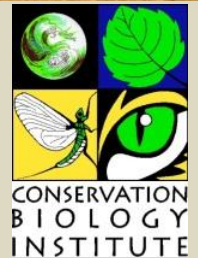


Using Spatially Explicit Logic Models to Support Decision-Making: Assessing Renewable Energy Impacts in the U.S.



James R. Strittholt, Ph.D.
Conservation Biology Institute
Corvallis, Oregon www.consbio.org





Get Started

Explore

Create

Community

Services

My Workspace

What is Data Basin?

What can I do?

Who is using Data Basin?

How do I start exploring?



A science-based mapping and analysis platform that supports learning, research, and sustainable environmental stewardship.

Get started quickly with Data Basin

[Take a Tour](#)

Thematic Centers

Data Basin Thematic Centers give you a focused and directed entry into the broad collection of Data Basin content. Find a Thematic Center that appeals to your interests:



Climate

Critical climate change datasets and findings about impacts, trends or predicted future scenarios.



Protected Areas

Centralized access to critical global data, including full access to the PAD-US v1.1 (CBI Edition).



Global Forests

High-quality geospatial datasets and information to aid management of the North American boreal forest biome.

Benefits of Membership

Setting up a Data Basin account is free. Your account will connect you with:

- networks of spatially inspired people
- expansive and scientifically-credible datasets
- tools to support your exploration, customization, and communication
- educational resources and materials

Click below to set up an account and start full access to Data Basin.

[Create an Account](#)


Making a Difference

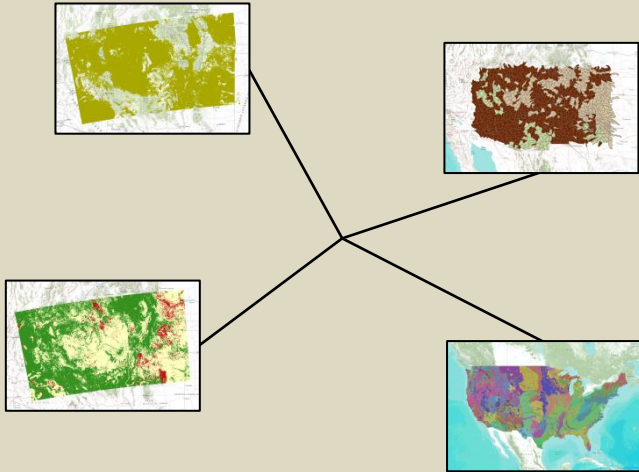
Announcements

Incentives

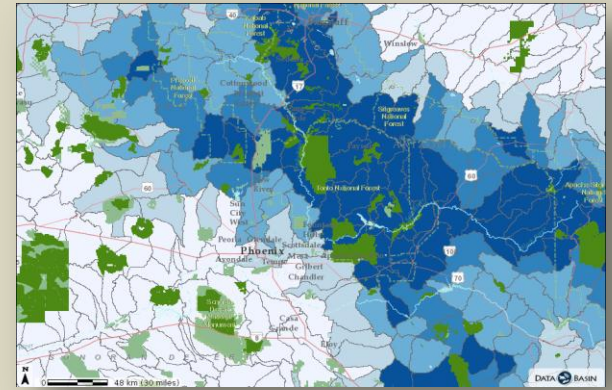
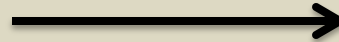
- High Scientific Quality
- Greatly Improve Access to Data & Information
- Easy to Use
- User-controlled
- Highly Flexible
- Support Broad Participation
- Incorporate Transparency
- Promote Shared Knowledge



Data Integration

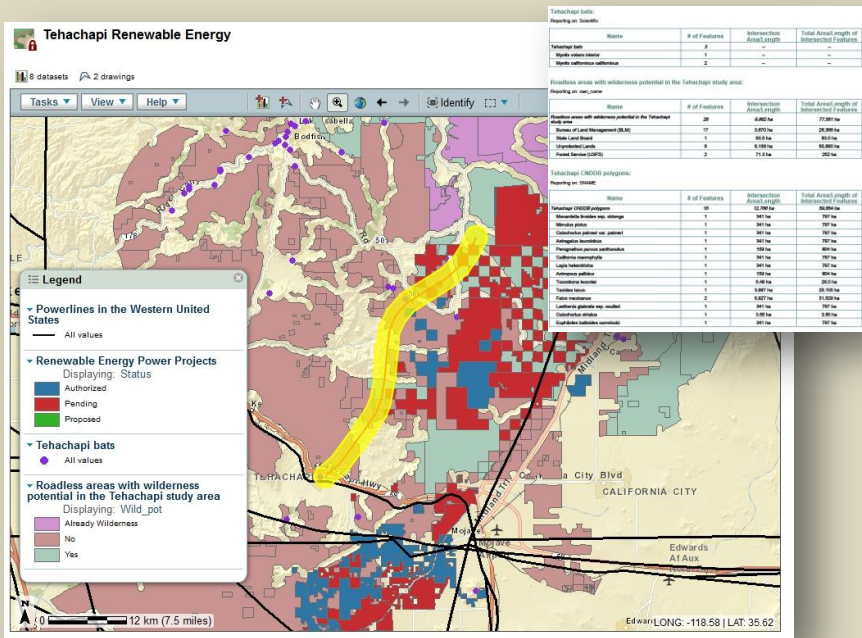


Map Creation

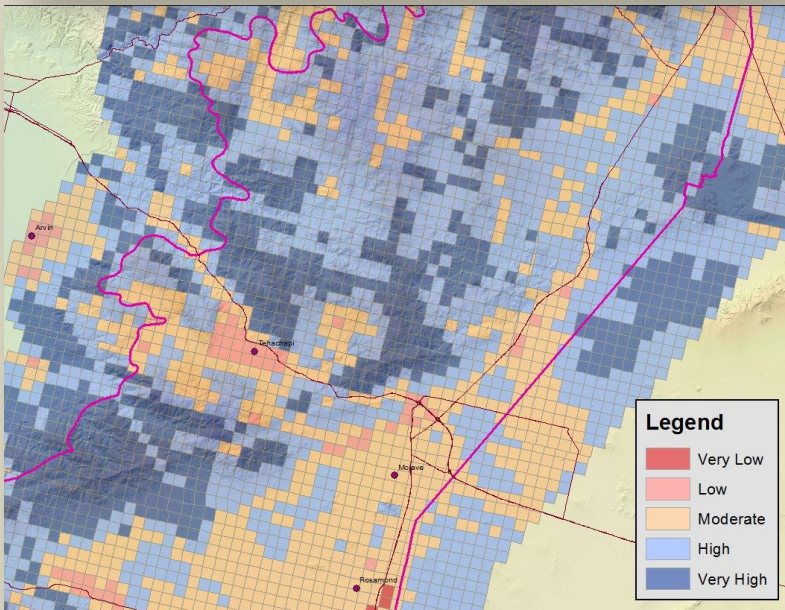


Group Collaboration



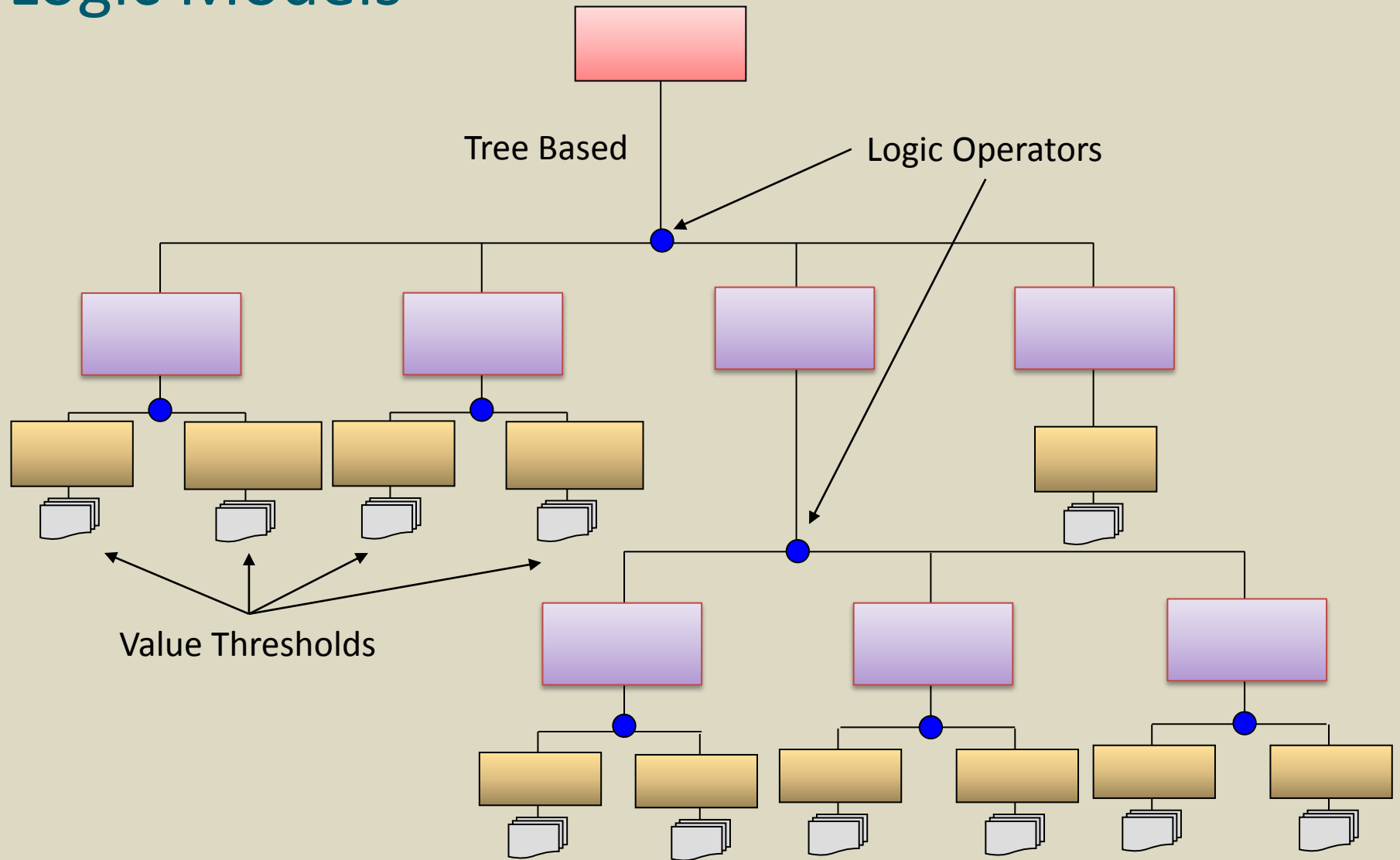


Project Impacts Calculator
Analyze specific impacts of development projects



Regional Logic Models
Map areas of high ecological value and level of landscape intactness for regional planning purposes.

Logic Models



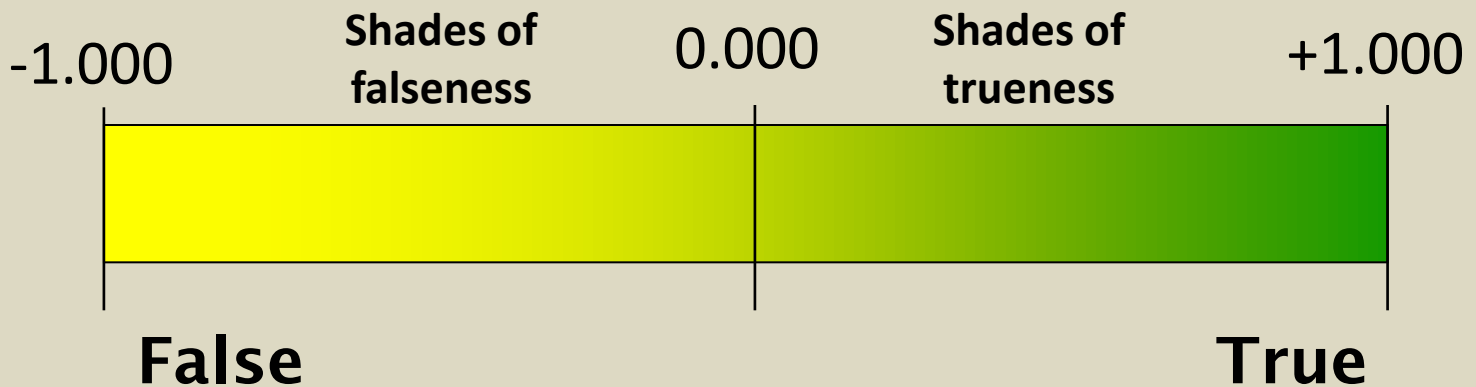
Multiple factors combined to address a question

Based on Fuzzy Logic

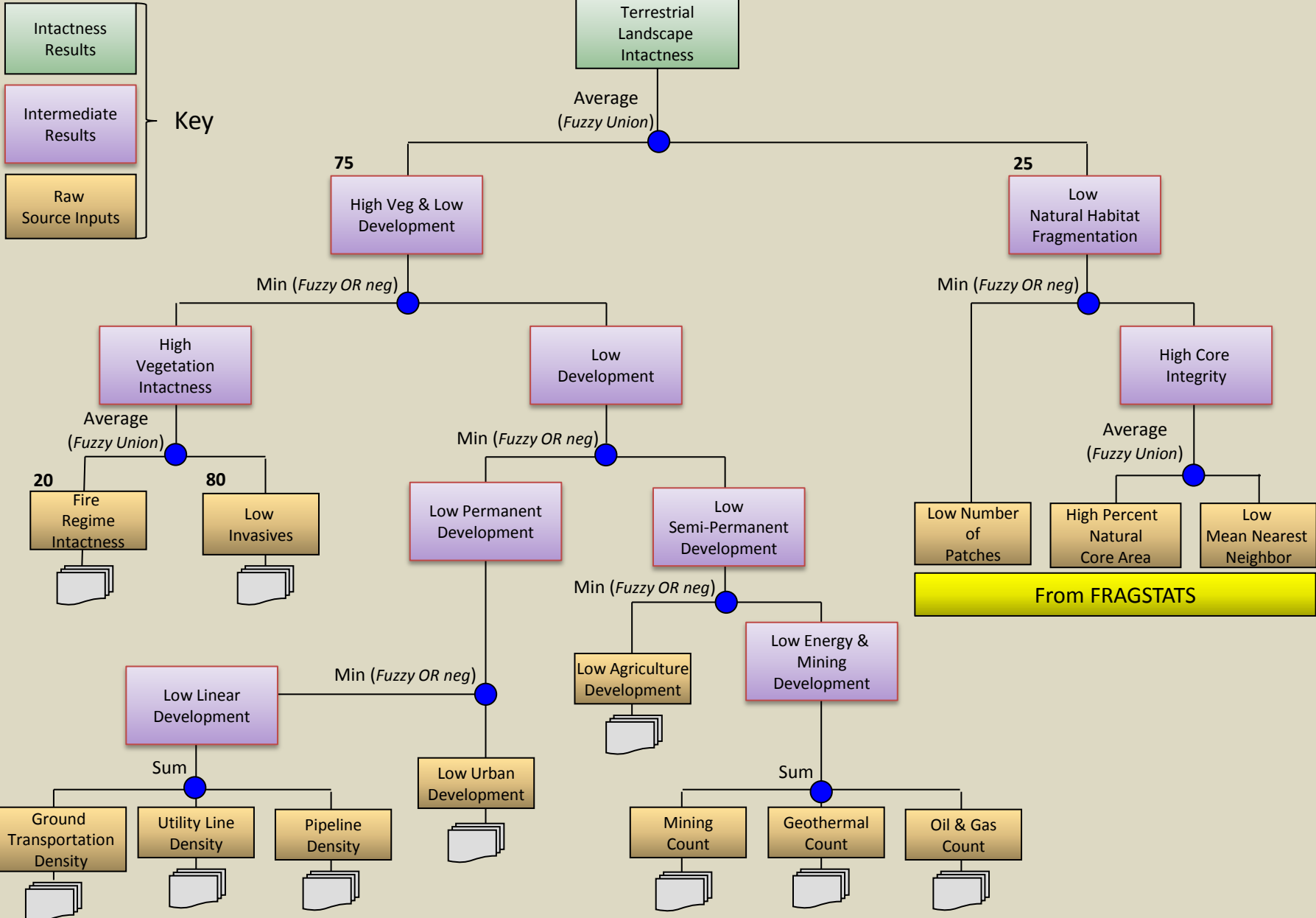
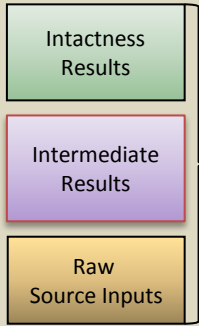
Provides a way of normalizing different types of data into a common range of values (“fuzzy values”).

e.g. High Landscape Intactness might take into account:

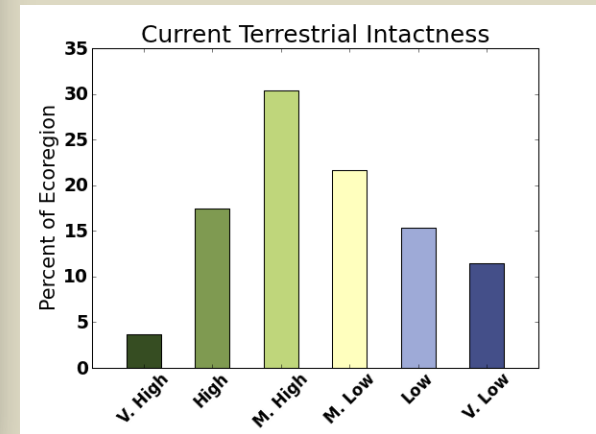
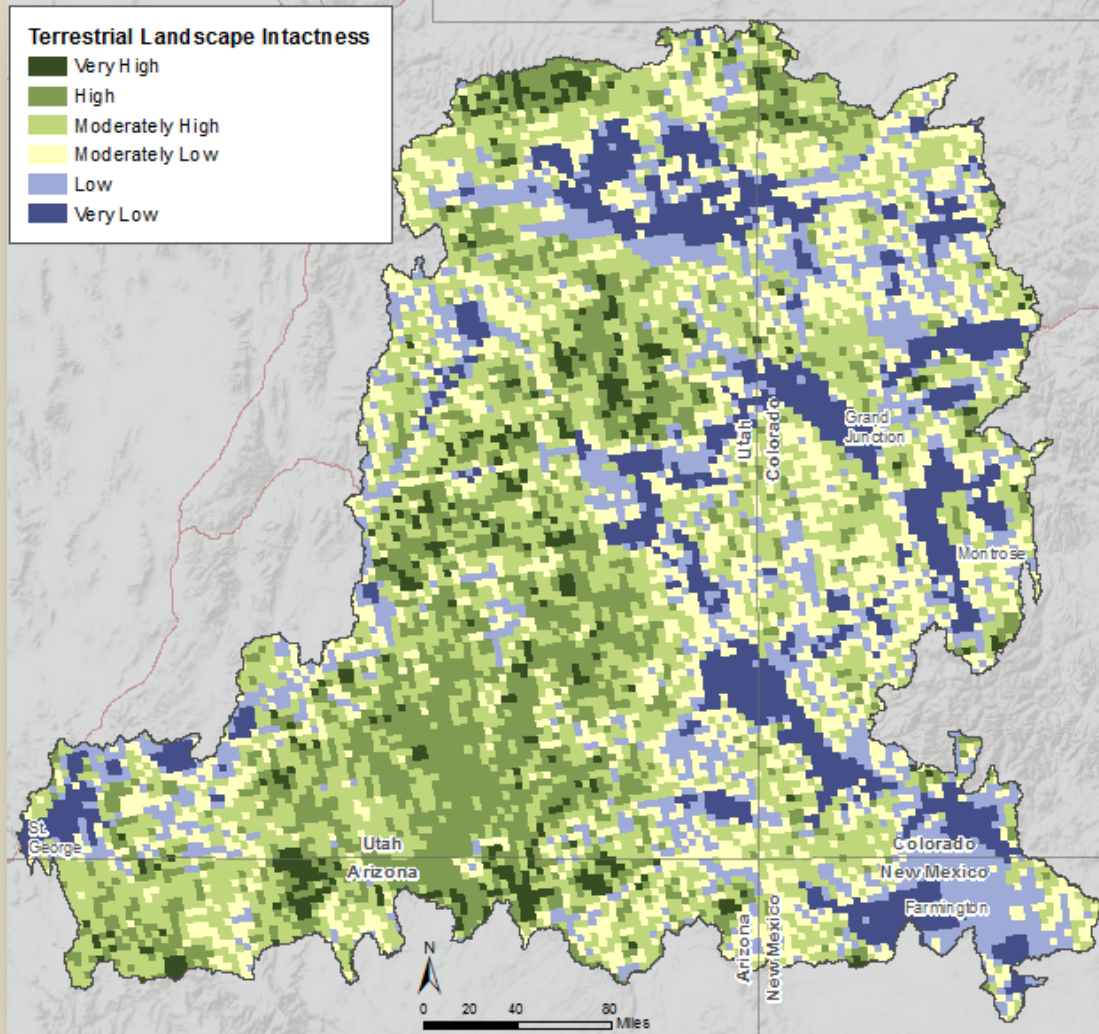
- Oil wells (point density)
- Roads (linear density)
- Invasive species extent (percent area)

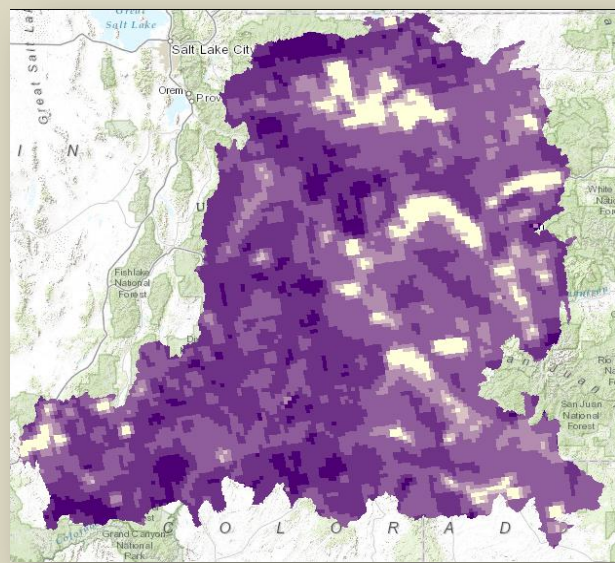
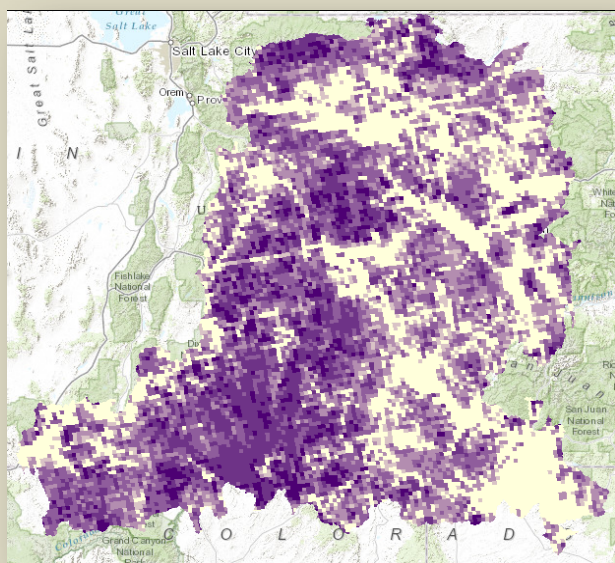
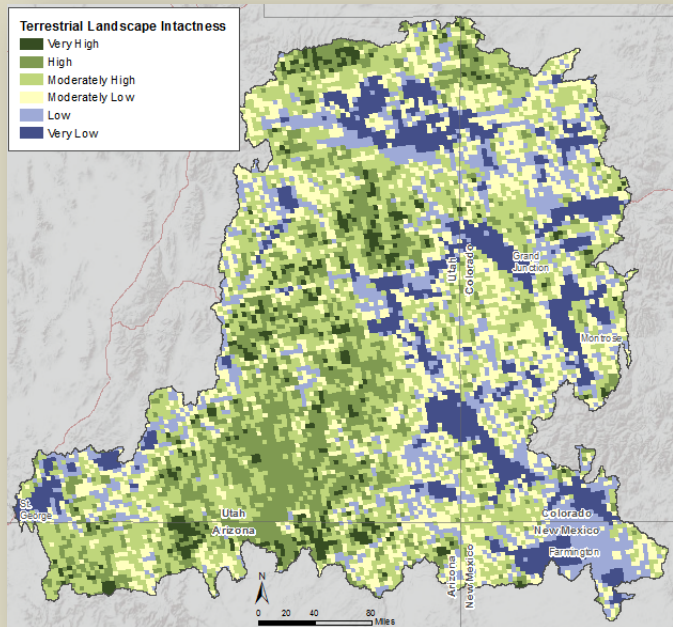


Current Terrestrial Landscape Intactness



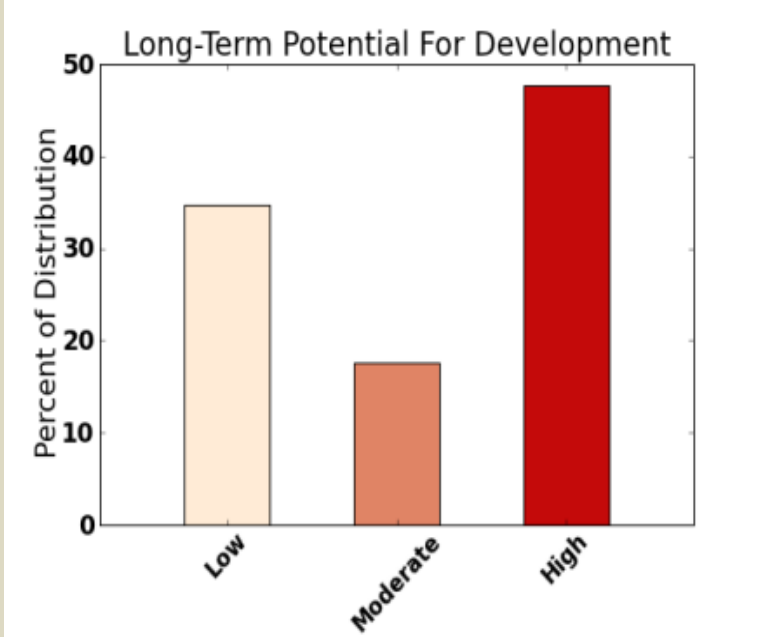
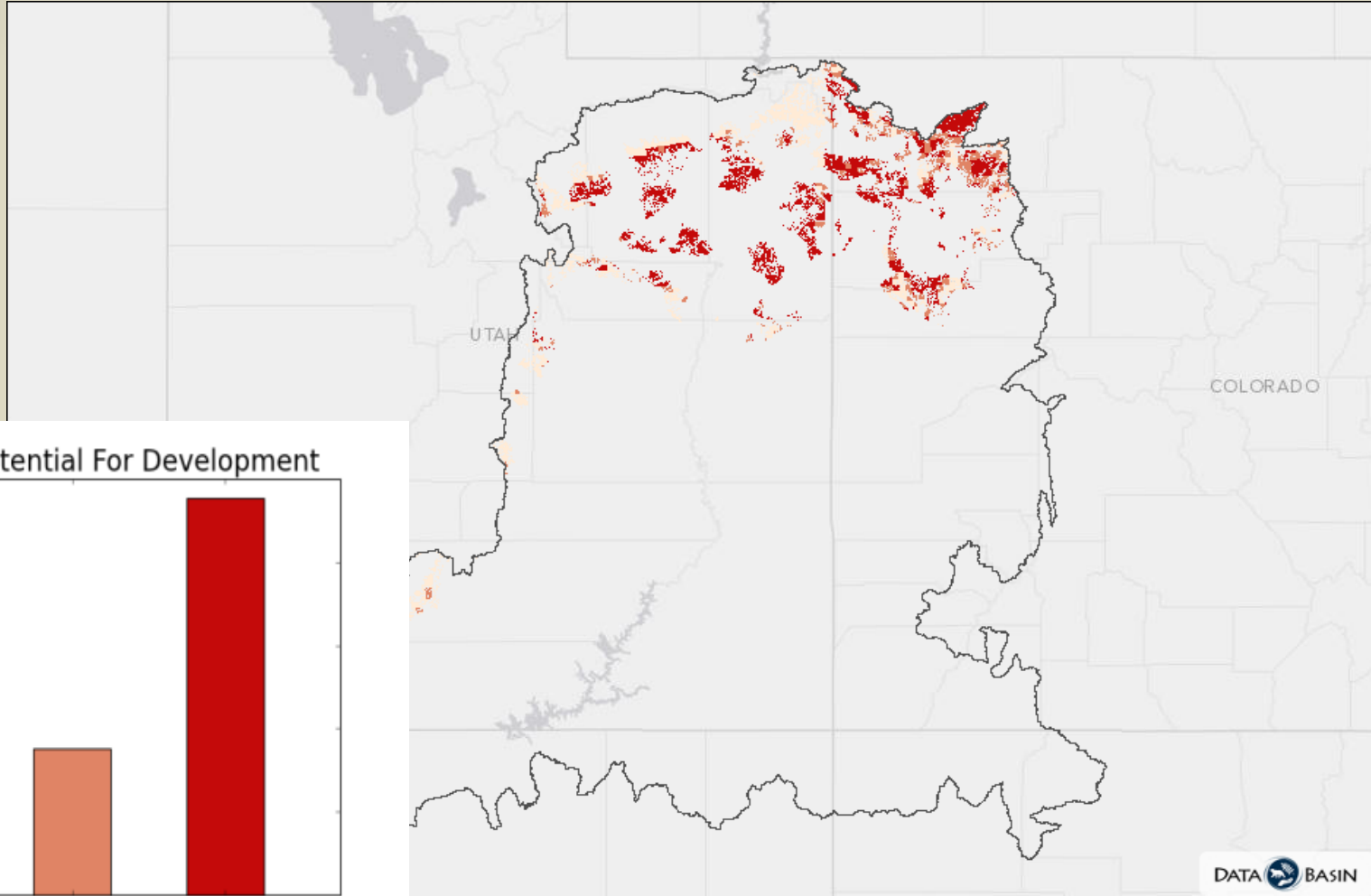
Current Terrestrial Landscape Intactness



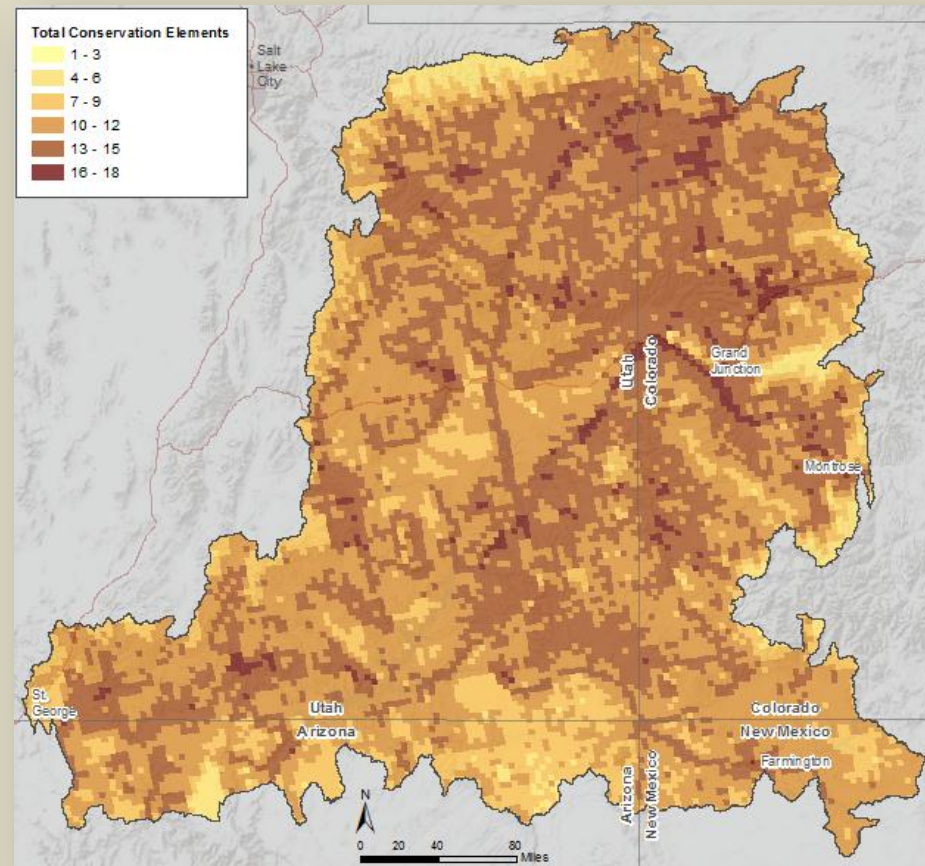
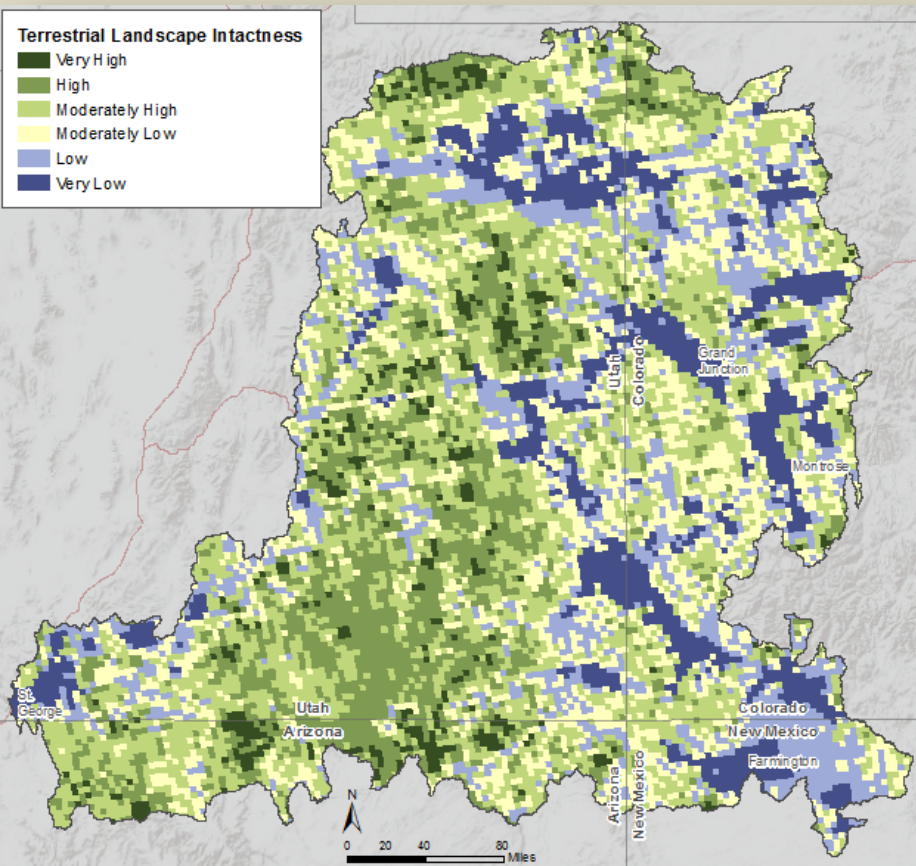


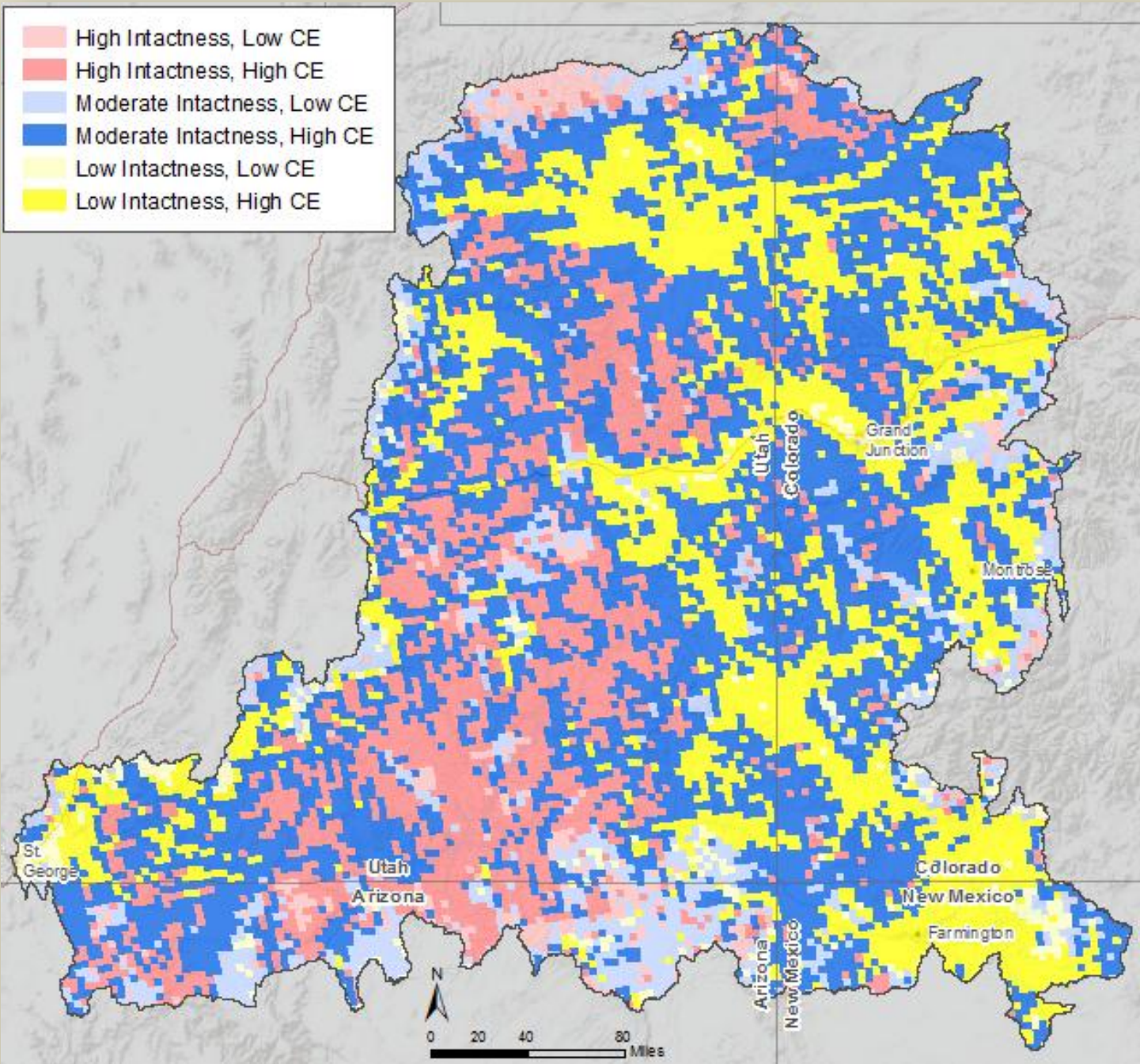


Greater Sage Grouse



Concentration of Conservation Elements and Intactness





Concentration of Conservation Elements and Intactness

	Very High	High	Moderately High	Moderately Low	Low	Very Low
0	3.68%		9.27%		2.88%	
1						
2		325				
3	2	1,044		39	867	15
4	308	2,634	197	1,082	1,244	18
5	41,932	78,555	101,008	95,350	50,978	3,954
6	72,732	188,071	233,112	130,455	67,398	1,902
7	75,490	173,751	462,173	310,476	202,505	32,823
8	82,251	264,931	659,448	455,730	243,903	68,004
9	207,748	461,112	1,008,241	694,964	485,681	130,156
10	179,732	841,176	1,536,486	1,116,386	772,118	361,426
11	218,433	1,147,886	1,863,389	1,326,415	1,068,169	787,067
12	262,209	1,620,275	2,485,117	1,774,932	1,256,474	1,212,609
13	268,180	1,503,916	2,546,286	1,851,837	1,186,985	1,184,497
14	170,005	905,374	1,730,262	1,220,270	924,792	727,319
15	43,490	418,739	654,945	498,003	403,267	379,546
16	7,907	154,190	249,077	166,051	159,265	185,819
17	3,954	63,258	71,165	55,350	39,536	47,443
18	17.45%	7,907	42.80%	23,722	7,907	23.92%
Totals	1,634,374	7,833,144	13,624,628	9,705,248	6,871,091	5,134,459

Area in acres for all Colorado Plateau Lands