

From: Bowman, Randal
To: [Eberlien, Jennifer - OSEC, Washington, DC](#); [Casamassa, Glenn -FS](#); [Gehrke, Andrea - FS](#); [Martin, Michiko J -FS](#); [Marr, Jerri -FS](#); [Bustam, Tinelle D -FS](#); [Mast, Jeffrey - FS](#); [Sallybutts](#); [Nikki Moore](#)
Subject: Fwd: Sand to Snow
Date: Monday, July 17, 2017 5:09:19 PM
Attachments: [Sand to Snow Review_07_17_17.docx](#)

here is the economic report for Sand to Snow NM. It would be helpful if we could have all comments by the 27th, to Ben Simon, email address below, with a copy to me.

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

From: **Simon, Benjamin** <benjamin_simon@ios.doi.gov>
Date: Mon, Jul 17, 2017 at 12:53 PM
Subject: Sand to Snow
To: Randal Bowman <randal_bowman@ios.doi.gov>
Cc: Ann Miller <ann_miller@ios.doi.gov>

Hey Randy,

Here is the draft of the Sand to Snow write-up.

Ben

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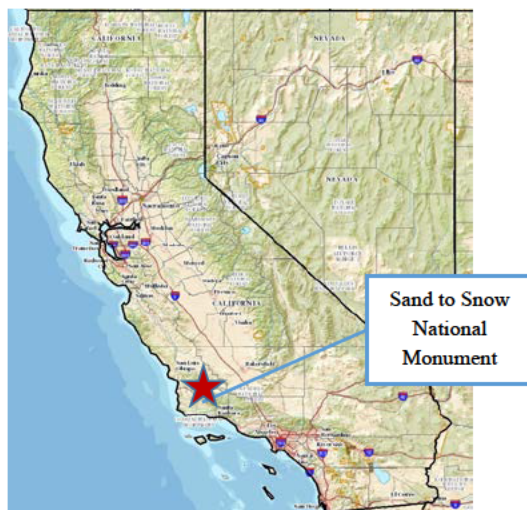
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Sand to Snow National Monument

Economic Values and Economic Contributions

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 Sand to Snow National Monument (STSNM) as well as to provide a brief economic profile of San Bernardino and Riverside Counties.¹

Background

STSNM was established in 2016 and encompasses 83,000 acres of BLM and 71,000 US Forest Service lands, to be managed jointly by both agencies. The San Geronio Wilderness lies largely within STSNM. Public lands in the Monument are withdrawn from mineral exploration under the General Mining Act of 1872, however valid existing rights are protected under the Monument proclamation.

Neither The BLM nor the Forest Service has initiated public scoping for STSNM Management Plan. However, a series of public workshops were hosted by the San Bernardino National Forest and the Bureau of Land Management California Desert District in July of 2016. The Workshops focused on gathering information about what workshop participants value most about STSNM and to identify the types of experiences participants want to have within it. The information gathered at the Workshops will inform the development of the Monument Management Plan.

For the BLM portion of STSNM, the following planning documents apply to all or a portion of STSNM in the interim: 1980 California Desert Conservation Plan (CDCA), including proposed amendments for the Coachella Valley and the West Mohave; Final Environmental Impact Statement (EIS) for BLM National Monument Lands in the Whitewater, Desert Hot Springs, and Seven Palms Valley, and parts of the Catchlaw Flat, Morongo Valley, and Yucca Valley South; and the 2016 Desert Renewable Energy Conservation Final Plan and Proposed EIS.² For the portion of the monument that lies within the San Bernardino National Forest, the 2006 San Bernardino National Forest Land Management Plan will be followed in the interim.³

¹ The BLM provided data used in this paper.

² California Desert Conservation Plan: https://eplanning.blm.gov/epl-front-office/projects/lup/66949/82080/96344/CDCA_Plan.pdf; Proposed California Desert Conservation Area Plan Amendment for the Coachella Valley and Final Environmental Impact Statement (for BLM National Monument Lands in the Whitewater, Desert Hot Springs, and Seven Palms Valley 24K quads, and parts of the Catchlaw Flat, Morongo Valley, and Yucca Valley South 24K quads): <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=96939>; 2005 West Mojave Plan Amendment to the California Desert Conservation Plan: <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=72544&dctmId=0b0003e880e36812>; 2016 Desert Renewable Energy Conservation Final Plan and Proposed EIS: <http://www.drecp.org/finaldrecp/>.

³ Online at <https://go.usa.gov/xNpBU>

Sand to Snow National Monument

Location: Southern California

Managing agencies: BLM, USFS

Adjacent cities/counties/reservations:

- Counties: San Bernardino, Riverside
- Cities: Palm Springs; Palm Desert; Cathedral City; Desert Hot Springs; La Quinta; Riverside; Los Angeles.
- Tribes: San Manuel Band of Mission Indians; Twenty-Nine Palms Band of Mission Indians; Soboba; Cahuilla; Morongo; Los Coyotes; La Jolla; Santa Ysabel; Pauma and Yuma; Pechanga; Pala.

Resource Areas:

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

Public outreach prior to designation

There is a lengthy legislative history related to the 1980 California Desert Conservation Plan. Also, prior to the monument designation, representatives from the Department of Interior and Bureau of Land Management met on October 13, 2015, with tribal representatives from the Agua Caliente Band of Cahuilla Indians, the Cahuilla Band of Mission Indians, the Colorado River Indian Tribes, the Fort Mojave Indian Tribe, the Morongo Band of Mission Indians, the San Manuel Band of Mission Indians, the Death Valley Timbisha-Shoshone Tribe, and the Twenty-Nine Palms Band of Mission Indians to discuss tribal concerns and opportunities of the proposed monument designation. Members of the California congressional delegation and the San Bernardino Board of Supervisors also attended. The tribes expressed support for the proposed designation.

Local Economy and Economic Impacts

Table 1 presents socio-economic information on San Bernardino County and the state of California. The County contains approximately 5% of the State's population. About 2% of the population is American Indian. The population of the county has increased about 50% since 1990. The median household income in the county is about 86% of the state average. The unemployment rate in the county increased from about 5.6% in 2007 to 13.5% in 2010, and has since declined to about 4.5%.

The largest sectors, as measured by employment, in San Bernardino County are health care and social assistance, manufacturing, and transportation and warehousing.⁴

Table 1. San Bernardino County and State of California Economic Snapshot

Measure	San Bernardino County	State of California
Population, 2015 ^a	2,094,769	38,421,464
Employment, December 2016 ^{b,c}	878,350	17,982,086
Unemployment rate, April 2016 ^{b,c}	5.6	5.5
Median Household Income, 2015 ^a	53,433	61,818

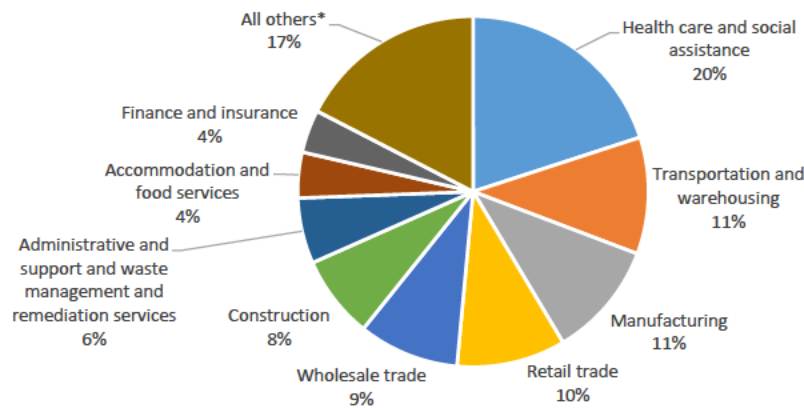
^a U.S. Census Bureau, 2011-2015 American Community Survey

^b State data: <https://data.bls.gov/timeseries/LASST0600000000000003>

^c County data: <https://www.bls.gov/web/metro/laucntycur14.txt>

⁴ U.S. Census Bureau County Business Patterns, 2015.

Figure 1. Employment by sector in San Bernardino County, 2015



* The “All others” category includes agriculture/forestry; utilities; wholesale trade; real estate; professional, scientific and technical services; admin and support services; waste management; educational services; and arts and entertainment. Each of these represents less than 4% of total employment.

Source: 2015 County Business Patterns, U.S. Census Bureau

Information is provided below on two different types of economic information: “economic contributions,” and “economic values.” Both types of information are informative in decision making.

Economic contributions track expenditures as they cycle through the local and regional economy, supporting employment and economic output. Table 2 provides estimates of the economic contribution of activities associated with STSNM.

Definitions

Value Added: A measure of economic contributions; calculated as the difference between total output (sales) and the cost of any intermediate inputs.

Economic Value: The estimated net value, above any expenditures, that individuals place on goods and services; these are particularly relevant in situations where market prices may not be fully reflective of the values individuals place on some goods and services.

Employment: The total number of jobs supported by activities.

Economic values, in contrast to economic contributions, represent the net value, above and beyond any expenditures, that individuals place on goods and services. The term “consumer surplus” is often used to characterize economic values. It is not appropriate to sum values for economic contributions and economic values because they represent different metrics. To the extent information is available some economic values are presented in Table 3 along with information on the timing and drivers of future activity. For commodities bought and sold in markets (e.g., oil, gas, etc.), the economic values are closely related to the market prices of the commodities. For goods and services – such as recreation – typically not bought and sold in markets, the values are estimated based on surveys for estimating values individuals have beyond direct expenditures.

Activities and Resources Associated With Sand to Snow National Monument

Details on the activities occurring at STSNM are provided below.

Recreation: A wide variety of outdoor recreation activities are available to STSNM visitors including: horseback riding, backpacking, rockhounding/mineral collecting, viewing historic sites/areas, target shooting, photography, environmental/outdoor classroom education, wildflower viewing, hiking/biking/running/walking, off-highway vehicle use on designated routes, nature study, picnicking, hunting, and wildlife viewing. The monument is open to hunting, regulated by the California Department of Fish and Wildlife. BLM data indicate that STSNM visitation was increasing during the years prior to designation. Visitation information for two BLM visitor contact areas (Big Morongo Canyon and Whitewater Preserve) includes:

- Big Morongo had an estimated 66,675 visitors in 2016
- Whitewater Preserve had an estimated 139 hunting visits in 2016, compared to 152 in 2015, and 36 in 2014.⁵

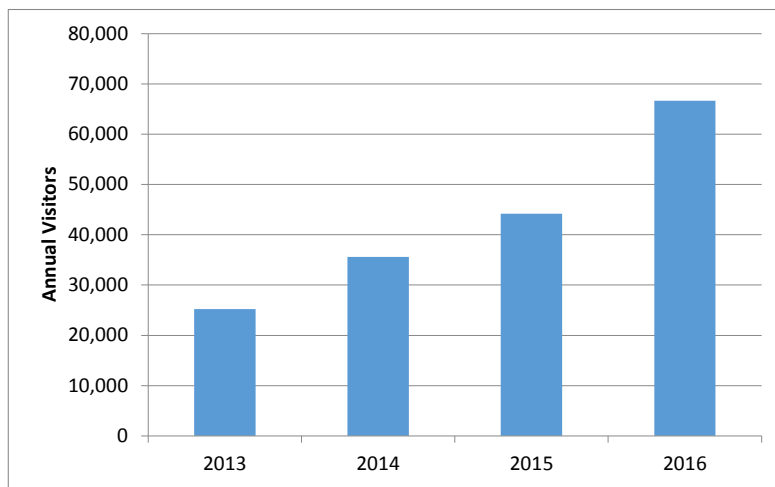


Figure 1. Annual Visitation at STSNM (does not include Forest Service areas). Source: BLM

Recreation activities provide the opportunity for economic activity to be generated from tourism for an indefinite period of time. The economic contributions occur annually, and in cases where visitation increases over time, recreation generates additional activity each year. These contributions affect the regional and state economies. Expenditures by visitors to Big Morongo Canyon and Whitewater Preserve supported an estimated 44 jobs, \$1.8 million in labor income, \$2.8 million in value added, and \$4.6 million in economic output in local gateway economies surrounding the Monument. The total consumer surplus associated with recreation at STSNM in 2016 was estimated to be \$3.6 million. This estimate is based on average consumer surplus values and participation counts for

⁵ Visitation information is not available for the Forest Service lands.

camping, big game hunting, other hunting, mountain biking, hiking, off highway vehicle, and general recreation.⁶

Visitation numbers collected by the Palm Springs South Coast and Barstow Field Offices indicate visitation in STSNM has seen a slight increase since designation. It is unclear whether this change represents is attributable or not to Monument designation.⁷ (b) (5) DPP

Energy: The Monument designation prohibits the BLM from issuing rights-of-way for energy development (including renewable energy) in the majority of the BLM public lands within the Monument.

- **Oil, natural gas, coal, and renewables.** There is no coal, oil and gas or renewable energy produced in STSNM. No authorized federal oil and gas leases are located within the boundary of STSNM. No authorized or pending Applications for Permit to Drill are associated with these leases. No renewable energy rights-of-way are present within the boundary of STSNM.
- **Energy distribution/transmission.** Three small distribution lines are present within the boundaries of STSNM. No major transmission lines are within the boundaries. The Proclamation allows for upgrades and expansions of transmission and telecommunication infrastructure (as well as new infrastructure) within the Monument. To date, no new requests for energy transmission or energy generation projects have been proposed.
- **Non-fuel minerals.** One active locatable mining operation, California Blue Mine, Gemstone, is in STSNM. No production information is available. Prior to 2006, no mineral material production had occurred. Between 2006 and 2011 the California Blue mine produced aquamarine, gem beryl, topaz, microcline, and smoky quartz. In November 2011, excavations were closed and backfilled per BLM requirements, with potential future evaluation for underground development.⁸ [As of May 24, 2017, three mining claims are active within STSNM] Nine mining claims associated with three mines located within or adjacent to the Monument were filed prior to designation of the Monument. Each of these is a 20-acre placer claim. No production data is available for these mining claims. There are no mineral developments or processing facilities adjacent to or impacted by STSNM designation.
- **Timber.** There is no timber production in the Monument. Merchantable timber is found within the San Gorgonio Wilderness, however timber harvesting or tree removal is not allowed in wilderness areas under the Wilderness Act of 1964. Most of the BLM portion of STSNM lies in lower elevations that support woody vegetation, such as California juniper (*Juniperus californica*), that BLM considers could support artisanal woodcutting or firewood. Collection of

⁶ 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).

⁷ Anecdotal information from the BLM Palm Springs South Coast Field Office suggests that requests for overnight camping at the Whitewater Preserve area have increased by 12 % since designation and visitation to the Black Lava Buttes unit of the monument increased by 15% since designation.

⁸ Hunerlach, M.P. (2012): "California Blue Mine Yucca Valley, San Bernardino County, California A New Gem Pegmatite." *Rocks & Minerals* 87:6, 502-509. Online at <http://dx.doi.org/10.1080/00357529.2012.728923>

forest products, as well as firewood for personal noncommercial use is allowed under the Proclamation outside of wilderness, however no information is available on quantities.

- **Grazing.** No BLM-permitted livestock grazing allotments currently exist within the Monument.
- **Cultural, archeological, and historic resources.**
 - Cultural resources: Tribes use the lands within STSNM for ceremonies and visitation of sacred sites. Traditions of gathering medicinal and ceremonial plants, edible plants, herbs, and materials for crafting items such as footwear, are still practiced by tribal members. Prior to the designation of STSNM, BLM had, and still has, a gathering policy with tribes that ensures traditional practitioners maintain access to plants. Gathering permits are not required for Native Americans. BLM policy, then as now, also emphasizes local collaboration, implementation, and issue resolution.
 - Archeological resources: Dozens of recorded archaeological sites lie within STSNM. The majority of these sites are prehistoric (predating the 1800s). These prehistoric sites include pottery, stone tool (lithic) scatters, remains of cooking features (hearths), rock shelters, prehistoric roads, and an estimated 1,700 petroglyphs and pictographs.
 - Historic resources: An important prehistoric travel corridor between the San Bernardino Mountains, interior deserts, and the California Coastal regions is also found within STSNM. Known historic resources include cattle ranching/grazing related items such as structures, foundations, infrastructure such as corrals, wells, check-dams, and fencing. Bonnie Bell, a known 1850s stagecoach stop, was located in Whitewater Canyon. Other historic resources include those related to mining, such as old cabins, mine shafts, prospecting pits, and refuse deposits. The BLM has not completely surveyed the Monument for cultural resources. To date 7.2% of STSNM has been surveyed for cultural resources.

Land Management Tradeoffs

This section presents some information to help understand land management tradeoffs. The designation of the monument has closed lands to certain types of development, so within the context of the Monument Designation, some tradeoffs are not relevant.

Decision-making often involves multiple objectives and the requires making tradeoffs among those objectives. 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 STSNM resources, particularly the nonmarket values associated with cultural 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 Federal Land Management and Policy 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 are of sufficient quality for individuals to remain interested in participating. 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



(b) (5) DPP



Table 3. Summary of STSNM Activities and Economic Values, FY 2016

Activities	Level of annual activity	Economic Value	Timing	Drivers of current and future levels of activity
Recreation	FY 2015: 66,675 visits or days (BLM)	\$17.97 to \$43.27/visitor-day (2016-\$) ^a	(b) (5) DPP	Societal preferences for outdoor recreation; disposable income; changing individual preferences for work and leisure time
Non-energy Minerals	n/a	n/a	Development of energy and non-energy minerals is subject to market forces (worldwide supply and demand, prices). Mineral extraction is non-renewable and occurs only as long as the resource is economically feasible to produce.	Market prices of non-energy commodities affect both supply and demand. Mineral production is limited to 200,000 cubic yards over a 10-year period per the existing resource management plan.
Cultural resources	Indigenous communities often use 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 or no substitutes. Recognizing this is a critical consideration in land management because it may affect consideration of tradeoffs. STSNM contains substantial cultural resources that have not been fully surveyed. Tribes use the sacred sites within STSNM for hunting; fishing; gathering; wood cutting; and for collection of medicinal and ceremonial plants, edible herbs, and materials for crafting items like baskets and footwear.			
Benefits of nature	Services provided by nature underpin all sectors of a local economy. As many of these services are not sold in markets, we have limited information on their prices or values. Specific benefits related to STSNM include protection of crucial habitats for deer, elk, desert bighorn sheep, pronghorn, and endemic plant species that inhabit rare habitat types such as hanging gardens.			

^a This range covers the estimated consumer surplus associated with backpacking, OHV use, mountain biking, and hiking for the Pacific coast region, from the USGS Benefit Transfer Toolkit (<https://my.usgs.gov/benefit-transfer/activityCalc/calculate/7524>). Consume surplus represents values individuals hold for goods and services over and above expenditures on those goods and services.

^b All prices are from EIA.gov.

Comment [Crow7]: USGS meta-regression calculator for Pacific coast
<https://my.usgs.gov/benefit-transfer/activityCalc/calculate/7524>
 Activity 2014-\$ 2016-\$
 Hiking: \$42.68 \$43.27
 Backpacking \$17.73 \$17.97
 Mountain Biking \$35.07 \$35.55
 OHV \$30.05 \$30.46

DRAFT – July 17, 2017 – Figures, values, and text are subject to revision