

APPENDIX I SHOSHONE-BANNOCK TRIBES FINDINGS OF FACT

I. Introduction

This document contains factual findings upon which the United States Environmental Protection Agency (EPA) relied in making its decision regarding the Shoshone-Bannock Tribes (the "SBT" or "Tribes") Application for treatment in the same manner as a state (TAS) under Section 518(e) of the Clean Water Act (CWA) for purposes of establishing water quality standards and issuing water quality certifications under Sections 303 and 401 of the CWA. The TAS determination is a separate process from EPA's decision to approve or disapprove a Tribes' water quality standards.

The SBT has applied for TAS status, and this document is intended to set forth Findings of Fact regarding EPA's determination as to the Tribes' assertion of inherent authority over nonmember activities on the Fort Hall Reservation, near Pocatello, Idaho. A complete description of the governmental functions, tribal codes, judicial systems, and Reservation environment can be found in the Shoshone-Bannock Tribes' Application.

The Tribes applied for TAS status by letter dated December 22, 2004 (initial Application). The State of Idaho submitted comments on the Application by letter dated June 30, 2005, and forwarded letters it had received about the Application from Bingham County, Power County, and Bannock County. The Tribes supplemented the Application by submitting a letter to EPA dated June 25, 2007, entitled "Response to Comments on the Shoshone-Bannock Tribes' Application for Treatment in a Similar Manner as a State under Section 518(e) of the Clean Water Act" (Supplemental Submission); the two documents together comprise the Application. The State of Idaho submitted comments on EPA's Proposed Findings of Fact by letter dated February 8, 2008, and forwarded letters from a number of commenters. Information submitted by Idaho and the commenters has been considered in the completion of this Findings of Fact, and Appendix II to this Decision Document provides a complete response to comments that have been received.

The Tribes' Application describes features of and activities on the Fort Hall Reservation (Reservation) of Idaho. The Reservation, located in southeastern Idaho, consists of approximately 544,000 acres of land. The northern boundary of the Reservation generally runs along the Blackfoot River from the eastern mountains in a westerly direction to the confluence with the Snake River. The western boundary runs from that confluence southward along the Snake River to include a portion of the American Falls Reservoir and then south along a survey line on land. The southern boundary follows survey lines that exclude the Pocatello area, and the eastern boundary goes north to the Blackfoot River. The vast majority of the Reservation land

(ninety-six percent) is owned (1) by the United States and held in trust for the Tribe, (2) by the Tribe and held in fee, or (3) by the United States and held in trust for Tribal members (collectively Tribal lands). The remaining Reservation land is owned in fee by nonmembers of the Tribe. This fee land is generally concentrated in a few areas of the Reservation. A map of the Reservation showing Tribal trust lands, individual Indian trust lands, and non-Indian fee lands within the Reservation boundaries is included as Attachment 10 to the initial Application.

The Tribes' Application describes in detail the importance of surface water quality to the SBT and the many ways the SBT and Tribal members use surface waters. Maps provided by the Tribes show all the waters within the Reservation. Uses of the water by the Tribes and Tribal members include subsistence fishing and cultural uses, wildlife habitat, recreation in and on the water, agriculture and grazing, and domestic water uses. Actual or potential nonmember activities on the Reservation include agriculture and livestock raising, including the use of herbicides and pesticides, fishing and hunting, and commercial and industrial enterprises.

This Findings of Fact document contains information relevant to the Tribes' demonstration that it has inherent authority over nonmember activities on the Reservation affecting water quality. EPA assesses tribal authority based upon the actual or potential future impacts of such nonmember activities on the tribe. Thus, the first section of this Findings of Fact describes the *Montana* "impacts" test EPA uses to assess authority of the SBT, and the Clean Water Act functions the SBT is proposing to carry out. The remaining sections contain factual information regarding actual and potential nonmember activities on the Reservation, and how the impacts of those activities on Reservation water resources may affect the Tribes.

This Findings of Fact document supports the Agency's decision to approve the Tribe's Application. The SBT asserts that it has authority to set water quality standards and issue certifications for all waters within the Reservation boundaries. The Agency analyzes a tribe's inherent authority over activities of nonmembers under the test established in *Montana v. United States*, 450 U.S. 544 (1981) (*Montana test*). This document sets forth the Findings of Fact that EPA believes are relevant for our determination regarding the Tribe's assertion of inherent authority to regulate nonmember activities under the *Montana test* (as described in the attached Decision Document) for purposes of the Clean Water Act water quality standards and water quality certification programs. This document discusses nonmember activities on the Reservation, including Tribal lands.

II. Impacts of Actual and Potential Future Activities within the Reservation's Exterior Boundaries on the Political Integrity, Economic Security, and Health or Welfare of the Shoshone-Bannock Tribes and Tribal Members

A. Reservation Water Resources

This section presents information on the relationship between nonmember activities

within the exterior boundaries of the Reservation and impairment of water quality and beneficial uses of water by the Shoshone-Bannock Tribes. The facts summarized below from the files of EPA and from materials submitted by the Tribes are organized to evaluate waters within the Reservation used by the Tribes or Tribal members (and the extent to which the Tribes or Tribal members could be subject to exposure to pollutants present in, or introduced into, those waters) and the waters of the Reservation subject to protection under the CWA. The SBT has asserted that impairment of such waters on the Reservation would have a serious and substantial effect on the political integrity, economic security, or health or welfare of the Tribes and Tribal members.

1. The Fort Hall Reservation and the Shoshone-Bannock Tribes

The Reservation area was set aside initially by an Executive Order signed by President Andrew Johnson on June 14, 1867, “embracing 1,800,000 acres” for various Shoshone and Bannock peoples that occupied the area. On July 3, 1868, the Shoshone and Bannock Tribes concluded the Second Treaty of Fort Bridger, which was ratified by the United States Senate on February 24, 1869 (15 Stat. 673). Article 4 of the Fort Bridger Treaty provided for a reservation as a “permanent home” to the signatory tribes. The 1868 Fort Bridger Treaty authorized the President to establish a reservation when requested or deemed advisable that would include “portions of the ‘Port Neuf’ and ‘Kansas Prairie’ counties.” By Executive Order dated July 30, 1869, President U.S. Grant exercised his authority under the Treaty to establish the Fort Hall Reservation on the lands and waters reserved under the 1867 Executive Order. Subsequent cession agreements with the United States reduced the Fort Hall Reservation to the present day size of approximately 544,000 acres or 870 square miles. *See FMC v. Shoshone-Bannock Tribes et al.*, 905 F.2d 1311, 1312 (9th Cir.), *cert. denied*, 499 U.S. 943 (1991).

The Application describes the Shoshone and Bannock people as originating from several related bands whose aboriginal territories included land in what are now the states of Idaho, Wyoming, Utah, Nevada, Colorado, Oregon, and parts of Montana and California. The current Tribal enrollment is approximately 4,800 members. The Fort Hall Reservation supports a population of approximately 3,700 Tribal members and 2,300 non-Indians and Indians from other tribes.

2. Water Rights Agreement

The Tribes’ reserved water rights for on-Reservation uses were determined, quantified, and settled in the “1990 Fort Hall Indian Water Rights Agreement” (1990 Agreement), which was “approved, ratified, and confirmed” by Congress in section 4 of the Fort Hall Indian Water Rights Act of 1990 (Fort Hall Act), Public Law 101-602. On Aug. 2, 1995, the Snake River Basin Adjudication Court of Idaho decreed that the provisions of the 1990 Agreement are “ratified, confirmed and approved” in the Partial Final Consent Decree Determining the Rights of the Shoshone-Bannock Tribes to the Use of Water in the Upper Snake River Basin, District Court for the Fifth Judicial District of the State of Idaho, Case No. 39576.

The parties in the 1990 Agreement agreed that the Tribal water rights for the present and future uses include the right to 581,031 acre feet of water per year for irrigation, instream flow, domestic, commercial, municipal, industrial, hydropower and stock water uses. Pursuant to the 1990 Agreement, the Tribal Water Resources Department administers the Tribal water resources on the Reservation.

Pursuant to the 1990 Agreement, the Tribes enacted a Water Code in 1997. In the Application, the SBT writes: "One of the purposes of the Tribal Water Code is to preserve and protect in perpetuity the quantity and quality of Tribal water resources and to exercise the self-determination of the Tribes to use, administer, protect and manage Tribal water resources. The Water Resources Department is responsible for administering the Water Code, and the Water Resources Commission created under the Water Code serves as the enforcement agency for the Tribes."

3. Hydrogeology of the Reservation

The Application describes the Reservation as located on the southeastern portion of the 15,600 square mile Eastern Snake River Plain Aquifer. The geology of the Eastern Snake River Plain Aquifer consists of Quaternary age basalt overlain by more recent unconsolidated deposits of various types of earthen materials. Lenses of sand, gravel, and clay are deposited within the basalt. The basalt may be fractured, unfractured, or rubbly and has an undulating surface. In the Reservation, the surface of the basalt lies at about 150-200 feet below land surface, and in some areas less.

Two principal aquifers supply ground water in the Reservation: a shallow aquifer and a deep aquifer within the Quaternary basalt. The shallow aquifer is found at about 100 feet or less. The deepest wells are in the basalt at depths of 400 feet. The basalt aquifer is highly transmissive. The Application states that the basalt aquifer is known to have transmissivity values as high as 43,000 ft²/day yielding as much as 4,000 gallons per minute of water with less than one-foot drawdown. The shallow aquifer is unconfined and can be seen at the surface in the form of marshes, while the deep aquifer is semi-confined. In localized areas the two aquifers may act as one aquifer depending on the presence of clay beds. Recharge to the aquifer system is primarily through seepage of irrigation water but also through stream and canal losses, underflow from adjacent basins, and precipitation.

Generally, the flow of ground water is in a southwesterly direction from the northeast of the Reservation into the Portneuf River watershed, except for the most southerly part of the Reservation near the Portneuf River where it flows northwest. Much of the ground water in the shallow aquifer and portions of the Snake River Plain aquifer reach the surface as springs and

seeps to form creeks and other surface water bodies in the area known as the “Fort Hall Bottoms,” a culturally significant area for the Shoshone and Bannock people.¹

4. Water Bodies to be Protected

The Application describes the many surface water streams, creeks, rivers, springs, and water resources that flow through or originate on the Reservation. The Reservation’s surface waters can be divided into five separate watersheds: Bannock Creek, Portneuf River, Blackfoot River, Ross Fork, and Snake River Plain. The watersheds are named after the principal stream within the delineation all of which discharge directly or indirectly into the American Falls Reservoir. A map of the watersheds and the water bodies they encompass is included as Attachment 12 to the initial Application.

The Snake River and the Blackfoot River generally form the northwestern and northern borders of the Reservation, respectively. Information provided by the Tribes in the Supplemental Submission and obtained by EPA from the Cadastral Survey Idaho Office, Bureau of Land Management, U.S. Department of the Interior (the Cadastral Survey), describe surveys of the Reservation boundaries completed since 1999 which have been approved and accepted by the Chief Cadastral Surveyor for Idaho. The plats of the surveys show the locations of the river channels at the time the land was reserved by the Executive Order in 1867, and delineate the river channels that exist today.² As discussed below, these surveys show that portions of both the Snake and Blackfoot Rivers flow within the exterior boundaries of the Reservation and, therefore, demonstrate that portions of both the Snake River and the Blackfoot River are water resources of the Reservation.³

In the Supplemental Submission, the SBT describes how in 1964 the Army Corps of Engineers (ACE) completed a local flood protection project on the Blackfoot River authorized under section 204 of the Flood Control Act of 1950. For the project, the ACE built levees, replaced irrigation diversion structures, replaced bridges, and realigned the channel of the Blackfoot River. The channel realignment moved segments of the Blackfoot River’s “bed and banks” to locations entirely within the boundaries of the Fort Hall Reservation. The Cadastral Survey resurveyed the Blackfoot River in 1999 through 2003, and has prepared plats representing the surveys that show the present course of the Blackfoot River and identify the Reservation borders that existed at the time the Reservation was established. *See* 67 Fed. Reg.

¹ Therefore, any activities that affect the Reservation’s ground water have the potential to affect these springs and seeps, and in turn, the cultural practices and the health of the Shoshone-Bannock Tribal members.

² The Cadastral Survey dependent resurveys of the Blackfoot River are described as relying upon previous plats approved October 3, 1879, October 25, 1894, and January 11, 1913; the dependent resurveys of the Snake River are described as relying on plats approved October 3, 1879, and plats accepted January 19, 1897, February 10, 1940, January 15, 1981, May 11, 1984, and August 31, 2006.

³ The question of whether the Reservation river boundaries have remained the same or have changed as the river channels moves is a question that is generally answered under State law. *Wilson v. Omaha*, 442 U.S. 653 (1979).

46,686 (July 16, 2002); 67 Fed. Reg. 64,656 (October 21, 2002); 68 Fed. Reg. 17,072 (April 8, 2003); 69 Fed. Reg. 2,157 (January 14, 2004); 70 Fed. Reg. 3,382 (January 24, 2005). Since the realignment of the River is considered an “avulsion,” the resulting change in the channel works no change on the boundary.⁴ Because the Reservation boundary did not change when the ACE realigned the Blackfoot River channel, there are lands of the Reservation on both sides of the River.⁵ Aerial maps of the Blackfoot River overlaid with the Cadastral Survey plats, which were prepared by the Tribes, show numerous parcels of Reservation trust land are located north of the present Blackfoot River channel, and in some cases there are leasing arrangements for those Reservation parcels north of the River.

Similarly, channels of the Snake River clearly run across lands of the Reservation and flow within the Reservation borders, while other channels of the Snake River flow outside of the Reservation. The Snake River is a highly braided system from its confluence with the Blackfoot River flowing in a southwesterly direction to the American Falls Reservoir. As the map at Attachment 10 to the initial Application shows, there are many small anabranches in this section of the River, where a branch of the River diverges from the main channel to flow through what is clearly part of the Reservation before returning to the main stem of the River. A bank erosion study of the Snake River at Fort Hall prepared by the Bureau of Reclamation, U.S. Dept. of the Interior, in February 2002, provides an evaluation of Snake River channel changes identified between 1936 and 2001. The bank erosion study along the Snake River as it borders the Reservation shows a number of secondary channels have been formed that flow away from the main channel and then return to the main channel, which are considered to be “anabranches.” In a number of places, the anabranches move east or south of the channel into the Reservation area, and the study points to a number of events which caused those secondary channels to form.⁶

⁴ Black’s Law Dictionary defines “avulsion” as: “A sudden and perceptible loss or addition to land by the action of water, or a sudden change in the bed or course of a stream.” “Where streams are the boundaries between states, the same rule applies as between private proprietors, and, if the stream from any cause, natural or artificial, suddenly leaves its old bed and forms a new one by the process known as ‘avulsion,’ the resulting change of channel works no change of boundary, which remains in the middle of the old channel though no water may be flowing in it and irrespective of subsequent changes in the new channel. *State of Arkansas v. State of Tennessee*, 246 U.S. 158 (1917).”

⁵ Although “avulsion” is considered a “sudden” change, few courts have quantified the duration of the change. In *Nesbit v. Wolfkiel*, 100 Idaho 396, 598 P.2d 1046 (1979), the Idaho Supreme Court found avulsion “because the evidence showed that the river literally cut a new channel to the north over approximately a 50 year period. See “Land Accretion and Avulsion: The Battle of Blackbird Bend,” 56 Neb.L.Rev. 814(1977); See also *Alexander Hamilton Life Ins. Co. of America v. Governor of the Virgin Islands*, 757 F.2d 534, 538 (3rd Cir., 1985)(Avulsion has been found to be a sudden and major shift of land, such as human placement of artificial fill); *Moore v. Rone*, 355 S.W.2d 398 (Mo. Ct. of Appeals 1962)(A sudden or avulsive changed in the channel of a stream works no change in the boundary, whether it results from artificial or from natural causes.). In the case of the Blackfoot River, it is indisputable that the channel realignment by the Corps of Engineers caused dramatic changes in a short amount of time, moving segments of the submerged lands.

⁶ For example, when the Teton Dam failed in 1976, the resultant flood changed the channel alignment in a number of places. The bank erosion study demonstrates that the Snake River channels have shifted suddenly a number of

Surveys by the Cadastral Survey of the Snake River in 2005 through 2006, as depicted in plats representing the surveys, show the present course of the Snake River from the confluence with the Blackfoot River to near the American Falls Reservoir. The surveys were accepted by the Chief Cadastral Survey for Idaho on May 16, 2007. See 72 Fed. Reg. 37543 (July 10, 2007). The plats of the meanders of the Snake River and islands in the Snake River show the present course of the Snake River, the avulsed channels of the Snake River along that stretch, and the borders of the Reservation that existed at the time that the Reservation was established. The plats show that channels of the Snake River run east of the original Reservation boundary into the Reservation area, so that in some areas there are lands of the Reservation forming islands between a channel of the Snake River and the main channel of the Snake River. The Tribes state that many of these anabranches and channels within the Reservation boundaries are used by members of the Shoshone-Bannock Tribes for subsistence fishing and hunting, and for cultural purposes, as the channels flow through the culturally significant Fort Hall Bottoms area.

The Tribes are seeking eligibility to manage and establish water quality standards for the water bodies of the Reservation that are listed in Attachment 11 to the initial Application.⁷

Bannock Creek Watershed

Bannock Creek (Upper)	Midnight Creek	Right Fork Creek
Birch Creek	Moonshine Creek	Squaw Creek
Keogh Creek	Porcupine Creek	Starlight Creek
Michaud Creek	Rattlesnake Creek	West Fork Bannock Creek

Portneuf River Watershed

Big Jimmy Creek	Jeff Cabin Creek	Portneuf River*
Chesterfield Reservoir*	Little Toponce Creek	Rass Creek
Fourth of July Creek	North Fork Toponce Creek	Trail Creek

Blackfoot River Watershed

Beaver Creek	Deer Creek	Short Creek
Blackfoot River*	Garden Creek	Supon Creek
Cold Creek	Lincoln Creek	Wood Creek
Deadman Creek	Red Rock Creek	

times, which indicates these were the result of avulsive events, consistent with Idaho case law, which did not change the original Reservation boundary.

⁷ Water bodies with a "*" signifies the water body is partially on the Reservation; the Tribes' standards would apply only to those waters within the Reservation boundaries.

Ross Fork Watershed

Barclay Creek	Mareet Creek	Sawmill Creek
East Mill Creek	Mill Creek	South Fork Ross Fork
Farmer Creek	North Fork Ross Fork	Thirty Day Creek
Indian Creek	Ross Fork	

Snake River Plain Watershed

American Falls Reservoir*	Ford Creek	Snake River*
Big Jimmy Creek	Gibson Creek	Spring Creek
Blackfoot River (Below Equalizing Dam)	Jeff Cabin Creek	Two and a Half Mile Creek
Blind Spring Creek	Jimmy Drinks Creek	Tyhee Wasteway
Clear Creek	Kinney Creek	Wide Creek
Diggie Creek	Mud Slough	

B. Role of Functions Authorized under the Clean Water Act in Protecting the Tribes' Ability to Use and Benefit from its Water Resources

This section contains information about nonmember activities whose actual or potential impacts may affect water quality. It begins by addressing how the Clean Water Act water quality management functions that the Tribes propose to carry out can protect uses of Reservation waters. It then describes how, if unregulated, activities like those that take place on the Reservation can cause water quality degradation. Finally, it discusses specific examples of nonmember activities currently taking place on the Reservation, on both Tribal and nonmember land, to illustrate how those actual and potential nonmember activities affect or may affect the Tribe. The information considered in these Findings of Fact is drawn from the Application, EPA files, and the court decisions cited.

1. Clean Water Act Water Resource Protection

The Clean Water Act and subsequent amendments call for the maintenance and restoration of the physical, chemical and biological integrity of waters of the United States. Water quality standards are provisions of federal, state, or tribal law that consist of designated uses, water quality criteria to protect those uses, an antidegradation policy and other general policies that affect the implementation of the standards, such as mixing zone and variance policies. Water quality standards serve the dual function of establishing water quality goals for specific water bodies and serving as the regulatory basis for water quality-based treatment controls and strategies. The objective of the Act, maintenance and restoration of the integrity of the nation's waters, is directly related to water quality standards that are intended to ensure the

full protection of all existing uses and designated uses identified by states and tribes.

Tribal water quality standards are intended to protect the beneficial uses and water quality of reservation waters. In addition to designated uses and criteria, water quality standards include antidegradation provisions that protect all existing uses of surface waters regardless of whether such uses are actually designated in water quality standards. Antidegradation requirements also serve to maintain and protect high quality waters and waters that constitute an outstanding national resource. Further, antidegradation requirements can be utilized by tribes and states to maintain and protect the quality of surface waters that provide unique cultural or ceremonial uses.

2. Tribal Water Uses

The SBT has identified a number of uses for waters within the Reservation. These uses include the exercise of treaty rights to fish and hunt, and to gather roots and plants; habitat for wildlife and plants; ceremonial uses; agricultural and grazing uses; and industrial uses.

a. Fishing

The Tribes and Tribal members use Reservation waters for fishing. In the Fort Bridger Treaty of 1868, the Tribes reserved the exclusive right to hunt (which includes fishing) on the Reservation. The Tribes rely on fishing for subsistence, and for cultural and ceremonial purposes. Protecting water quality can prevent or limit water quality-degrading activities that harm fish that live in Tribal waters or that use and depend on those waters as a source of water, food, or habitat. Activities that pollute Reservation waters can threaten the political integrity, economic security, and health or welfare of the Tribe and its members and the Tribal community by harming Tribal food sources and sources of Tribal revenue, and by interfering with treaty rights to hunt and fish.

Water quality management protects fish and other aquatic life, and the health and safety of Tribal members who use the fish as a food source. The many water bodies on the Reservation provide critical habitat for fish and animals and are used by many Tribal members for sources of nutritious foods and for cultural purposes. For example, there are several streams on the Reservation which contain un-hybridized native Yellowstone Cutthroat. The protection of this threatened species is of great importance to the Tribes, with ongoing efforts to protect these fish.

Sustaining fish and other life forms protects the Tribes' ability to use and rely on those life forms to achieve the Tribes' economic, subsistence (food), aesthetic and educational/scientific goals. Fully protecting aquatic life use also helps ensure the economic well-being of both the Tribe and its members through ensuring harvest of fish and other aquatic life and protecting and enhancing water-based recreation businesses. Such protection also helps protect the Tribes' ability to exercise treaty rights, which are an important component of the

Tribes' political and cultural identity, and whose preservation is important to the political integrity, economic security, and health and welfare of the Tribes and Tribal members.

b. Wildlife Uses

Water quality management protects wildlife, by helping ensure that birds, mammals, reptiles, and amphibians that use and depend upon Tribal waters as a source of water, food, or habitat will maintain the species diversity and productivity that Tribal lands and waters are capable of supporting. Protecting wildlife from pollution protects Tribal members and nonmembers from ingesting toxins that may accumulate in the tissues of wildlife.

The Application explains that the Fort Bridger Treaty reserved to the Tribes the right to hunt and gather on Reservation lands and unoccupied lands of the United States. Animals that Tribal members hunt for subsistence include deer, elk, antelope, moose and numerous small animals. These animals depend on clean and unpolluted water resources. In addition, the body parts of the animals are used by Tribal members to make ceremonial items, to partake in religious ceremonies, and to be used in community feasts following ceremonies. Tribal members' ability to consume and otherwise use these animals is adversely affected if the waters upon which these animals depend are contaminated by pollution released into the Reservation environment.

The waterfowl habitat on the Fort Hall Bottoms is one of the largest wetlands in the United States, serves as an international migratory flyway, and has a national reputation for being one of the premier waterfowl hunting locations in the western United States. The Fort Hall Bottoms is home to the Trumpeter Swan, Golden and Bald Eagles, grouse, pheasant, turkey, quail, geese, hawks, owls and other birds. Tribal members use waterfowl feathers and parts in religious ceremonies.

Surface water at the Fort Hall Bottoms area is also used by the Tribes' bison herd, which provides subsistence and has cultural significance to the Shoshone-Bannock people. The Tribes have a herd of some 300 - 400 bison, which play a major role in the Tribes' Sun Dance religious ceremony. The sweet grass, buffalo grass, peppermint, sage, cedar trees, Utah Juniper, and other plants are gathered in the Fort Hall Bottoms area by Tribal members. Other large animals in the Bottoms area include deer, moose, elk, wild horses, beaver, coyotes, foxes, porcupine and ground hogs. The ability of the Tribes and Tribal members to use the Fort Hall Bottoms area for these purposes is adversely affected if the waters upon which these resources depend are contaminated with pollution released into the Reservation environment.

c. Cultural Uses

Water quality management functions protect the Tribes' culture and health and safety by protecting tribal traditional and cultural water uses. The CWA allows states and tribes to set

water quality standards to protect beneficial uses they deem appropriate. The Application explains that the Tribes' water resources are critical to the Tribes' subsistence, and to the survival of Tribal cultural and ceremonial values. The Tribes' traditions are that water is one of the most sacred gifts from the Creator, and is the life-giving source that sustains the foods and medicines, and the fish and wildlife, and from which Tribal members drink, bathe and worship in ceremony.

Tribal religious beliefs are closely linked to both the natural environment and the everyday lives of Tribal members. Water, natural resources and animals play critical roles in the traditional ceremonies that continue to be practiced by Shoshone and Bannock people. The Tribes believe that preservation of these religious practices requires that waters which are regularly used by Tribal members be free from contamination and toxic pollutants. Clean water is important to ceremonial use so that it can be used safely. Tribal members consume, bathe and utilize water resources in three primary ceremonies practiced by the majority of Tribal members. Tribal members consume waters from Reservation streams and springs on a weekly basis in the Native American Church ceremony. This water is an integral part of the religious practice. Plants such as peppermint, sage, cedar, and watercress from various streams, springs, and creeks are gathered for use in the Native American Church.

Reservation waters and rocks are also used in the Sweat Lodge ceremony that Tribal members participate in on a daily and/or weekly basis. Reservation waters are poured over hot rocks gathered near streams and creeks to produce steam in the ceremony, which is to purify and bless participants. This water is also consumed by participants. Plants such as sage and peppermint are gathered from streams and creeks for use in the ceremony.

During the summer months, Tribal members bathe and totally immerse themselves in the springs and creeks at the Fort Hall Bottoms and other sacred areas of the Reservation to purify themselves prior to and after the Sun Dance. The Sun Dance is a major renewal ceremony for the Shoshone and Bannock peoples. Water and clays from the springs, creeks and streams are also used at the Sun Dance for all Tribal participants to drink. Various plants such as cattails, reeds, willows, peppermint, spearmint, cattail, and sage are also used by singers and dancers in the Sun Dance. Some Tribal members also purify themselves in springs and creeks during the winter months.

In addition to being essential to the integrity of the religious ceremonies practiced by Tribal members, the protection of water quality is also essential to support traditional plant and root gathering activities and preserving the quality of life on the Reservation for all residents. There are some plants that are used in traditional burial activities as well. Cedar foliage is burned in Tribal members' homes for cleansing and blessings on an ongoing basis. Many of these plants are also used in annual renewal and thanksgiving dances, and in daily, weekly and annual ceremonies. Moreover, Tribal members cannot safely consume or use the plants unless the water used in the ceremonies or for growing the foliage is of sufficient quality.

d. Water-based plants as food sources

Tribal members gather and use plants and water as an everyday way of life. Among the water-dependent food sources important to the Tribes' diet are chokecherries, wild carrots, nuts, fiber plants, wild onions, sage, peppermint, and many native medicines which all require an aquatic system free from pollution. These plants cannot survive if the water is not of sufficient quality to support the plant life. Moreover, Tribal members cannot safely consume or use the plants unless the water that supports the plant life is of sufficient quality.

e. Agriculture and Grazing

The Application describes agriculture as the major economic activity on the Reservation. A large portion of the Reservation land has been converted to agriculture use and the use of water for agricultural purposes is integral to the Reservation economy. As described above, the Tribes have a 1990 Water Rights Agreement which provides that the Reservation will have sufficient quantity and quality of water to support all uses. It is important to the agricultural economy that surface water used for irrigation and other purposes is of sufficient quality so as not to harm the agricultural commodity that is being produced.

Grazing is the most widely distributed land use within the Reservation, with approximately 344,942 acres of land used for grazing purposes. Cattle owners include Tribal members, non-Tribal members, and non-Indians who lease Tribal or allotted lands within the Reservation. Animal feeding operations (AFO) by Tribal members and non-members are present in the areas of the Fort Hall Bottoms, Blackfoot River, Lincoln Creek, Bannock Creek, Ross Fork Creek and Michaud Creek. These grazing activities require that water be available of sufficient quality for stock watering so that it neither harms the livestock nor diminishes their value by contaminating the dairy or meat products.

f. Industrial uses and mining

There are a number of industrial facilities within the Reservation which provide opportunities for economic development for the Reservation, employment for Tribal members, and fees for the Tribal government. The Snake River Plains is the site of several small-scale gravel pits, a municipal airport, a potato processing facility, and a Superfund site where the now-closed FMC Corporation's elemental phosphorus plant is located.

Past mining activities on Reservation lands have provided income for the Tribes and individual Tribal members, and provided employment for Tribal members. The Gay Mine, located on Tribal and individual Indian trust lands in the Mount Putnam area of the Reservation, was the largest mine development in southeast Idaho. FMC Corporation and J.R. Simplot

Company leased the mine property from the Tribes and individual Tribal members between 1946 and 1993, and both facilities used ore from the Gay Mine at their industrial facilities.

The Pocatello Municipal Airport is located on fee land within the Reservation on the southern end of the Snake River Plain watershed. However, the Tribes' Supplemental Submission clarified that the SBT is not asserting authority over the Pocatello Airport for purposes of this TAS Application.⁸

C. Potential Effects of Unregulated Human Activities on Tribal Resources

The Application and supporting materials establish that the Reservation characteristics are such that the following human activities may occur: agriculture, including the use of herbicides and pesticides, grazing, industrial enterprises, and mining. Those activities can be carried out by members or nonmembers, on nonmember-owned fee land or Tribal land, and, if unregulated or inadequately regulated, can cause pollution that harms Tribal resources in the following ways:

Irrigated agriculture is known to contribute to water pollution through runoff of farm chemicals such as fertilizers and pesticides, as well as organic and inorganic solids. Similarly, dry land agriculture creates increased surface runoff, which increases the potential for introduction of excess sediments and nutrients in receiving water bodies.

Agriculture on the Reservation includes growing potatoes, beets, alfalfa, corn and other grains that rely heavily on fertilizers and pesticides. Each year crop rotations are combined with the burning of crop residues causing soil erosion. Soil particles along with nutrient elements and pesticides are carried to streams and creeks throughout the watershed, much of which flows downstream into the Tribes' wetland area known as the Fort Hall Bottoms. The fertilizers and pesticides affect temperature, light, dissolved oxygen and food production in the water, all of which affect the biological life in a stream. The added nutrients cause excess macrophyte and algae growth that deplete the water column of oxygen through decomposition and respiration. Impaired water quality affects the ability of Tribal members to practice traditional and cultural activities in the Fort Hall Bottoms.

Soil sediment can cover gravels that blanket critical spawning areas, reduce macroinvertebrate and juvenile fish habitat, and abrade the gills of fish and other aquatic species. Other effects of sediment include the reduction of light penetration into the water, which reduces aquatic plant growth, alters species composition and limits the ability to sight feed. Farm-related

⁸ The Tribal water quality standards that would be in effect for surface water resources of the Reservation would not apply at the Airport because no surface water exists on, or flows through the Airport property. Storm water that is generated at the Airport is retained there, and there is no overland connection to the Reservation's surface water. Moreover, there is no evidence of a direct hydrological connection between ground water at the Airport that may be contaminated by Airport activities and the Reservation's surface waters.

chemical spills are a further source of pollution of Reservation waters, either directly to surface water, leaching to ground water, or by surface water runoff. Activities which degrade or contaminate fish habitat impair the health of resident fish populations which may make fish less available as a food source, and may also adversely affect the ability of Tribal members to safely consume aquatic life.

As herbicides and pesticides are used, increased loadings of these substances can result from agricultural and residential runoff from these lands (runoff may be a result of precipitation or irrigation use of waters or both). Depending on the concentrations, these loadings may cause direct mortality or reduction of growth and reproduction in fish and invertebrates. Tribal members may also face increased health risks from exposure to herbicides and pesticides present in fish flesh or drinking water taken from Tribal water bodies or from ingestion of wildlife that feed upon aquatic plants or animals in Tribal water bodies.

Diversion of surface water for agricultural or other uses that is returned to surface water bodies after use, if not properly regulated, can result in harmful effects on water quality and the integrity of aquatic communities by increasing stream temperatures and by the loss of physical habitat for fish and other aquatic life. Increased stream temperatures may exceed levels necessary for optimum growth, cause direct mortality, or prevent successful spawning and survival of cold water biota.

Inadequately-regulated animal grazing and cattle feeding operations threaten Reservation water resources in several ways. Animal grazing has detrimental impacts to water quality resulting from streambed erosion when livestock destroy the riparian cover and stream structure, as well as from bacteria and nutrient loading of streams due to animal waste runoff. The effect of grazing and animal feeding operations threatens the health of the Shoshone and Bannock people. Pathogens released to the waters can be contracted by Tribal members through ingestion of raw stream water as part of cultural ceremonies and activities, and through ingestion of aquatic and riparian vegetation. Furthermore, the loss of habitat from grazing activities affects the ability of Tribal members to exercise traditional forms of subsistence gathering and hunting. Runoff contaminated with domesticated animal waste present the potential that *E. coli* contamination may affect the health of Tribal members using the waters of the Reservation.

Agricultural runoff, carrying constituents such as cow manure, which is high in both nitrogen and bacteria, has been identified as a significant source of water quality degradation. Increases in loading of nutrients (primarily nitrogen and phosphorus compounds) can result from both precipitation and irrigation. These nutrients can stimulate undesirable increased growth of vegetation in lakes or streams. High concentrations of phytoplankton (microscopic plants) or larger plants are known to result in undesirable changes in water quality on a daily or seasonal basis. For example, excessive vegetation may result in very low levels of dissolved oxygen during dark hours when photosynthesis does not occur but respiration continues. Stimulation of

plant growth from excessive nutrients may result in low dissolved oxygen and fish kills during winter periods.

In summary, agriculture has the potential to severely affect the health of the Tribal members, and affect both Tribal member uses of fish, wildlife, and plants, and the practice of traditional cultural activities and ceremonies. For example, residues from organic pesticides have the potential to be ingested through aquatic plants, such as watercress, as well as through ingestion of riparian plant species. This can either harm the plants directly by interfering with their survival, or reduce or affect the value of the plants if contamination leaves them unsafe to consume. Also, Tribal members may be exposed to pesticides through vapors while participating in sweat lodges as the stream water is poured over hot rocks. Raw water is commonly ingested as part of Tribal ceremonies, and any pollutants from agricultural runoff can cause significant health risks.

D. Specific Examples of Existing or Potential Activities by Nonmembers that May Impair or Have the Potential to Impair Water Quality and Beneficial Uses of the Shoshone-Bannock Tribes' Waters

The SBT asserts that contamination of the surface water resources on the Reservation has a direct, serious and substantial effect on the political integrity, economic security, or health, or welfare of the Tribes and Tribal members. The following discussion provides specific examples of current nonmember activities on Tribal lands and nonmember lands within the Reservation, and discusses how those activities affect the Tribes and Tribal members.

1. Agricultural Activities within the Reservation. Approximately 22% or 120,828 acres of the 544,000-acre Reservation is currently under agriculture production. In 1997, the Bureau of Indian Affairs estimated that 532 of the 619 reservation farm operators were non-Indians. Leasing of Tribal and allotted lands to non-Indian farmers has long been an economic practice at Fort Hall. In addition, non-Indians farm on fee lands they own on the Reservation. A map illustrating the various land uses on the Reservation is attached as Attachment 13 to the Application. The Reservation is economically dependent on its water resources for agriculture. The geological permeability and the hydrogeology of the Eastern Snake River Plain Aquifer leave the Reservation water resources vulnerable to contamination.

a. Bannock Creek Watershed

The Bannock Creek Watershed is heavily affected by agricultural practices such as irrigated agriculture and dry land farming. Sampling completed in 2003 for a "total maximum daily load" (TMDL) study of the American Falls water body identified excess loads of nitrogen,

phosphorus and sediment within the watershed.⁹ For example, dry land farms located in the upper reaches of Moonshine Creek contribute high levels of sediments and nutrients to the stream leading to its inclusion on the list of impaired water bodies prepared pursuant to Section 303(d) of the CWA. Samples taken by the Tribes in the spring of 2003 revealed a total suspended solids (TSS) concentration of 454 mg/L. An almost identical situation exists on Rattlesnake Creek, with concentrations of TSS in excess of 730 mg/L. The European Inland Fisheries Advisory Council recommends a TSS concentration of 25 mg/L or less for best conditions, 25-80 mg/L for moderate and anything over 80 mg/L is considered poor for support of fisheries. In addition, Rattlesnake Creek, a major tributary within the Bannock Creek watershed, requires a 48% reduction in TSS in order to achieve the load allocation stated in the American Falls TMDL.

As a result of agricultural practices on fee and leased Tribal lands, the Bannock Creek Watershed is also affected by elevated nutrient levels. According to the American Falls TMDL load allocations, the nitrogen load in the Bannock Creek watershed must be reduced by 60% in order to attain its designated uses. Moreover, the phosphorus load must be decreased by 30%. The American Falls TMDL has been included as Attachment 14 to the initial Application.

Since the Shoshone and Bannock people rely on the Bannock Creek fishery for subsistence, as well as cultural practices, these impacts affect the Tribes.

b. **Portneuf River**

The Portneuf River Watershed, which flows into the Fort Hall Bottoms and to the American Falls Reservoir, is affected by dry land farming. The upper Portneuf River is known to have decreased salmonid spawning habitat due to increased sedimentation, likely from dry-land runoff. In addition, the lower Portneuf River watershed has some impacts from farming activities outside the Reservation that may be contributing to elevated nutrient levels.

c. **Blackfoot River**

Within the Reservation, the Blackfoot River watershed is impacted by irrigated agriculture. Alteration of channel morphology and removal of riparian vegetation has occurred along the Blackfoot River as the result of cultivation in the river corridor, which has led to increased water temperatures in the River. In June and July of 2004, the Shoshone-Bannock Tribes' Water Quality Program recorded stream temperatures in excess of 20° C at several sites along the lower Blackfoot River. Furthermore, overnight concentrations of dissolved oxygen have dipped below the recommended concentration of 6.0 mg/L, which is generally an indicator

⁹ Under a Memorandum of Understanding entered into by the Tribes, EPA, and the Idaho Department of Environmental Quality in June 2003, the parties agreed to work together in the development and implementation of TMDLs for the American Falls Reservoir.

of eutrophication, a nutrient-enriched state characterized by excessive algal growth and an overall decrease in biological diversity. In addition, it is likely that pesticides applied to croplands have entered the streams, and pose a potential health risk to Shoshone-Bannock Tribal members who may gather and consume plants and wildlife found along the Blackfoot River and other streams within the watershed.

d. Ross Fork Watershed

Agricultural impacts to the Ross Fork watershed result from dry land farming in the upper watershed, and irrigated agriculture in the lower watershed, with irrigated agriculture having the greatest impact. Similar to the lower Blackfoot watershed, the Ross Fork watershed suffers from channel alteration and a loss of riparian vegetation. Although quantitative data is lacking at this time, observations suggest that the Ross Fork creek watershed has seen increased substrate sedimentation and loss of biodiversity due to agricultural practices within the watershed. Furthermore, impacts from pesticide application within the watershed are likely considering the extensive irrigated agriculture adjacent to the stream.

e. Snake River Plain Watershed

The greatest impact of agriculture to Reservation water bodies occurs within the Snake River Plain watershed. All of the watersheds within the Reservation flow into the Snake River Plain watershed.

Many streams in the Snake River Plain watershed suffer degradation due to agricultural practices. For example, TSS concentrations in excess of 99 mg/L have been recorded in lower Ross Fork Creek. In addition, concentrations of nitrate in excess of 1.50 mg/L are frequent in lower Ross Fork Creek. By comparison, the target total nitrogen concentration used in the American Falls TMDL is 0.85 mg/L. The most likely source of these elevated TSS and nitrate levels is from cropland runoff and irrigation return flow from farms on fee lands and on trust lands leased by non-Tribal members.

The effects of irrigated agriculture in the Snake River Plain watershed are not limited to surface waters; there are elevated nitrate concentrations in the ground water that are the result of over-application of inorganic fertilizer to increase crop yield. The Idaho Department of Water Resources has designated the Fort Hall area as a nitrate priority area due to the fact that many of the wells sampled have nitrate concentrations in excess of 5 mg/L.

The effects of this nitrate increase in ground water is seen in the many springs and seeps located in the Fort Hall Bottoms, part of the Snake River Plain watershed. For example, Spring Creek, a large single source spring creek located in the Fort Hall Bottoms has an annual average nitrate concentration of 1.1 mg/L. At this concentration, Spring Creek requires a load reduction of 92 tons N per year to achieve its designated uses. This is also apparent in Clear Creek,

another single-source spring creek located in the Fort Hall Bottoms, where nitrate concentrations frequently exceed 1.5 mg/L.

By impairing the ecological and environmental integrity of the streams within the Reservation, agriculture has the potential to severely impact the health of the Shoshone-Bannock Tribal membership and the practice of traditional cultural activities and ceremonies. For example, residues from organic pesticides have the potential to be ingested through aquatic plants, such as watercress, as well as through ingestion of riparian plant species. Also, Tribal members may be exposed to pesticides through vapors while participating in sweat lodges as the stream water is poured over hot rocks. Raw water is commonly ingested as part of Tribal ceremonies, and any pollutants from agricultural runoff can cause significant health risks. Furthermore, the effects of agriculture can reduce the productivity of the local fisheries, limiting the ability of Tribal members to engage in subsistence fishing.

Given the large amount of farming on the Reservation, in 1990, the Tribes sought and obtained EPA approval under the Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. 136 et seq., to regulate the use of pesticides on the Reservation through the certification and training of persons who apply restricted use pesticides. In 1990, the Tribes enacted a Pesticide Code to manage and regulate the application of pesticides by Indian and non-Indian farmers on all lands of the Reservation. The Pesticide Code has assisted the Tribes in identifying, monitoring and regulating many past uncontrolled pesticide and fertilizer uses on the Reservation.

f. EDB Contamination

The unregulated past uses of pesticides and fertilizers by farmers on the Reservation has caused severe contamination of drinking water supplies of residents living in the Fort Hall area of the Reservation. On March 4, 1993, the U.S. EPA issued an Emergency Order under the Safe Drinking Water Act and conducted an emergency removal action under the Comprehensive Environmental Response, Compensation, and Liability Act in response to the continued detection of ethylene dibromide (EDB) in the water supply on the Reservation.

EDB is a volatile organic compound formerly used in leaded gasoline and as a pesticide, and is still used as a solvent in waterproofing mediums. In 1983, the EPA banned EDB as a pesticide. EDB is toxic by inhalation, ingestion, and absorption. It is a severe irritant to skin, eyes, and respiratory tract. In animals, EDB has been shown to damage the testes (including effects on sperm), kidneys, the pulmonary system, the central nervous system, and it is considered to be a probable human carcinogen.

After the initial detection of EDB in a domestic well, 430 wells were subsequently sampled in 1993 and 1994. That data, along with data collected through June 1996, showed that sixty-three square miles of the Reservation's ground water supply was contaminated with EDB.

EDB has been detected on the Reservation in concentrations as high as 220 ppb (parts per billion), which is 4,400 times over the Safe Drinking Water Act maximum contamination level (MCL) of 0.05 ppb. At least 1,000 wells have been contaminated with EDB. These wells penetrate both the shallow and deep Eastern Snake River Plain Aquifer.

The EDB plume is concentrated five miles north of the Fort Hall Agency and flows in a southwesterly direction 12 miles to the Portneuf River, all within the Reservation. The EDB plume crosses and impacts several creeks and streams including Ross Fork, nearby streams, Fort Hall Irrigation canals and the Fort Hall Bottoms. A map of the EDB "Contamination Area" is attached as Attachment 15 to the initial Application.

The Tribes sought special Congressional appropriations, and assistance from the Department of Agriculture, the Environmental Protection Agency, the Bureau of Indian Affairs, and the Indian Health Service to address the problem. Currently, the Tribes are implementing a major water project to install 145 miles of a new public water system for Indian and non-Indian residents, and for Tribal businesses affected by the contamination.

The original source of the EDB that is still contaminating water supplies on the Reservation is not yet known, however, there appears to be three possibilities: Application via soil injection followed by percolation into the ground water through highly permeable soils and lithologic formations; disposal of empty or partially empty chemical-laden barrels into open landfills; or backwash through irrigation wells via faulty check valves.

2. Grazing and Feed Lots

Grazing has also affected the surface waters of the Reservation. Approximately 344,942 acres of land are used for grazing purposes within the Reservation. Grazing is the most widely distributed land use within the Reservation. Cattle negatively impact approximately 95% of Tribal streams and springs throughout the Reservation. Animal feeding operations (AFO) by Tribal members and non-members are present in the areas of the Fort Hall Bottoms wetlands area, Blackfoot River, Lincoln Creek, Bannock Creek, Ross Fork Creek and Michaud Creek that lead to bank trampling and riparian degradation, excessive nutrients, pathogens and sediment.

a. Bannock Creek Watershed

Grazing and livestock feeding are the primary land uses in the Bannock Creek Watershed. Within the Bannock Creek watershed, inadequately regulated cattle operations can pose a serious threat to the integrity of the Reservation's water resources. For example, a non-member landowner on Michaud Creek has a Confined Animal Feeding Operation (CAFO) that encloses a section of the creek; the section that runs through the CAFO is devoid of any riparian vegetation needed to protect the stream banks from erosion. This operation is contributing

excessive nutrients, sediment and bacteria to Michaud Creek. In addition, the Anderson Feedlot is located in the Bannock Creek watershed, and is a significant source of livestock waste that affects water quality in Bannock Creek as well as ground water in the watershed. Finally, it is believed that Bannock Creek is impaired by excessive bacteria from livestock waste. Pathogens released to the waters can be contracted by Tribal members through ingestion of raw stream water as part of cultural ceremonies and activities, and through ingestion of aquatic and riparian vegetation. Runoff contaminated with domesticated animal waste present the potential that *E. coli* contamination may affect the health of Tribal members using the waters of the Reservation.

b. Portneuf River Watershed

The Portneuf River Watershed is heavily grazed by livestock of Tribal members and non-Indian leaseholders. Much of the Upper Portneuf River and its tributaries suffer from habitat degradation due to cattle grazing operations. This loss of habitat has led to a loss of ecological buffering: any runoff flows directly into the stream, rather than filtering through a riparian buffer. Subsequently, substrate is silted in, the fishery is depleted, and overall biodiversity is lost. This limits the ability for Tribal members to use the streams for subsistence fishing and gathering.

c. Blackfoot River Watershed

Similarly, the Blackfoot River Watershed is heavily grazed. Like the Portneuf River Watershed, the Blackfoot River Watershed's streams suffer from loss of riparian vegetation and the associated ecological functions from cattle grazing and feeding operations. An example within the Blackfoot River Watershed occurs on Cold Creek, a high gradient mountain stream. The Creek is lacking any riparian vegetation to stabilize the stream bank and is rated non-functioning under the Bureau of Land Management Properly Functioning Condition (PFC) rating system. The loss of habitat from these grazing activities affects the ability of Tribal members to exercise traditional forms of subsistence gathering and hunting.

d. Ross Fork Watershed

Ross Fork Watershed has animal feeding operations, as well as grazing under leases, and this has led to loss of riparian buffering capacity and increased sedimentation, nutrient loading, and pathogens in the streams within the watershed. Pathogens released to the waters can be contracted by Tribal members through ingestion of raw stream water as part of cultural ceremonies and activities, and through ingestion of aquatic and riparian vegetation. Runoff contaminated with domesticated animal waste present the potential that *E. coli* contamination may affect the health of Tribal members using the waters of the Reservation. Furthermore, the loss of habitat from grazing activities affects the ability of Tribal members to exercise traditional forms of subsistence gathering and hunting.

e. **Snake River Plain**

The Snake River Plain has substantial impacts from non-Indian owned animal feeding operations. A large, non-Indian owned cattle operation on Lower Ross Fork Creek within the Snake River Plain Watershed has led to the stream being completely devoid of any riparian vegetation and to increased sedimentation in Ross Fork Creek; concentrations up to 99 mg/L TSS have been recorded in lower Ross Fork Creek. This loss of habitat has led to a loss of ecological buffering, such that any runoff flows directly into the stream, rather than filtering through a riparian buffer. Subsequently, substrate is silted in, the fishery is depleted, and overall biodiversity is lost. This limits the ability for Tribal members to use the streams for subsistence fishing and gathering.

3. Industrial Uses

The FMC Corporation owns a facility located within the Reservation that covers approximately 1,100 acres of privately owned land.¹⁰ Adjacent to the FMC property, but outside of the Reservation boundary, is a facility owned and operated by J.R. Simplot since 1944. The two facilities together comprise the Eastern Michaud Flats Superfund Site (the Site).

FMC operated its facility on the Reservation from 1948 to 2001. The facility was the largest elemental phosphorous plant in the world. During those years of operation, FMC generated, stored, buried, and stockpiled hazardous waste at its plant. Although the facility is now dismantled and not operating, at times it processed 1.4 million tons of shale ore per year, and produced 250 million pounds of elemental phosphorous annually. In 1998, the EPA commenced an action against FMC for certain violations of the Resource Conservation and Recovery Act (RCRA) and regulations promulgated regarding hazardous waste treatment, storage and disposal at the FMC facility.¹¹ EPA and FMC negotiated a consent decree to resolve the RCRA violations. Numerous solid waste, air emissions and wastewater streams were generated during the processing of the phosphate ore. The facility generated more than 1,000 kilograms of hazardous waste per month. FMC has placed reactive and ignitable waste in the ponds and surface impounds without deactivating the waste. The FMC property contains approximately 28 hazardous waste "ponds" totaling 123 acres which are between 16 and 20 feet deep. These wastes are considered ignitable hazardous wastes under EPA's RCRA regulations. Some of the wastewater ponds contain relatively small amounts of phosphorous and most

¹⁰ Some information summarized in this section is drawn from a Record of Decision issued by EPA Region 10 on June 1998 for the Eastern Michaud Flats Superfund Site (the Site). The Site was listed on the National Priorities List on August 30, 1990 (55 FR 35502), pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9605.

¹¹ Complaint of the United States of America v. FMC Corporation, D.C. No. CV-98-00406, U.S. District of Idaho, for violations of the Resource Conservation and Recovery Act (RCRA), pursuant to Section 3008 of RCRA, 42 U.S.C. § 6928, filed in October 1998.

contain phosphine at elevated levels. Phosphine is a highly toxic gas and phosphorous ignites when exposed to air.

EPA prepared a Remedial Investigation and Feasibility Study (RI/FS) at the Site. Key findings of the RI/FS were that airborne materials have been deposited both on-site and outside the facility area, including cadmium, fluoride, radium, and zinc. Ground water has been contaminated at levels above the Maximum Contaminant Levels (MCLs) set under the Safe Drinking Water Act for the following chemicals: antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, and thallium. The primary migration pathway for contaminants to surface water is via ground water discharge to the Portneuf River. The Risk Assessment found that residents living around the site are the individuals likely to experience the greatest exposures to site-related contaminants in areas outside the facility.

The Idaho Department of Environmental Quality evaluated the water quality impacts associated with the FMC facility in a report issued in January 2004.¹² The study evaluated the potential phosphorous and nitrogen loading contributions from ground water emanating from beneath the FMC and Simplot facilities to provide information for the development of a TMDL for the lower Portneuf River. The study found that historical operations at both facilities have significantly affected shallow ground water aquifer systems at those facilities, including ground water on the Reservation, with studies showing significantly elevated levels of phosphorous and nitrogen in the ground water. The contaminated ground water discharges significant amounts of orthophosphate to the Portneuf River, which flows into the Reservation and eventually discharges to the American Falls Reservoir within the Reservation.

3. Mining Impacts

An inactive phosphate shale mine, the Gay Mine, is located on Tribal and individual Indian trust lands in the Mount Putnam area of the Reservation, which is approximately 16 miles east of the Fort Hall Agency area. Within an area approximately six miles by six miles, the Gay Mine encompasses four main areas each containing multiple pits, overburden placement areas and waste shale piles.¹³ The Gay Mine was the largest mine development in southeast Idaho. FMC Corporation and J.R. Simplot Company leased the mine property from the Tribes and individual Tribal members and operated the mine between 1946 and 1993. At one point, the mine produced approximately 2 million tons of ore per year. Ore was hauled by truck and train

¹² "Evaluation of Water Quality Impacts Associated with FMC and Simplot Phosphate Ore Processing Facilities, Pocatello, Idaho," Ground Water Quality Technical Report No. 21, IDEQ Technical Services Division, January 2004.

¹³ See "CERCLA Preliminary Assessment for Gay Mine, Fort Hall Indian Reservation, Fort Hall, Idaho", EMI Services, EMI Document C310.1.1 Rev.7, April 2, 2003.

to Fort Hall; and from Fort Hall to processing plants at FMC Corporation (located on-Reservation) and J.R. Simplot Company (located off-Reservation).

The Gay Mine, which has not been "closed" or remediated, has past and ongoing releases of potentially harmful substances to the environment and water systems, including selenium, heavy metals (cadmium, copper, vanadium, and nickel), petroleum hydrocarbon and nitrite-nitrogen (used as explosives), and fluorides. The Mount Putnam mountain range area, where the Gay Mine is located, has an abundance of springs, surface water and ground water. Mine related heavy metals have been detected in surface water features near the Gay Mine. Additionally, sampling and monitoring of mine ephemeral streams, springs and local snowmelt show mine-related contamination. The creeks and streams potentially affected by the Gay Mine include Ross Fork, Lincoln Creek, South Fork Ross Creek, Farmer Creek, Jeff Cabin Creek, Jimmy Creek, Cow Spring, Prospect Spring, Danielson Creek, Dry Hollow Creek, Baker Creek, Willow Creek, Contact Spring, Big Spring, Warm Spring, Covered Spring, Queedup Spring, Bronco Spring, Yandell Spring and many unnamed springs and intermittent and ephemeral streams.

The Mount Putnam area where the Gay Mine is located is a prime habitat area for over 60 species of mammals, 166 species of birds, 10 species of reptiles and 5 species of amphibians. Tribal members gather plants and berries in this area too. Also, this area is a grazing area for livestock such as horses, sheep and cattle owned by Tribal members. These animals and plants are of great value to the Tribes for cultural, ceremonial, medicinal and subsistence usage.

E. Activities by Nonmembers Who Have Entered into a Consensual Relationship with the Tribe

The Application and Supplemental Submission described the leasing of trust lands within the Reservation to nonmembers for a variety of purposes, including industrial, commercial, agricultural, residential and recreational purposes. As noted above, a large portion of the Reservation lands are leased to nonmembers for agricultural and grazing uses. Cattle owners include Tribal members, non-Tribal members, and non-Indians who lease Tribal or individual Indian lands within the Reservation. For the most part, nonmember activities on trust lands within the Reservation are authorized by the Tribe or a member of the Tribe through lease arrangements executed pursuant to 25 U.S.C. § 415 and BIA regulations at 25 C.F.R. Part 131. The leases specifically incorporate federal regulations at 25 C.F.R. Part 162 by reference. Included with the Supplemental Submission as Attachment B was a copy of a standard Lease issued by the Bureau of Indian Affairs. Paragraph 6 of the lease is titled "Tribal Ordinances", and it provides: "The lease is subject to all applicable laws, ordinances, rules, regulations, and other legal requirements." Activities under such leases generally have the same impacts as such activities on nonmember fee lands as described above.

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