

BLM Landscape Approach and Rapid Ecoregional Assessments

Watershed and Aquatics Workshop

BLM Utah State Office, Salt Lake City, UT

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BLM
Rapid Ecoregional Assessment



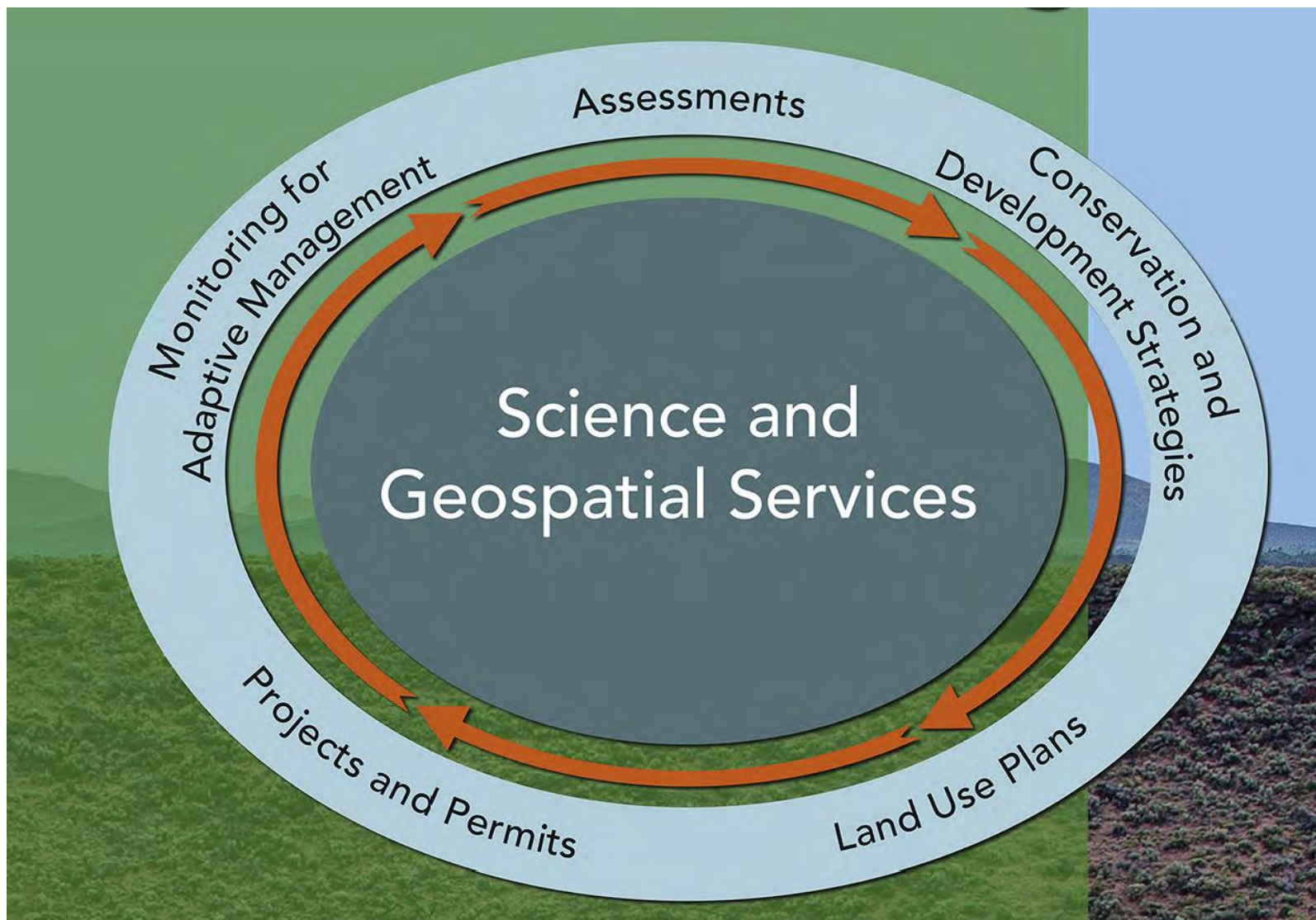
Outline

1. The BLM Landscape Approach
2. What is an REA?
3. Examples of Products
4. Examples of REA Utility
5. Demonstration of Accessing the Data
6. Questions and Discussion

BLM Landscape Approach



BLM's Landscape Approach

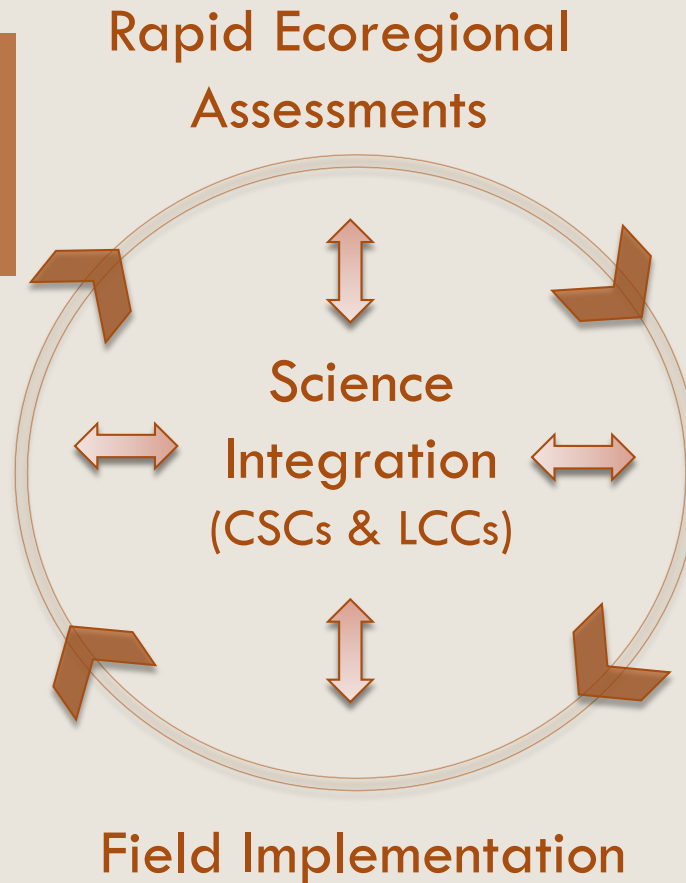


BLM's Landscape Approach

5

Rapid Ecoregional Assessments
are the first step in the
Landscape Approach

Monitoring for
Adaptive Mgmt.



Colorado Plateau REA Workshops

August 1-2, 2012

Not This!



Looks like
a good
place for
my
project...

You sank
my Sage
Grouse!!

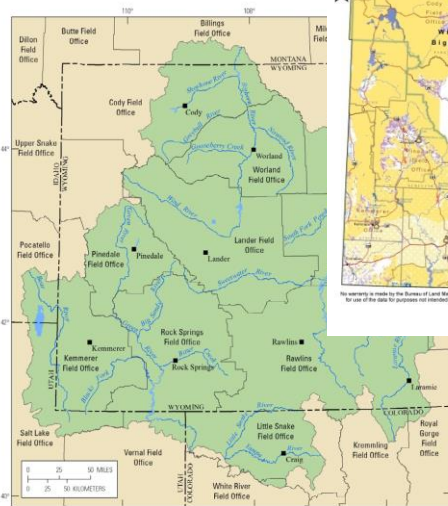
"A guessing game for two players..." (or more)



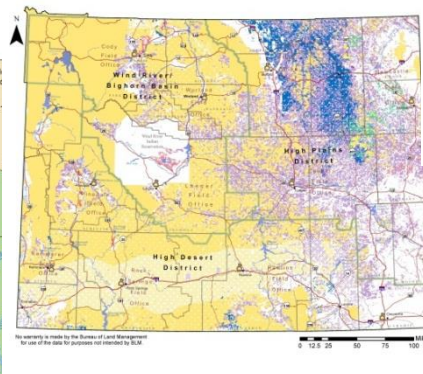
Multi-Scale

For example...

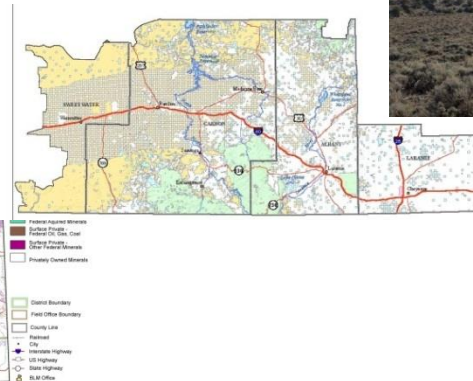
Ecoregion



State



Field Office



Watershed



Site



Work at the scale(s)
most appropriate to
the issue

Cross-Boundary

- **Internally:** across the geographic and programmatic divisions within BLM
- **Externally:** across Federal, State, and local governments and willing private stakeholders.
 - With awareness and respect for each other's mission, goals, objectives, authority, responsibility, legal and procedural requirements, politics, and culture



Landscape = Context

- Be more efficient and effective by placing resources in the highest priority areas
- Understanding how to be competitive for internal and external funding sources
- Not missing the forest because of the trees

BLM Policy and Guidance

Use of Regional Assessments

- BLM Instruction Memorandum 2013-082

Climate Change

- Adapting to Climate Change draft IM

Regional Mitigation

- Draft MS-1794 – Regional Mitigation Manual Section

Land Health Assessment

- 4180 Manual and Handbook

Integrated Vegetation Management

- Manual handbook



BLM Policy and Guidance

Planning and NEPA

- Planning handbook
- Planning 2.0
- Incorporating REAs into planning and NEPA processes
 - Draft Instruction Memorandum

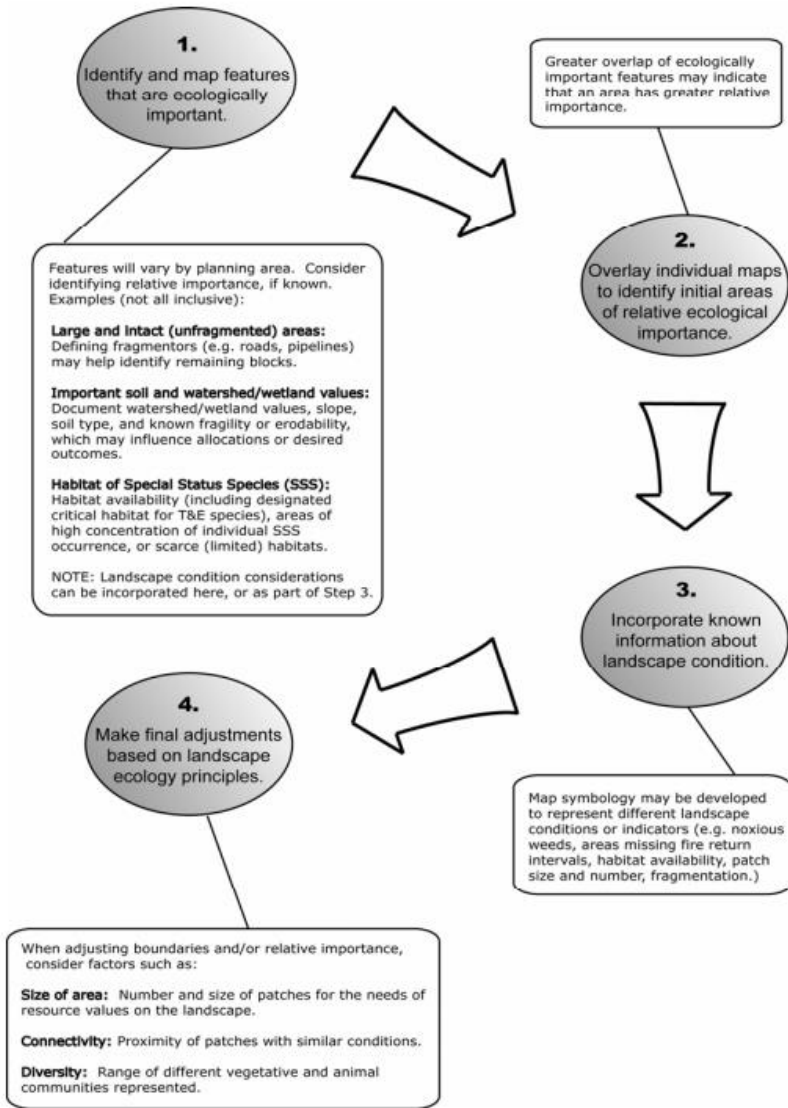


Planning

RMP/EIS Scoping and AMS

BLM Land Use Planning Handbook, Appendix F, p13

- Look at planning area in context:
 - What % of Ecoregion?
 - What % of at risk (various CA's) within Ecoregion?
 - What % of good quality?
 - Use broad scale data to identify areas of relative ecological importance



M-4180 Land Health

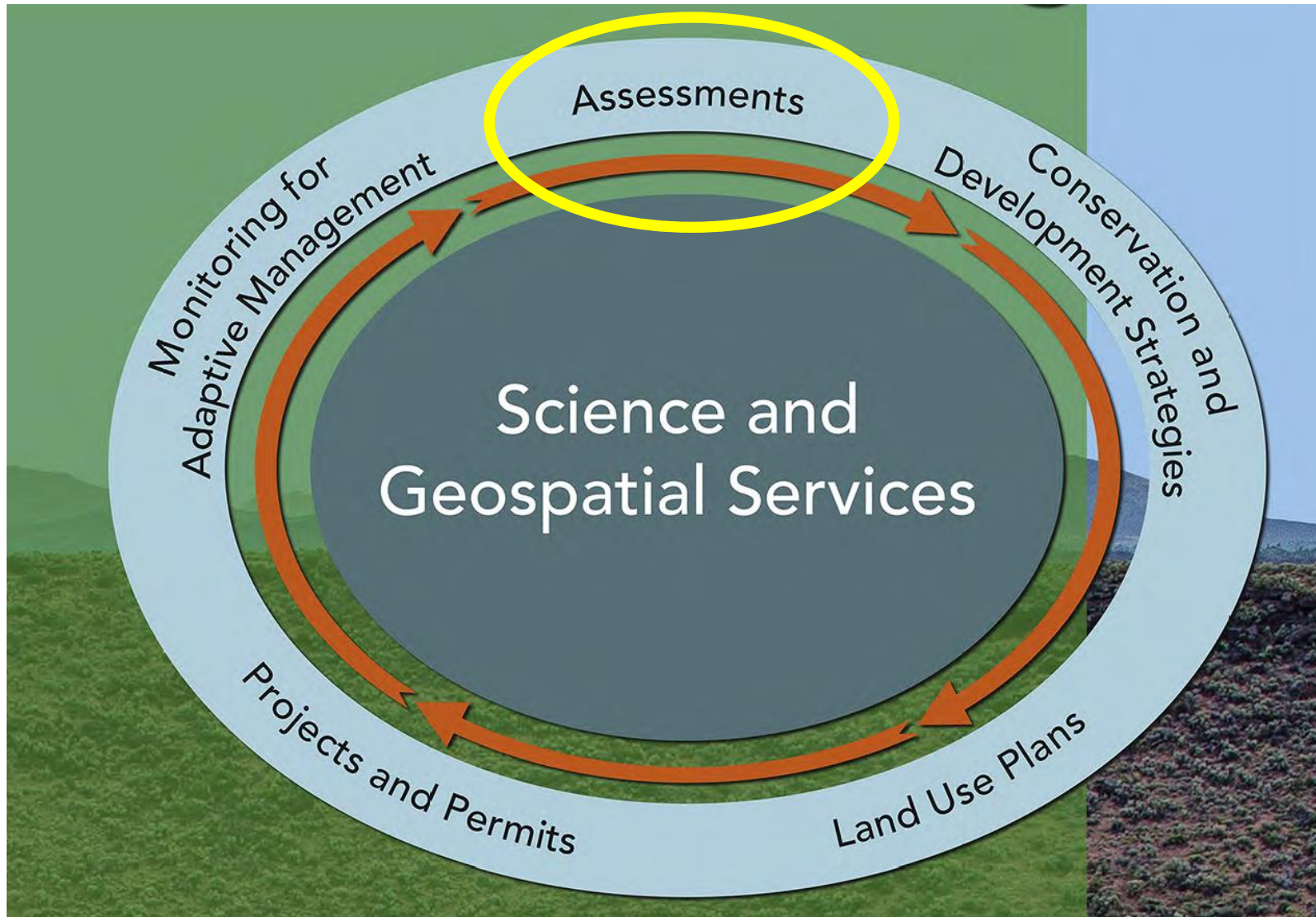
- Evaluations of land health will occur primarily at the watershed level, but can be completed at other spatial scales to properly evaluate the standard and/or the geographic area. For example, regional assessments may be used to identify condition of wildlife habitat with respect to habitat fragmentation.
- Regional assessments may identify specific areas for conservation and/or restoration. These areas would then become a priority for conducting the local land health evaluation.
- To address workload priorities, conducting regional assessments may take precedence over conducting site or local level monitoring and/or evaluations in low priority areas.



What is an REA and how do they contribute?



BLM's Landscape Approach



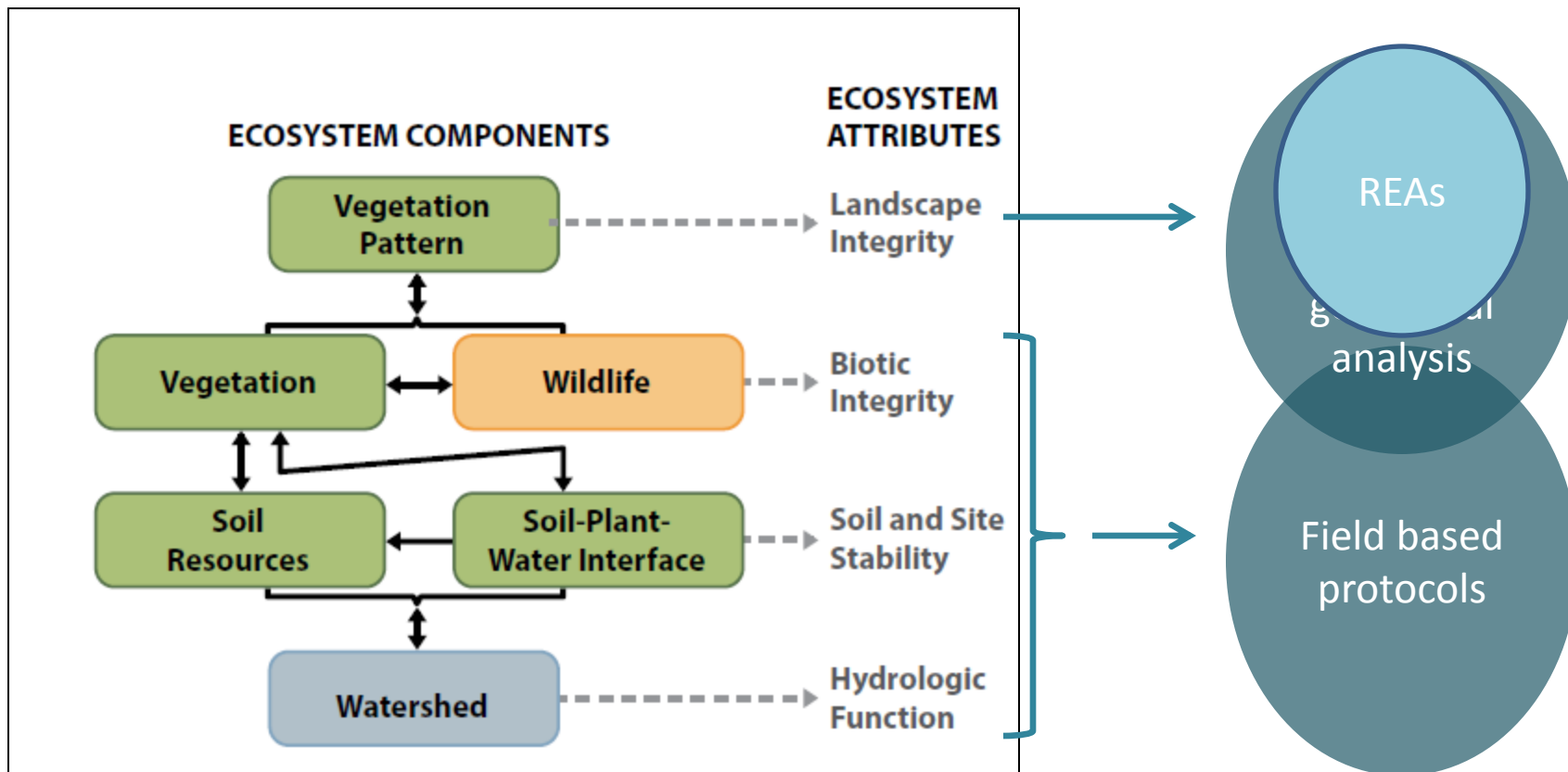
Initial Landscape Approach Efforts

- The “information” gap was identified at the broad scale
- REAs are an initial tool to help fill in this gap for the broad scale, across ownership, allowing us to:
 - Examine landscape-scale resource conditions and trends
 - Identify focal areas for conservation and development
 - Focus resources where they are most needed
 - Integrate BLM management activities
 - Enable adaptive management
 - Provide a foundation for management partnerships
- Other efforts include: AIM, SG Planning (+ external tools)
- Broad scale tools are used in combination with other information to make multi-scale decisions



Indicators and Scales for REAs

Approach



What is an REA?

- R = Rapid - Use existing information and data (18-24 months)
- E = Ecoregional – based on large areas where ecosystems are similar (1+ level 3 ecoregions)
- A = Assessment – understand existing & possible future conditions, risks



REAs – Information Gathering

- Assessments of natural resources that characterize:
 - How ecological resources function
 - The status of ecological resources
 - Their potential to change at a landscape scale
- Baseline information to prioritize allocation decisions
 - Information across political boundaries
 - Risk and opportunity for two future times
- Understanding of how we can build resilience into a system



Scale and Scope

- Study Areas: Ecoregions and Buffer
 - Ecoregions are based on the Commission for Environmental Cooperation (2006) Level III Ecoregion boundaries
 - Each Ecoregion is surrounded by a buffer area containing 5th Level hydrologic units (HUC 10s) to comprise the Assessment area
- Analysis Unit:
 - The unit at which status of resources were evaluated.
 - Varies by issue - 30m pixel, 5th Level HUC (HUC10), 6th Level HUC (HUC12), 4 km²
- Reporting Unit
 - The unit used for displaying final outputs and status of resources.
 - Varies by issue- 5th level HUC, 6th level HUC, 4 km²



REA Lingo

✓ *Conservation Elements*

✓ *Change Agents*

✓ *Management Questions*



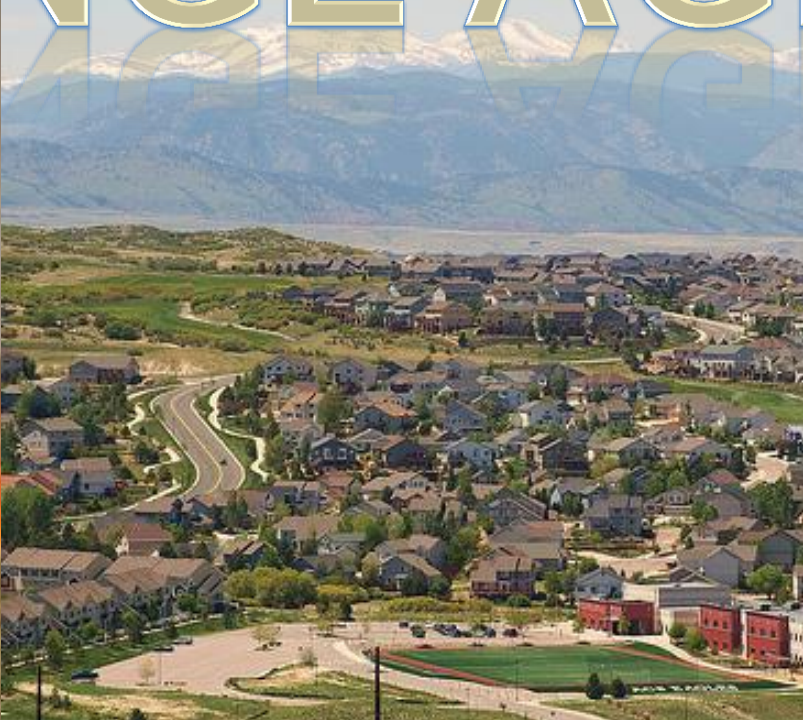
CONSERVATION ELEMENTS

Fine Filter

Coarse Filter



CHANGE AGENTS





MANAGEMENT QUESTIONS



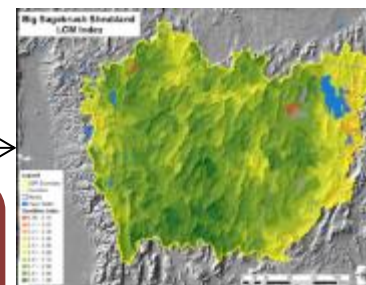
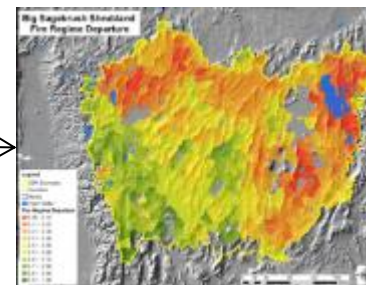
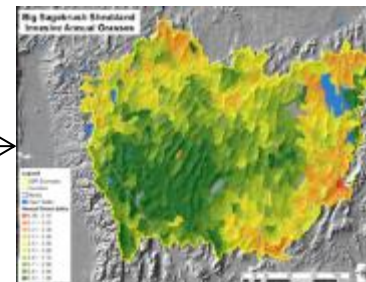
Conservation Elements



Change Agents



Ecological Status Scores



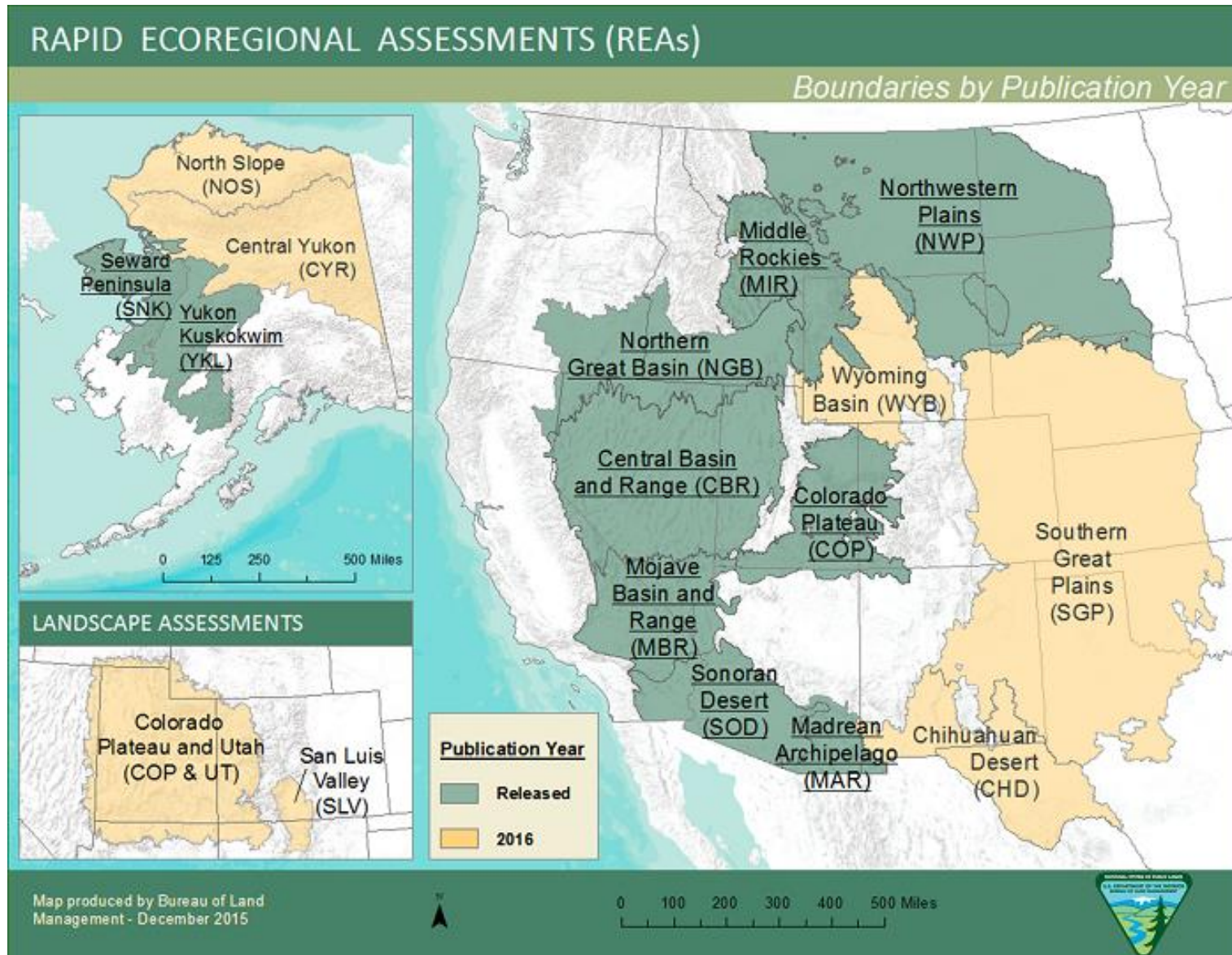
Habitat
Disturbance
Fragmentation
Removal

Existing data
Models
Tools

Conceptual Models
link CAs, ecological
stressors and their
effects on a CE

Spatial Models
use geoprocessing
steps to link data to
results

Ongoing and Completed REAs



Examples of REA Products

BLM
Rapid Ecoregional Assessment

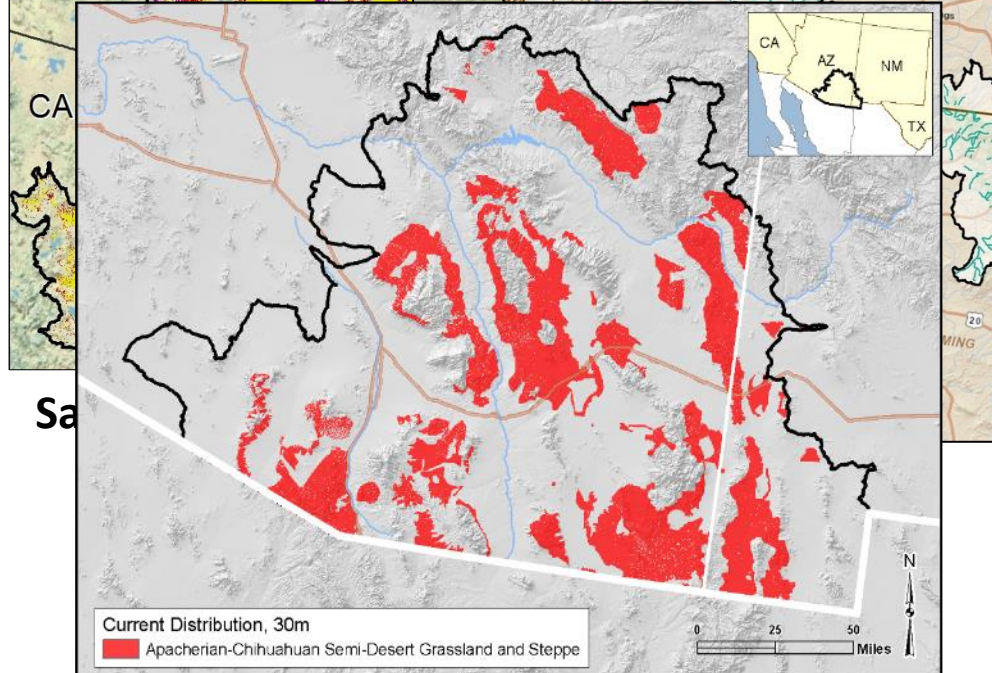
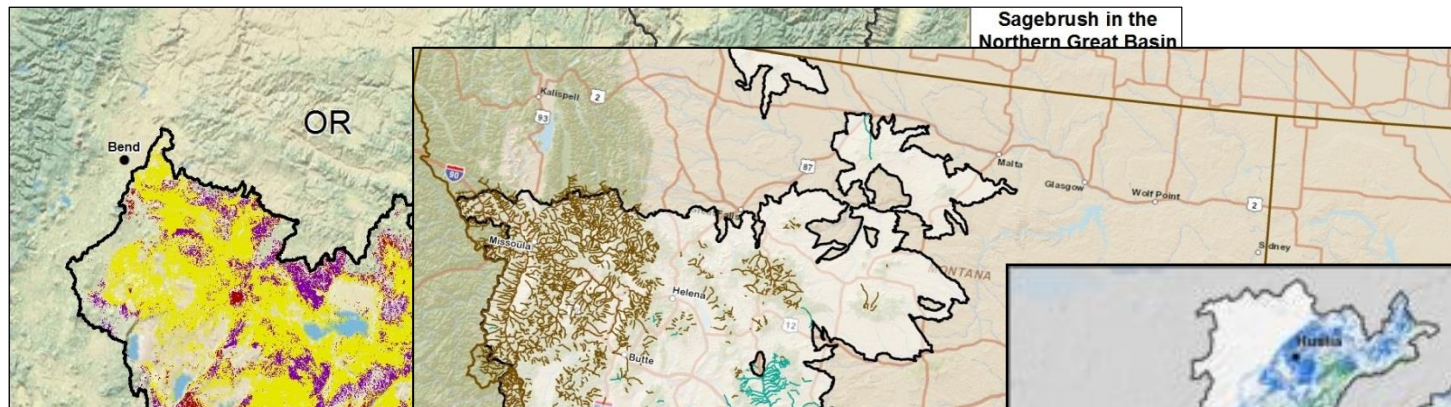


A word of caution...

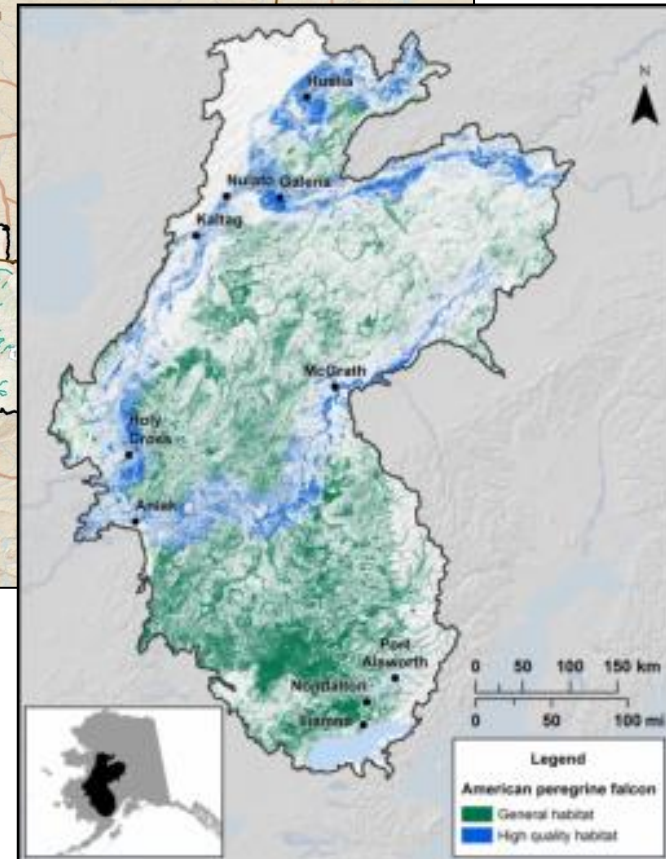
- The amount of information is overwhelming, find a starting point or question and build from there
- Use the information to supply context
- Understand what goes into a model
 - Opportunity and priority are driven by “why” not just the end conclusion
- Bring in other data as applicable and needed



Distribution Maps - CEs

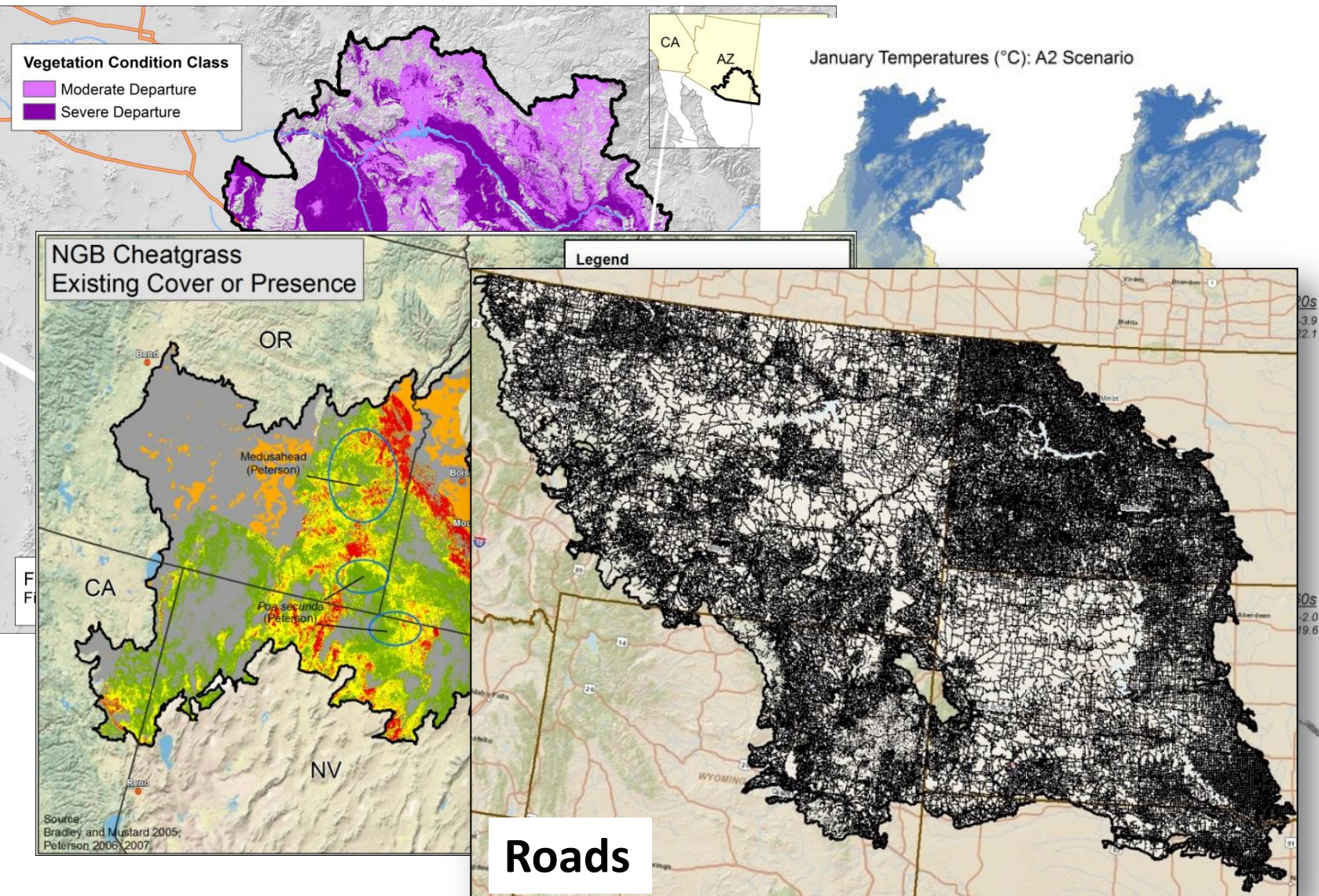


Apacherian Grassland

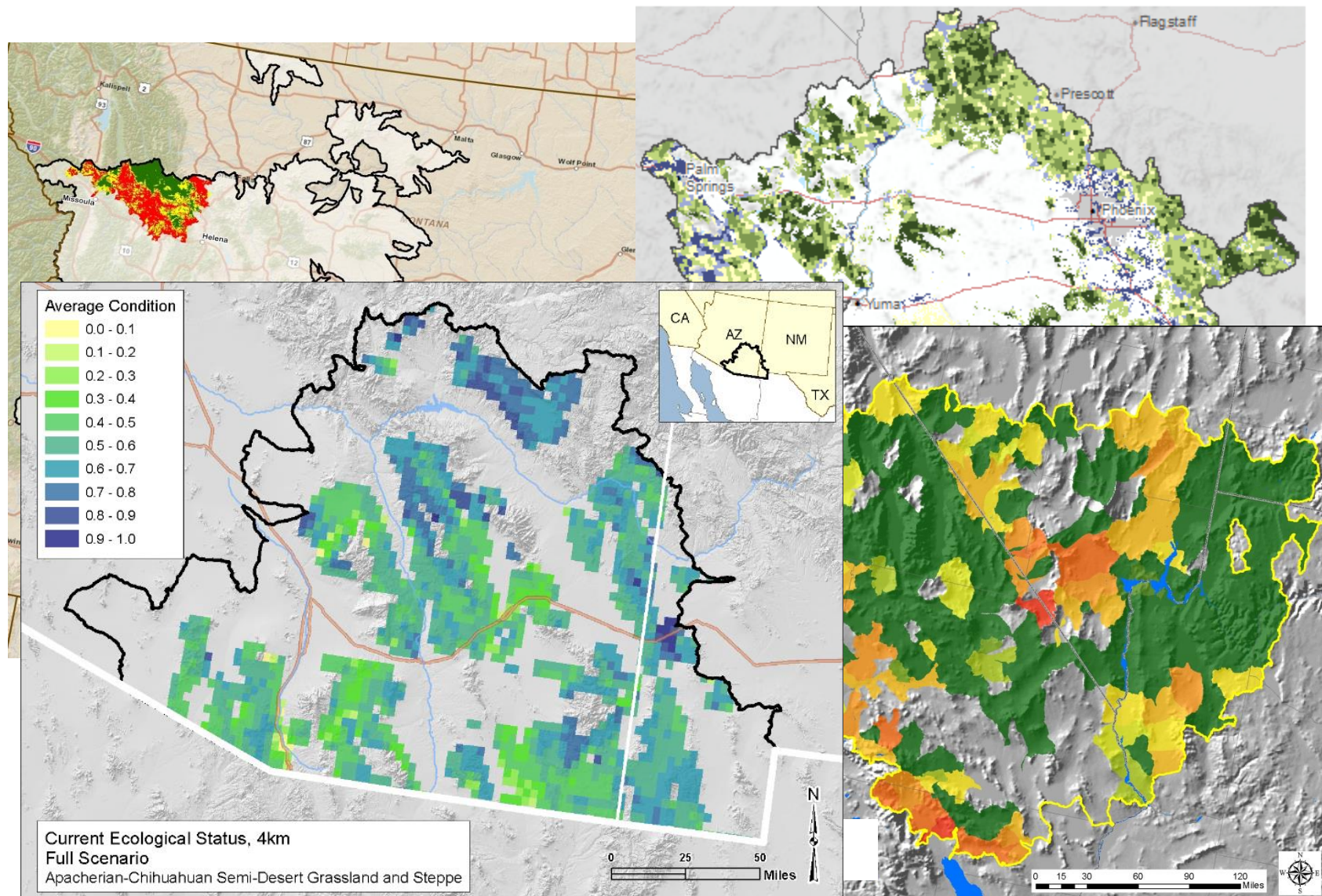


Peregrine Falcon

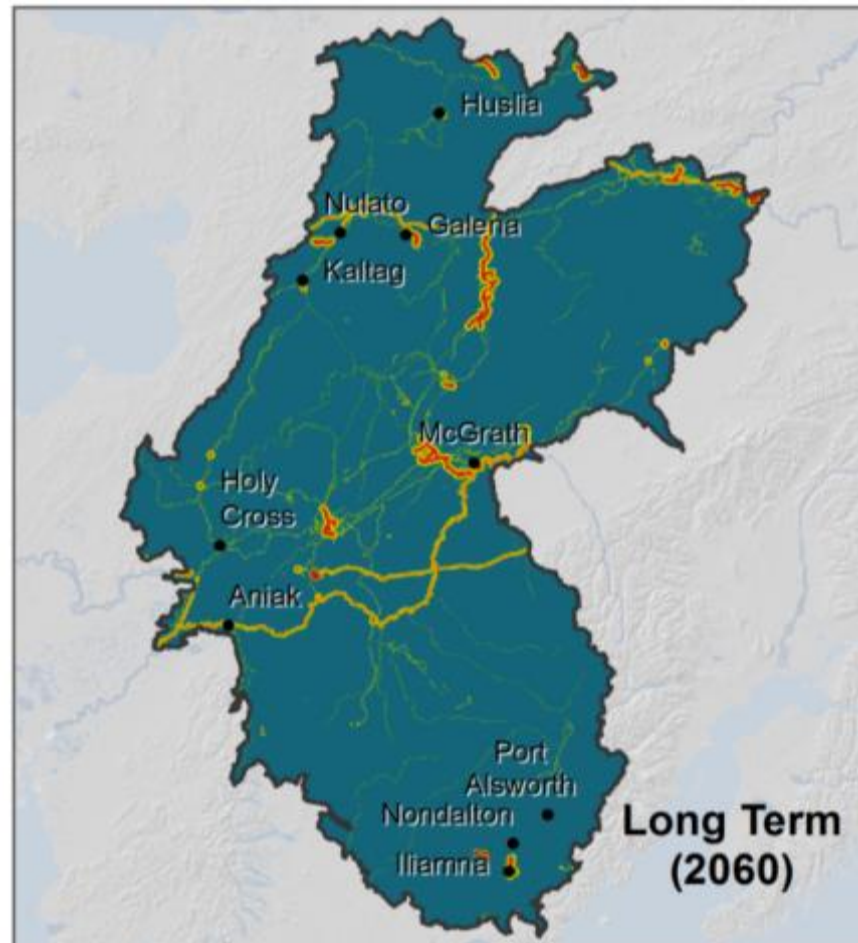
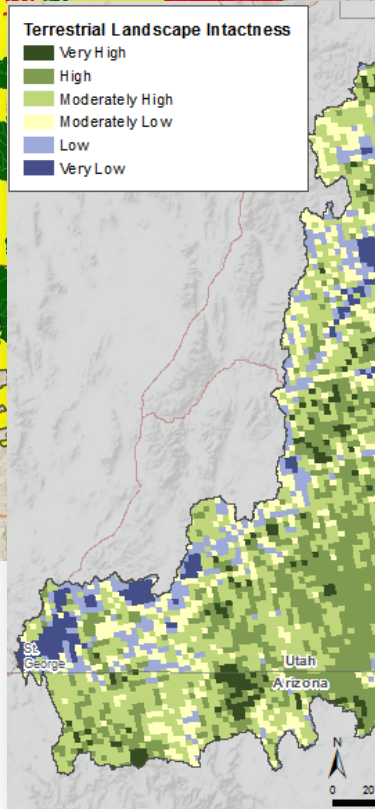
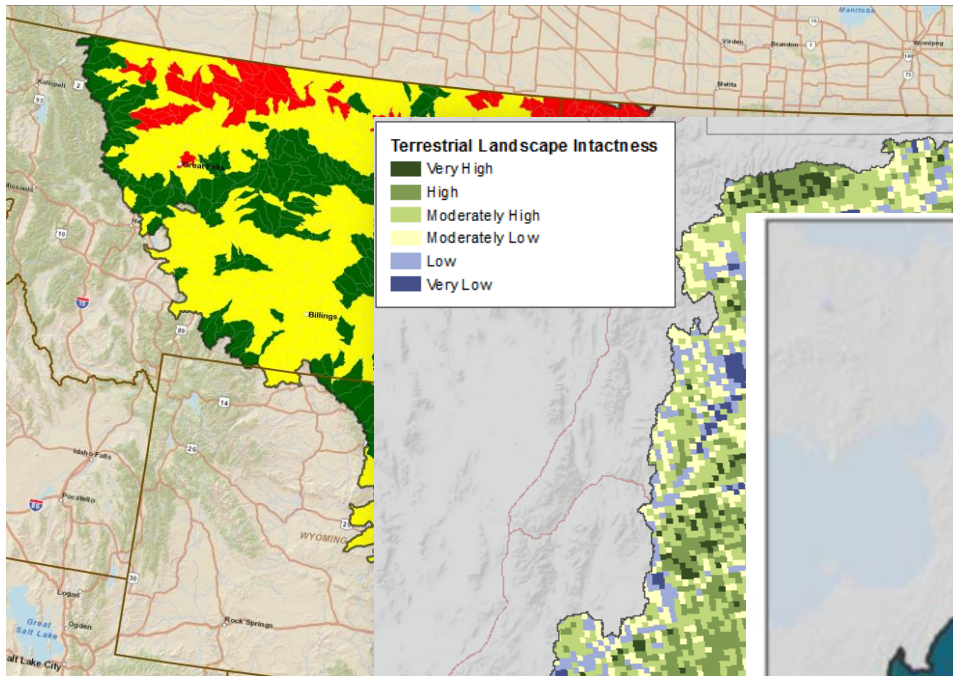
Distribution Maps - CAs



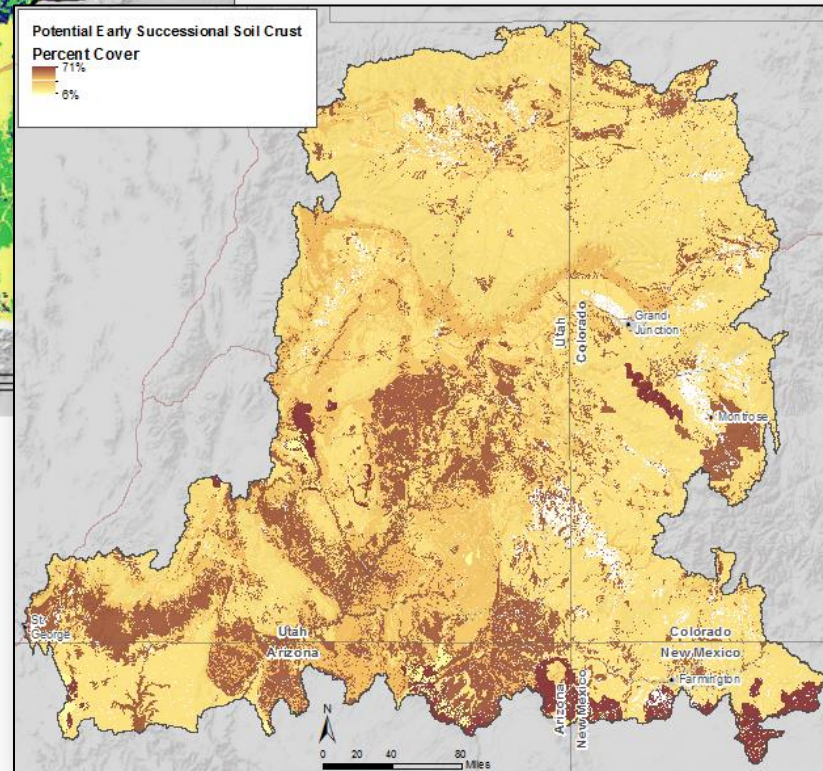
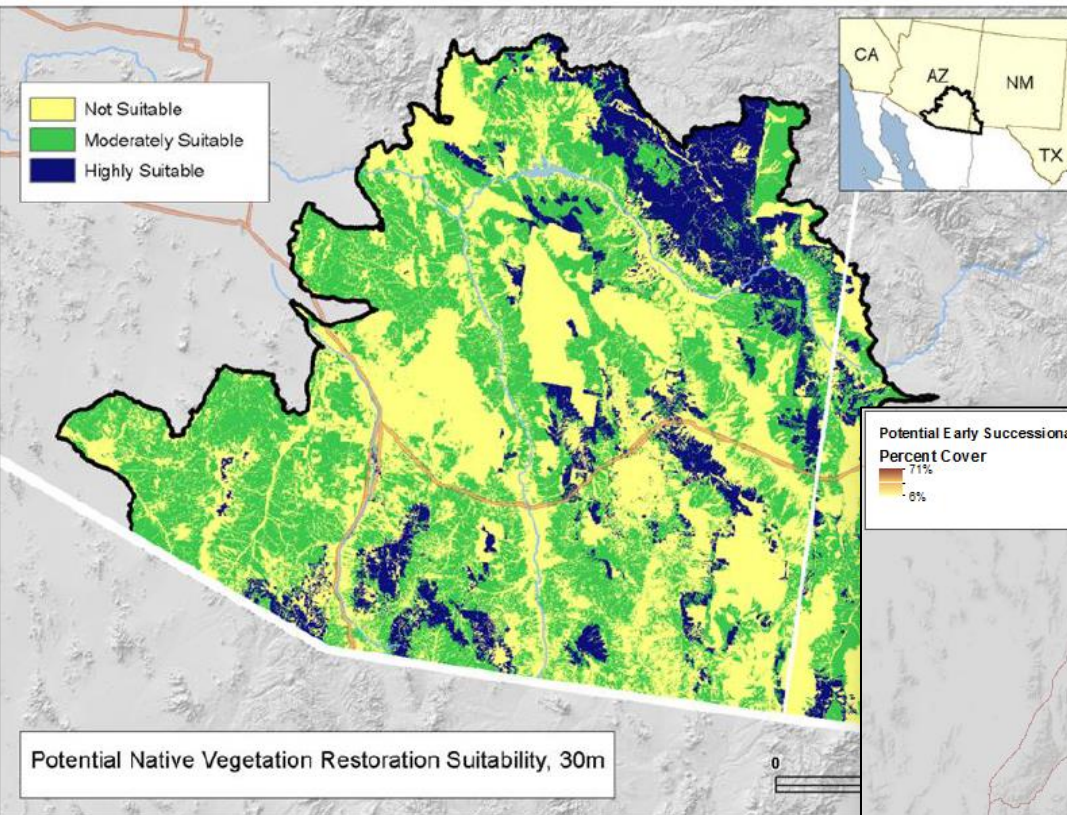
Conservation Element Analyses



Ecoregional Intactness Analyses



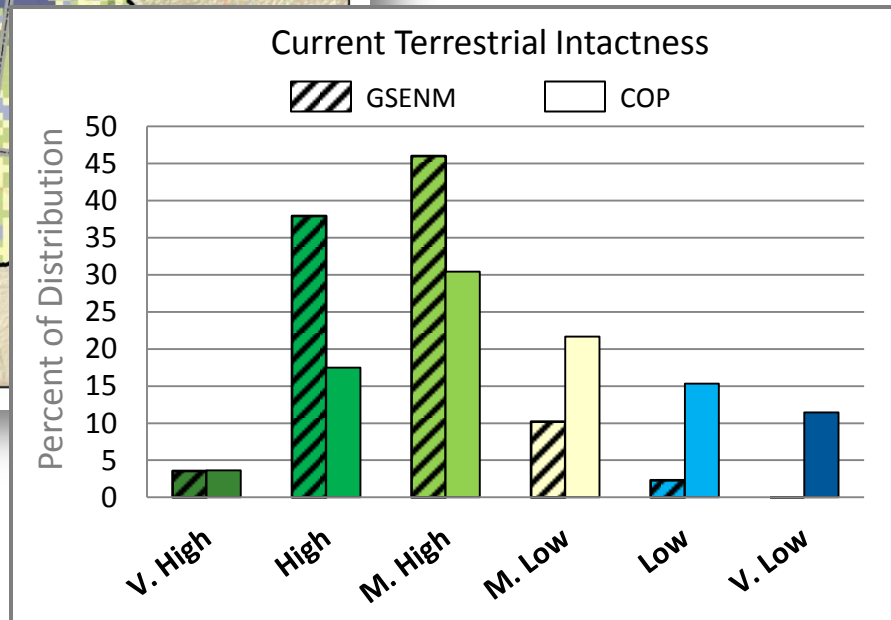
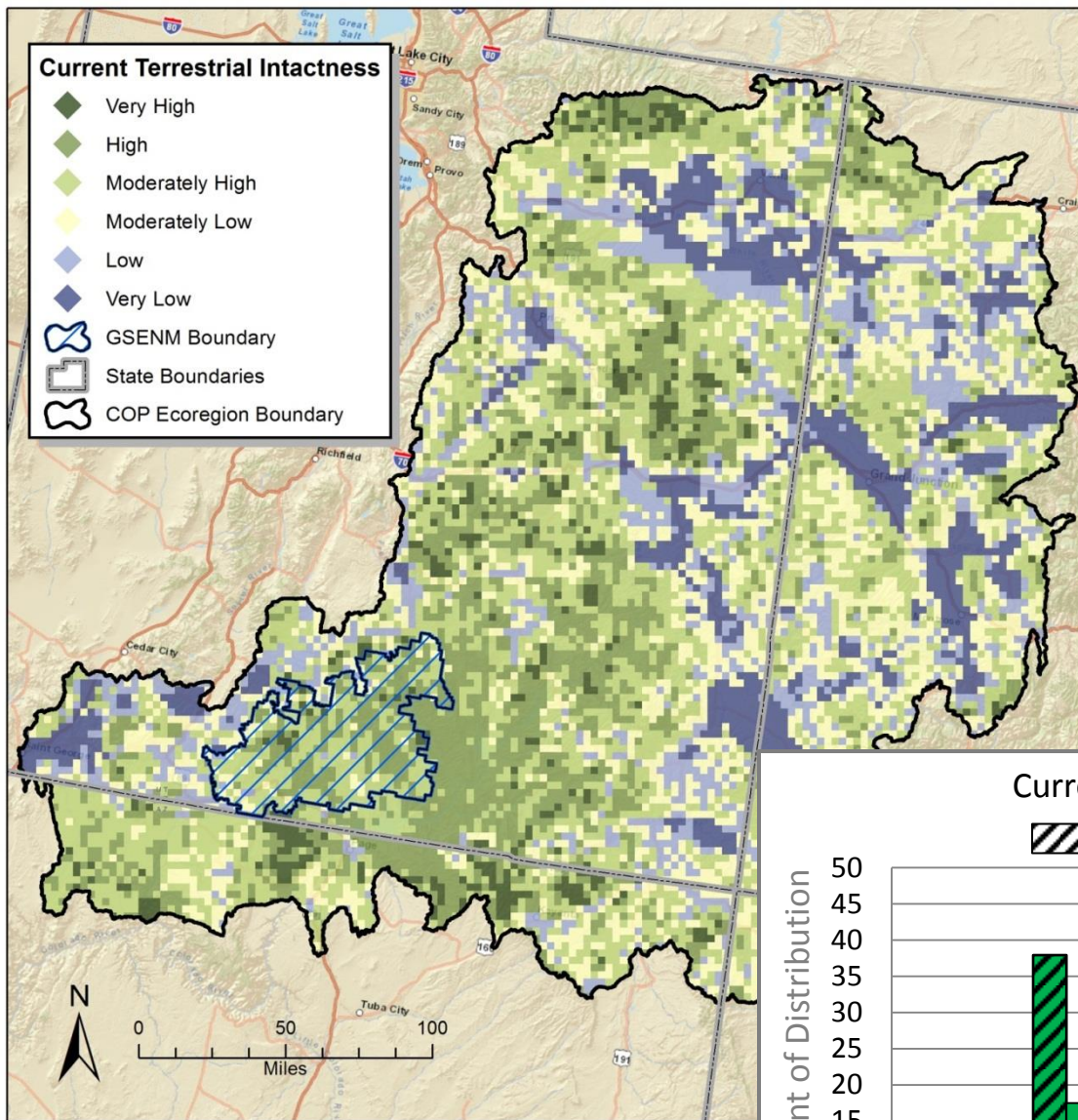
Other “Special Assessments”



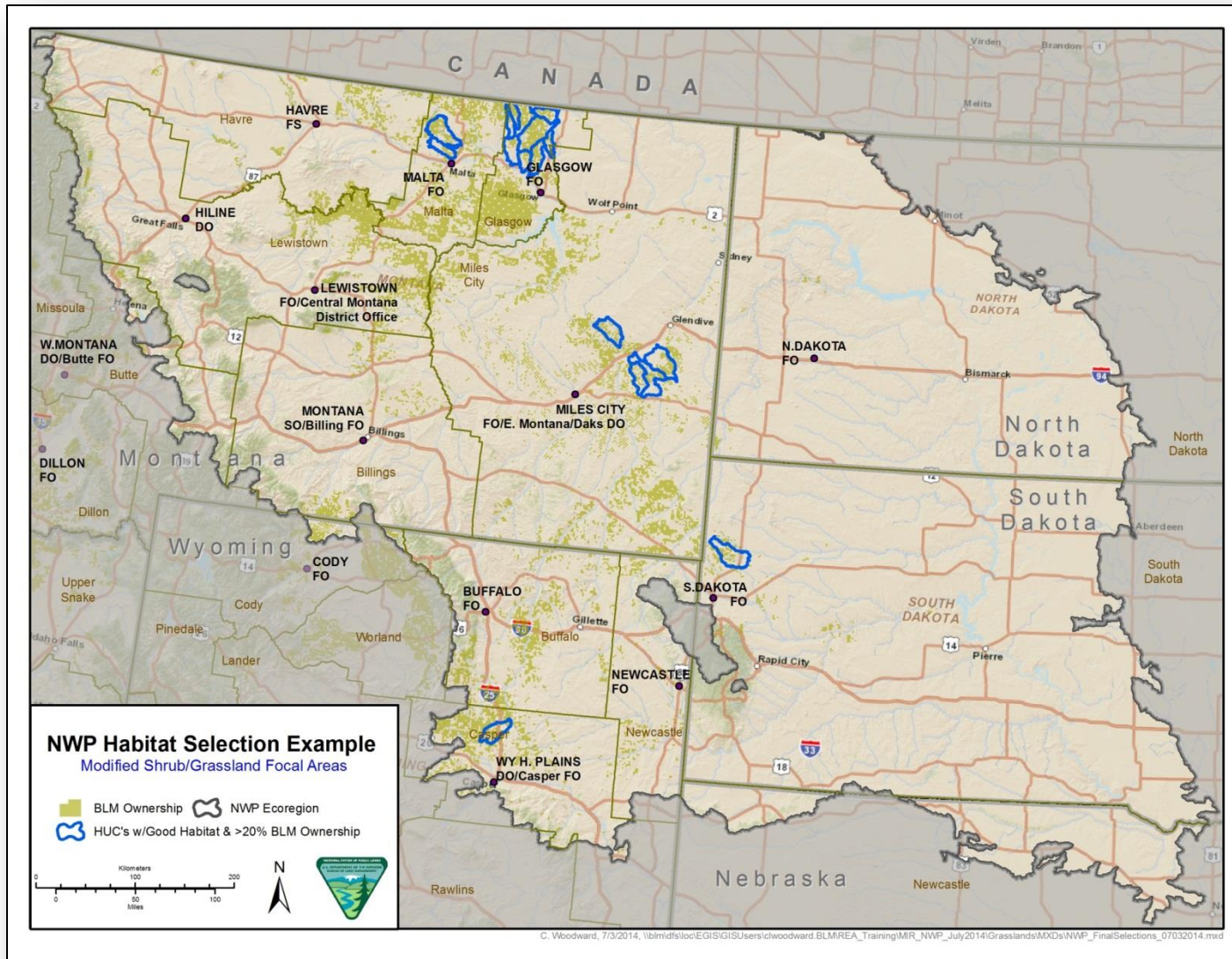
Examples of REA Utility



How does the landscape integrity of GSENM compare to the ecoregion?



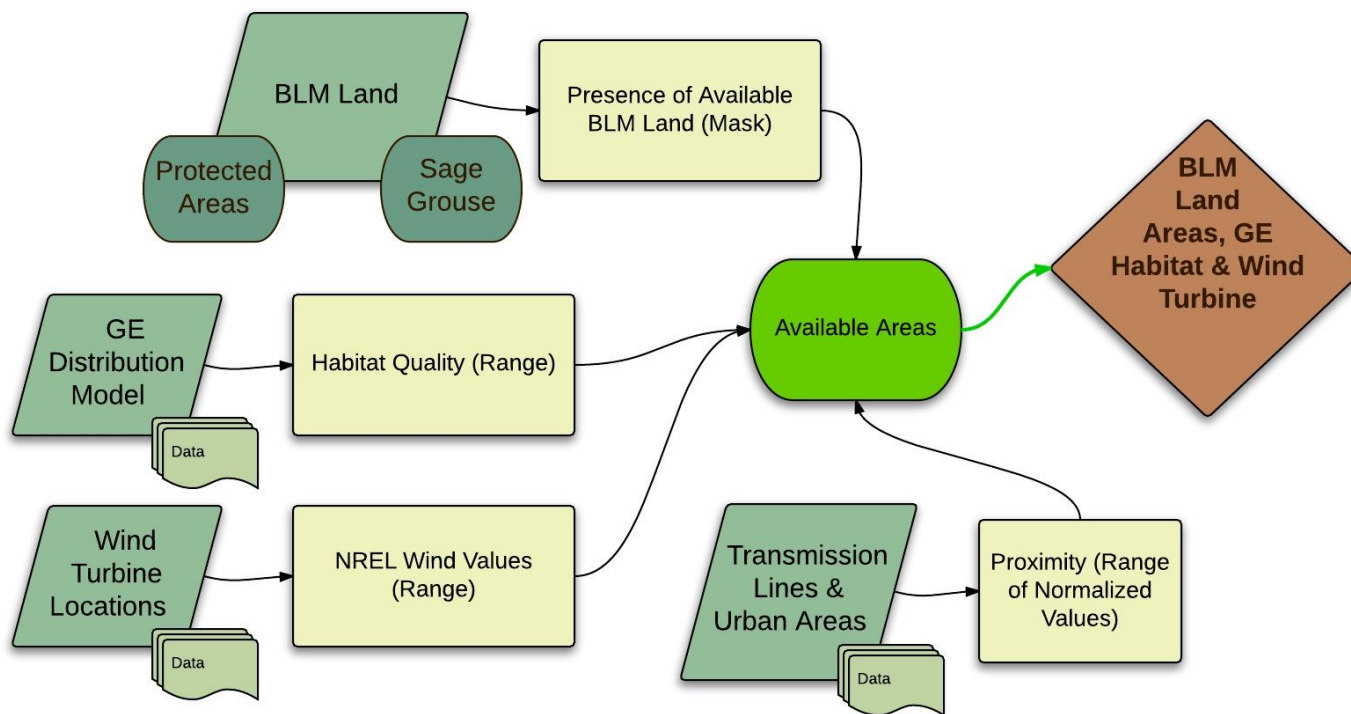
Where are watersheds with high quality grass/shrub and BLM management?



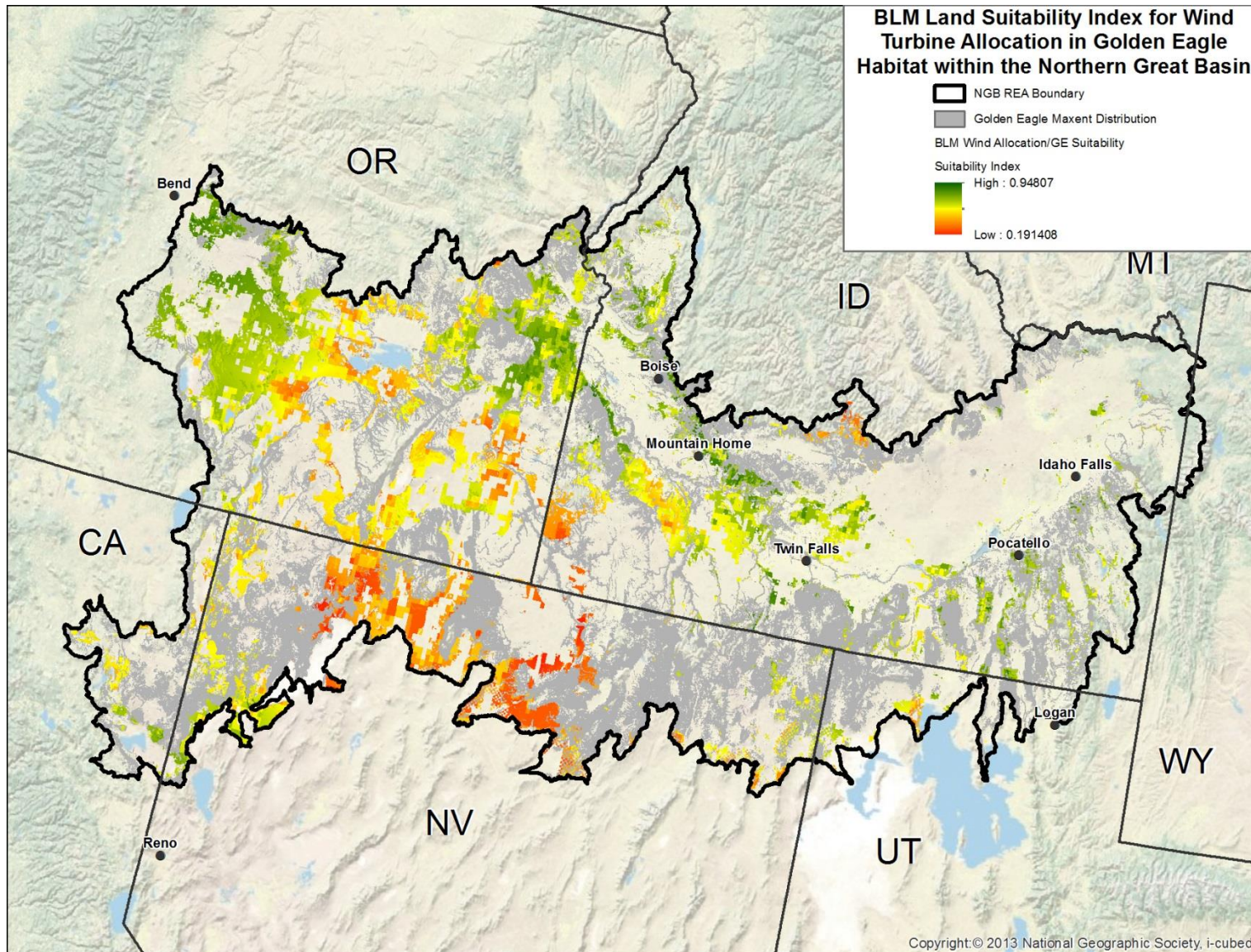
Suitability Index

Golden Eagle and Wind Turbine REA Application

Q. Can we evaluate areas of BLM land that are suitable for allocation of wind turbines and that will have a limited effect on golden eagles?



Suitability Index Result



Appropriate Use

- Intended to be applied at landscape/watershed scale, providing context to sites, content less certain
 - Limitations in applying remotely-sensed, stressor-based CAs to determining CE status
 - Applied to assessment and planning questions, not fixing firm boundaries without site visits
- REAs look inward for ecoregions. Broader scale analyses can lean on approaches, but you cannot simply stitch REAs together



Using REA Data

- How was status assessed in the REA?
 - Is this the same question?
 - Look at conceptual model and process models
- Are my assumptions the same?
- Conceptual & geospatial models provided to allow modifications and inclusion of other data
 - Caution in applying data at 30 m resolution of assessments



Data Access Demo

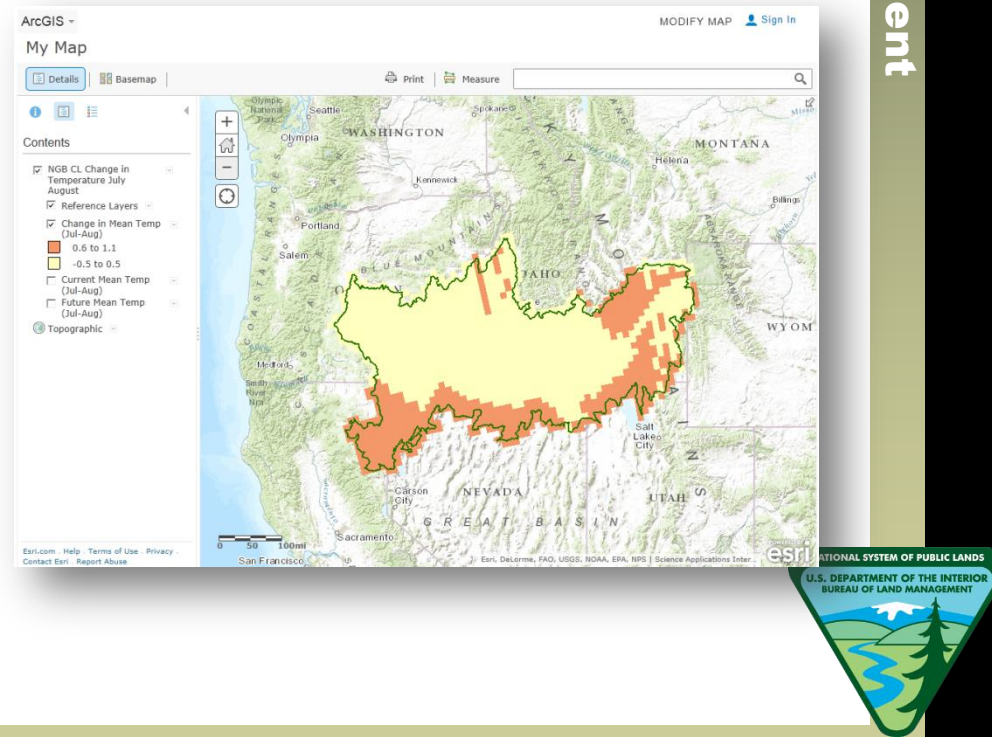
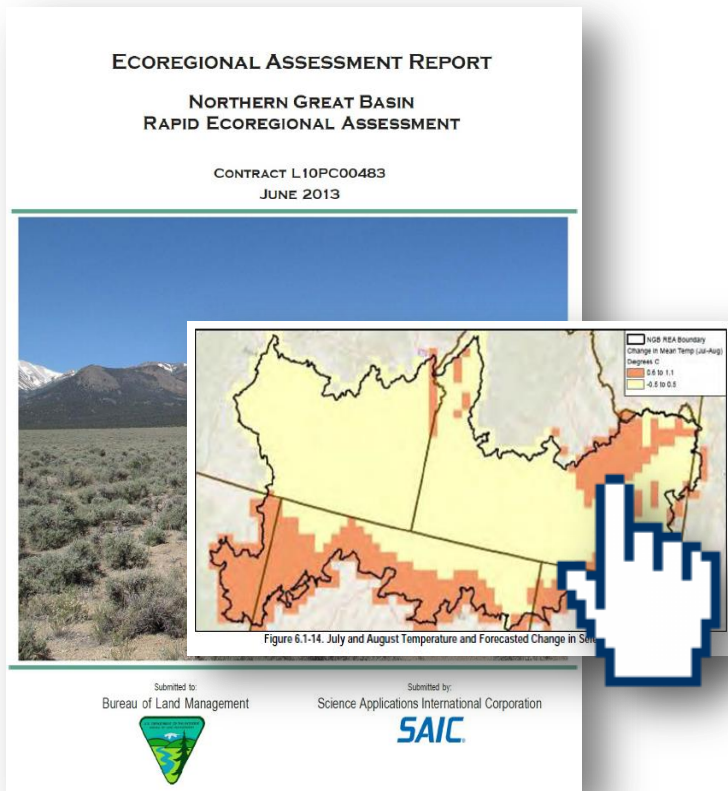


April 14 - 16 2015



Accessing REA Resources

Resource	Methods	Pros & Cons
Report	• Open Report • Explore map figures • Open map service in ArcGIS.com	• Easy (no GIS skills) • Public • No data download or Geoprocessing



Accessing REA Resources

Resource	Methods	Pros & Cons
Geoportal	- Find data - Download & Open data in ArcMap - Find a map service - Download & Open in ArcMap	- Entry level GIS skills - Public - Download 1-by-1 - Geoprocessing

The image shows a composite of two screenshots. On the left is the REA Data Portal website, which features a search bar with the text 'NGB' and a 'Search' button. Below the search bar are filters for 'Live Map Services' and 'Advanced Search'. The main content area displays search results for 'NGB', including 'REANGB Ecoregions near the NGB' and 'REANGB Fire Frequency 1990 - present in the NGB'. A mouse cursor is pointing at a link in the search results. On the right is an ArcMap window titled 'Untitled - ArcMap'. The map displays a grayscale image of a landscape with green and yellow overlays representing fire frequency data. The 'Layers' panel on the left of the ArcMap window shows the following layers: 'NGB_2011/NGB_FI_WildfireFrequency', 'Reference Layers', and 'Fire Frequency 1990-2012'. The 'Fire Frequency 1990-2012' layer is expanded, showing a legend with values 1, 2, 3, 4, and 5 or greater. The map also shows a 'NGB_NWREGAP_ID_30m' layer with a legend showing values from 0 to 207.

To the portal.....

BLM
Rapid Ecoregional Assessment

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

BLM

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BLM > More BLM Programs > Landscape Approach

Print Page



BLM/Utah
Fisher Towers, Utah

The BLM's Landscape Approach for Managing Public Lands

[Introduction](#) | [Secretarial Direction](#) | [Landscape Approach](#) | [Importance of Partnerships](#)

Landscape Approach

- Rapid Ecoregional Assessments (REA)
- Ecoregional Direction
- Monitoring for Adaptive Management
- Public Involvement
- Related Documents
- Landscape Approach Q&A
- AIM Q&A
- AIM Documents

Rapid Ecoregional Assessments (REA)

- Central Basin and Range
- Central Yukon
- Chihuahuan Desert
- Colorado Plateau
- Madrean Archipelago
- Middle Rockies
- Mojave Basin and Range
- North Slope
- Northern Great Basin
- Northwestern Plains
- Seward Peninsula
- Sonoran Desert
- Southern Great Plains
- Wyoming Basin
- Yukon Kuskokwim
- REA Documents
- REA Data Portal
- REA Location Map
- REA Q&A
- REA Training Resources

Introduction

The BLM recognizes that the public lands are facing increasingly complex and widespread environmental challenges that transcend traditional management boundaries. These challenges include managing wildfire, controlling weeds and insect outbreaks, providing for energy development and urban growth, and addressing pervasive impacts from the effects of climate change. The BLM is developing a landscape-scale management approach to better understand these challenges and support balanced stewardship of the diverse natural resources of the public lands.



Questions?

