

# The BLM's Ecoregional Strategy

BLM  
Ecoregional Assessment



# Why Ecoregions?

- **Problem of spatial scale for *some* issues and opportunities**
  - **Issues/opportunities cross Field Office and State boundaries**
  - **Issues are too small and dispersed to deal with at a national level**
- **Adoption of a ecoregions**
  - **Address issues at a landscape scale**





# Why Now?

- Renewable energy
- Climate change

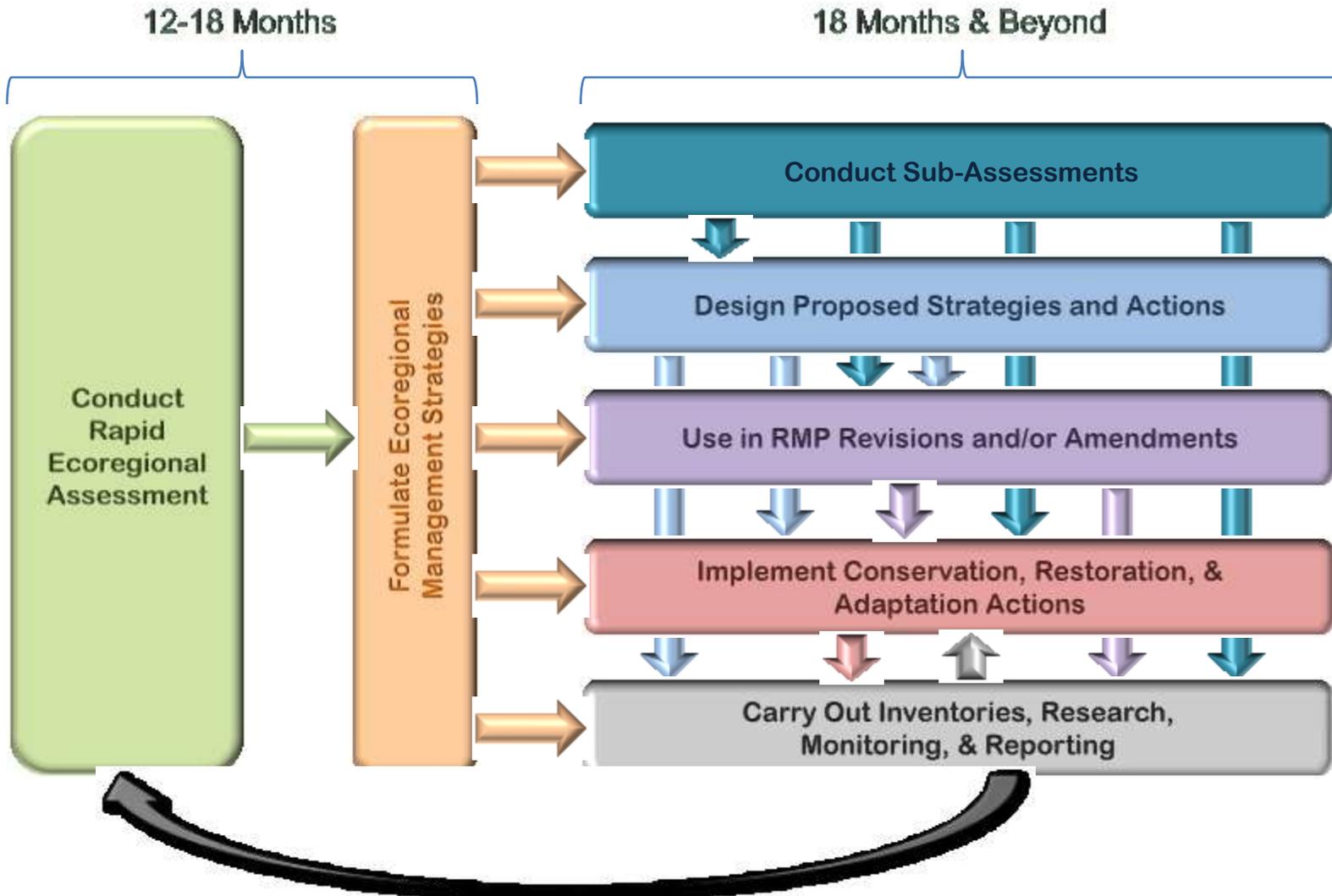


# Basic Ecoregional Approach



# Proposed General Cycle

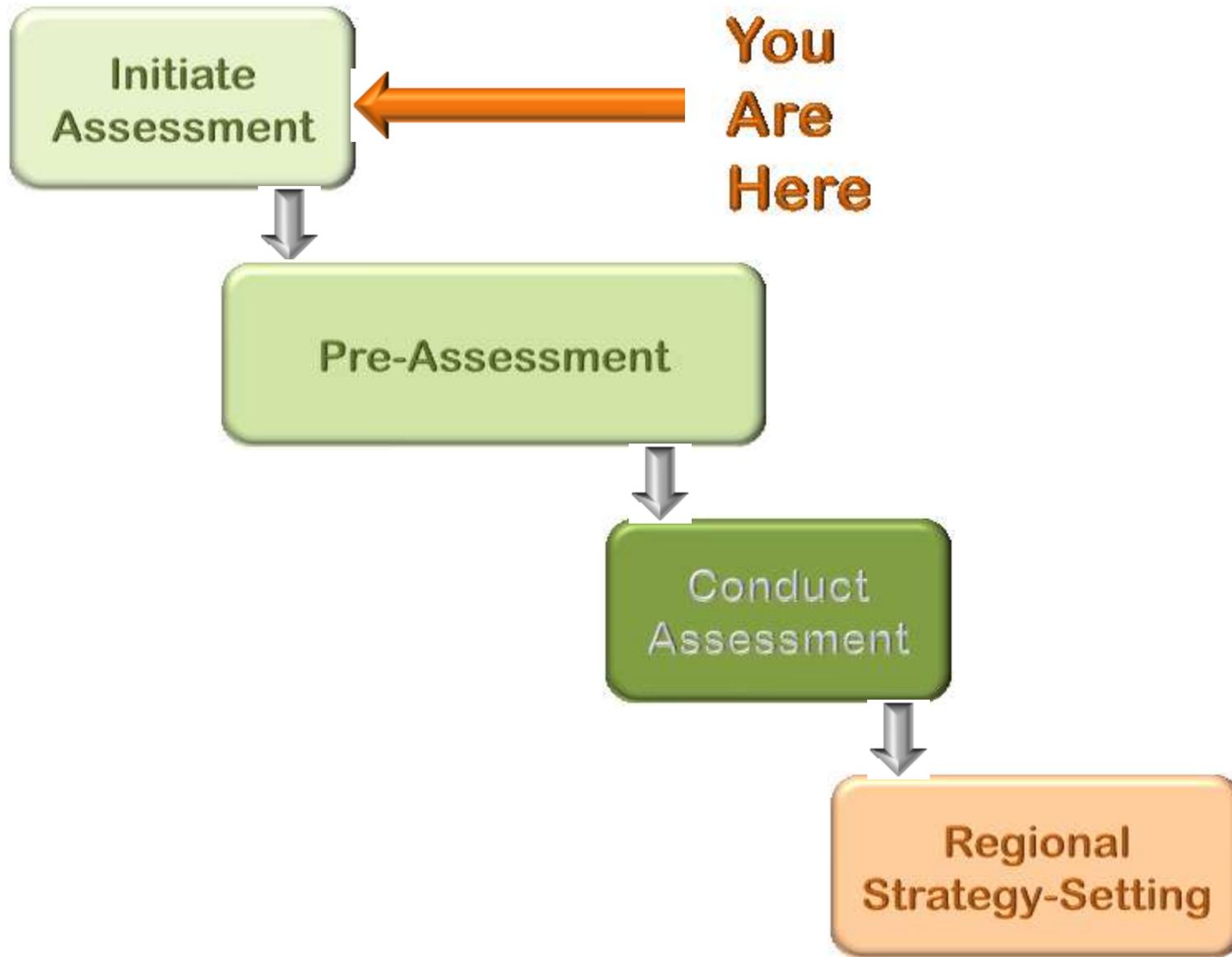
Rapid Assessment, Strategy Development, Implementation, and Monitoring



# Proposed Assessment Process



# Assessment Process



# Phase I: Initiate Assessment

- Establish management and technical teams (Regions and NOC)
- Identify partners and stakeholders (Regions)
- Define preliminary management questions (Regions)
- Prepare statements of work for acquiring and evaluating available information (NOC)

Initiate  
Assessment



# Partners/Stakeholders?

- State Wildlife Agencies
- US Fish and Wildlife Service
- Military
- USGS
- Others

Initiate  
Assessment



# Phase II: Pre-Assessment

- **Identify information**
  - Review existing assessments, literature, data, and models
  - Identify data gaps
  - Develop data standards and data management plan
- **Refine management questions**
- **Develop assessment work plan (AWP)**
  - Methodology
  - Mechanisms (e.g., schedule, budget, equipment, and staff)
  - Responsibilities
  - Work required to collect, manage, and analyze data
  - Assessment work products



# Phase III: Assessment

- Locate and map resource values and change agents
- Identify status, risks, and trends associated with ecological resource values
- Identify degree of potential change in these values when exposed to possible change agents



# Phase III: Assessment

- **Assessment depends heavily upon geographic information system (GIS) analyses and upon geospatial modeling**
- **Assessment work products include:**
  - **Raw and model datasets**
  - **Identification of issues of potential concern or opportunity**
  - **Maps**
  - **Assessment Report**
  - **Identification of data gaps and research needs**

# Regional Strategy-Setting

- Identify ecoregion goals and objectives
- Develop proposed ecoregional management responses
- Incorporate other management and land use factors



# Key Aspects of a Rapid Ecoregional Assessment



# Assessment Purpose

Ecoregional assessments are not:

- Open-ended
- Encyclopedic compilations of all resource information

They are:

- Compendiums of information to guide BLM managers in developing planning and management strategies
- Limited in scope

# Resource Values & Change Agents

At a minimum, assessments must cover **three sets of resource values** and **four major types of change agents** that can affect those values.

# Resource Values

Values to be assessed are areas of high ecological value. These are areas which are ecologically intact or readily restorable, and which have (or have high potential to have) one or more of the following characteristics:

- Native fish, wildlife, and plants of conservation concern
- Aquatic resource values
- Terrestrial resource values

# Change Agents

**Conservation and restoration strategies must be based, in part, on an understanding of the regionally significant change agents and their projected influence on ecological values. These agents of change include:**

- **Wildland fire**
- **Development (e.g., urban, industrial)**
- **Invasive, non-native species**
- **Climate change**

# Management Questions

Ecoregional assessment is driven and guided by management questions, which:

- Identify a regional problem or problems faced by managers of public lands in meeting BLM's multiple-use objectives.
- Provide a clear direction for the assessment effort; they help focus the work effort to the problems at hand.
- Help guide the development of clear, measurable objectives for the assessment.
- Help identify data needs and provide context to issues relevant to data; there is no reason to collect non-relevant data.

# Examples Questions

- How much *species* habitat is needed to maintain species viability and meet population objectives?
- Which upland areas and ecosystems within the ecoregion are particularly sensitive to change agents?
- Where are the areas of potential change from wildfire?
- Where are the areas of potential change from *invasive species* encroachment?
- Where are the areas of planned urban development?
- What are the most important regional ecosystem functions that are at risk from climate change?
- What is the connectivity of the aquatic systems systems to the groundwater system?
- Where are potential *species* habitat restoration areas, in which habitat conditions could be improved or connectivity restored?

# Question Development

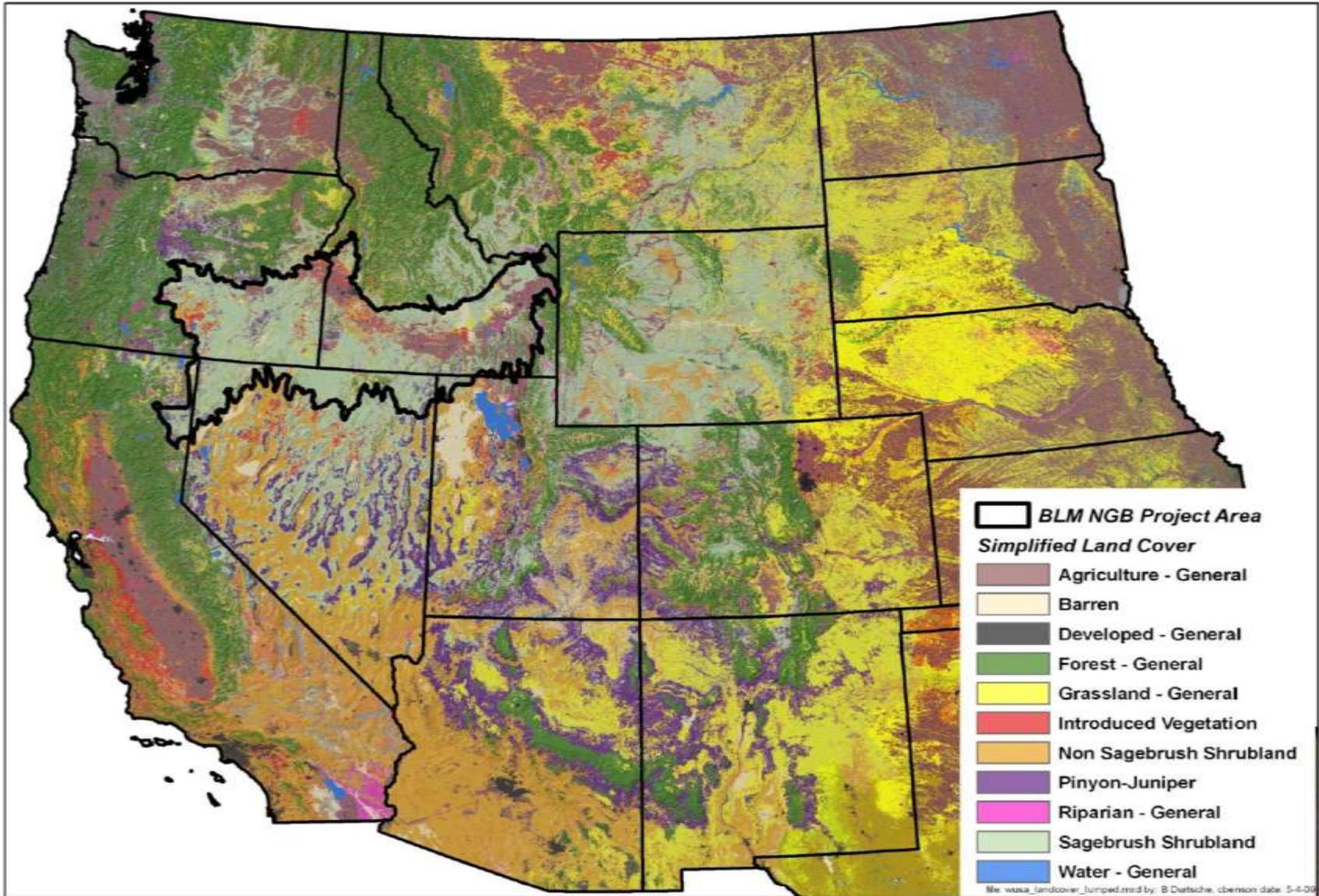
- **Initial internal meetings by the BLM set the stage by developing preliminary lists of questions.**
- **After the BLM has defined its initial list of questions, the questions will be supplemented and/or refined by input from cooperators and stakeholders.**
- **During the Pre-Assessment phase, the BLM management, with input from technical teams, cooperators, and stakeholders, will develop the final list management questions, which will be documented in the Assessment Work Plan.**



# Ecoregional Assessment : Northern Great Basin



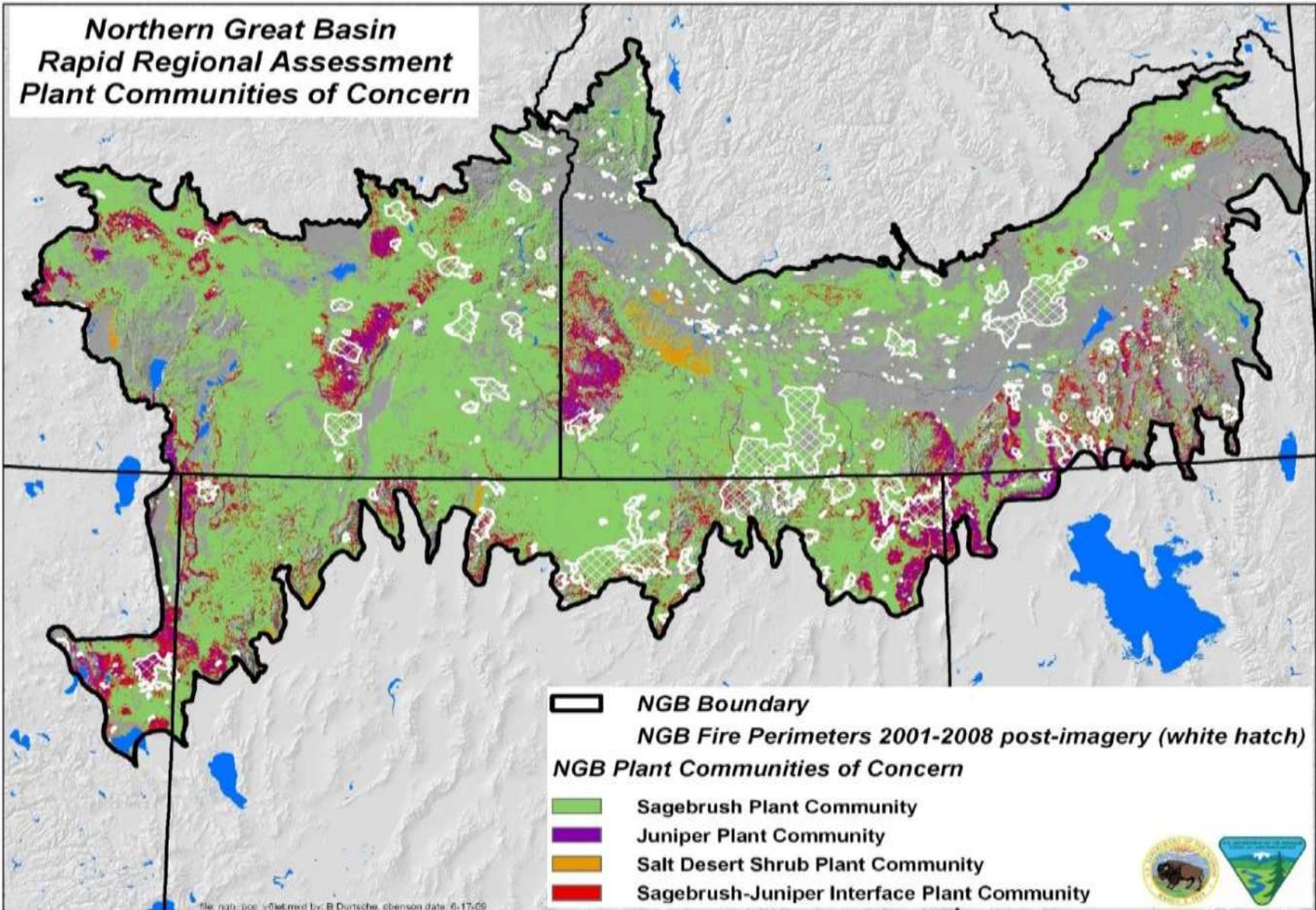
# NGB Assessment Area



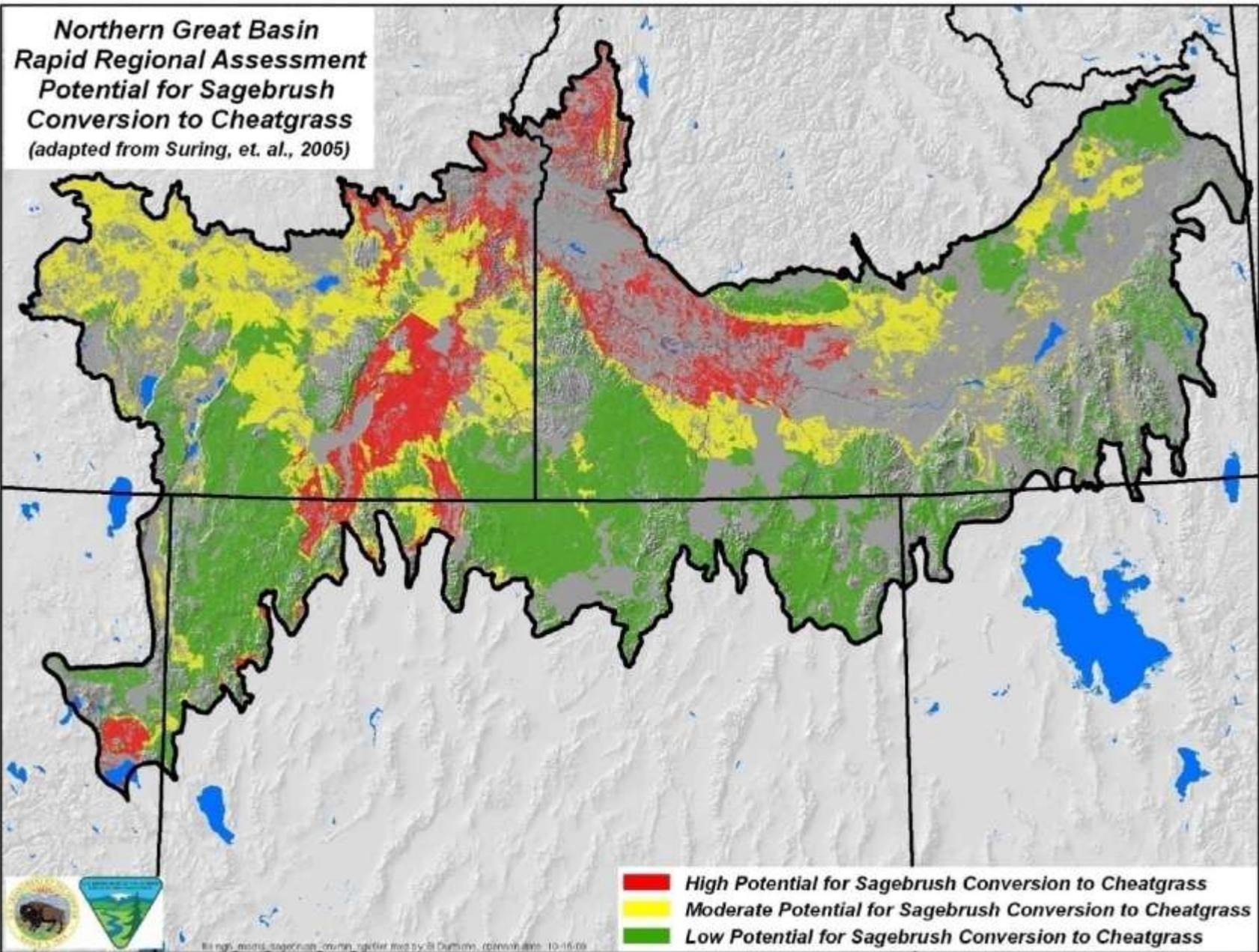
# Some of the Questions

- **Where are sagebrush areas with potential for change to cheatgrass after disturbance from fire?**
- **Where are sagebrush-juniper interface areas with potential for change to juniper?**
- **Where are sagebrush-juniper interface areas with potential for change to cheatgrass after disturbance from fire?**
- **Where are Greater Sage-grouse currently occupied habitat areas with potential for change to cheatgrass after disturbance from fire?**
- **Where are Greater Sage-grouse currently occupied habitat in sagebrush-juniper interface areas with potential for change to juniper?**

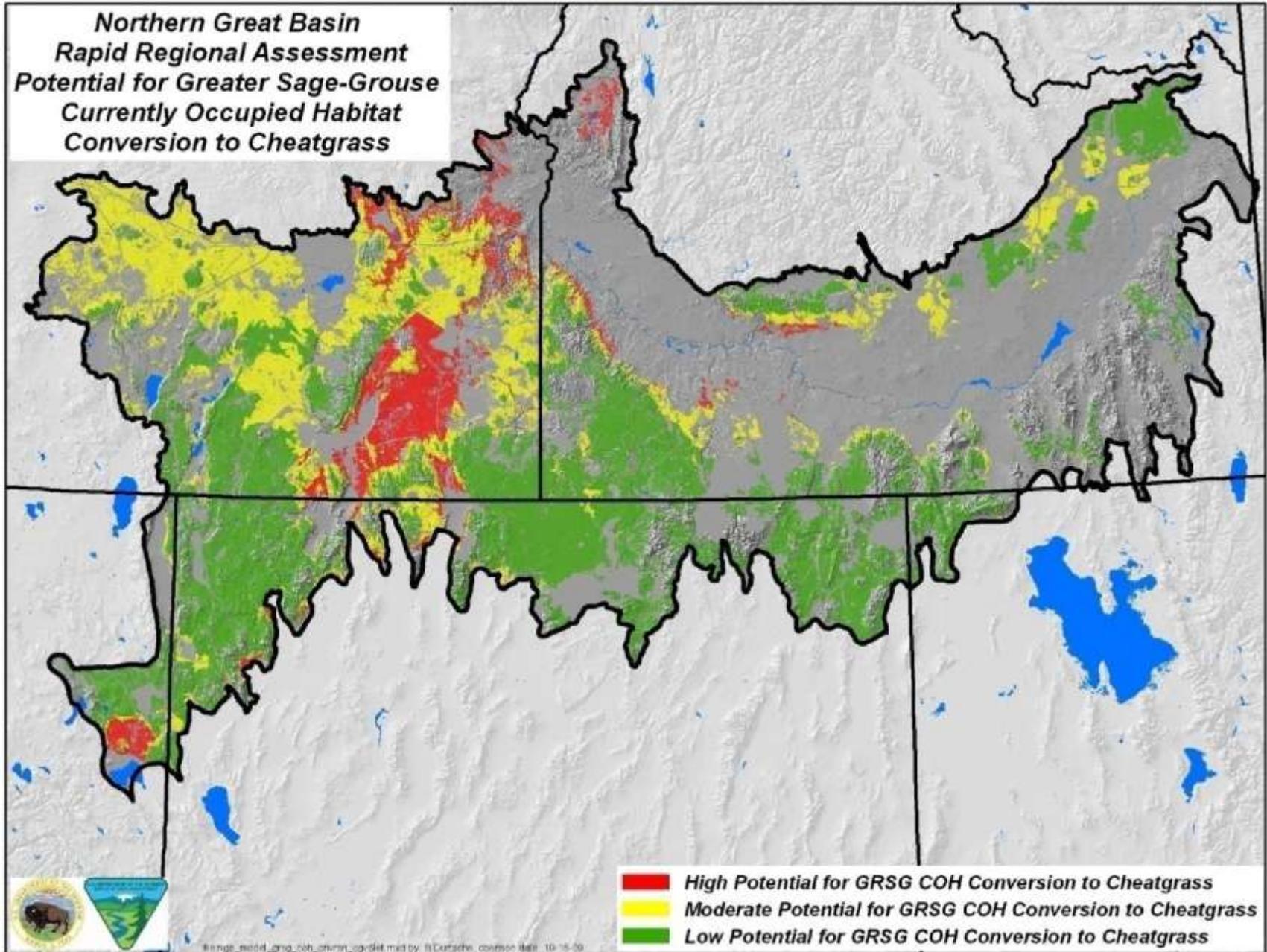
**Northern Great Basin  
Rapid Regional Assessment  
Plant Communities of Concern**



**Northern Great Basin  
Rapid Regional Assessment  
Potential for Sagebrush  
Conversion to Cheatgrass**  
(adapted from Suring, et. al., 2005)



**Northern Great Basin  
Rapid Regional Assessment  
Potential for Greater Sage-Grouse  
Currently Occupied Habitat  
Conversion to Cheatgrass**



- High Potential for GRSG COH Conversion to Cheatgrass**
- Moderate Potential for GRSG COH Conversion to Cheatgrass**
- Low Potential for GRSG COH Conversion to Cheatgrass**

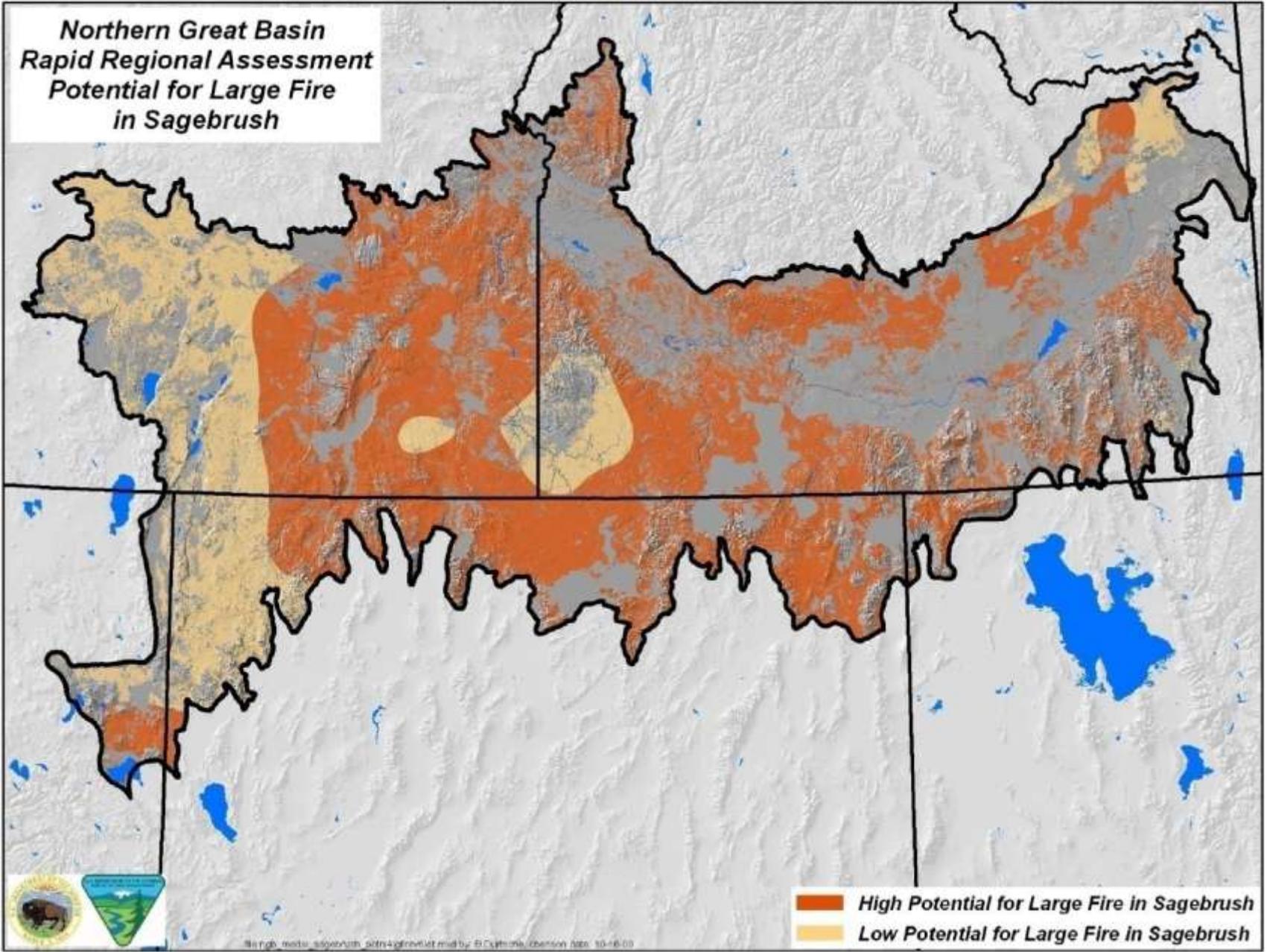


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**Northern Great Basin  
Rapid Regional Assessment  
Potential for Large Fire  
in Sagebrush**



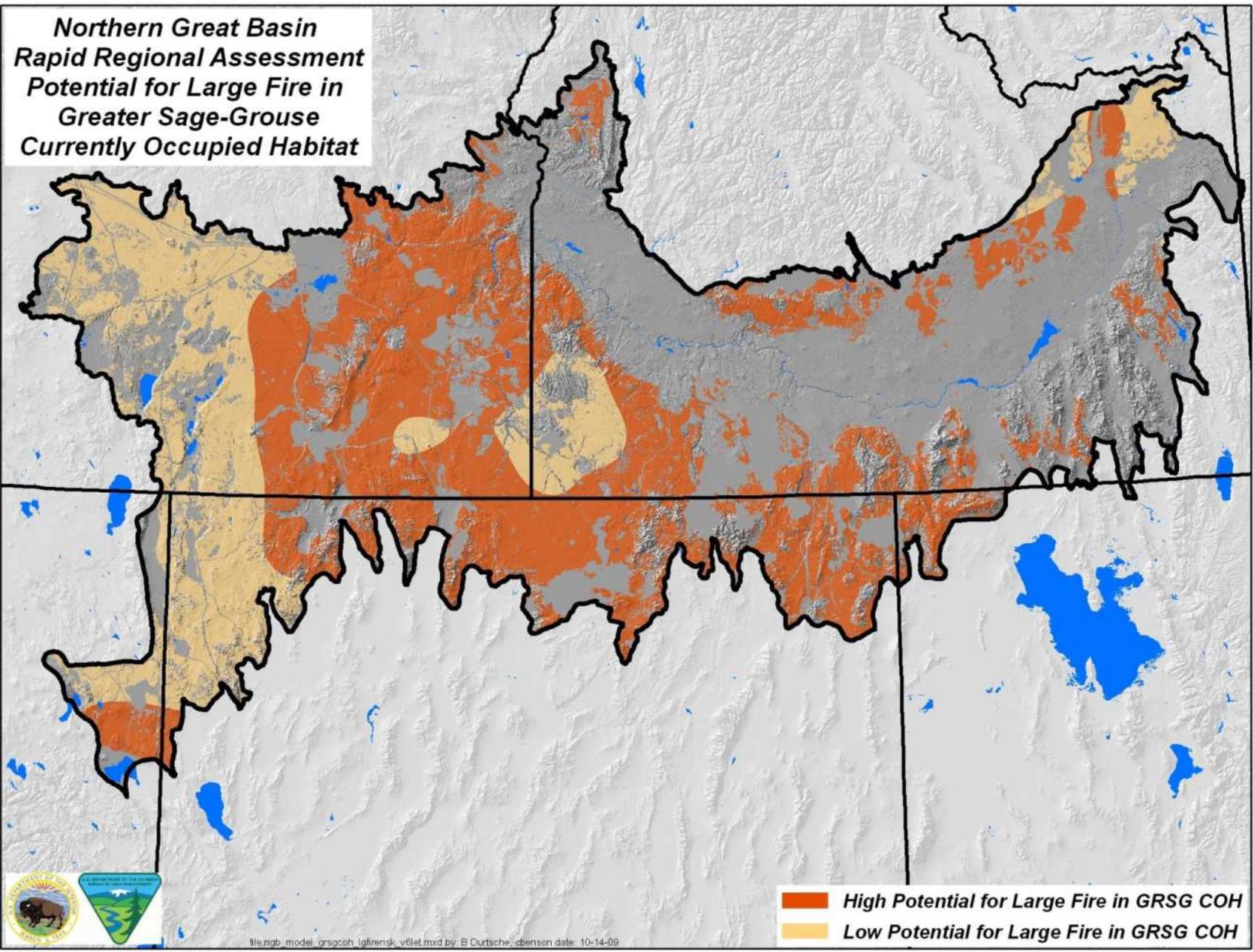
**High Potential for Large Fire in Sagebrush**  
**Low Potential for Large Fire in Sagebrush**



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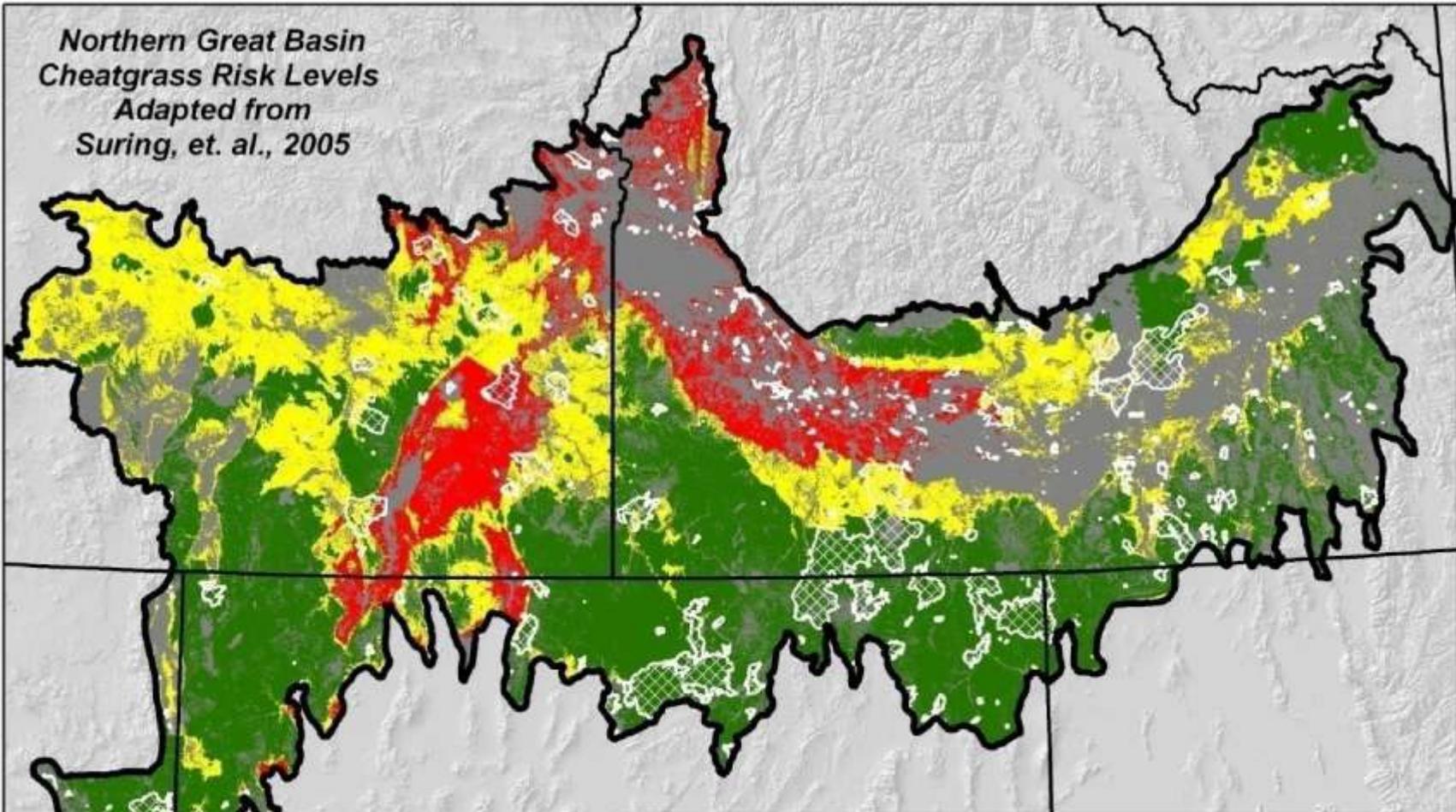
**Northern Great Basin  
Rapid Regional Assessment  
Potential for Large Fire in  
Greater Sage-Grouse  
Currently Occupied Habitat**



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Northern Great Basin  
Cheatgrass Risk Levels  
Adapted from  
Suring, et. al., 2005



-  NGB\_boundary
-  NGB Fire Perimeters 2001-2008 post-imagery (white hatch)
- NGB Suring, et. al., Cheatgrass Risk Model (Adapted by NOC)*
-  Low Risk
-  Moderate Risk
-  High Risk
-  Areas Outside Plant Communities of Concern

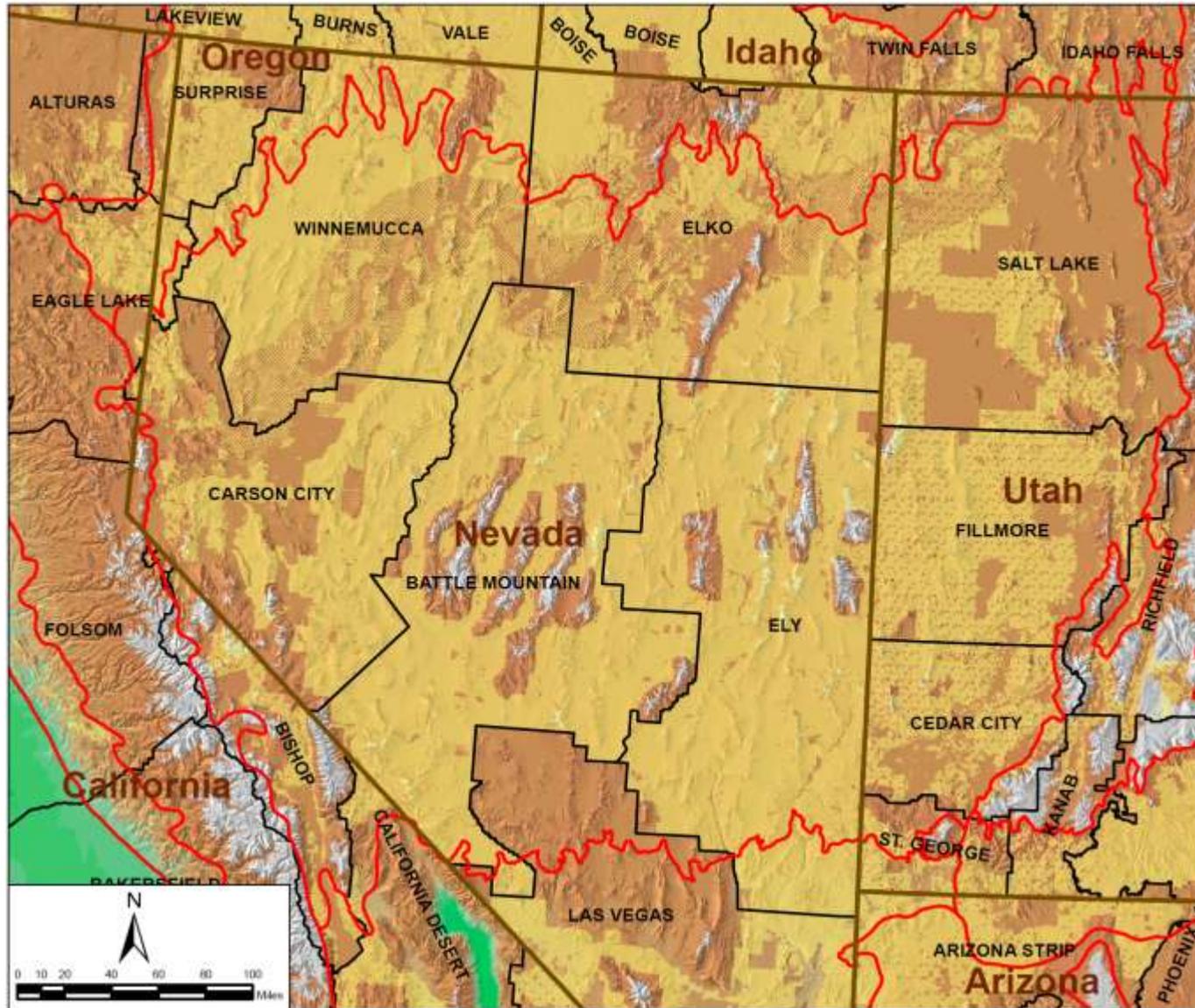
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# Ecoregional Assessment

## Central Great Basin Ecoregion

# Central Great Basin



# CGB Values

- **Species of concern include:**
  - Sage Grouse
  - Pygmy Rabbit
  - Mule Deer
  - Bighorn Sheep
  - Wild Horses & Burros

# CGB Values

- **Terrestrial**
  - **Native Plant Communities**
  - **Sites of High Biodiversity**
  - **Soils**

# CGB Values

- **Aquatic**
  - **Surface and Sub-Surface Water Availability**
  - **Sites of High Biodiversity**
  - **Aquatic Ecological Function and Structure**

# CGB Change Agents

- **Fire**
  - **Large Fire History**
  - **Fire Potential**
- **Invasive Species**
  - **Cheatgrass**
  - **Conifers**
  - **Tamerisk**
  - **Exotic Forbs**
  - **Aquatic Invasives**

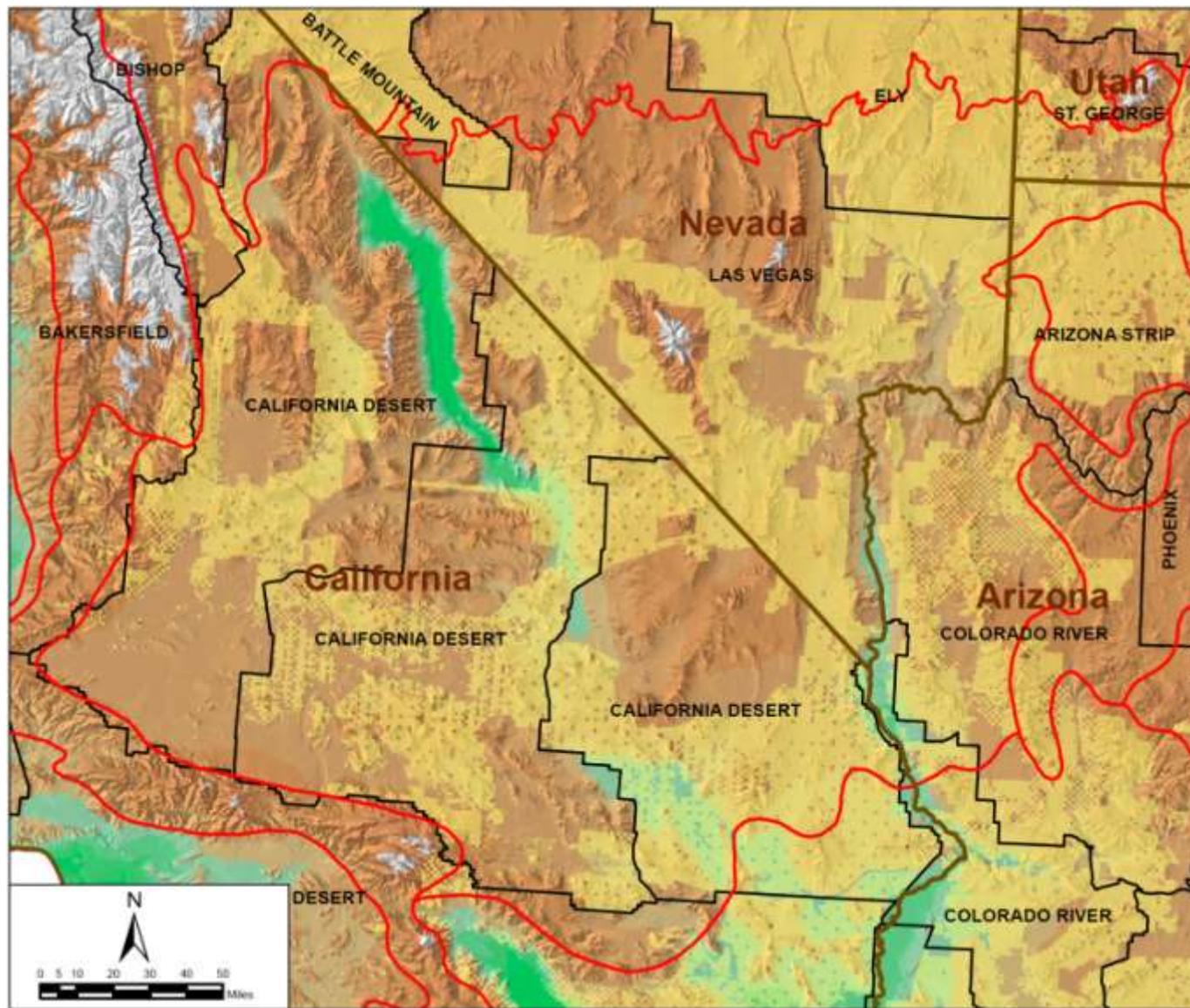
# CGB Change Agents

- **Urban & Industrial Development**
  - **Urban and Road Developments**
  - **Oil, Gas, and Mining Developments**
  - **Renewable Energy Developments**
  - **Groundwater Extraction and Transmission**
- **Climate Change**
- **Military Constrained Areas**

# Ecoregional Assessment

Mojave Basin and Range

# Mojave Basin and Range



# Species of Concern

- **Desert Tortoise**
- **Desert Bighorn Sheep**
- **Mojave Ground Squirrel**
- **Wild Horses and Burros**
- **Other Priority Wildlife Species**
- **Other Priority Plant Species**
- **Other Priority Fish Species**



# Terrestrial Values

- Native plant communities
- Sites of high biodiversity
- Soils

# Aquatic Values

- **Surface and Sub-Surface Water Availability**
- **Sites of High Biodiversity**
- **Aquatic Ecological Function and Structure**

# Specially Designated Areas

- Trails
- Wilderness Areas
- Wilderness Study Areas
- Historic Districts
- National Wildlife Refuges
- Monuments
- National and State Parks
- NCAs
- ACECs
- State Wildlife Management Areas
- Designated Recreation Management Areas



# Change Agents

- **Fire**
  - **Large Fire History**
  - **Fire Potential**
- **Invasive Species**
  - **Red Brome/Cheatgrass**
  - **Mustard**
  - **Tamerisk**
  - **Palm Trees**



# Change Agents

- **Urban & Industrial Development**
  - **Urban and Road Developments**
  - **Oil, Gas, and Mining Developments**
  - **Renewable Energy Developments**
  - **Groundwater Extraction and Transmission**
- **Climate Change**
- **Military Constrained Areas**

# What's Next?

# Next Steps

- **Gain and synthesize input from cooperators**
- **Finalize regional resource values, change agents, and management questions**
- **Generate scope of services (SOS)**
- **Retain contractor**
- **Begin Pre-Assessment**

# Questions?

