

From: Bowman, Randal
To: [McAlear, Christopher](#); [Sally Butts](#); [Boone, Whitney](#); [Jeff Rupert](#)
Subject: Fwd: monuments -- Craters of the Moon; Katahdin; Upper Missouri; Hanford
Date: Friday, July 14, 2017 3:30:49 PM
Attachments: [Craters of the Moon - DRAFT 7-14-17.docx](#)
[Upper Missouri River Breaks review DRAFT 7 14 17.docx](#)
[Hanford Reach - DRAFT 7 14 17.docx](#)
[Katahdin woods and waters DRAFT 7 14 2017.docx](#)

Here are economic reports on 4 additional monuments. It would be helpful if we could get comments by the 28th.

Although Craters and Hanford are off the list for recommending any changes, we will still release these reports at the end of the process and want to be as complete and accurate as possible.

----- Forwarded message -----

From: **Simon, Benjamin** <benjamin_simon@ios.doi.gov>
Date: Fri, Jul 14, 2017 at 4:04 PM
Subject: monuments -- Craters of the Moon; Katahdin; Upper Missouri; Hanford
To: Randal Bowman <randal_bowman@ios.doi.gov>
Cc: Ann Miller <ann_miller@ios.doi.gov>, Christian Crowley <christian_crowley@ios.doi.gov>, "Stern, Adam" <adam_stern@ios.doi.gov>, Sarah Cline <sarah_cline@ios.doi.gov>, "Skrabis, Kristin E" <Kristin_Skrabis@ios.doi.gov>

Hi Randy,

Here are write-ups for four more monuments. It would be helpful to get comments on these.

Ben

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Craters of the Moon National Monument & Preserve *DRAFT*

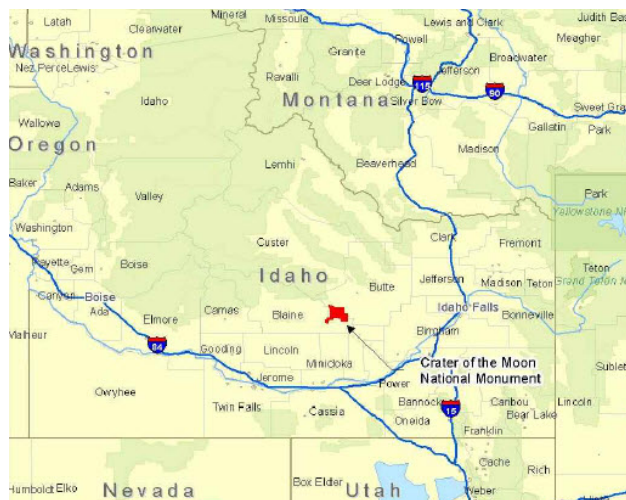


Table 1. Blaine, Butte, Minidoka, Power Counties and State of Idaho Economic Snapshot

Introduction

The purpose of this paper is to provide information on the economic values and economic contributions of the activities and resources associated with Craters of the Moon National Monument & Preserve (CMNM or Monument). A brief economic profile of Blaine, Butte, Minidoka, and Power Counties, which are in the Snake River Basin of Central Idaho, are also provided.

Background

CMNM, the first national monument in Idaho, was established by President Coolidge on May 2, 1924 (Proclamation 1694) to preserve its “lunar” landscape thought to resemble that of the Moon. Between 1928 and 1962, four more presidential proclamations were issued, which adjusted the Monument boundary from roughly 25,000 to 53,000 acres. In November 2000, President Clinton issued Proclamation 7373, expanding CMNM from approximately 50,000 acres to nearly 750,100 acres. Proclamation 7373 transferred management of the area’s exposed lava flows from BLM to NPS, and included BLM-managed lands to assure protection for the entire Great Rift volcanic zone, a “remarkable fissure eruption together with its associated volcanic cones, craters, rifts, lava flows, caves, natural bridges, and other phenomena characteristic of volcanic action which are of unusual scientific value and general interest.” In 2002, Congress passed PL 107–213, which re-designated as preserve the approximately 411,475 acres of NPS-managed land added through Proclamation 7373. This designation allows hunting on lands. All BLM lands are open for hunting and fishing.

Within the CMNM boundary are 275,100 acres of BLM land, 465,300 acres of NPS land, 8,200 acres of state land, and 6,600 acres of private land. The CMNM boundary occupies approximately 14% of the area in the five counties. Because the Monument boundary is minimal in Lincoln County (2%), it is excluded from the economic profile provided below. Shoshone-Bannock and Shoshone-Paiute tribes claim the CMNM is within their historic cultural area.

Public Outreach Prior to Designation

According to newspaper articles published in the early 2000s (prior to expansion), there had been numerous attempts by local boosters to expand the CMNM, most recently in the 1980s. Secretary Bruce Babbitt visited the area in April 2000, meeting with local government officials, permittees, and others to have conversations regarding ways to protect the special volcanic resources found in the area. Babbitt returned to the area to meet with local ranchers in the area the following month and, with their input, mapped out what would become the boundaries of the expansion.

In June 2000, Senator Larry Craig held a Hearing of the U.S. Senate Subcommittee on Forests and Public Land Management in Twin Falls, Idaho. Three panels were convened from a mix of local government officials, environmental organizations, permittees, and others. There were approximately 75 people in attendance. More than 30 people provided oral testimony in addition to the people on the panels. Oral testimony was about split between those testifying for the expanded Monument and those testifying against.

Craters of the Moon National Monument & Preserve, Idaho

Location: Blaine, Butte, Minidoka, and Power Counties, ID

Managing agencies: NPS, BLM

Adjacent cities/counties/reservations:

- Counties: 2% of Monument area extends into Lincoln County, ID

Resource Areas:

- ☒ Recreation ☐ Energy ☐ Minerals
- ☒ Grazing ☐ Timber ☒ Scientific Discovery
- ☒ Tribal Cultural

Measure	Blaine, Butte, Minidoka, Power Counties, ID	Idaho
Population, 2016 ^a	51,972	1,616,547
Unemployment Rate, April 2017 ^b	2.2-3.5%	3.4%
Median Household Income, 2015 ^a	\$37,891-\$60,088	\$47,583

^aU.S. Census Bureau, 2011-2015 American Community Survey

^b<http://lmi.idaho.gov/publications/2017/LAUS/unemploymentbycounty.pdf>

On the NPS-administered portion of the 2000 monument expansion, the primary public concern was hunting restrictions on the expanded monument lands. The re-designation of this area to national preserve allows hunting, eliminating this concern.

Local Economy and Economic Impacts

As summarized in Table 1, Blaine, Butte, Minidoka, and Power Counties in central Idaho account for approximately 3% of the State's population. Only Blaine County exceeds the State's median household income. All but Power County have

unemployment rates lower than the State. The population of Blaine County has increased substantially over the past 20 years, while Butte County has dropped. Native American population ranges from 0% to just over 4% in these counties.

The USDA Economic Research Service (ERS) has developed a set of county-level typology codes that captures a range of economic and social characteristics. The CMNM counties are classified as follows:

- Farming dependent – Minidoka and Power Counties (farming accounted for 25% or more of the county's earnings or 16% or more of the employment averaged over 2010-2012)
- Recreation dependent – Blaine County (ERS formula based on recreation-related employment, earnings, income, and seasonal housing)
- Manufacturing dependent – Power County (manufacturing accounted for 23% or more of the county's earnings or 16% of the employment averaged over 2010-12)
- No dependence on mining, and no persistent poverty

Socioeconomic conditions in these counties have followed roughly the same pattern as the rest of the U.S. in recent years with a long upward trajectory in personal income and employment, which was interrupted by the 2007-2009 recession. Over time, unearned income (income from investments, rental properties, retirement accounts, etc.) has become an increasingly large source of total income within the five counties, reaching a high of around 45% of all income as of 2009. This implies that the local economy could be enjoying stability that comes with income independent on the labor market, and it corresponds with an aging population. From 1970 to 2000, job growth in services, construction, and retail-related industries outpaced growth in every other economic sector in the region. Services industry jobs increased by a much larger number than did jobs in any other industry during those same years, but since 2000, most sectors' employment numbers have remained fairly steady. At 12.5% in 2012, farm earnings as a percentage of total earnings are quite a bit higher in the five-county region than in the U.S. (1%). In 2007, beef cattle operations comprised nearly 30% of all farm enterprises in the study area.

Activities and Resources Associated With CMNM

Activities taking place at CMNM include:

- Recreation:** As summarized in Table 2, 255,400 NPS park visitors spent an estimated \$8.9M in local gateway regions while visiting CMNM in 2016. These expenditures supported a total of 139 jobs, \$3.3M in labor income, \$5.3M in value added, and \$10.2M in economic output in local gateway economies surrounding the Monument. Another 3,654 visitors spent \$117,842 on BLM lands, supporting 2 additional jobs and \$78,941 in value added. The average consumer surplus value for the area is \$54.19 per recreational visitor-day, resulting in an estimated \$14M of economic value (net benefits) generated in 2016.¹ The Idaho Fish and Game Commission sets hunting seasons and other regulations for hunting in Idaho. Most of CMNM is within Idaho Fish and Game Hunting Unit 52A. The length of season and number of available controlled-hunt tags vary annually on the basis of wildlife population levels and other factors.
- Energy:** There are no known natural gas or oil deposits within the Monument boundaries. The area has not been formally assessed for energy but a USGS survey on the mineral resource potential of an area that included CMNM noted that “Locating...hypothetical resources (oil and gas) that may underlie the geologically young lava flows of the study area would require extensive geophysical exploration and drilling.”²
- Non-Energy Minerals:** There are no known mineral deposits within the Monument boundaries. There was one Free Use Permit in existence in the BLM Monument on the date of Proclamation 7373. Free Use Permits at two sites within the Monument produced 12,750 cubic yards in 1997 and 1,053 cubic yards in 1998. Once the permit expired, it was not re-issued. The Idaho Transportation Department holds three right-of-way grants for five pumice/cinder material sites in the Monument. These right-of-way grants are valid existing rights unaffected by Proclamation 7373. No mineral processing facilities are identified as located close to the Monument.
- Grazing:** NPS administers 465,047 acres (62%) of CMNM. The NPS-administered areas are not available for livestock use. These areas consist primarily of exposed lava flows, which are mostly devoid of available forage and/or inaccessible to livestock. BLM manages livestock grazing on approximately 290,000 acres (including BLM, private, and state lands) in the Monument. Of the 275,100 acres managed by BLM, 273,900 (99.6%) are available for livestock grazing. Current permitted Animal Unit Months (AUMs) within the Monument total 36,965. Grazing is managed by three different BLM field offices and data on billed AUMs provided by BLM includes AUMs billed on allotments that do not fall within Monument boundaries. In FY 2016, there were 51,386 billed

Table 2. Estimated Economic Contributions, 2016

Activities	Value added (net additions to GDP), \$ millions	Employment supported (number of jobs)
Recreation*	\$5.3M	139
Grazing	Grazing value-added is not available	94
Cultural resources	Unquantifiable; some values would be included in recreation	Unquantifiable; some values would be included in recreation

*Source: National Park Visitor Spending, <https://www.nps.gov/subjects/socialscience/vse.htm>. Recreational visits are based on counts at the main entrance off Highway 20/26 and overnights are at the NPS campground in the park.

¹ Recreation unit value is a survey-based value for general recreation for the Intermountain region from the USGS Benefit Transfer Toolkit <https://my.usgs.gov/benefit-transfer/>. Economic value is the net benefit to recreational users (total benefits minus total costs).

² Mineral Resource Potential of the Great Rift Instant Study Area Blaine, Butte, Minidoka, and Power Counties, Idaho <https://pubs.usgs.gov/mf/1462-B/report.pdf>

AUMs between the three field offices of which an estimated 14,650 are attributed to the Monument. It is estimated that this level of grazing is associated with economic output of approximately \$7.0 million and supports around 94 jobs.³ Direction contained in the CMNM Management Plan prohibits new livestock developments in the North Laidlaw Park pasture and Bowl Crater allotment. The Shoshone Field Office recently released a Proposed Plan Amendment that analyzes alternatives for livestock grazing management on BLM managed lands. The Proposed Plan includes minor changes to the total number of AUMs permitted in the Monument.

- **Timber:** None. This area is not conducive to timber production.
- **Scientific Investigation:** Scientific research in the CMNM is diverse and includes ongoing investigations of the geology and kipukas (isolated vegetation communities surrounded by lava). The CMNM focuses interpretive and educational programs on geology, the prehistoric and historic value of the park, ecosystems, and adaptation.
- **Tribal Cultural Resources:** The archaeological record indicates members of the Shoshone-Bannock tribes and their ancestors spent considerable time at CMNM. A small amount of subsistence hunting occurs by members of the tribes. NPS reports that tribal access is good, and members appear to come to CMNM on a regular basis.

(b) (5) DPP



³ BLM data.



Upper Missouri River Breaks National Monument

Economic Values and Economic Contributions

DRAFT



Upper Missouri
River Breaks
National
Monument

Introduction

The purpose of this paper is to provide information on the economic values and economic contributions of the activities and resources associated with Upper Missouri River Breaks National Monument (UMRBNM).¹

Background

The Upper Missouri River Breaks National Monument, designated in 2001, spans 374,663 in Blaine, Fergus, Phillips and Chouteau counties in Montana. The Monument contains a number of biological, geological, and historical objects, and a number of tribes that inhabited the area prior to the American westward expansion have an interest in the area.

Upper Missouri River Breaks National Monument

Location: Blaine, Fergus, Phillips and Chouteau counties, MT

Managing agency: BLM

Adjacent towns: Fort Benton, Big Sandy

Tribal land: Fort Belknap Reservation, Rocky Boy's Reservation

Resource Areas:

☒ Recreation ☒ Energy ☐ Minerals

☒ Grazing ☐ Timber ☒ Scientific Discovery

☒ Tribal Cultural

Local Economy and Economic Impacts

Collectively the population of the four counties on which the Monument is located (Blaine, Fergus, Phillips, and Chouteau) make up about 3% of the population of the State of Montana. Nearly half of the population of Blaine County, in which the majority of the Fort Belknap Reservation is located, and around 20% of Chouteau County, where part of the Rocky Boy's Reservation is located, is Native American. The four counties on which the Monument is located have recently experienced relatively low unemployment rates (ranging from 2.9% to 3.5% in May 2017), the adjacent reservations have substantially higher unemployment rates (7.8% in Ft. Belknap and 9.7% in Rocky Boy's in May 2017). Median household incomes for the four counties are somewhat lower than that of the State, ranging from \$36,071 to \$40,881 in 2015. The median household incomes of Native Americans in Blaine and Chouteau counties are substantially lower, ranging from \$20,078 to \$26,364.²

Activities and Resources

Information on the economic contributions associated with the activities occurring at Upper Missouri River Breaks National Monument are provided below.

- **Recreation:** UMRBNM hosts a variety of recreation opportunities including hiking, camping, hunting, fishing, boating, horseback riding, mountain biking, and off-highway vehicle riding. In addition, commercial recreation activities are permitted for hunting, fishing, and scenic and interpretive tours. In FY2016, the visitation level of 46,342 visitors was associated with approximately \$1.3 million in value-added and \$2.4 million in economic output and supported approximately 32 jobs.
- **Energy:** The monument includes about 396,000 acres of federal minerals. While the Monument designation closed the area to new oil and gas leases, those with valid existing rights are allowed to continue operation subject to lease stipulations.

¹ The BLM provided data used in this paper.

² All population and income data are 2015 estimates from the 2011-2015 American Community Survey 5-Year Estimates, US Census Bureau

- **Coal.** There have been no commercial coal developments in the Monument area.
- **Oil and gas.** Historically, the majority of oil and gas exploration activity in the Monument area has been for natural gas. (b) (5) DPP
The production of natural gas occurs on Monument land. Production levels of 27,314 mcf of natural gas in FY2016 are associated with about \$0.03 million in value-added and \$0.09 million in economic output, and supported about 1 job.
- **Non-fuel minerals.** No locatable mineral production occurs within the Monument. USGS survey reports of the area found deposits containing copper, lead, zinc, zeolites, uranium, niobium, zirconium, thorium, titanium, sulfur, tantalum, beryllium, lanthanum, cerium, and vermiculite, but estimates these occurrences to be unrecoverable and marginal in value. There are no existing leases or mining claims for solid leasables and no active pit or quarry sites located on the Monument.⁴
- **Timber.** There is no commercial timber production on the Monument both pre- and post-designation.
- **Grazing.** In FY2016, there were 45,829 permitted Animal Unit Months (AUMs), of which 39,950 were billed. This level of billed AUMs is associated with approximately \$10 million in economic output and supported approximately 105 jobs. Although grazing levels have varied considerably from year to year due to factors such as drought, no reductions in permitted livestock grazing use have been made as a result of the Monument designation.⁵
- **Tribal cultural, archeological, and historic resources.** Archaeological surveys carried out to date reveal concentrated use of the UMRBNM, primarily along the Upper Missouri Wild and Scenic River. Other areas of note include artifacts and sites associated with Native American hunting activity. Hundreds of recorded sites include rock art panels, occupation sites, campsites, hunting impoundments and drive lines. Cultural landscapes associated with the Lewis & Clark National Historic Trail and the Nez Perce National Historic Trail remain intact. Landscapes associated with steamboats and later exploration, as well as settlement associated with homesteading and other agricultural settlement still exist as well. As of April 25, 2017, there are 439 recorded cultural sites within the UMRBNM; at this time twenty-two percent of the Monument has been surveyed. Seven tribes in and around Montana have interest in the UMRBNM; none are resident. Lewis & Clark noted the presence of tribes in the area; the 1855 Lane Bull Treaty at Council Island had representatives from Piegans, Bloods, Gros Ventres, Blackfeet, Nez Perce, Salish, and Cree.

Land Management Tradeoffs

This section presents some information to help understand land management tradeoffs. (b) (5) DPP

³ BLM data.

⁴ BLM data.

⁵ BLM data.

limited or no substitutes. A particularly challenging component of any tradeoff analysis is estimating the nonmarket values associated with UMRBNM resources, particularly the nonmarket values associated with cultural and scientific resources.

Planning for permitted resource use on National Monuments will involve trade-offs among different activities on the land area being managed in order to allow permitted activities that are compatible with monument objects. Once designated, National Monuments continue to be managed under the multiple use mandate outlined in the Federal Land Policy and Management Act of 1976. In some cases, certain areas of the Monument may be appropriate for more than one use. After the careful consideration of tradeoffs, management decisions in those cases may prioritize certain uses over others. In other cases, land areas may be more appropriate for a particular use and activities could be restricted to certain areas of the Monument. These decisions are based upon whether a use is compatible with the designation. Factors that could inform these tradeoffs include demand for the good or activity, prices, costs, and societal preferences. Other considerations might include the timeframe of the activity - how long the benefits and costs of a given activity would be expected to extend into the future. Trust responsibilities and treaty rights should also be considerations.

In considering any trade-offs, it is not just the level and net economic value associated with an activity that occurs in a given year that is relevant to decision making. Virtually all activities within the Monument occur over time and it is the stream of costs and benefits over a given period of time associated with each activity that is relevant. For example, recreation activities could continue indefinitely assuming the resources required for recreation remain intact and of sufficient quality for individuals to remain interested in the activity. Likewise, the values associated with the natural and cultural resources could continue indefinitely provided they are not degraded by other activities (and assuming preferences do not change). Grazing could also continue indefinitely as long as the forage resource is sustainably managed and remains consistent with the protection of monument objects. Timber harvest may also continue indefinitely as long as the timber resource is sustainably managed. The stream of costs and benefits associated with some other non-renewable resources would be finite, however (assuming these activities were consistent with the designation). For example, oil, gas, coal and minerals are all non-renewable resources and would only be extracted as long as the resource is economically feasible to produce.

(b) (5) DPP



DRAFT – July 14, 2017 – values, figures, and text are subject to revision

(b) (5) DPP

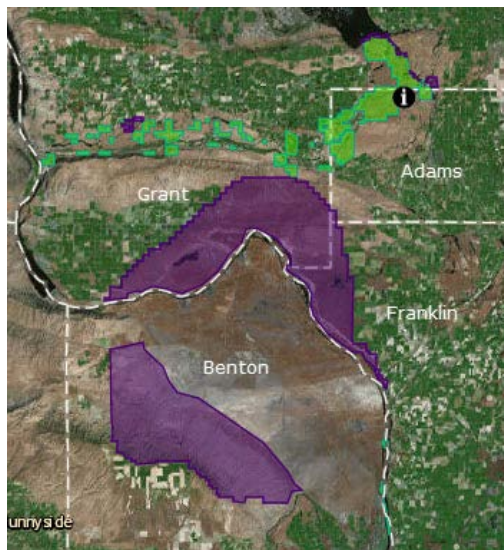




Hanford Reach National Monument

Economic Contributions and Economic Values

DRAFT



Introduction

The purpose of this paper is to provide information on the economic values and economic contributions of the activities and resources associated with Hanford Reach National Monument (HRNM or Monument). A brief economic profile of Grant, Benton, and Franklin Counties in eastern Washington (WA), are also provided.

Background

President Clinton issued Proclamation 7319 on June 9, 2000, establishing the 195,000-acre HRNM. The Monument is situated on the outskirts of the Department of Energy's (DOE) 375,040-acre Hanford Site. In 1989, DOE stopped producing plutonium and began cleaning up facilities, lands, and groundwater contaminated with hazardous materials, including radionuclides and chemical wastes. The Monument was created from buffer lands that were no longer necessary for the DOE's mission, forming a horseshoe shape around the cleanup area. FWS manages approximately 165,000 acres through a DOE permit and other agreements. HRNM is managed as part of the Mid-Columbia River National Wildlife Refuge Complex, which comprises eight refuges within the Columbia Basin. DOE directly manages approximately 29,000 acres, and the WA Department of Fish and Wildlife manages the remainder under a DOE permit.

As a buffer for the Hanford Site, the HRNM lands have remained largely undeveloped for over six decades. The Monument encompasses a biologically diverse landscape containing important and increasingly scarce scientific, historic and cultural resources. It provides opportunity for scientific study of a broad array of newly discovered and uncommon native plants and animals. Migrating salmon, birds and hundreds of other native plant and animal species, some found nowhere else in the world, are supported by its natural ecosystems. One of the highlights of the HRNM is the iconic White Bluffs (pictured on the cover page), which contain fossils of mastodons, camels, zebras and rhinoceros. The Monument also includes 46.5 miles of the last free-flowing, non-tidal stretch of the Columbia River, the 51-mile "Hanford Reach."

FWS and DOE have several missions they fulfill at the Hanford Site. FWS, under existing permits from DOE, is responsible for the protection and management of Monument resources and the management of people. FWS also has the responsibility to protect and recover threatened and endangered species; administer the Migratory Bird Treaty Act; and protect fish, wildlife, tribal and other trust resources of the Monument. DOE is responsible for protecting the resources of a portion of the designated Monument that has yet to transition to FWS, managing energy research, and remediating wastes remaining from weapons material production. DOE also administers land use agreements and permits with the Washington Department of Transportation, Bureau of Reclamation, South Columbia Basin Irrigation District, Bonneville Power Administration, Energy Northwest, adjacent counties, and others to enable these entities to fulfill their missions in energy production and distribution, communications, transportation and irrigation. Because DOE is currently the underlying land holder, it retains approval authority over certain management aspects of the Monument.

Ancestors of the Wanapum People, Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Colville, Confederated Tribes of the Umatilla Reservation, and the Nez Perce all used this

Hanford Reach National Monument

Location: Benton, Franklin, and Grant Counties, WA

Managing agencies: FWS and DOE

Adjacent cities/counties/reservations:

Adams County (small portion within HRNM); Richland, WA; Yakima Reservation

Resource Areas:

☒ Recreation ☒ Energy ☒ Minerals
☐ Grazing ☐ Timber ☒ Scientific Discovery
☒ Tribal Cultural

region for hunting, fishing, and other subsistence activities. Generations of local Native Americans fished along the Hanford Reach.

Prior to the DOE'S Hanford Site project, some of the Lands on the Wahluke Slope, north of the river, were identified for future irrigation development as part of Reclamation's Columbia Basin Project. Approximately 32,000 acres were eventually incorporated into the Hanford Site as part of a safety and security buffer zone. Reclamation lands are subject to a Memorandum of Agreement signed in 1957, which states that when these lands are no longer needed by DOE, they will be returned for incorporation into the Columbia Basin Project.

Public Outreach Prior to Designation

In 1988, Congress directed NPS to study the Hanford Reach of the Columbia River and recommend protection measures. In 1994, NPS recommended designation of a National Wildlife Refuge north and east of the river, and a National Wild and Scenic River designation for the Hanford Reach. Legislation was introduced in 1995 and discussed until 1999, but failed to designate the Hanford Reach a Wild and Scenic River.

In 1999, after extensive discussions with the State of WA, Tribes, local governments, other federal agencies, environmental groups, and the public, DOE issued a Record of Decision (ROD) for future land uses of the entire Hanford Site, which designated the lands covered in the proposed Monument for preservation. Senator Patty Murray asked Secretary of the Interior Babbitt to consider recommending monument designation to protect the area. Secretary Babbitt visited the area to discuss protection for the Hanford Reach and surrounding land with a wide variety of affected interests, and then recommended that the area be designated a National Monument.

Secretary Babbitt established a Federal Planning Advisory Committee (Committee) in [December 2000](#), under regulations of the Federal Advisory Committee Act (FACA) to make recommendations to FWS and DOE on the preparation of a long-term Comprehensive Conservation Plan (CCP) and associated EIS for Hanford Reach. The Committee was comprised of a group of 13 different stakeholders in the local community, representing state, county, city, tribal, business, environment/conservation, outdoor recreation, education, scientific/academic (three seats), utilities/irrigation, and public-at-large interests. Public involvement was given considerable attention in the Monument's CCP process. The formal planning process was started in June 2002. Four public scoping meetings and one Monument open house were held during the 120-day comment period. Meeting dates were published in the *Federal Register* and sent to local and regional media outlets prior to each meeting. FWS gave approximately 60 public presentations on the CCP/EIS project to a wide variety of audiences, ranging from the County Commissioners to local Kiwanis and Rotary Clubs to nongovernmental organizations. Tours of the Monument were organized for numerous interested organizations and individuals—tribes, Washington congressional representatives, Tri-City Herald Editorial Board, Washington Fish and Wildlife Commission, and local farmers and ranchers, among others. FWS used these tours to get valuable input for use in development of the CCP (p. 5-11).

Local Economy and Economic Impacts

As summarized in Table 1, Benton, Franklin and Grant Counties account for approximately 5% of the State of WA's population. All of the counties in the HRNM have higher unemployment rates and lower median household incomes than for the state. The populations have all increased substantially since 1990 with Franklin County increasing almost 131%.

The USDA Economic Research Service (ERS) has developed a set of county-level typology codes that captures a range of economic and social characteristics. The HRNM counties are classified as follows:

- Farm Dependent – Grant County (farming accounted for 25% or more of the county's earnings or 16% or more of the employment averaged over 2010-2012).
- Urban (metro) – Benton and Franklin Counties (metro areas include all counties containing one or more urbanized areas: high-density urban areas containing 50,000 people or more; metro areas also include outlying counties that are economically tied to the central counties, as measured by the share of workers commuting on a daily basis to the central counties)
- Retirement Destination – Franklin County (number of resident 60 and older grew by 15 percent or more between 2000 and 2010)
- Low Education – Franklin and Grant Counties (at least 20% or more of the residents age 25 to 64 did not have a high school diploma or equivalent between 2008-2012)
- No dependence on mining or recreation, and no persistent poverty

Agriculture, mining, and timber industries were becoming a smaller share of the overall economy in the HRNM region well before designation. These industries remain a part of the region's economy. In 2015, agriculture accounted for 8% of total employment; mining accounted for 0.1% of total private employment; and timber accounted for 0.2% of total private employment.

Activities and Resources Associated With HRNM

Activities taking place at HRNM include:

- **Recreation:** FWS' Division of Economics reported the HRNM had 33,925 recreational visits in 2011. Fishing visits comprised 59 percent of all visits, and the majority of visitors were residents (63 percent). Table 2 shows total economic effects (total recreation expenditures plus net economic value). For an individual, net economic value is that person's total willingness to pay for a particular recreation activity minus his or her actual expenditures for that activity. The figure for economic value is derived by multiplying net economic values for hunting, fishing, and non-consumptive recreation use like wildlife viewing (on a per-day basis) by estimated refuge visitor days for that activity. This figure is combined with the estimate of total expenditures to estimate total economic effects (Banking on Nature [2013](#)). For the entire HRNM, fishing and wildlife viewing were the major recreational activities, as shown in Table 3.
- **Energy:** According to the CCP, the Atomic Energy Commission (AEC) acquired the surface title to the Monument acreage by condemnation in 1952, but the Big Bend Alberta Mining Company retains its right to explore for oil and gas (p. 1-12). This mineral right is located on portions of three sections of land in the east end of the Fitzner-Eberhardt Arid Land Ecology Area (ALE; 1,280 acres)(CCP, p. 1-13). Oil exploration was conducted in the Rattlesnake Mountain and Rattlesnake Hills area in the 1920s and 1930s, but useful deposits were not found. To the extent that rights exist, the CCP states they would be treated as valid existing rights. BLM reported that its LR2000 database has no matching records for authorized oil and gas leases in Washington State for BLM interests. There are 20 separate right-of-way corridors totaling approximately 73 miles which provide power to the region and parts of the northwest. A number of high voltage (up to 500kV) electrical power lines pass through the HRNM. There are 34 individual circuits within the 20 corridors and one substation, roughly 80-90 acres in size, located on the Monument. DOE and FWS report there are no processing facilities close to or adjacent to the Monument. The Monument continues to function as a safety and security buffer for ongoing environmental cleanup activities involving the management of nuclear waste and materials on the remainder of the Hanford Site.

- **Non-Energy Minerals:** There is information in NPS' Final River Conservation Study and EIS (1994) about potential minerals in and around HRNM. USGS indicates that there are no relevant mineral assessments. Additional research would be needed to determine whether there may be economically viable mineral resources. Because of the unique relationship of HRNM to the Hanford Site, DOE would likely need to be consulted.
- **Grazing:** There is no current grazing. The CCP identified historic degradation of Monument lands by "historic uses (settlers, military, grazing), wildfire events, maintenance-related project work, Hanford Site mitigation, and invasive species" (p. 2-58).
- **Timber:** There is no commercially viable timber.
- **Scientific Investigation:** The Rattlesnake Hills Research Natural Area (RNA) in the HRNM was established as a result of a federal interagency cooperative agreement. Scientific use of RNAs has always been encouraged in OR and WA. RNAs provide useful and essential information to land managers; they also contribute to basic science. Research activities must be non-destructive, and the scientific and educational values of the areas must not be impaired. Each agency has a set of guidelines for use, but none is particularly restrictive as long as the essential characteristics and processes of the RNA are maintained. The ALE constitutes the single largest tract in the federal RNA system for OR and WA, due in part to it being one of the few remaining large tracts of shrub-steppe vegetation in WA that retains a predominant pre-European settlement character. The ALE is closed to general access by the public and is maintained for scientific purposes consistent with its value as an RNA (CCP, p. 3-192). As of 2008, biological diversity studies conducted in the Monument documented more than 1,500 unique species with more than 43 of which were new to science. This unit contains a rare plant population found nowhere else on the planet—Umtanum desert buckwheat (CCP, p. 2-35). In addition, the ALE is a designated Important Bird Area (IBA). It was chosen because of its unique habitat features, supporting a substantial assemblage of breeding birds (CCP, p. 3-191).
- **Tribal Cultural Resources:** The [Vernita Bar Agreement](#) protects all fall Chinook spawning habitat within the Monument. The HRNM includes numerous archeological sites, multiple historic districts, and many Native American burials and cemeteries, among other cultural resources. Special Use Permits are granted for Native American religious ceremonies and traditional root gathering.

"But For" the HRNM Designation

The HRNM is different from other monuments in that it is a conversion of DOE lands that had restricted use for over 60 years. DOE continues to need a safety and security buffer for ongoing environmental cleanup activities at the Hanford Site. If the Monument had not been designated:

- (b) (5) DPP [REDACTED]

Table 1. State and County Economic Snapshot

Measure	Benton County, WA	Franklin County, WA	Grant County, WA	State of WA
Population, 2016 ^a	184,930	86,443	92,070	6,985,464
American Indian and Alaska Native (alone or in combination) population as a percent of total ^a	1.8%	1.3%	2.2%	3%
Unemployment Rate, April 2017 ^b	5.3%	6.1%	6.0%	4.6%
Median Household Income, 2015 ^a	\$60,251	\$56,980	\$48,714	\$61,062

^aU.S. Census Bureau, 2011-2015 American Community Survey; Native American population alone or in combination with one or more other races.

^b<https://fortress.wa.gov/esd/employmentdata/reports-publications/economic-reports/monthly-employment-report/map-of-county-unemployment-rates>

Table 2. Summary of Local Economic Contributions of Recreation Visits, 2011

Visitor expenditures, \$ millions	\$1.6
Net Economic Value, \$ millions	\$1.5
Total Economic Effects, \$ millions	\$3.1
Number of jobs	17

Spending and economic value estimates based on an estimated 33,925 visits in 2011.

Source: FWS Banking on Nature (2013).

Available at:

<https://www.fws.gov/refuges/about/refugereports/pdfs/BankingOnNature2013.pdf>.

Table 3. HRNM Average Annual Visits per Select Recreation Activities

Year^a	Visitors	Fishing	Hunting	Wildlife Observation^b
2000	19,880	.	.	.
2001	23,178	.	.	.
2002	23,895	.	.	.
2003	20,273	.	.	.
2004	49,000	.	.	.
2005	49,000	.	.	.
2006	49,000	.	.	.
2007	49,000	.	.	.
2008	49,000	.	.	.
2009	49,000	.	.	.
2010	49,000	.	.	.
2011	43,000	20,000	825	8,000
2012	.	20,000	925	8,000
2013	43,000	.	.	.
2014	43,000	25,000	925	9,000
2015	43,000	25,000	825	9,000
2016	43,000	27,000	775	8,200

Source: Refuge Annual Performance Plan (RAPP) database.

^aVisitation use prior to establishment would have been associated with the Saddle Mountain National Wildlife Refuge.

^bIncludes foot trail/pedestrian visits and boat trail/launch visits.



Katahdin Woods and Waters National Monument

Economic Values and Economic Contributions

DRAFT



Katahdin Woods
and Waters
National Monument

Introduction

The purpose of this paper is to provide information on the economic values and economic contributions of the activities and resources associated with Katahdin Woods and Waters National Monument (KAWW) as well as to provide a brief economic profile of Penobscot County.

Background

The Katahdin Woods and Waters National Monument encompasses 87,563 acres in Penobscot County, ME and was established on August 24, 2016 for the purposes of protecting lands that contained cultural, historic, and scientific resources. The Penobscot Indian Nation consider the Penobscot River watershed a centerpiece of their culture and spiritual values. Prior to establishment of the monument, all lands within the monument boundaries were privately held by the Elliotsville Plantation, Incorporated (EPI).

Katahdin Woods and Waters

Location: Penobscot County, ME

Managing agencies: NPS

Counties: Penobscot County, ME

Reservations: Penobscot Nation

Resource Areas:

☒ Recreation ☐ Energy ☐ Minerals

☐ Grazing ☒ Timber ☒ Scientific

Discovery ☒ Tribal Cultural

Public outreach prior to designation

August 18, 2011- Secretary of Interior Ken Salazar and NPS Director Jon Jarvis moderated a public meeting on the “Maine Woods Proposal” in Millinocket, Maine. On May 16, 2016- NPS Director Jarvis and U.S. Senator Angus King met with elected officials and local community members in the Millinocket area and attended a public meeting at the University of Maine in Orono. Their joint appearances were scheduled so that Mainers could voice their opinions on a proposed donation of private lands in the Katahdin region that could result in a new unit of the national park system. In addition, EPI engaged in substantial public outreach prior to designation.

Local Economy and Economic Impacts

Penobscot County, with a population of 151,806 people¹, is home to less than 11.4% of the population of the State of Maine. In recent years, the county has experienced slightly higher levels of unemployment and lower levels of median household income than the State. The County also has a significantly higher Native American population, with 1.2% of the population being of Native American descent versus 0.7% for the State. The Penobscot Indian Island Reservation is within the County borders.

Activities and Resources Associated With KAWW National Monument

Information on the economic contributions associated with the activities occurring at KAWW National Monument are provided below.

- **Recreation:** Visitor activities at the Monument include: hiking, skiing, snowshoeing, driving, hunting, camping, mountain biking, snowmobiling, and fishing. Quantitative visitor use data is

¹ 2011-2015 ACS, 5-Year Estimates, U.S. Census Bureau

limited, as the Monument did not open until August 24, 2016. Gathering accurate visitor use data for KAWW is a challenge; there are 7 roads leading into the Monument, as well as entrance by the East Branch of the Penobscot. The Katahdin Loop Road vehicle counter was the only counter the Monument had in place during 2016. This counter was in place before and after the Monument opened. From the date of designation (August 24, 2016) to the time the counter was pulled for the season (end of October 2016), the counter recorded a total of 1,215 vehicles (average of just over 18 vehicles per day). It is estimated that the 1,215 vehicles carried a total of approximately 2,500 visitors. The Monument did not have counters during the 2016- 2017 winter, but a couple of the area's snowmobile trails (Interconnected Trail System) pass through 5 sections of the Monument. NPS staff spoke with one of the businesses that rents sleds and grooms the trails, and estimates that between 10,000 and 15,000 sleds came through the Monument during the winter of 2016- 2017. Trip-related spending by KAWW visitors generates and supports a considerable amount of economic activity within surrounding communities. With more data and time an economic effects analysis could be done to measure how visitor spending cycles through local economies, generating business sales and supporting jobs and income.

- **Energy.** There are no known oil, gas, coal, or other energy mineral deposits within the Monument boundaries.
- **Non-fuel minerals.** There are no known mineral deposits within the Monument boundaries.
- **Timber.** There is no commercial timber production on the Monument. Approximately 80 cords of hardwood will be sold since designation as the result of a road clearing project within the boundary of the Monument. At this time, KAWW is not aware of any additional projects that would result in timber harvest.
- **Grazing.** There is no grazing within the Monument boundaries.
- **Cultural and historic resources.** Indigenous communities may utilize natural resources to an extent and in ways that are different from the general population, and the role that natural resources play in the culture of these indigenous communities may differ from that of the general population. Culturally important sites and unique natural resources, by definition, have limited substitutes. Recognizing this is a critical consideration in land management because it may affect consideration of tradeoffs.

For some 11,000 years, Native peoples have inhabited the area, depending on its waterways and woods for sustenance. They traveled during the year from the upper reaches of the East Branch of the Penobscot River and its tributaries to coastal destinations like Frenchman and Penobscot Bays. Native peoples have traditionally used the rivers as a vast transportation network, seasonally searching for food, furs, medicines, and many other resources. Based on the results of archeological research performed in nearby areas, researchers believe that much of the archeological record of this long Native American presence in KAWW remains to be discovered, creating significant opportunity for scientific investigation. What is known is that the Wabanaki people, in particular the Penobscot Indian Nation, consider the Penobscot River (including the East Branch watershed) a centerpiece of their culture and spiritual values. A cultural resources assessment is scheduled for Lunksoos Camps, a site occupied for at least 150 years in conjunction with logging, timbering, and tourism (it was a sporting camp at one time). There is one remaining building at Lunksoos Camps, but the exact age is unknown. The buildings from 150 years ago are no longer present at the site, though there may still be foundations or other evidence of their

existence. There is occasional hunting, fishing, and fiddlehead gathering done by tribal members of the Penobscot, Passamaquoddy, and Maliseet tribes, the same as any other resident of Maine.

Land Management Tradeoffs

This section presents some information to help understand land management tradeoffs. Decision-making often involves multiple objectives and the need to make tradeoffs among those objectives. However, tradeoffs and decision making are often subject to constraints, such as Monument designations. In general, market supply and demand conditions drive energy and minerals activity; societal preferences and household disposal income affect recreation activity levels; and market prices and range conditions affect the demand for forage. Culturally important sites and unique natural resources, by definition, have limited or no substitutes. A particularly challenging component of any tradeoff analysis is estimating the nonmarket values associated with KAWW resources, particularly the nonmarket values associated with cultural and scientific resources.

Planning for permitted resource use on National Monuments will involve trade-offs among different activities on the land area being managed in order to allow permitted activities that are compatible with monument objects. Once designated, National Monuments continue to be managed under the multiple use mandate outlined in the Federal Land Policy and Management Act of 1976. In some cases, certain areas of the Monument may be appropriate for more than one use. After the careful consideration of tradeoffs, management decisions in those cases may prioritize certain uses over others. In other cases, land areas may be more appropriate for a particular use and activities could be restricted to certain areas of the Monument. These decisions are based upon whether a use is compatible with the designation. Factors that could inform these tradeoffs include demand for the good or activity, prices, costs, and societal preferences. Other considerations might include the timeframe of the activity - how long the benefits and costs of a given activity would be expected to extend into the future. Trust responsibilities and treaty rights should also be considerations.

In considering any trade-offs, it is not just the level and net economic value associated with an activity that occurs in a given year that is relevant to decision making. Virtually all activities within the Monument occur over time and it is the stream of costs and benefits over a given period of time associated with each activity that is relevant. For example, recreation activities could continue indefinitely assuming the resources required for recreation remain intact and of sufficient quality for individuals to remain interested in the activity. Likewise, the values associated with the natural and cultural resources could continue indefinitely provided they are not degraded by other activities (and assuming preferences do not change). The stream of costs and benefits associated with some other non-renewable resources would be finite, however (assuming these activities were consistent with the designation).