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TECHNICAL MEMORANDUM

TO: Water Development Commission **DATE:** July 12, 2012

FROM: Interstate Streams Division, Wyoming State Engineer's Office **REFERENCE:** Snake/Salt River Basin Plan Update, 2012

SUBJECT: Institutional Constraints – *Tab XVIII (2012)*

Contents

1.0 Introduction

In recent years, federal and state laws, rules, regulations and policies have affected water development and management. The purpose of this technical memorandum is to identify and discuss some of these institutional constraints on the development and use of water and review how they relate to issues in the Snake/Salt River Basin. This memorandum has been updated and edited from the from the Institutional Constraints Technical Memorandum prepared for the 2003 Snake/Salt River Basin Plan by Gordon W. Fassett, Fassett Consulting, LLC. (Fassett 2003). Information has also been provided by the Wyoming State Engineer's Office, Interstate Streams Division; the Wyoming Department of Environmental Quality, Water Quality Division; and the Wyoming Water Development Office, River Basin Planning Section.

2.0 Federal Environmental Laws

In the late 1960's and early 1970's, Congress passed legislation to protect the environment. Prior to the passage of these laws, most water projects were designed and operated for specific consumptive uses such as municipal, agricultural or industrial purposes or to provide flood control or recreation benefits. Any environmental benefits derived from the projects were indirect and incidental to the purposes for which they were designed. While such benefits could be considerable, they were not protected or required by law. With passage of environmental laws, a variety of environmental protection and mitigation actions became a "standard" consideration in the development of water projects as well as for many other types of projects. These considerations often included minimum streamflow releases and mitigation for impacted wetlands as requirements of federal approvals or permits. At the same time, the economic and environmental benefits of recreation, fisheries, wetlands and other habitats were documented and became more apparent to the public and developers alike, which resulted in minimum reservoir pools or streamflows often becoming a planned component of reservoir operations.

Water supply development often requires "a federal action" that initiates, or triggers, the federal environmental law reviews and permitting. These actions or where there is a "federal nexus" include, but are not necessarily limited to, the following:

1. Issuance of special use permits, rights-of-way or other permits for new water projects on federal lands, including those lands administered by the U.S. Forest Service (USFS), National Park Service (NPS), Bureau of Land Management (BLM), and other federal agencies.

2. Renewal of special use permits, rights-of-way or other permits for existing water projects located on federal lands, including those lands administered by the USFS, NPS, BLM and other federal agencies.

3. Contracting for storage space or water from federal reservoirs, such as those owned and operated by the U.S. Bureau of Reclamation (USBR) or U.S. Army Corps of Engineers (COE).

4. Renewal of existing contracts for storage space or water from federal reservoirs. For example, in the Snake/Salt River Basin water users have contracts for storage space and water in Jackson Lake, Grassy Lake and Palisades Reservoir.

5. Actions that involve the discharge of dredged and/or fill material into waters of the United States, including rivers, streams, and wetlands, require the issuance of a Section 404 permit under the Clean Water Act (e.g. the construction or repair of dams, diversion dams, pipeline crossings, levees, etc.). Section 404 permits are issued by the COE.

6. Procurement and renewal of licenses from the Federal Energy Regulatory Commission (FERC) to produce hydropower at private or federal dams and reservoirs.

7. Use of federal funds, loans or grants, to construct a new water project or rehabilitate an existing water project such as the safety of dams rehabilitation work at Grassy Lake and Jackson Lake Dams.

The only water development activity that is not subject to federal environmental laws is drilling a well with non-federal funds on non-federal lands outside the banks of rivers, streams, and wetlands. However, piping the water from such wells across federal lands or rivers, streams, and wetlands could initiate a federal environmental review and a federal permitting or approval action.

3.0 Endangered Species Act

The Endangered Species Act of 1973 (ESA) declares the intent of Congress to conserve threatened and endangered species and the ecosystems on which they depend. This law requires all federal agencies, in consultation with the Secretary of Interior, through the U.S. Fish and Wildlife Service (USFWS), or the Secretary of Commerce, through the National Marine and Fishery Service (NMFS) to use their authorities in the furtherance of ESA purposes by carrying out programs for the conservation of species and by taking such actions necessary to insure any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of such threatened or endangered species or result in the destruction or adverse modification of critical habitat of such species as determined by USFWS or NMFS. These agencies will make a biological determination as to whether wildlife and plant species are endangered or threatened based on the best available scientific information.

The "actions" covered by the law and implementing federal regulations and policies are the types of examples listed above. In the Snake/Salt River Basin this includes actions like; USBR contracting for reservoir storage space and water from Jackson Lake or Palisades Reservoir or other federal reservoirs downstream of the Wyoming/Idaho state line, COE Section 404 permitting for river crossings, new diversions or activities related to highway construction, levee rehabilitation, wetland mitigation and other projects, and special use permits authorized by the NPS in Grand Teton or Yellowstone National Parks, the USFS in National Forests or the BLM for projects on the lands they manage in the river basin.

If a federal agency is considering an action that may jeopardize an endangered species, Section 7 of the ESA requires that the agency must consult with either the USFWS or NMFS regarding the endangered species matters. For water related projects located in Wyoming most interactions and consultations related to the ESA will be through the USFWS. This consultation process includes the development and issuance of biological assessments and biological opinions that generally result in conclusions that; 1) the proposed action will not jeopardize the species, 2) that a reasonable or prudent alternative is needed to mitigate the impacts of the proposed action on the species or its habitat, or 3) that the action should not be taken. While many federal agencies, such as the BLM, USFS and COE can prepare biological assessments; only the USFWS and NMFS can issue biological opinions, which are formal decision documents. The USFWS and NMFS strongly encourage the coordination of the ESA Section 7 consultation procedures with those procedures required by other statutes such as the National Environmental Policy Act and the Clean Water Act.

The list of species (current as of May 2012) maintained by the USFWS for areas in or near the Snake/Salt River Basin (Lincoln, Sublette and Teton Counties) within Wyoming includes the:

• Black-footed Ferret	Endangered, habitat – prairie dog towns
• Canada Lynx	Threatened, habitat – montane forests
• Canada Lynx Critical Habitat	Designated areas include boreal forest landscapes within Fremont, Lincoln, Park, Sublette and Teton Counties
• Gray Wolf	Experimental/non-essential, habitat – Greater Yellowstone Ecosystem
• Grizzly Bear	Threatened, habitat - montane forests
• Ute Ladies'-tresses	Threatened, habitat – seasonally moist soils and wet meadows of drainages below 7,000 ft. elevation
• Greater Sage-grouse	Candidate, habitat – sagebrush communities
• North American Wolverine	Candidate, habitat – subalpine to alpine
• Whitebark Pine	Candidate, habitat – cold and windy subalpine to alpine sites above 8,000 ft, elevation
• Yellow-billed Cuckoo (Western)	Candidate, habitat – riparian areas west of Continental Divide

In addition, a separate technical memorandum for this basin plan discussed the endangered salmon and steelhead anadromous fish species in the river downstream from Wyoming's border that can potentially affect or limit the use of water within Wyoming (*Technical Memorandum, Tab XX: Salmon Recovery Efforts in the Snake River Basin*). All of these species are covered by the various provisions of ESA and must be considered in the development of almost any water related project.

4.0 National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 represents the Congressional declaration of national policy to encourage a productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the nation. At its core this act is to allow informed federal agency decisions, an open public process and disclosure of potential impacts upon the environment.

NEPA requires all agencies of the Federal government to insure that presently unquantified environmental amenities and values be given appropriate consideration in decision making along with economic and technical considerations. While each federal agency has their own rules, regulations and procedures for implementing NEPA, this analysis is most often accomplished by preparation of a detailed statement by the responsible federal official addressing specific issues outlined in NEPA for all federal actions significantly affecting the quality of the human environment. Prior to preparation of any statement by the federal official, the act requires solicitation of comments from and consultation with any federal agency, which has jurisdiction by law or special expertise with respect to any environmental impact involved.

The Act requires that federal agencies consider all reasonably foreseeable environmental consequences of their proposed actions. The conclusions of the environmental review of that action under NEPA can be in the form of (listed in order of increasing complexity, cost and time); 1) a categorical exclusion, where there are no impacts or when an action has been analyzed and documented through other NEPA planning processes, 2) the preparation of an environmental assessment (EA), which sometimes will result in a finding of no significant impact (FONSI) often summarized in a letter from the action agency, or where the documented impacts in an EA cannot be mitigated, 3) the preparation of an environmental impact statement (EIS). The EIS process is used on large, complex and controversial projects or for those projects where significant environmental impacts are identified and documented. Further, NEPA requires federal decision makers to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." (42 USC 4321 et seq., Sec. 102 (2) E).

NEPA also created the Council of Environmental Quality (CEQ). Federal Regulations issued by the CEQ require that 1) a "no action" alternative be considered, 2) all reasonable alternatives should be considered, 3) the reasons for eliminating potential alternatives must be provided, 4) the action preferred by the federal action agency should be identified, if possible, and 5) appropriate mitigation measures should be included (40 CFR Part 1502). NEPA provides federal agencies the opportunity to determine which alternative, including the no action alternative, they feel best serves the project applicant's purpose and need. The alternative selected by the federal agency may differ from the one preferred by the applicant.

5.0 Clean Water Act

Section 404 of the Clean Water Act of 1972 (CWA) prohibits discharging dredged or fill materials into waters of the United States without a permit from the COE. The waters of the United States include rivers and streams and initially, as of 1975, wetlands. Specific references to isolated wetlands were addressed in 1984 and there continues to be litigation surrounding the extent of regulation on wetlands, which are most often evaluated on a case-by-case basis. COE policy requires applicants for 404 permits to avoid impacts to waters of the U.S. to the extent practicable, then minimize the remaining impacts, and finally, take measures to mitigate unavoidable impacts. In addition to the alternative review required by NEPA, Section 404 (b)(1) guidelines (40CFR Part 230) require an alternative review to define the least environmentally damaging practicable alternative. Further, these guidelines are used to ensure that a project, after considering mitigation, will not cause significant impacts to the aquatic ecosystem.

Section 401 of the CWA requires that any applicant for a federal license or permit to conduct any activity including … construction or operation of facilities, which may result in any discharge into the navigable waters … shall provide the licensing or permitting agency a certification from the State in which the discharge originates that the discharge shall comply with state water quality standards. As discussed further in subsequent sections of this memorandum, in Wyoming, the Department of Environmental Quality (DEQ) handles the Section 401 certification program as well as implementing CWA Sections 303(d), 305(b) and 319. Under Section 401, states review any federal action that may result in a discharge to wetlands or other waters under state jurisdiction for consistency with the state's water quality requirements. Such

certifications in Wyoming are most often used in association with Section 404 permits issued by the COE or licenses issued by FERC for hydropower projects.

Section 402 of the CWA prohibits the discharge of pollutants (other than dredged or fill materials) into waters of the U.S. without a National Pollution Discharge Elimination System (NPDES) permit. In Wyoming, this permitting program, the Wyoming Pollution Discharge Elimination System (WYPDES), is administered by the DEQ and is further explained in Section 10 below.

Section 303(d) of the CWA requires the State of Wyoming to identify water bodies that do not meet uses, as designated by stream classifications, and are not expected to meet water quality standards after application of technology-based controls. The lead state agency for this responsibility is the DEQ. This aspect of the law is also intended to identify a priority ranking for each water quality limited stream segment and develop total maximum daily loads (TMDL) to restore each water body segment. TMDL is the ability of a water body to assimilate pollution and continue to meet the use designated by the stream classifications. Future water development projects will need to address water quality benefits and impacts. Section 319 of the Clean Water Act provides funding assistance to address non-point source water quality issues. Within Wyoming, much of the local efforts, to collect water quality data and to coordinate implementation of remediation efforts with affected water users, are through Conservation Districts. Water quality issues are more specifically and fully addressed in *Technical Memorandum, Tab XIV: Surface Water Quality* prepared by the Wyoming Water Development Office.

6.0 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA, 16 U.S.C. 661-667e) was initially passed in March of 1934 and has been amended several times over the years. FWCA authorizes the Secretary of Agriculture and Commerce to provide assistance to and cooperate with federal and state agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife. The Act also directs the Bureau of Fisheries to use impounded waters for fish-culture stations and migratory-bird resting and nesting areas and requires consultation with the Bureau of Fisheries prior to the construction of any new dams to provide for fish migration. In addition, this Act authorizes the preparation of plans to protect wildlife resources, the completion of wildlife surveys on public lands, and the acceptance by the federal agencies of funds or lands for related purposes provided that land donations receive the consent of the State in which they are located.

Amendments to the Act in 1946 require consultation with the USFWS and the fish and wildlife agencies of States where the “waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted… or otherwise controlled or modified” by any agency under a federal permit or license. Consultation is to be undertaken for the purpose of “preventing loss of or damage to wildlife resources”. These consultations and often the resulting proposed mitigation actions are carried out for projects in Wyoming through the USFWS and Wyoming Game and Fish Department.

7.0 National Historic Preservation Act

Congress established the National Historic Preservation Act of 1966 (NHPA) and created the Advisory Council on Historic Preservation to advise the President and Congress in matters involving historic preservation. The council is authorized to review and comment on activities licensed by the federal government which will have an effect upon properties listed in the National Register of Historic Places or eligible for such listing. Section 106 of the NHPA provides for the involvement of the State Historic Preservation Office (SHPO) in the cultural resource inventory and project reviews administered by the Council under this Act. These reviews balance the needs of development against the need to retain significant pieces of the nation's past. Water related projects would routinely be required to address the provisions of Section 106 of NHPA.

8.0 Institutional Processes

The federal government, with the authorizations provided by the ESA, NEPA, and the CWA, has the tools to ensure the protection of the endangered species, critical habitats and other federal environmental quality interests. The federal agencies responsible for the implementation of these acts have not been reluctant to use these authorizations and tools to achieve these goals. The following is a list of actions, remediation, or mitigation alternatives project proponents may take to address the institutional constraints within federal and state environmental laws, rules, regulations and policies.

1. Project Purpose

Project proponents should have a clear definition of the purpose of their project. There are numerous uses of water and hence there may be multiple purposes associated with any proposed project: agricultural, municipal, or industrial water use, power generation, flood control, recreation, fisheries, habitat improvements and others. In fact, the project proponent may have several purposes in mind. A potential reservoir could possibly serve all of the above listed purposes. However, the alternatives analyses required by NEPA can become very complex, time consuming and costly for a multipurpose project. Each of the purposes for a proposed project will typically have its own individual alternative analysis.

For example, a proposed reservoir designed to provide an agricultural water supply and recreation benefits would have to undergo a needs analysis and alternative review for both of the purposes. The project proponent would be required to verify that there are needs for additional agricultural water and recreation and that the operation of the proposed project to provide these benefits was the "least environmentally damaging practicable alternative" to meet those needs. Therefore, a project proponent is required to define the "primary" purpose of the project, such as agricultural water use, for purposes of the NEPA review. Under this scenario, the purpose of providing recreation benefits would become a secondary benefit of the proposed project and, if it is determined that this secondary purpose causes substantial environmental damage, beyond that of the primary purpose, recreation benefits may have to be deleted from the proposed operation of the project.

2. Project Need

The project proponent must show the need for water to meet the defined purpose or purposes for the project. For example, if the purpose of a proposed agricultural project is to increase the yield of alfalfa or native hay, the amount of water needed for this purpose must be calculated and presented. If the purpose of a proposed municipal project is to meet future water needs, the project proponent must complete population projections and future water demand estimates in a manner that withstands the scrutiny of the federal permitting agencies. Industrial water users will need to calculate the water needs for their proposed operations. The needs analyses will have to quantify the amount of water that will be stored or diverted and consumed (depleted) by the proposed project operation. Typically, the federal permitting agencies will require that future water conservation activities also be considered in the water needs analysis.

3. Alternative Analyses

Project proponents should evaluate several alternatives prior to selecting the alternative that is going to be subjected to the federal environmental review process. As previously noted, NEPA regulations require that a "no action" alternative be considered; all other reasonable alternatives should be considered; and the reasons for eliminating potential alternatives must be provided. Therefore, project proponents should develop enough information on alternatives to evaluate how well the preferred alternative will fare under the federal permitting and environmental review. Federal agencies will typically require that water conservation be considered as an alternative to or as part of the proposed water development project. For example, if a municipality charged more for water, would the increased cost to the consumer reduce the demand for water in sufficient quantities to address projected needs without building a new water supply project?

4. Selection of the Preferred Alternative

Cost and technical feasibility are the primary factors considered by project proponents in determining project feasibility. While these factors are also considered by federal permitting agencies, the federal perspective is often more interested in evaluating the potential environmental damage that may occur if the project is constructed and implemented. Therefore, the project proponents should consider potential environmental impacts in developing project alternatives. For example, a new pipeline alignment that avoids wetlands rather than impacting them should be evaluated. Perhaps, an off-channel reservoir site on an ephemeral stream with a supply canal can meet the water supply need just as well as a new reservoir located on a stream with a Blue ribbon fishery. While the revised pipeline alignment or off-channel reservoir may be more costly to construct, those increased costs may be more than offset by the mitigation costs required to replace wetlands or mitigate the impacts to a stream fishery. In addition, federal clearances for a pipeline that does not impact wetlands or a reservoir with no or minimal fishery impacts will be easier and often more timely to obtain.

9.0 Federal Lands

Ninety percent of the lands in the Snake/Salt River Basin are managed by federal agencies. There are very few lands administered by the BLM, however the far majority of the basin land

area is in the National Forests as well as Yellowstone and Grand Teton National Parks. There are also designated wilderness areas within national forests, the National Elk Refuge, and candidates for wild and scenic river designations. The USFS, NPS, and BLM or others agencies managing these federal lands must assure that the requirements of federal law are met before they can issue a special use or other permits authorizing a proposed action on federal lands, such as construction of a water project.

The scrutiny under which the federal laws will be applied is based on the sensitivity of the environment potentially impacted or effected. For example, it may be a rather simple institutional process to obtain a special use permit to construct a small water pipeline across the prairie within BLM jurisdiction. However, it may be virtually impossible to obtain the federal permits necessary to construct a large dam within a wild and scenic river segment or wilderness area.

Project proponents must demonstrate a "purpose and need" (as discussed in the above subsections) for a project in order to obtain federal environmental clearances for major water projects, whether or not the proposed project is located on federal lands. However, if the proposed project is on federal lands, the "purpose and need" may be secondary to goals of the federal agency's management plans for the areas and activities under their responsibility. As previously noted, NEPA provides federal agencies the opportunity to determine which alternative, including a no action alternative, they feel best serves the applicant's purpose and need. If the proposed project is located on federal lands and does not comply with the federal agency's management plan, project proponents may be faced with the daunting task of convincing that federal agency that the proposed project at that specific location is the only alternative available to meet the proponent's purpose and need.

Lands within national forests, wilderness areas, wildlife refuges, and wild and scenic river designations are environmentally sensitive. The federal government selected these lands often because of their beauty, pristine nature and habitat values. Therefore, even if a project proponent obtains approval from the federal government to construct within these areas, that project proponent should be prepared to handle the added and significant mitigation costs. The costs to mitigate the project impacts to the streams, fisheries, and terrestrial and wildlife habitats will be considerable. In fact, the environmental review, permitting, and mitigation costs must be considered in determining whether or not the proposed project is economically feasible.

There is clearly some uncertainty involved in constructing projects on federal lands. Typically, a special use or other federal permit has a fixed life and expiration date. The project owners must seek a renewal of the federal permit to continue to operate their water projects. The issuance of the permit renewal will be based on the federal laws, rules and regulations and policies in place at the time of the renewal, rather than the requirements under which the special use permit was originally issued. For example, if a new species in the project area is placed on the threatened or endangered lists, the project owner may be required to revise the operations of the project to accommodate the needs of the species or provide other specific mitigation that addresses the unique species requirements based upon the “best available science”. If the project is a dam, the owner may be required to provide a portion of the storage water or some alternative water supply for the habitat of the species in order to obtain the renewal of the permit.

If possible, project proponents should avoid locating their project on national forests and national parks because of the significant encumbrances that may be placed on their investments or projects. It is virtually impossible to locate new water projects within wilderness areas, wildlife refuges, and stream areas with wild and scenic river designations.

10.0 Wyoming Environmental Quality Laws

Section 401 of the CWA provides for the state certification of any federally licensed or permitted facility, which may result in a discharge to the water of the state. In Wyoming, this certification process is administered by the Department of Environmental Quality (DEQ). The 401 certification provides a mechanism for the states to amend, or perhaps veto, a project permit that the federal agency might otherwise allow. While the 401 certifications are required for several types of federal actions, most 401 certifications relate to Section 404 Dredge and Fill Permits required from the COE. A separate permit application is not required since all 404 permit applications are automatically forwarded to the state in which the 404 permit is being requested.

Those items typically required in the provisions of a Section 401 certifications are outlined below:

* Pollution Control Plan
* On-site Pollution Control Officer
* Water Quality Monitoring for turbidity
* Safe handling of all hazardous materials located on-site.
* Construction of adequate water supply, sanitary and trash facilities for any constructions camps located on-site.

A Section 401 certification also outlines those additional permits required prior to the initiation of project construction activities. These additional permits are described below:

1. NPDES - National Pollution Discharge Elimination System Permit.

Typically, the selected construction contractor for the project will prepare and submit a "Notice of Intent" 30 days prior to any surface disturbances taking place, to DEQ. The major requirements of the NPDES (a storm water general permit) pertain to the development and implementation of a water pollution plan along with regular inspection of pollution control facilities in place at the project construction site. In Wyoming this is administered by DEQ under the Wyoming Pollution Discharge Elimination System (WYPDES).

2. Non-Storm Water Discharges.

An individual WYPDES discharge permit from the DEQ may be required for point source discharges to surface waters not related to storm water runoff. These can include discharges from gravel crushing and washing operations, an on-stream cofferdam dewatering discharge, vehicle or machinery washing, or other material and equipment processing operations, if they are a part of the project being authorized.

3. SPCC - Spill Prevention, Control, and Countermeasures Permit

If above ground storage of petroleum products exceeds 1,320 gallons in total or more than 660 gallons in a single tank an SPCC plan may have to be developed for submittal to DEQ as described in the Environmental Protection Agency's (EPA's) Oil Pollution Prevention regulations.

11.0 Wyoming Water Law

Wyoming water law is summarized in Technical Memorandum, Summary of Wyoming Water Law (Fassett 2002a) and based on the prior appropriation doctrine as characterized in the shorthand phrase: "first in time, first in right". The state water laws are administered by the Wyoming State Engineer's Office (SEO) and State Board of Control. Under the prior appropriation doctrine, during periods when there is not enough water to fulfill all the water rights, those water users having an earlier (senior) priority date on their water right are entitled to receive their full amount of water for beneficial use before those water rights that have a later priority date, referred to as the "junior" water right.

If a particular water right appropriator feels he is not getting the water that his water right is allowed, he can contact the local officials from the SEO and request regulation for the water right. This is often referred to as a "call" for water rights regulation. If the state official concludes that the water right holder has legal standing to make the "call", the State Engineer's Office will regulate the available water supply based on the priority dates of the water rights appropriated from the stream or river for which the "call" was made.

The priority date for a project is established on the date a completed water right permit application is accepted by the SEO. In order to determine the water supply a new project may achieve, it is important to evaluate the existing water rights that are "senior" to the proposed project. Before the decision is made to pursue a project at a particular location, the potential water yield of the project should be estimated. The firm yield is the water supply benefits the project proponent could expect under worst case or drought water supply conditions. If the proposed project is located on a stream or river that has many "senior" priority water rights, a new project may not be able to achieve a reliable water supply during the drier months, such as July and August, or during drought years. Under these conditions, often the development of water storage reservoirs may be required to store water when flows are surplus to existing water rights and carry them over through the drier periods.

Generally the old "rules of thumb" relating to water yield and project feasibility were as follows:

1. The water demands of industrial water users, such as a coal-fired electric generating power plant must be met 10 out of 10 years or on a firm annual basis.

2. The water demands of municipal water users should be met 9 out of 10 years, as the municipality could implement short-term water purchase or conservation measures during the 10th year.

3. The water demands of irrigated agriculture water users must be met 8 out of 10 years before a new water supply project would be considered feasible.

However, today, all water users are interested in a firm water supply before they are willing to invest in a water project due to the ever escalating permitting, mitigation and project construction costs and the implementation time involved. In fact, many industrial water users are interested in the yield of a potential project under doomsday type of drought conditions, such as assuming that the worst water year of record occurs in consecutive years. These expectations of water users make the priority date of the water rights for new projects located in tight water supply regions relative to existing water rights, a critical factor in the feasibility of proposed water development projects.

The SEO also administers the Wyoming laws associated with safety of dams. The general requirements of the law outlines the need to submit and receive approval from the State Engineer of a set of engineered plans and construction specifications for any dam equal to or greater than 20 feet in height or 50 acre-feet in capacity. While not classified as a "constraint" per se, these public health safety laws must be considered in the planning and design of any dam that may affect the public safety. The law also outlines an annual safety of dam inspection program, where every dam meeting the above size criteria must be physically inspected by the agency every five years.

12.0 Interstate Compacts and Court Decrees

As discussed in Technical Memorandum, Summary of Interstate Compacts and Court Decrees (Fassett 2002b) the Snake River Compact provides Wyoming 4 percent of the water of the Snake/Salt River Basin to meet all post-July 1, 1949 water demands. The Roxana Decree also affects the use of water on some of the west facing tributaries of the Teton mountain range in the Teton Sub-basin. Wyoming's allocation of water under the compact is estimated at around 200,000 acre-feet per year. Issues related to the compact and court decreed allocations of water Wyoming is entitled to are more thoroughly addressed in Fassett (2002b)

Prior to issuing any new water right the SEO will make sure there is not any affect upon or that the use of water authorized by the permit is within the interstate compact or court decree governing the water allocations of the State of Wyoming. Article III A of the Snake River Compact provides that; "the waters of the Snake River, exclusive of established Wyoming rights (pre July 1, 1949) … are hereby allocated to each State for storage or direct diversion as follows: 4% to Wyoming and 96% to Idaho…" Any new water rights approved by the State Engineer shall be a part of this allocation. To date, it is estimated that less than one-half of this entitlement has been used within the Snake/Salt River Basin of Wyoming.

The protections provided by interstate compacts and court decrees sometimes has caused people to question the necessity for development under the principle of "use it or lose it", the battle cry which fostered the Wyoming Water Development Program. Compacts and Decrees provide a reliable and sound legal defense of the state's entitlements and Wyoming would use these defenses in the face of any legal challenge against unused allocations. Further, Article X of the Snake River Compact specifically addresses this issue by stating; "The failure of either State to use the waters … allocated to it under the terms of this compact, shall not constitute a

relinquishment … forfeiture or abandonment of the right to such use". However, it is also good business for Wyoming to be a good steward of its compact entitlements through planning for future beneficial water use.

In this and other river basins, Wyoming has been approached regarding the potential sale or lease of water to downstream out-of-state interests. The proposals evaluated the procurement of unused natural flow passing the state line as well as the purchase of water from existing water rights. The compact would certainly indicate that such uses by Wyoming are possible. However, these proposals have been met with considerable resistance and debate. Many Wyoming citizens fear that such sales or leases will become irreversible. Once sold or leased, such water may never be retrievable for Wyoming should future water demands need it.

Regardless, there are institutional constraints that would have to be overcome for marketing of water to downstream interests to become a reality. Under current state law, the Wyoming Legislature must approve the export of water outside the state. Therefore, Wyoming citizens should take comfort in the fact that if such transactions are proposed, the decision as to whether or not Wyoming should sell or lease a portion of its compact entitlement will be debated in public forums within Wyoming. The Snake River Compact also addresses the matter of an export from the Snake River Basin for beneficial use elsewhere in Wyoming, where approval from the State of Idaho is required for such a use.

13.0 Wyoming Water Development Program

Planning, constructing, and implementing a water project is costly. Adding costs to acquire state and federal permits can be overwhelming for many small public and private entities in Wyoming. In 1975, in recognition that water development was becoming more difficult and additional water development was necessary to meet the economic and environmental goals and objectives of the state, the Wyoming Legislature authorized the Wyoming Water Development Program and defined the program in W.S. 41-2-112(a), which states the following:

> *The Wyoming water development program is established to foster, promote, and encourage the optimal development of the state's human, industrial, mineral, agricultural, water and recreation resources. The program shall provide through the commission, procedures and policies for the planning, selection, financing, construction, acquisition and operation of projects and facilities for the conservation, storage, distribution and use of water, necessary in the public interest to develop and preserve Wyoming's water and related land resources. The program shall encourage development of water facilities for irrigation, for reduction of flood damage, for abatement of pollution, for preservation and development of fish and wildlife resources [and] for protection and improvement of public lands and shall help make available the water of this state for all beneficial uses, including but not limited to municipal, domestic, agricultural, industrial, instream flows, hydroelectric power and recreational purposes, conservation of land resources and protection of the health, safety and general welfare of the people of the state of Wyoming.*

The task of setting priorities under the above all-encompassing definition falls to the Wyoming Water Development Commission (WWDC), which was also authorized by the Wyoming Legislature. The WWDC is made up of ten (10) Wyoming citizens, appointed by the Governor.

The director and staff of the Wyoming Water Development Office administer the Wyoming Water Development Program.

The WWDC can invest in water projects as state investments or can provide loans and grants to public entities (municipalities, irrigation districts and special districts) for the construction of projects specific to their water needs. The WWDC has adopted operating criteria to serve as a general framework for the development of program/project recommendations and generation of information. Individuals and project entities interested in the development of specific water projects should seek information regarding the Wyoming Water Development Program and the possibility of obtaining financial and technical assistance for the development of those projects.

14.0 Conclusions

Federal Environmental Laws

Water development in the 21st century is often difficult and costly. However, if a project proponent has a need for water, patience, and adequate financial resources, the federal environmental review and permitting processes can be successfully completed and permits obtained for construction of water projects. In the Snake/Salt River Basin the extensive amount of federal lands (90%) and particularly the national parks and forests act as a practical limitation on extensive water development in the basin. However, carefully sized and smartly located water development projects to meet the needs of the basin citizens are institutionally possible.

The State of Wyoming has historically been proactive in dealing with institutional constraints that may impact its ability to develop its water resources as allocated by court decrees and interstate compacts. State officials routinely monitor water related activities in downstream states, review proposed federal legislation and federal mandates that are derived from a variety of sources such as new federal environmental legislation, regulations or forest and park management plans, to interject the state's position on these matters and provide for a state perspective in their development and implementation. These efforts are important to Wyoming water users and citizens and should continue.

Future Water Development

The publication of the "Snake/Salt River Basin Plan" should foster discussion among water users and state officials relative to water development and conservation in the Snake/Salt River Basin in Wyoming. The plan concludes that Wyoming has water to develop in the basin. The water can be used for future municipal growth, agricultural and recreational demands and environmental benefits. As previously noted, the Wyoming Water Development Program can invest in water projects as state investments or can provide loans and grants to public entities, such as irrigation districts, for the construction of projects. Historically, state investments in water projects have been limited to larger, multi-purpose reservoirs such as the Buffalo Bill Enlargement, Fontenelle Reservoir, space in Palisades Reservoir and High Savery Dam and Reservoir located in south-central Wyoming.

There are opportunities to construct smaller reservoirs, develop groundwater and conserve available supplies to meet new demands in the Snake/Salt River Basin. The loan/grant mix criterion presently applied by the WWDC is 33 percent loan and 67 percent grant for the total project cost at this time. Wyoming statutes authorize a maximum 75/25 grant/loan ratio for project sponsors. Even though the WWDC and Wyoming Legislature may agree to increase the grant percentage to the maximum 75 percent, it may be difficult or impossible for the agricultural water users to make the payments on even a 25 percent WWDC loan, plus pay for the on-going operation and maintenance expenses of a dam and reservoir. However, when circumstances warrant, the WWDC and Wyoming Legislature will likely be asked to fund and construct smaller dams in the Snake/Salt River Basin as state investments. Wyoming Statute 41-2-121(a)(ii)(II) provides the following: "Storage projects may be financed by grants for the full cost of the storage capacity but not to exceed public benefits as computed by the commission."

The availability of water in the Snake/Salt River Basin and the flexibility provided by the Snake River Compact may offer the potential for some limited transbasin diversions. Wyoming statute 41-2-121(a)(ii)(VIII) states: "A project involving a transbasin diversion shall address the impact of the diversion and recommend measures to mitigate any adverse impact identified in the basin of origin." It appears the WWDC could also fund smaller in-basin surface, groundwater or conservation projects as state investments with the understanding that these projects would serve as mitigation for future potential transbasin diversion projects. The State of Wyoming should also continue to look for opportunities to cooperate, cost-share or leverage funding of development and conservation projects with other federal, local and private sources of capital for the ever-increasing costs of water supplies.

Water Marketing

As long as Wyoming has water to develop in the Snake/Salt River Basin, there may be some continuing debate regarding the sale or lease of water to downstream interests and the new demands for environmental or endangered species protection. As previously noted, the long-term or perpetual sale of Wyoming's allocated water would be short sighted. However, if such alternatives are given serious consideration in the future, the lease of water that can be controlled may be a more feasible water marketing alternative. Storage water or other supplies that can be released or delivered on demand may also offer revenue potential for the state. As the water supply can be turned on and off to meet specific demands, the possibility that water marketing would become irreversible becomes less likely. The water rights and leased water would remain under the control of Wyoming. At such time as Wyoming had a need for the water, the leases could be terminated, downstream deliveries stopped, and the water could be beneficially used in Wyoming. While such an alternative may be more feasible, there would still be many political and institutional issues to address.

Future Water Planning

The Snake/Salt River Basin Plan Update is an important step towards identifying and achieving Wyoming goals within the Snake/Salt River Basin. Existing water use is an important element in planning for the future. Without an understanding of the existing water use, it is very difficult to define the water available for future use. It may be time in Wyoming's history that the

installation of more measuring devices and annual reporting of monthly water use become a requirement placed on water rights, with the exception of those water rights permitted for domestic, stock and other de minimis uses.

References

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