Chapter 1

INTRODUCTION: PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

On July 21, 2009, the Department of the Interior published notice of the Secretary of the Interior (Secretary) Ken Salazar's proposal to withdraw (proposed withdrawal) approximately 1 million acres of federal locatable minerals in northern Arizona from the location of new mining claims under the Mining Law of 1872 [30 United States Code (USC) 22–54] (Mining Law), subject to valid existing rights. The withdrawal was proposed in response to increased mining interest in the region's uranium deposits, as reflected in the recent increase in the number of new mining claim locations, and concern over potential impacts of uranium mining to the Grand Canyon watershed, adjacent to Grand Canyon National Park (the Park).

Under Section 204 of the Federal Land Policy and Management Act (FLPMA), publication of the *Federal Register* notice of the proposed withdrawal (Appendix A) had the effect of segregating the lands involved for up to 2 years from the location and entry of new mining claims while the Bureau of Land Management (BLM) evaluated the withdrawal application. This 2-year time frame, which began on July 21, 2009, was to be used to complete various studies and analyses of resources in the area proposed for withdrawal, including environmental review of the proposed withdrawal under the National Environmental Policy Act of 1969, as amended [42 USC 4321–4347] (NEPA). These studies and reviews would provide the basis for a final decision by the Secretary of the Interior regarding whether or not to proceed with the proposed withdrawal or to select an alternative action. Although a Draft EIS was published on February 18, 2011, the NEPA process had not concluded before the 2-year segregation expired on July 20, 2011. Therefore, to allow for closure of the NEPA process, the Secretary issued a 6-month emergency withdrawal of the identified areas (PLO 7773) effective July 21, 2011. This emergency withdrawal is due to expire January 20, 2012.

The proposed withdrawal, serialized as BLM casefile AZA-35138, constitutes a federal action subject to the requirements of NEPA. BLM is the lead agency processing the proposed withdrawal application and preparing the associated NEPA analysis, in this case an environmental impact statement (EIS). The EIS addresses the potential direct, indirect, and cumulative effects on the human environment of the proposed withdrawal and alternatives to the proposed withdrawal. The EIS also discloses any unavoidable adverse impacts, impacts to the long-term productivity of affected resources, and any irreversible or irretrievable commitments of resources that result from the proposed withdrawal or the alternatives to the proposed withdrawal, including the No Action Alternative.

The Proposed Action would withdraw an estimated 1,006,545 acres of federal locatable minerals underlying lands in the vicinity of Grand Canyon National Park and that border the Park in some locations. The land proposed for withdrawal is contained within three parcels: the North Parcel, with approximately 549,995 acres; the East Parcel, with approximately 134,454 acres; and the South Parcel, with approximately 322,096 acres (Figure 1.1-1). The North and East parcels are both north of the Park, while the South Parcel is south of the Park. The proposed withdrawal has no effect on mine development of any non-federal mineral estate within the exterior boundaries shown in Figure 1.1-1; however, non-federal lands are included in the event that they are subsequently acquired by the federal government.

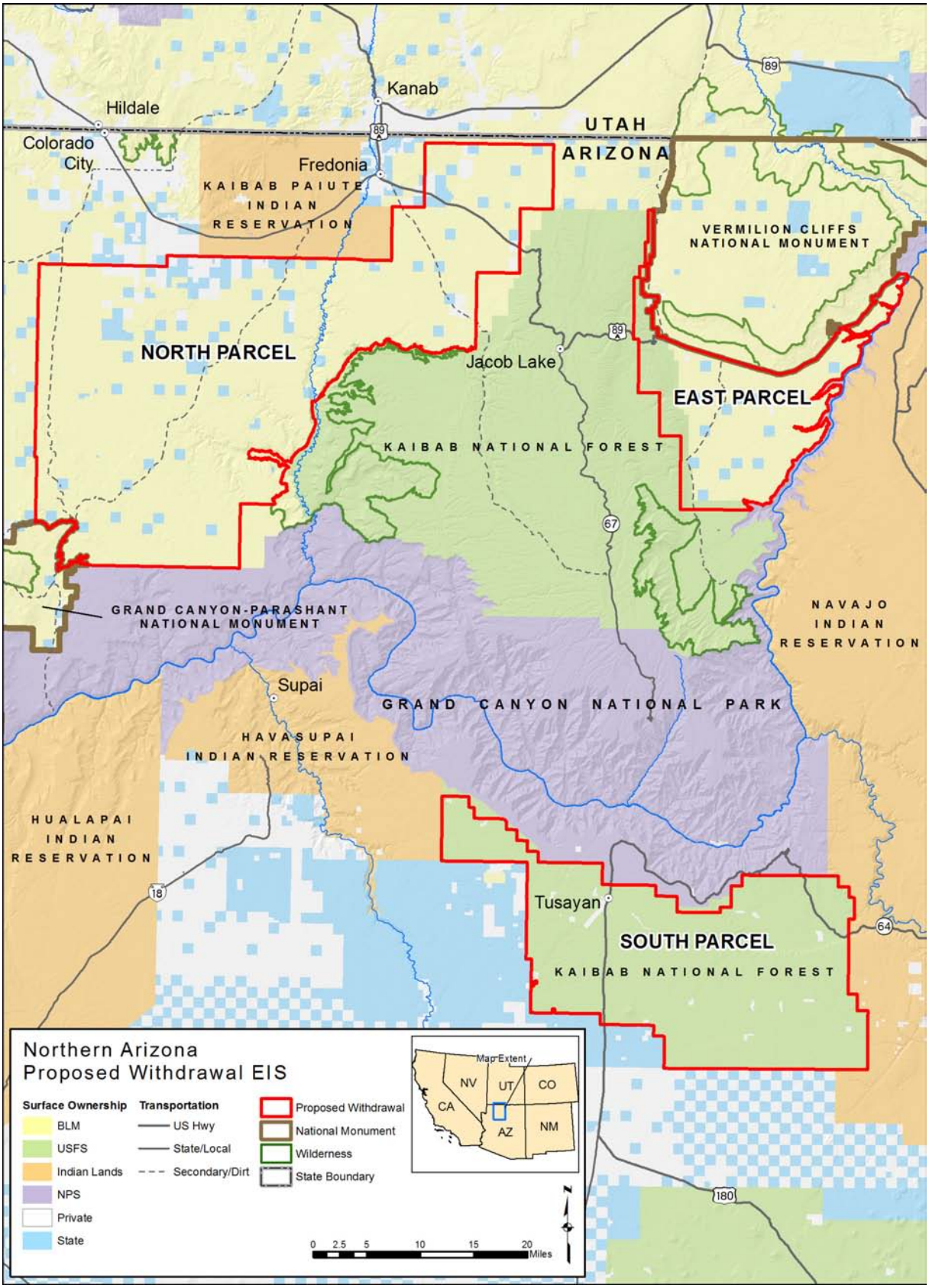

Figure 1.1-1. Proposed withdrawal area.

Approximately 982,552 acres within the boundaries of the proposed withdrawal are managed by the BLM or the U.S. Forest Service (Forest Service). The remaining 23,993 acres are split estate lands where the surface is non-federal but the locatable minerals are owned by the federal government. The proposed 20-year withdrawal would apply to all minerals locatable under the Mining Law, regardless of surface ownership. The proposed withdrawal would not apply to non-federal mineral estate or to leasable or salable minerals (e.g., oil and gas leasing, sand and gravel permits), which are not subject to appropriation under the Mining Law.

Acreage of federal locatable minerals proposed for withdrawal is shown, by parcel, in Table 1.1-1 and in Figure 1.1-2. The table also identifies those acres of federal locatable minerals located beneath non-federal surface that are either State owned or private.

Table 1.1-1. Acreage, by Parcel, of Federal Locatable Minerals Proposed for Withdrawal

	North Parcel	East Parcel	South Parcel
Federal locatable minerals underlying federal surface	524,246	133,705	321,135
Federal locatable minerals underlying non-federal surface	25,749	749	961
Total	**549,995**	**134,454**	**322,096**

The proposed withdrawal is subject to valid existing rights that are determined to exist on those mining claims located prior to July 21, 2009, the date the lands were segregated from location and entry under the Mining Law by the publication of the notice of proposed withdrawal in the *Federal Register*. The general principles and requirements for locating and developing mining claims, as well as procedures for determining valid existing rights, are described in Appendix B.

1.2 BACKGROUND

In 2007, the demand for uranium pushed the commodity price to over $130/lb before returning to the low $40/lb range in 2009. This price spike prompted new interest in the breccia pipe uranium deposits located on federal lands to the north and south of Grand Canyon National Park, causing thousands of new mining claims to be located in the area. Along with the increase in new mining claim locations came greater public concern that uranium mining could adversely affect natural, cultural, and social resources in the Grand Canyon watershed, which includes resources in Grand Canyon National Park.

In response to the concern over potential environmental effects, a number of events occurred in 2008 and 2009 to bring attention to these lands and the potential for long term or permanent impacts to the Grand Canyon watershed. Among those events was legislation introduced by Representative Grijalva (D-AZ) in March 2008 to permanently withdraw essentially these same lands from location and entry under the Mining Law, as well as from mineral leasing and from mineral material sales and disposal. The area proposed for legislative withdrawal is located in northern Arizona and includes federal lands north of Grand Canyon National Park administered by the BLM Arizona Strip Field Office and lands south of the Park in the Tusayan Ranger District administered by the Forest Service. The most recent bill [House of Representatives (HR) 855] for a legislative withdrawal was introduced in March 2011.

On July 21, 2009, the Department of the Interior published notice of the Secretary of the Interior's proposed 20-year withdrawal under the authority of the FLPMA. Consistent with Section 204(b) of FLPMA and BLM's regulations at 43 CFR 2091.5-1(a), publication of the notice of the proposed withdrawal segregated the lands within the boundaries specified in the notice from location of new

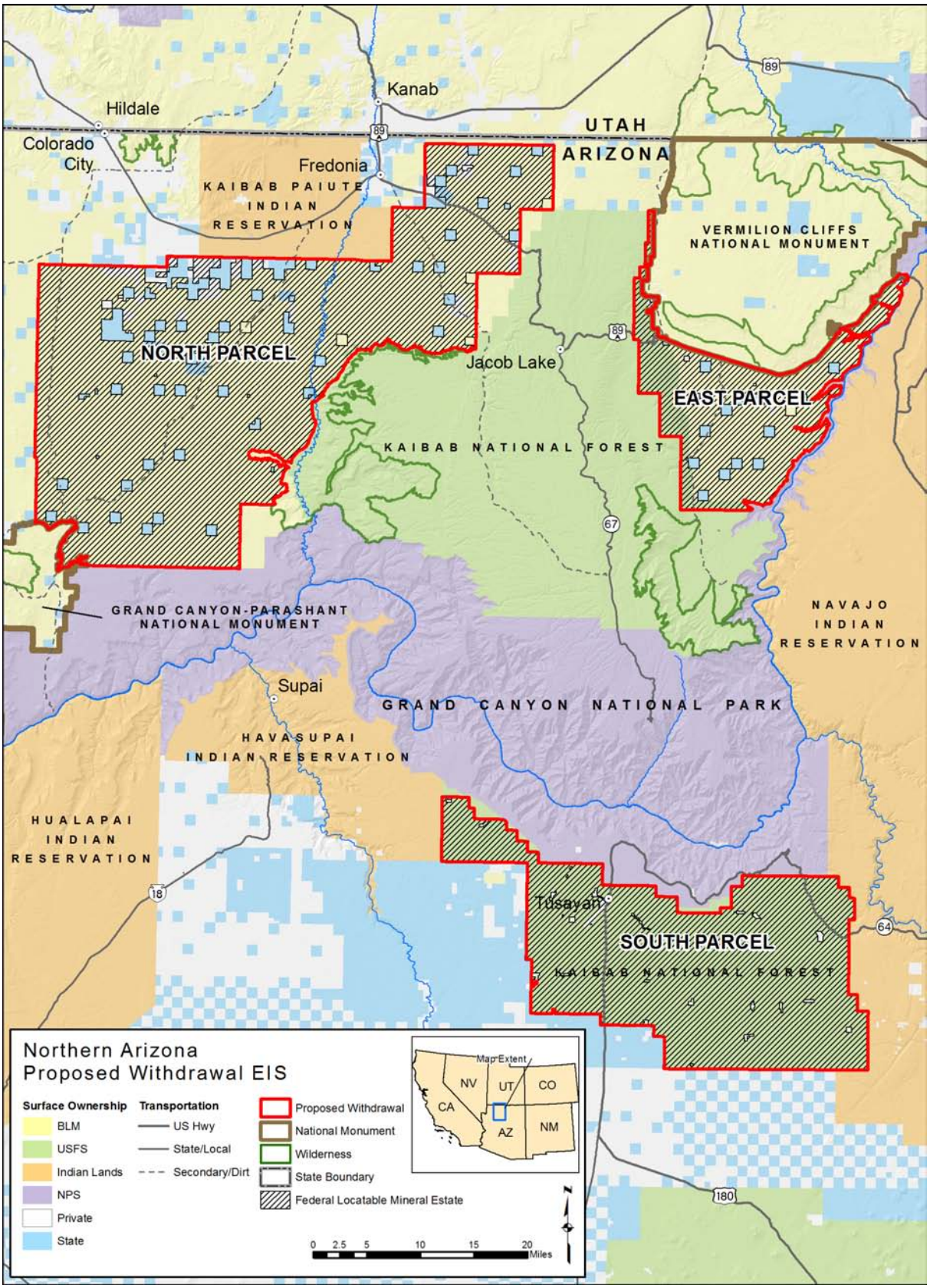

Figure 1.1-2. Federal locatable minerals proposed for withdrawal.

mining claims under the Mining Law for 2 years. The Secretary's proposed withdrawal was published on July 21, 2009, and initiated the 2-year segregation (or time-out) on the location of new mining claims; to allow time for completion of the NEPA process, a 6-month emergency withdrawal of the identified areas went into effect on July 21, 2011. The Secretary's proposed 20-year withdrawal covers essentially the same area as the legislative withdrawal proposed in 2008; however, under the Secretary's proposal, the subject lands would only be withdrawn from location under the Mining Law and would remain available for mineral leasing and mineral materials sales.

The 2-year segregation did not, and the emergency withdrawal does not, prohibit continuation of existing mineral exploration and development activity, or the approval of new mining on existing mining claims, provided that those claims were valid as of July 21, 2009, and have remained valid. As of August 2011, there were approximately 3,350 mining claims located within the three parcels proposed for withdrawal.

During the segregation period, the Secretary directed that additional studies be conducted, including preparation of this EIS, in order to provide the factual information needed to make a decision on a withdrawal of the area. The Secretary will determine whether it is necessary to withdraw some, all, or none of the proposed withdrawal area for up to 20 years to protect natural, cultural, and social resources in the Grand Canyon watershed from the potential adverse effects of mineral exploration and development.

1.3 PURPOSE OF AND NEED FOR ACTION

1.3.1 Purpose of Action

The Proposed Action analyzed in this document is the withdrawal of minerals in 1,006,545 acres near Grand Canyon National Park from location and entry under the Mining Law for 20 years. The underlying purpose is to protect the natural, cultural, and social resources in the Grand Canyon watershed from the possible adverse effects of the reasonably foreseeable locatable mineral exploration and development that could occur in the proposed withdrawal area. Consistent with Section 204(b) of FLPMA, the Department of the Interior published a notice in the Federal Register describing the proposed withdrawal application and segregating the lands proposed for withdrawal from location of new mining claims under the Mining Law for 2 years (Federal Register 74:35887) (July 21, 2009). The decision to be made by the Secretary is whether or not to withdraw, for up to 20 years, some or all of the area from location and entry under the Mining Law. This EIS analyzes impacts of the Proposed Action—i.e., the withdrawal of federal locatable mineral estate within the proposed withdrawal area—and alternatives to that action. Site-specific NEPA analyses will be conducted for all future mineral exploration or development in the proposed withdrawal, as appropriate, to examine specific impacts of specific proposed exploration or development projects.

1.3.2 Need for Action

There is a history of hardrock mining activities in the Grand Canyon watershed dating back to the 1860s. In some cases, these mining activities have left lasting impacts within the watershed, primarily associated with older copper and uranium mines (see also U.S. Geological Survey [USGS] 2010a). These historical impacts and the recent increase in the number and extent of mining claims located in the area have raised concerns that future hardrock mining activities in the Grand Canyon watershed, particularly for uranium, could result in adverse effects on resources, which include the following:

- Surface water and groundwater, including seeps, springs, wells, and runoff, that may ultimately flow into the Colorado River, which is used for agricultural, municipal, commercial, domestic, and recreational purposes by people throughout the southwestern United States;

- Cultural resources, including prehistoric and historic sites, places of traditional religious and cultural importance (including Traditional Cultural Properties or Places [TCPs]), and other places of significance to American Indians;
- Air quality and visibility in Grand Canyon National Park, a Class I airshed;
- Federally listed or proposed endangered, threatened, and candidate species; agency-listed sensitive species, conservation agreement species, and species of concern; and designated critical habitat;
- Vegetation, wildlife, and aquatic species and their habitat that are unique to the Grand Canyon watershed;
- Recreational values and opportunities for visitors to the region and for the estimated 4.4 million people who visit Grand Canyon National Park each year;
- Designated and proposed wilderness areas, areas allocated for maintenance of wilderness characteristics, and the relevant and important resources for which Areas of Critical Environmental Concern (ACECs) were designated;
- Visual resources, including night skies, scenic overlooks, and other designated scenic areas;
- Natural soundscapes, designated quiet zones, and quality-of-life values for both area residents and visitors, including intangible issues such as peace, solitude, heritage, and sense of place.

Therefore, the need for this proposed action is to address the possibility of negative impacts from hardrock mining, which is expected to increase absent a withdrawal.

1.4 ROLES, RESPONSIBILITIES, AND AUTHORITIES

This section describes the roles and responsibilities of the lead and cooperating agencies with respect to processing the proposed withdrawal and preparing this EIS. It also describes the relevant and applicable federal, state, and local laws and regulations and how they pertain to the scope of the analysis or may apply to the decisions to be made.

1.4.1 Bureau of Land Management

The BLM is the agency responsible for processing the proposed withdrawal and is the lead agency for preparing the EIS. Approximately 626,678 acres of surface managed by the BLM Arizona Strip Field Office in Saint George, Utah, are included in the proposed withdrawal, including the majority of the North and East parcels (see Figure 1.1-1). The public lands within these parcels are managed under the *Arizona Strip Field Office Record of Decision and Approved Resource Management Plan* (Arizona Strip Field Office ROD/RMP) (BLM 2008b). Locatable mineral exploration and development are managed under the current regulations at 43 Code of Federal Regulations (CFR) 3715 and 3809. In accordance with FLPMA, the Arizona Strip Field Office RMP allows for sustainable multiple uses of public lands. If a withdrawal alternative is implemented, the RMP will be updated if necessary.

The BLM follows the procedures in Section 204 of FLPMA and the regulations at 43 CFR 2300 to process withdrawals of federal lands from operation of the public land laws, including the Mining Law. Although BLM is responsible for processing the withdrawal application, the Secretary of the Interior is the decision-maker for withdrawals up to 20 years under FLPMA Section 204. Following the analysis and public commenting process conducted through the EIS process, the Secretary will issue a Record of Decision (ROD) detailing the decisions concerning the withdrawal, including the rationale for these decisions.

The BLM manages locatable mineral activity (including uranium exploration and development) in accordance with provisions of Section 302(b) of FLPMA that require the Secretary to prevent unnecessary or undue degradation of the lands from activities authorized by the Mining Law. The BLM promulgated regulations at 43 CFR 3715 and 3809 that set forth the review procedures, performance standards, and other requirements that mining claimants and operators must follow when conducting operations on public lands under the Mining Law, in order to prevent unnecessary or undue degradation.

Section 309 of FLPMA provided for the establishment of advisory councils that represent the various major interests and concerns of citizens relating to land use planning and the management of public lands within the area for which the advisory council was established. Following issuance of the temporary segregation, the BLM Arizona Resource Advisory Council (Resource Advisory Council) convened to identify key issues; outline resource data study needs; and engage the public, tribes, environmental groups, industry, state and local government, and other stakeholders. The Resource Advisory Council provided specific recommendations to BLM on issues and alternatives for the EIS process.

1.4.2 Cooperating Agencies

The Council on Environmental Quality (CEQ) regulations [40 CFR 1508.5] define a cooperating agency as any federal agency (other than the lead agency) and any state or local agency or Indian tribe with jurisdictional authority or special expertise with respect to any environmental impact involved in a proposal. Because of the size of the proposed withdrawal area and the resources potentially affected by the proposed withdrawal or alternatives, 16 agencies (federal, state, tribal, and county) with jurisdictional authority and/or applicable special expertise cooperated in the development of this EIS.

The cooperating agencies assisted with EIS preparation in a number of ways, including conducting or providing studies and inventories, reviewing baseline condition reports, identifying issues, assisting with the formulation of alternatives, and reviewing Preliminary Draft EIS text and other EIS materials. Not all of the cooperating agencies participated in all aspects of the EIS preparation. As lead agency, BLM is responsible for the content of the EIS.

Federal Cooperating Agencies

U.S. FOREST SERVICE

Approximately 321,135 acres of the Kaibab National Forest in the Tusayan Ranger District and approximately 34,739 acres of the North Kaibab Ranger District are included in the proposed withdrawal area (see Figure 1.1-1). The *Kaibab National Forest Land Management Plan, as Amended, and Record of Decision* (Kaibab LMP/ROD) (Forest Service 1988) is the presiding Kaibab National Forest management document. The Forest Service and the BLM worked closely to develop alternatives. While BLM is the lead agency for this project, the Kaibab National Forest, as a cooperating agency with jurisdictional authority, contributes vital expertise and guidance regarding the proposed withdrawal area.

The Forest Service manages locatable mineral activity (including uranium exploration and development) in accordance with provisions of the Organic Act of 1897 [16 USC 478, 551]. The Forest Service promulgated regulations at 36 CFR 228A that describe the review and approval requirements, performance standards, and other requirements that mining claimants and operators must follow when conducting operations on National Forest System lands under the Mining Law.

NATIONAL PARK SERVICE

Grand Canyon National Park has jurisdictional authority over 1.2 million acres of the Grand Canyon watershed. The proposed withdrawal area is located immediately adjacent to parts of Grand Canyon National Park both north and south of the Park boundary (see Figure 1.1-1). Although Grand Canyon National Park has no jurisdictional authority over the lands proposed for withdrawal, the National Park Service (NPS) has an affirmative responsibility under the NPS Organic Act of 1916 to ensure that activities outside Park boundaries do not adversely affect Park resources and values. Thus, NPS is a cooperating agency by virtue of its special expertise in the resources of the Grand Canyon.

The Park is already withdrawn from location and entry under the Mining Law, subject to valid existing rights; however, locatable mineral activities on adjacent (non-withdrawn) lands may have the potential to affect Park resources, such as seeps and springs, air quality, wildlife, vegetation, aquatic species, natural viewsheds, dark skies, soundscapes, important cultural resources, and recreation opportunities and settings.

The National Park Service Organic Act [16 USC 1–4] requires the NPS to conserve Park resources and the values and purposes for which the Park was established, as well as "to provide for the enjoyment" of those resources and values "in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations." To fulfill these mandates, conscientious care is necessary to preserve and protect natural and cultural resources, including the primeval character of the Park backcountry, while still providing opportunities for public enjoyment of these NPS lands.

U.S. FISH AND WILDLIFE SERVICE

The U.S. Fish and Wildlife Service (USFWS) is the federal agency with jurisdictional authority concerning listed threatened and endangered, proposed, and candidate species, conservation agreement species, and critical habitat under the Endangered Species Act of 1973, as amended (ESA); bald and golden eagles under the Bald and Golden Eagle Protection Act of 1940, as amended; and migratory birds under the Migratory Bird Treaty Act of 1918 (MBTA). One of USFWS's responsibilities is to address trust species for tribes. During the EIS process, the role of USFWS is to provide input and recommendations regarding the special status species and critical habitat that could be impacted by the proposed withdrawal. In addition, as required under Section 7 of the ESA, federal agencies must consult with USFWS regarding a project's potential impacts to threatened and endangered species and critical habitat.

U.S. GEOLOGICAL SURVEY

USGS has no jurisdictional authority concerning the potential environmental impacts of the proposed withdrawal. However, USGS has special expertise in mining-related environmental conditions, mineral resource availability, geology, hydrology, and biology, and this expertise was drawn on to more fully inform this EIS process by providing baseline technical studies and engaging in consultation with the other agencies on scientific matters. To provide important foundational information for the EIS, USGS prepared Scientific Investigations Report 2010-5025, *Hydrological, Geological, and Biological Site Characterization of Breccia Pipe Uranium Deposits in Northern Arizona* (USGS 2010b).

State of Arizona Cooperating Agencies

ARIZONA GAME AND FISH DEPARTMENT

In Arizona, the Arizona Game and Fish Department (AGFD) has jurisdictional authority over fish and wildlife conservation and management, as well as public uses and recreation relating to fish and wildlife

conservation and management, including off-highway vehicle (OHV) use. AGFD is tasked with conserving, enhancing, and restoring Arizona's diverse wildlife resources and habitats and therefore has special expertise with respect to Arizona's wildlife. Because the proposed withdrawal has the potential to impact fish and wildlife within Arizona, AGFD is a cooperating agency for the EIS.

ARIZONA GEOLOGICAL SURVEY

The Arizona Geological Survey's (AZGS's) charter is to serve as a primary source of geological information in Arizona to enhance public understanding of the state's geological character and mineral resources (AZGS 2010). AZGS provides technical advice and assistance in geology to other state and local governmental agencies engaged in projects in which the geological setting, character, or mineral resources of the state are involved (AZGS 2010). In addition, AZGS informs, advises, and assists the public and other agencies in matters concerning geological processes, materials, and landscapes and in the development and use of the mineral resources of Arizona. Because of its special expertise in geology, geological hazards and limitations, and mineral resources within the state, AZGS is a cooperating agency in the EIS process.

Effective July 1, 2011, Arizona SB1615, State Agencies Consolidation, transferred the duties and responsibilities of the Arizona Department of Mines and Mineral Resources (ADMMR) to the AZGS. AZGS will continue the primary objective, which is to promote the development of the mineral resources of Arizona through technical and educational processes. Other ADMMR responsibilities transferred to AZGS include providing mining, metallurgical, and other technical information and assistance to those interested in developing the mineral resources of Arizona (ADMMR 2006). AZGS provides services such as maintaining a site-specific database of unpublished reports and maps; maintaining an information bank and reference library of mineral and mining information; and producing mineral reports, annual directories, technical reports, mineral industry surveys, and information circulars. AZGS provides special expertise with respect to the development of mineral resources in Arizona and is therefore a cooperating agency in the EIS process.

ARIZONA STATE LAND DEPARTMENT

The Natural Resources Division of the Arizona State Land Department (ASLD) administers all natural resource-related leases and Conservation Districts, along with any natural resource issues affecting State Trust land. Approximately 57,617 acres of State Trust land are located within the proposed withdrawal area, mostly in the North and East parcels (ASLD 2009). While the State-owned minerals are not subject to the temporary segregation or proposed withdrawal, the withdrawal of federal minerals has the potential to influence mineral development on adjacent state lands. In addition, 4,204 acres of the federal minerals proposed for withdrawal underlie State-owned surface. Therefore, because of their special expertise regarding the resources within these lands and the state's interest in maximizing revenue from its trust lands, ASLD has been designated a cooperating agency.

Tribal Governments as Cooperating Agencies

In August 2009, the BLM and Forest Service initiated consultation via letter with the following American Indian governments regarding the proposed withdrawal: Chemehuevi Tribe, Colorado River Indian Tribes, Havasupai Tribe, Hopi Tribe, Hualapai Tribe, Kaibab Band of Paiute Indians, Las Vegas Paiute Tribe, Moapa Band of Paiute Indians, Pahrump Band of Paiutes, Paiute Indian Tribe of Utah, Pueblo of Zuni, San Juan Southern Paiute Tribe, Navajo Nation, White Mountain Apache Tribe, Yavapai-Apache Nation, and Yavapai-Prescott Indian Tribe. Additional information on the consultation process is presented in Chapter 5, Consultation and Coordination.

During the consultation process, the Hualapai Tribe and Kaibab Band of Paiute Indians requested to be involved in the EIS process as cooperating agencies. The interests of these cooperators with respect to the EIS process are described below.

HUALAPAI TRIBE

The Hualapai Reservation is located west of the South Parcel. The Hualapai Tribe considers the Grand Canyon region to be of great cultural, historical, and religious significance. Lands held sacred or culturally significant to the Hualapai Tribe are not only located within the present Hualapai Reservation boundaries. Historically, the Hualapai lived in and used resources from the South Parcel and hold a substantial portion of the areas proposed for withdrawal to be culturally significant. They continue to use resources from the proposed withdrawal area today. Because of its proximity to the area and concern about impacts on its members and reservation, as well as its special expertise in the Tribe's cultural, historical and religious interest in the lands proposed for withdrawal, BLM accepted the Hualapai Tribe's request to participate as a Cooperating Agency.

KAIBAB BAND OF PAIUTE INDIANS

The Kaibab Band of Paiute Indians Reservation is located adjacent to the North Parcel proposed for withdrawal (see Figure 1.1-1), and aboriginal lands are included in all three parcels. Haul truck traffic from current uranium ore production in the North Parcel passes through the reservation and is of concern to the residents. Like the Hualapai Tribe, the Kaibab Band of Paiute Indians considers the Grand Canyon region to be of great cultural, historical, and religious significance. Because of its proximity to the area and concern about impacts on its members and reservation, as well as its special expertise in the Tribe's cultural, historical and religious interest in the lands proposed for withdrawal, BLM accepted the Kaibab Band of Paiute Indians' request to participate as a Cooperating Agency.

County Governments as Cooperating Agencies

Coconino and Mohave counties in Arizona and Kane, San Juan, and Washington counties in Utah are cooperating agencies in the EIS process. A substantial portion of the economies of these rural counties is based on both mining and recreation in the Grand Canyon region (Arizona Department of Commerce [ADOC] 2009a). The proposed withdrawal and alternatives have the potential to impact socioeconomic conditions in these counties, and the BLM invited them to participate in the EIS process as cooperating agencies.

COCONINO COUNTY, ARIZONA

The majority of the proposed withdrawal area (all of the South Parcel, all of the East Parcel, and a portion of the North Parcel) is located in Coconino County. Population in Coconino County reached over 134,000 people in 2010 (Census Bureau 2010), up from 116,320 in 2000 (Census Bureau 2000). Coconino County's commercial economy is largely tourism based accounting for a large percentage of the county's jobs and tax income.

MOHAVE COUNTY, ARIZONA

The North Parcel is partially in Mohave County. Population in Mohave County exceeded 200,000 people in 2010 (Census Bureau 2010), up from 155,032 in 2000 (Census Bureau 2000). Leading industries in the county are retail trade, tourism, construction, and health care and social services.

KANE COUNTY, UTAH

Because of its proximity to the proposed withdrawal area and its historic dependence on the Arizona Strip as a significant source of income and employment for its residents, Kane County is participating as a cooperating agency in the EIS process. Population in Kane County was 7,125 people in 2010 (Census Bureau 2010). Like Coconino County, Kane County's economy is primarily tourism based. Lake Powell, Zion National Park, and other recreation sites attract tens of thousands of visitors each year. As a result, the leisure/hospitality services sector is the leading employment sector. The mining industry is also a significant employer in Kane County. Mining wages and salaries per job have consistently been the largest in the study area and have experienced steady growth from 1980 through 2000. However, it should be noted that the number of mining jobs in Kane County has been low since at least 1980 (BLM 2008c).

SAN JUAN COUNTY, UTAH

San Juan County had an estimated population of 15,055 in 2008 (Census Bureau 2008a). One of the major employment sectors driving San Juan County's economy is mining. Denison Mines (USA) Corporation (Denison) and the recently closed Lisbon Valley Copper Mine are located in the county and have both historically, as well as recently, provided employment for county residents. The White Mesa Uranium Mill, located 6 miles south of Blanding, is used for processing uranium ore mined in the proposed withdrawal area. The proposed withdrawal or alternatives could change the amount of ore transported to the mill. Because of its economic connection with mining in the proposed withdrawal area, San Juan County is participating as a cooperating agency in the EIS process.

WASHINGTON COUNTY, UTAH

Washington County had an estimated population of 138,115 in 2010 (Census Bureau 2010). The Arizona Strip (where the North and East parcels are located) has historically been recognized as a primary source of income and employment for many of southern Utah's residents. For this reason, Washington County is a cooperating agency in the EIS process. Over the past decade, Washington County has experienced major population growth. From 1990 to 2010, the total population increased by 184.4% and is expected to continue growing. Manufacturing, wholesale and retail trade, construction, and tourism- and recreation-related services are the leading industries. Nearby Grand Canyon National Park, Zion National Park, Dixie National Forest, and Snow Canyon State Park are important recreational attractions.

GARFIELD COUNTY, UTAH

Garfield County had an estimated population of 5,172 in 2010, up from 3,980 in 1990 (Census Bureau 1990; 2008a). It is located in south central Utah, north of Kane County and west of San Juan County and includes large swaths of open desert as well as nationally designated scenic places such as Bryce Canyon National Park, Grand Staircase-Escalante National Monument, Capital Reef National Park, and a portion of Canyonlands National Park. Garfield County joined the EIS process as a cooperating agency in August 2011. The Shootaring Canyon Uranium Processing Facility (mill) is located in Garfield County near the small town of Ticaboo. The mill has been in stand-by status since 1982.

1.4.3 Authorities

A number of legal authorities apply to the processing of the proposed withdrawal application and preparation of the associated EIS. These include laws, policies, and orders that established the basic tenets of the Mining Law, set the requirements for consultation between federal agencies and tribal governments, formulated the policies on the use of federal lands, promulgated the regulations for mining

on federal lands, and set overall management objectives in agency legislation. These are briefly discussed below.

Federal Laws, Statutes, and Regulations

LAWS AND STATUTES

General Mining Law of 1872

The Mining Law [30 USC 22–54] authorizes citizens to enter federal lands open to location and stake or "locate" mining claims upon discovery of a valuable mineral deposit and compliance with all other applicable statutory or regulatory requirements. A mining claim gives the claimant a possessory interest against the government and rival claimants. Mineral exploration and development conducted under the Mining Law must be performed in compliance with federal and state statutes and regulations. Additional information on the Mining Law and mining claim requirements is presented in Appendix B.

Mineral deposits that are subject to appropriation under the Mining Law are termed "locatable" and include most metallic mineral deposits, such as uranium, and certain nonmetallic and industrial minerals, such as specialty building stone. Locatable minerals do not include minerals such as coal or oil and gas, which are classified as "leasable." Deposits of sand and gravel are termed "salable" and may be available for purchase from the land managing agency.

The ability of a claimant to locate new mining claims under the Mining Law is terminated if the lands are withdrawn from location and entry under the Mining Law. Congress can withdraw lands from operation of the Mining Law and has done so in the past (e.g., for national parks, wilderness areas, military reservations, etc.). The Secretary of the Interior can also withdraw lands from operation of the Mining Law, but as FLPMA explicitly states, the Secretary may "make, modify, extend, or revoke withdrawals but only in accordance with the provisions and limitations" of Section 204.

The Forest Service Organic Administration Act of 1897

Under the Forest Service Organic Administration Act of 1897, the Secretary of Agriculture permits access to National Forests for all lawful purposes, including prospecting for, locating, and developing mineral resources. The Organic Act remains in effect today and is one of several legal authorities directing and guiding Forest Service policy and operations, in conjunction with the Multiple-Use Mining Act of 1955, Multiple-Use Sustained-Yield Act of 1960, and NFMA.

National Park Service Organic Act of 1916

The NPS was established under the National Park Service Organic Act of 1916 [16 USC 1–4]. The Organic Act states, "The Service such established shall promote and regulate . . . to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act of 1918 [16 USC 703–712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989] implements various treaties and conventions between the United States and Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Under the Act, taking, killing, or possessing migratory birds is unlawful.

Act to Establish Grand Canyon National Park, 1919

In 1919, Congress expanded and designated Grand Canyon National Monument a national park, creating Grand Canyon National Park. The Act of February 26, 1919, directed that NPS assume the responsibility for the administration, protection, and promotion of the park and authorized the NPS to grant commercial concessions "for the accommodation or entertainment of visitors" [16 USC 221 *et seq*., 40 Stat. 1175]. The Act also "reserved and withdr[ew] from settlement, occupancy, or disposal under the laws of the United States and set apart as a public park for the benefit and enjoyment of the people" land in the state of Arizona under the name of Grand Canyon National Park. The Grand Canyon National Park was withdrawn by statute from mining entry.

Bald and Golden Eagle Protection Act of 1940

The Bald and Golden Eagle Protection Act [16 USC 668–668c], was originally enacted in 1940 as the Bald Eagle Protection Act to protect bald eagles and later amended to include golden eagles. Amended several times in subsequent years, the Act prohibits anyone without a permit issued by the Secretary of the Interior from "taking" bald and golden eagles, including their parts, nests, or eggs. The definition of take includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. Activities that can be authorized by permit include scientific collecting and research, exhibition, tribal religious uses, depredation, falconry, and the taking of inactive golden eagle nests that interfere with resource development or recovery operations. The Act provides criminal penalties for persons who violate the Act.

Surface Resources Act of 1955

The Surface Resources Act of 1955 [30 USC 611–615] did three things: 1) it expressly removed common varieties of building or construction materials from appropriation under the Mining Law; 2) it verified that unpatented mining claims could only be used for prospecting, mining, or processing operations and uses reasonably incident thereto; and 3) it subjected mining claims located after 1955 to government management and disposal of the surface resources. The Act lays the groundwork for both BLM and Forest Service surface management regulations at 43 CFR 3715 and 3809 and at 36 CFR 228A, respectively.

Multiple-Use Sustained-Yield Act of 1960

The Multiple-Use Sustained-Yield Act of 1960 provides that the purposes of the National Forest System lands include outdoor recreation, range, timber, watersheds, and fish and wildlife. While the Act supports these uses in particular, it does not directly affect the use or administration of the mineral resources on National Forest System lands.

National Historic Preservation Act of 1966

The National Historic Preservation Act of 1966 (NHPA) requires the Secretary of the Interior to maintain the National Register of Historic Places (NRHP). NHPA creates a process under which federal agencies must consider the effect of a proposed project on any property listed or eligible for listing in the NRHP before it authorizes or funds any undertaking. Section 106 of the NHPA requires federal agencies to take into account the effects of their actions on historic properties. The intent is to identify such properties, assess effects, and seek ways to avoid, minimize, or mitigate any adverse effects. The NHPA stresses the importance of active consultations with the public, Indian tribes, State Historic Preservation Offices (SHPOs), and other parties and provides the Advisory Council on Historic Preservation with the opportunity to comment on a project's potential to affect historic resources. The BLM or Forest Service review of a plan of operations for exploration or development must follow the Section 106 process in

order to identify, assess, and seek ways to avoid, minimize, or mitigate any adverse effects on properties listed or eligible for listing in the NRHP.

Wilderness Act of 1964

The Wilderness Act of 1984 was passed to "establish a National Wilderness Preservation System." The Act defines wilderness as

> an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

National Environmental Policy Act of 1969

NEPA requires federal agencies to prepare an EIS prior to undertaking a major federal action that would significantly affect the quality of the human environment. NEPA also requires federal agencies to study, develop, and describe appropriate alternatives to any proposed agency action that involves unresolved conflicts concerning alternate uses of available resources. Under NEPA, agencies are required to prepare environmental documents, with input from the state and local governments, Indian tribes, the public, and other federal agencies. Because this proposed withdrawal constitutes a "major federal action," detailed analysis, agency cooperation, and public or stakeholder involvement under NEPA is required before a decision can be made.

The Department of the Interior and the BLM are preparing this EIS in accordance with NEPA, with the CEQ regulations implementing NEPA at 40 CFR 1500–1508, with Department of the Interior requirements in Department Manual 516, with Department of the Interior regulations implementing NEPA at 43 CFR 46, and with the BLM NEPA Handbook (H-1790-1) (BLM 2008a).

Mining and Minerals Policy Act of 1970

The current federal policy for minerals resource management reflected in the Mining and Minerals Policy Act of 1970, which is cited in the policy statements of FLPMA. In the Mining and Minerals Policy Act, Congress declared that it is the continuing policy of the federal government in the national interest to foster and encourage private enterprise in the following: 1) the development of economically sound and stable domestic mining, minerals, metal, and mineral reclamation industries; 2) the orderly and economic development of domestic mineral resources and reserves and reclamation of metals and minerals to help ensure satisfaction of industrial, security, and environmental needs; 3) mining, mineral, and metallurgical research, including the use and recycling of scrap to promote the wise and efficient use of our natural and reclaimable mineral resources; and 4) the study and development of methods for the disposal, control, and reclamation of mineral waste products and the reclamation of mined land, in order to lessen any adverse impact of mineral extraction and processing on the physical environment that may result from mining or mineral activities.

For the purpose of this Act, "minerals" includes all minerals and mineral fuels, including oil, gas, coal, oil shale, and uranium. The Act further requires the Secretary of the Interior to carry out this policy when

exercising his or her authority under such programs as may be authorized by law other than under this section.

Clean Air Act (Extension) of 1970

The Clean Air Act of 1970, as amended (CAA), established National Ambient Air Quality Standards (NAAQS) to control air pollution. Impacts to air quality from industry, including mineral exploration and development, are controlled by mitigation measures developed on a case-by-case basis during project review. The CAA has been amended several times, most importantly in 1977 and 1990. Part C of the 1977 amendments stipulates requirements to prevent significant deterioration of air quality and, in particular, to preserve air quality in national parks, national wilderness areas, national monuments, and national seashores [42 USC 7470] by establishing federal Class I areas, including Grand Canyon, Zion, and Bryce Canyon national parks. Class I areas have more stringent controls on emission increases and protection of visibility, with a goal of no human-caused impairment. The 1990 amendment established a permit program to streamline compliance with air quality regulations into an enforceable permit for operators. The purpose of the operating permits program is to ensure compliance with all applicable requirements of the CAA and to enhance the U.S. Environmental Protection Agency's (EPA's) ability to enforce the Act.

Endangered Species Act of 1973

The general policy of the ESA, as set forth by Congress, is that "all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of the Act." Section 7 of the ESA directs all federal agencies to use their existing authority to conserve threatened and endangered species and, in consultation with the USFWS or National Marine Fisheries Service (NMFS), to ensure that their actions do not jeopardize listed species or destroy or adversely modify critical habitat. Section 7 applies to management of federal lands as well as other federal actions that may affect listed species, including the proposed withdrawal. The agencies have determined, here, that the proposed decision whether to implement a withdrawal is an action subject to consultation with the USFWS. In addition, the individual approval of a plan of operations for uranium exploration or mining is an action requiring compliance with Section 7 of the ESA, which frequently involves consultation with the USFWS or NMFS.

Grand Canyon Enlargement Act of 1975

The Grand Canyon Enlargement Act, enacted in 1975, provided for the further protection of the Grand Canyon area, doubling the size of Grand Canyon National Park to approximately 1.18 million acres (1,904 square miles). In addition, the Enlargement Act modified the deadlines for wilderness suitability review set forth in the Wilderness Act, requiring the Secretary of the Interior to report to the President, within 2 years, his recommendations regarding the suitability or non-suitability of any area within Grand Canyon National Park for preservation as wilderness [Public Law (PL) 93-620, 88 Stat. 2089]. The Act consolidated several contiguous federally owned areas, some of which already were designated as units of the National Park System, into a single national park to be administered under common administrative guidelines.

Federal Land Policy and Management Act of 1976

FLPMA establishes the BLM's multiple-use mandate to serve present and future generations. Title I, Section 102(a)(8), 43 USC 1701(a)(8), of FLPMA states that it is the policy of the United States that

> public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that,

> where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use.

Section 102(a)(10–12) states, "It is the policy of the United States that . . . public lands be managed in a manner which recognizes the Nation's need for domestic sources of minerals . . . including implementation of the Mining and Minerals Policy Act of 1970 . . . as it pertains to the public lands." Section 103(c) provides for a

> combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and non-renewable resources including but not limited to recreation, range, timber, minerals, watershed, wildlife and fish and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.

Section 204 of FLPMA establishes the Secretary's authority to make, modify, extend, or revoke withdrawals in accordance with the provisions and limitations of FLPMA. In concert with other applicable federal laws, statutes, and regulations, as described below, FLPMA mandates the requirements for proceeding with any proposed withdrawal. Withdrawals aggregating 5,000 acres or more are limited to 20 years' duration.

Section 302(b) of FLPMA requires the Secretary to prevent unnecessary or undue degradation of the lands, including from activities authorized by the Mining Law. The BLM promulgated regulations at 43 CFR 3809 (3809 regulations) that detail the review, plan of operations approval, performance standards, and other requirements that mining claimants and operators must follow when conducting operations on public lands under the Mining Law in order to prevent unnecessary or undue degradation.

National Forest Management Act of 1976

The National Forest Management Act (NFMA) established the Forest Service's management provisions in response to the population boom (and subsequent timber clear-cutting required for construction) that followed World War II. NFMA supplemented the 1897 National Forest Organic Act as the primary authority for Forest Service policy. This Act was also an amendment to the Forest and Rangeland Renewable Resources Planning Act of 1974. NFMA requires forest plans to be developed in accordance with NEPA's procedural requirements.

Federal Water Pollution Control Act of 1972/Clean Water Act of 1977

The Federal Water Pollution Control Act of 1948 was largely amended in 1972 and further revised in 1977. With the 1977 amendments, the Act became commonly known as the Clean Water Act (CWA). The CWA, enforced by the EPA and state authorities, provides means and guidance to eliminate or reduce direct pollutant discharges into waterways and manage polluted runoff. The goal of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters so that they can support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water [33 USC 1251(101)(a)]. Sections 401 and 404 of the CWA provide for permits for discharge of pollutants, or dredge or fill material, respectively, into waters of the United States and are administered by the U.S. Army Corps of Engineers (USACE).

Redwoods Act of 1978

The Redwoods Act of 1978 was an amendment to the NPS General Authorities Act of 1970. By this amendment, Congress reaffirmed the provisions of the Organic Act and made all areas of the National Park System equal in the protections afforded, no matter the individual designation. This provides equal protection to all areas of the National Park System from impairment and/or derogation of their resources: "The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established . . . directly and specifically provided by Congress."

American Indian Religious Freedom Act

The American Indian Religious Freedom Act (AIRFA) says that on and after August 11, 1978, "it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites." This law is designed to protect American Indian rights of religious freedom. It does not mandate that American Indian concerns are paramount but requires that the federal government consider such concerns in its decisions.

National Materials and Minerals Policy, Research, and Development Act of 1980

The National Materials and Minerals Policy, Research, and Development Act of 1980 specifically emphasizes the USGS's responsibility to assess the mineral resources of the nation. It also charges the Secretary of the Interior to improve availability and analysis of mineral data in federal land use decision-making [30 USC 1604(e)(3)].

Arizona Wilderness Act of 1984

The Arizona Wilderness Act of 1984, specifically Title III of the Act, designated wilderness areas within the Arizona Strip, including Kanab Creek Wilderness, Mount Logan Wilderness, Mount Trumbull Wilderness, Paria Canyon–Vermilion Cliffs Wilderness, and Saddle Mountain Wilderness. The Act "releases certain lands not designated as wilderness for such management as is determined appropriate throughout the land management planning process of the administering agency." The Act designated wilderness in furtherance of the purposes of the Wilderness Act of 1964.

Energy Policy Act of 2005

The Energy Policy Act of 2005 encourages energy efficiency and conservation; promotes alternative and renewable energy sources; reduces dependence on foreign sources of energy; increases domestic production; modernizes the electrical grid; and encourages the expansion of nuclear energy.

REGULATIONS

Title 43 Code of Federal Regulations Part 2300

These regulations set forth procedures implementing the Secretary of the Interior's authority to process federal land withdrawal applications and, where appropriate, to make, modify, or extend federal land withdrawals. The regulations contain the content and processing requirements for a withdrawal application casefile. One of the requirements for a withdrawal casefile is an environmental analysis

prepared in accordance with NEPA. If a withdrawal alternative were selected, the current EIS would constitute the required NEPA analysis.

Title 43 Code of Federal Regulations Subpart 3715

The regulations at 43 CFR 3715 apply to all activities purported to be conducted under the Mining Law on BLM-administered land. The purpose of the regulations is to manage the use and occupancy of the public lands for the development of locatable mineral deposits by limiting such use or occupancy to that which is reasonably incident to prospecting, mining, or processing operations.

The regulations address the unlawful use and occupancy of unpatented mining claims for non-mining purposes, setting forth the restrictions on use and occupancy of public lands open to the operation of the mining laws in order to limit use and occupancy to those reasonably incidental uses. The rule establishes procedures for beginning occupancy, standards for reasonably incidental use or occupancy, prohibited acts, procedures for inspection and enforcement, and procedures for managing existing uses and occupancies. It also provides for penalties and appeals procedures. The rule is used to prevent unnecessary or undue degradation of the public lands from uses and occupancies not reasonably incident to mining. The rule does not adversely affect bona fide mining operations or alter BLM's regulations in 43 CFR 3800 pertaining to them.

Title 43 Code of Federal Regulations Subpart 3809

The regulations at 43 CFR 3809 apply to exploration and development activity for locatable minerals, including uranium, on BLM-managed lands. The regulations were developed to implement Section 302(b) of FLPMA, which requires the Secretary to prevent unnecessary or undue degradation of the lands, including from activities authorized by the Mining Law. The "3809 regulations" underwent major revision in November 2000 and again in October 2001. The regulations detail the review, plan of operations approval, performance standards, reclamation requirements, financial guarantee, and enforcement provisions that mining claimants and operators must follow when conducting exploration and mining. Because the 3809 regulations have a key role in the protection of the Grand Canyon watershed from the potential adverse effects of uranium mining, they are discussed briefly in Chapter 2 and Appendix B of this EIS.

Title 36 Code of Federal Regulations Part 228 Subpart A

The regulations at 36 CFR Part 228 Subpart A (228A regulations) apply to all prospecting, exploration, and mining operations, whether within or outside the boundaries of a mining claim, authorized under the Mining Law and conducted on National Forest System lands, including the lands in the proposed withdrawal area. These regulations were originally promulgated in 1974 as 36 CFR 252 and were based on the Forest Service's authority under the Organic Administration Act of 1897. In 1981, the rules were redesignated 36 CFR 228A. In 2005, a final rule clarifying when a plan of operations is required [36 CFR 228.4A] also was adopted. However, the regulations have not been significantly revised since 1974. The regulations detail the review, approval, performance standards, reclamation requirements, financial guarantee, and enforcement provisions that mining claimants and operators must follow when conducting mining operations, including uranium mining operations. Because the 228A regulations have a key role in the protection of the Grand Canyon watershed from the potential adverse effects of uranium mining, they are discussed briefly in Chapter 2 and Appendix B of this EIS.

EXECUTIVE ORDERS

Executive Order 12898 of 1994, Environmental Justice

Executive Order (EO) 12898 says that each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States. To address environmental justice requires federal agencies to ensure that proposed projects under their jurisdictions do not cause a disproportionate environmental impact that would affect any group of people owing to a lack of political or economic strength on the part of that affected group. Each federal agency shall conduct the programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under such programs, policies, and activities because of their race, color, or national origin. The Department of the Interior, in coordination with the Working Group established by the EO, and, after consultation with tribal leaders, shall coordinate steps to be taken pursuant to this order that address federally recognized Indian tribes.

With regard to the proposed withdrawal, low-income populations and minority populations will be identified and their participation sought in the EIS process. The EIS will analyze the potential effects of the proposed withdrawal and alternatives and identify low-income populations and minority populations that may disproportionately be subject to the project benefits and risks. The requirements of EO 12898 also apply when BLM or the Forest Service reviews a site-specific plan of operations for uranium exploration or development.

Executive Order 13007 of 1996, Sacred Sites

EO 13007 limits the meaning of "sacred site" to a "specific, discrete, narrowly delineated location on Federal land" that a tribe, or an authoritative tribal religious practitioner, has identified as sacred by virtue of its established religious significance or ceremonial use. Where such sites have been identified, EO 13007 says that in managing federal lands, each executive branch agency with statutory or administrative responsibility for such management shall, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, do the following: 1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners; and 2) avoid adversely affecting the physical integrity of such sacred sites. Where appropriate, agencies shall maintain the confidentiality of sacred sites.

Table 1.4-1 lists the above laws and regulations, as well as other relevant authorities.

Table 1.4-1. Federal Laws, Statutes, Regulations, Executive Orders, and Presidential Proclamations

Federal Laws and Statutes
Act to Establish Grand Canyon National Park, 1919
American Indian Religious Freedom Act of 1978 [PL 95-341; 42 USC 1996]
Archaeological and Historic Data Preservation Act of 1974 [PL 86-253, as amended by PL 93291; 16 USC 469]
Archaeological Resources Protection Act of 1979 [PL 96-95; 16 USC 470aa–mm]
Arizona Wilderness Act of 1984 [PL 98-406]
Bald and Golden Eagle Protection Act
Clean Air Act of 1990 [as amended by PL 92-574; 42 USC 4901]
Endangered Species Act of 1973 [PL 85-624; 16 USC 661, 664, 1008]

Table 1.4-1. Federal Laws, Statutes, Regulations, Executive Orders, and Presidential Proclamations (Continued)

Federal Laws and Statutes, continued
Energy Policy Act of 1992
Energy Policy Act of 2005 [PL 109-59]
Federal Land Policy and Management Act of 1976, Section 201(a) [PL 94-579; 43 USC 1701 *et seq*.]
Federal Water Pollution Control Act (CWA) of 1972 [33 USC 1251]
Forest Service Organic Administration Act of 1897 [16 USC 475]
Grand Canyon Enlargement Act of 1975
Hazardous Materials Transportation Act of 1975
Historic Sites Act of 1935 [PL 292-74; 16 USC 461–467]
Migratory Bird Treaty Act of 1918 [16 USC 703–712, as amended]
Mining Law of 1872 [30 USC 21-42]
Mining and Minerals Policy Act of 1970 [30 USC 21a]
Multiple-Use Mining Act of 1955
Multiple-Use Sustained-Yield Act of 1960 [16 USC 528-31]
National Environmental Policy Act of 1969 [PL 91-190; 42 USC 4321]
National Materials and Minerals Policy, Research and Development Act of 1980
National Historic Preservation Act of 1966 [PL 89-665; 16 USC 407(f)]
National Park Service Organic Act of 1916
Native American Graves Protection and Repatriation Act of 1990 [PL 101-601]
National Forest Management Act of 1976
National Materials and Minerals Policy, Research and Development Act of 1980
Nuclear Waste Policy Act of 1974
Redwoods Act of 1978
Safe Drinking Water Act of 1982
Surface Resources Act of 1955
Uranium Mill Tailings Radiation Control Act of 1978
Wilderness Act of 1964 [PL 88-577; 16 USC 1131 *et seq*.]
Executive Orders
EO 11514, Protection and Enhancement of Environmental Quality
EO 11593, Protection and Enhancement of the Cultural Environment
EO 11988, Floodplain Management [43 CFR 6030]
EO 11990, Wetland Protection
EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
EO 13007, Indian Sacred Sites
EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds
EO 13175, Tribal Consultation
EO 13212, Actions to Expedite Energy-Related Projects
EO 13287, Preserve America
Federal Regulations
40 CFR 1500–1508, CEQ implementation of NEPA
43 CFR 2300, Land Withdrawals
33 CFR 320–331 and 40 CFR 230, Section 404 of the CWA and Its Implementing Regulations
43 CFR 46, Department of the Interior, Implementation of NEPA
36 CFR 220, Forest Service NEPA Procedures
36 CFR 228, Minerals

Table 1.4-1. Federal Laws, Statutes, Regulations, Executive Orders, and Presidential Proclamations (Continued)

Federal Regulations, continued
36 CFR 800, as amended, Protection of Historic Properties
43 CFR 2800, as amended, Rights-of-Way Principles and Procedures 43 CFR 3715, Use and Occupancy Under the Mining Laws
43 CFR 3809, Mining Claims under the Mining Law: Surface Management
50 CFR Parts 10, 14, 20, and 21, USFWS Implementation of MBTA
50 CFR 400, USFWS Implementation of ESA

State Laws and Regulations

Table 1.4-2 lists state laws and regulations applicable to uranium mining and the proposed withdrawal.

Table 1.4-2. Arizona State Laws and Regulations

State Regulations
Arizona Revised Statutes (ARS) 27, Minerals, Oil and Gas
ARS 17, Game and Fish
ARS 30, Power
ARS 40, Public Utilities and Carriers
ARS 45, Waters
ARS 48, Special Taxing Districts
ARS 27–151, AZGS
ARS 28, OHVs
ARS 37, Public Lands
ARS 41, State Government
ARS 49, The Environment
Arizona Administrative Code 12, Natural Resources, Chapter 5
Arizona Native Plant Law
ADMMR Special Report 12, *Laws and Regulations Governing Mineral Rights in Arizona*
ADMMR Special Report 23, *Manual for Determination of Status and Ownership, Arizona Mineral and Water Rights*

1.4.4 Relationship to Existing Land Use Plans

Bureau of Land Management Arizona Strip Field Office ROD/RMP

The proposed withdrawal would occur on 626,678 acres managed under the Arizona Strip Field Office ROD/RMP (BLM 2008b). Although the proposed withdrawal and alternatives are not specifically mentioned in the ROD/RMP, they would be consistent with the plan's objectives, goals, and decisions. Section 1.4.1 above discusses the BLM's planning authorities as they relate to the proposed withdrawal.

Kaibab National Forest Land and Resource Management Plan/ROD

The proposed withdrawal would occur on 355,874 acres managed under the *Kaibab National Forest Land and Resource Management Plan, as Amended, and Record of Decision* (Forest Service 1988). The Plan notes that the Kaibab Plateau portion of the Forest, as part of the Grand Canyon National Game Preserve, had previously been withdrawn from mineral entry. Certain special areas such as designated Wilderness

and developed recreation sites are also closed to mineral entry and location. Other portions of the Forest have hitherto been open to mineral entry, but under "intensive management . . . to protect surface resource and other environmental values." No portion of the Plan precludes future withdrawals. Section 1.4.2 above discusses the Forest Service's planning authorities as they relate to the proposed withdrawal.

Tribal Plans and Policies

Although the proposed withdrawal area is not within their respective tribal jurisdictions, the Navajo, Hualapai, Havasupai, and Hopi each consider all or parts of the proposed withdrawal area as ancestral homelands. Proposed withdrawal would be consistent with tribal plans and policies on tribal lands adjacent to the proposed withdrawal area. Uranium exploration and development activities that would occur under any of alternatives, as described in Appendix B, Locatable Mineral Resources—Reasonably Foreseeable Development Scenarios, would be contrary to tribal goals and policies, as described below.

In 2005, the 20th Navajo Nation Council enacted the Diné Natural Resources Protection Act with the purpose of ensuring that no further damage occur to the "culture, society, and economy of the Navajo Nation because of uranium mining" and that "no further damage to the culture, society, and economy of the Navajo Nation occurs because of uranium processing until all adverse economic, environmental and human health effects from past uranium mining and processing have been eliminated or substantially reduced to the satisfaction of the Navajo Nation Council." The Act banning uranium mining applies to the entirety of Navajo Nation land, which spans three states (Navajo Nation 2005).

The Hualapai Tribal Council also renewed a ban on uranium mining on 1 million acres of reservation land in 2009 (World Information Service on Energy Uranium Project 2009). The Havasupai and Hopi Tribes have enacted similar resolutions banning uranium mining on reservation lands.

County and Local Plans

A large portion of the proposed withdrawal would occur in Coconino County, Arizona. Mineral withdrawal proposals are not included in the *Coconino County Comprehensive Plan* (Coconino County 2003). In this plan, the County has outlined goals for water resources to "protect, preserve, and improve the quality of surface water and groundwater." The plan also discusses community character objectives for tribal lands and interests, historic and cultural resources, scenic vistas and viewsheds, scenic corridors, dark skies, and natural quiet. The plan acknowledges, "Mining has never had a significant impact on Coconino County. However, many mining claims could be reactivated if markets for certain minerals—such as uranium—improve." Coconino County Board of Supervisors passed a resolution opposing uranium mining in proximity of the Grand Canyon National Park and its watersheds (Resolution No. 2008-09). The resolution requested a moratorium on the mineral leasing of State Trust lands and a permanent congressional withdrawal of the Tusayan Ranger District and House Rock Valley (the South and East parcels).

The proposed withdrawal would also take place in Mohave County, Arizona. Mineral withdrawal proposals are not included in the *Mohave County General Plan* (Mohave County 2008). The General Plan's Natural Resource Goals and Policy 5.1 states the County "should consider determinations made by the State Land Department, the BLM and other Federal agencies to identify and protect sensitive lands (wetlands, sensitive habitats and other valuable natural resources)." Mohave County passed Resolution 2009-040 on February 5, 2009. The resolution urges Congress to preserve access to the uranium reserves of northern Arizona in order to meet America's demand for clean non-carbon emitting energy and energy independence (Mohave County 2009). The proposed withdrawal is inconsistent with County Resolution 2009-040.

Consistency with Kane County's General Plan is not considered here as the proposed withdrawal area is not within the jurisdiction of Kane County, Utah. However, proposed withdrawal scenarios that would occur under any of the action alternatives, as described in Appendix B, Locatable Mineral Resources—Reasonably Foreseeable Development Scenarios, would be contrary to county Resolution 2008-10 (passed on May 12, 2008). The resolution says the county supports multiple uses on public lands in general and lists uranium mining as one of the uses that should continue (Kane County 2008). The proposed withdrawal is inconsistent with County Resolution 2008-10.

Consistency with the general plans of Washington, Garfield, and San Juan Counties is also not considered for the same reasons as above. However, during the period between the Draft and Final EIS, all four southern Utah counties and Mohave County in Arizona formed the AZ/UT Coalition of Coordinating Counties. That body passed a unanimous resolution on April 18, 2011 opposing the proposed withdrawal. The proposed withdrawal is inconsistent with that resolution.

The Town of Tusayan was incorporated in Arizona in April 2010. The South Parcel includes lands that occur within the Tusayan General Plan. The Tusayan General Plan adopts all Coconino County codes and plans. Section 12–Industrial Zones states that mineral extraction operations require a conditional use permit (Town of Tusayan 2010).

See sections 3.16 and 4.16 for detailed discussion on local area communities.

1.5 IDENTIFICATION OF ISSUES

1.5.1 Process

Publication of the Notice of Intent (NOI) in the *Federal Register* on August 26, 2009, initiated the formal scoping process. The scoping comment period concluded on October 30, 2009. During the scoping period, BLM hosted two public meetings; the first was held on September 30 in Fredonia, Arizona, the second on October 15 in Flagstaff, Arizona. Pursuant to NEPA requirements, the scoping meetings were advertised in a variety of formats (*Federal Register*, news media, BLM website, and by mail), beginning at least 2 weeks prior to their scheduled dates. In each format, the advertisements provided logistics and explained the purpose of the public meetings, gave the schedule for the public scoping period, outlined additional ways to comment, and provided methods for obtaining additional information.

The public meetings were conducted in an open house format designed for attendees to view informational displays, ask specialists about the Proposed Action and the EIS process, and submit written or verbal comments. Meeting attendees signed in upon entering, at which time they were provided with handouts and informed of the meeting format and how to comment. The handouts and displays provided information about the following:

- NEPA process,
- proposed withdrawal background,
- proposed withdrawal schedule,
- preliminary issues to be analyzed in the EIS,
- proposed withdrawal location, and
- how to provide comments.

The public was afforded several methods for providing comments during the scoping period:

- Comments could be recorded on comment forms at the scoping meetings. Comment forms were provided to all meeting attendees and were also available throughout the meeting room, where attendees could write and submit comments during the meeting.
- Emailed comments could be sent to a dedicated email address: azasminerals@blm.gov.
- Individual letters and comment forms could be mailed via U.S. Postal Service to Bureau of Land Management, Mineral Withdrawal EIS, 345 East Riverside Drive, St. George, UT 84790.

During the scoping process, a number of issues were identified by the public, by BLM, and by cooperating agency managers and resource specialists. The Resource Advisory Council provided recommendations on issues and alternatives to consider.

What Is an Issue?

Issues are usually expressed in terms of actual or perceived effects, risks, or hazards that a particular land or resource use may have on other lands or resources that are used or valued for other purposes.

One purpose of scoping is to provide an opportunity for members of the public to learn about the proposed withdrawal and to share any concerns or comments they may have. Input from the scoping process is then used to identify issues and concerns to be considered in the EIS. In addition, the scoping process helps identify potential alternatives to the Proposed Action as well as issues that are not considered significant and that can therefore be eliminated from detailed analysis in the EIS. The list of stakeholders and other interested parties is also updated and generally expanded during the scoping process.

The BLM received a total of 83,525 individual comment submittals during the public scoping period from 90 countries. Approximately 97% of these submittals consisted of 15 different form letters; other submittals included emails, BLM-furnished comment forms, and letters and faxes. Comments obtained during the scoping period were used to define the relevant (i.e., significant) issues that would be addressed in the EIS, as well as to assist in development of the alternatives. Scoping comments were analyzed and placed in one of two categories: 1) issues identified for analysis in the EIS (see Section 1.5.2); and 2) issues eliminated from detailed analysis because they are beyond the scope of the EIS (see Section 1.5.3).

1.5.2 Issues for Analysis

Substantive issues and concerns expressed during the agency and public scoping period were grouped by topic in the following categories:

- Air quality/climate
- American Indian resources
- Cultural resources
- Wilderness
- Mineral resources
- Public health and safety
- Recreation
- Social conditions
- Economic conditions
- Soil resources
- Soundscapes
- Special status species
- Vegetation resources
- Visual resources
- Water resources
- Fish and wildlife resources

Issue statements were then developed that describe the relevant issues identified during scoping to be analyzed in the EIS. The issues are described below in Table 1.5-1 and follow the general organization of EIS Chapters 3 and 4. Issues include those raised by agencies, the general public, interest groups and

businesses, and the Resource Advisory Council. The issues represent topics for analysis, not conclusions regarding environmental effects.

Table 1.5-1. Description of Relevant Issues for Detailed Analysis

Resource Category/ Issue	Description of Relevant Issue
Air Quality and Climate	
Release of particulates	The release of particulates (dust) from exploration drilling operations, mining, and ore hauling traffic and other vehicles on unpaved roads could have an effect on the regional air quality. This could occur in combination with pre-existing emissions from coal plants, cities, traffic, and other sources of regional air pollution to create a cumulative regional effect on air quality.
Increase in regional haze	Increase in regional haze emissions from all exploration and development activity and equipment could contribute to the regional haze affecting air quality in the study area, as well as affect overall scenic quality.
Geology and Mineral Resources	
Change in underground geological conditions	Mining of uranium deposits would alter conditions underground, which could allow uranium and other minerals to be mobilized, entering the groundwater system. It has also been suggested that mining uranium deposits could remove a potential source of long-term contamination.
Availability of mineral resources	Providing a domestic source of mineral resources is one of the legitimate uses of public lands. Restrictions or closures individually and cumulatively decrease this ability, and substantial energy potential would be unavailable if the proposed withdrawal is put into effect.
Depletion of uranium resources	Mining these uranium deposits in the near future will deplete domestic resources that may be needed later for energy production or national security purposes.
Water Resources	
Dewatering of shallow perched aquifers	Mining of some uranium deposits would penetrate near-surface aquifers and could dewater them. The resulting water loss could affect nearby springs or shallow water developments.
Surface runoff from active or reclaimed mines	Surface runoff from active or reclaimed mine sites could contain elevated uranium and other metals, which would affect downstream water quality.
Contamination of deep regional aquifers by metals leached from mined ore deposits	Mining of uranium ore deposits could change the flow of groundwater and increase the leaching of metals into the deep groundwater aquifers (e.g., Redwall Limestone). This leaching could occur both during mining and after mine closure and could affect downgradient water quality. There are scientific uncertainties associated with understanding the hydrogeology and connections between groundwater and surface water systems, as well as how potential contamination in those systems would travel. The potential to contaminate water in the Grand Canyon region, including seeps and springs, thereby impacting water quality and biotic communities at discharge points, is an issue.
Contamination or loss of the Tusayan municipal water supply	The potential for the Tusayan municipal water supply to be affected by nearby uranium exploration or development activity is an issue.
Contamination of municipal water supplies derived from the Colorado River	The potential for elevated uranium and other metals, in either surface water or groundwater, to enter the Colorado River and contaminate the major downstream municipalities' primary source of drinking water in several western states is an issue.
Soil Resources	
Disturbance of soil resources	Soil resources in the area are valuable and could be difficult to re-establish once disturbed by exploration and development.
Loss of soil productivity	Erosion on disturbed or reclaimed lands could result in long-term loss of soil productivity, creating potential short-term, long-term, and cumulative environmental impacts on soils and overall watershed function.

Table 1.5-1. Description of Relevant Issues for Detailed Analysis (Continued)

Resource Category/ Issue	Description of Relevant Issue
Vegetation Resources	
Disturbance of vegetation	Vegetation in the area could be difficult to re-establish once disturbed by exploration and development. Riparian vegetation could be affected by changes in groundwater conditions.
Vegetation productivity	Erosion on disturbed or reclaimed lands could result in long-term loss of soil cover and vegetation productivity.
Special status species (Vegetation)	The potential short-term, long-term, and cumulative environmental impacts of uranium exploration and development on threatened, endangered, proposed, candidate, and sensitive species and their critical habitat are an issue. For vegetation species, these are usually direct impacts tied to surface disturbance; for species that rely on groundwater in the area, springs and seeps are significant.
Fish and Wildlife Resources	
Wildlife habitat	Issues associated with wildlife habitat include fragmentation of habitat by construction of new roads and transportation of uranium ore, noise from exploration or development activities that disrupts wildlife, wildlife disturbed by visual instructions such as moving vehicles or equipment, and loss of habitat from surface disturbance or introduction of invasive species. Uranium mining could affect groundwater resources through groundwater contamination or depletion at springs, caves, seeps, and creeks; this in turn could affect species associated with these areas. Aboveground deposits on soils, plants, and surface water can expose a variety of biota to chemical and radiation exposure.
Wildlife populations	The potential loss of critical wildlife winter range and the potential for activity to occur in critical calving or fawning areas or to disrupt nesting habitat, etc., are an issue.
Wildlife mortality	The increase in vehicle traffic associated with increased uranium exploration and development or increased recreational use on new roads could cause increased vehicle/wildlife accidents and associated wildlife mortality.
Special status species (wildlife)	The potential short-term, long-term, and cumulative environmental impacts of uranium exploration and development on threatened, endangered, proposed, candidate, and sensitive species and their critical habitat are an issue. For wildlife, these issues are usually indirect impacts associated with disturbance of habitat, loss of habitat, and contamination of habitat (including aquatic habitat), such as effects on area springs and seeps, increased noise, and increased traffic.
Visual Resources	
Changes in regional visual quality	Exploration and development activity would release pollutants, which could increase regional haze (see Air Quality issue) and result in changes in visibility that could affect the scenic quality of the region.
Visual intrusion to Park visitors	Exploration and development activity may be visible to Park visitors, either from key observation points within the Park or from areas in the backcountry of the Park. This could detract from visitors' experiences.
Visual intrusion to public outside the Park	Exploration and development activity may be visible to the public, either from key observation points or from areas in the backcountry. This could detract from visitors' experiences. The potential short-term, long-term, and cumulative impacts from mineral exploration and development activities on the area's visual quality and recreation use patterns are an issue. There could be a conflict between mineral exploration and development activities and Visual Resource Management classes.
Soundscape	
Noise disruption from exploration or development activity	Noise from exploration and development activity could disrupt the solitude of visitors to the area, including visitors to the Park. The areas subject to noise effects and the intensity of sound from these activities need to be evaluated.
Cultural Resources	
Disturbance of historic and prehistoric sites	Surface disturbance associated with exploration or development activity could expose and cause damage to archaeological sites. Visual and atmospheric changes could adversely affect the integrity of site settings and cultural landscapes. It may not be possible to mitigate all adverse effects through scientific data recovery.
Effect on TCPs	Surface disturbance associated with exploration or development activity could disrupt the setting or integrity of TCPs such as the Red Butte area on the Tusayan Ranger District or other TCPs located in or near the parcels.

Table 1.5-1. Description of Relevant Issues for Detailed Analysis (Continued)

Resource Category/ Issue	Description of Relevant Issue
American Indian Resources	
Disturbance of traditional cultural practices and uses	Mineral exploration and development activity could affect the integrity of religiously and culturally significant sites and landscapes and could disrupt traditional practices and uses. Such practices include ceremonial activities, gathering of plants or other natural resources, and use of springs and trails. Tribes have expressed concerns about potential disturbance and contamination of culturally important resources.
Protection of tribal trust resources or assets	Tribal trust resources and assets are property, or property rights or interests, actually owned by a tribe. These may include property or rights located on- or off-reservation. As a trustee for the tribes, the federal government has the responsibility to preserve and protect tribal trust resources and assets from loss or degradation. One trust resource issue is the potential contamination of Havasupai Springs and the economic impact of reduced tourism for the Havasupai Tribe if the springs were to be contaminated.
Wilderness	
Wilderness Areas	Designated wilderness is already withdrawn. However, mining adjacent to Wilderness Areas could affect the wilderness characteristics of these lands, including lands managed as wilderness in Grand Canyon National Park.
Recreation	
Roads and access	Development of roads for mineral exploration and development could both facilitate access for some recreation users and provide too much public access in areas currently used for more primitive recreation. Uranium exploration and development in the area may create conflicts between tourism and mining-associated development and traffic.
Primitive recreation opportunity	Changes in amount of mineral exploration and development activity would change visual and auditory conditions, which in turn could affect primitive recreation opportunities in the area. The potential for water contamination and impacts to area seeps and springs, as well as recreation users, including river runners, backpackers, and hikers in the Park, is an issue.
Social Conditions	
Population trends	There could be changes in population levels associated with decreased mineral exploration and development activity under a withdrawal. Likewise, the continued mineral development in the absence of a withdrawal could involve local population increases, as additional workers are required. Increases in population increase the demands on local infrastructure such as schools, roads, and emergency services. Decreases in populations, while decreasing the demand for such services, can also reduce revenue available to support services.
Road condition, maintenance, and safety	The total number of ore truck trips that would be required for mineral exploration and development activity would affect the region's resources. The use of road systems to service mine operations requires increased maintenance of the transportation infrastructure. This includes use for ore transport and employee access. Mineral exploration and development activity could provide funding from property and use taxes for maintenance needs. Decreases in activity mean less maintenance along with less potential revenue. The increased traffic volumes, roadway use conflicts between haul trucks, local residents, and visitors to the region, and highway safety concerns are an issue.
Public health effects	The transportation of uranium ore between mines and the mill raises questions about potential public exposure to uranium-bearing dust or ore in the event of an accident and release during ore transport. There are concerns about the potential short-term, long-term, and cumulative environmental impacts of uranium exploration and development activity, including toxic waste hazards, on human health. Potential human health impacts that could accompany mining and any resulting accumulation of uranium in water, soils, and airborne particulate matter in the Grand Canyon region and in the Colorado River and its tributaries are an issue.
Environmental justice	The 1994 EO (12898) on environmental justice requires federal agencies to address environmental justice when implementing their respective programs. Environmental justice is the equitable distribution of project benefits and risks with respect to low-income populations and minority populations. In the case of uranium mining, it is the distribution of the project benefits, primarily economic, compared with the distribution of the project impacts such as pollution or risk of pollution, that is the issue.

Table 1.5-1. Description of Relevant Issues for Detailed Analysis (Continued)

Resource Category/ Issue	Description of Relevant Issue
Economic Conditions	
Energy resources available	The withdrawal could lead to increased reliance on energy sources other than nuclear, such as additional mining elsewhere, imports of uranium from foreign sources, or production from equivalent amounts of other sources like coal, petroleum, natural gas, wind power, or solar.
Effects on economic activity from tourism	Tourism represents a large component of the economic activity for many communities in the region and for the state. The manner and degree to which continued mining could change the nature and quality of the natural resources that attract tourism are an issue. Specifically, the potential for uranium exploration, development, and haulage to disrupt visitor experiences could impact the regional tourist economy. The regional tourism economy is connected to the Grand Canyon in terms of jobs, annual revenues, and tax revenues across different tourism sectors.
Economic activity from mineral development	Mineral resources and the benefits associated with mineral extraction would be foregone or potentially foregone should the proposed withdrawal go into effect. Mineral exploration and development activity represents a large component of the economic activity for many communities in the region. The manner and degree of the proposed withdrawal could directly affect the economic activity in the area, particularly in smaller communities.

1.5.3 Issues Eliminated from Detailed Analysis

Issues beyond the scope of the EIS include issues not directly related to decisions to be made regarding the proposed withdrawal and issues that are not relevant to the purpose of and need for action. Also, issues more properly considered at a different level of analysis or by a different entity have been eliminated from detailed analysis.

The following issues have been eliminated from detailed analysis because they are beyond the scope of the EIS:

- Revision of the Mining Law.
    - Revision of the Mining Law of 1872 is out of the scope of the decision to be made in this EIS; any changes to the law would require Congressional action.
- The assertion that mining companies have been allowed to exploit public lands without giving the American people a fair return for their use (i.e., charging a royalty on mine production).
    - Charging or changing royalties on mineral production is out of the scope of the decision to be made in this EIS; any change to royalties and taxes would require Congressional action.
- Illegal activities such as poaching, vandalism, and unauthorized collection of cultural artifacts, or unauthorized OHV travel; these are law enforcement issues.
    - Illegal activities, as mentioned, are law enforcement issues and not relevant to the decision to be made in this EIS. This EIS studies the impact of withdrawing lands from the Mining Law and illegal activities that may occur within the proposed withdrawal area are not considered as an impact in that action.
- Acid deposition or acid rain from power generation and its effects on flora or fauna.
    - This EIS studies the impacts of withdrawing lands from the Mining Law. Acid deposition of acid rain from power generation is unrelated to the impacts of withdrawal and the decision to be made.

- Analysis of specific alternative energy sources (e.g., wind or solar) to employ and where to employ them as substitutes for uranium resources made unavailable if lands in the area were to be withdrawn.
    - Alternative energy sources have no relevance to the decision to withdrawal lands from the Mining Law. The EIS does not analyze uranium as an energy source.
- The role of nuclear energy in the nation's energy future.
    - Analysis of the nuclear energy industry is outside of the scope of the decision to be made in this EIS. This EIS analyzes the impacts of withdrawing lands from the Mining Law. There is no way to determine what the uranium ore extracted from the withdrawal area, once processed, would be used for and where it in the world it might end up.
- The amount by which the use or non-use for energy production of uranium found in the proposed withdrawal area could change global temperatures.
    - Analysis of energy production from uranium extracted from the proposed withdrawal area is outside of the scope of the decision to be made. The decision to be made is on withdrawal of lands from the Mining Law. In addition, it would be impossible to determine how the uranium extracted from the withdrawal area is used, after processing. Processed uranium is sold on the open market and used for a variety of purposes, beyond energy production.
- The extent to which uranium energy production offsets the use of carbon-based fuels that contribute to the release of greenhouse gases (GHGs), which have been linked to global climate change.
    - This is outside of the scope of the decision, as stated above. However, this EIS does analyze the Proposed Action's impacts on GHGs in Section 4.2, Air Quality and Climate.
- National defense use of uranium.
    - This is outside of the scope of the decision, as stated above.
- Disposal of spent nuclear fuel.
    - This is outside of the scope of the decision, as stated above.
- Alternate locations besides the White Mesa Mill in Blanding, Utah, in which mined uranium should or should not be processed, stored, or sold.
    - It is assumed in this EIS that uranium ore in the region will continue to be processed at the White Mesa Mill in Blanding, Utah, because the quantity of uranium ore determined in the Locatable Mineral Resources—Reasonably Foreseeable Development Scenarios (see Appendix B) can be met by current milling capacity.

1.5.4 Changes from Draft to Final

Most changes made to the EIS were editorial or clarified the EIS in response to public comments. However, in response to public comment and to correct errors discovered after release of the DEIS, the sections discussed below did undergo some changes beyond those of an editorial or clarifying nature. As explained further below, BLM did not substantially alter the Proposed Action or any of the alternatives in a way that is relevant to environmental concerns. In addition, none of the information relied upon in support of these changes constitutes significant new information relevant to environmental concerns and bearing on the proposed action or its impacts. Therefore, supplementation of the DEIS is not required under CEQ regulations at 40 CFR 1502.9(c). None of the comments resulted in a substantial alteration to the Proposed Action and, to the extent any of them relied on new information, that information was not

sufficient to show that the Proposed Action would affect the quality of the human environment to a significant extent not already considered.

Withdrawal Area Boundaries

Adjustments were made to the North and South Parcel boundaries to correct for mapping errors found subsequent to the DEIS. The North Parcel was adjusted to remove portions of the already-withdrawn Kanab Creek Wilderness from the proposed withdrawal, as well as to add a 1-mile-wide rectangular parcel in the extreme southeast corner that had mistakenly not been included in the DEIS description of the proposed withdrawal. Overall, North Parcel acreage changed from 554,124 to 549,995 acres. The South Parcel was adjusted by removing four small, separate parcels from the proposed withdrawal (one along the western boundary, two along the southern boundary and one along the eastern boundary.) In addition, updated data representing the federal mineral estate on the South Parcel resulted in a total decrease of 102 acres from the DEIS to the FEIS. There were no changes to the East Parcel boundary. The changes in the boundary are minor and do not constitute a substantial change to the proposed action; nor do they result in significant changes to the environmental impacts.

Air Quality

Adjustments were made to the North and South Parcel's total number of haul trips under each of the Alternatives. These adjustments were made to correct errors found subsequent to the DEIS to account for underestimation of the number of haul trips associated with the existing mines. These adjustments resulted from changes made to the RFD; these changes were based on information provided by commenters that modified the amount of uranium expected to be extracted from the four mines with approved plans of operation. The total numbers of haul trips originating from the North Parcel were adjusted from 208,385 to 221,298 for Alternative A; 86,065 to 98,978 for Alternative B; 119,425 to 132,338 for Alternative C; and 197,265 to 210,178 for Alternative D. The total numbers of haul trips originating from the South Parcel were adjusted from 69,540 to 73,967 for Alternative A; 2,820 to 7,247 for Alternative B; 36,180 to 40,607 for Alternative C; and 47,300 to 51,727 for Alternative D. The total numbers of haul trips originating from the East Parcel were not adjusted as there are no existing mines. The resultant increase in pollutant emissions was calculated based on those adjustments. Overall, the adjustments resulted in increases in pollutant emissions under all of the Alternatives. The changes were necessary to account for changes in the RFD. No changes were made to the proposed action as result of these adjustments. In addition, there was no new information resulting in these changes; rather, there were errors made in the calculation. These adjustments also do not result in significant changes to the Air Quality impact analysis.

Vegetation, Fish and Wildlife, and Special Status Species

The BLM Sensitive Species list was updated from the BLM 2005 and 2008 special status species lists used in the DEIS to the BLM January 2011 special status species list. The January 2011 species list removed several species and added several new species to include in the analysis. The updated species list includes three new birds, five new mammals, two new amphibians, four new plants, and the removal of four mammal and three plant species. Available information regarding these species does not indicate the Proposed Action would have significant impacts not already analyzed in the DEIS. The physical characteristics, habitats, and behaviors of these species are not significantly different from the species analyzed in the DEIS and any impacts to these newly listed species from the Proposed Action are anticipated to be similarly beneficial (USFWS 2011). Thus, new information in the 2011 special status species list did not show that the proposed withdrawal would have impacts on special status species to a significant extent not already considered in the DEIS.

Cultural Resources

The Cultural Resources analysis (Sections 3.11 and 4.11) was updated to reflect adjustments made in the proposed withdrawal boundary. The overall number of sites in the North Parcel was adjusted from 743 to 623 sites. No change in the numbers of sites in the East and South parcels was necessary. The changes in the boundary are minor and do not constitute a substantial change to the proposed action; nor do they result in significant changes to impacts to cultural resources.

Wilderness and Wilderness Characteristics

The discussion of wilderness characteristics in the DEIS was removed from the wilderness resources section and moved to its own section in the FEIS based on BLM Instructional Memo (IM) 2003-275. Internal scoping on the DEIS recommended that wilderness characteristics be included as a separate section of the FEIS. In addition, public comments on the DEIS that questioned how the proposed withdrawal is consistent with the purposes of the Arizona Wilderness Act of 1984 warranted additional discussion. The nature of the potential impact to wilderness resources did not change.

Recreation

Due to the proposed withdrawal boundary revision, individual and total acreages of the route network and Recreation Opportunity Spectrum were revised in the FEIS. This revision was necessary for an accurate analysis of the potential effects to recreation resources. The boundary change from the DEIS to the FEIS removes certain ROS acreages from the withdrawal parcels. Thus, a minor change in the nature of potential direct impacts to primitive and unconfined recreation settings within the proposed withdrawal parcels has resulted. The changes in the boundary are minor do not constitute a substantial change to the proposed action; nor do they result in significant changes to impacts on recreation.

Social Conditions

Due to numerous public comments on the DEIS, an adjustment to the social conditions study area was made between the DEIS and FEIS; in the DEIS, the study area included five counties (Coconino and Mohave Counties in Arizona and Kane, San Juan, and Washington Counties in Utah); communities and counties within 50 miles of the proposed withdrawal parcels were described. For the FEIS, the study area was revised to include Garfield County.

For the demographics and economic conditions discussion in the FEIS, the six-county study area was further divided into two portions (north and south) to recognize the natural and economic barrier that results from the presence of the Grand Canyon and to better define demographic and economic impacts by location. Additionally, the FEIS now focuses on the communities in close proximity to the withdrawal areas or to the mill in Blanding, Utah, and are therefore the most likely to be affected by the withdrawal scenarios; these include Colorado City, Fredonia, Bitter Springs CDP, Page, and Tusayan CDP in Arizona and Kanab and Blanding in Utah. This was not based on any significant new information. Instead, the changes were made to better focus the social conditions impacts analysis on the counties most likely to be affected.

Finally, in response to public comments on the DEIS, the environmental justice analysis was revised in two primary ways. First, if the minority or low-income population statistics for a given community did not exceed 50%, the DEIS used each county that a community was located in as a reference area to identify the presence of an environmental justice community. For this analysis, based on guidance and methodologies recommended in the federal CEQ's Environmental Justice Guidance under the National Environmental Policy Act (December 1997), a low-income population exists where either the low-income

population of the affected area exceeds 50% or the low-income population percentage of the affected area is meaningfully greater than the low-income population percentage in the general population or other appropriate unit of geographic analysis. For instance, in the DEIS the communities in Coconino County were compared to the minority and low-income (below poverty level) statistics for the county as a whole. For the FEIS, the states (Arizona and Utah) were used as a reference area to identify the presence of an environmental justice community, if the minority or low-income statistic was lower than 50%. Second, the DEIS analysis (Section 4.15) concluded that impacts to environmental justice communities would be the same for non-environmental justice communities, and therefore they would not be disproportionately impacted. As a result of public comment on the DEIS and additional interagency consultation, the assumption that impacts to environmental justice communities would be the same for non-environmental justice communities was not used in the revised FEIS analysis; the communities identified to be environmental justice communities (see 3.16.1) located closest to the proposed withdrawal area were identified to be the most likely to experience a disproportionate impact. There would be no environmental justice impacts under Alternatives B and C; however, Alternatives A and D could result in minor, long-term disproportionate health impacts to environmental justice communities. To the extent this is new information, because the impacts do not rise to the level of significance, these changes do not warrant supplementation. That is, there were no significant impacts identified not already considered in the DEIS.

Economics

Section 4.17, Economic Conditions, has been revised to respond to comments addressing the economic and fiscal impacts of mining activity under each alternative. These changes are summarized below and are also addressed in detail in the responses to public comments table in Chapter 5. The revised economic impact methodology is discussed in greater detail in Section 4.17. Although the revised analysis resulting from public comments corrected assumptions underlying the economic impacts of the proposed withdrawal under each of the alternatives, including the No Action (Alternative A), as explained further below, the FEIS comparisons and conclusions are not markedly different from those presented in the DEIS.

Both the description of the affected environment for economics and the economic effects analysis in the DEIS (Section 3.16 and Section 4.16 of that document) were the subject of many comments. While some of these comments focused on relatively minor issues in terms of presentation or interpretation, other comments substantively focused on the analysis of the economic and fiscal benefits of mining activity under each alternative.

After review, BLM determined that it needed to revise the economic analysis in the DEIS to address two issues. First, the direct job impacts analysis underestimated the number of direct job-years per mine. In particular, that analysis was based on direct jobs *per phase* of mining operations; however, the direct jobs calculation failed to recognize that most mining phases span more than one year. This resulted in an underestimate of the number of direct jobs per mine, and, since indirect and induced jobs were based on the number of direct jobs, also resulted in an underestimation of those types of jobs.

Second, when the DEIS used the IMPLAN model to calculate the impacts of mining under each alternative on output, value-added, and fiscal conditions, it allocated the jobs for each alternative to various sectors outside the mining sector (specifically, consulting services and mining support sectors) in the model instead of allocating these jobs only to the mining sector. The allocation of these jobs to sectors outside the mining sector contributed to inconsistencies between the RFD's total value of production per year and that estimated by the DEIS's use of the IMPLAN model, as well as overestimation of the value-added and fiscal impact estimates for each alternative. As a result, the economic impact analysis was revised and appears in Section 4.17 of this document. The largest differences in the analysis of the economic benefits of mining are in terms of direct and total mining-related jobs – where the FEIS estimates are higher than those of the DEIS, 536 total annual jobs for

Alternative A in the FEIS versus 332 in the DEIS. The differences between estimates in the FEIS versus DEIS in the other metrics (e.g. output, value-added and fiscal conditions) are much smaller. This is because both the DEIS and FEIS account for the multi-year phases of mining operations when calculating output, value-added, and fiscal conditions.

Although the baseline discussion of economics in chapter 3 and the analysis of economic effects in chapter 4 have changed, the changes do not result in a significant difference in impacts reported for the Proposed Action or any analyzed alternatives than that reported in the DEIS. The revised methodology produces economic impact estimates that are consistent with both the assumptions made in the RFD (upon which the analysis of environmental consequences is based) concerning total uranium production under each alternative and its value, and the assumptions provided by industry concerning the number of jobs needed per mine, by phase of mining activity. The DEIS and the FEIS both applied consistent methods in estimating the economic impacts of mining for each alternative. Consequently, the relative economic impacts of the alternatives (e.g. the ratios of estimated economic activity between the various alternatives) are similar in both analyses. Much of the data used in the FEIS is not new, but rather is being applied in ways that correct errors from the DEIS. Any new information included in the FEIS provides a more accurate, localized analysis than that conducted in the DEIS.

Other refinements to the economic analysis are:

1. Dividing the study area into two pieces (north and south) to recognize the natural and economic barrier that results from the presence of the Grand Canyon and to better define economic impacts by location.
2. Moving away from the use of national tourism impact ratios to estimate the size of the tourism-related economy and instead using published information from National Park Service-funded studies concerning the economic impacts of the specific National Parks, National Monuments and National Recreation Areas in the study area.
3. More explicitly recognizing key uncertainties, limitations and unknowns in the economic effects analysis.

Supplementation is not required as a result of these changes. First, the more explicit recognition of uncertainties, limitations and unknowns is not based on new information at all; rather, these revisions were made in response to comments and make the document more clear with regard to those issues. In other words, there was no change in the analysis relating to environmental concerns; rather, these revisions more explicitly acknowledge the uncertainty existing in that analysis. Similarly, dividing the study area into two pieces was not based on significant new information. Instead, BLM acknowledged comments that the two areas are different economically and therefore decided to discuss them separately to provide greater ability for comparison of economic impacts in each area. This revision simply provides more specificity and context with regard to economic impacts in each area.

In addition, the change from using national tourism-impact ratios to using site-specific data is not based on new information relevant to environmental concerns. Indeed, this refinement did not result in a change to the impacts analysis as both the DEIS and FEIS acknowledge that available information indicates that there would be no more than minor effects to tourism under any of the alternatives. Instead, this discussion is informational and to provide context regarding the economic impacts from mining under each alternative.

Finally, the correction of the number of mining jobs and the modified utilization of the IMPLAN model are not based on new information but rather revise the way existing information is used. That is, the revisions to the analysis to (1) acknowledge that many phases of mining operations span multiple years and (2) modify the use of the IMPLAN model with regard to allocation of mining jobs, do not rely on

new information regarding those issues; instead, they simply revise two aspects of the methodology with respect to how jobs and economic impacts are calculated.

To the extent this is considered to be new information or circumstances, it is not significant and not relevant to environmental concerns or impacts. The environmental impacts of the alternatives are based on the RFD, and, as noted above, these changes make the economic impact analysis consistent with the RFD's estimates regarding economic output of each mine. Since the RFD did not change, there was no change to the EIS's analysis of environmental impacts as a result of these revisions. Moreover, as noted above, the revisions did not result in significant differences in the relative economic impacts of each alternative between the DEIS and FEIS. The ratio of total jobs for a particular alternative compared to total jobs under the no action alternative (Alternative A) is similar as between the DEIS and FEIS. Thus, any new information related to the impacts on mining jobs and allocation of those jobs in the IMPLAN model does not result in environmental impacts of the proposed action to a significant extent not already considered.

Reasonably Foreseeable Development Scenarios (Appendix B)

The RFD discussion was changed to better reflect that commodity prices were not expected to be stable, but rather that commodity prices were expected to stay at or higher than a level that would support continued uranium mining.

Based on comments regarding the estimate of uranium quantity, the methodology was changed for estimating the amount of uranium present in the four mines with approved plans of operation. In the DEIS, the amount of uranium estimated to be present in these four mines was based on reserve estimates published in regulatory filings. However, commenters provided historical data demonstrating that published reserve estimates are consistently substantially lower than the amount actually mined. On average, the amount of uranium actually mined is 2.57 times greater than the amount originally estimated solely from surface drilling. Incorporating this change resulted in an increase of the amount of uranium expected to be mined from each location by a factor of 2.57. This change only affected the four mines with approved plans of operation; the average amount of uranium associated with mines not yet developed or discovered was already based on the actual amounts of uranium historically mined instead of reserve estimates from surface drilling. This change primarily affected calculations in the Geology Sections (3.3 and 4.3) and the estimated number of haul trips needed as cited in Chapter 2, Alternatives, and a number of other resource-specific sections of the FEIS. Because the amount of uranium associated with mines with approved plans of operation represents only a portion of the total amount of uranium available within the withdrawal area, the total estimated uranium reserves themselves did not change by the same factor. The increase in mined uranium ranged from 16% under Alternative A to 61% under Alternative B. The impact conclusions relative to haul trips were not altered as a result of these changes. Thus, there was no new information (significant or otherwise) relevant to environmental concerns. Any new information related to the amount of uranium actually mined relates only to the four mines that are projected to be mined under all withdrawal alternatives and thus does not change the basis for comparison between the alternatives. As noted, it also did not change the impact conclusions from the resulting increase in haul trips. It therefore does not result in environmental impacts of the proposed action to a significant extent not already considered.