

**From:** Sidon, Joshua  
**To:** [Miller, Ann](#)  
**Cc:** [Simon, Benjamin](#)  
**Subject:** Re: IMPLAN analysis  
**Date:** Friday, May 26, 2017 10:50:12 AM  
**Attachments:** [BearsEars\\_05262017.xlsx](#)

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Here you go. It might be worth hopping on the phone to discuss if you have a minute. Thanks,

Josh

On Fri, May 26, 2017 at 8:29 AM, Sidon, Joshua <[jsidon@blm.gov](mailto:jsidon@blm.gov)> wrote:

On it. I'll get you something shortly.

Josh

On Fri, May 26, 2017 at 8:10 AM, Miller, Ann <[ann\\_miller@ios.doi.gov](mailto:ann_miller@ios.doi.gov)> wrote:

Great, thanks Josh. For the AUMs, they are billed AUMs. I don't actually know if there are sheep or goats but based on our talk with Julie last week, I'm guessing it's similar to GSE and therefore predominantly cattle.

For sand and gravel - whatever is easiest.

So I actually need to turn in a draft of this paper by noon eastern time - is it at all possible to have some estimates by then? No worries if not.

Thanks so much!

Ann

On Fri, May 26, 2017 at 10:05 AM, Sidon, Joshua <[jsidon@blm.gov](mailto:jsidon@blm.gov)> wrote:

Hi Ann,

Sure, I can help out.

Do you know if the AUMs you received are the active AUMs on their permits or the number of AUMs they billed? I typically use billed AUMs since it is the best proxy for actual use. I'm assuming these AUMs are solely for cattle and do not include other livestock (most importantly, sheep or goats). I'll probably use the same approach as we use for the annual analysis. That means I'll be using state-level multipliers. As I mentioned to Ben last week, I'm a bit uneasy about that approach since ranching operations and practices are fairly nuanced at the local levels. That said, it is a reasonable first estimate.

With respect to sand and gravel, are you ok with me running estimates through the state model or would you like me to run a multi-county model (covering the field office)?

Do you need these results today?

Josh

On Thu, May 25, 2017 at 4:28 PM, Miller, Ann <[ann\\_miller@ios.doi.gov](mailto:ann_miller@ios.doi.gov)> wrote:

Hi Josh,

I was wondering if you could run a quick IMPLAN analysis for us to have some economic contribution estimates of some of the non-recreation activities at what is now Bears Ears National Monument? It would just be for grazing and sand/gravel production. We have the following production levels for 2016 from the Monticello field office:

Grazing: 36,402 AUMs

Sand & gravel (this is actually for 2015): 2,914 cu yd

For the sand & gravel, could you also run an analysis on a production level of 21,396 cu yds? That's the five year average. I think 2015 was the final year of the 10-year time span that the 200,000 cu yd maximum covers so that level of production may have been an outlier.

Let me know if you need more information or clarification.

Thanks!

Ann

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Grazing:

			Response Coefficients per 1,000 AUMs								
			Employment (full and part time jobs)			Labor Income (2013 US)			Output (2013 US)		
			Direct	Indirect & Induced	Total	Direct	Indirect & Induced	Total	Direct	Indirect & Induced	Total
FY16 Billed Use	State	Livestock									
36,402 AUMs	Utah	Cattle	3.3	1.1	4.4	\$7,906.76	\$35,654.17	\$43,560.94	\$77,628.58	\$113,434.79	\$191,063.37

Calendar Year	GDP Deflator	
	Index	Mult (2016)
2013	106.9	1.04
2014	108.8	1.02
2015	110.0	1.01
2016	111.4	1.00

FY2016 Contribution (Cattle)

Unit	Employment			Labor Income			Output		
	Direct	Indirect & Induced	Total	Direct	Indirect & Induced	Total	Direct	Indirect & Induced	Total
Bears Ears	121	40	161	\$300,009	\$1,352,839	\$1,652,848	\$2,945,489	\$4,304,097	\$7,249,587

NOTE: job estimates included unpaid labor.

FY2016 - Summary of Salable Minerals

Unit	Sand & Gravel		Price
	cubic yards	tons	
Bears Ears	2 914	4 741	\$7.72
	21 396	34 813	\$36 602.80
			\$268 755.48

Source:  
USGS. 2016. Mineral Commodity Summaries 2016. Accessed at: <http://minerals.usgs.gov/minerals/pubs/mcs/>

Conversion factors used by LR2000 report	
	cy to tons (i.e. number of tons per cy)
Commodity	
Sand & Gravel	1.62707452

OUTPUTS IMPLAN Year 5 - INPUT FROM FEAST

	EMPLOYMENT (NUMBER OF JOBS)				LABOR INCOME (\$)				TOTAL Value Added (\$)				TOTAL OUTPUT (\$)			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Sand and gravel mining - 31	0.1	0.1	0.1	0.3	5 121	4 524	2 681	12 325	20 160	7 865	4 886	32 911	36 185	15 340	8 942	60 467
Sand and gravel mining - 31	1.1	0.5	0.5	2.1	37 599	33 216	19 683	90 497	148 024	57 751	35 872	241 647	265 688	112 637	65 657	443 982

INFATE (multiplier)  
(2015 --> 2016)

1.013109329

OUTPUTS

2016\$

	EMPLOYMENT (NUMBER OF JOBS)				LABOR INCOME (\$)				TOTAL Value Added (\$)				TOTAL OUTPUT (\$)			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Sand and gravel mining - 31	0.1	0.1	0.1	0.3	\$5 188	\$4 583	\$2 716	\$12 487	\$20 424	\$7 968	\$4 950	\$33 342	\$36 659	\$15 541	\$9 059	\$61 260
Sand and gravel mining - 31	1.1	0.5	0.5	2.1	\$38 091	\$33 651	\$19 941	\$91 684	\$149 965	\$58 508	\$36 342	\$244 815	\$269 171	\$114 113	\$66 518	\$449 802