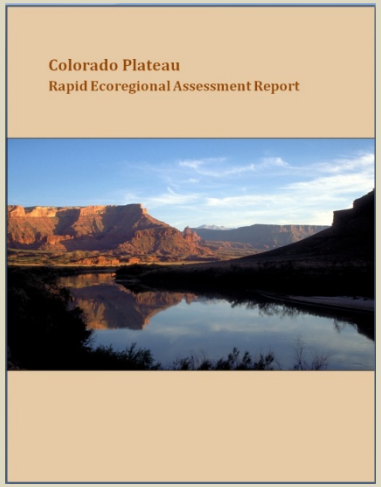
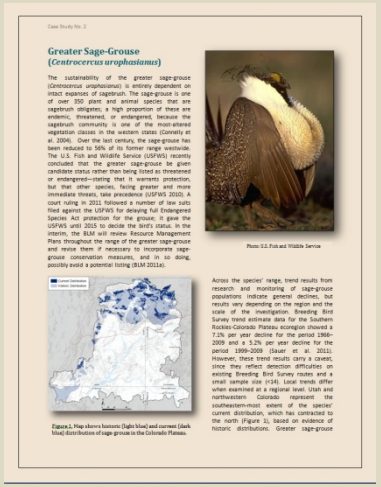
Colorado Plateau
Rapid Ecoregional Assessment Report

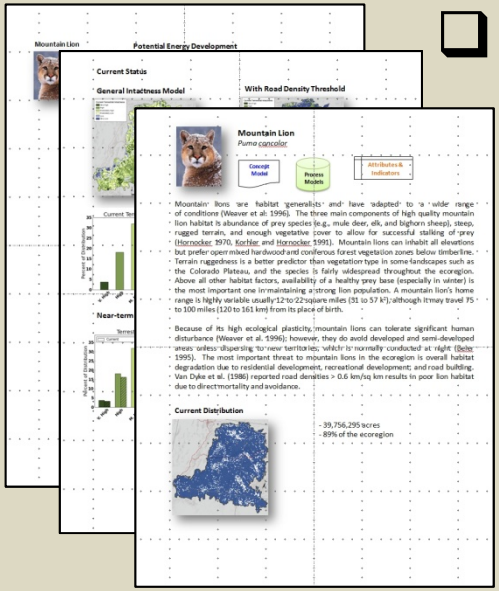
Final Report Organization



❑ Main Report

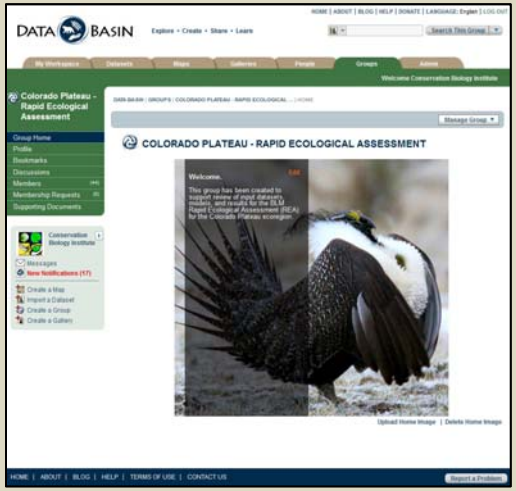


❑ Inserts



❑ Appendices

❑ Electronic Hosting



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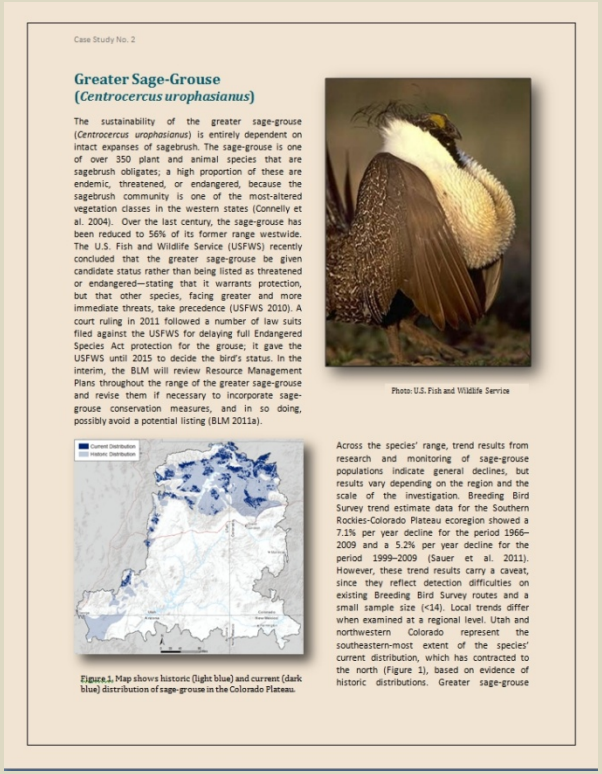


Case Study No. 2

Greater Sage-Grouse
(*Centrocercus urophasianus*)

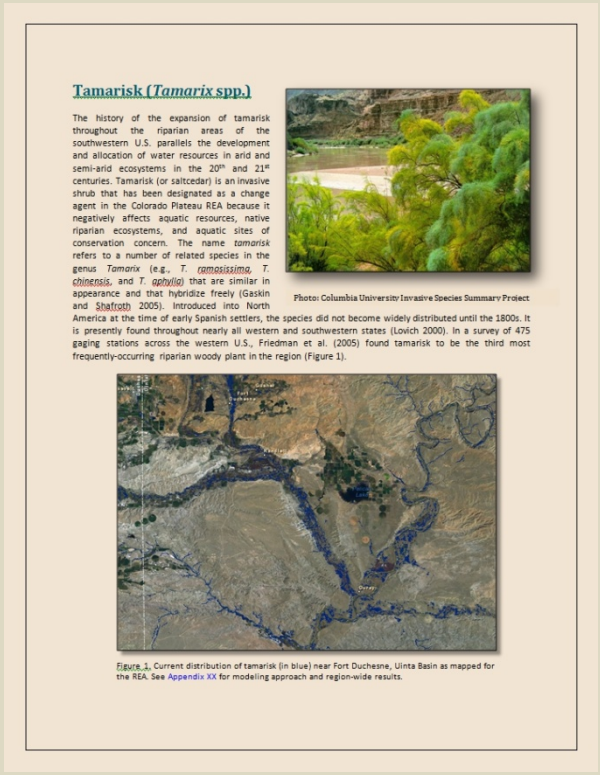
The sustainability of the greater sage-grouse (*Centrocercus urophasianus*) is entirely dependent on intact expanses of sagebrush. The sage-grouse is one of over 350 plant and animal species that are sagebrush obligates; a high proportion of these are endemic, threatened, or endangered, because the sagebrush community is one of the most-altered vegetation classes in the western states (Connelly et al. 2004). Over the last century, the sage-grouse has been reduced to 56% of its former range westwide. The U.S. Fish and Wildlife Service (USFWS) recently concluded that the greater sage-grouse be given candidate status rather than being listed as threatened or endangered—stating that it warrants protection, but that other species, facing greater and more immediate threats, take precedence (USFWS 2010). A court ruling in 2011 followed a number of law suits filed against the USFWS for delaying full Endangered Species Act protection for the grouse; it gave the USFWS until 2015 to decide the bird's status. In the interim, the BLM will review Resource Management Plans throughout the range of the greater sage-grouse and revise them if necessary to incorporate sage-grouse conservation measures, and in so doing, possibly avoid a potential listing (BLM 2011a).

Photo: U.S. Fish and Wildlife Service

Figure 1. Map shows historic (light blue) and current (dark blue) distribution of sage-grouse in the Colorado Plateau.

Across the species' range, trend results from research and monitoring of sage-grouse populations indicate general declines, but results vary depending on the region and the scale of the investigation. Breeding Bird Survey trend estimate data for the Southern Rockies-Colorado Plateau ecoregion showed a 7.1% per year decline for the period 1966–2009 and a 5.2% per year decline for the period 1999–2009 (Sauer et al. 2011). However, these trend results carry a caveat, since they reflect detection difficulties on existing Breeding Bird Survey routes and a small sample size (<14). Local trends differ when examined at a regional level. Utah and northwestern Colorado represent the southeastern-most extent of the species' current distribution, which has contracted to the north (Figure 1), based on evidence of historic distributions. Greater sage-grouse

Species Conservation Element



Tamarisk (*Tamarix* spp.)

The history of the expansion of tamarisk throughout the riparian areas of the southwestern U.S. parallels the development and allocation of water resources in arid and semi-arid ecosystems in the 20th and 21st centuries. Tamarisk (or saltcedar) is an invasive shrub that has been designated as a change agent in the Colorado Plateau REA because it negatively affects aquatic resources, native riparian ecosystems, and aquatic sites of conservation concern. The name *tamarisk* refers to a number of related species in the genus *Tamarix* (e.g., *T. ramosissima*, *T. chinensis*, and *T. aphylla*) that are similar in appearance and that hybridize freely (Gaskin and Shafroth 2005). Introduced into North America at the time of early Spanish settlers, the species did not become widely distributed until the 1800s. It is presently found throughout nearly all western and southwestern states (Lovich 2000). In a survey of 475 gaging stations across the western U.S., Friedman et al. (2005) found tamarisk to be the third most frequently-occurring riparian woody plant in the region (Figure 1).

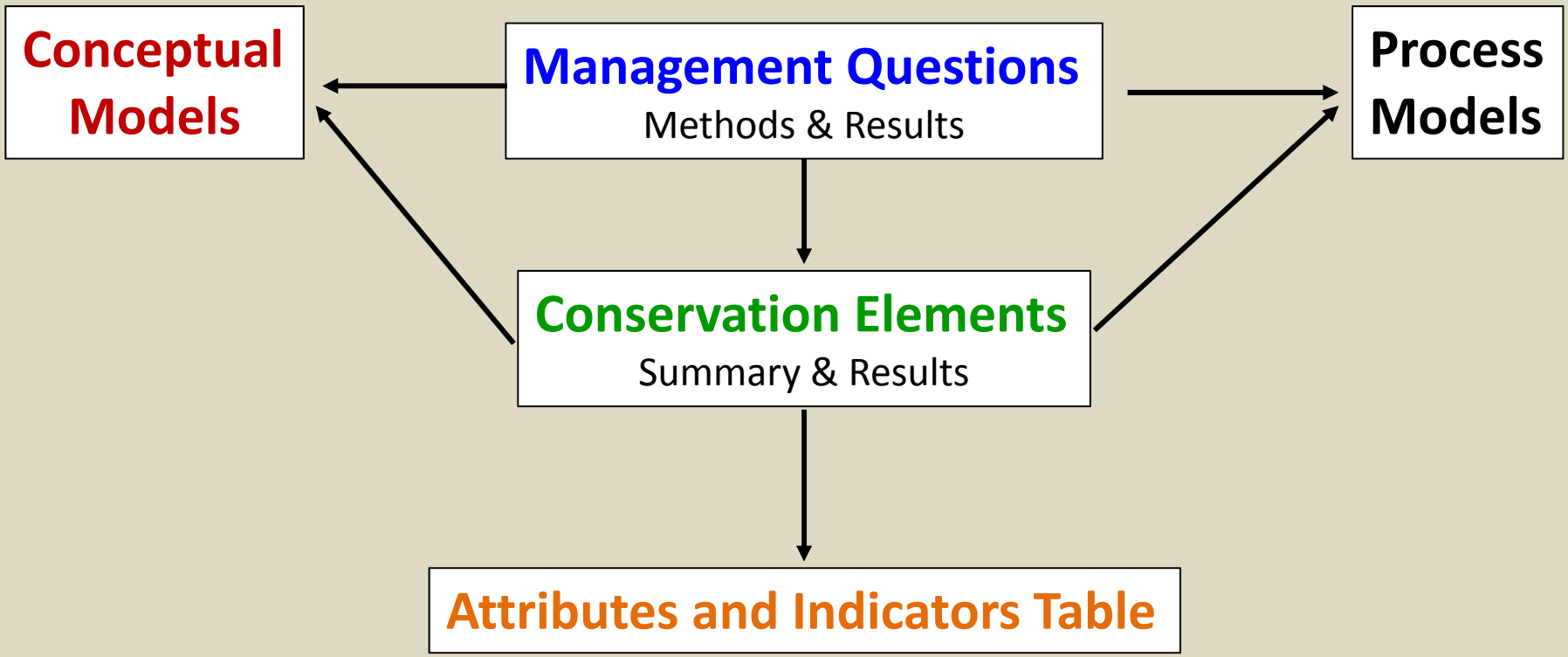
Photo: Columbia University Invasive Species Summary Project

Figure 1. Current distribution of tamarisk (in blue) near Fort Duchesne, Uinta Basin as mapped for the REA. See Appendix XX for modeling approach and region-wide results.

Change Agent

Biological Crust ?

Appendices


Conceptual Models
Management Questions
Methods & Results
Process Models
Conservation Elements
Summary & Results
Attributes and Indicators Table

Management Questions

COLORADO PLATEAU

A. SOILS, BIOLOGICAL CRUSTS, AND FORAGE MANAGEMENT

MQ A1. Where are soils susceptable to wind and water erosion?
MQ A2. Where are sensitive soils (including saline, sodic, gypsiferous, shallow, low water holding capacity)?
MQ A3. Which HMAs and allotments may experience significant effects from change agents including climate change?
MQ A4. Where are soils that have potential to have cryptogamic soil crusts?
MQ A5. What/where is the potential for future change to the cryptogamic crusts?
MQ A6. Where are hotspots producing fugitive dust that may contribute to accelerated snow melt in the Colorado Plateau?

B. SURFACE AND GROUNDWATER MANAGEMENT QUESTIONS

MQ B1. Where are lotic and lentic surface waterbodies and livestock and wildlife watering tanks and artificial water bodies?
MQ B2. Where are perennial streams and stream reaches?
MQ B3. What are seasonal discharge maxima and minima for the Colorado River and major tributaries at gaging stations?
MQ B4. Where are the alluvial aquifers and their recharge areas (if known)?
MQ B5. What is the condition of these various aquatic systems defined by PFC?
MQ B6. Where are the aquatic systems listed on 303(d) with degraded water quality or low macroinvertebrate diversity?
MQ B7. What is the location/distribution of these aquatic biodiversity sites?

C. ECOLOGICAL SYSTEMS MANAGEMENT QUESTIONS

MQ C1. Where are existing vegetative communities? – Colorado Plateau Pinyon-Juniper Woodland (Pinyon Pine)
MQ C2. Where are vegetative communities vulnerable to change agents in the future? – Colorado Plateau Pinyon-Juniper Woodland (Pinyon Pine)
MQ C3. What change agents have affected existing vegetation communities? – Colorado Plateau Pinyon-Juniper Woodland (Pinyon Pine) – Historic Change
MQ C3. What change agents have affected existing vegetation communities? – Colorado Plateau Pinyon-Juniper Woodland (Pinyon Pine) – Recent Disturbances

MQ C1. Where are existing vegetative communities? – Inter-Mountain Basins Big Sagebrush Shrubland (Wyoming Big Sagebrush)
MQ C2. Where are vegetative communities vulnerable to change agents in the future? – Inter-Mountain Basins Big Sagebrush Shrubland (Wyoming Big Sagebrush)
MQ C3. What change agents have affected existing vegetation communities? – Inter-Mountain Basins Big Sagebrush Shrubland (Wyoming Big Sagebrush) – Historic Change
MQ C3. What change agents have affected existing vegetation communities? – Inter-Mountain Basins Big Sagebrush Shrubland (Wyoming Big Sagebrush) – Recent Disturbances

MQ C1. Where are existing vegetative communities? – Inter-Mountain Basins Montane Sagebush Steppe (Mountain Sagebrush)
MQ C2. Where are vegetative communities vulnerable to change agents in the future? – Inter-Mountain Basins Montane Sagebush Steppe (Mountain Sagebrush)
MQ C3. What change agents have affected existing vegetation communities? – Inter-Mountain Basins Montane Sagebush Steppe (Mountain Sagebrush) – Historic Change
MQ C3. What change agents have affected existing vegetation communities? – Inter-Mountain Basins Montane Sagebush Steppe (Mountain Sagebrush) – Recent Disturbances

MQ C1. Where are existing vegetative communities? – Colorado Plateau Mixed Bedrock Canyon and Tableland (Littleleaf Mountain Mahogeny)
MQ C2. Where are vegetative communities vulnerable to change agents in the future? – Colorado Plateau Mixed Bedrock Canyon and Tableland (Littleleaf Mountain Mahogeny)
MQ C3. What change agents have affected existing vegetation communities? – Colorado Plateau Mixed Bedrock Canyon and Tableland (Littleleaf Mountain Mahogeny)
MQ C3. What change agents have affected existing vegetation communities? – Colorado Plateau Mixed Bedrock Canyon and Tableland (Littleleaf Mountain Mahogeny)

Management Questions

Soils, biological crust, and forage management questions

MQA1. Where are soils susceptible to wind and water erosion?

Methods ◊ Process Model ◊ Conceptual Model ◊ Results

MQA2. Where are sensitive soils (including saline, sodic, gypsiferous, shallow, low water holding capacity?

Methods ◊ Process Model ◊ Conceptual Model ◊ Results

MQA3. Which HMAs and allotments may experience significant effects from change agents including climate change?

Methods ◊ Process Model ◊ Conceptual Model ◊ Results

MQA4. Where are soils that have potential to have cryptogamic crust?

Methods ◊ Process Model ◊ Conceptual Model ◊ Results

Management Questions

Species management questions

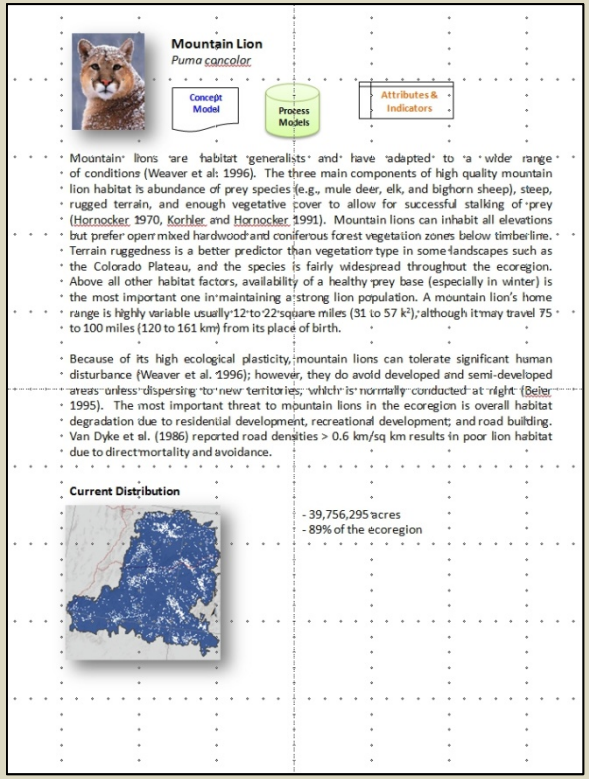
MQD1. What is the most current distribution and status of available occupied habitat?
MQD7. What sites and movement corridors are vulnerable to change in the near term (2015) and long-term (2060) horizon?
MQJ3. Where are areas of species conservation elements potential distribution change from climate change by 2060?

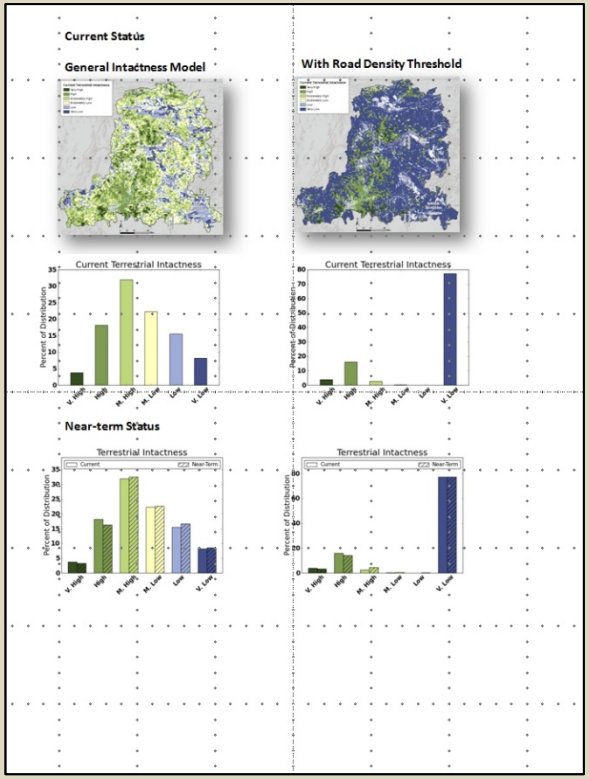
Mountain Lion
Pronghorn Antelope
Mule Deer
Desert Bighorn Sheep
Gunnison's Prairie Dog
Black-footed Ferret
White-tailed Prairie Dog

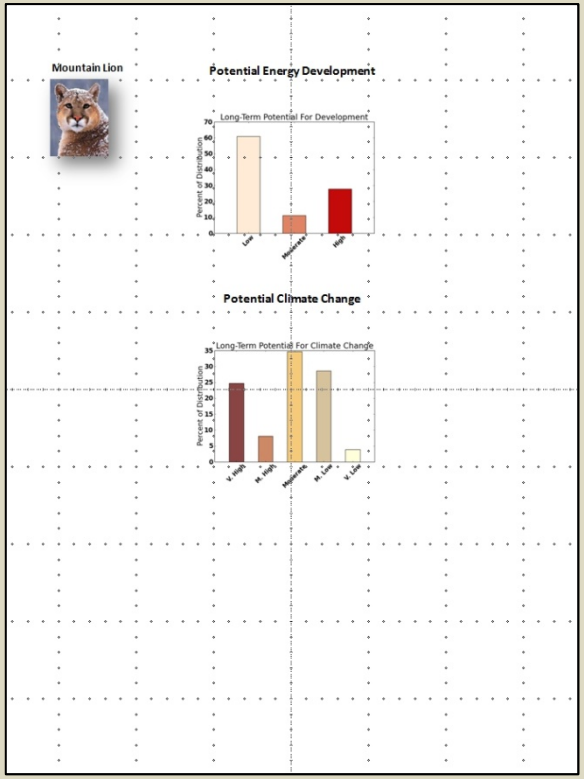
Greater Sage Grouse
Gunnison Sage Grouse
Golden Eagle
Mexican Spotted Owl
Ferruginous Hawk
Burrowing Owl
Peregrine Falcon
Yellow-breasted Chat

Razorback Sucker
Flannelmouth Sucker
CO Cutthroat Trout

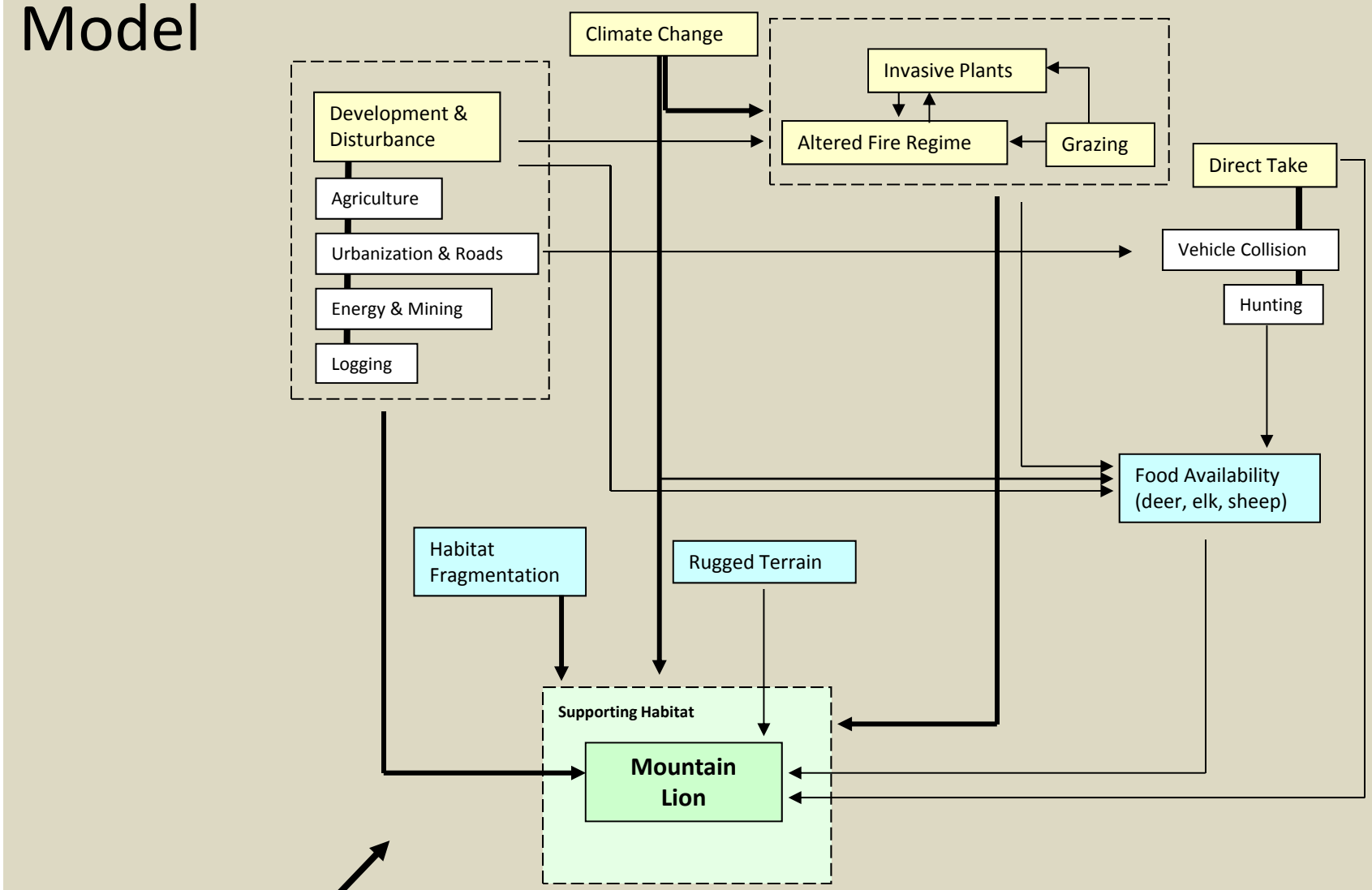
Conservation Element

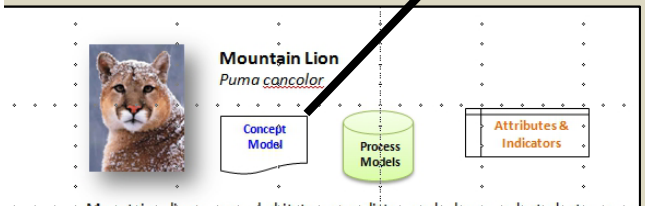






Conceptual Model





Process Model

COP – Mountain Lion Process Model

MQ D1: Mountain Lion Current Distribution and Status

All files clipped with boundary file called Outline of 5th-level HUC (10-digit) watersheds, Colorado Plateau ecoregion

Distribution

Status

Southwest reGAP modeled distribution of the mountain lion in the Colorado Plateau ecoregion, USA **(SW ReGAP)**

Extract

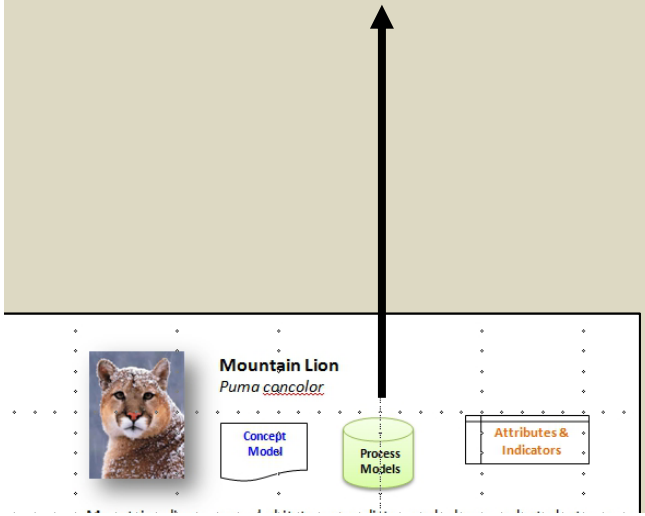
Value = 29

Results: Mountain Lion Distribution in the Colorado Plateau Ecoregion, USA

Intersect

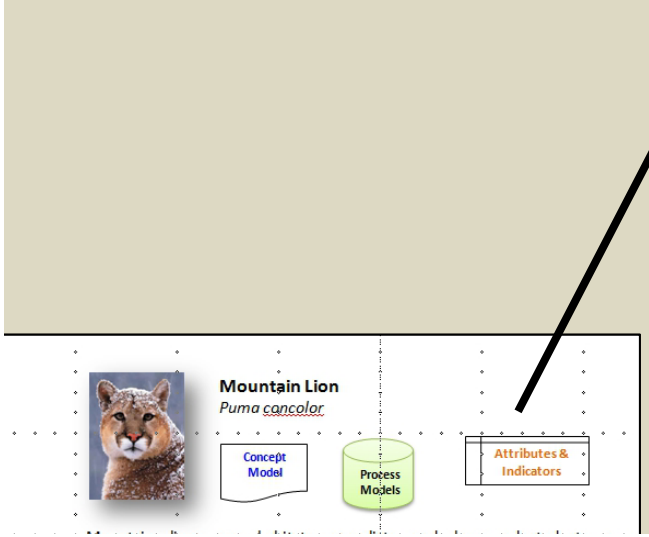
Current Mountain Lion Status

4km Results: Current Terrestrial Landscape Intactness



Attributes and Indicators – Mountain Lion

Element	Attribute	Indicator	Poor	Fair	Good	V. Good	Citation
Mountain Lion	Prey	Ungulate density	Low	Medium	High	Very high	Julander and Jeffrey (1964)
	Habitat degradation	Road density	0.6 km/sq km	0.4	0.2	0.0	Van Dyke et al. (1986)
	Habitat	Cover & terrain	Very dense or open cover			Rugged terrain with mixed cover	Riley (1998)
	Habitat degradation	Human development	High	Moderate	Low	No	Van Dyke et al. (1986)



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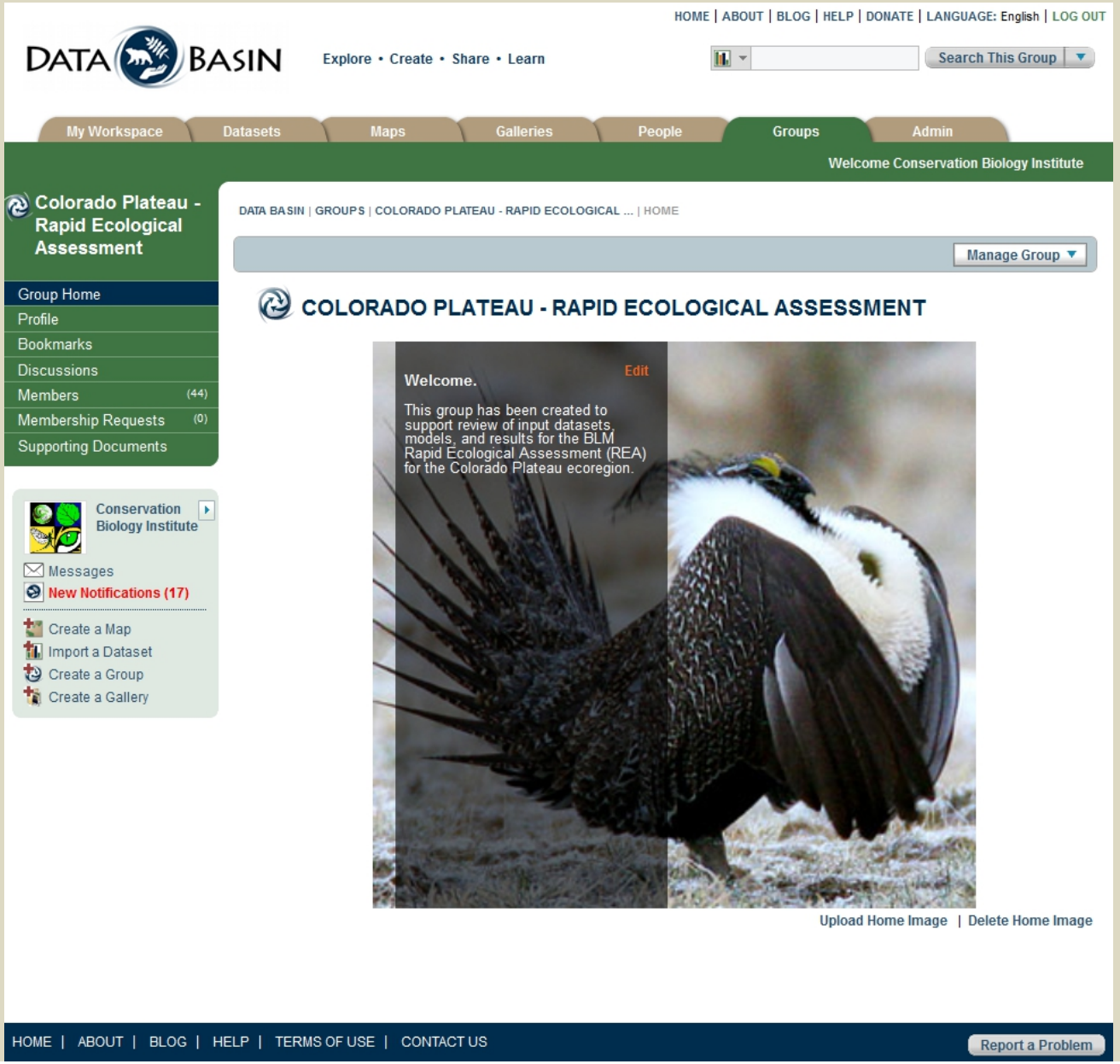

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      - Additional
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      - MQA3 - Ch
      - MQA4 - Pc
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    - Ecological/Cul
      - MQD5 - Di
      - MQD5 - Tra

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Items per page: 10

COP MQA1 - High Risk to Wind and Water Erosion *[private]*

view details
open live map
[+] more

Credits: Conservation Biology Institute

Results for wind and water erosion modeling for the Colorado Plateau.

10 datasets

Created Jul 7, 2011 by Conservation Biology Institute
(Last modified Jul 12, 2011)

HUC Results: High Risk of Water Erodibility - Colorado Plateau ecoregion, USA *[private]*

view details
display in map
[+] more

Credits: Wendy Peterman, Conservation Biology Institute

This dataset shows the percent of each 4 km grid cell that is at a high risk of wind erodibility. This means the NRCS water erodibility Kw factor is < 0.20 (and slope is > 40%), or Kw factor is between 0.20 and 0.36 (and slope is > 35%) ...

Layer Package

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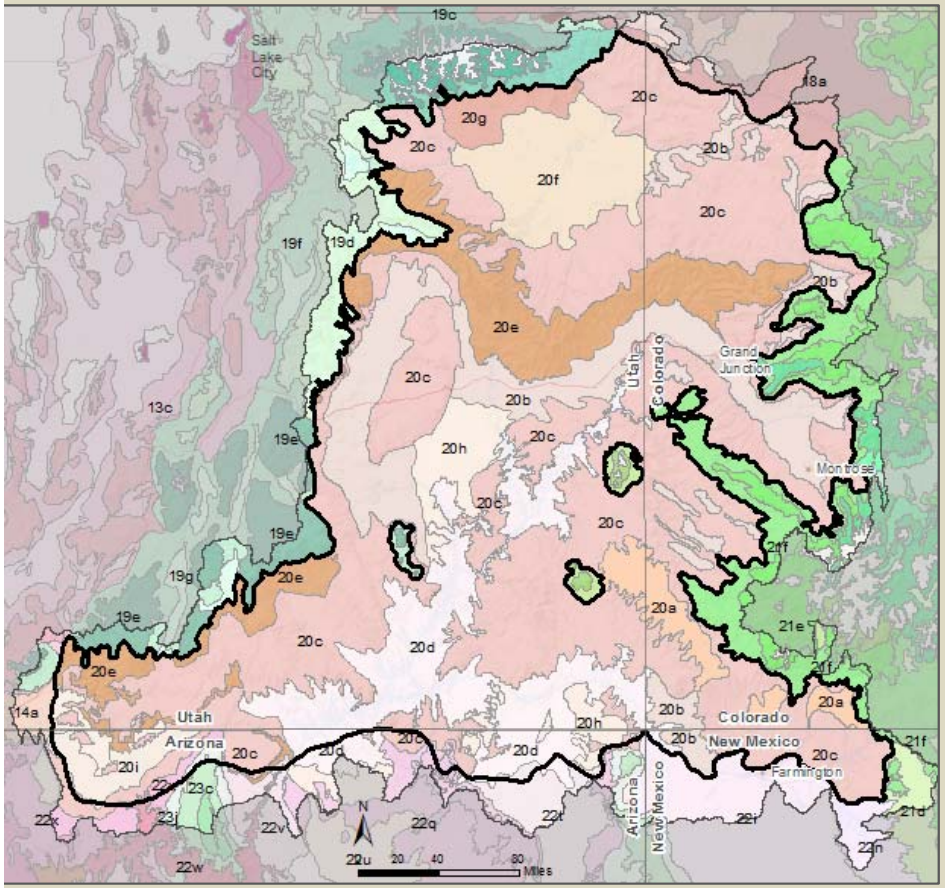
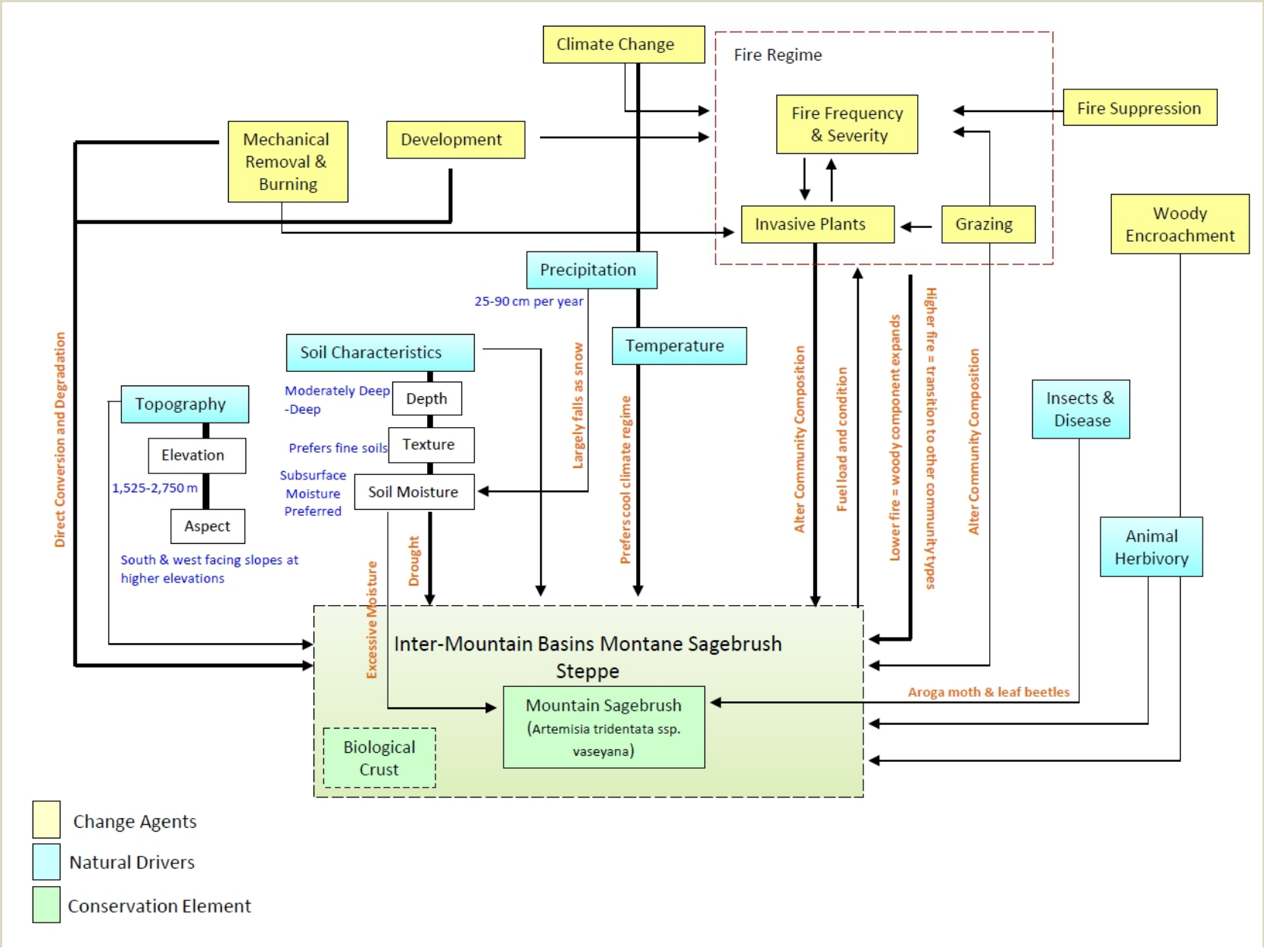
Methods

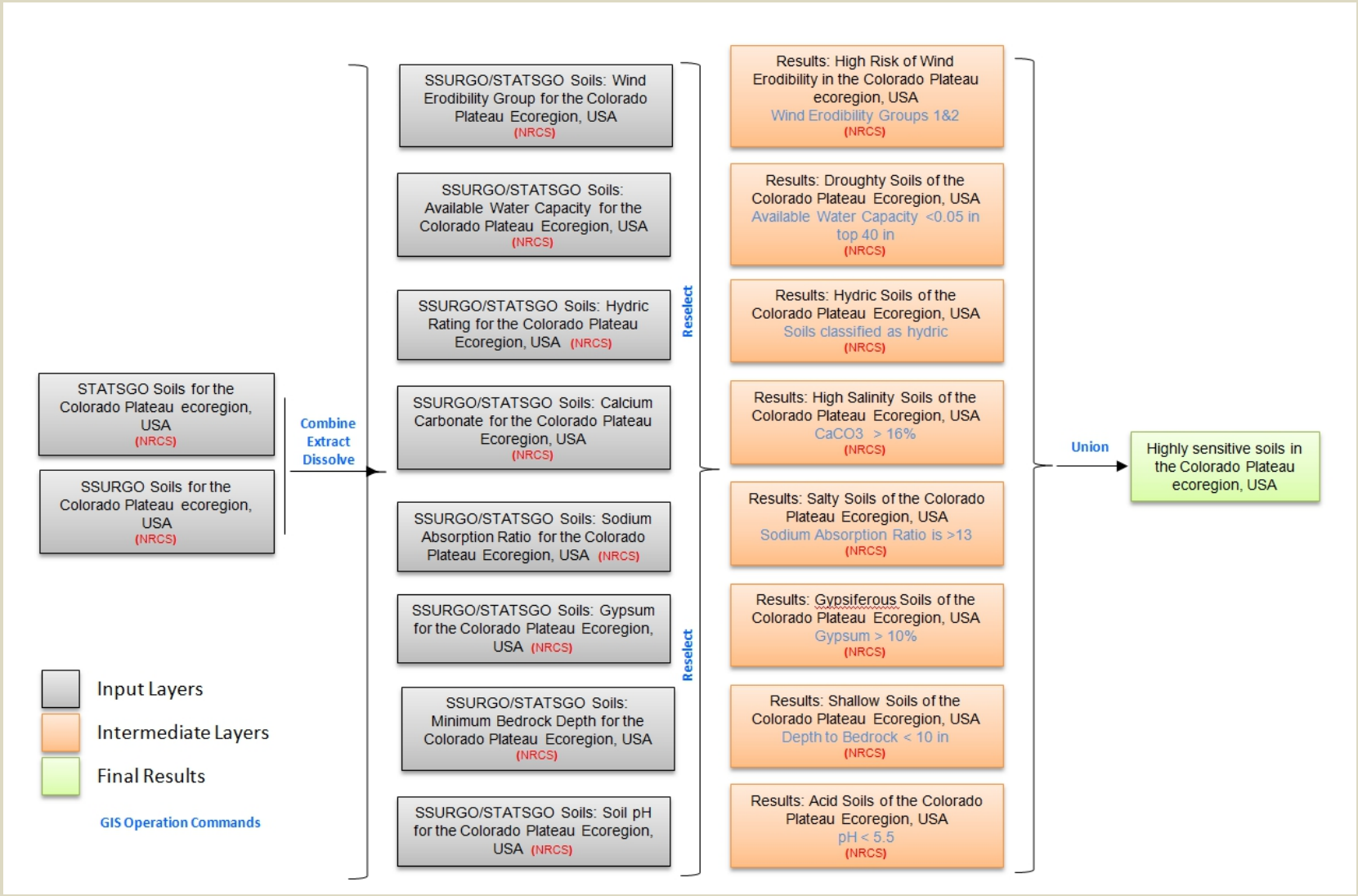


- ❑ Conceptual Models
- ❑ Process Models
- ❑ Logic Models
- ❑ FRAGSTATS
- ❑ Connectivity Modeling
- ❑ Climate Modeling

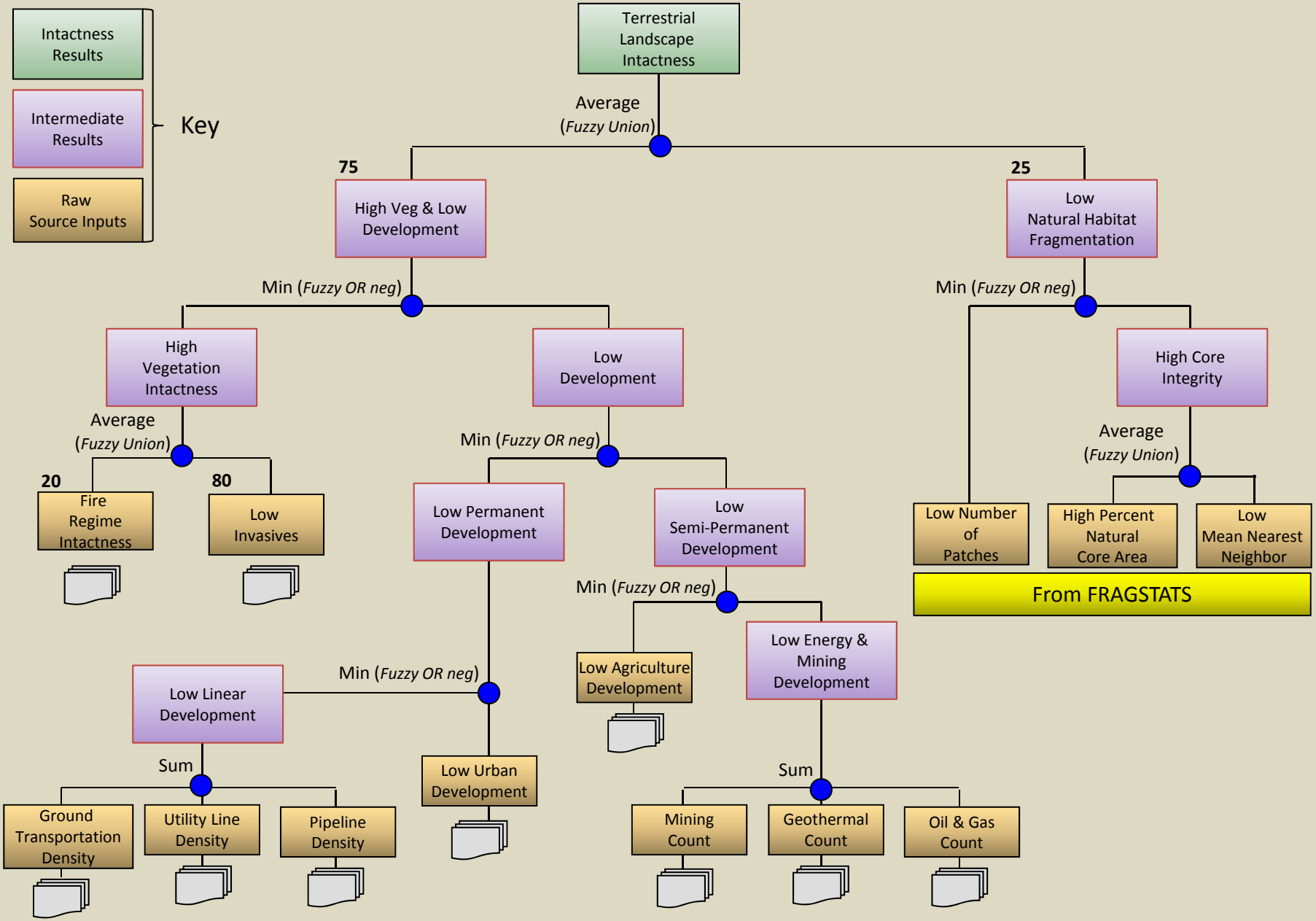
Conceptual Models



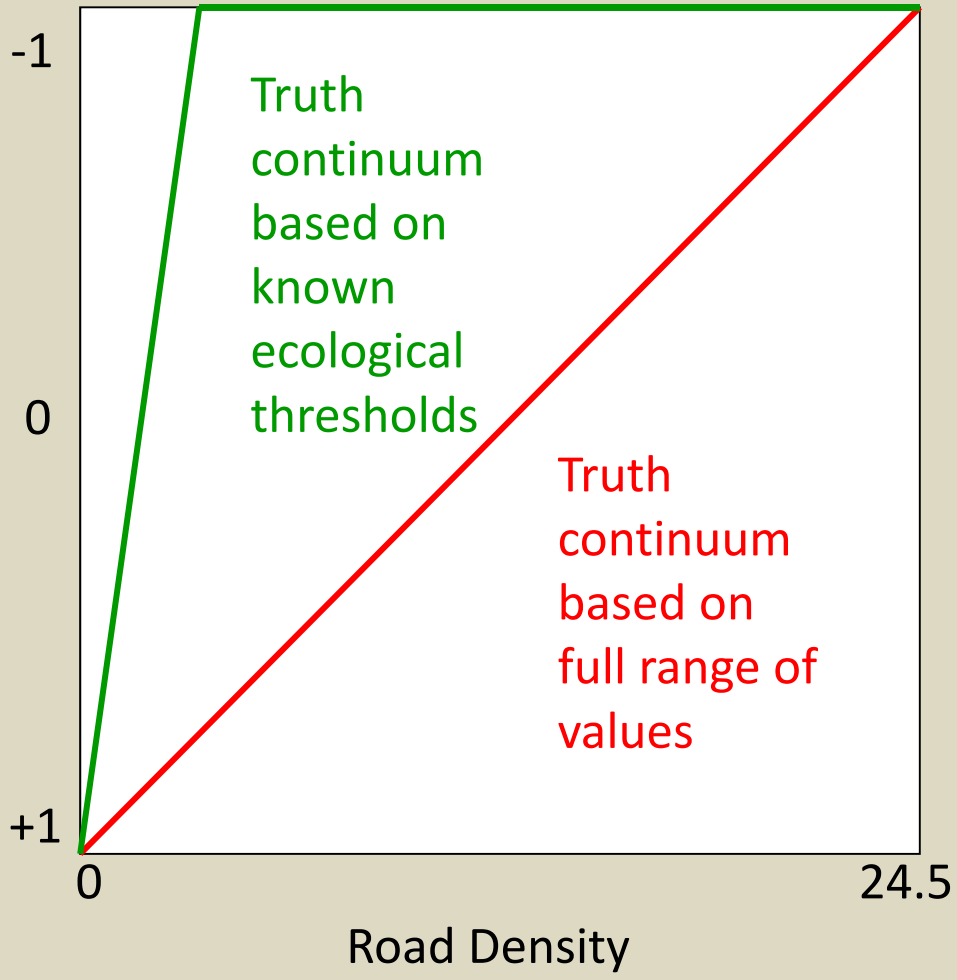
Process Models



Logic Models



Fuzzy Logic


-1
0
+1
0
24.5
Road Density
Truth continuum based on known ecological thresholds
Truth continuum based on full range of values

Thresholds for Terrestrial Landscape Intactness

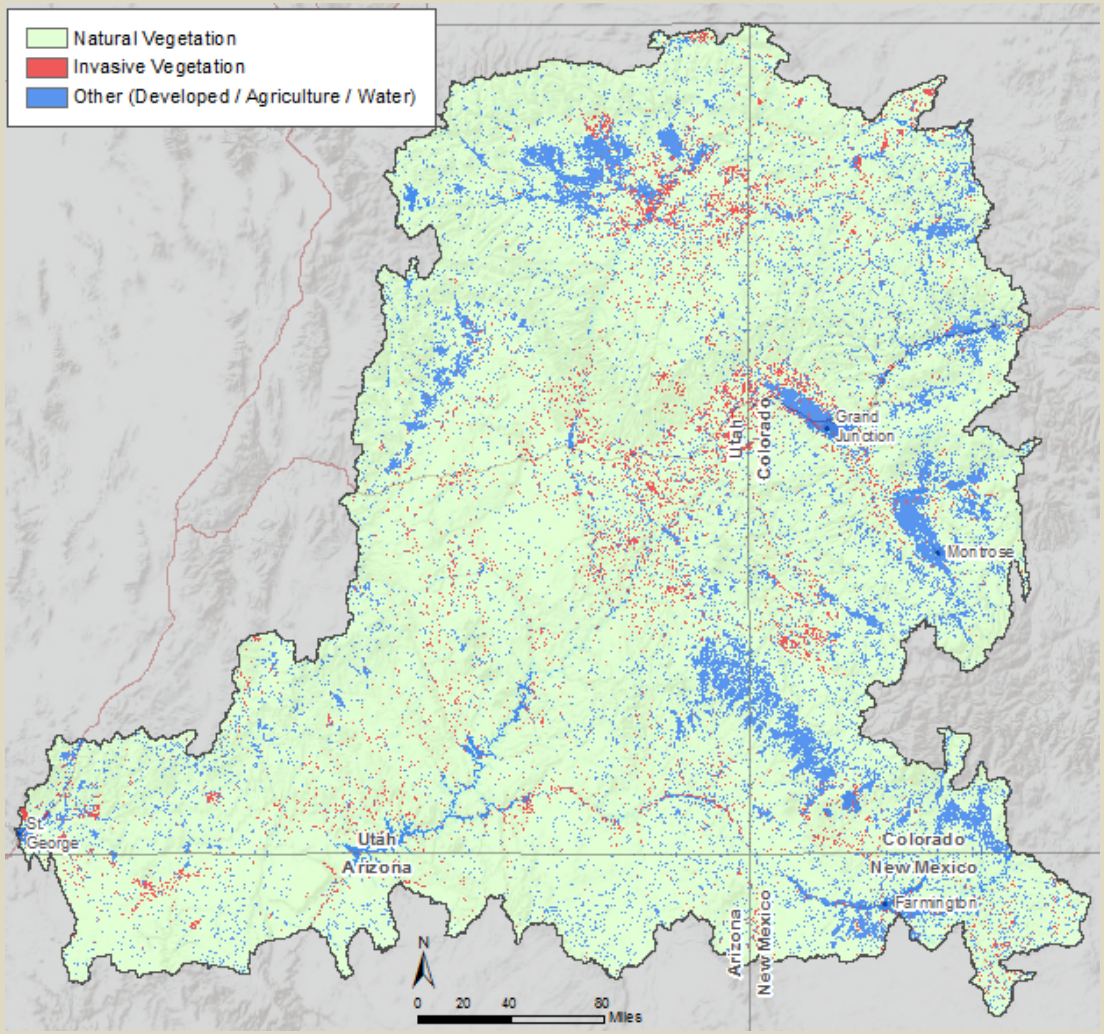
Item	Data Type	Data Range	True Threshold	False Threshold
Fire Regime	Percent Area	0-100	13	98
Invasive Grasses & Tamarisk	Percent Area	0-88	0	33
Linear Development	Density	0-18	0	2.5
Urban Percent	Percent Area	0-99	0	15
Agriculture Percent	Percent Area	0-90	0	20
Energy & Mining Development	Number	0-37	0	1.25
Number of Patches	Number	1-1,455	1	700
Mean Nearest Neighbor	Distance	60-272	59	180
Percent Natural Core Area	Percent Area	.56-95	100	20

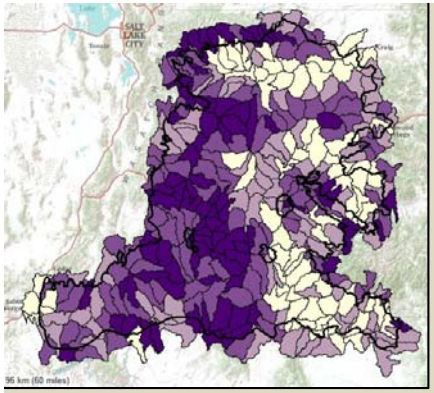
Terrestrial Landscape Intactness Value Ranges

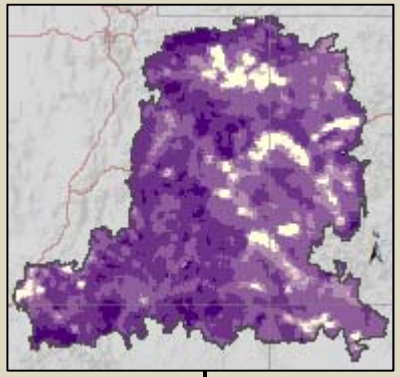
Intactness Value	Legend
-1.000 to -0.750	Very Low
-0.750 to -0.500	Low
-0.500 to 0.000	Moderately Low
0.000 to 0.500	Moderately High
0.500 to 0.750	High
0.750 to 1.000	Very High

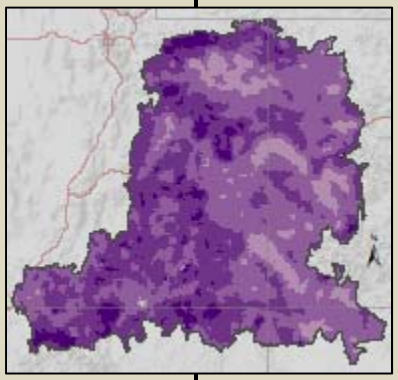
Habitat Fragmentation - FRAGSTATS

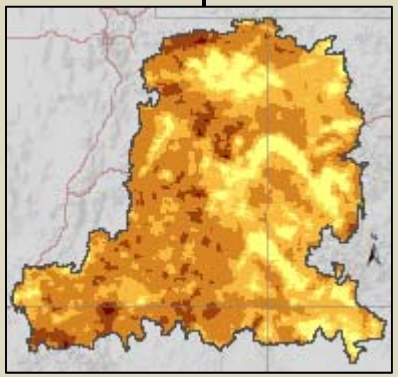
4km and HUC

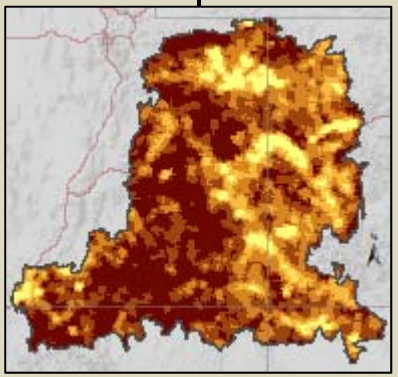


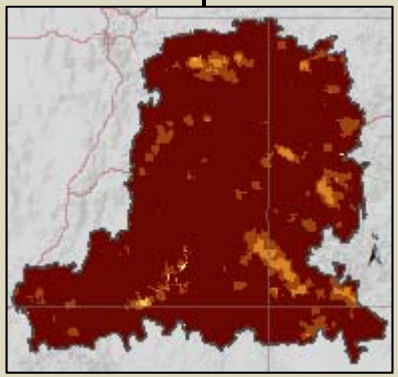


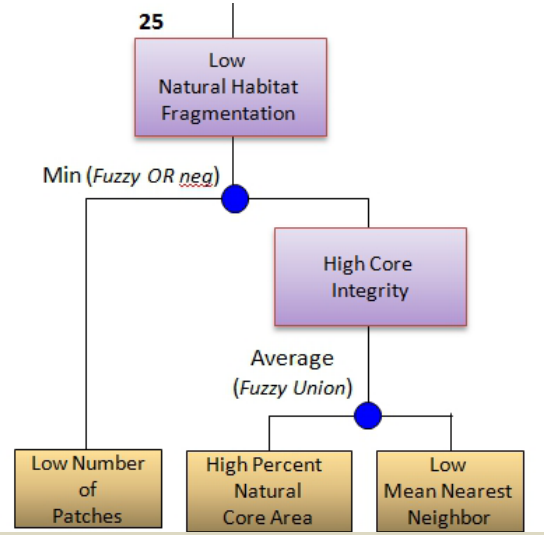




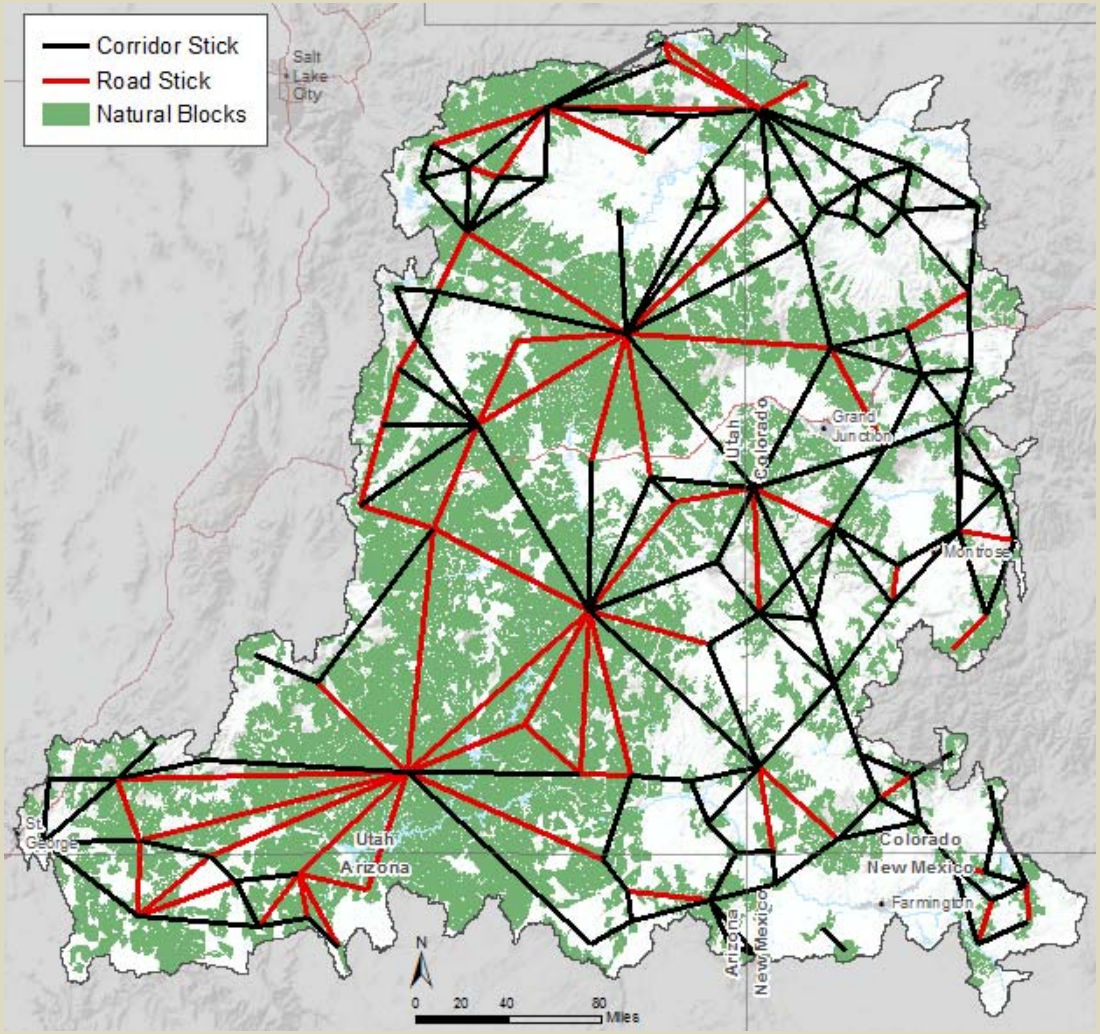




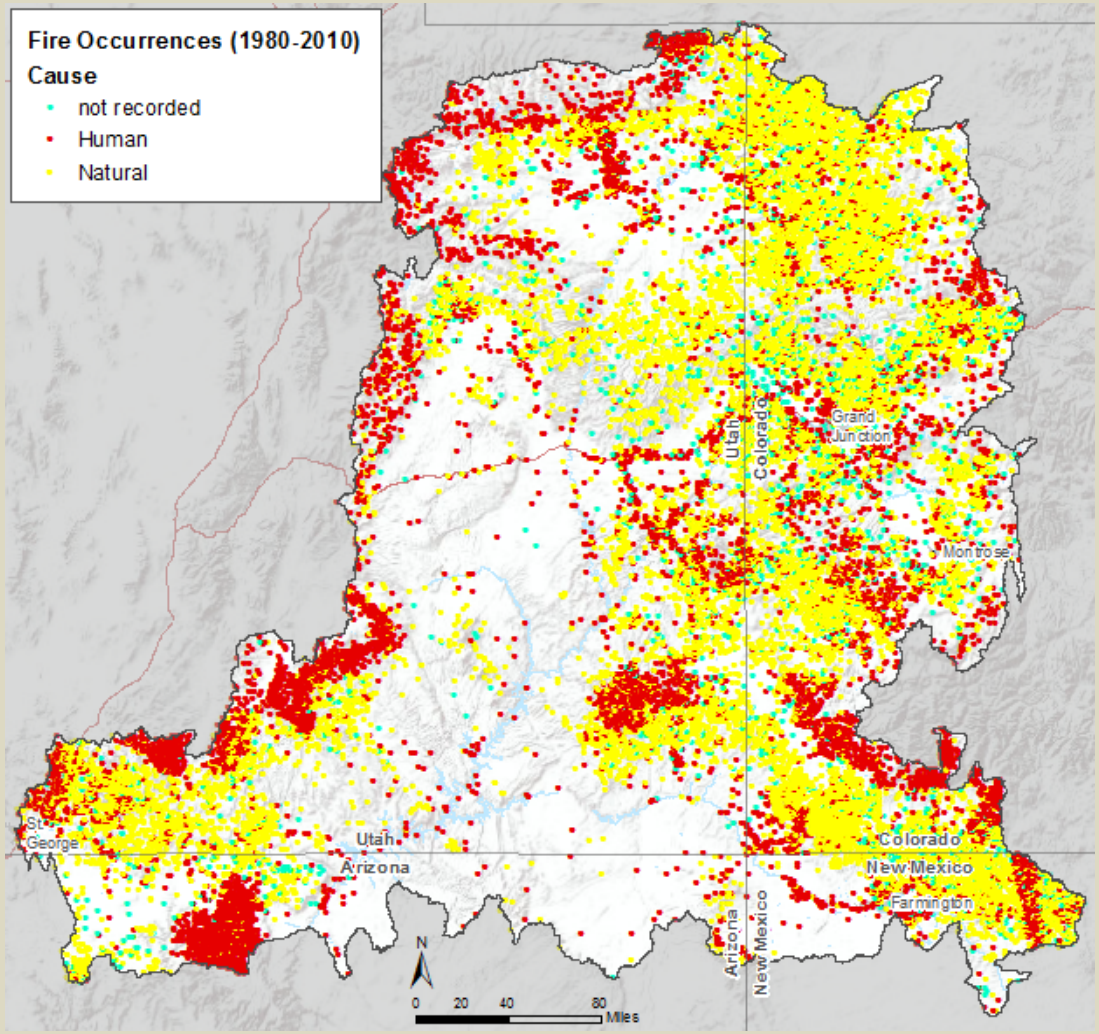



25
Low Natural Habitat Fragmentation
Min (Fuzzy OR neg)
High Core Integrity
Average (Fuzzy Union)
Low Number of Patches
High Percent Natural Core Area
Low Mean Nearest Neighbor

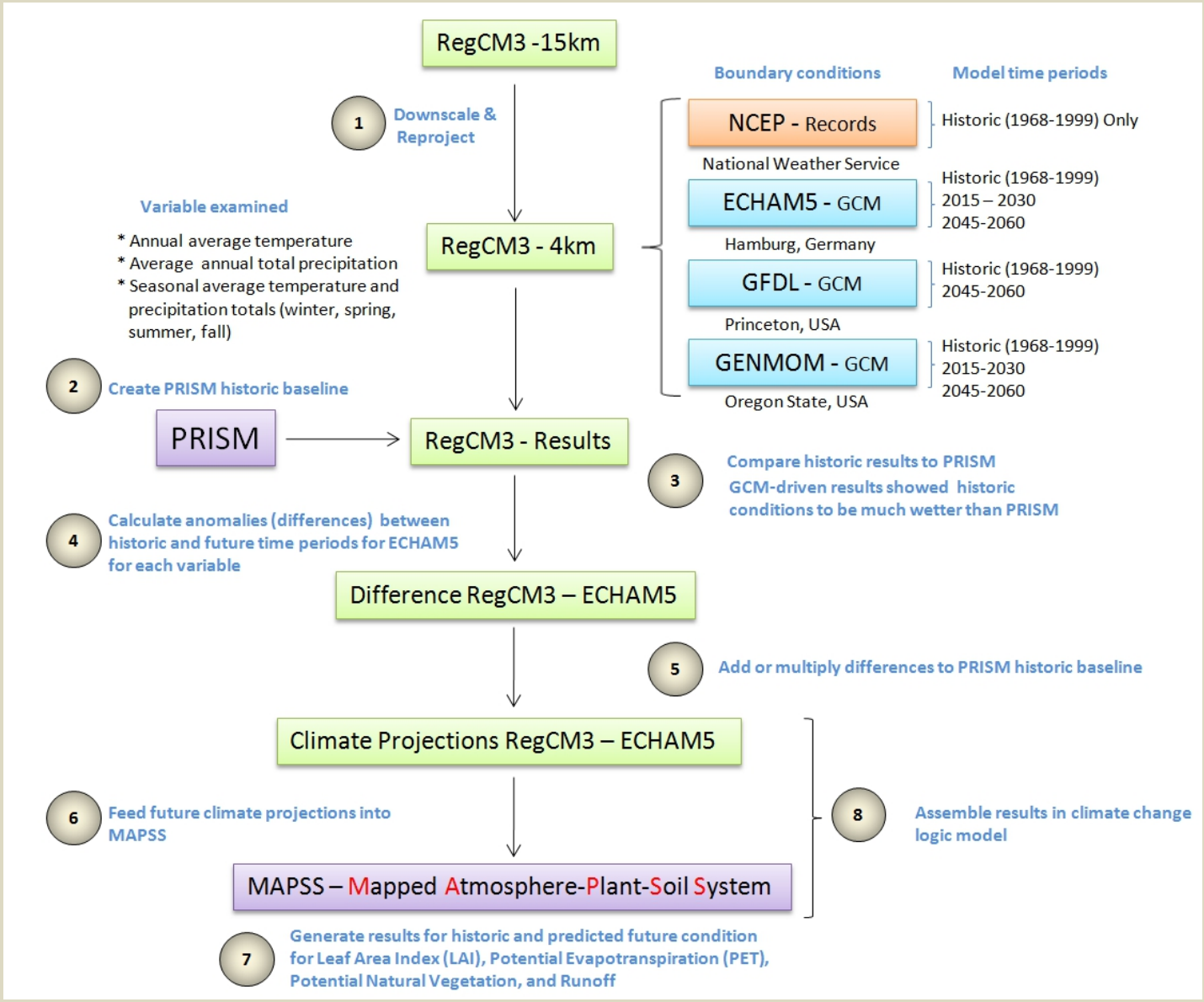
Connectivity Modeling



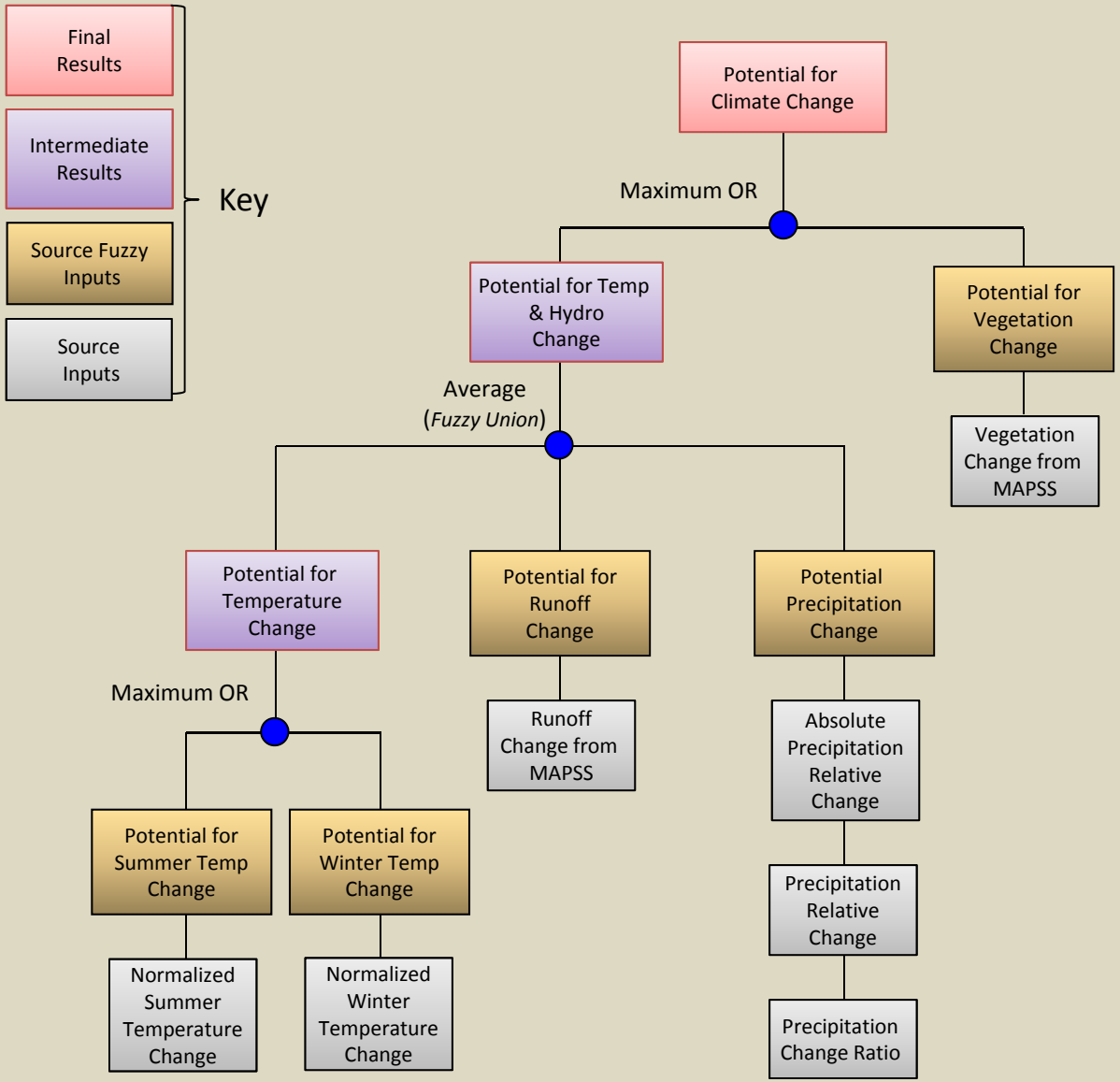
Fire Modeling

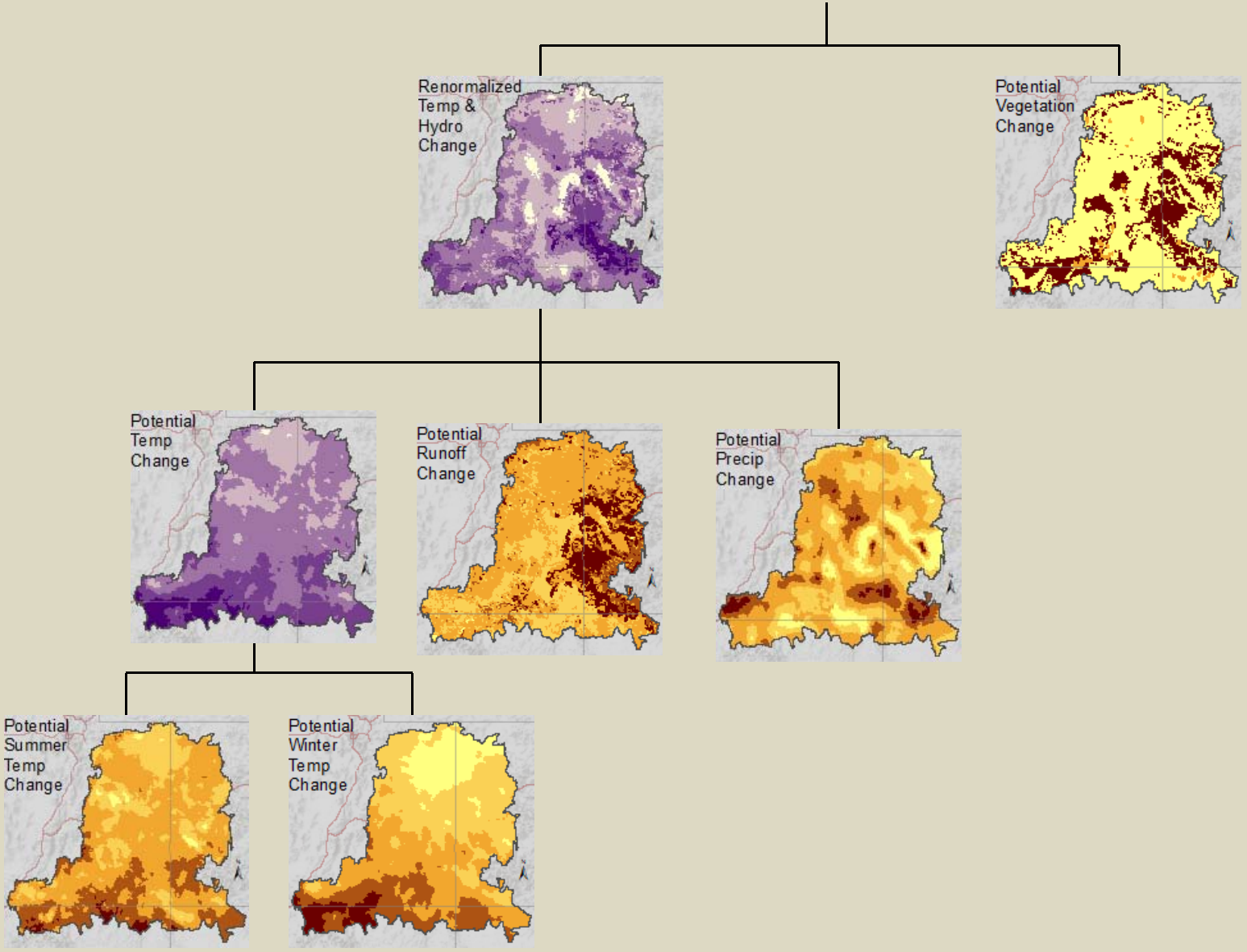


Climate Change Modeling

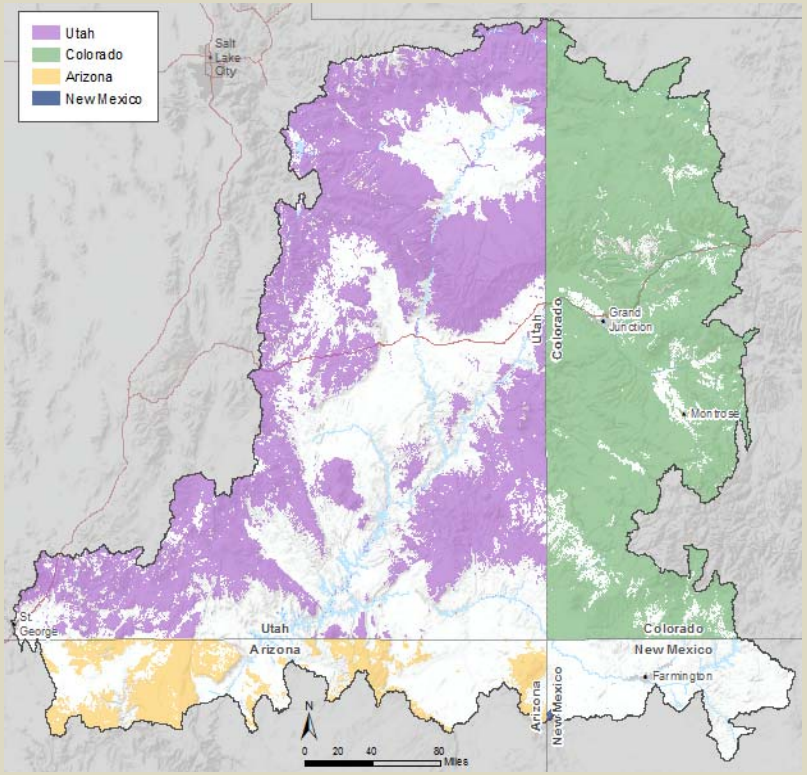


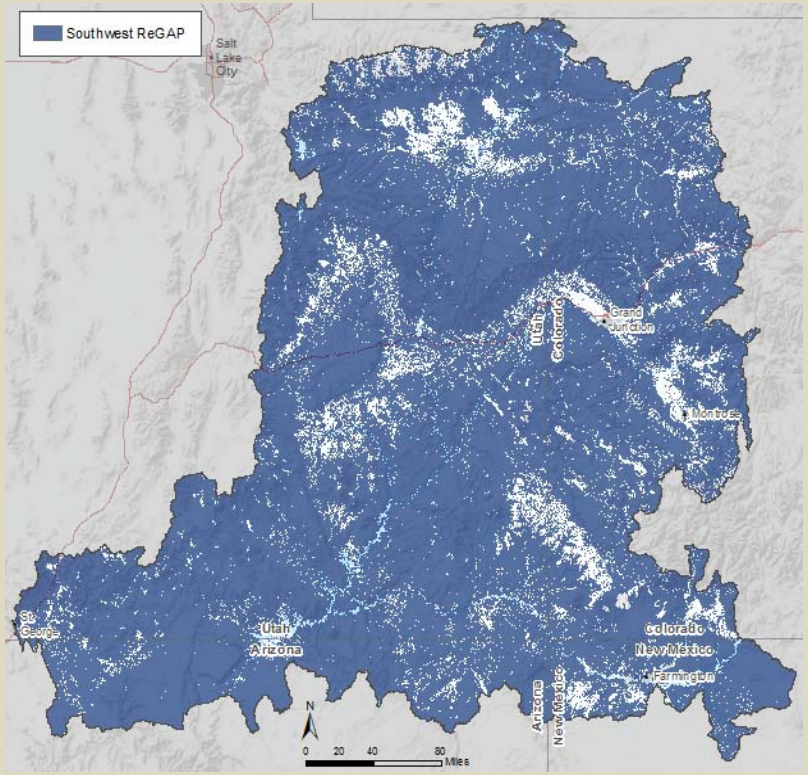
Climate Change Modeling




Renormalized Temp & Hydro Change
Potential Vegetation Change
Potential Temp Change
Potential Runoff Change
Potential Precip Change
Potential Summer Temp Change
Potential Winter Temp Change

Species Distribution and Status





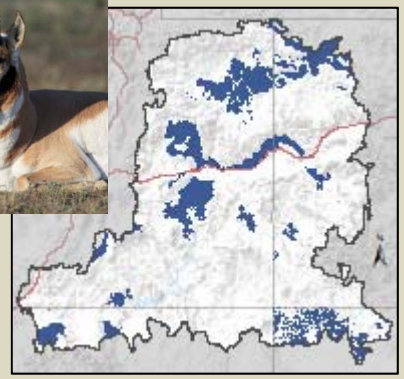
Distribution and Status

Species CEs	Total Distribution Area	Percent of Ecoregion
Black-footed Ferret (*Mustela nigripes*)	99,544	0.22
Burrowing Owl (*Athene cunicularia*)	18,733,244	41.81
Desert Bighorn Sheep (*Ovis canadensis nelson*)	4,718,573	10.53
Ferruginous Hawk (*Buteo regalis*)	13,746,361	30.68
Golden Eagle (*Aquila chrysaetos*)	41,189,881	91.93
Greater Sage Grouse (*Centrocercus urophasianus)*	1,998,437	4.46
Gunnison Sage Grouse (*Centrocercus minimus)*	442,835	0.99
Gunnison's Prairie Dog (C*ynomys gunnisoni)*	218,896	0.49
Mexican Spotted Owl (*Strix occidentalis lucida*)	571,778	1.28
Mountain Lion (*Puma concolor*)	39,756,295	88.73
Mule Deer (*Odocoileus hemionus)*	32,127,448	71.71
Peregrine Falcon (*Falco peregrines*)	15,221,173	33.97
Pronghorn Antelope (*Antilocapra americana*)	6,181,939	13.80
White-tailed Prairie Dog (C*ynomys leucurus)*	652,570	1.46
Yellow-breasted Chat (*Icteria virens*)	1,856,951	4.14

Species CEs	Total Distribution Length (miles)
Colorado Cutthroat Trout (*Oncorhynchus clarki leuriticus*)	21,047
Flannelmouth Sucker (*Catostomus latipinnis*)	56,809
Razorback Sucker (*Xyrauchen texanus*)	2,866

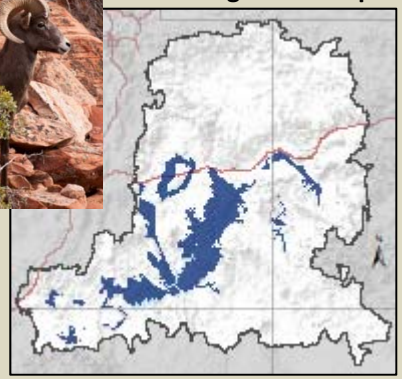
Mountain Lion

Pronghorn Antelope



Mule Deer

Desert Bighorn Sheep

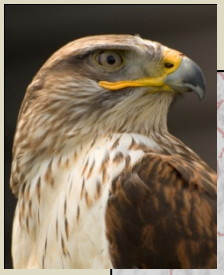


Black-footed Ferret

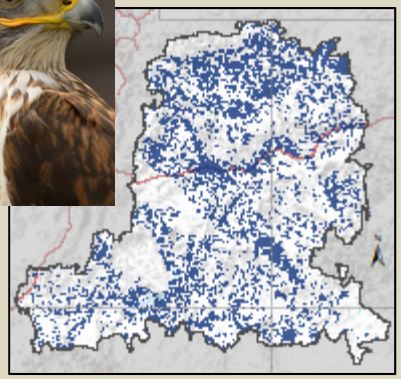
White-tailed Prairie Dog

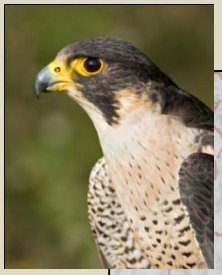
Gunnison's Prairie Dog

Golden Eagle

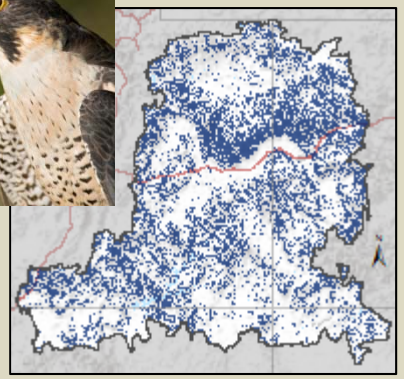


Ferruginous Hawk



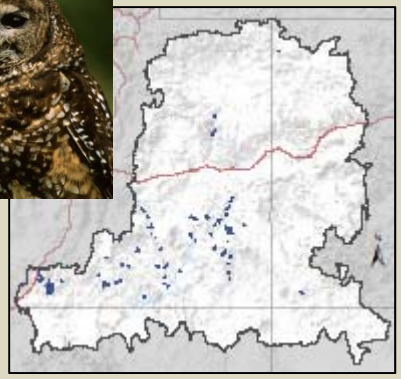


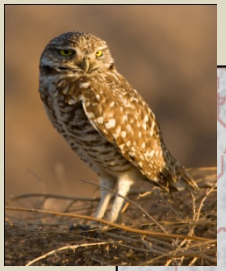
Peregrine Falcon



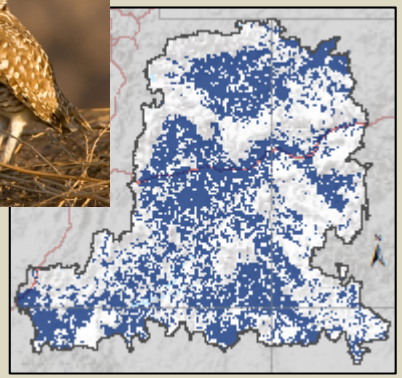
Yellow-breasted Chat

Mexican Spotted Owl

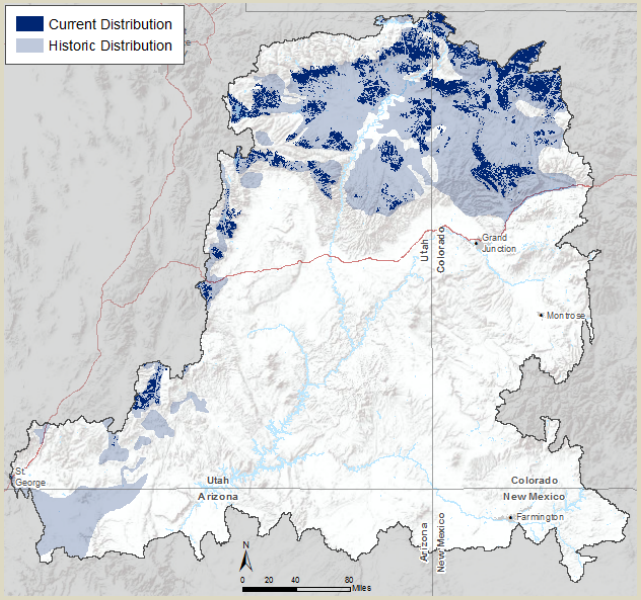


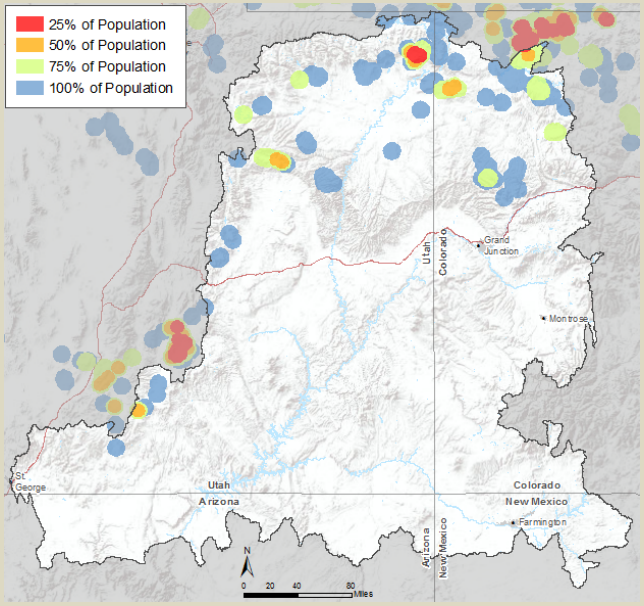


Burrowing Owl



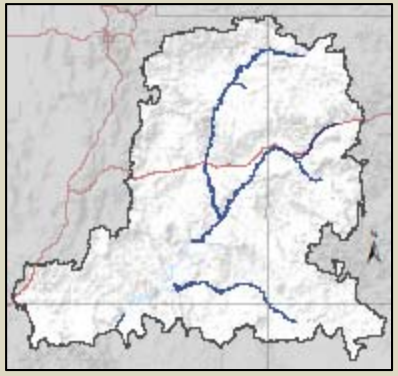
Greater Sage Grouse



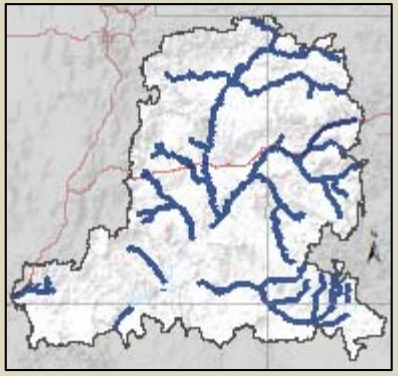


Gunnison Sage Grouse

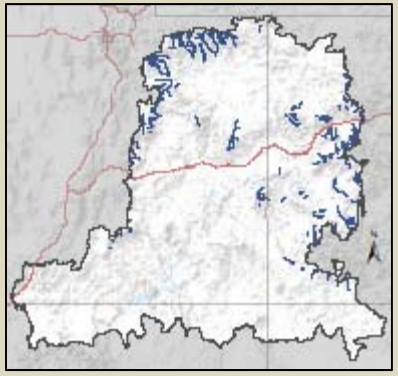
Razorback Sucker



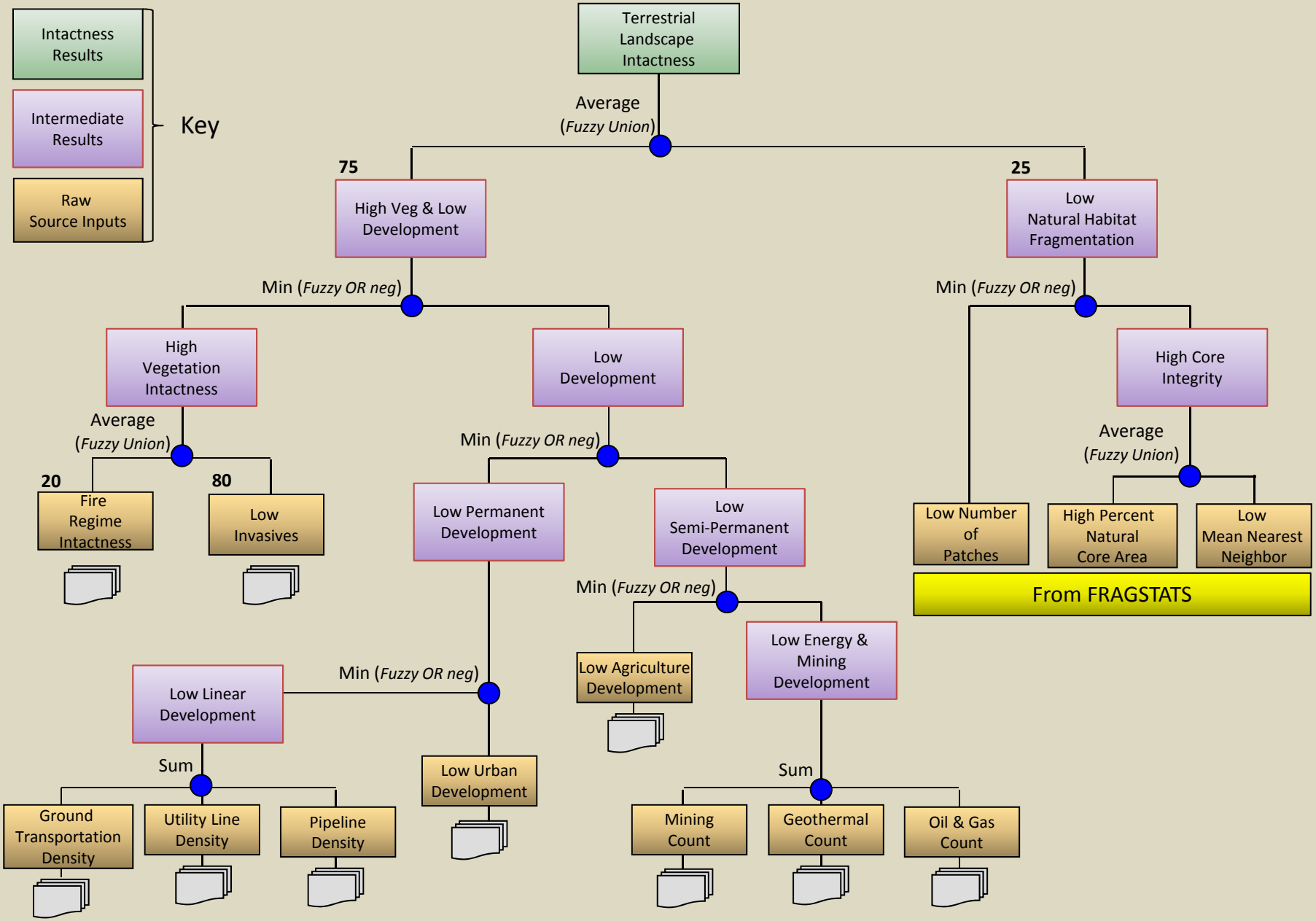
Flannelmouth Sucker



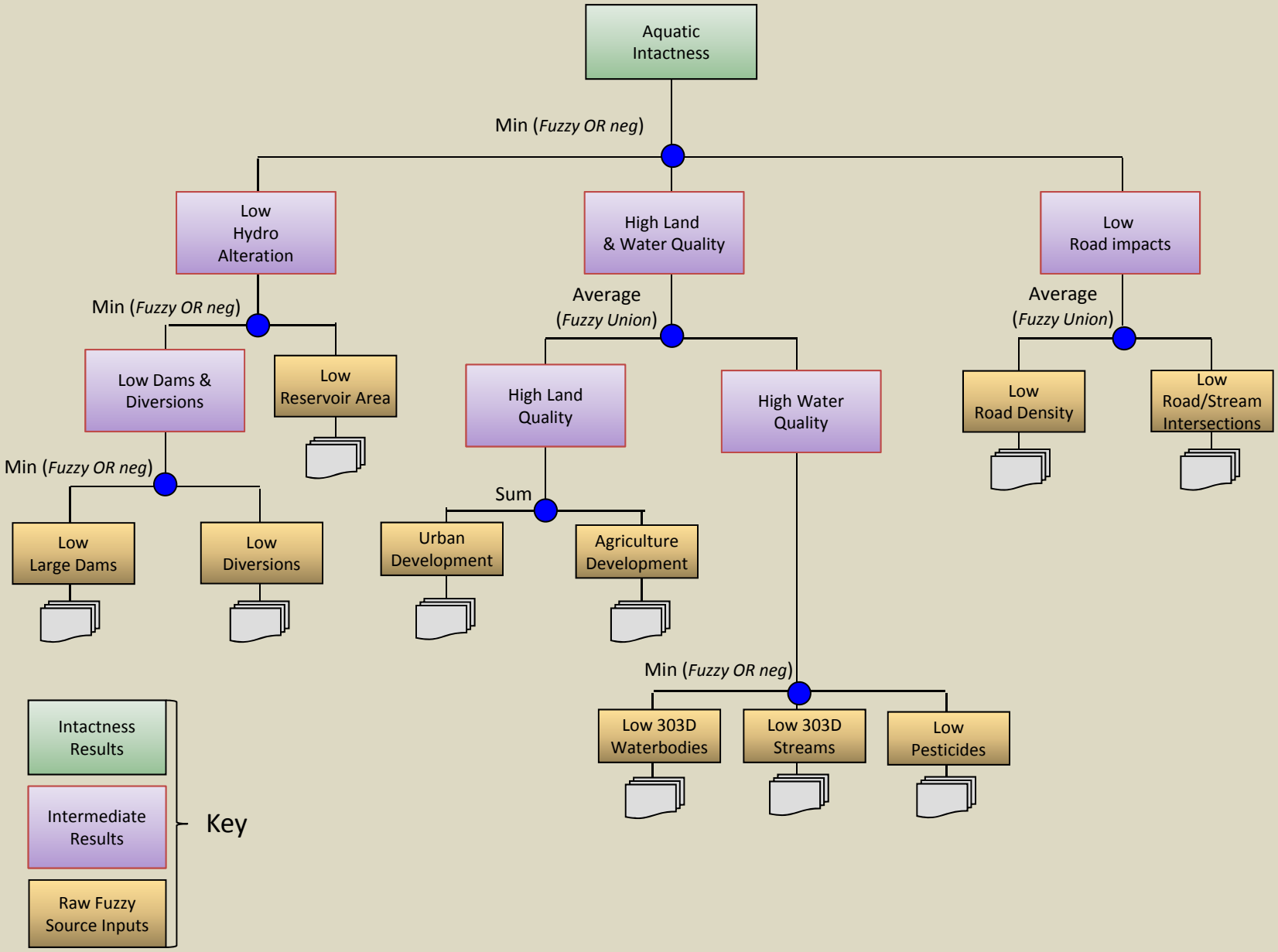
Colorado Cutthroat Trout

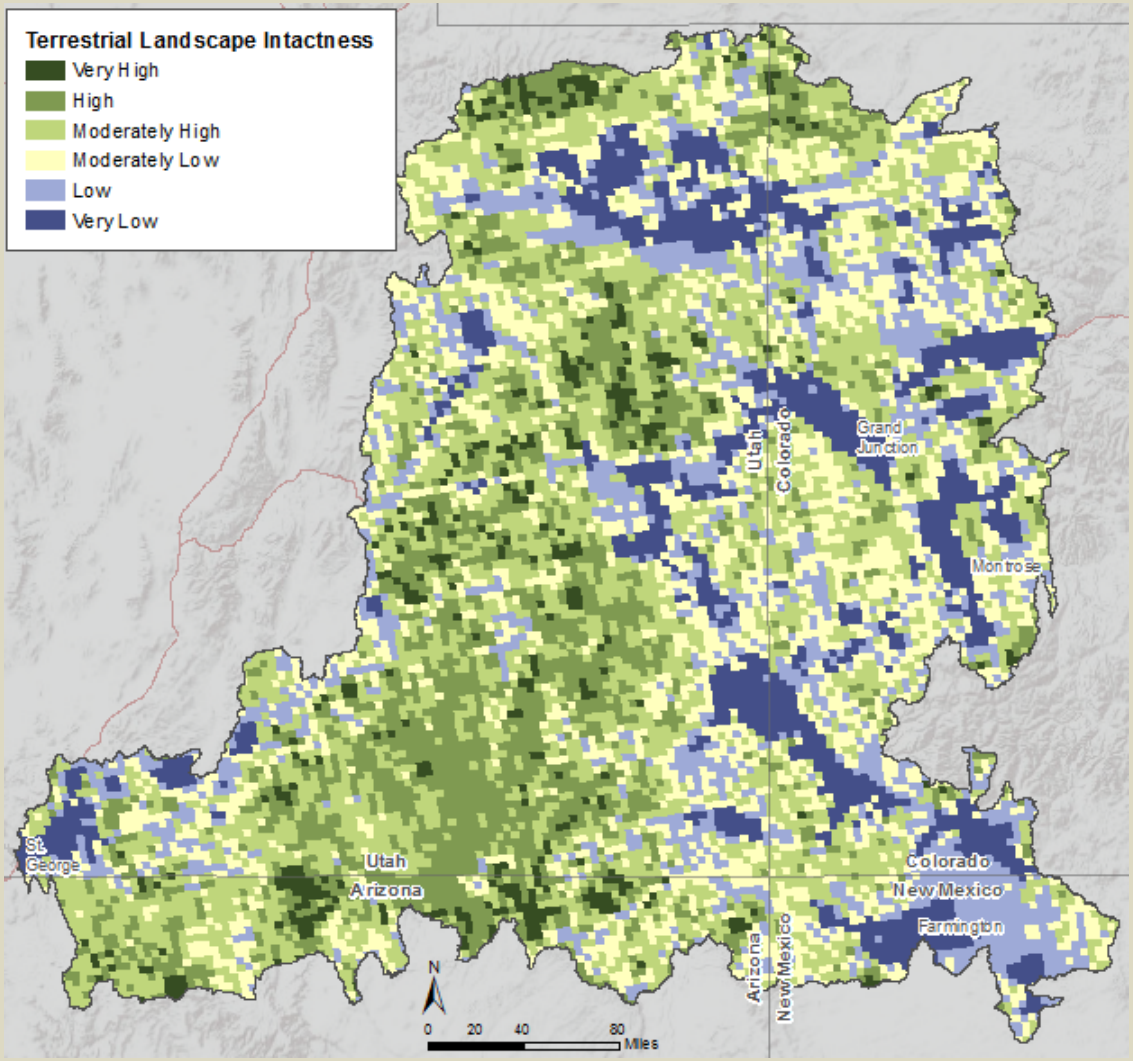


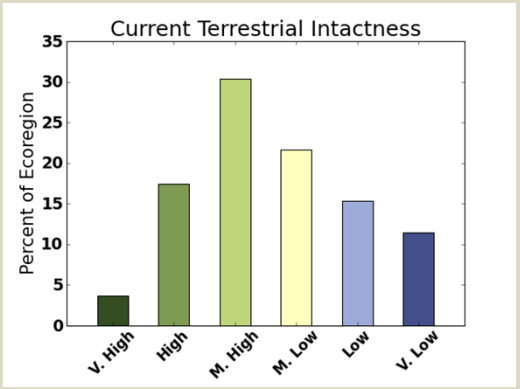
Current Terrestrial Intactness

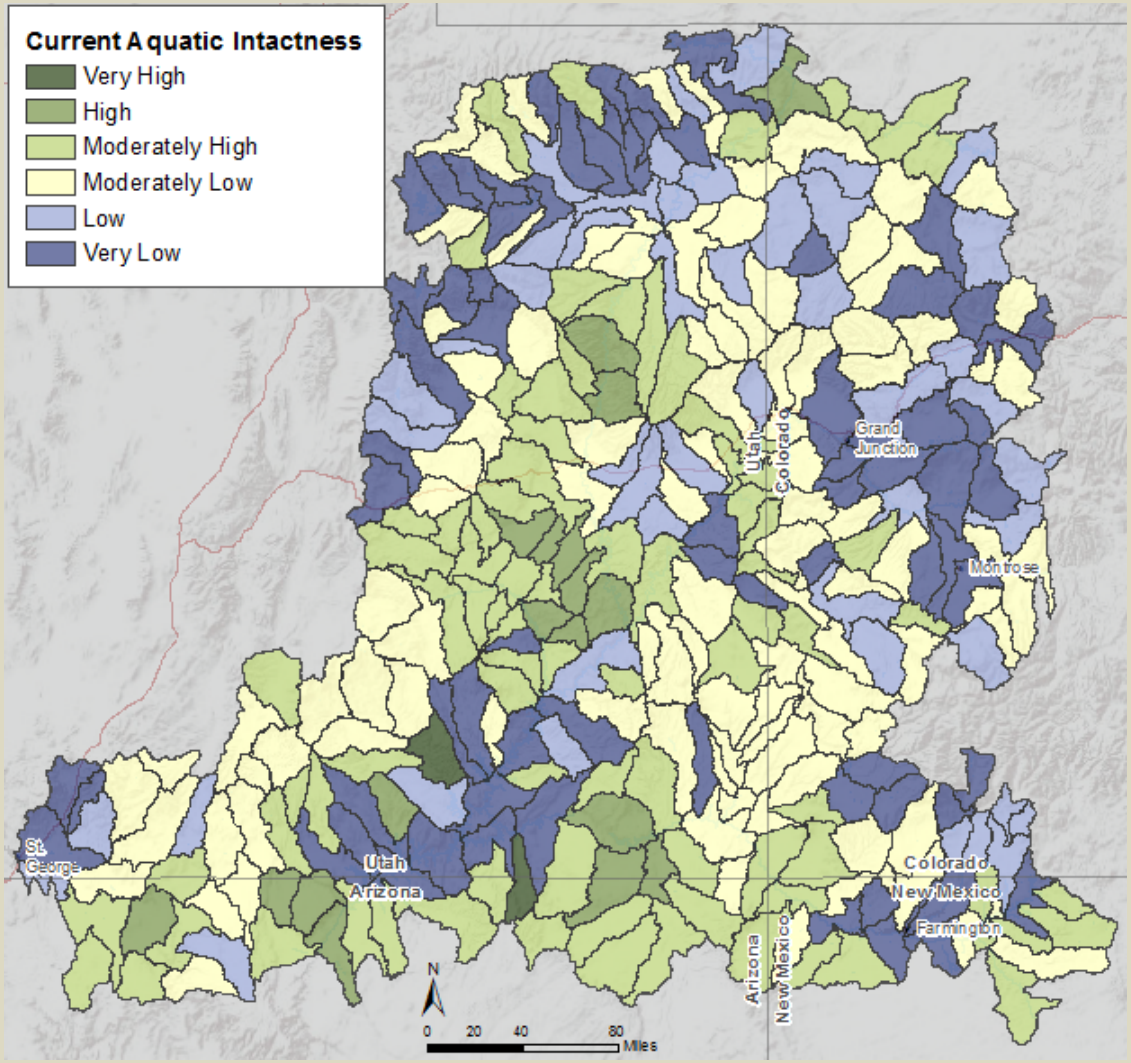


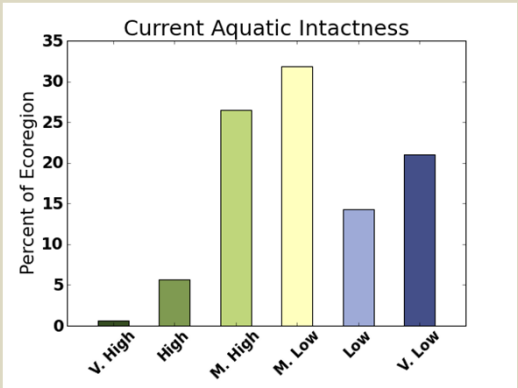
Current Aquatic Intactness



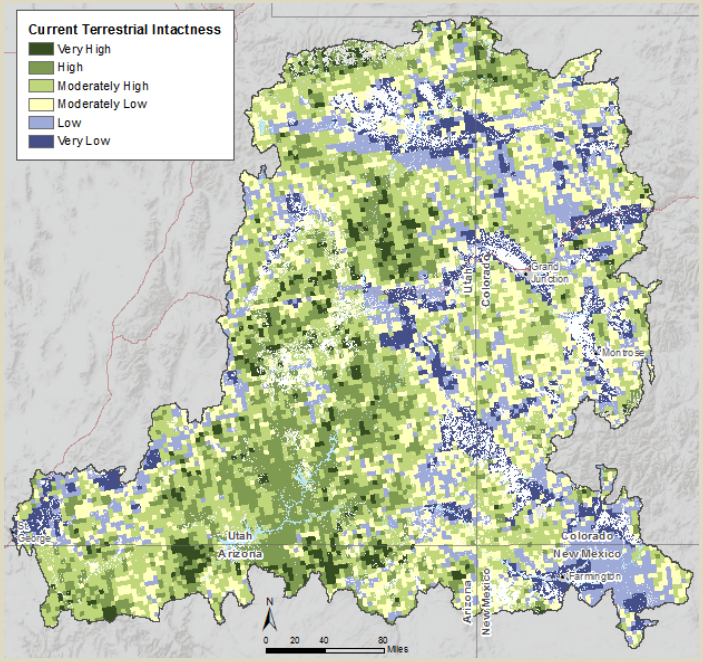

Terrestrial Landscape Intactness
Very High
High
Moderately High
Moderately Low
Low
Very Low
Grand Junction
Utah
Colorado
Montrose
St. George
Utah
Arizona
Colorado
New Mexico
Farmington
Arizona
New Mexico
N
0 20 40 80
Miles

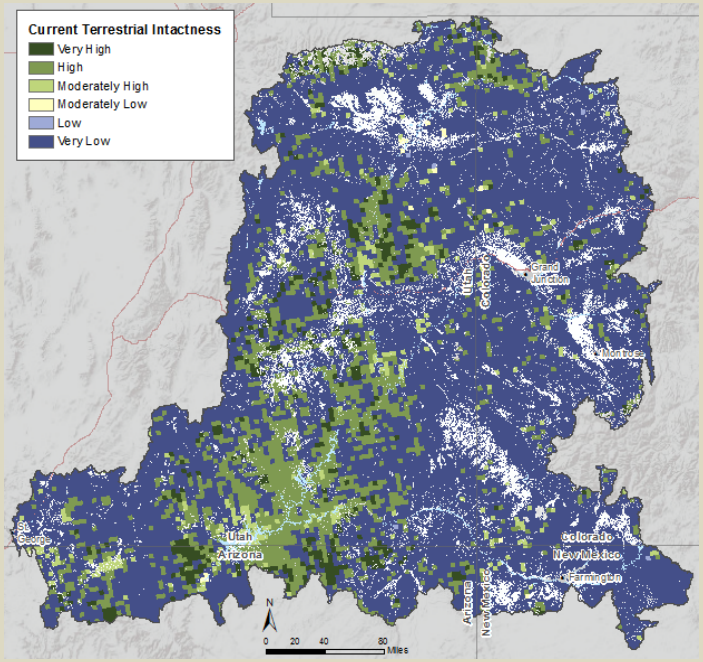

Current Terrestrial Intactness
Percent of Ecoregion
35
30
25
20
15
10
5
0
V. High
High
M. High
M. Low
Low
V. Low

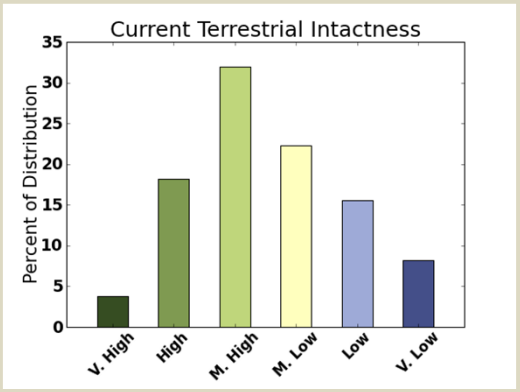

Current Aquatic Intactness
Very High
High
Moderately High
Moderately Low
Low
Very Low
Grand Junction
Utah
Colorado
Montrose
St. George
Utah
Arizona
Colorado
New Mexico
Farmington
Arizona
New Mexico
N
0 20 40 80
Miles

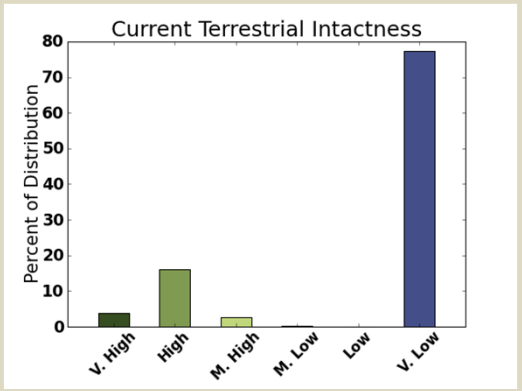

Current Aquatic Intactness
Percent of Ecoregion
35
30
25
20
15
10
5
0
V. High
High
M. High
M. Low
Low
V. Low

Mountain Lion

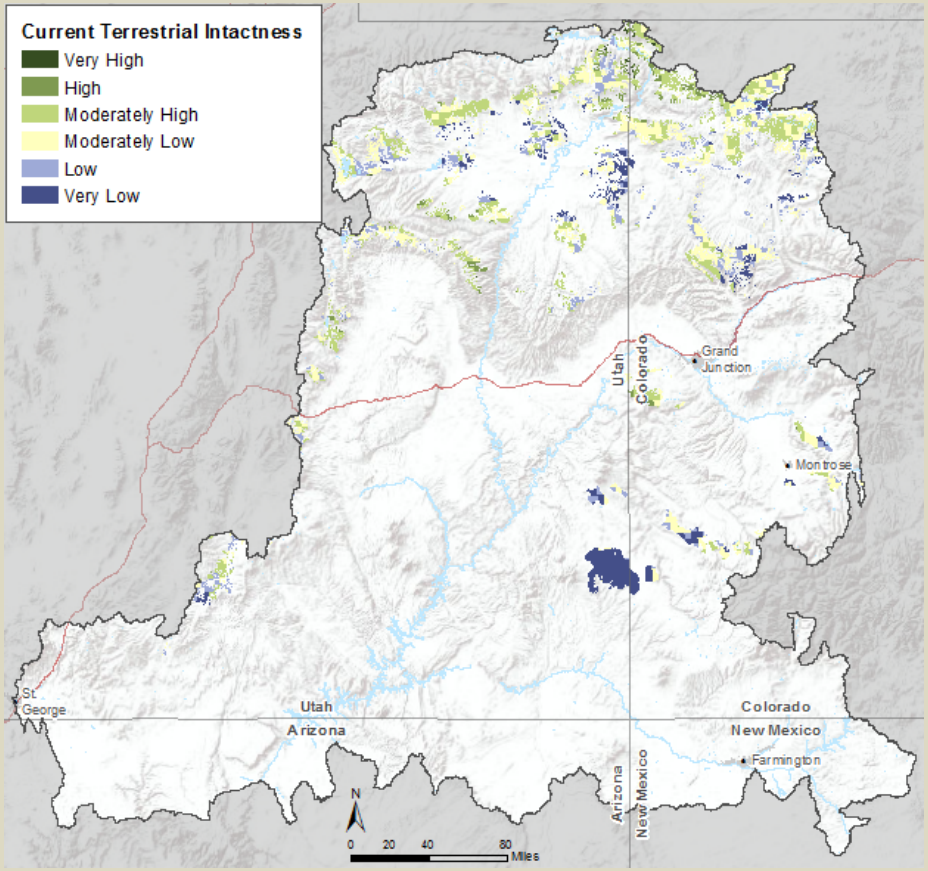




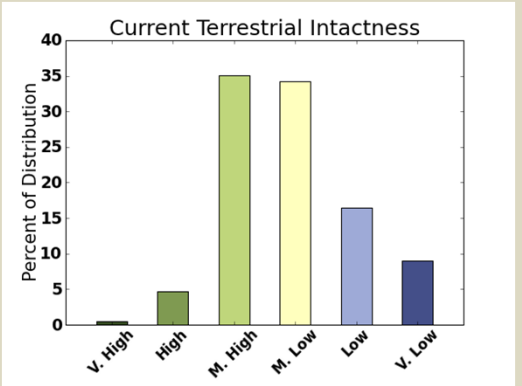




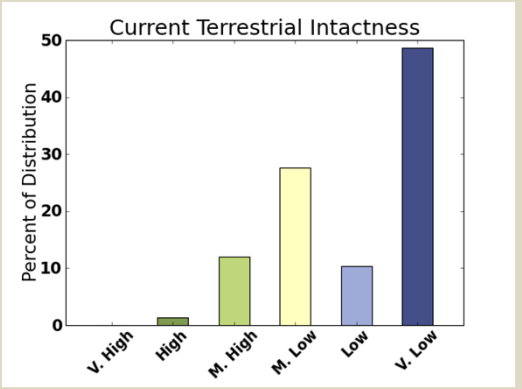
Greater and Gunnison Sage Grouse



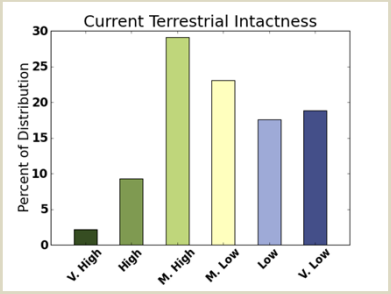
Greater Sage Grouse



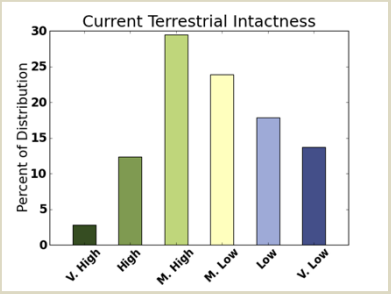
Gunnison Sage Grouse



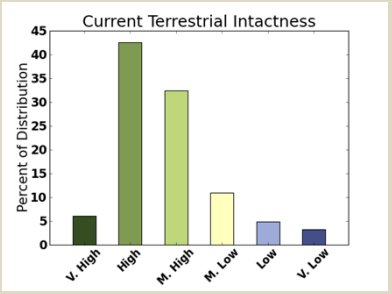
Pronghorn Antelope



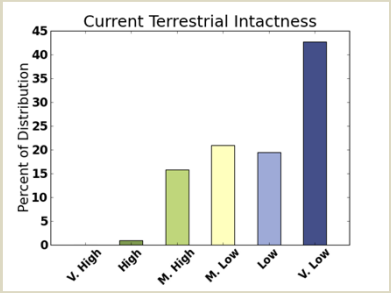
Mule Deer



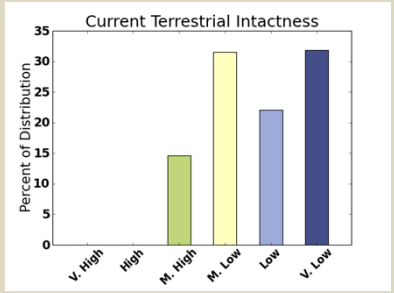
Desert Bighorn Sheep



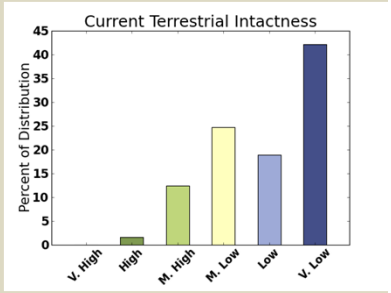
Gunnison's Prairie Dog



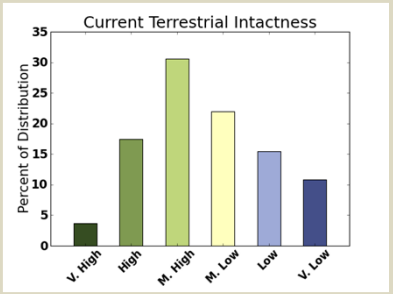
Black-footed Ferret



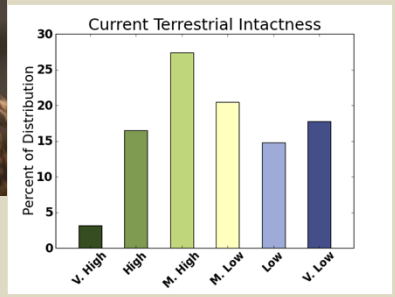
White-tailed Prairie Dog



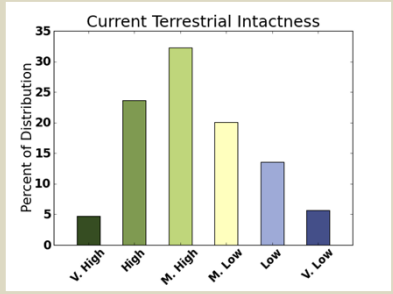
Golden Eagle



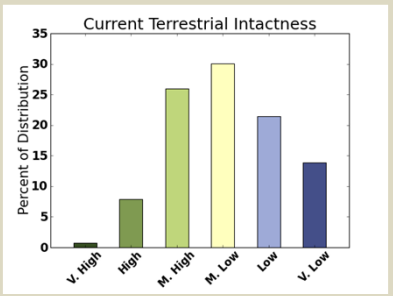
Ferruginous Hawk



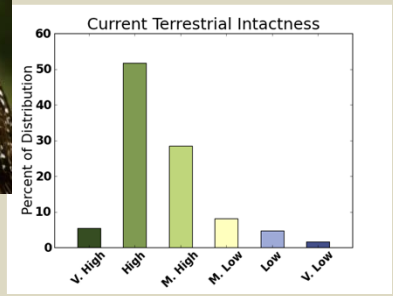
Peregrine Falcon



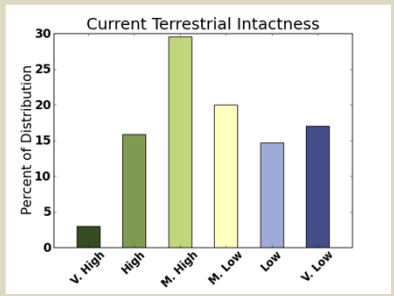
Yellow-breasted Chat



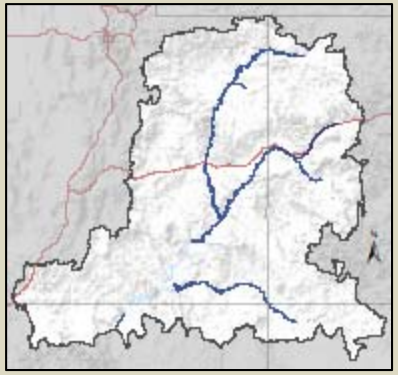
Mexican Spotted Owl



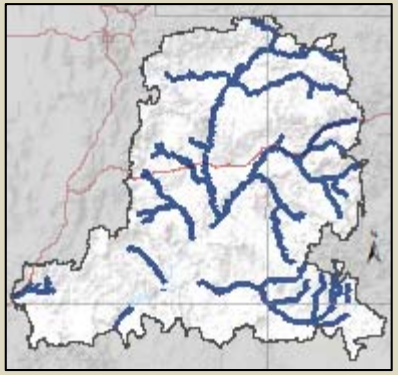
Burrowing Owl



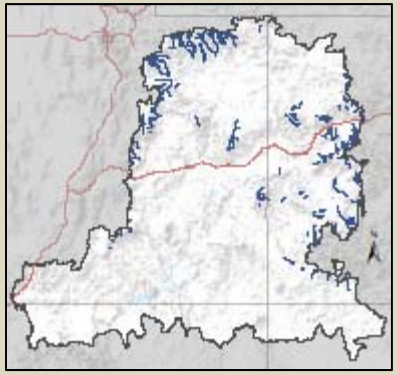
Razorback Sucker

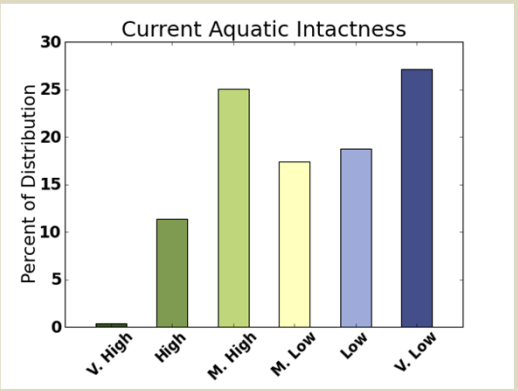


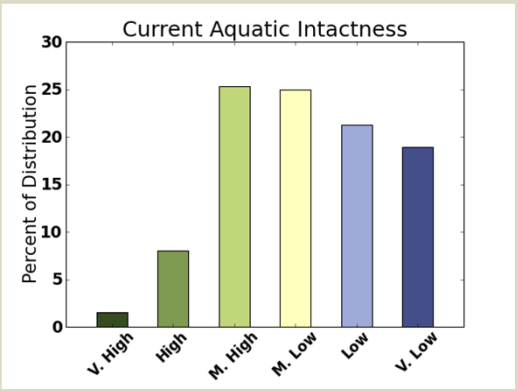
Flannelmouth Sucker

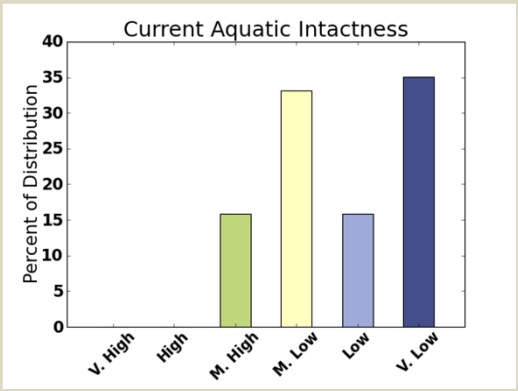


Colorado Cutthroat Trout

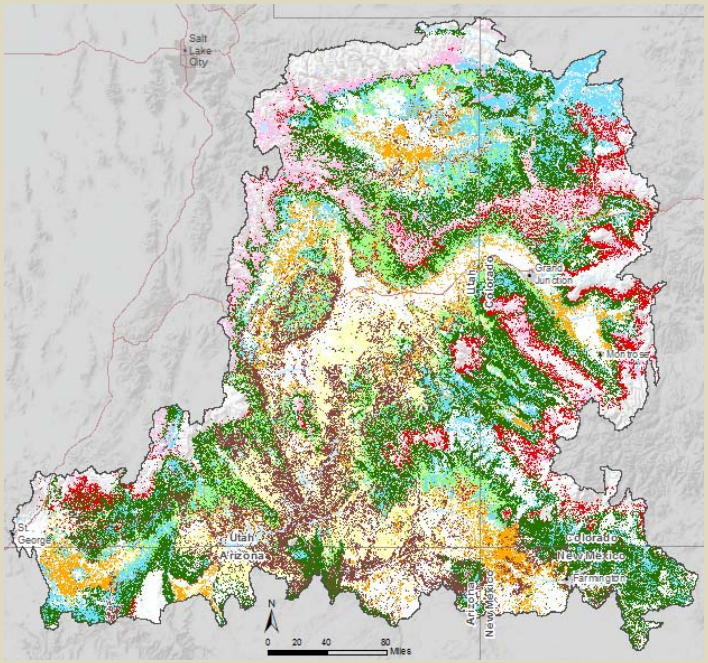


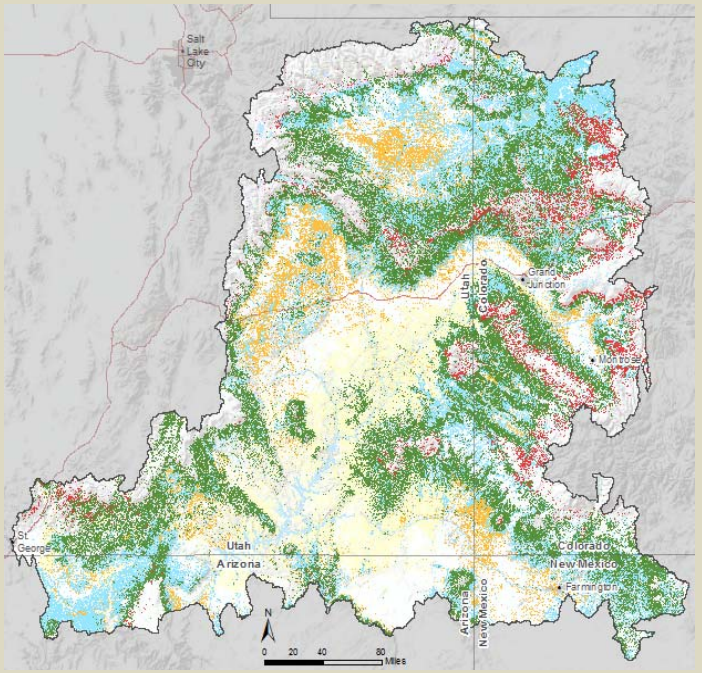






Distribution and Status Vegetation Communities





- Colorado Plateau Blackbrush-Mormon-tea Shrubland
- Colorado Plateau Mixed Bedrock Canyon and Tableland
- Colorado Plateau Pinyon-Juniper Shrubland
- Colorado Plateau Pinyon-Juniper Woodland
- Inter-Mountain Basins Big Sagebrush Shrubland
- Inter-Mountain Basins Mixed Salt Desert Scrub
- Inter-Mountain Basins Montane Sagebrush Steppe
- Rocky Mountain Gambel Oak-Mixed Montane Shrubland

Vegetation Community	NatureServe Only	LANDFIRE Only	Both	Percent Overlap
Colorado Plateau Pinyon-Juniper Woodland	2,594,714	3,664,596	6,078,616	**49.27**
Colorado Plateau Pinyon-Juniper Shrubland	2,694,089	Included in PJ woodlands	0	**0.00**
Colorado Plateau Blackbrush-Mormon-tea Shrubland	1,293,367	2,568,289	1,459,961	**27.43**
Inter-Mountains Basins Big Sagebrush Shrubland	1,542,766	3,970,331	2,370,353	**30.07**
Inter-Mountains Basins Mixed Salt Desert Scrub	1,645,308	1,964,350	680,837	**15.87**
Rocky Mountain Gambel Oak-Mixed Montane Shrubland	1,423,998	633,644	659,513	**24.27**
Inter-Mountain Basins Montane Sagebrush Steppe	1,550,837	61,215	115,313	**6.68**
Colorado Plateau Mixed Bedrock Canyon and Tablelands	4,598,445	Not mapped	0	**0.00**

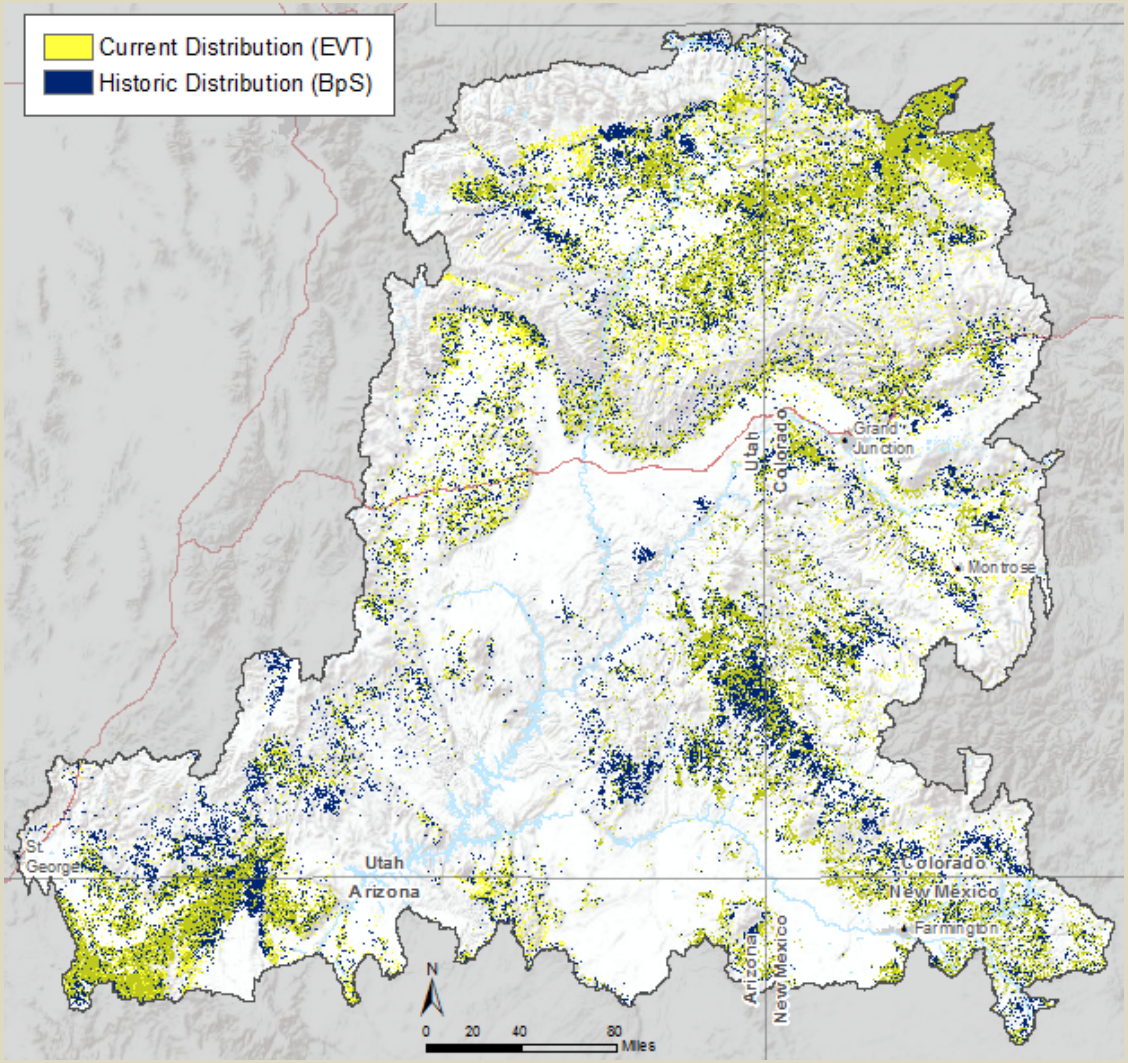
Status of Vegetation Communities

- Historic Conversion

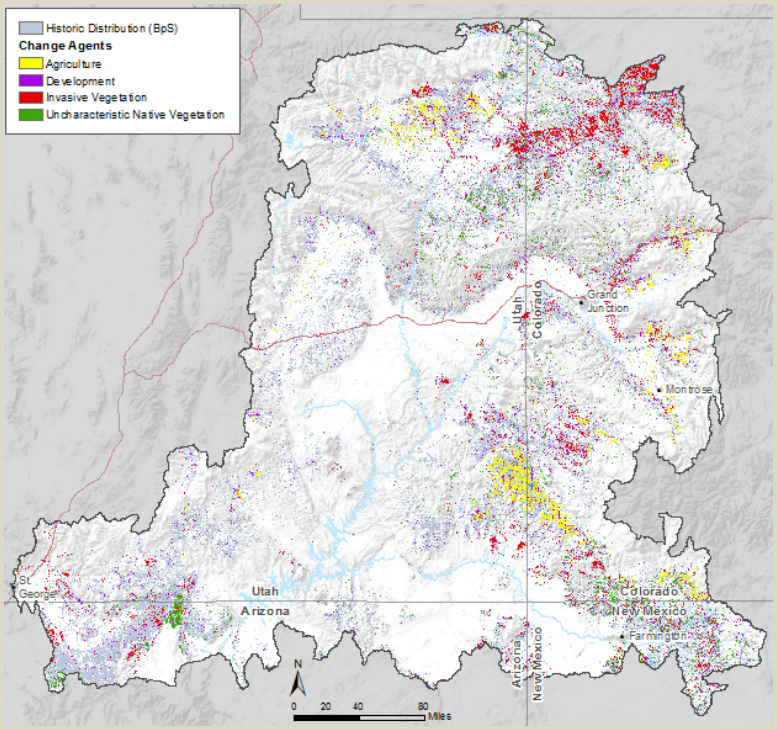
- Recent Disturbance

- Current Setting

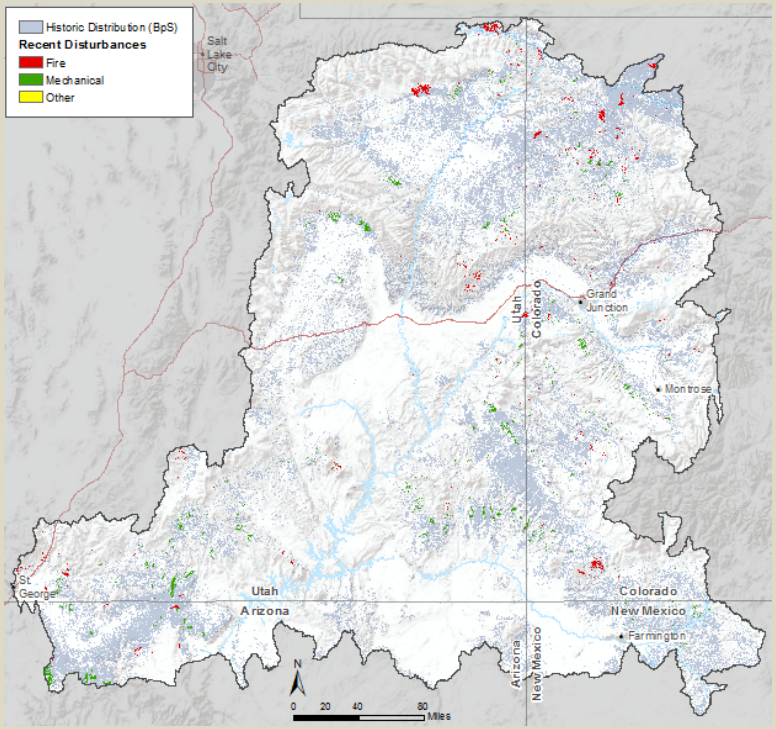
Inter-Mountain Basins Big Sagebrush Shrublands



Inter-Mountain Basins Big Sagebrush Shrublands



Historic Disturbance



Recent Disturbance

Historic Disturbance

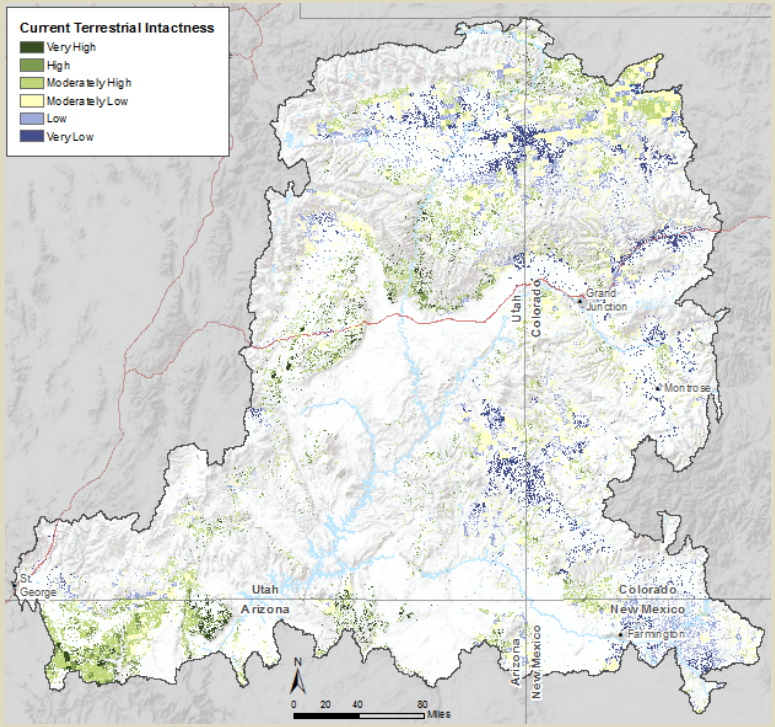
Vegetation Community	Total BpS Area	Urban & Roads	Agriculture	Invasives	Unchar Native Veg	Total Changed	Percent
Colorado Plateau Blackbrush-Mormon-tea Shrubland	3,123,911	132,459	3,624	176,205	6,511	318,799	**10.21%**
Inter-Mountain Basins Big Sagebrush Shrubland	8,228,472	**565,083**	**494,772**	**845,638**	**571,744**	**2,477,236**	**30.11%**
Rocky Mountain Gambel Oak-Mixed Montane Shrubland	2,038,543	130,616	89,257	29,209	335,467	584,548	**28.67%**
Inter-Mountain Basins Montane Sagebrush Steppe	1,029,623	77,252	17,870	26,342	38,314	159,778	**15.52%**
Colorado Plateau Pinyon-Juniper Shrubland	94,447	5,076	2,269	**21,091**	9,736	38,173	**40.42%**
Colorado Plateau Pinyon-Juniper Woodland	7,515,040	229,091	45,740	273,361	**634,736**	1,182,928	**15.74%**
Inter-Mountain Basins Mixed Salt Desert Scrub	3,155,282	178,112	109,125	402,992	117,076	807,305	**25.59%**
Totals	25,185,317	**1,317,689**	**762,657**	**1,774,839**	**1,713,585**	5,568,768	**22.11%**

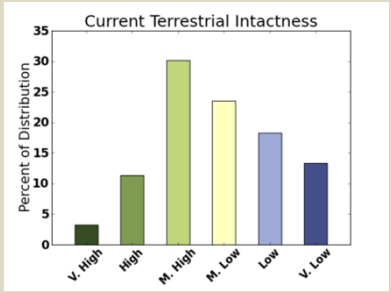
Recent Disturbance

Vegetation Community	Total BpS Area	Fire	Mechanical	Other	Total Disturbed	Percent
Colorado Plateau Blackbrush-Mormon-tea Shrubland	3,123,911	9,396	1,716	0	11,112	0.36%
Inter-Mountain Basins Big Sagebrush Shrubland	8,228,472	**138,909**	**231,435**	128	**370,472**	4.50%
Rocky Mountain Gambel Oak-Mixed Montane Shrubland	2,038,543	75,484	31,272	1,233	107,990	5.30%
Inter-Mountain Basins Montane Sagebrush Steppe	1,029,623	28,507	13,877	235	42,619	4.14%
Colorado Plateau Pinyon-Juniper Shrubland	94,447	819	834	0	1,653	1.75%
Colorado Plateau Pinyon-Juniper Woodland	7,515,040	**194,113**	71,692	763	**266,568**	3.55%
Inter-Mountain Basins Mixed Salt Desert Scrub	3,155,282	5,694	15,176	9	20,878	0.66%
Totals	25,185,317	**452,922**	**366,002**	2,368	821,291	3.26%

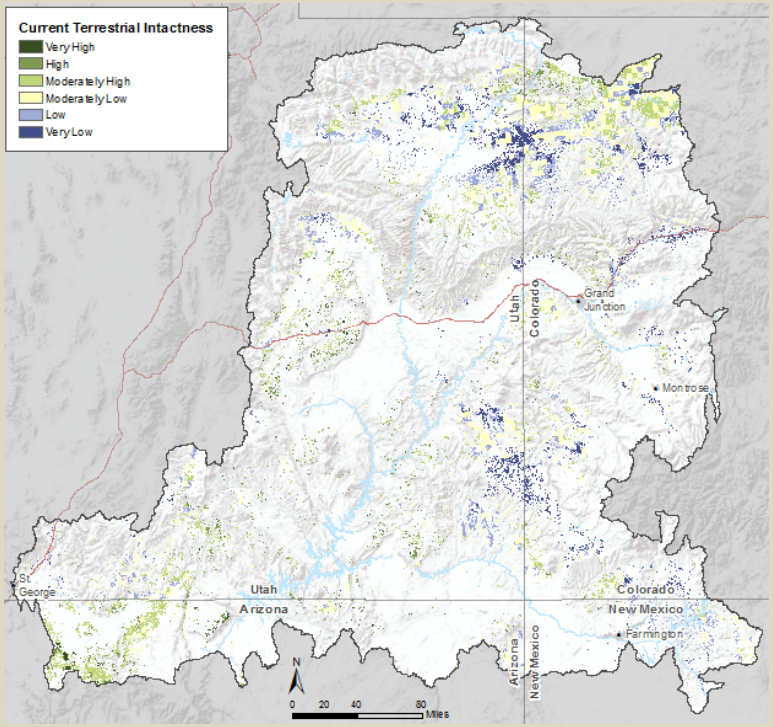
Current Setting

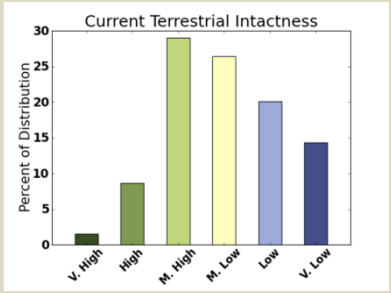
LANDFIRE EVT v 1.1



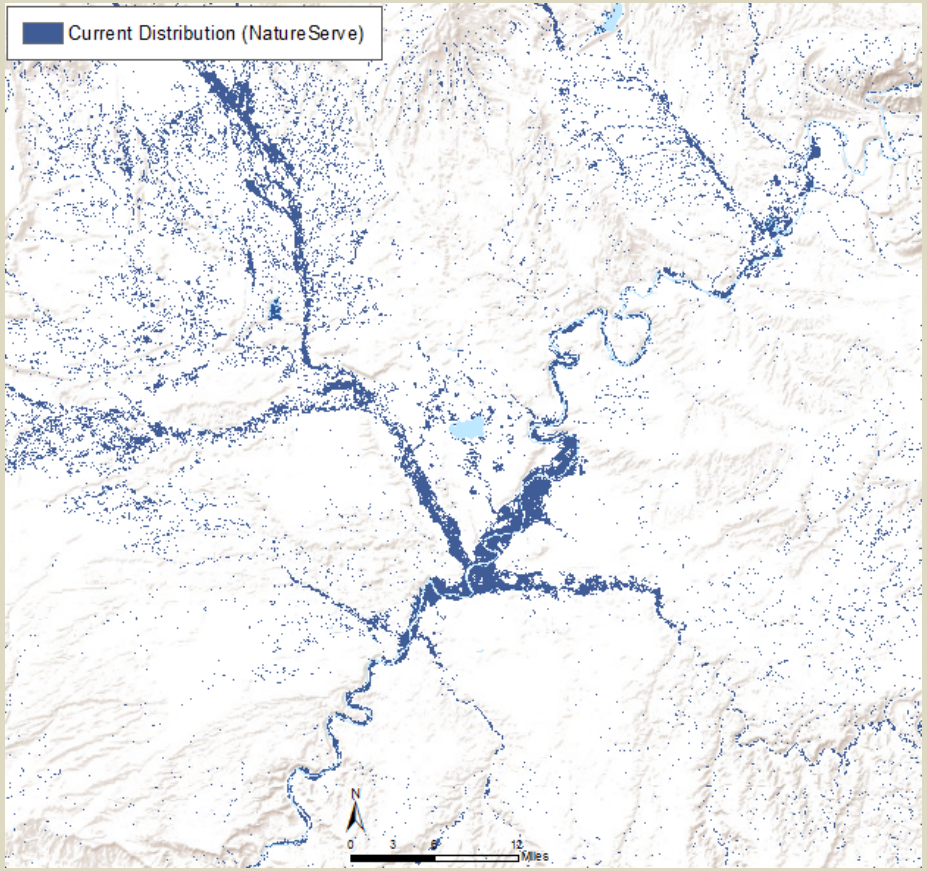


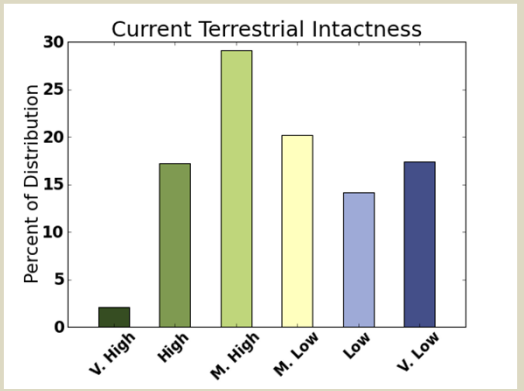
NatureServe v 2.7



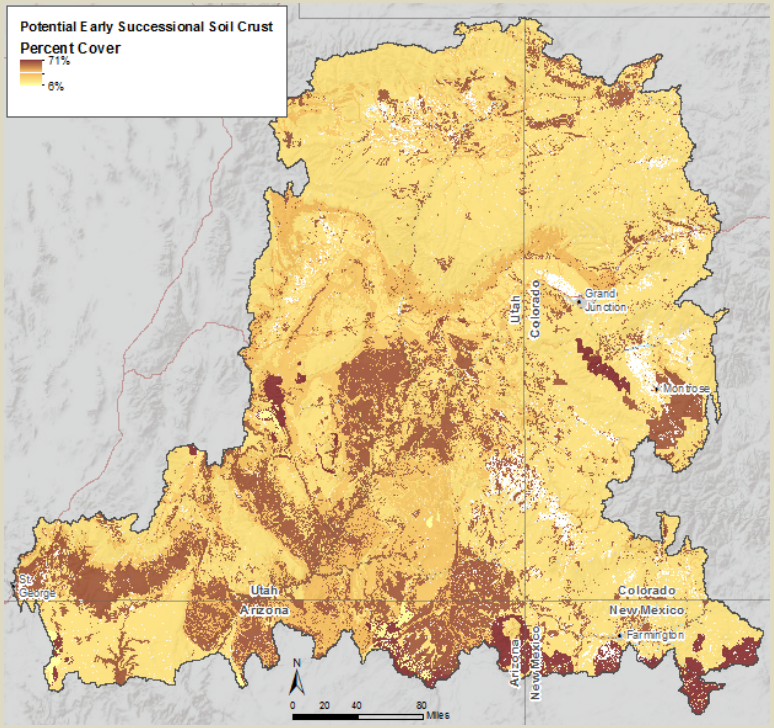


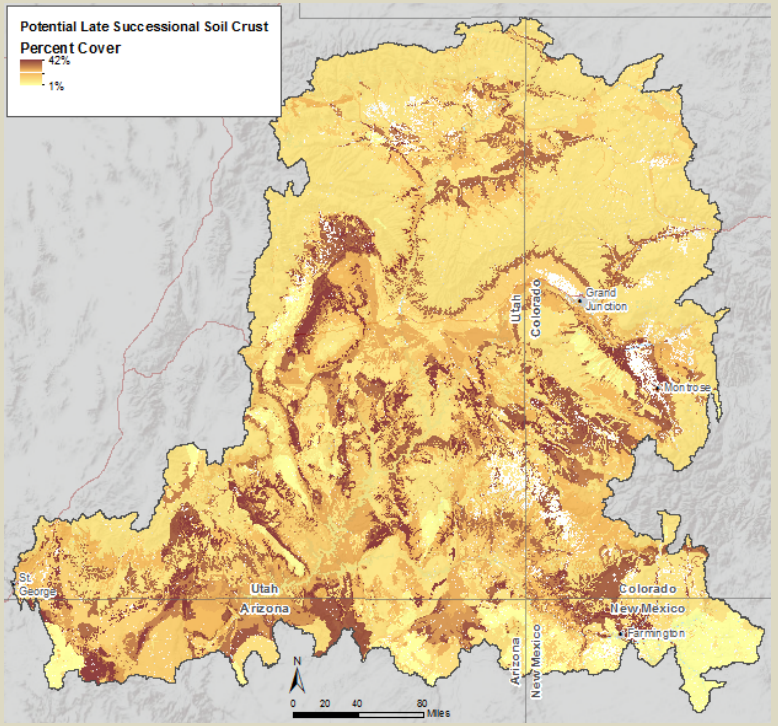
Riparian Vegetation



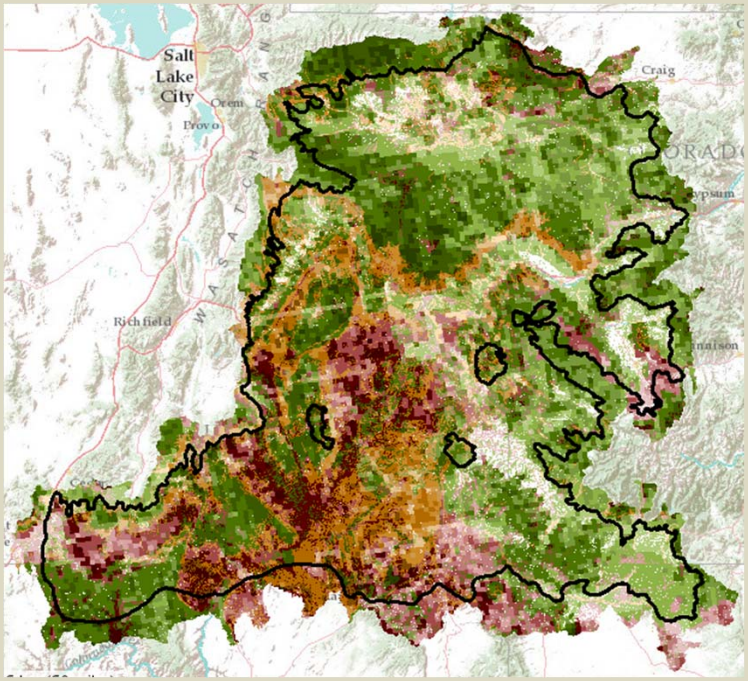


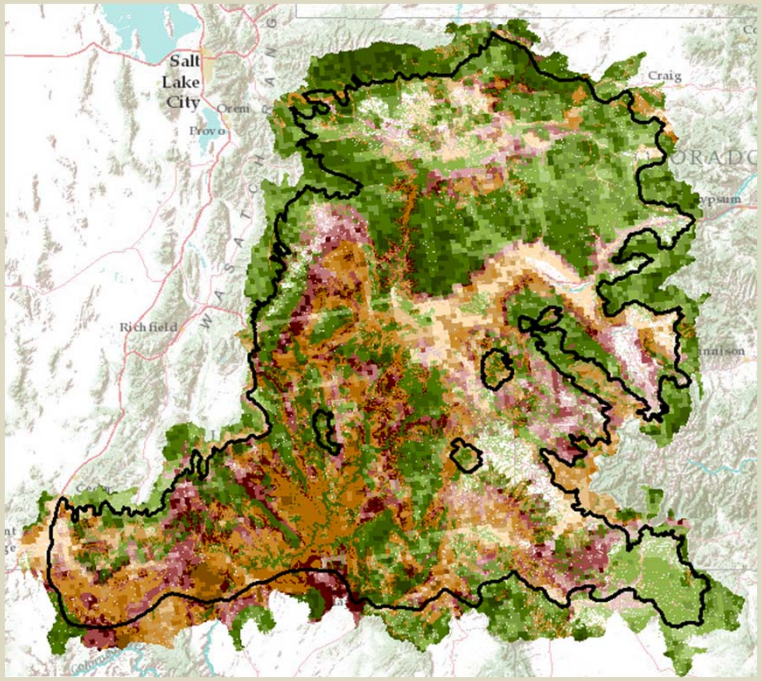
Biological Crust





Biological Crust





Low Potential for Crust / Very High Intactness

Low Potential for Crust / Very Low Intactness

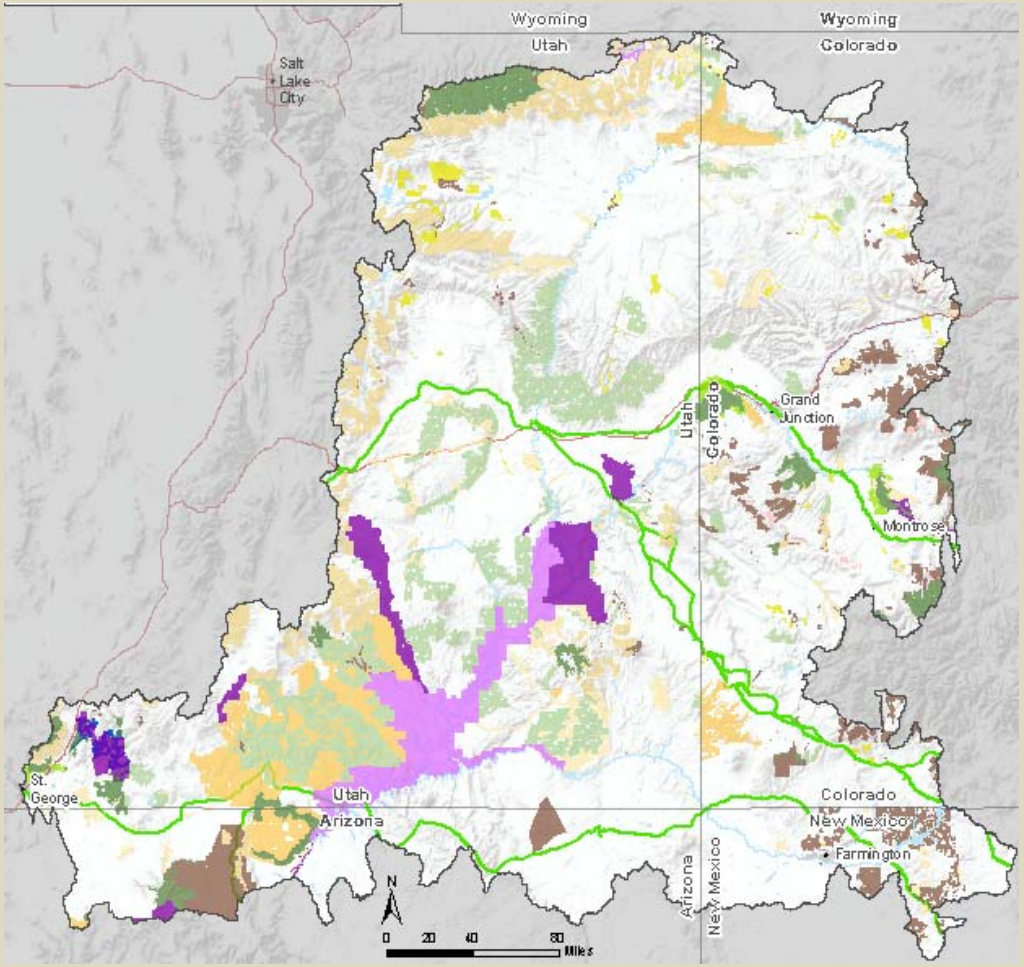
Medium Potential for Crust / Very High Intactness

Medium Potential for Crust / Very Low Intactness

Very High Potential for Crust / Very High Intactness

Very High Potential for Crust / Very Low Intactness

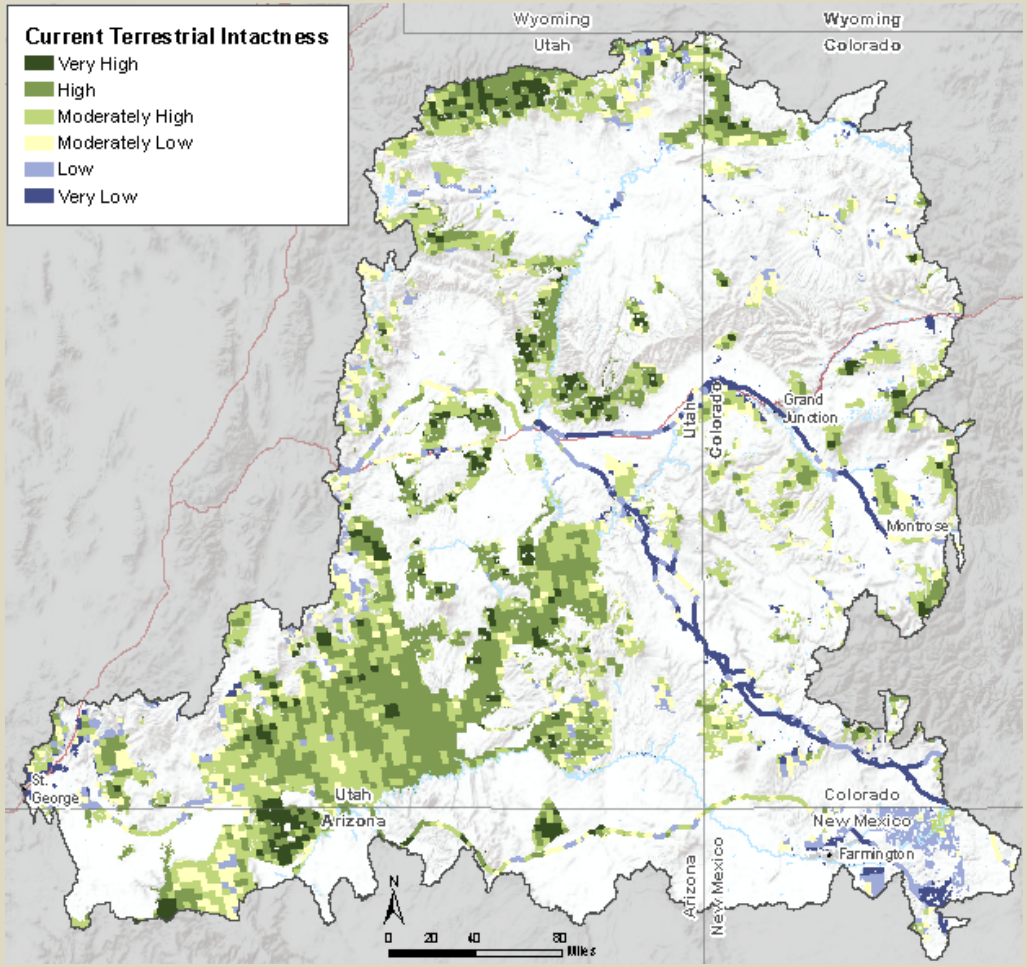
Designated Lands

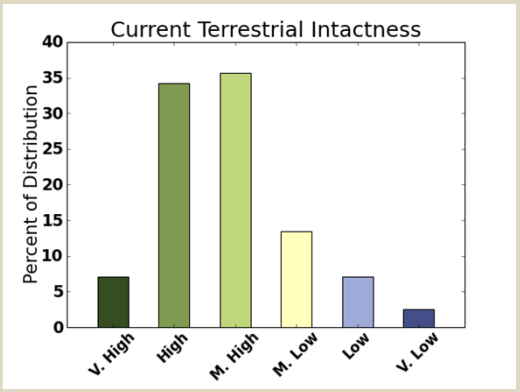


Designation

- Wilderness Area
- Wilderness Study Area
- National Park
- National Monument
- National Conservation Area
- National Recreation Area
- National Wildlife Refuge
- Area of Critical Environmental Concern
- Special Management Area
- State Park
- State Wildlife Management Area
- Roadless Area
- Other Protected Lands

Designated Lands

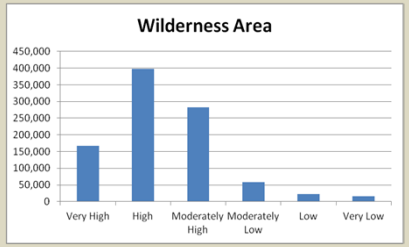


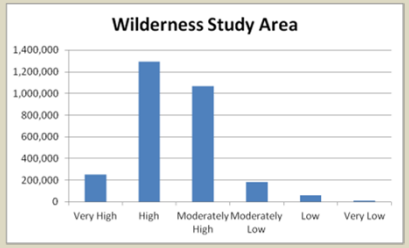


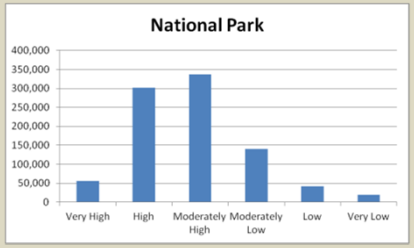
Designated Lands

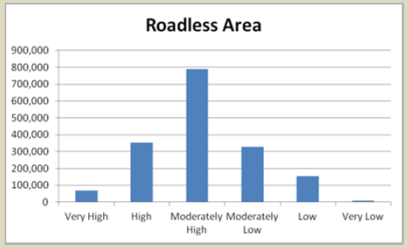
Designation Category	Very High	High	Moderately High	Moderately Low	Low	Very Low	Total Area (acres)
Wilderness Area	166,815	397,096	281,737	57,647	22,660	16,263	942,218
Wilderness Study Area	252,109	1,295,208	1,069,138	183,397	58,932	11,715	2,870,499
National Park	55,484	301,228	336,370	140,281	42,264	19,098	894,725
National Monument	102,725	411,858	756,824	251,791	57,138	11,352	1,591,688
National Conservation Area	0	85	33,178	16,893	5,069	50,476	105,700
National Recreation Area	8,047	674,598	503,243	55,260	13,219	2,328	1,256,694
National Wildlife Refuge	0	73	9,066	3,267	5,590	2,442	20,438
Area of Critical Conservation Concern	24,725	168,082	361,023	262,583	157,620	53,572	24,725
Special Management Area	0	3,574	20,721	15,478	6,005	1,497	47,276
State Park	0	5,121	10,192	11,150	20,782	6,137	53,382
State Wildlife Management Area	6,401	24,360	81,381	60,455	76,944	35,038	284,579
Roadless Area	68,389	352,970	790,145	327,332	153,319	9,262	1,701,418
Other Protected Lands	78,816	206,391	561,836	340,002	363,483	106,937	1,657,464
Total	**763,509**	**3,840,644**	**4,814,852**	**1,725,536**	**983,025**	**326,119**	**12,453,685**

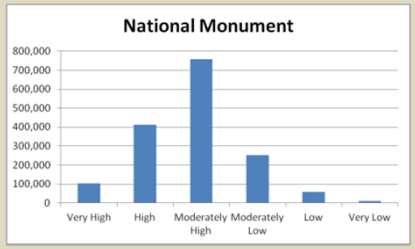
Designated Lands

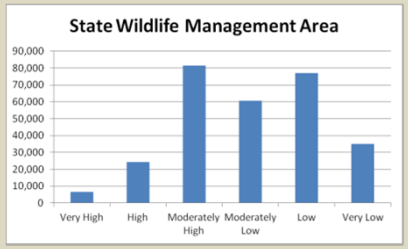


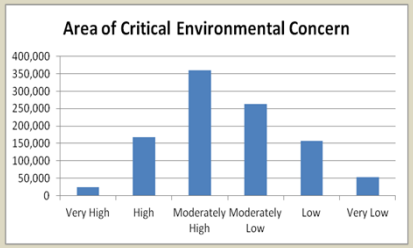


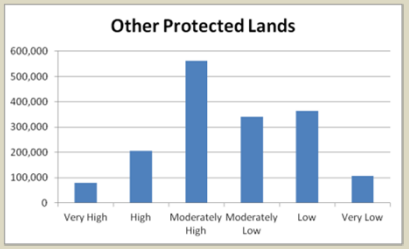


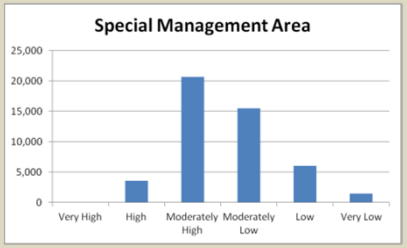


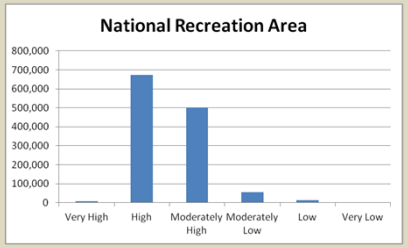


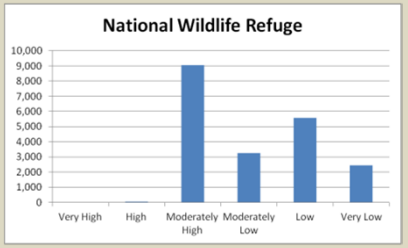


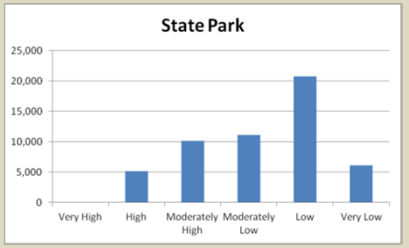


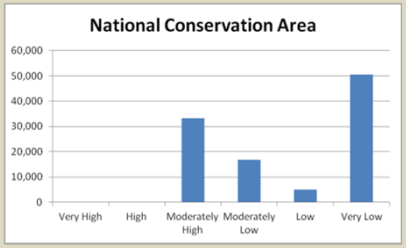




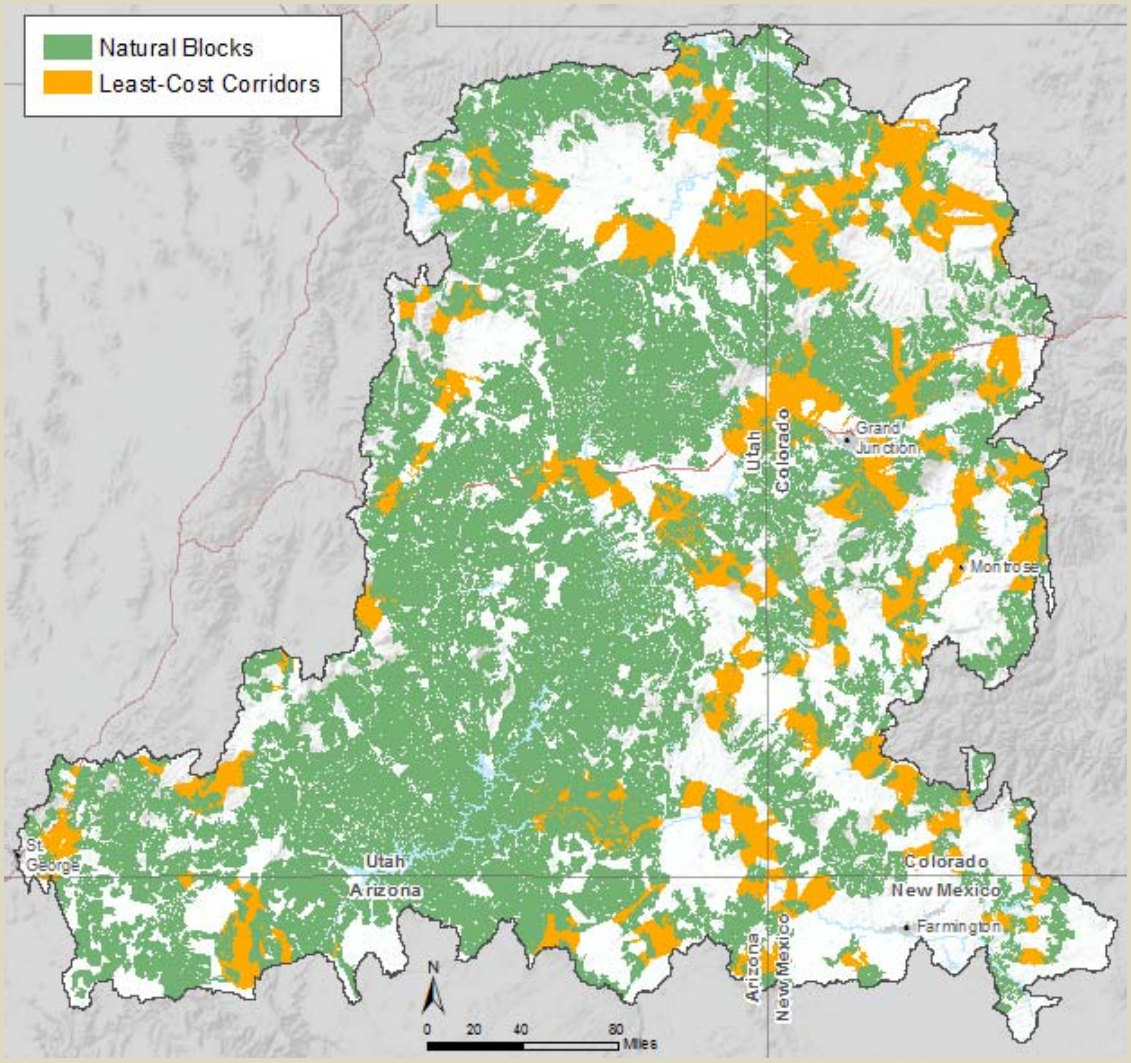




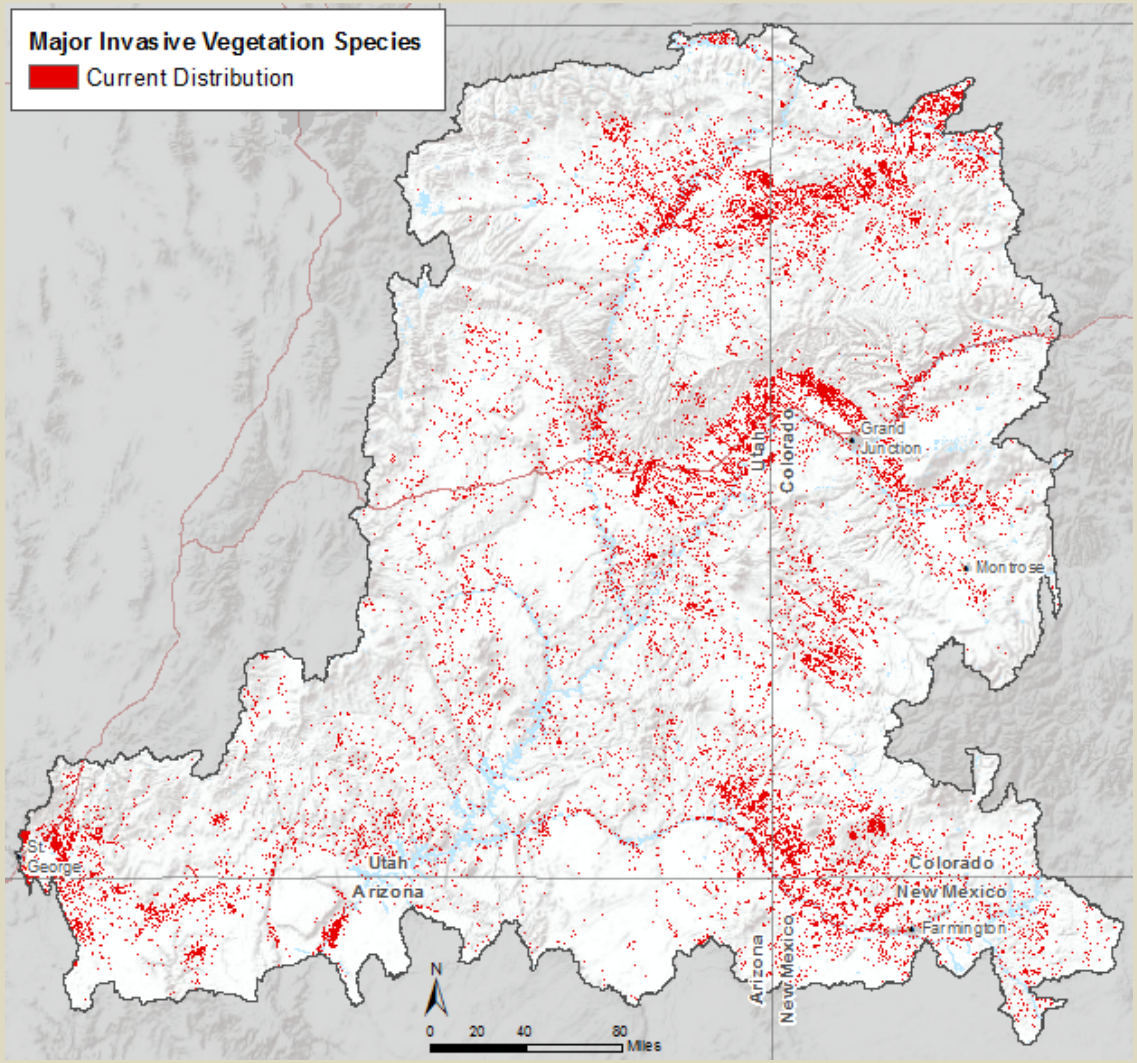




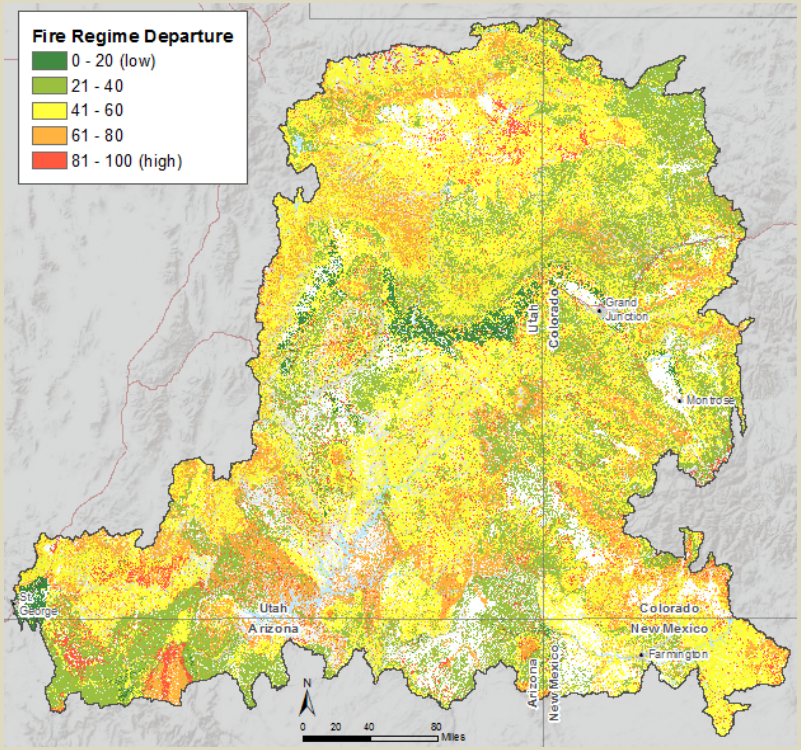
Connectivity

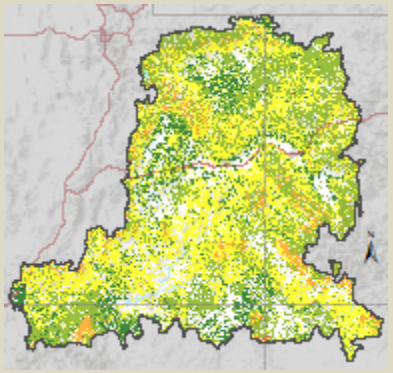


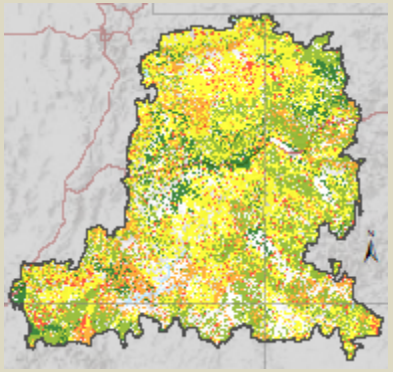
Change Agent - Current Invasives



Change Agent – Fire







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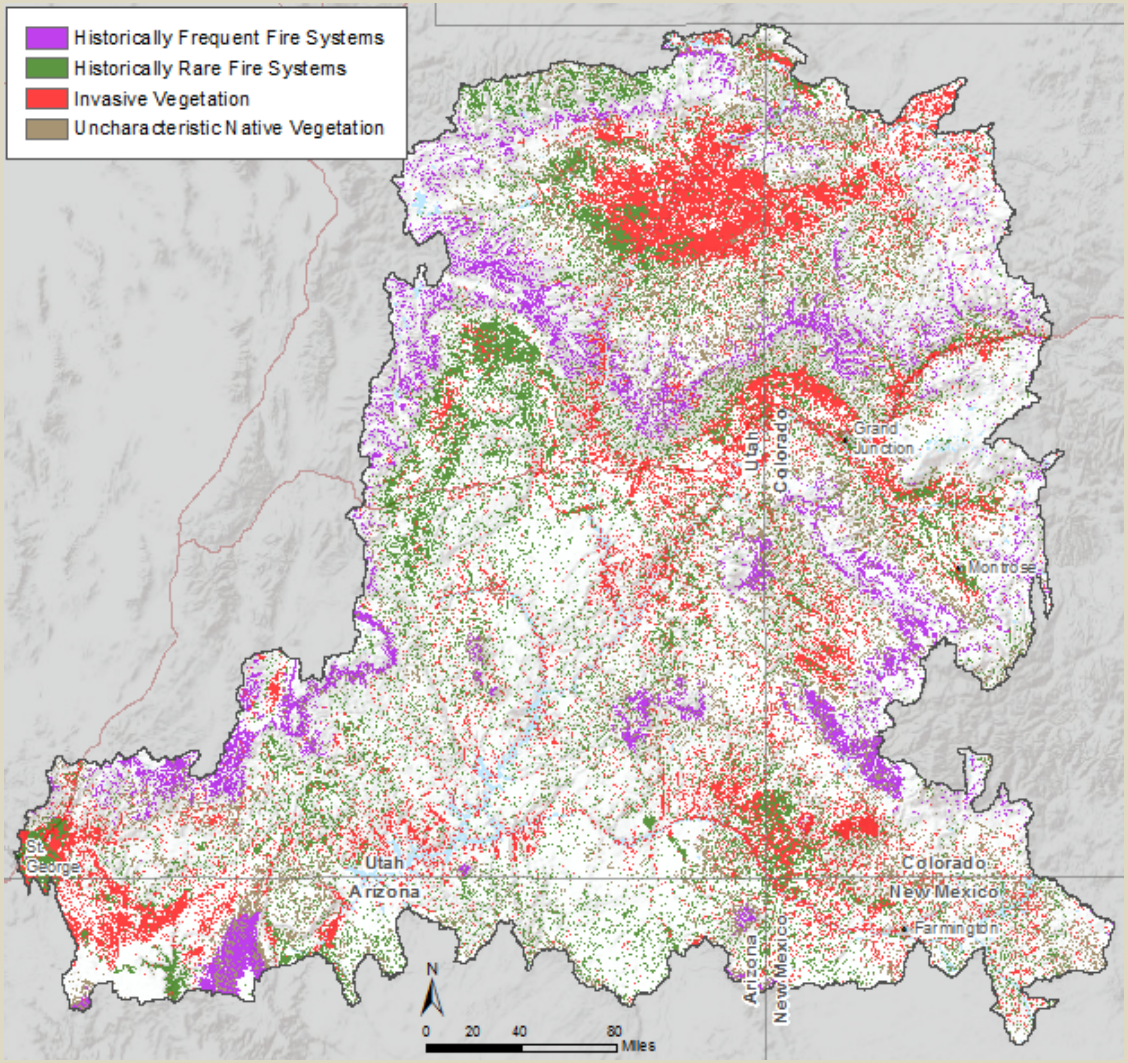
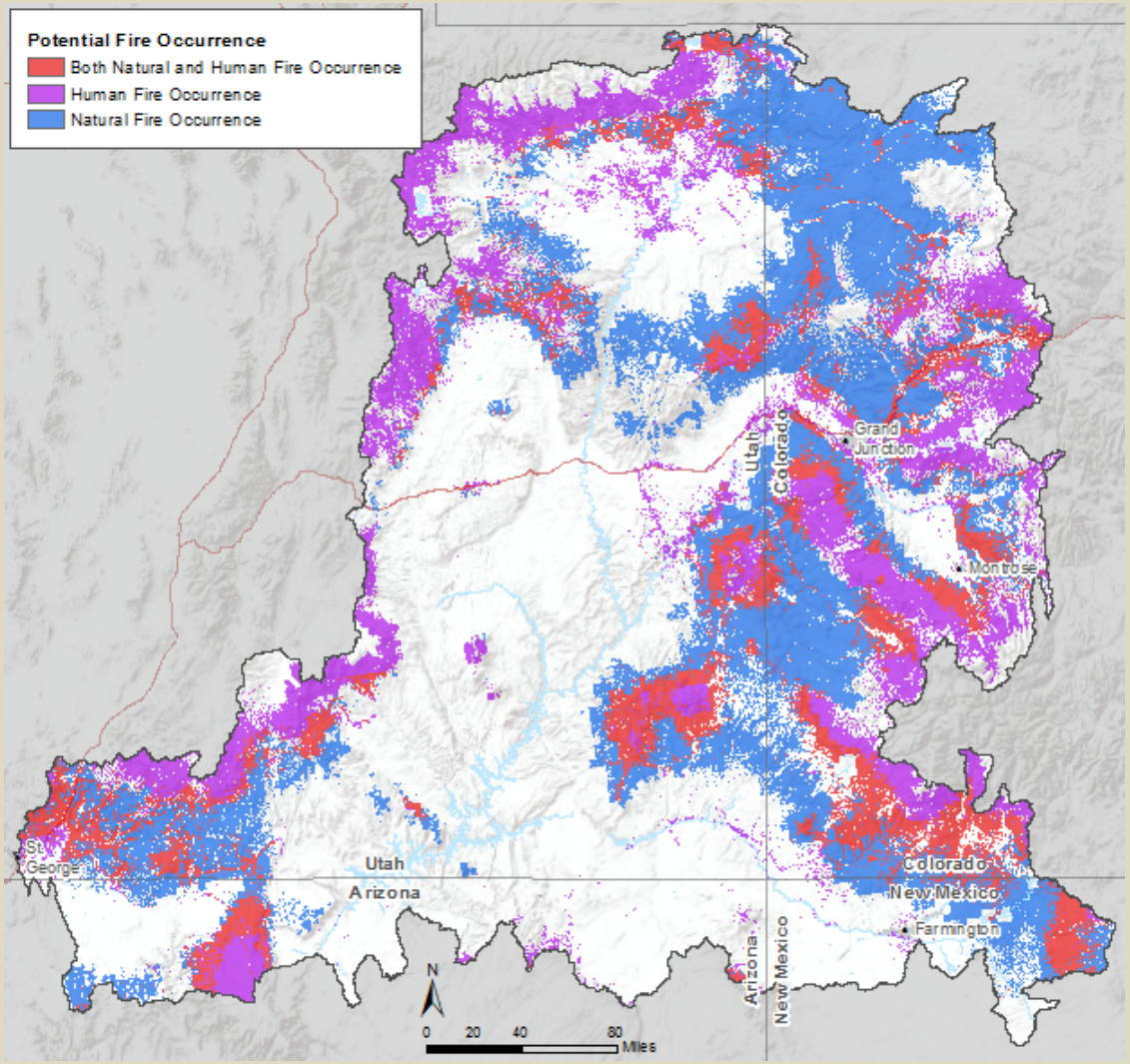
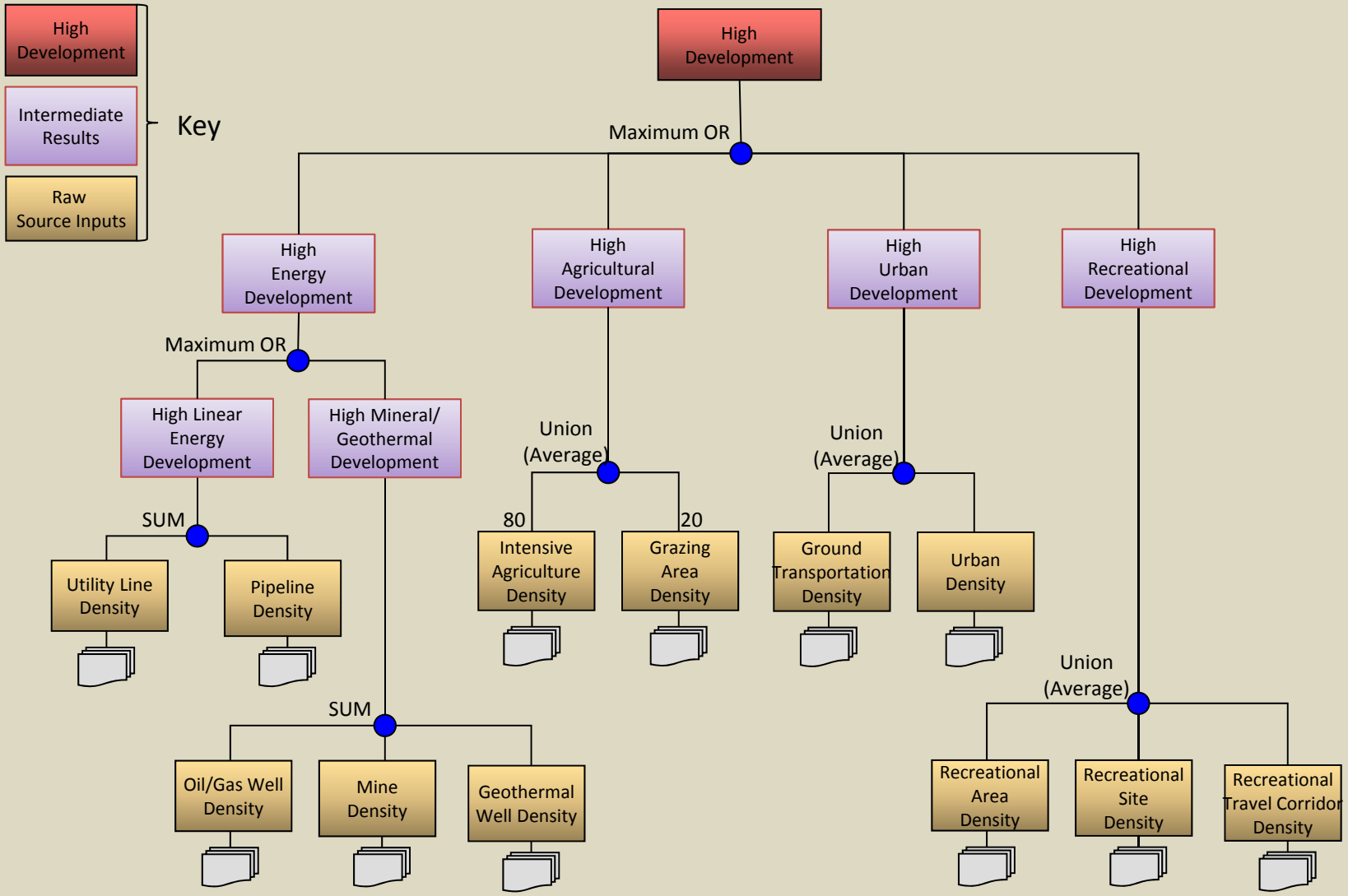


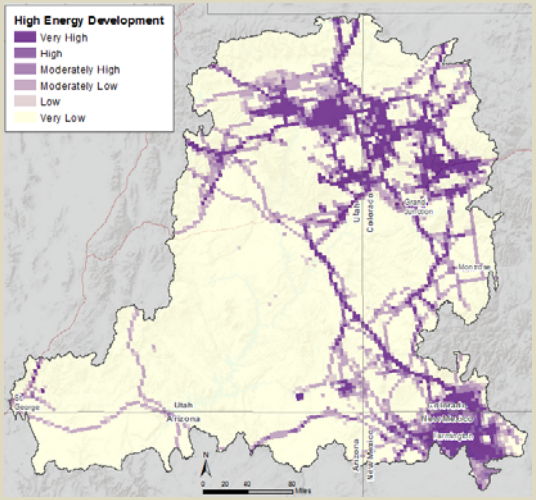
Change Agents - Fire

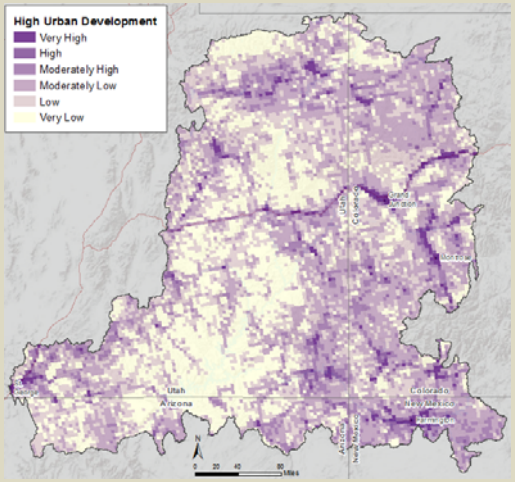


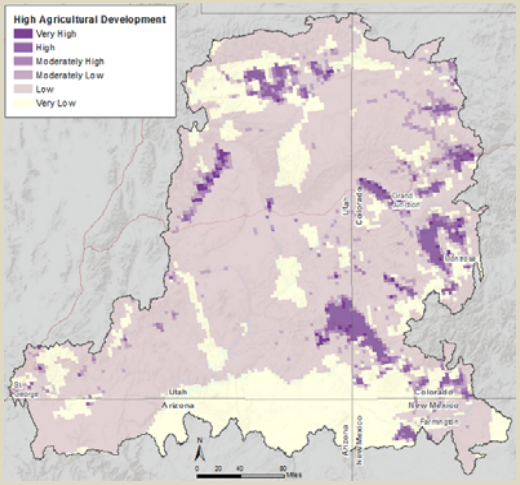
Change Agent – Current Development

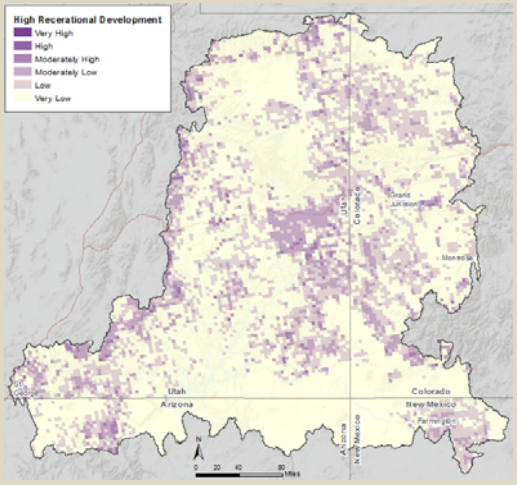


Change Agent – Current Development

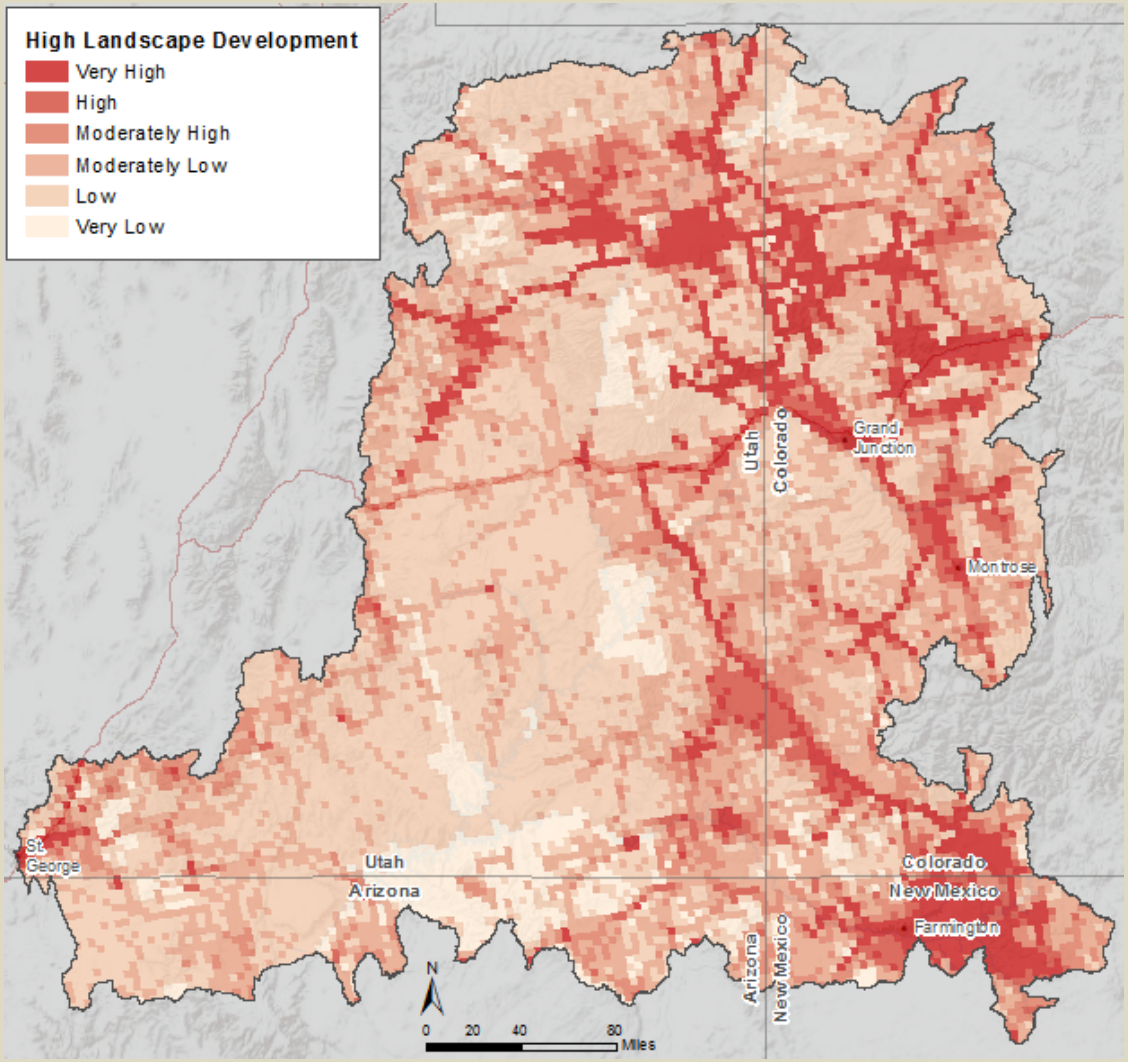








Change Agent – Current Development



LUNCH