1972 as a regional forum for federal, state, and tribal representatives.

2. **Missouri Basin States Association.** The state engineers and state water resource directors recast themselves as the Missouri Basin States Association, attempted to fill the leadership gap, but found their work stymied by internal discord and the lack of a mission. This group has again reorganized, added a tribal representative, and now calls itself the Missouri River Basin Association.

3. **Missouri River Assembly.** The Northern Lights Institute attempted to create a broadly-based Missouri River Assembly; but its efforts were unsuccessful due to the magnitude of the endeavor, lack of funding, and resistance to power sharing.

IV. **Master Manual Review**

A. **Master Manual Review.** In 1989, as the result of several drought years in the upper basin, powerful North Dakota Senator Quentin Burdick forced the Corps of Engineers to undertake a major review of the Missouri River Master Water Control Manual. (Letter from Sen. Quentin Burdick to Pres. George Bush (Oct. 25, 1993) ("I am writing . . . to advise you of my extreme displeasure with the Army Corps of Engineers in its management of the Missouri River during a prolonged and severe drought.")) The manual, the set of rules by which the main stem reservoirs are operated, was first published in 1960 and somewhat revised in 1973, 1975, and 1979.

B. **Decade-long Task.** While the Corps did not welcome the task of reviewing the master manual, the agency has done a commendable job in undertaking the project. The review has included technical studies; identification of alternatives; an assessment of economic, environmental, and social cumulative impacts; and a draft environmental impact statement (EIS) published in 1994. Comment on the draft EIS closed in March 1995 and 2,000 submissions were
received. A revised draft EIS is scheduled for May 1998, followed by a final EIS in March 1999. The record of decision on content of a new master manual is scheduled for no earlier than June 1999--ten years after the review was commenced. Most of the dams on the Missouri were built in a shorter period of time.

C. **Corps Faces Unpredictable River.** While undertaking this policy review, the Corps of Engineers has had to manage widely varying Missouri River flows, ranging from a period of record drought between 1987 to early 1993, record floods in 1993, and four years of extraordinarily high run-off in the last five-year period.

D. **Master Manual Review Continues Discord Among States.** The state engineers and water resource agencies, reborn as the Missouri River Basin Association (now with tribal representation) have become focused on the Corps' master manual review. Their differences often seem intractable. They have engaged in a multi-year effort to mediate the differences among their members.

V. **New Directions for the Missouri River**

A. **Historic Opportunity.** Almost all participants agree that the accumulation of this turmoil has set the stage for an historic opportunity to chart the future of the Missouri River basin for at least the next half-century. The charting of the future course of the Missouri, however, will not be easily accomplished.

B. **Differing Interests.** The upper and lower basins, and now the much better organized and more vocal tribal community, have different perspectives on the river and often cling to notions of entitlement that are gradually becoming obsolete.

1. **Upper Basin Interests.** Finally willing to admit that irrigated agriculture will never come in a big way to the Great Plains, the upper basin states still want a block of water to call their own--beyond the reach or objections of lower basin interests. Aside from much-needed municipal water development, the upper basin states have an unclear vision of what they would do with this water. Energy development has reached a plateau and coal slurry pipelines appear to be a thing of
the past. Upper basin states do want higher, predictable reservoir levels that are necessary to support water-based recreation and tourism.

2. Lower Basin Interests. The lower basin states still repeat the incantation of navigation, but more and more this refrain comes from Mississippi River navigation companies. Lower basin residents themselves seem more concerned about flood protection, stable river flows to serve municipal and industrial water intakes, bank stabilization, water-based recreation, and the protection of certain riparian areas. Also, Nebraska and Iowa would like to continue to receive low-cost hydropower produced at Pick-Sloan reservoirs (these two states receive approximately thirty percent of the hydroelectric power).

3. Tribal Interests. The Mni Sose Intertribal Water Rights Coalition seeks water development (particularly for municipal purposes) for member tribes, a greater voice in the decisions affecting management of the Missouri River, recognition of tribal water rights, and a greater share of the low-cost hydropower produced at Missouri River dams. Since the coalition is a relative newcomer to Missouri River politics, it has challenged the approach that both states and federal agencies now take to the basin and the coalition has offered several innovative policy recommendations. Recently, the coalition has concentrated on reallocation of hydropower. The Rosebud and Oglala Sioux Tribes of South Dakota are establishing a tribally owned electric utility. With an allocation of Pick-Sloan hydropower, as many as six tribes may have their own utilities in place by the year 2000. This could lead to $1.8 million in annual utility savings to the Sioux Tribes alone. (Briefing Document, supra, at 11 (on file with the author)).

4. Other Interests. There are many other players in Missouri River politics as well, and they do not always fit neatly into the corner of states, tribes, or federal agencies. The public power entities of the midwest are very concerned about any change to the status quo. Federal and state wildlife agencies seek flow regimes and habitat protections that are necessary to assure the survival of many threatened or endangered species. Budget hawks in Congress are interested in privatizing many of the features of the Missouri River dams.

5. Corps of Engineers as Stakeholder. The Army Corps of Engineers stands in the middle of this political morass, holding the river in its
hands as a stakeholder, and asking for a political decision by state, federal, and tribal officials on how the river should be managed.

C. Range of Possibilities. One might fancifully imagine the Missouri River without dams, but the major flood events in 1993 and 1995 amply demonstrate the importance of upstream storage to reduce lower basin flooding. And while one might convincingly argue that the dams should never have been built in the first place, the burden of persuasion for dam removal is far greater when millions of people have shaped their lives around an existing riverine system. In its master manual review process, the Corps has concentrated on seven potential changes to reservoir operations:

1. Modified navigation service level and season length criteria during droughts.

2. Reduction in navigation season length for non-drought years.

3. A spring rise in river flows to mimic the conditions upon which fish and wildlife rely.

4. Increases in seasonal non-navigation service levels so as to protect municipal and industrial water supply in the lower basin.

5. Reduced flood control restraints which, while benefiting fish and wildlife in the river, also increase the risk of downstream flooding.

6. Modified regulation of all water stored in the system allowing each reservoir to fill at least every three years to enhance fish production.

7. Higher permanent reservoir pool levels which would stabilize the levels of upper basin reservoirs.
D. **Net Result of Possible Changes.** The net result of these changes would be to retain more water in the upper basin, adjust flows from the reservoirs to better protect endangered or threatened fish and wildlife, and to diminish the utility of the river for lower basin navigation.

E. **Lower Basin Opposition.** If the Corps finally makes a decision based on these criteria, the river will be run less generously for navigation. While a record of decision is years away, the lower basin states recognize that the process is going against them. They have sought to prevent an unfavorable outcome by litigation and political activities. (*See Missouri v. Craig* (D. Kan. filed Mar. 12, 1996) (on file with the author)).

1. Because of the low relative value of Missouri River water for navigation, as compared to other uses, commercial navigators have adjusted their arguments. They now maintain that high Missouri River flows are necessary for successful Mississippi River navigation. Commercial navigators estimate that the combined Mississippi-Missouri navigation system yields $4 billion in direct income and between $11 billion and $14 billion in indirect income to the region. (Christopher J. Brescia, President, Midwest Area River Coalition 2000, Address at *The Mighty Missouri: Past and Future* Conference (Mar. 13, 1996)).

2. Commercial navigators also argue that the pressure of water-compelled rates has reduced commercial transportation costs by one-half in other freight modes such as rail and truck. (*Id.*).

VI. **The "Big Compromise"**

A. **Addressing Bottom-line Concerns.** Environmental organizations, most notably the Environmental Defense Fund, have attempted to address the bottom-line interest of commercial navigators in maintaining sufficiently high Missouri River flows to support Mississippi River navigation. They have offered navigators what they call the "big compromise;" and, if achieved, it would rival in boldness the original "shotgun wedding" of Pick-Sloan.

B. **Returning the Lower River to Nature.** The big compromise contemplates that Missouri River navigation would be abandoned. Upper basin reservoirs would be maintained at high levels thus providing recreational benefits
for those states. A spring rise in flow levels, mimicking the river's natural hydrograph, would be released from these reservoirs for fish and wildlife benefits. Most importantly for commercial navigation interests, specified flows would be guaranteed at critical times of the year at the mouth of the Missouri for the benefit of Mississippi River navigation. Then the lower Missouri River would be allowed to return to its natural condition. (Timothy D. Searchinger, Senior Attorney, Environmental Defense Fund, Address at The Mighty Missouri: Past and Future Conference (Mar. 13, 1996)).

VII. Local Action May Overshadow Missouri River Negotiations

A. Local Action Viable Alternative to Regional Impasse. While the major interests are mired in the Corps of Engineers' decade-long master manual review process, local river restoration efforts are underway that may make more progress over the long run.

B. Growing Series of Restoration Efforts. These river restoration efforts can best be seen in Nebraska, although they are occurring in other places along the river. While these efforts fall within the emerging field of ecological restoration, most local residents and officials would use no other label than "citizenship" to describe their endeavors. (See A. Dwight Baldwin, Jr. et al., Beyond Preservation: Restoring and Inventing Landscapes (1994)).

1. Nebraska's first restoration project, Hamburg Dam near Nebraska City, is a site of 1,629 acres that is being restored for fish and wildlife.

2. Natural resource districts are tax-levying subdivisions of Nebraska state government. Created in 1979, they consolidated many of the functions that were formerly fractured among hundreds of special districts. The Papio-Missouri River Natural Resources District near Omaha commenced a "back-to-the-river" project that seeks to restore a dozen sites along the river to more natural conditions. As of 1996, three sites along the river had been completed. The largest of these, Boyer Chute, is a backwater habitat restoration project located approximately five miles north of Omaha. It runs for three miles along the river and encompasses 2,000 acres of floodplain which historically included prairie, forest, and wetlands. These projects have been accomplished with a mix of federal, state, and local funds, including lottery proceeds.
3. Other restoration sites are in various stages of planning or implementation throughout Nebraska, Kansas, Iowa, and Missouri. Efforts are underway to restore approximately six percent of the lost riverine habitat in the lower basin. While the purpose of these sites is to restore lost riverine habitat, these lands will also serve as off-channel storage areas during flood events.

C. Unleashing Local Energy and Commitment. We will no doubt see an increasing number of river-related restoration activities throughout the Missouri River basin. Local residents are discovering the recreational and spiritual importance of the river and riparian land, whether they fish, hike and camp, water-ski, or picnic. Businesses are learning that healthy and attractive waterfronts can attract local residents and tourists to their shops. Municipalities realize that healthier riparian areas help insure the quality of water upon which thousands of residents rely. Federal and state officials would do well to encourage these efforts.

VIII. A New Reclamation Act

A. Basis of Western Water Development. The federal reclamation program in the West grew out of a realization by westerners and easterners alike that the western region would never develop to its potential without a partnership between the federal government and local residents. Westerners simply could not do it alone.

B. Other Examples of Partnerships for Social Capital. This partnership was not unlike other arrangements that built the "social capital" Americans now take for granted. Even in early debates at the turn of the century over the proposed federal reclamation program, one westerner observed:

After the expenditure of millions improving Eastern harbors and rivers, building post office and other edifices, after guaranteeing the bonds of railroad companies to the extent of millions, with the Republican and Democratic parties advocating the expenditure of one hundred million dollars to build the Nicaragua canal, after the payment of over twelve million dollars in bounties to the sugar growers of the South, after the establishment of protective tariffs for over fifty years for the benefit of the manufacturers of the East, there is
no reason why such a bill as herein proposed [the national irrigation bill] should not be passed.

(William "Bucky" O'Neill, ARIZONA (PHOENIX) REPUBLICAN, July 4, 1896, quoted in KAREN L. SMITH, THE MAGNIFICENT EXPERIMENT 10 (1986)).

C. Missouri River Partnership. The Pick-Sloan Plan, although not built specifically under the Reclamation Act, represents a similar partnership between the federal government and basin residents. The plan was also a partnership between the Corps of Engineers and the Bureau of Reclamation and between the navigation-dependent communities of the lower basin and the aspiring farmers of the upper basin. The Missouri River development program eventually became too dominated by federal agency interests. The basic partnership, however, still survives. Among the important assets of this partnership are the basin residents—upper and lower basin inhabitants, Indian and non-Indian—and the six major dams constructed under the Pick-Sloan Plan.

D. The River Reclamation and Restoration Act. Perhaps what we need today is a River Reclamation and Restoration Act, funded by water user fees, that supports locally inspired efforts to restore rivers and riparian areas. The much-damaged Missouri should be a leading laboratory for these efforts. Local residents (including local tribal residents) should take the lead in these projects, but they should also be aided by the expertise of state and federal agencies. In this way, basin residents will have concretely demonstrated the values they attribute to these waterways. In the Missouri region, the differences between upper and lower basins, between Indians and non-Indians, will dissipate. The interminable clash of titans may eventually be rendered obsolete.
General References

JOHN FERRELL, BIG DAM ERA (U.S. Army Corps of Engineers, 1993).


MARK O'KEEFE et al., BOUNDARIES CARVED IN WATER: AN ANALYSIS OF RIVER AND WATER MANAGEMENT IN THE UPPER MISSOURI BASIN (Northern Lights Institute, 1986).

