ENERGY IN NATIONAL MONUMENTS
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ENERGY IN NATIONAL MONUMENTS

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EXECUTIVE SUMMARY

Background

The 1906 Antiquities Act made it possible for the President to designate an area a national monument, thus limiting the activities that are allowed within the monument. The act was born out of a growing movement during the late 19th century to preserve archaeological sites, especially those in the Southwest (McManamon, 2000). Section 2 of the American Antiquities Act of 1906 allows the President to establish national monuments in areas that include “historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest,” located on public lands.

Although some public lands like Yellowstone National Park had already achieved some level of protection, the Antiquities Act changed the nature of public lands protection. For national parks and reserves to gain federal protection, both Congressional and Presidential approval is necessary. After passage of the Antiquities Act, national monuments can be established quickly through presidential action alone (McManamon, 2000). Further, although the act calls for the protection of “the smallest area compatible with proper care and management of the objects to be protected,” monuments often encompass large areas of land. President Bill Clinton, for example, designated Grand Staircase-Escalante National Monument in 2000, which covers almost 1.9 million acres of land in southern Utah (Bureau of Land Management, 2013).

The broad powers granted by the Antiquities Act generate controversy when local residents and officials disagree with the President about the status of national monuments (Simmons, Yonk & Steed, 2011). The President, often without input or discussion with outside parties determines the size, boundary lines, restrictions on extraction of resources, and other elements of protection. This lack of an open dialogue generates conflict between the administration, interest groups, and local communities.

In this report we explore potential energy resources located in national monuments across the U.S. Below we present twelve case studies exploring the conflicts between national monument management officials and residents. Each case study includes information on the geography of the national monument and tells the
story of the parties involved in the monument’s designation and use. These stories illustrate how the given monument’s designation affects organizations and individuals by limiting how the land can be used. Each case also outlines potential conventional and renewable energy resources located within the monument and includes an overview of relevant regulations. Each case study is written as a standalone document so that interested parties can read either all twelve cases or just focus on a single example.

Data for this report were primarily taken from the U.S. Energy Information Agency, U.S. Geological Survey, National Park Service, and U.S. Department of Energy. Information from local organizations’ websites and newspapers was also used. We used these various sources to create a picture of energy resources in national monuments that is as complete as possible.

Summary of Results

In exploring the natural resources in each national monument we considered both conventional, fossil fuel-based energy potential as well as renewable energy potential. We found that five out of the twelve monuments explored in detail had significant potential for oil and coal development, and these findings are shown in Table 1.1. Four monuments had potential for natural gas development and three monuments showed significant potential for the development of energy from shale. Out of the five monuments with some possibility of conventional energy development, all have the potential for more than one type of fossil fuel based energy development. Dinosaur, Colorado, and Canyons of the Ancients National Monuments all have potential for oil, natural gas, coal, and shale production.

As Table 1.1 shows, Dinosaur, Grand Staircase-Escalante, Colorado, Upper Missouri River Breaks, and Canyons of the Ancients National Monuments all have identifiable oil production potential. Natural gas production is possible in Dinosaur, Colorado, Upper Missouri River Breaks, and Canyons of the Ancients National Monuments. Coal could be produced in Dinosaur, Grand Staircase-Escalante, Colorado, Upper Missouri River Breaks, and Canyons of the Ancients National


Monuments. Dinosaur, Colorado, and Canyons of the Ancients are the only three that have potential for development of energy from shale.

To craft a more complete picture of the energy resources locked away in national monuments we must also explore renewable energy potential. We examined solar, geothermal, and wind energy potential in each of the twelve case studies and our results are outlined in Table 1.2. Ten monuments had the potential for at least one type of renewable energy development with the majority of these examples being solar potential. Four monuments had the potential for more than one of these types of renewable energy development.

As Table 1.2 shows, Grand Staircase-Escalante, Santa Rosa and San Jacinto Mountains, Giant Sequoia, Colorado, Grand Canyon-Parashant/Vermilion Cliffs, Organ Pipe Cactus, Ironwood Forest, and Canyons of the Ancients National Monuments all had potential for solar energy production. Only Organ Pipe Cactus National Monument had the potential for development of geothermal energy. Potential wind energy was found in Cape Krusentstern, Santa Rosa and San Jacinto Mountains, Grand Canyon-Parashant/Vermillion Cliffs, and Upper Missouri River Breaks National Monuments. Only Dinosaur and Admiralty Island National Monuments had no identifiable potential for any of these three types of renewable energy.

Under the Antiquities Act and through their respective management plans, national monuments fall under strict protection. Because of this, development of potential energy resources is often impossible. This study shows the opportunity cost of designating national monuments by illustrating how much of our potential energy is locked up in these protected public lands.
References


Table 1.1 Nonrenewable Energy Sources in National Monuments

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<th>NATIONAL MONUMENT</th>
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Table 1.2 Renewable Energy Sources in National Monuments

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CASE STUDIES

Canyons of the Ancients National Monument

Geography

Canyon of the Ancients National Monument is located in southwestern Colorado, about nine miles from the city of Pleasant View (Wolfe, 2012). Canyons surround the monument's northern and eastern boundaries. The Colorado-Utah state line makes up its western border and the Ute Mountain Reservation and McElmo Creek form the southern border (Woodall, n.d.). The natural landscape of the monument consists of the “...expansive vistas, high rocky mesas and plateaus, and deep canyons” typical of harsh western desertscape (Woodall, n.d.). The approximate 164,000 acres of land host numerous archaeological sites that are ancestral homes to twenty-five different tribal nations (Wolfe, 2012; National Geographic Society, 2011).

Interested Parties

Canyon of the Ancients was set aside as a national monument by President William J. Clinton on June 9, 2000. President Clinton used his authority under the Antiquities Act to preserve nearly 164,000 acres and 6,000 archaeological sites belonging to the Ancestral Pueblo people (Wolfe, 2012). At the time of the monument’s designation, oil and gas leases covered about 85% of the land (Binkly, 2002). In August of 2002, Western Geophysical brought in “thumper trucks” to explore for oil and gas after the BLM had determined in an environmental impact statement that the project would result in “little lasting damage” (Binkly, 2002). Four environmental groups sued to prohibit the British-based company from continuing their project, claiming the company’s plan was prohibited the monument’s protected status (Binkly, 2002).

Many energy production and exploration companies, including Kinder Morgan CO2 Co., Robert L. Bayless Producer LLC, Bill Barrett Corp., Questar, and DJ Simmons Inc., protested against the management plan, arguing that it would affect “…oil and gas leasing and development” (Binkly, 2010). The Ute Mountain Ute tribe, environmental organizations, grazing-related organizations, and the county
commissioners for Colorado counties Dolores and Montezuma also protested the management plan. These groups raised concerns regarding protection for endangered species and wilderness area, the potential closing of roads, and possible limits on the number of grazing allotments and oil and gas permits within the monument that were detailed in the management plan (Binkly, 2007; Binkly, 2011). Despite these concerns the BLM has moved forward and implemented a new land management plan.

Natural Resources

Since the monument’s conception, over 6,000 archaeological sites have been documented and thousands more may exist, spurring conflict in the management plan process because traditional and renewable energy sources are available within the monument’s borders (AP, 2006). About 80% of the monument’s land is under lease for energy development, and the Approved Resource Management Plan now allows new oil and gas leases on up to 880 acres of land (US DOI, 2010). Additionally, an Environmental Assessment for Questar Exploration and Production Company specifically cites the Hovenweep Shale play as an area with promising oil shale potential (Permits West, Inc., 2009).

Any new oil and gas leases will be required to adhere to a No Surface Occupancy stipulation, which prohibits any disturbance of lease surface, along with other requirements, addressing issues concerning “…cultural resources, oil and gas, rangeland resources, recreation, and transportation” (Binkly, 2007). Multi-year development plans and Geographical Area Development Plan (GADP) analyses are required for existing leases (US DOI, 2010). A few coalmines once existed within the monument, but none were large enough to result in substantial profit (Horn, 2004).

The monument also has potential for development of renewable resources including solar power. The Energy Information Administration ranked the monument’s photovoltaic solar potential in the range of 5.93 to 7.03 kWh/m2/Day, the highest rating given by the EIA (EIA, 2013). The monument’s possibilities for
geothermal energy development also look hopeful, based on maps drawn by the National Renewable Energy Laboratory (Roberts, 2009).

Regulations

In addition to regulations imposed by designation of a national monument, many other federal regulations limit certain activities on federally owned lands. This section includes a brief overview of relevant federal regulations.

**National Environmental Policy Act (NEPA)** – The National Environmental Policy Act was created to ensure that, before a potential project is begun, any potential environmental costs are carefully considered. The NEPA process can be lengthy, especially for a project with significant potential environmental impacts. In some circumstances however, if a project has expected environmental effects, a Categorical Exclusion may be issued by the federal agency with jurisdiction, excluding the project from further NEPA requirements. However, for other projects expected to have environmental impacts, the first step in the NEPA process is an Environmental Assessment (EA). If the EA finds a project’s impact on the environment to be negligible, the interested agency will then issue a Finding of No Significant Impact (FONSI). If significant impacts are found, an Environmental Impact Statement (EIS) is commissioned to show in greater detail how a given action would affect the environment. An EIS includes a list of possible alternatives along with their expected impacts on the environment. Finally, the federal agency must prepare a public record of decision that explains how the findings of the EIS will be incorporated into its final decision (Environmental Protection Agency, 2012). On average, an EIS takes 3.4 years to complete (deWitt and deWitt, 2008). While the NEPA process alone cannot prevent a project from being completed, it can dramatically slow its development.

**National Historic Preservation Act (NHPA)** – The National Historic Preservation Act was enacted with the goal of preserving archaeological and historic sites throughout the U.S. threatened by development. If a potential project is expected to affect historical or archaeological sites located on federal lands, the responsible federal agency must complete a report detailing the possible adverse effects. During preparation of this report the appropriate State Historic Preservation Officer or Tribal Historic Preservation Officer is consulted. Finally, the Advisory Council on
Historic Preservation (ACHP) reviews the report, and a Memorandum of Agreement is completed. If no agreement can be reached, the ACHP will make recommendations, which must then be incorporated into the final plan (36 CFR 800).

*Archaeological Resources Protection Act (ARPA)* - This act governs the management of archaeological resources, and makes the desecration of archaeological sites a criminal offense. Before any archaeological resources can be excavated or removed from an area, a permit must be obtained from the Department of the Interior, or the National Park Service. Should the site reside on Native American lands, permission also must be sought from the respective tribe (Code of Federal Regulations, 2013). The Archaeological Resources Protection Act further delineates that, “the archaeological resources which are excavated or removed from public lands will remain the property of the United States” (National Park Service, 1979, p. 142).
References


Colorado National Monument

Geography

Colorado National Monument encompasses just over 20,500 acres on the northeastern part of the Uncompahgre Uplift, a geologic formation that makes up part of the vast Colorado Plateau. The monument is renowned for its magnificent views of colorful canyons and other geologic structures. From historic Rim Rock Drive visitors can view a variety of natural features including the Colorado River Valley, the Book Cliffs, and the Grand Mesa, one of the largest flattop mountains in the world (National Park Service, 2013; Forest Service, n.d.).

The semi-desert landscape of Colorado National Monument provides habitat for animals and plants, and recreational opportunities for residents and visitors. Mammals including mule deer, coyotes, mountain lions, and bighorn sheep call the monument home. Raptors, golden eagles, red-tailed hawks, and yellow-headed collared lizards are also commonly sighted (National Park Service, 2013).

From 2007 to 2012, Colorado National Monument received over 350,000 visitors per year who enjoy activities including hiking, camping, rock climbing, and bicycling (National Park Service, 2013). The Lower Monument Canyon Trail is a 2.5-mile one-way hike to the base of Independence Monument, a 450-foot tall rock formation. The formation has become the center of a community tradition. Every Fourth of July since 1911, a group of local climbers have ascended the monument and hoisted a U.S. flag in celebration of Independence Day (National Park Service, 2013).

Interested Parties

In 1911, President William Howard Taft signed the proclamation that established Colorado National Monument. However, it is another man, John Otto, who is remembered as the monument’s founder. Otto first discovered the area in 1906 and was so impressed by what he saw that he dedicated his life to making the area accessible to the public. Otto said of the canyons in the area that would become Colorado National Monument, “they feel like the heart of the world to me. I’m go-

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1 Based on the NPS Annual Park Visitation statistics page for Colorado National Monument.
ing to stay and build trails and promote this place, because it should be a national park” (National Park Service, 2013).

Today there is some political will to change the designation of the monument to a national park to increase the area’s fame and to take advantage of expected economic benefits. Within the local community, the West Slope Colorado Oil and Gas Association, the Grand Junction Area Chamber of Commerce, and the Grand Junction Economic Partnership have all passed resolutions in favor of renaming the monument a national park (National Parks Traveler, 2013).

The Colorado National Monument Association, a nonprofit organization established to “assist and support the Colorado National Monument,” has also voiced support for crafting legislation that would change the status of the monument to a national park. The association encourages concerned citizens to write to their congressmen to advocate for this change (Colorado National Monument Association, n.d.). Senator Mark Udall and Representative Scott Tipton have both said they would introduce such legislation if warranted by enough community support (Colorado National Monument Association, n.d.).

One reason for renewed interest in the status of the monument is the 2013 USA Pro Challenge, a professional bike race that organizers have unsuccessfully attempted to hold along the twenty-three mile Rim Rock Drive within the monument. The National Park Service has repeatedly rejected such proposals, deeming a professional bike race an inappropriate use of the national monument (National Parks Traveler, 2013). Joan Anzelmo, the monument’s Superintendent, ruled that the race, “would result in damaging impacts to Colorado National Monument’s natural and cultural resources,” and would also, “disrupt flight patterns and nesting of birds of prey” (Streater, 2011). Representative Scott Tipton, however, joined the Grand Junction organizing committee in support of the proposed race citing, “the much needed job creation that it can bring to the area” (Streater, 2011).

Many community stakeholders hope to overcome such bureaucratic obstacles by including a stipulation on national park legislation that would give community stakeholders the right to veto National Park Service decisions (National Parks Traveler, 2013). This means that if Colorado National Monument were to become a national park, community groups would be able to make decisions about whether
to hold events like professional cycling races within the park. The National Parks Conservation Association, however, has expressed its concern that decisions about what is appropriate for Colorado National Monument should be left to the National Park Service (National Parks Traveler, 2013). The fate of Colorado National Monument is yet undecided, with conservationists often pitted against those who hope to realize the economic benefits that would come with national park status.

Natural Resources

Colorado National Monument is located amidst a variety of natural resources. Within the monument there is some evidence of coal (NPS Geologic Resources Division, 2006-2007, p. 8). In the past, Entrada Sandstone and mica were both mined in and near the monument. Colorado National Monument is located within the Uinta-Piceance Province, estimated to contain significant undiscovered oil and gas resources. The U.S. Geological Survey has estimated the area holds a mean of 21 trillion cubic feet of gas, 59 million barrels of oil, and 43 million barrels of natural gas liquids (USGS Uinta-Piceance Assessment Team, 2002). The monument is also located within Mesa County, which had over 46,000 acres of mineral leases in 2004, and nearby Garfield and Rio Blanco Counties are some of the “most productive gas areas in the state” (NPS Geologic Resources Division, 2006-2007, p. 8). Colorado National Monument also borders the Piceance Creek Basin, a “primary target for proposed oil shale leasing and development,” (NPS Geologic Resources Division, 2006-2007, p. 7). The monument has moderate to high potential for solar energy (National Renewable Energy Laboratory, 2008). The Energy Information Administration [EIA] ranked the monument’s potential for solar energy development as moderate to high, ranging from 5.93 to 7.03 kWh/m2/day (EIA, 2013).

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**Endangered Species Act (ESA)** – The Endangered Species Act is intended to protect threatened and endangered species and their habitat. Section 7 requires federal agencies work with the U.S. Fish and Wildlife Service whenever a potential action on federal lands may affect an endangered or threatened species. After informal consultation, if the potential action seems likely to affect listed species, the federal agency must then prepare a biological assessment detailing the expected effects of the project on the species. If the biological assessment finds the potential project would likely negatively affect a listed species, then formal consultation with
the Fish and Wildlife Service begins. After forty-five days, the Service must issue a biological opinion, “on whether the proposed activity will *jeopardize* the continued existence of a listed species” (Fish and Wildlife Service, 2012(a)). The ESA can considerably delay a project, and can even halt a project altogether if the expected effects on listed species are significant.

*Bald and Golden Eagle Protection Act* – This act was passed in 1940 to protect the bald eagle and the golden eagle. The act prohibits “taking” of these species and providing criminal penalties for those “who take, possess, sell, purchase, barter, offer to sell, purchase to barter, transport, export or import,” any bald or golden eagle, or the eggs or nests of these species without first obtaining a federal permit (Fish and Wildlife Service, 2012(b)). The punishment for violating this act may include a fine of $100,000 for an individual and $200,000 for an organization and/or imprisonment for a year (Fish and Wildlife Service, 2012(b)). In 1978 the act was amended to allow for “the taking of golden eagle nests that interfere with resource development,” however, the Secretary of the Interior must authorize such action (Fish and Wildlife Service, n.d.). This act creates steep hurdles for development of energy-related projects on federal lands where bald eagles and golden eagles are located.

*The Clean Air Act (CAA)* – The Clean Air Act, passed in 1970, gives the Environmental Protection Agency (EPA) the authority to set limits on air pollutants in order to maintain minimum air quality standards. Congress revised the CAA in 1990, increasing the authority of the EPA to enforce the act and stressing the importance of making the reduction of air pollutants more economically feasible.

In overseeing the CAA, the EPA works closely with many state, tribal, and local agencies and can issue sanctions against these agencies for non-compliance (Environmental Protection Agency, 2007). States and tribes are responsible for issuing operating permits to “larger industrial and commercial sources that release pollutants into the air,” however; the EPA can take over if these agencies “do not do a satisfactory job of carrying out the Clean Air Act permitting requirements,” (Environmental Protection Agency, 2007).

*The Clean Water Act (CWA)* – The Clean Water Act is intended to “restore and maintain the chemical, physical, and biological integrity of the Nation's waters.”
The Environmental Protection Agency (EPA) is responsible for ensuring that any development does not pollute water beyond acceptable levels. The Clean Water Act includes limits on the amount of hazardous or toxic substances that can be released into water along with “goals regarding the elimination of discharge of pollutants and the improvement of water quality.” Permits for facilities to release hazardous and toxic substances into water must be obtained from the EPA. Potential project operators must also comply with state requirements for clean water permitting.

The Mineral Leasing Act (MLA) – The Mineral Leasing Act of 1920 was passed with the goal of “[facilitating] the reasonable development of the coal and oil resources of the nation” (Foley, 1998, p. 754). This law is significant due to the direct impact that it has on coal reserves on all federal lands, including national monuments (Foley, 1998, p. 754-757). “Under the framework of the MLA, the Department of the Interior issued two types of coal leases: (1) a competitive bidding lease . . . and (2) a preference right lease” (Foley, 1998, p. 756). Each of these leases sought to enable the development of coal resources, while ensuring that lands remained under federal control (Foley, 1998, p. 754-755).

The Federal Coal Leasing Amendments Act (FCLAA) – The Federal Coal Leasing Amendment Act of 1976 was passed over the veto of President Gerald Ford with the intention of realizing a fair return for coal leases on public lands and to answer environmental concerns regarding coal mining (Foley, 1998, p. 758). The FCLAA made significant changes regarding coal and other mineral development leasing on federal lands. The act “replaced the prospecting permit system with the exploration license system,” ended preference-right leasing, and “required the DOI [Department of Interior] to create a comprehensive land use plan which consider[ed] the effects of the proposed mining upon the community and environment” (Foley, 1998, p. 758).

Surface Mining Coal Reclamation Act (SMCRA) – The Surface Mining Coal Reclamation Act of 1977 sought to “establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations” (Foley, 1998, p. 761). The SMCRA imposed regulations that “required operators to restore the land upon which they had conducted surface coal operations to ‘its approximate original contours’” (Foley, 1998, p. 761). This was done through
the creation of the Office of Surface Mining Reclamation and Enforcement, within the Department of the Interior, which governed this restoration requirement. This law also required that all operators of coalmines on public lands must hold a permit. In order to be issued a permit, “operators had to submit a reclamation plan that set out in a detailed manner how the operator intended to comply with the federal lands program regulations” (Foley, 1998, p. 761-762).

**Federal Lands Recreation Enhancement Act (FLREA)** – This act was enacted December 8, 2004, and provides federal land-managing agencies with long-term recreation fee authority. The Federal Lands Recreation Enhancement Act authorizes federal agencies to reinvest recreation fees at the local recreation sites where they were collected to benefit visitors through enhanced facilities and services. Specifically, the act states, “Not less than 80 percent of the recreation fees . . . collected at a specific unit or area of a Federal land management agency shall remain available for expenditure … until expended at that unit or area” (Federal Lands Recreation Enhancement Act of 2004).

**Federal Land Policy and Management Act (FLPMA)** – This act governs lands administered by federal agencies, and promotes multiple use policies that simultaneously preserve natural resources. It requires federal lands to be inventoried, protected, and managed, so as to create an environment to aid domestic growth and protect the wildlife and natural resources from over-exploitation. Under the act, “multiple use” is defined as “management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people” (USDOI, 2001 p. 2).
References


Dinosaur National Monument

Geography

Dinosaur National Monument was named for the extensive dinosaur remains found within its boundaries (National Park Service, 2013). Roughly two-thirds of Dinosaur National Monument is located in northwestern Colorado, while the remainder is in northeast Utah. When this area was first designated as a national monument in 1915 it consisted of only eighty acres, but was later expanded to over 200,000 acres in 1938 (National Park Foundation, 2013). The Green and Yampa Rivers are located within the national monument's boundaries, and as such have gradually worn down the layers of the canyons (“Dinosaur National Monument: Climate, Geography, Map”, 2013). The entrance to Dinosaur National Monument is the Deerlodge Road, located just east of the monument (Maffly, 2013). Many species of animals and plants inhabit Dinosaur National Monument, including coyotes, mountain lions, prairie dogs, peregrine falcons, greater sage grouse, many species of endangered fish, and approximately six hundred and fifty species of plants (National Park Service, 2013).

Interested Parties

Since the creation of Dinosaur National Monument in 1915 there has been controversy over how resources within the monument are being used (Brannan, 2012). In the 1940s, the Bureau of Reclamation proposed the Colorado River Storage Project, a collection of dams across the Colorado River Basin intended to generate hydropower and control floodplains. Within this proposed project was Echo Park Dam, which was situated in Dinosaur National Monument (Lord, 2012).

During the decade following the release of that plan, environmentalist groups, including the Sierra Club and the Wilderness Society, fought against the Bureau of Reclamation to prevent Echo Park Dam from being completed. These groups were concerned that the local ecosystem would be destroyed if the dam were built. Congress eventually responded to environmentalists’ concerns by stating in the Colorado River Storage Project, a law passed in 1956, that “no dam or reservoir constructed under the authorization of this Act shall be within any national park or monument.” After this decision, the Bureau of Reclamation still had
the authority to authorize and build dams, but only outside of national monument boundaries.

Occasionally lands that were owned privately at the time of a national monument designation remain in the private ownership, which can lead to conflicts when land management practices have spillover effects. One such example occurs within Dinosaur National Monument’s boundaries, where the Mantle family has maintained their ranch since the monument’s designation.

The Mantle family’s private property was swallowed up by President Roosevelt’s expansion of Dinosaur National Monument in 1938 when the 1,800-acre property was surrounded by the 200,000-acre national monument (American Land Rights Association, 2001).

The NPS sought to purchase this private land to ensure that the land management practices that were incompatible with the vision of the national monument were discontinued. These practices included “new agricultural uses, including grazing or the cultivation or irrigation of a meadow or pasture, new major agricultural support structures...including stock ponds, barns, and storage buildings” (American Land Rights Association, 2001). Through the use of “condemnation,” the NPS tried to force the Mantle family to sell their land “…by creating a situation that prohibits [the] grazing and renders [the] property worthless…” (American Land Rights Association, 2001). After the debacle, the Mantle family decided to sell their land. The land was eventually sold to a private owner (Mirr, 2013, Personal Communication).

More recently, the oil and gas boom in Colorado has affected lands near the national monument and caused environmental groups to raise concerns once again. Helen Hankins, the Bureau of Land Management (BLM) Colorado State Director, has attempted to lease parcels of land directly outside of Dinosaur National Monument to private owners for oil and gas drilling (Prendergast, 2013). Opponents, including environmentalist groups and local businesses that would be affected by the proposed oil drilling, are concerned. Ellynne Bannon, the Checks and Balances Project Western Energy Lands Program Manager, stated that Hankins is “…ignoring the will of the communities around Thompson Divide and putting
drinking water, farming and ranching businesses at risk in order to provide another freebie to oil and gas companies” (Checks and Balances Project, 2013).

Hankins’ plans, under the direct authority of the BLM, have recently been halted as a result of strong opposition from these local groups. Environmentalist groups argue that if oil drilling were to occur near the boundaries of Dinosaur National Monument, harm would occur to both geographic and economic features. Environmentalist fear that the number of visitors and subsequent of income coming into the park from visitors would decline because of potential obstruction of the natural scenery (Maffly, 2013).

Natural Resources

Natural resources are abundant in and around Dinosaur National Monument. Directly outside of the monument, potential energy resources include coal, natural gas, oil, and shale (National Park Service, 2006). According to the U.S. Geological Survey (USGS), there is an abundance of coal just south of Dinosaur National Monument (USGS, 2013). More readily available are gas, oil, and shale, with “2,626 acres of leases outside Dinosaur” potentially accessible (Prendergast, 2013). Because of litigation, however, these natural resources are not being utilized for further production and use.

The monument has limited potential for renewable energy development with hydropower being the only potential source. Echo Park, located inside the monument, is home to both the Green and Yampa Rivers. The ability to access hydropower in Echo Park would require that, “[b]oth the Yampa and Green rivers would be controlled and backed up by the dam” (Lord, 2011).

Regulations

In addition to regulations imposed by designation of a national monument, many other federal regulations limit certain activities on federally owned lands. This section includes a brief overview of relevant federal regulations.

National Environmental Policy Act (NEPA) – The National Environmental Policy Act was created to ensure that, before a potential project is begun, any potential environmental costs are carefully considered. The NEPA process can be
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**National Historic Preservation Act (NHPA)** – The National Historic Preservation Act was enacted to preserve archaeological and historic sites throughout the U.S. threatened by development. If a potential project is expected to affect historical or archaeological sites located on federal lands, the responsible federal agency must complete a report detailing the possible adverse effects. During preparation of this report the appropriate State Historic Preservation Officer or Tribal Historic Preservation Officer is consulted. Finally, the Advisory Council on Historic Preservation (ACHP) reviews the report, and a Memorandum of Agreement is completed. If no agreement can be reached, the ACHP will make recommendations, which must then be incorporated into the final plan (36 CFR 800).

**Endangered Species Act (ESA)** – The Endangered Species Act is intended to protect threatened and endangered species and their habitat. Section 7 requires federal agencies work with the U.S. Fish and Wildlife Service whenever a potential action on federal lands may affect an endangered or threatened species. After informal consultation, if the potential action seems likely to affect listed species, the federal agency must then prepare a biological assessment detailing the expected effects of the project on the species. If the biological assessment finds the potential
project would likely negatively affect a listed species, then formal consultation with the Fish and Wildlife Service begins. After forty-five days, the Service must issue a biological opinion, “on whether the proposed activity will jeopardize the continued existence of a listed species” (Fish and Wildlife Service, 2012(a)). The ESA can considerably delay a project, and can even halt a project altogether if the expected effects on listed species are significant.

The Clean Air Act (CAA) – The Clean Air Act, passed in 1970, gives the Environmental Protection Agency (EPA) the authority to set limits on air pollutants in order to maintain minimum air quality standards. Congress revised the CAA in 1990, increasing the authority of the EPA to enforce the act and stressing the importance of making the reduction of air pollutants more economically feasible.

In overseeing the CAA, the EPA works closely with many state, tribal, and local agencies and can issue sanctions against these agencies for non-compliance (Environmental Protection Agency, 2007). States and tribes are responsible for issuing operating permits to “larger industrial and commercial sources that release pollutants into the air,” however; the EPA can take over if these agencies “do not do a satisfactory job of carrying out the Clean Air Act permitting requirements,” (Environmental Protection Agency, 2007).

The Clean Water Act (CWA) – The Clean Water Act is intended to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” The Environmental Protection Agency (EPA) is responsible for ensuring that any development does not pollute water beyond acceptable levels. The Clean Water Act includes limits on the amount of hazardous or toxic substances that can be released into water along with “goals regarding the elimination of discharge of pollutants and the improvement of water quality.” Permits for facilities to release hazardous and toxic substances into water must be obtained from the EPA. Potential project operators must also comply with state requirements for clean water permitting.
References


Grand Staircase-Escalante National Monument

Geography

Grand Staircase-Escalante National Monument, established in 1996, contains approximately 1.9 million acres of land in southern Utah (Grand Staircase Escalante Partners, n.d.). The monument is made up of three distinct areas: the Grand Staircase, the Kaiparowits Plateau, and the Canyons of the Escalante. (Utah Travel Industry Website, n.d.). The Grand Staircase area of the monument “rises in broad tilted terrace” with the southern portion stepping “…up in great technicolor cliffs…” with colors such as vermilion, white, grey and pink distinctly visible (Utah Travel Industry Website, 2013). The Kaiparowits Plateau represents the highest part of the monument and stretches from the town of Escalante south to the shores of Lake Powell (Utah Travel Industry Website, 2013). The third area, Canyons of the Escalante, is notable for its “…maze of canyons” that have been cut by the flow of “…the Escalante River and its tributaries…” (Utah Travel Industry Website, 2013). The area encompassed by the monument ranges in elevation from 3,818 to 8,615 feet and average annual precipitation ranges from 6.7 to 24 inches per year (Miller, 2008).

Interested Parties

President Clinton establishment of Grand Staircase-Escalante National Monument in September of 1996 has become one of the most controversial in U.S. history. The sheer size of the monument and its proven energy resources almost guaranteed that this action by the President would lead to conflict, as the interests of opposing parties often clashed.

Conflict surrounding the designation of this monument was “…fueled by the fact that the drafting of the proclamation was not disclosed to state and local governing officials and the public at large” (Kelly, n.d.). Further, local and state officials were not notified of the monument’s “impending” designation “until it was reported in several newspapers just days before the public announcement” (Kelly, n.d.). To add insult to injury, the President issued his proclamation of national monument status at the South Rim of the Grand Canyon in Arizona, rather than in Utah where the monument is located (Kelly, n.d.). Utah's Governor Leavitt and the state's
congressional delegation labeled the move “...‘foul’ and a ‘land grab’” (Kelly, n.d.). The action was viewed by some as a play to gain votes in the hotly contested State of Arizona during the President’s 1996 bid for re-election.

Much of the controversy surrounding the monument’s designation also stemmed from the area’s extensive natural resources. For example, the monument’s 1.7 million acres includes roughly “176,000 acres of surface lands managed by the School and Institutional Trust Lands Administration for the benefit of Utah’s school children” (Utah Geologic Survey, 1997). Because the School and Institutional Trust Lands distributes funds from leases on state owned lands to public schools throughout the state, Utah officials were concerned that school funding would decrease as a result of the monument’s resources being locked up as protected lands (School Land Trust, 2013, p. 1; Utah Code 53C-2-405).

Additionally, Andalex Resources, a Dutch mining company, owned seventeen coal mining leases totaling approximately 650,000 acres within the monument’s boundaries (Foley, 1998). The designation of the monument effectively withdrew these leases from the company and ended any mining in the monument.

Other parties interested in the monument include environmental groups who view such monument designations as triumphs. Many environmental groups considered the designation of this vast monument a major step toward the protection of Southern Utah’s natural treasures. The Southern Utah Wilderness Alliance (SUWA) is a non-profit made up of “concerned citizens from Utah and through the nation who share the common goal of preserving Utah’s remaining desert wild lands, known collectively as America’s redrock wilderness” (SUWA, 2013). SUWA seeks to prevent “oil and gas development, unnecessary road construction, rampant off-road vehicle use, and other threats to Utah’s wilderness-quality lands” (SUWA, 2013). Another interested environmental group, Grand Staircase Escalante Partners serves as the “official support organization” for the monument by promoting
research, education, and conservation within the monument (Grand Staircase Escalante Partners, n.d.).

Natural Resources

The Kaiparowits coalfield, located almost entirely within Grand Staircase-Escalante National Monument, contains roughly 62 billion tons of coal, with at least 11.3 billion tons recoverable (Utah Geologic Survey, 1997). According to 1997 figures placing its approximate value somewhere between $221 billion and $312 billion (Utah Geologic Survey, 1997). Not only is the area a potentially viable source of coal, but the Utah Geologic Survey also noted the area had the potential to yield between $2 billion and $17.5 billion in coal-bed gas deposits, between $20 million and $1.1 billion in petroleum, and over $4 million in various other minerals (Utah Geological Survey, 1997). The monument also has high potential for solar energy production. The Energy Information Agency ranked the monument’s photovoltaic solar potential in the range of 5.93 to 7.03 kWh/m2/Day, the highest rating given by the EIA (EIA, 2013).

Regulations

In addition to regulations imposed by designation of a national monument, many other federal regulations limit certain activities on federally owned lands. This section includes a brief overview of relevant federal regulations.

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The Mineral Leasing Act (MLA) – The Mineral Leasing Act of 1920 was passed with the goal of “[facilitating] the reasonable development of the coal and oil resources of the nation” (Foley, 1998, p. 754). This law is significant due to the direct impact that it has on coal reserves on all federal lands, including national
monuments (Foley, 1998, p. 754-757). “Under the framework of the MLA, the Department of the Interior issued two types of coal leases: (1) a competitive bidding lease . . . and (2) a preference right lease” (Foley, 1998, p. 756). Each of these leases sought to enable the development of coal resources, while ensuring that lands remained under federal control (Foley, 1998, p. 754-755).

The Federal Coal Leasing Amendments Act (FCLAA) – The Federal Coal Leasing Amendment Act of 1976 was passed over the veto of President Gerald Ford with the intention of realizing a fair return for coal leases on public lands and to answer environmental concerns regarding coal mining (Foley, 1998, p. 758). The FCLAA made significant changes regarding coal and other mineral development leasing on federal lands. The act “replaced the prospecting permit system with the exploration license system,” ended preference-right leasing, and “required the DOI [Department of Interior] to create a comprehensive land use plan which consider[ed] the effects of the proposed mining upon the community and environment” (Foley, 1998, p. 758).

Surface Mining Coal Reclamation Act (SMCRA) – The Surface Mining Coal Reclamation Act of 1977 sought to “establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations” (Foley, 1998, p. 761). The SMCRA imposed regulations that “required operators to restore the land upon which they had conducted surface coal operations to ‘its approximate original contours’” (Foley, 1998, p. 761). This was done through the creation of the Office of Surface Mining Reclamation and Enforcement, within the Department of the Interior, which governed this restoration requirement. This law also required that all operators of coalmines on public lands must hold a permit. In order to be issued a permit, “operators had to submit a reclamation plan that set out in a detailed manner how the operator intended to comply with the federal lands program regulations” (Foley, 1998, p. 761-762).

Federal Land Policy and Management Act (FLPMA) – This act governs lands administered by federal agencies, and promotes multiple use policies that simultaneously preserve natural resources. It requires federal lands to be inventoried, protected, and managed, so as to create an environment to aid domestic growth and protect the wildlife and natural resources from over-exploitation. Under the
act, “multiple use” is defined as “management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people” (U.S. Department of the Interior, 2001 p. 2).
References


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Grand Canyon-Parashant/Vermilion Cliffs National Monument

Geography

Situated on the Arizona Strip in Northern Arizona, the Grand Canyon-Parashant and Vermilion Cliffs National Monuments are known for their spectacular desert landscapes. The monuments are near the Grand Canyon within one of the most isolated areas in the Southwestern United States (Arizona Wilderness Coalition, 2009, January 26). Together they comprise over 1.3 million acres of unique geological, archaeological, and cultural attractions (The Wilderness Society et al. V. Bureau of Land Management et al., 2012, March 9, p. 10-11). Both monuments, created in 2000 by President Bill Clinton, contain evidence of the early human inhabitants that populated the area as early as 12,000 years ago (Earthjustice, 2013, May 16; Clinton, 2000, November 9), and are home to a number of endangered species including “the reintroduced California condor, desert bighorn sheep, pronghorn antelope, and mountain lions” (Earthjustice, 2013, May 16).

Interested parties

Recent lawsuits by environmental and conservation groups have challenged the BLM’s latest Resource Management Plan (RMP)—for both the Parashant and Vermilion Cliffs National Monuments—which allows for increased off-highway vehicle (OHV) use. These groups “include The Wilderness Society, the Arizona Wilderness Coalition, the Sierra Club, the National Trust for Historic Preservation, and the Grand Canyon Wildlands Council” (Earthjustice, 2009, January 26). Earthjustice, an environmental legal defense organization, represents all these parties (Earthjustice, 2009, January 26).

The RMP, issued in early 2008, authorized OHV use on over 1,600 miles of routes in the national monuments—a move the BLM has admitted would harm and degrade the objects intended for protection by their national monument status (Bureau of Land Management, 2007, p. 4-50-51; The Wilderness Society et al. V. Bureau of Land Management et al., 2012, March 9, p. 16). The lawsuit also challenges the use of OHVs in the monuments given their prohibition in the Presiden-
tial Proclamations that established their existence (The Wilderness Society et al. V. Bureau of Land Management et al., 2012, March 9, p. 12-13).

OHVs, the plaintiffs assert, will negatively impact wildlife, including a number of endangered species, by fragmenting habitats and harming ecosystems (Arizona Wilderness Coalition, 2009, January 26). The increased vehicle traffic will expose archaeological and cultural resources to degradation (The Wilderness Society et al. V. Bureau of Land Management et al., 2012, March 9, p. 22-23). These environmental groups contend that the roads violate the BLM's mission as administrator of the monuments to preserve their “remoteness,” “lack of easy road access,” and to restrict “travel corridors” (The Wilderness Society et al. V. Bureau of Land Management et al., 2012, March 9, p. 13). They argue that proper and necessary measures were not taken to ensure adequate protection of the monuments' resources and landscapes. The lawsuit demands that the BLM revise its plan to increase their protection and integrity (Arizona Wilderness Coalition, 2009, January 26).

Admittedly, the interests and goals of different recreational groups compete and conflict with one another. For example, backpackers and hikers venture into wilderness areas and national monuments to experience their pristine landscapes and escape from the bustle of everyday life, while OHV enthusiasts seek interesting terrain and wide-spaces.

As presumed caretaker of America's public lands, the BLM solicited and received public input before approving the RMP. From April 2002 to December 2005, stakeholders could voice relevant concerns that the agency then took into account. The BLM argues that their plan is consistent with the language and spirit of all legal precedents including the respective Presidential Proclamations, the Federal Land Policy and Management Act, and its own mandate. The BLM has been directed to manage activities and resources on the monuments “in a manner that creates opportunities for public discovery and education, sets precedent for progressive public land stewardship, incorporates input from the scientific community and the public at large, and reflects the national significance of these resources” (Bureau of Land Management, 2008).

The surrounding communities are important stakeholders in the decision. Any change poses a potential change in economic activity in and around nation-
al monuments. For example, restricting OHV access to national monuments will reduce the number of OHV enthusiasts who patronize local hotels, restaurants, and other businesses. However, opening up more roads for OHV use diminishes the experience of those seeking the serenity and isolation that national monuments afford. They too patronize local businesses, and if their experience becomes less than ideal they may chose to visit other areas that offer the desired experience.

**Natural Resources**

Due to their location, both Grand Canyon-Parashant and Vermilion Cliffs National Monuments have the capability to produce between 5.93 to 7.03 kWh/m²/day of solar energy, the highest rating possible, according to the U.S. Energy Information Agency (EIA, 2013). Additionally, Vermilion Cliffs National Monument has a “good” to “superb” wind energy potential in some limited locations along its perimeter (EIA, 2013). The monuments have no identifiable conventional fuel resources.

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preparation of this report the appropriate State Historic Preservation Officer or Tribal Historic Preservation Officer is consulted. Finally, the Advisory Council on Historic Preservation (ACHP) reviews the report, and a Memorandum of Agreement is completed. If no agreement can be reached, the ACHP will make recommendations, which must then be incorporated into the final plan (36 CFR 800).


Fish and Wildlife Service. 2012a. Endangered Species: Section 7 Consultation. Re-


Ironwood Forest National Monument

Geography

Ironwood Forest National Monument (IFNM) is located twenty-five miles northwest of Tucson within the Arizona portion of the Sonoran desert (Bureau of Land Management, n.d.(a)). In June of 2000, President Clinton issued a proclamation designating 128,917 acres of Arizona public land as a national monument, describing Ragged Top Mountain in particular as a “biological and geological crown jewel” in need of federal protection (Clinton, 2000).

IFNM is named for the resident ironwood tree, which can live to be more than eight hundred years old. The monument is home to over 674 species and “presents a quintessential view of the Sonoran Desert with ancient legume and cactus forests” (Bureau of Land Management, n.d.(b); Clinton, 2000). The large variety of flora and fauna include several endangered or threatened species, such as the Nichols Turk’s head cactus and the lesser long-nosed bat (Bureau of Land Management, n.d.(b); Clinton, 2000). Desert bighorn sheep reside in the monument, and are believed to “be the last viable population indigenous to the Tucson basin.” (Clinton, 2000).

Elevation within the monument varies from 1,800 to over 4,200 feet due to several rugged mountain ranges surrounded by depositional valleys (Bureau of Land Management, n.d.(b)). This piece of land has been inhabited by humans for over 5,000 years, and is riddled with over two hundred different archaeological sites dating back to the Hohokam period from 600 A.D. to 1440 A.D. (Bureau of Land Management, n.d.(b)).

Interested Parties

Whether for recreation, development, or conservation, modern people have been invested in this area for over a century. Activities such as grazing, hunting, recreation, and long-term mining all took place in the area long before its monument designation. Because this area has a long history of use for a variety of purposes many protests that have been raised against the Bureau of Land Management
(BLM) by groups whose use of the land is now limited (Bureau of Land Management, 2013(b)).

Founded in 1899, Asarco L.L.C. is a major domestic copper producer that operates three open-pit mines in Arizona (Parmeswaran, 2012). Among these is the Silver Bell mine, named after and located adjacent to a prominent mountain region within the monument (Associated Press, 2001). Asarco found success within Arizona and joined forces with other state copper producers, who together accounted for 70% of the state's total “nonfuel mineral production” in 2001 (Phillips et. al, 2002). Following the attacks of September 11th however, the copper industry suffered a significant loss due to falling prices and a lack of consumer activity (Phillips et. al, 2002).

Fortunately for Asarco, the Silver Bell mine continued operations, but needed additional land to “operate successfully in the near future” (Associated Press, 2001). To ensure future success, Asarco sought to add another four hundred acres of land to the Silver Bell facility. This sparked outrage among groups such as the Center for Biological Diversity and the Sierra Club because the land in question now sat within the borders of IFNM (Center for Biological Diversity, 2001; Sierra Club, n.d.). Asarco notified the BLM of its intent to use these lands prior to the monument’s actual designation, but failed to get the official authorization before implementing a transmission line, pipeline, and dirt road (Associated Press, 2001). Claiming that their use of the land would serve as a buffer between the actual mine and the monument, Asarco argued that this agreement would be mutually beneficial in keeping monument visitors away from the mine (Associated Press, 2001).

Disagreement ensued between Asarco and the environmental groups, and the BLM acted as the final enforcer as outlined in the monument’s management plan (Bureau of Land Management, 2013(b)). The BLM ordered Asarco to remove its structures and re-vegetate four acres disturbed by the company (Duffy, 2003). Conservation groups applauded the 2003 decision, and left Asarco to comply with
the decision (Center for Biological Diversity, 2003). Eventually, two years after the BLM’s decision, Asarco entered Chapter 11 bankruptcy (Asarco, n.d.).

Natural Resources

The list of minerals located within the monument is extensive and includes: copper, silver, lead, gold, manganese, sulfur, mica, silica, zinc, molybdenum, wollastonite, fluorine, fluorite, barium, barite, vanadium, galena, chalcocite, dolomite, limestone, chalcopyrite, turquoise, perlite, and uranium (U.S. Geological Survey, 2013). Although IFNM is rich in mineral resources the area does not have any known conventional energy resources. The monument does have the potential for renewable energy development, and is located in an area with high potential for solar energy (National Renewable Energy Laboratory, 2008). The monument also has moderately high geothermal favorability for development (National Renewable Energy Laboratory, 2009).

Regulations

In addition to regulations imposed by designation of a national monument, many other federal regulations limit certain activities on federally owned lands. This section includes a brief overview of relevant federal regulations.

*National Environmental Policy Act (NEPA)* – The National Environmental Policy Act was created to ensure that, before a potential project is begun, any potential environmental costs are carefully considered. The NEPA process can be lengthy, especially for a project with significant potential environmental impacts. In some circumstances however, if a project has expected environmental effects, a Categorical Exclusion may be issued by the federal agency with jurisdiction, excluding the project from further NEPA requirements. However, for other projects expected to have environmental impacts, the first step in the NEPA process is an Environmental Assessment (EA). If the EA finds a project’s impact on the environment to be negligible, the interested agency will then issue a Finding of No Significant Impact (FONSI). If significant impacts are found, an Environmental Impact Statement (EIS) is commissioned to show in greater detail how a given action would affect the environment. An EIS includes a list of possible alternatives along with their expected impacts on the environment. Finally, the federal agency must
prepare a public record of decision that explains how the findings of the EIS will be incorporated into its final decision (Environmental Protection Agency, 2012). On average, an EIS takes 3.4 years to complete (deWitt and deWitt, 2008). While the NEPA process alone cannot prevent a project from being completed, it can dramatically slow its development.

**National Historic Preservation Act (NHPA)** – The National Historic Preservation Act was enacted to preserve archaeological and historic sites throughout the U.S. threatened by development. If a potential project is expected to affect historical or archaeological sites located on federal lands, the responsible federal agency must complete a report detailing the possible adverse effects. During preparation of this report the appropriate State Historic Preservation Officer or Tribal Historic Preservation Officer is consulted. Finally, the Advisory Council on Historic Preservation (ACHP) reviews the report, and a Memorandum of Agreement is completed. If no agreement can be reached, the ACHP will make recommendations, which must then be incorporated into the final plan (36 CFR 800).

**Endangered Species Act (ESA)** – The Endangered Species Act is intended to protect threatened and endangered species and their habitat. Section 7 requires federal agencies work with the U.S. Fish and Wildlife Service whenever a potential action on federal lands may affect an endangered or threatened species. After informal consultation, if the potential action seems likely to affect listed species, the federal agency must then prepare a biological assessment detailing the expected effects of the project on the species. If the biological assessment finds the potential project would likely negatively affect a listed species, then formal consultation with the Fish and Wildlife Service begins. After forty-five days, the Service must issue a biological opinion, “on whether the proposed activity will jeopardize the continued existence of a listed species” (Fish and Wildlife Service, 2012(a)). The ESA can considerably delay a project, and can even halt a project altogether if the expected effects on listed species are significant.

**The Clean Air Act (CAA)** – The Clean Air Act, passed in 1970, gives the Environmental Protection Agency (EPA) the authority to set limits on air pollutants in order to maintain minimum air quality standards. Congress revised the CAA
in 1990, increasing the authority of the EPA to enforce the act and stressing the
importance of making the reduction of air pollutants more economically feasible.

In overseeing the CAA, the EPA works closely with many state, tribal, and
local agencies and can issue sanctions against these agencies for non-compliance
(Environmental Protection Agency, 2007). States and tribes are responsible for
issuing operating permits to “larger industrial and commercial sources that release
pollutants into the air,” however; the EPA can take over if these agencies “do not
do a satisfactory job of carrying out the Clean Air Act permitting requirements,”
(Environmental Protection Agency, 2007).

The Clean Water Act (CWA) – The Clean Water Act is intended to “restore
and maintain the chemical, physical, and biological integrity of the Nation’s waters.”
The Environmental Protection Agency (EPA) is responsible for ensuring that any
development does not pollute water beyond acceptable levels. The Clean Water Act
includes limits on the amount of hazardous or toxic substances that can be released
into water along with “goals regarding the elimination of discharge of pollutants
and the improvement of water quality.” Permits for facilities to release hazardous
and toxic substances into water must be obtained from the EPA. Potential project
operators must also comply with state requirements for clean water permitting.

The Mineral Leasing Act (MLA) – The Mineral Leasing Act of 1920 was
passed with the goal of “[facilitating] the reasonable development of the coal and
oil resources of the nation” (Foley, 1998, p. 754). This law is significant due to the
direct impact that it has on coal reserves on all federal lands, including national
monuments (Foley, 1998, p. 754-757). “Under the framework of the MLA, the De-
partment of the Interior issued two types of coal leases: (1) a competitive bidding
lease . . . and (2) a preference right lease” (Foley, 1998, p. 756). Each of these leases
sought to enable the development of coal resources, while ensuring that lands re-

The Federal Coal Leasing Amendments Act (FCLAA) – The Federal Coal
Leasing Amendment Act of 1976 was passed over the veto of President Gerald Ford
with the intention of realizing a fair return for coal leases on public lands and to
answer environmental concerns regarding coal mining (Foley, 1998, p. 758). The
FCLAA made significant changes regarding coal and other mineral development
leasing on federal lands. The act “replaced the prospecting permit system with the exploration license system,” ended preference-right leasing, and “required the DOI [Department of Interior] to create a comprehensive land use plan which considered the effects of the proposed mining upon the community and environment” (Foley, 1998, p. 758).

**Surface Mining Coal Reclamation Act (SMCRA)** – The Surface Mining Coal Reclamation Act of 1977 sought to “establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations” (Foley, 1998, p. 761). The SMCRA imposed regulations that “required operators to restore the land upon which they had conducted surface coal operations to ‘its approximate original contours’” (Foley, 1998, p. 761). This was done through the creation of the Office of Surface Mining Reclamation and Enforcement, within the Department of the Interior, which governed this restoration requirement. This law also required that all operators of coalmines on public lands must hold a permit. In order to be issued a permit, “operators had to submit a reclamation plan that set out in a detailed manner how the operator intended to comply with the federal lands program regulations” (Foley, 1998, p. 761-762).

**Federal Lands Recreation Enhancement Act (FLREA)** – This act was enacted December 8, 2004, and provides federal land-managing agencies with long-term recreation fee authority. The Federal Lands Recreation Enhancement Act authorizes federal agencies to reinvest recreation fees at the local recreation sites where they were collected to benefit visitors through enhanced facilities and services. Specifically, the act states, “Not less than 80 percent of the recreation fees . . . collected at a specific unit or area of a Federal land management agency shall remain available for expenditure … until expended at that unit or area” (Federal Lands Recreation Enhancement Act of 2004).

**Federal Land Policy and Management Act (FLPMA)** – This act governs lands administered by federal agencies, and promotes multiple use policies that simultaneously preserve natural resources. It requires federal lands to be inventoried, protected, and managed, so as to create an environment to aid domestic growth and protect the wildlife and natural resources from over-exploitation. Under the act, “multiple use” is defined as “management of the public lands and their various
resource values so that they are utilized in the combination that will best meet the present and future needs of the American people” (U.S. Department of the Interior, 2001 p. 2).
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Organ Pipe Cactus National Monument

Geography

Organ Pipe Cactus National Monument is located in the heart of the Sonoran Desert, with its southern boundary against Mexico, and its northern boundary fifteen miles from Ajo, Arizona, totaling 330,689 acres (Pletcher, 2013; Organ Pipe Cactus National Monument, 2006, p. 1). Elevation within the monument ranges from 981 feet to 4,800 at the peak of Mt. Ajo (NPS, 2013(a)).

The Sonoran Desert is a harsh and dry environment. Organ Pipe Cactus National Monument receives between three and twenty inches of rain a year (NPS, 2012). The monument is a paramount example of the Sonoran Desert’s natural beauty, and is home to a variety of species of fauna including twenty-eight different species of cacti. The monument is named after one of these species, the organ pipe cactus (NPS, 2013(e)). Notable animals within the monument include: mountain lions, mule deer, whitetail deer, desert bighorn sheep, sonoran pronghorn, javelina, coyote, jack rabbits, numerous species of reptiles, and over thirty six species of birds (NPS, 2013(c); 2012(d)).

Interested Parties

This desert monument was designated under the Antiquities Act on April 13, 1937 (National Park Service, 2013). Organ Pipe Cactus National Monument was created “to preserve a representative area of the Sonoran Desert” (NPS, 2013). In addition to the designation of the monument, “[i]n 1976 The United Nations designated Organ Pipe Cactus National Monument as an international Biosphere Reserve, reconfirming its status as an outstanding example of the Sonoran Desert” (NPS, 2013). This U.N. declaration was followed by a 1977 Congressional declaration that made roughly 95% of the monument a wilderness area (NPS, 2013).

Organ Pipe National Monument’s status as a nearly seventy-five year old monument places it amongst the most established and accepted monuments currently in existence. Due to the location of the monument in one of the harshest climates on the continent, there is a lack of substantial human development in the region. Roughly 95% of the monument exists now as wilderness area and inter-
est from private development companies, including energy companies, is limited (NPS, 2013).

The monument’s location on the U.S. Mexican border makes the area a high traffic area for illegal immigrants and illegal narcotics imported from Mexico (NPS, 2013(b)). This traffic makes this area quite dangerous, in fact only “33.32 percent [of the monument] is open to the public without an escort” (Kreutz, 2012). This armed escort has been deemed necessary after Kris Eggle, a Park Ranger in the monument was killed while pursuing illegal immigrant smugglers in 2002 (Kreutz, 2012). Such events create a significant threat to both visitors and rangers. This danger is also noteworthy in the context of energy development, as energy companies and their employees would be faced with these same dangers if they were to develop the area’s energy resources.

Natural Resources

Organ Pipe Cactus National Monument lacks substantial deposits of traditional fossil fuels. This is contrasted by the abundance of potential solar energy development. According to the Energy Information Administration (EIA), the monument has a photovoltaic solar potential of 5.93 to 7.03 kWh/m2/Day, the highest rating given by the organization (EIA, 2013). The monument is also located relatively close to major population centers such as Phoenix and Tucson, making transmission of solar energy created in the monument potentially feasible.

The monument also holds the potential for non-energy resource extraction. There are several mines located within the monument containing a number of recoverable mineral resources, which are currently in use. The Cimarron Mine Group produces gold, silver, and copper (United States Geologic Survey, 2012). The
Victoria Mine produces lead, silver, copper, gold, and zinc (USGS, 2012(a)). Lastly, the Mexican Mine produces copper, gold, lead, and silver (USGS, 2012(b)).

**Regulations**

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*Federal Land Policy and Management Act (FLPMA)* – This act governs lands administered by federal agencies, and promotes multiple use policies that simultaneously preserve natural resources. It requires federal lands to be inventoried, protected, and managed, so as to create an environment to aid domestic growth and protect the wildlife and natural resources from over-exploitation. Under the act, “multiple use” is defined as “management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people” (U.S. Department of the Interior, 2001 p. 2).

*The Wilderness Act of 1964* – In addition to the provisions laid down by the Antiquities Act, perhaps the most relevant piece of legislation that bears relevance to this particular monument is the Wilderness Act. The official title of the Wilderness Act was “An Act to establish a National Wilderness Preservation System for the permanent good of the whole people, and for other purposes” (Wilderness Act
of 1964). The law enlisted the Bureau of Land Management, U.S. Fish and Wildlife Service, National Parks Service, and U.S. Forest Service to enforce the aforementioned restrictions, and “preserve the wilderness character” of areas within each agency’s jurisdiction (Wilderness Act of 1964). These areas were intended “for the use and enjoyment of the American people in such manner as [would] leave [lands] unimpaired for future use and enjoyment as wilderness” (Wilderness Act of 1964). The act essentially functions by limiting and preventing human encroachment and activities upon lands that are generally undisturbed by human activity.
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visit/yoursafety.htm


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Upper Missouri River Breaks National Monument

**Geography**

President Bill Clinton described the Upper Missouri River as having “magical waters” where you can, “still encounter elk or bear… just as Lewis and Clark did in 1805” (Clinton, 2001). Now known as Upper Missouri River Breaks National Monument, the area lies between three mountain ranges in north-central Montana. The “Breaks” are white cliffs that have been created from erosion from the Missouri River (Bureau of Land Management [BLM], 2008). The Breaks provide nesting grounds for a variety of raptors, including golden eagles.

The area is home to hawks and eagles, waterfowl, forty-eight fish species, mule deer, elk, and antelope (Proclamation No. 7398, 2001). Clinton created the monument in part because it “boasts the most viable elk herd in Montana and one of the premier big horn sheep herds in the continental United States” (Proclamation No. 7398, 2001). The land covers four counties and includes “a checkerboarding of other land ownerships, including approximately 80,000 acres of private land and 39,000 acres of state land … [which the] BLM has no authority over” (In Re Montana Wilderness Association, 2011).

**Interested Parties**

The 2001 Presidential Proclamation that created the Upper Missouri River Breaks National Monument gave the Department of the Interior a mandate to “manage development on existing oil and gas leases within the monument, subject to valid existing rights” (Proclamation No. 7398, 2001). Additionally, the proclamation ordered the BLM to continue issuing grazing permits in and around the monument (Proclamation No. 7398, 2001). Despite the mixed-use mandate being included in the proclamation, environmental groups continue to litigate in an attempt to limit the development of the area.

The Montana Wilderness Association (MWA) is one of the organizations pushing for more environmental protection in the monument. The MWA was founded in 1958 and works to “protect Montana’s wilderness heritage, quiet beauty and outdoor traditions, now and for future generations” (Montana Wilderness Associ-
MWA filed a lawsuit in 2000, “alleging the BLM did not fully comply with the National Environmental Policy Act (NEPA), Endangered Species Act (ESA) and National Historic Preservation Act (NHPA)” (BLM, 2008). Because of this litigation, the BLM halted gas leases in order to conduct further environmental reviews.

Several citizen groups joined the legal battle and sided with the BLM. The Montana Pilots Association, Missouri River Stewards, and the Recreational Aviation Foundation have a stake in continuing a mixed-use plan for the area (In Re Montana Wilderness Association, 2011). The Missouri River Stewards, for example, was founded by local ranchers whose families are dependent on grazing in and around the Monument.

In 2009, the BLM produced a Resource Management Plan for the Monument. That plan resulted in the seasonal closure of nearly 150 miles of the Upper Missouri River to Jet Ski and floatplane use. Additionally, the BLM closed four airstrips, leaving six operating (BLM, 2009). The MWA responded with a lawsuit that charged the BLM with failure to fulfill NEPA, the Wild and Scenic Rivers Act, FLPMA, and NHPA requirements (In Re Montana Wilderness Association, 2011). In 2011, the Montana District Court held that the BLM had created a plan that “balanced objectives of the Monument” and ruled in the BLM’s favor. MWA appealed that decision (In Re Montana Wilderness Association, 2011). As of May 2013, four years after the plan’s release, the matter has yet to be settled.

Natural Resources

In 1995, the USGS estimated the area contained between 58.2 billion to 719.9 billion cubic feet of undiscovered natural gas and between 14.3 million and 180.9 million barrels of undiscovered oil (BLM, 2008). Historically, natural gas in the area was not of interest to an industry that was primarily focused on oil resources (BLM, 2008). However, rising natural gas prices since the 1970s have provided more economic incentives for its development. According to the BLM, in 2008 the development of the energy resources within the monument and surrounding half mile included “…three producing gas fields with 41 active wells… [of which] 21 are producing and 20 are shut in. Ten of the active wells are in the Monument” (BLM, 2008). The scenario projects seventy-three total wells to be drilled.
in the area, forty-four of which are expected to be in the monument itself (BLM, 2008). The monument also has limited potential for wind energy development, with some areas categorized as “good” by the Energy Information Administration [EIA] (EIA, 2013).

Regulations

In addition to regulations imposed by designation of a national monument, many other federal regulations limit certain activities on federally owned lands. This section includes a brief overview of relevant federal regulations.

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report the appropriate State Historic Preservation Officer or Tribal Historic Preservation Officer is consulted. Finally, the Advisory Council on Historic Preservation (ACHP) reviews the report, and a Memorandum of Agreement is completed. If no agreement can be reached, the ACHP will make recommendations, which must then be incorporated into the final plan (36 CFR 800).

*The National Wild and Scenic Rivers Act* – This act was passed by Congress in 1968 such that “outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition.” The act recognizes the potential for responsible river management and encourages “public participation and involvement” in developing management goals. Each river is administered by either a federal or state agency and designated segments need not include the entire river but may include tributaries (Wild and Scenic Rivers Act of 1968; 16 U.S.C. 1271 et seq.).

*Federal Lands Recreation Enhancement Act (FLREA)* – This act was enacted December 8, 2004, and provides federal land-managing agencies with long-term recreation fee authority. The Federal Lands Recreation Enhancement Act authorizes federal agencies to reinvest recreation fees at the local recreation sites where they were collected to benefit visitors through enhanced facilities and services. Specifically, the act states, “Not less than 80 percent of the recreation fees ... collected at a specific unit or area of a Federal land management agency shall remain available for expenditure ... until expended at that unit or area” (Federal Lands Recreation Enhancement Act of 2004).

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In Re Montana Wilderness Association, 807 F. Supp. 2d 990; 2011 U.S. Dist. LEXIS 88160

montana.org/about-us/financial-overview/


Giant Sequoia National Monument

**Geography**

Giant Sequoia National Monument includes nearly 328,000 acres within Sequoia National Forest. President Clinton established the monument on April 15, 2000. The monument is bounded by Kings River on the north and the North Fork of the Kern River on the east, with Sequoia National Park separating the two (U.S. Forest Service [USFS], 2003). The monument was named after the rare species of redwood, which grows on the western side of California’s Sierra Nevada Mountains; of the seventy-five known native groves, thirty-three are located within the monument.

Giant sequoias can grow up to three hundred feet tall and thirty-five feet in diameter at the base, making them one of the largest trees in the world. They are also remarkably long-lived; the oldest giant sequoia found is 3,200 years old (USFS Index of Species Information, 2013). Beyond giant sequoias, over two hundred plant species are native to the area. The proclamation establishing the monument notes that, “[t]he forests of the monument are also home to great gray owl, American marten, northern goshawk, peregrine falcon, spotted owl, and a number of rare amphibians” (President of the United States of America, 2000, p. 2). The elevation ranges from 2,500 to 9,700 feet, and includes a varied topography of “[b]old granitic domes, spires, and plunging gorges” (President of the United States of America, 2000, April 15, p. 1).

Hiking is popular within the monument. The southern portion contains the famous Trail of One Hundred Giants, a half-mile, gentle, and highly accessible trail that features over a hundred mature giant sequoias (U.S. Forest Service, 2010(b)). The northern portion features the massive 275 ft. Boole Tree, the largest tree on United States Forest Service land (USFS, 2010(a)).

**Interested Parties**

When President Clinton established Giant Sequoia National Monument he called on the Secretary of Agriculture to prepare a management plan for the area (President of the United States of America. 2000, April 15, p. 3). In 2004, after years
of development and thousands of public comments, the final management plan was released. The plan allowed the limited logging of trees thirty inches in diameter or less, for the purpose of reducing the risk of destructive fires, within the monument. Several environmentalist groups immediately appealed, including the John Muir Project and the Sierra Club. Despite this appeal, logging took place from July to September 2005 until Judge Charles R. Breyer used an injunction to stop logging until the legal challenges were resolved.

A coalition consisting of several environmentalist organizations and the State of California sued the USFS over the management plan. The coalition alleged that, by allowing any commercial logging, the plan violated both the National Environmental Policy Act (NEPA) and the original proclamation that had established the monument (Mendoza, n.d.). Ultimately, the Court sided with the coalition, concluding “that the Forest Service failed to comply with NEPA in preparing a management plan for the Giant Sequoia National Monument as required by the Presidential Proclamation” (People of the State California, ex rel. Bill Lockyer, v. United States Forest Service, et al. 2006. 465 F. Supp. 2d 942. U.S. Dist.). Thus, the management plan was rejected, and the USFA was required to create a new plan.

While the court’s decision settled the question of the USFS management plan, it did not settle the controversy. In 2011, Rep. Sam Farr (D-CA), along with environmentalist group Sequoia ForestKeeper, sent a letter to President Obama requesting that he transfer management of the monument from the Forest Service to the National Park service. Farr argued that, “the Forest Service has demonstrated it has neither the intention nor the institutional ability to protect this American national ecological treasure” (Farr, 2011). Despite this letter, no official action has been taken.

In compliance with the Court’s decision a new and final monument plan was released in August 2012. This plan once again allowed for the mechanical removal of trees, though it would “only be considered if other methods do not meet ecological objectives in the project purpose and need” (USFS, August 2012, p. 82). Sequoia
ForestKeeper has appealed the plan, and stated that they are “prepared to once again take the agency to court” (Marderosian, 2012, December 11. p. 1).

**Natural Resources**

According to the Energy Information Administration, Giant Sequoia National Monument has a photovoltaic solar potential of 5.93 to 7.03 kWh/m2/Day, the highest rating given by the EIA (EIA. 2013). No other significant energy resources have been found within the monument.

**Regulation**

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References


Cape Krusenstern National Monument

Geography

The Cape Krusenstern National Monument is located north of the Arctic Circle in Alaska and consists of roughly seventy miles of shoreline along the Chukchi Sea (National Park Service, 2012(c)). The monument consists of “[m]ore than 114 beach ridges that provide evidence of human use for 5,000 years” (National Park Service, 2012(c)). The Inupiat people continue to use the area to this day for hunting, gathering, and fishing.

According to the National Park Service, “[m]ost of the monument’s rolling topography is covered by moist to wet tundra” (National Park Service, 2012(a)). The flora of the monument consists of wet cotton grass tussock, along with peat mosses, dwarf birch, blueberry, cranberry, salmonberry, dwarf willows and Labrador Tea (National Park Service, 2012(a)). The monument’s soils “are underlain by a continuous swath of permafrost” that seasonally thaws to depths ranging from ten to less than one foot, which places significant limitations upon the construction of infrastructure (National Park Service, 2012(a)). The monument contains vast wetlands that serve as a summer habitat for migratory birds that come from as far away as South America (National Park Service, 2012(c)). The area is also home to a herd of nearly 500,000 caribou that range throughout northwest Alaska, as well as a plethora of other animals ranging from arctic hares to polar bears (National Park Service, 2012(a)).

Interested Parties

The Inupiaq Eskimos have resided in the area for over 5,000 years, and hold what many would deem to be the greatest stake in the monument and in any potential energy development (National Park Service, 2012(b)). Congress created the Organ Pipe Cactus to preserve the archeological treasures and historical value of the rich culture embodied by these indigenous people (National Park Service, 2012(b)).

Due to extreme northern conditions, a constant layer of permafrost, and little proven energy resources, there is currently very little interest from energy
development companies in Cape Krusenstern National Monument. While the monument itself has no current resource extraction activities underway, the monument does encompass the DeLong Mountain Transportation System that connects the Red Dog Mine with the Chukchi Sea (Alaska DNR, 2012). The mine itself lies approximately forty-six miles from the Chukchi Sea, well outside the borders of the monument, however, the road that connects this mine to the Sea (specifically the portion that passes through the monument) has sparked controversy (Alaska DNR, 2012).

A 2010 study by Brumbaugh, et al., shows that local wildlife are suffering detrimental effects caused primarily by trucks transporting zinc and lead from the mine to the mine’s port on the Chukchi Sea (Brumbaugh et al., 2010, p. 75). The Red Dog Mine currently produces over one million tons of zinc and lead annually, all of which must travel along almost twenty miles of road that traverses through the monument (Brumbaugh, et. al., 2010, p. 75). While the negative effect of this road on local wildlife has remained limited to areas in the immediate vicinity of the road itself, the fact that many small mammals and birds have been shown to have “about 20 times greater blood and liver lead concentrations ... [than] those from the reference site” (Brumbaugh, et. al., 2010, p. 73). Such groups have demanded a NEPA assessment be conducted to determine the exact effect of the road on the native fauna.

Natural Resources

While there are significant proven deposits of minerals including zinc and lead nearby, Cape Krusenstern has no known potential for fossil fuel extraction (Brumbaugh, et al., 2010, p. 75). The monument also has potential for wind energy development, with some areas categorized as “superb,” the highest rating given by the Energy Information Administration [EIA] (EIA, 2013).

Regulations

In addition to regulations imposed by designation of a national monument, many other federal regulations limit certain activities on federally owned lands. This section includes a brief overview of relevant federal regulations. Given the lack of resources in the monument, laws concerning extractive activities are not of
particular concern in this instance. Regulations invoked in transporting across the monument, however, are of interest.

National Environmental Policy Act (NEPA) – The National Environmental Policy Act was created to ensure that, before a potential project is begun, any environmental costs are carefully considered. The NEPA process can be lengthy, especially for a project with significant potential environmental impacts. In some circumstances however, if a project has expected environmental effects, a Categorical Exclusion may be issued by the federal agency with jurisdiction, excluding the project from further NEPA requirements. For projects expected to have environmental impacts, the first step in the NEPA process is an Environmental Assessment (EA). If the EA finds a project’s impact on the environment to be negligible, the interested agency will then issue a Finding of No Significant Impact. If significant impacts are found, an Environmental Impact Statement (EIS) is commissioned to show in greater detail how a given action would affect the environment. An EIS includes a list of possible alternatives along with their expected impacts on the environment. Finally, the federal agency must prepare a public record of decision that explains how the findings of the EIS will be incorporated into its final decision (Environmental Protection Agency, 2012). On average, an EIS takes 3.4 years to complete (deWitt and deWitt, 2008). The NEPA process alone cannot prevent a project from being completed, however, it can dramatically slow its development.

National Historic Preservation Act (NHPA) – The National Historic Preservation Act was enacted to preserve archaeological and historic sites throughout the U.S. threatened by development. If a potential project is expected to affect historical or archaeological sites located on federal lands, the responsible federal agency must complete a report detailing the possible adverse effects. During preparation of this report the appropriate State Historic Preservation Officer or Tribal Historic Preservation Officer is consulted. Finally, according to the Code of Federal Regulations, the Advisory Council on Historic Preservation (ACHP) reviews the report, and a Memorandum of Agreement is completed. If no agreement can be reached, the ACHP will make recommendations, which must then be incorporated into the final plan (36 CFR 800).

Endangered Species Act (ESA) – The Endangered Species Act is intended to protect threatened and endangered species and their habitat. Section 7 requires
federal agencies work with the U.S. Fish and Wildlife Service whenever a potential action on federal lands may affect an endangered or threatened species. After informal consultation, if the potential action seems likely to affect listed species, the federal agency must then prepare a biological assessment detailing the expected effects of the project on the species. If the biological assessment finds the potential project would likely negatively affect a listed species, then formal consultation with the Fish and Wildlife Service begins. After forty-five days, the Service must issue a biological opinion, “on whether the proposed activity will jeopardize the continued existence of a listed species” (Fish and Wildlife Service, 2012(a)). The ESA can considerably delay a project, and can even halt a project altogether if the expected effects on listed species are significant.

**The Clean Air Act (CAA)** – The Clean Air Act, passed in 1970, gives the Environmental Protection Agency (EPA) the authority to set limits on air pollutants in order to maintain minimum air quality standards. Congress revised the CAA in 1990, increasing the authority of the EPA to enforce the act and stressing the importance of making the reduction of air pollutants more economically feasible.

In overseeing the CAA, the EPA works closely with many state, tribal, and local agencies and can issue sanctions against these agencies for non-compliance (Environmental Protection Agency, 2007). States and tribes are responsible for issuing operating permits to “larger industrial and commercial sources that release pollutants into the air,” however; the EPA can take over if these agencies “do not do a satisfactory job of carrying out the Clean Air Act permitting requirements,” (Environmental Protection Agency, 2007).

**The Clean Water Act (CWA)** – The Clean Water Act is intended to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” The Environmental Protection Agency (EPA) is responsible for ensuring that any development does not pollute water beyond acceptable levels. The Clean Water Act includes limits on the amount of hazardous or toxic substances that can be released into water along with “goals regarding the elimination of discharge of pollutants and the improvement of water quality.” Permits for facilities to release hazardous
and toxic substances into water must be obtained from the EPA. Potential project operators must also comply with state requirements for clean water permitting.

*Federal Land Policy and Management Act (FLPMA)* — This act governs lands administered by federal agencies, and promotes multiple use policies that simultaneously preserve natural resources. It requires federal lands to be inventoried, protected, and managed, so as to create an environment to aid domestic growth and protect the wildlife and natural resources from over-exploitation. Under the act, “multiple use” is defined as “management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people” (U.S. Department of the Interior, 2001 p. 2).
References


Santa Rosa and San Jacinto Mountains National Monument

Geography

The Santa Rosa and San Jacinto Mountains National Monument encompasses an area of about 272,000 acres in Southern California (Bureau of Land Management [BLM], 2012). The monument is included with the San Jacinto Ranger District, the BLM’s California Desert Conservation Area, and the San Bernardino National Forest (BLM, 2012). The monument is surrounded by lands administered by the California Department of Parks and Recreation, Fish and Game, private landowners, and the Agua Caliente Band of Cahuilla Indians (BLM, 2012).

The monument also contains four wilderness areas, Santa Rosa Wilderness, San Jacinto Wilderness, Santa Rosa Mountains Wilderness, and Mt. San Jacinto State Wilderness Area (Cantu et al., 2002, p. 6). The Monument is home to a wide variety of habitats that support a vast array of plant and animal species that total well over five-hundred specific species (Cantu, et al., 2002, p. 6). Notable examples include the “Peninsular Ranges Bighorn Sheep, Least Bell’s Vireo, and Fan Palms, with Bald Eagles wintering along the shores of Lake Hemet near the monument” (Cantu, et al., 2002, p. 6).

Interested Parties

Congress established the Santa Rosa and San Jacinto Mountains National Monument, on October 24, 2000 (BLM, 2012). The “[e]stablishment of the National Monument reflect[ed] the vision of local citizens and national leaders to ensure this special landscape is protected for all time” (BLM, 2012).

The monument was created with strong support from local residents who advocated for its designation in order to protect what was deemed “significant biological, cultural, recreational, geological, educational, and scientific values” located in the area (BLM, 2012). Visitors and nearby residents enjoy the monument’s ample opportunities for hiking, mountain biking and horseback riding (BLM, 2011).

The Agua Caliente Band of Cahuilla Indians have a longstanding history in the area. According to the BLM, the Cahuilla have lived in the area for over 3,000 years and have several sacred sites located in and around the Santa Rosa Mountains
Currently, the Cahuilla manage 23,000 acres of the monument (Cantu, et al., 2002, p. 6; Bureau of Land Management, n.d.). Additionally, environmental groups work towards protecting the endangered and threatened species in the area, such as the California red-legged frog and the desert slender salamander (Bureau of Land Management, n.d.).

Natural Resources

Traditional energy development within the monument’s borders has never been economically viable due to a lack of available energy resources. Alternative energy generation, however, is possible in the monument. The area has potential for solar energy generation given its large number of sunny days. According to the Energy Information Administration (EIA) the area’s potential ranges between 5.93 and 7.03 kWh/m^2/Day (EIA, 2013). This is coupled with the fact that the monument is located “[n]o more than a two hour drive from either Los Angeles or San Diego” to allow for relatively efficient and easy transmission of any alternative energy that is produced (Mount San Jacinto SP, 2013). The monument also has potential for development of wind energy, with some areas categorized as “superb,” the highest rating given by the Energy Information Administration (EIA, 2013).

Regulations

In addition to regulations imposed by designation of a national monument, many other federal regulations limit certain activities on federally owned lands. This section includes a brief overview of relevant federal regulations.

National Environmental Policy Act (NEPA) – The National Environmental Policy Act was created to ensure that, before a potential project is begun, any potential environmental costs are carefully considered. The NEPA process can be lengthy, especially for a project with significant potential environmental impacts. In some circumstances however, if a project has expected environmental effects, a Categorical Exclusion may be issued by the federal agency with jurisdiction, excluding the project from further NEPA requirements. However, for other projects expected to have environmental impacts, the first step in the NEPA process is an Environmental Assessment (EA). If the EA finds a project’s impact on the environment to be negligible, the interested agency will then issue a Finding of No Significant Impact
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Federal Land Policy and Management Act (FLPMA) – This act governs lands administered by federal agencies, and promotes multiple use policies that simultaneously preserve natural resources. It requires federal lands to be inventoried, protected, and managed, so as to create an environment to aid domestic growth and protect the wildlife and natural resources from over-exploitation. Under the act, “multiple use” is defined as “management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people” (U.S. Department of the Interior, 2001 p. 2).
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Admiralty Island National Monument

Geography

Admiralty Island National Monument covers 956,155 acres located about fifteen miles southwest of Juneau, Alaska. It is separated from the mainland by Stephen’s Passage on the east and north sides and Chatham Strait and Frederick Sound on the west and south respectively. The island is rugged and mountainous with a variety of landscapes including old-growth rainforest, tundra, and permanent ice fields (Alaska Travel Industry Association, n.d.).

The island’s unique ecology was among the reasons President Jimmy Carter designated the national monument in 1978 (Carter, 1978). Otherwise known as Kootznoowoo meaning “fortress of bears” to the native Tlingit people, Admiralty Island hosts more brown bears than “anywhere in the world” (Alaska Travel Industry Association, n.d.). Notable flora and fauna include a coastal rainforest of Sitka spruce and western hemlock, harbor seals, porpoises, whales, Sitka black-tailed deer, five species of pacific salmon, and the highest concentration of nesting bald eagles in the world (Alaska Travel Industry Association, n.d.).

Interested Parties

Admiralty Island is home to the largest silver mine in the United States. Today, the Green’s Creek Mine, owned by Helca Mining Company, produces silver, gold, zinc, and lead (Southeast Alaska Conservation Council, n.d., Greens Creek Mine; Helca Mining Company, n.d.). In a 1996 Land Exchange Agreement with the U.S. Forest Service (USFS), the company was given a 99-year exploration lease and exploration and mining rights to 7,500 acres. These rights were given in exchange for privately held land valued at $1 million (Helca Mining Company, n.d.).

The village of Angoon, the island’s only settlement, is largely populated by the Tlingit people who have inhabited the island for over 10,000 years (Alaska Travel Industry Association, n.d.; Carter, 1978). During the 1970s, the discovery and extraction of valuable natural resources in Admiralty Island threatened to change the way of life of the residents (Hecla, n.d. George, R, 2012). Angoon Mayor Richard George expressed his misgivings about the effects of mining on the com-
munity. “Since time immemorial, this land has been ours…although I am not an expert on the effects mining can have, I am greatly concerned about the impacts the mine is having in our community” (George, 2012).

The Southeast Alaska Conservation Council’s (SEACC) mission is “to protect the special places of the world’s largest temperate rainforest, promote conservation, and advocate for sustainability in human use of natural resources” (Southeast Alaska Conservation Council, n.d.). Along with the Tlingit people, the SEACC is concerned with mining in Admiralty Island National Monument because of the potential environmental damage caused by waste, called tailings, produced during the mining process. A thirty acre expansion of the toxic tailings dump at the Green’s Creek Mine lead the SEACC to call for more oversight of the mine. This isn’t the first expansion of the tailings dump, and the SEACC wants the estimate for this expansion to be more accurate to allow regulators and stakeholders to “analyze the true costs and benefits of the project, to evaluate foreseeable impacts, or to meaningfully consider potential alternatives and mitigation options” (Southeast Alaska Conservation Council, 2013).

Natural Resources

As the fifth largest producer of silver in the world the Greens Creek mine has produced “more than 175 million ounces of silver, 1.3 million ounces of gold, and 3.3 billion pounds of zinc and lead — generating almost $3.4 billion of revenue” (Helca Mining Company, 2008; Helca Mining Company, 2012, p. 6). Helca’s land exchange with the USFS has given them mineral rights to 7,301 acres of Admiralty Island land, and enough ore for at least a further ten years of mine life (Helca Mining Company, 2012, p. 13-14). Valuation of probable reserves estimate
that almost eight million tons of ore still lie untouched, comprised of silver, gold, zinc, and lead (Helca Mining Company, 2012, p. 16).

**Regulations**

In addition to regulations imposed by designation of a national monument, many other federal regulations limit certain activities on federally owned lands. This section includes a brief overview of relevant federal regulations.

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**Bald and Golden Eagle Protection Act** – This act was passed in 1940 to protect the bald eagle and the golden eagle. The act prohibits “taking” of these species and providing criminal penalties for those “who take, possess, sell, purchase, barter, offer to sell, purchase to barter, transport, export or import,” any bald or golden eagle, or the eggs or nests of these species without first obtaining a federal permit (Fish and Wildlife Service, 2012(b)). The punishment for violating this act may include a fine of $100,000 for an individual and $200,000 for an organization and/or imprisonment for a year (Fish and Wildlife Service, 2012(b)). In 1978 the act was amended to allow for “the taking of golden eagle nests that interfere with resource development,” however, the Secretary of the Interior must authorize such action (Fish and Wildlife Service, n.d.). This act creates steep hurdles for development of energy-related projects on federal lands where bald eagles and golden eagles are located.

**The Clean Air Act (CAA)** – The Clean Air Act, passed in 1970, gives the Environmental Protection Agency (EPA) the authority to set limits on air pollutants in order to maintain minimum air quality standards. Congress revised the CAA
in 1990, increasing the authority of the EPA to enforce the act and stressing the importance of making the reduction of air pollutants more economically feasible.

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Federal Lands Recreation Enhancement Act (FLREA) – This act was enacted December 8, 2004, and provides federal land-managing agencies with long-term recreation fee authority. The Federal Lands Recreation Enhancement Act authorizes federal agencies to reinvest recreation fees at the local recreation sites where they were collected to benefit visitors through enhanced facilities and services. Specifically, the act states, “Not less than 80 percent of the recreation fees ... collected at a specific unit or area of a Federal land management agency shall remain available for expenditure ... until expended at that unit or area” (Federal Lands Recreation Enhancement Act of 2004).

Federal Land Policy and Management Act (FLPMA) – This act governs lands administered by federal agencies, and promotes multiple use policies that simultaneously preserve natural resources. It requires federal lands to be inventoried, protected, and managed, so as to create an environment to aid domestic growth and protect the wildlife and natural resources from over-exploitation. Under the
act, “multiple use” is defined as “management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people” (U.S. Department of the Interior, 2001 p. 2).
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APPENDIX
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Zach Volin