



OFF-SITE MITIGATION DESIGN PROJECT PROCESS

Assemble Team of Experts



Compile Key Species List for Jonah



Gather Spatial Data &
Develop Species Models



Set Species & Vegetation Goals



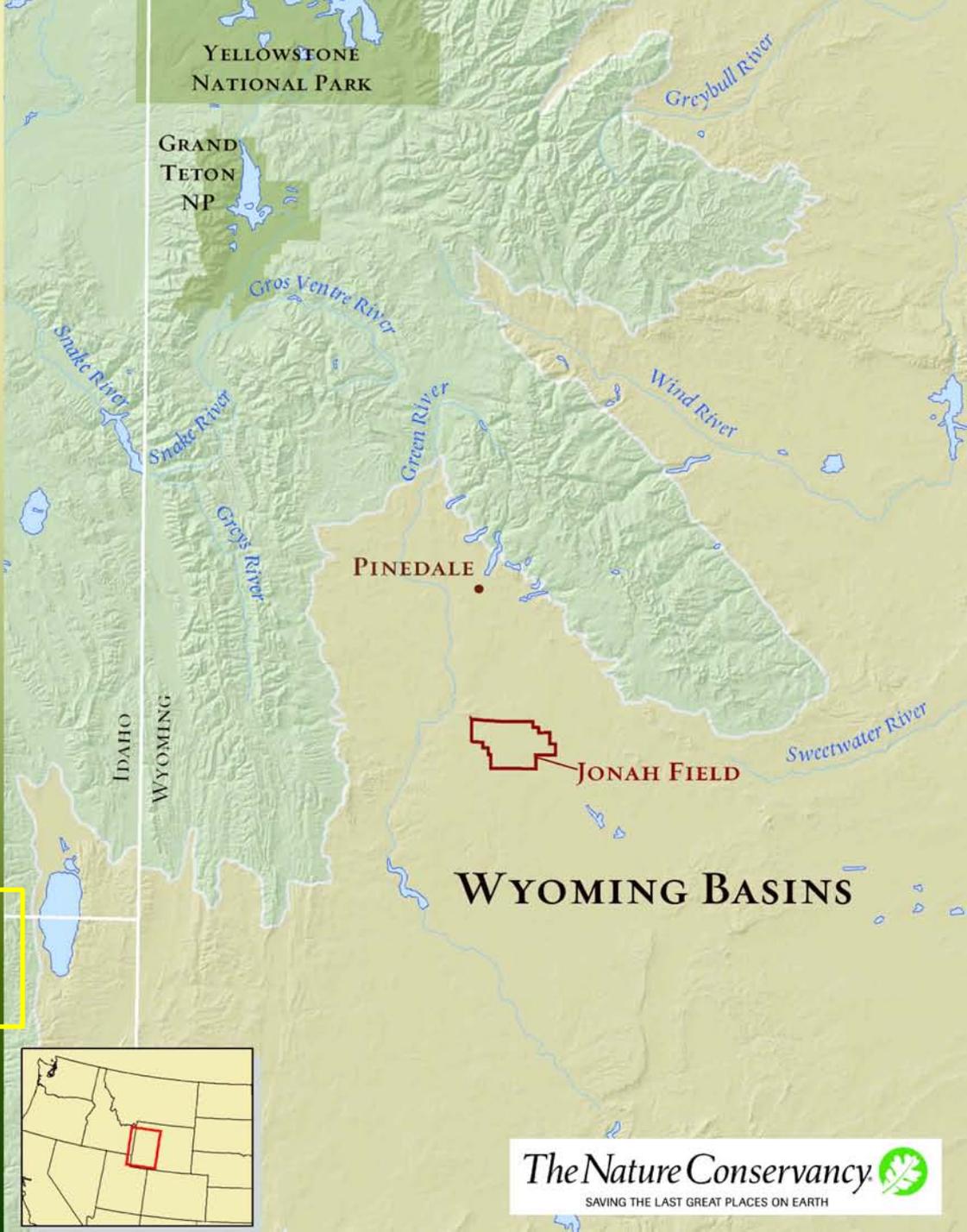
Run Marxan Model



Validate Model Results



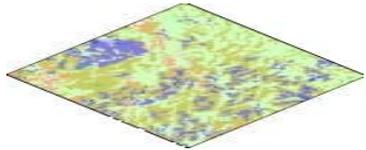
Report Results & Track Progress



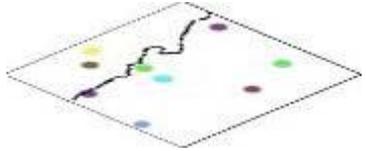
**Each step includes expert review*

Mitigation Planning: *portfolio design process*

Select BIODIVERSITY ELEMENTS



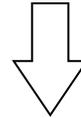
COARSE FILTER
Vegetation Types



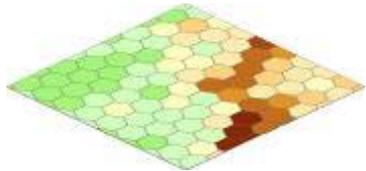
FINE FILTER
Species

Set GOALS

**Acres of habitat or point locations (i.e. nests)
potentially Impacted by development**

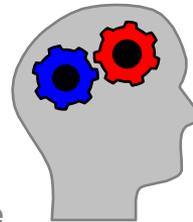
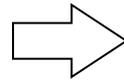


assess ECOLOGICAL CONDITION

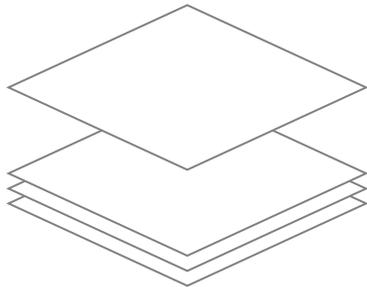


Cost / Suitability Index

- Road & RR Density
- Population Density
- Converted Land Cover
- Irrigated Land Cover
- Housing density



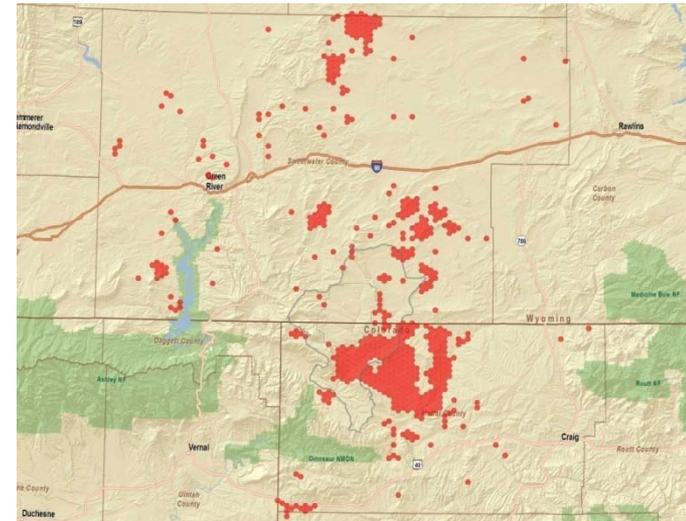
**Expert
Review/Data
Based Model
Validation
and Refinement**



**Future development pressure
(areas under concession)
other rules**

Portfolio Design:

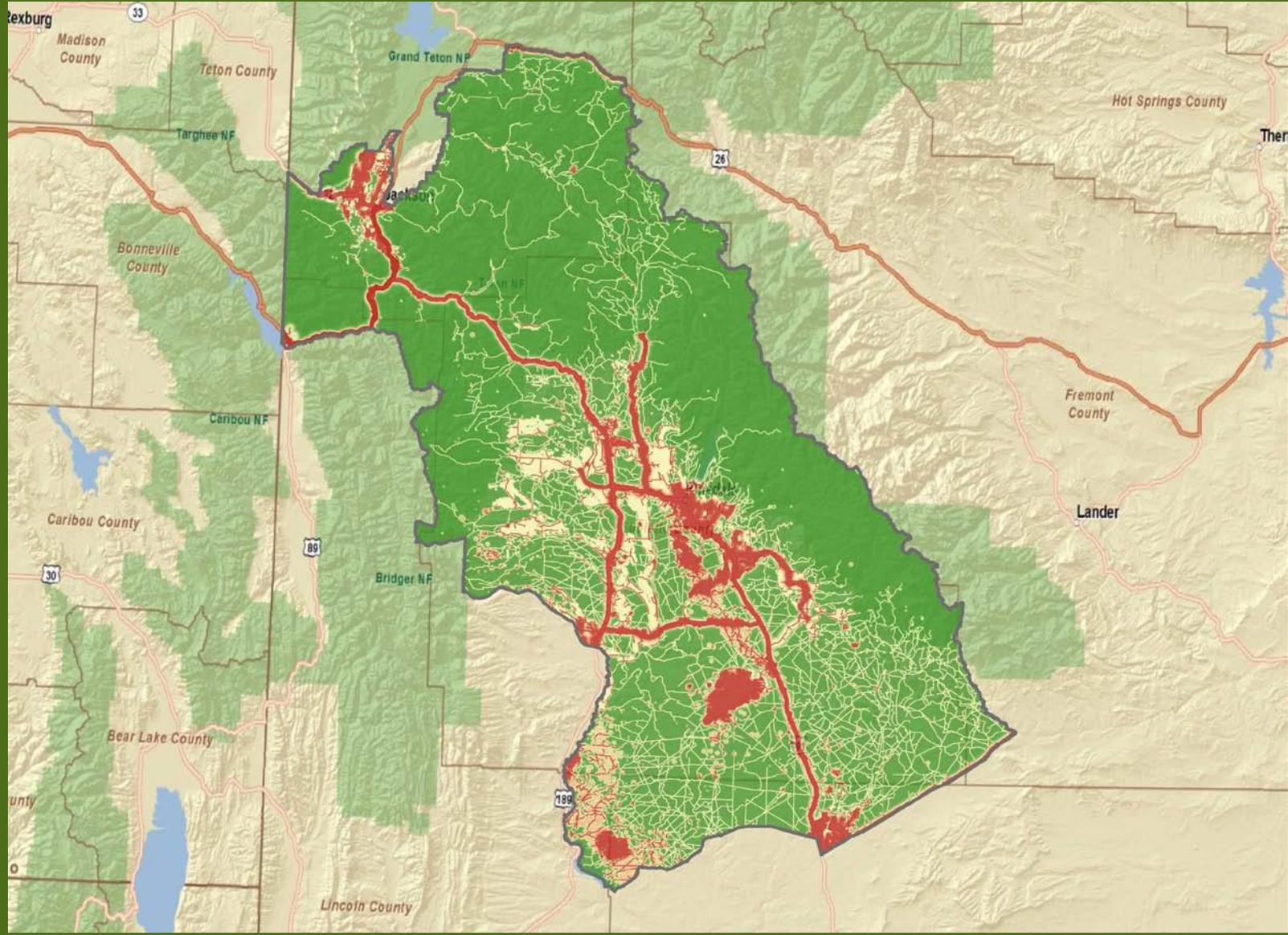
**automated
site selection
(MARXAN)**



Cost Surface

Impacts	Weight	Distance Decay function	Distance Cutoff
Urban Development - High/Medium	500	gradual	2000 m
Urban Development - Low	300	gradual	2000 m
Agriculture	300	moderate-abrupt	600 m
Roads - Primary/Secondary	500	moderate	1250 m
Roads - Local/Primitive	300	abrupt	250 m
Oil and Gas wells - active	400	moderate	1250 m
Oil and Gas wells - inactive	200	moderate-abrupt	600 m
Transmission lines - gas	100	abrupt	250 m
Transmission lines	200	moderate-abrupt	600 m
Surface mines - active	500	moderate	1250 m
Surface mines - inactive	300	moderate	1250 m

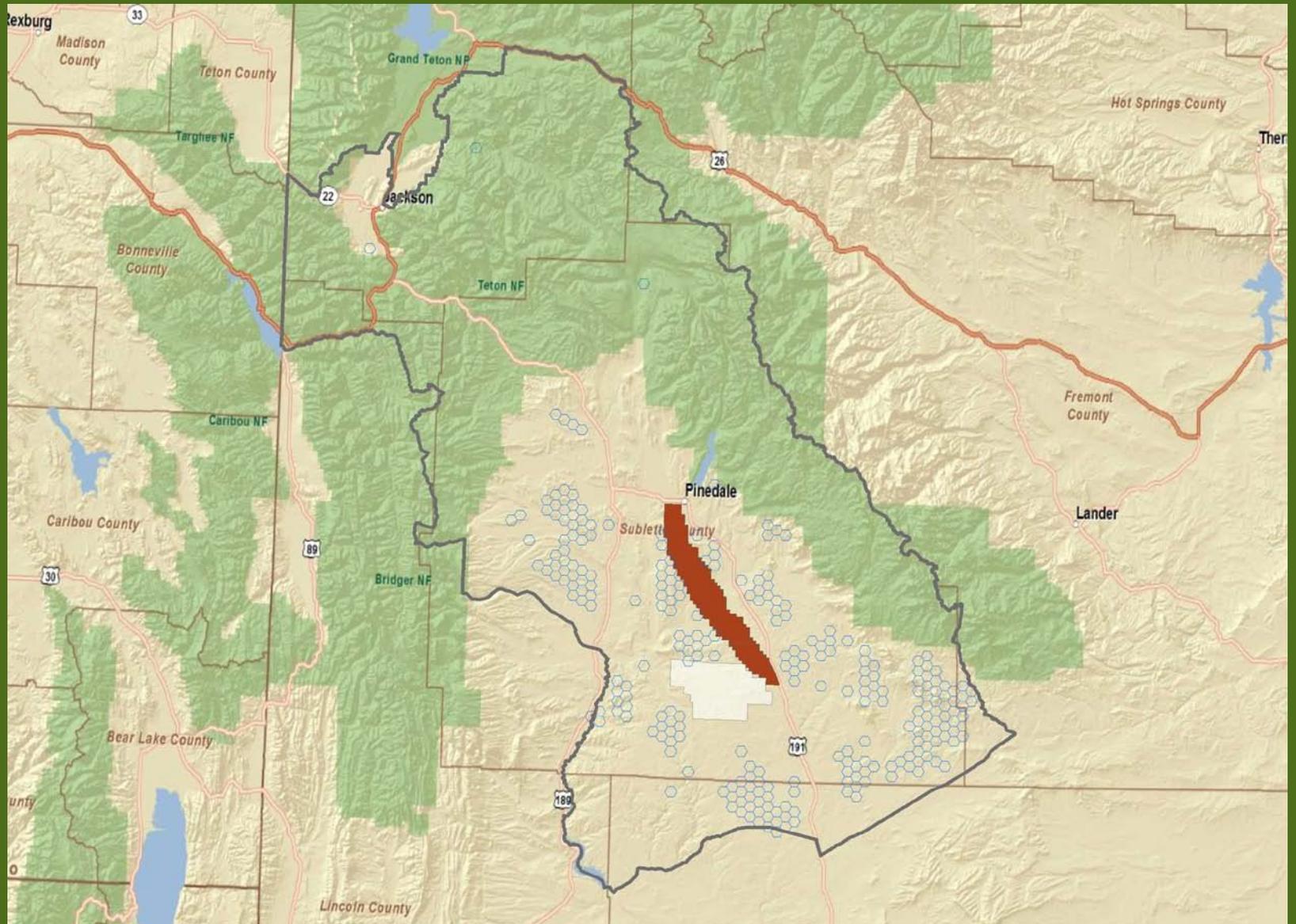
Cost Surface



Targets and Goals

<i>Conservation target</i>	<i>Goal (hectares or number)</i>
Mule deer crucial winter range	1,365
Mule deer migration corridors	1,700
Pronghorn crucial winter range	7,705
Pronghorn migration corridors	5,162
White-tailed prairie dog and associated targets	11,538
Pygmy rabbit habitat	19,272
Sage-grouse occupied leks	10
Sage-grouse breeding and wintering habitat	21,890
Golden eagle nests	5
Bald eagle nests	2
Phlox pungens	3,643
Wetlands	596
Inter-Mountain Basins Big Sagebrush Steppe (117)	8,356
Inter-Mountain Basins Big Sagebrush Shrubland (97)	15,134
Intermountain Basins Greasewood Flat (159)	134
Western Great Plains Riparian Woodland and Shrubland (198)	487
Northwestern Great Plains Mixedgrass Prairie (130)	197
Inter-Mountain Basins Montane Sagebrush Steppe (118)	286

Offsite Pinedale Marxan Run



Do we have the correct/best data representation for each species?

Are any species overdriving the model?

Are any species not well represented by the model?

Should we filter sites by future conflict? (og potential)

Other issues/concerns?