To: Nikki Moore[nmoore@blm.gov]
Cc: Sally Butts[sbutts@blm.gov]; Rachel Wootton[rwootton@blm.gov]; Stephen Small[ssmall@blm.gov]
From: Lydick, Steven
Sent: 2017-08-22T12:04:57-04:00
Importance: Normal
Subject: Re: NatMon analysis - data errors
Received: 2017-08-22T12:05:13-04:00
Monument review analysis v3.docx

All,

Please see the attached. This is ready to use, but I do want you to know that we're looking at a better way to display the data, such that distinctions will be easier to discern. It would essentially change the last column from percent by state to percent or density of resources on the monument to the same outside. I think this would better underscore the relative importance of the monuments. However, it's not done yet, and I wanted to get something in your hands to look at. If we make it in time with the new summary column, I'll forward that ASAP, if not, then this is good to run with.

Please feel free with any questions.

Thanks,

--Steve

Steve Lydick
Branch Chief - Assessment and Monitoring (OC570)
BLM National Operations Center
sdlydick@blm.gov
303-236-6428

On Tue, Aug 22, 2017 at 8:17 AM, Lydick, Steven <sdlydick@blm.gov> wrote:

We'll try for noon, but we'll get it to you before 3:30 come hell or high water. Thanks, -- Steve

Steve Lydick
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On Tue, Aug 22, 2017 at 8:11 AM, Nikki Moore <nmoore@blm.gov> wrote:

I think if we can get something to Chris (acting Ruhs) by later afternoon say 3:30 so we can get his approval to send to Downey before he leaves that would be great.

Nikki Moore

Acting Deputy Assistant Director,
National Conservation Lands and Community Partnerships
Bureau of Land Management, Washington DC
202.219.3180 (office)
202.288.9114 (cell)

On Aug 22, 2017, at 10:03 AM, Lydick, Steven <sdlydick@blm.gov> wrote:

> While I'm assembling the document, they have been QA/QC'ing the analyses
> outputs, and they're finding errors. We're scrambling to fix them. What is our
> drop-dead time on this (Eastern)?

Thanks,

--Steve

Steve Lydick
Branch Chief - Assessment and Monitoring (OC570)
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Resources, Objects, and Values analysis of National Monuments under Secretarial Review

Prepared by the National Operations Center at the request of the NLCS

There are Resources, Objects, and Values (ROVs) that were not addressed for various reasons, which are discussed below. In most cases, these ROVs are significant, and our inability to address them is a distinct limitation of this analysis.

National Monuments are identified for their unique Resources, Objects, and Values (ROVs). Generally, ROV categories include Archaeological, Paleontological, Historical Resources; Tribal Values; Geologic resources; Landscape and Visual Qualities; and Biological Resources (including ecology, threatened & endangered species, rare & endemic plants, and habitat, among others). Of these, only biological resource data was available and assessed, and this is a distinct and important limitation of this analysis.

National monument boundaries were used to geographically identify the total area of biological resources (e.g., critical habitat) occurring within the national monument compared to the statewide distribution of that particular resource and are reported on a percentage basis.

Data for individual or particular biological resource ROVs were not available in many cases. Therefore, surrogate data generally representing the status of biological and physical resources were used. Four westwide datasets were used as surrogates in the evaluation of natural resource distribution within and surrounding the National Monuments. These four datasets include: Sage Grouse Initiative Resilience and Resistance Data, 2014; Critical Habitat Polygons, FWS, 2015; Crucial Habitat Assessment Tool (CHAT) data, 2014; and USGS Landscape Intactness.

Analyses:

We were able to perform four distinct analyses for each monument, based on west-wide datasets.   Additional analyses based on Rapid Ecoregional Assessment data were considered, but could not be performed due to time constraints.

Limitations:

Perhaps the most significant ROVs not addressed are all those involving cultural resources, including both prehistoric resources, historic resources, Traditional Cultural Properties, and broad-scale cultural resources. Given the purpose of the Antiquities Act, many National Monuments designated under the Act include significant cultural resources. Insofar as these resources are inventoried, the necessary data are sensitive and not available to the NOC.

Geologic resources were not analyzed. Many geologic resources named as ROVs are specific, unique objects that do not occur outside the National Monuments.   Other geologic ROVs are associated with particular geological formations, which may or may not exist beyond the Monuments.

Individual plant and animal species (and ecological communities) were not analyzed. In most cases, we do have data on the distribution of plant, animal, and ecological community ROVs (generally limited to species or communities geographic range or occurrence), but the sheer number of data sets precluded analysis within the given time frame.

Landscape Intactness:

Intactness measures the level to which the landscape is fragmented due to development. A higher intactness score would equate to a low level of development on the landscape. The analyses we conducted focused on areas with the highest and very high levels of intactness. The limitation of these analyses are that developments are not rated on a gradient (e.g., a gravel road would constitute the same level of disturbance as a large building, albeit on a different footprint).

	State GIS Acres	Nat Mon GIS Acres	Highest	Very High	Total SUM	Total Percentage
Arizona	**72,954,045**	**5,038,114**	**13,813,547**	**13,392,431**	**27,205,977**	
Grand Staircase Escalante NM		3,764,078	32	23	55	0.00%
Ironwood Forest NM		189,865	0	3,070	3,070	0.01%
Sonoran Desert NM		496,420	99,009	73,427	172,437	0.63%
Vermillion Cliffs NM		587,751	244,640	46,400	291,040	1.07%
California	**101,285,455**	**2,535,462**	**13,816,628**	**12,076,133**	**25,892,761**	
Berryessa Snow Mountain NM		191,353	0	2,757	2,757	0.01%
Carrizo Plain NM		247,081	0	0	0	0
Cascade-Siskiyou NM		341,073	0	0	0	0
Mojave Trails NM		1,755,956	623,423	639,447	1,262,870	4.88%
Nevada	**70,764,321**	**4,885,557**	**22,159,343**	**18,699,075**	**40,858,418**	
Basin and Range NM		2,832,890	470,598	209,778	680,376	1.67%
Gold Butte NM		296,711	222,369	63,125	285,494	0.70%
Mojave Trails NM		1,755,956	0	2	2	0.00%
New Mexico	**77,817,599**	**884,268**	**10,036,178**	**15,004,847**	**25,041,025**	
Organ Mountains - Desert Peaks		573,538	132,349	94,345	226,694	0.91%
Rio Grande del Norte NM		310,730	0	15,575	15,575	0.06%
Oregon	**62,106,743**	**511,609**	**4,012,827**	**6,833,710**	**10,846,538**	
Cascade-Siskiyou NM		511,609	0	0	0	0.00%
Utah	**54,334,336**	**13,444,905**	**10,308,765**	**8,669,944**	**18,978,709**	
Bears Ears NM		5,916,748	382,682	431,091	813,773	4.29%
Grand Staircase Escalante NM		7,528,157	1,051,045	514,963	1,566,008	8.25%

Crucial Habitat Assessment Tool (CHAT):

The CHAT was developed by the Western Association of Fish and Wildlife Agencies as a tool identifying those habitats considered crucial to a wide variety of fish and wildlife species, both listed and non-listed. Crucial habitat describes places that are expected to contain the resources necessary for continued health of fish and wildlife populations or important ecological systems expected to provide high value for a diversity of fish and wildlife. CHAT ranks 1 (most crucial) and 2 (highly crucial) were analyzed for their prevalence on the National Monuments compared to the States as a whole. The limitations of these analyses are that not all states have complete coverage, and that the data cannot provide coverage for all species, but rather those considered priority species by the States respective fish and wildlife agencies.

	State GIS Acres	Nat Mon GIS Acres	CHATS Rating 1 Acres	CHATS Rating 2 Acres	Percent of Total CHATS Rating 1 and 2 Acres Within Each Monument, by State
Arizona	**72,954,045**	**5,038,114**	**18,727**	**6,156**	**24,884**
Grand Staircase Escalante NM		3,764,078	no data	no data	no data
Ironwood Forest NM		189,865	no data	no data	no data
Sonoran Desert NM		496,420	no data	no data	no data
Vermillion Cliffs NM		587,751	0	211	0.85
California	**101,285,455**	**2,535,462**	**23,103,940**	**16,973,471**	**40,077,411**
Berryessa Snow Mountain NM		191,353	23,404	24,215	0.12
Carrizo Plain NM		247,081	160,098	49,964	0.52
Cascade-Siskiyou NM		341,073	3,332	761	0.01
Mojave Trails NM		1,755,956	62,485	30,048	0.23
Nevada	**70,764,321**	**4,885,557**	**7,576,861**	**9,749,805**	**17,326,666**
Basin and Range NM		2,832,890	39,874	147,111	1.08
Gold Butte NM		296,711	30,859	64,420	0.55
Mojave Trails NM		1,755,956	0	0	0.00
New Mexico	**77,817,599**	**884,268**	**8,793,080**	**8,109,202**	**16,902,282**
Organ Mountains - Desert Peaks		573,538	76,680	9,338	0.51
Rio Grande del Norte NM		310,730	43,689	86,480	0.77
Oregon	**62,106,743**	**511,609**	**19,203,973**	**17,567,264**	**36,771,237**
Cascade-Siskiyou NM		511,609	33,394	77,385	0.30
Utah	**54,334,336**	**13,444,905**	**8,375,099**	**13,973,626**	**22,348,725**
Bears Ears NM		5,916,748	17,905	579,128	2.67
Grand Staircase Escalante NM		7,528,157	19,853	100,428	0.54

Critical Habitat:

Many of the National Monuments had habitat for species listed under the Endangered Species Act (ESA) identified as ROVs. While no consistent dataset exists for general habitat for listed species, Critical Habitat data exists for all species for which it has been designated under the ESA. We analyzed the amount of designated Critical Habitat for listed species in each monument in a simple comparison to the amount of designated Critical Habitat in their respective States. The limitation of these analyses is that there are many species listed under the ESA for which Critical Habitat has not been designated, and therefore, while this can be considered an indicator of listed species habitat, it is incomplete.

	State GIS Acres	Nat Mon GIS Acres	Total Critical Habitat Acres	Percent of Total Critical Habitat Acres Within Each Monument, by State
Arizona	72,954,045	5,038,114	5,670,316	
Grand Staircase Escalante NM		3,764,078	0	0%
Ironwood Forest NM		189,865	0	0%
Sonoran Desert NM		496,420	0	0%
Vermillion Cliffs NM		587,751	0	0%
California	101,285,455	2,535,462	15,959,897	
Berryessa Snow Mountain NM		191,353	0	0%
Carrizo Plain NM		247,081	32	0.0%
Cascade-Siskiyou NM		341,073	0	0%
Mojave Trails NM		1,755,956	647,290	4.1%
Nevada	70,764,321	4,885,557	2,155,411	
Basin and Range NM		2,832,890	0	0%
Gold Butte NM		296,711	137,597	6.4%
Mojave Trails NM		1,755,956	54	0.0%
New Mexico	77,817,599	884,268	2,473,438	
Organ Mountains - Desert Peaks NM		573,538	0	0%
Rio Grande del Norte NM		310,730	153	0.0%
Oregon	62,106,743	511,609	5,258,006	
Cascade-Siskiyou NM		511,609	35,994	0.7%
Utah	54,334,336	13,444,905	3,571,708	
Bears Ears NM		5,916,748	595,980	16.7%
Grand Staircase Escalante NM		7,528,157	444,711	12.5%

Sage-Grouse Resilience and Resistance:

West-wide datasets exist for resilience and resistance to disturbance for sage-grouse. Resilience refers to the ability of an ecosystem to recover following disturbance and resistant ecosystems have the capacity to retain their fundamental structure, processes, and functioning when exposed to stresses, disturbances, or invasive species. We analyzed the prevalence of area rated with high resilience and resistance for each monument as compared to the total in their respective States. The limitation of these analyses is that the ratings tend to be associated with resistance to cheatgrass invasion, and conditions are not necessarily supportive of cheatgrass in all ecosystems.

	State GIS Acres	Nat Mon GIS Acres	High SG Resilience and Resistance Acres	Percent of Total High SG Resilience and Resistance Acres Within Each Monument, by State
Nevada	**70,764,321**	**4,885,557**	**3,398,083**	
Basin and Range NM		2,832,890	1,151	0.03%
Oregon	**62,106,743**	**511,609**	**13,022,159**	
Cascade-Siskiyou NM		511,609	97,829	0.8%
Utah	**54,334,336**	**13,444,905**	**12,469,033**	
Bears Ears NM		5,916,748	142,385	1.1%