



# A Look at our Wyoming Forests

December 18 - 20, 2013  
Governor's Task Force on  
Forests

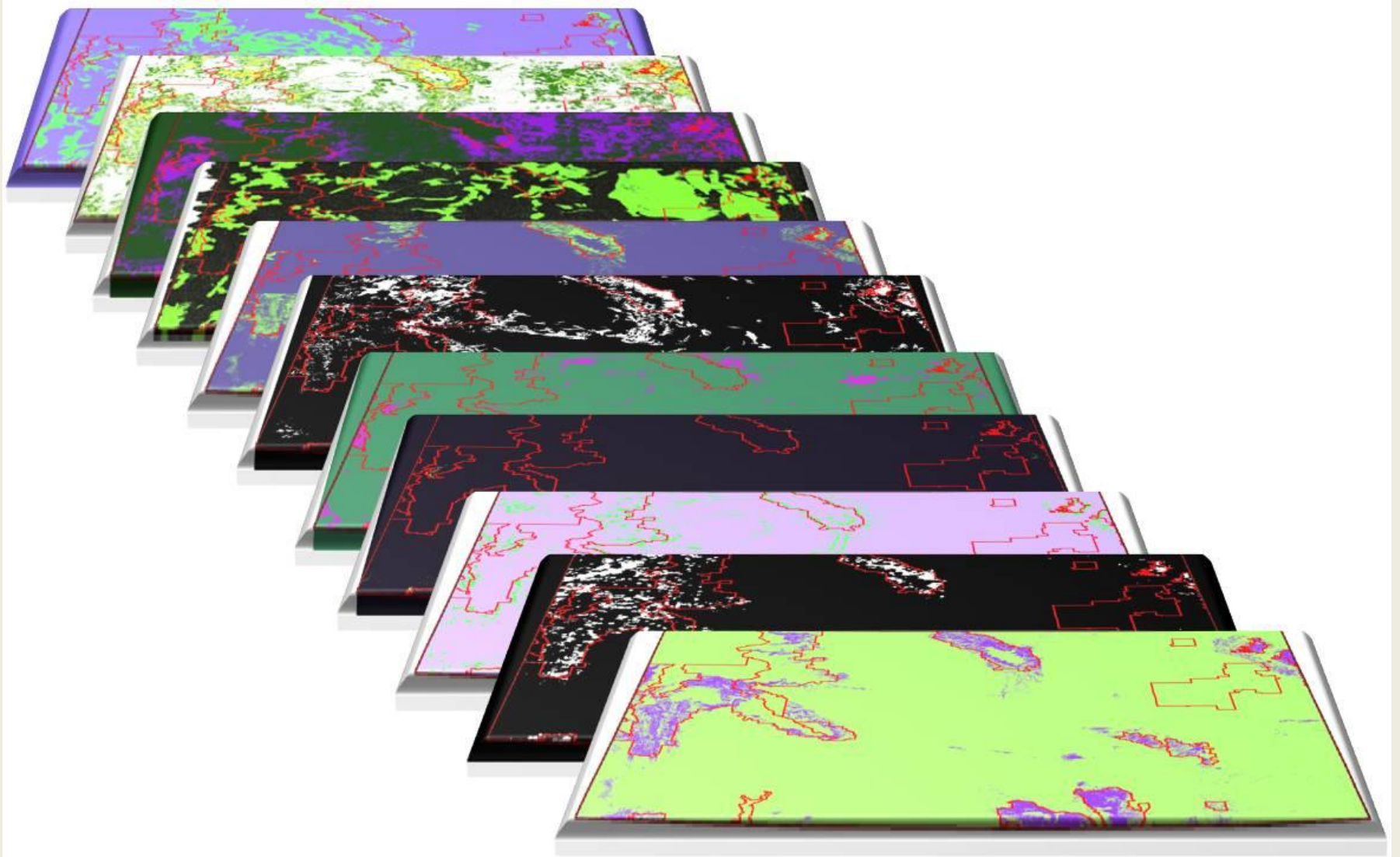
# Forests of Wyoming

- Approximately 12,000,000 acres of Forests (19% of state)
  - US Forest Service 6.9 million acres
  - Private and Tribal 2.0 million acres
  - National Park Service 1.5 million acres
  - State Trustland 300,000 acres
  - Bureau of Land Management 1.3 million acres
- 3.2 million acres of designated Wilderness
- 3.3 million acres inventoried Roadless
- 3.6 million acres impacted by bark beetles since 1997
- Over 2.0 million acres impacted by fire since 2000
- Forest types:
  - Lodgepole Pine 23%
  - Spruce/Fir 16%
  - Ponderosa Pine 9%
  - Douglas Fir 8%
  - Engleman Spruce 8%
  - Juniper 8%
  - Aspen 6%
  - Whitebark Pine 5%
  - Limber Pine 4%
  - Cottonwood 4%
  - Non- Stocked 9%

# Forest Action Plan

- Requirement of the 2008 Farm Bill for all states
- National themes:
  - Conserve working forest landscapes
  - Protect forests from harm
  - Enhance public benefits from trees and forests
- Two Parts:
  - Assessment of Forest Conditions
  - Resource Strategy for moving forward
- FAP drives programs and program delivery for WSFD
- Partners:
  - Wyoming Joint Ag Committee, WSFD Forestry Advisory Committee, WSFD Community Forestry Council, Wyoming Game & Fish, US Forest Service, BLM, BIA, Northern Arapaho Tribe, Wyoming Department of Agriculture, Cheyenne Urban Forestry, Dr. Stephen Williams – UW, WACD, Wyoming Fire Action Team, NRCS, State Technical Committee, OSLI, CWSF, The Nature Conservancy, The Conservation Fund, Black Hills Forest Resource Association, National Park Service, WSFD Stewardship Coordinating Committee, State Parks and Cultural Resources, DEQ – Water Quality, Governor's Office, and many more

# GIS Weighted Analysis



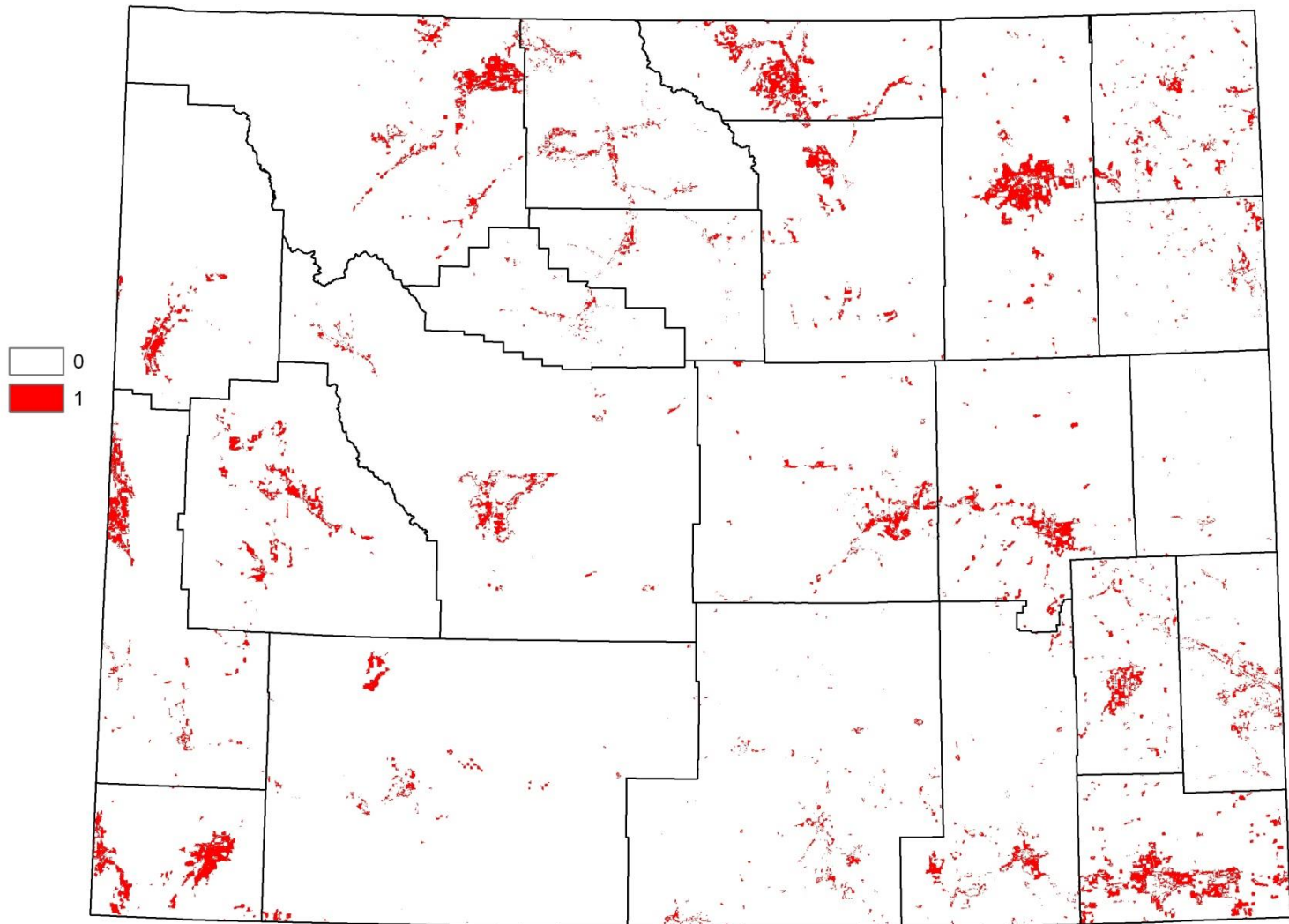




## Development Risk

- Wyoming used the housing density layer created for the Spatial Analysis Project (SAP)
- National data – CSU research
- Theme: Conserve Working Forest Lands
- Identify and conserve high priority forests...

# “Development Risk”



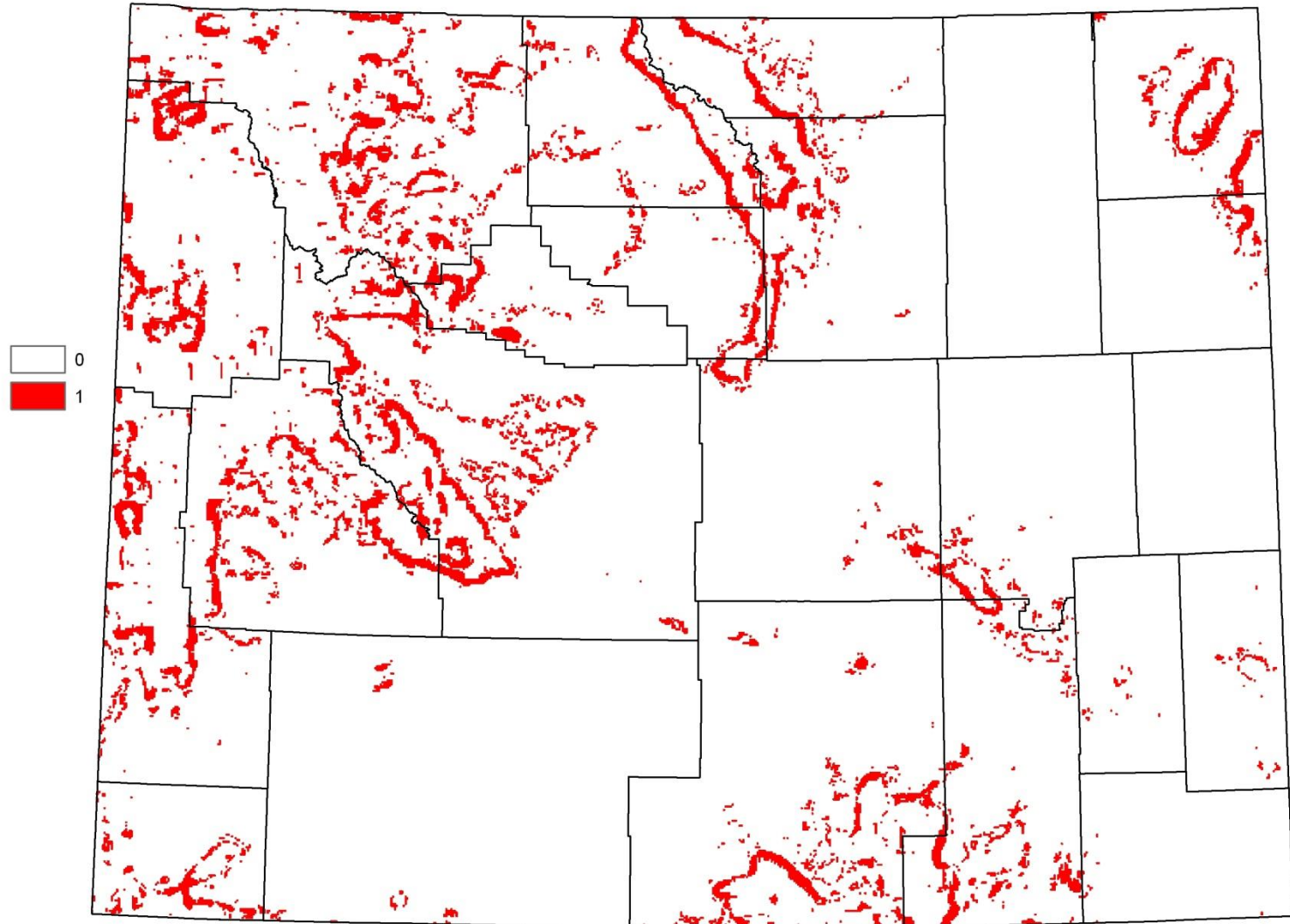




## Forest Fragmentation:

- From NationalAtlas.gov: Complex data – had to make assumptions to use
- “Edge” and “Patch” were chosen as the forests most susceptible for this analysis
- Theme: Conserve working forest landscapes
  - Identify and conserve high priority forests...

# “Forest Fragmentation”





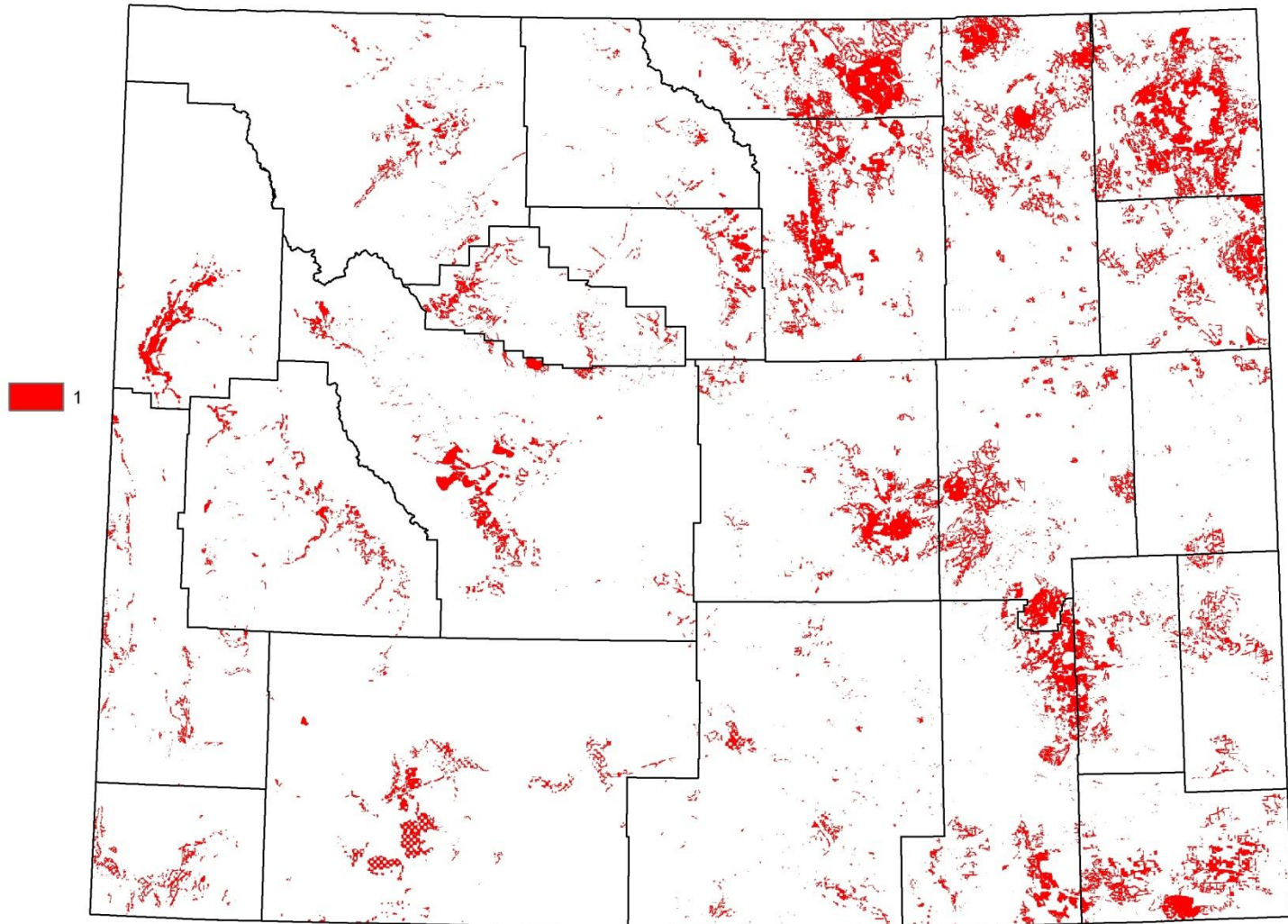


## Wildfire Risk:



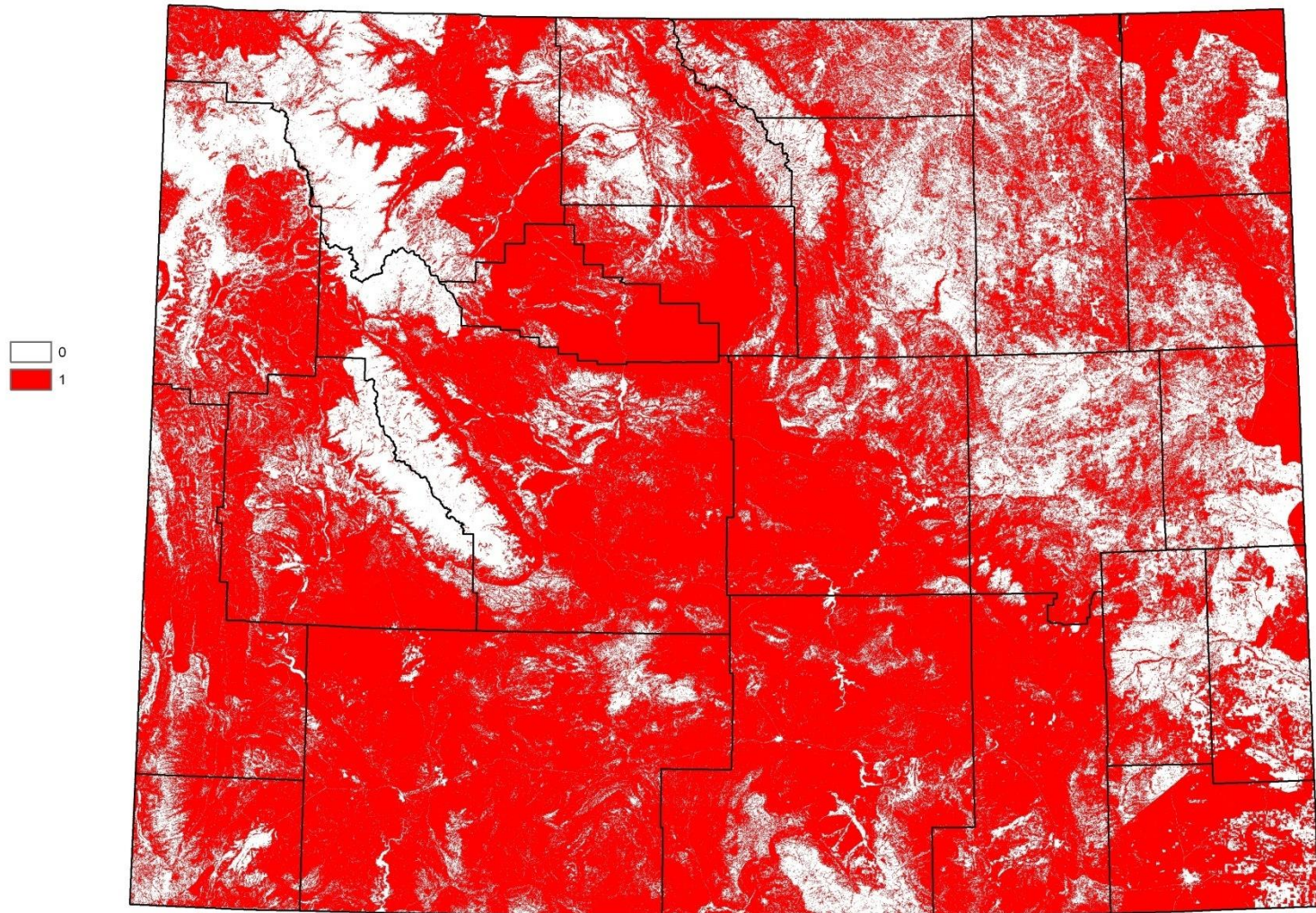
- Identify areas where planning and management are likely to reduce wildfire risk
- Redzone from wildfire hazard assessment/WUI: values at risk + ignition risk + fuels, tied to CWPP's
- Fire Regime Condition Class: other areas, condition classes 2&3, departure from "normal"
- Theme: Protect forests from harm
  - Restore and reduce risk of wildfire impacts

# “Wildfire Risk” – Red Zone





# “Wildfire Risk” – FRCC





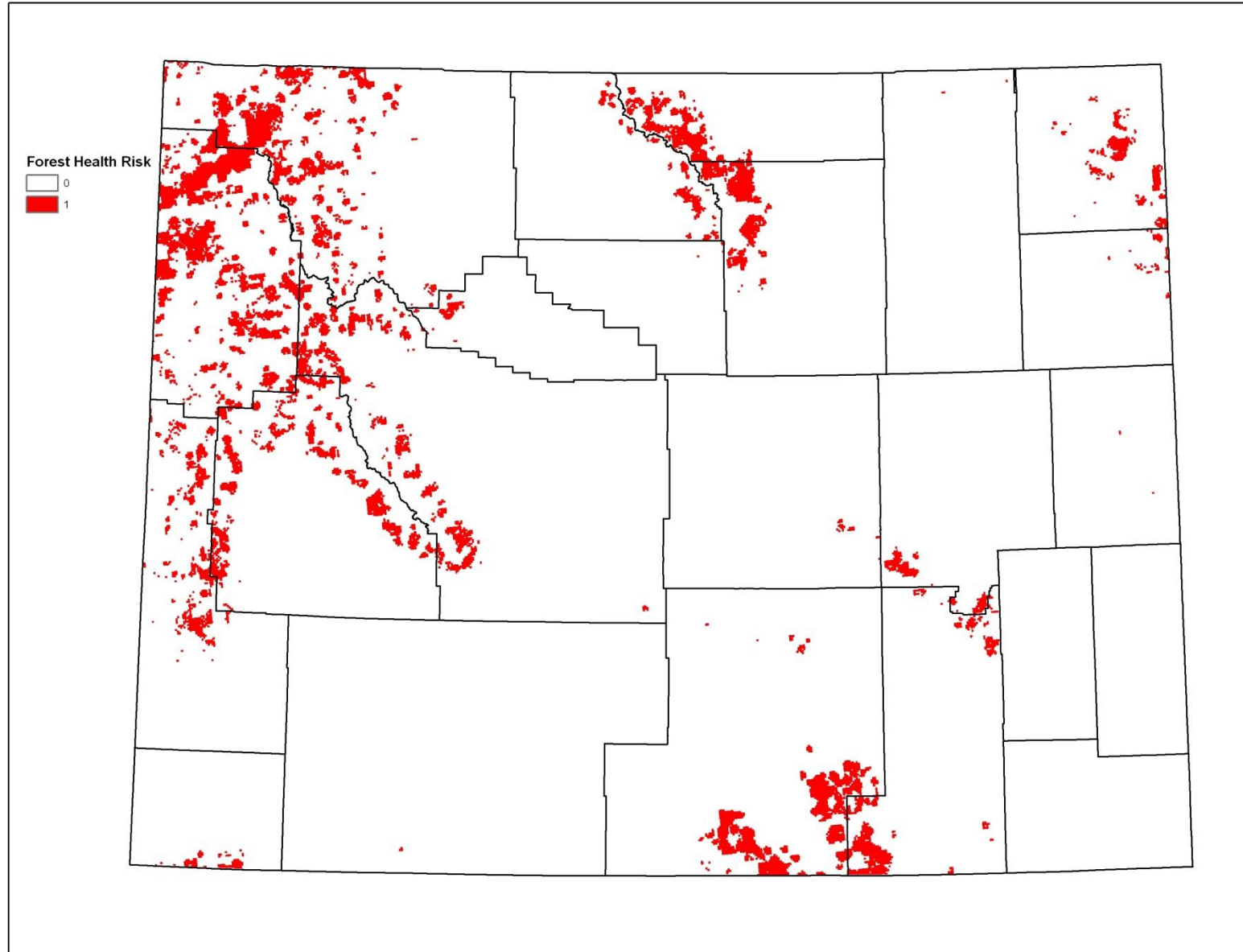


## Forest Health Risk:

- Identify areas where forest management can address risk
- National I & D Risk Map - Estimates basal area loss over next 15 years
- Chose >10% as significant loss for this analysis
- Theme: Protect forests from harm
  - Reduce threats to forest health



# “Forest Health Risk”

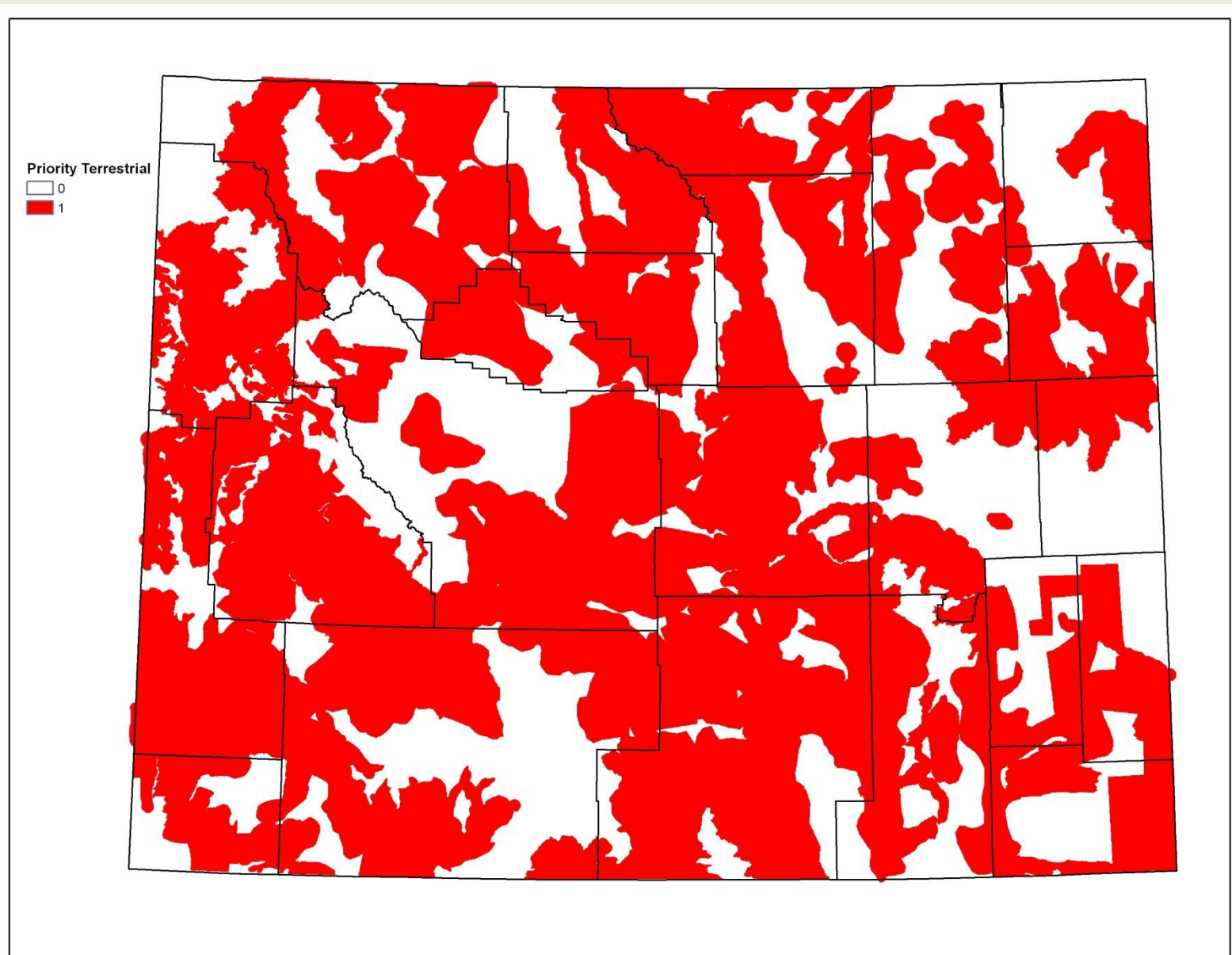




## Fish and Wildlife Habitat:

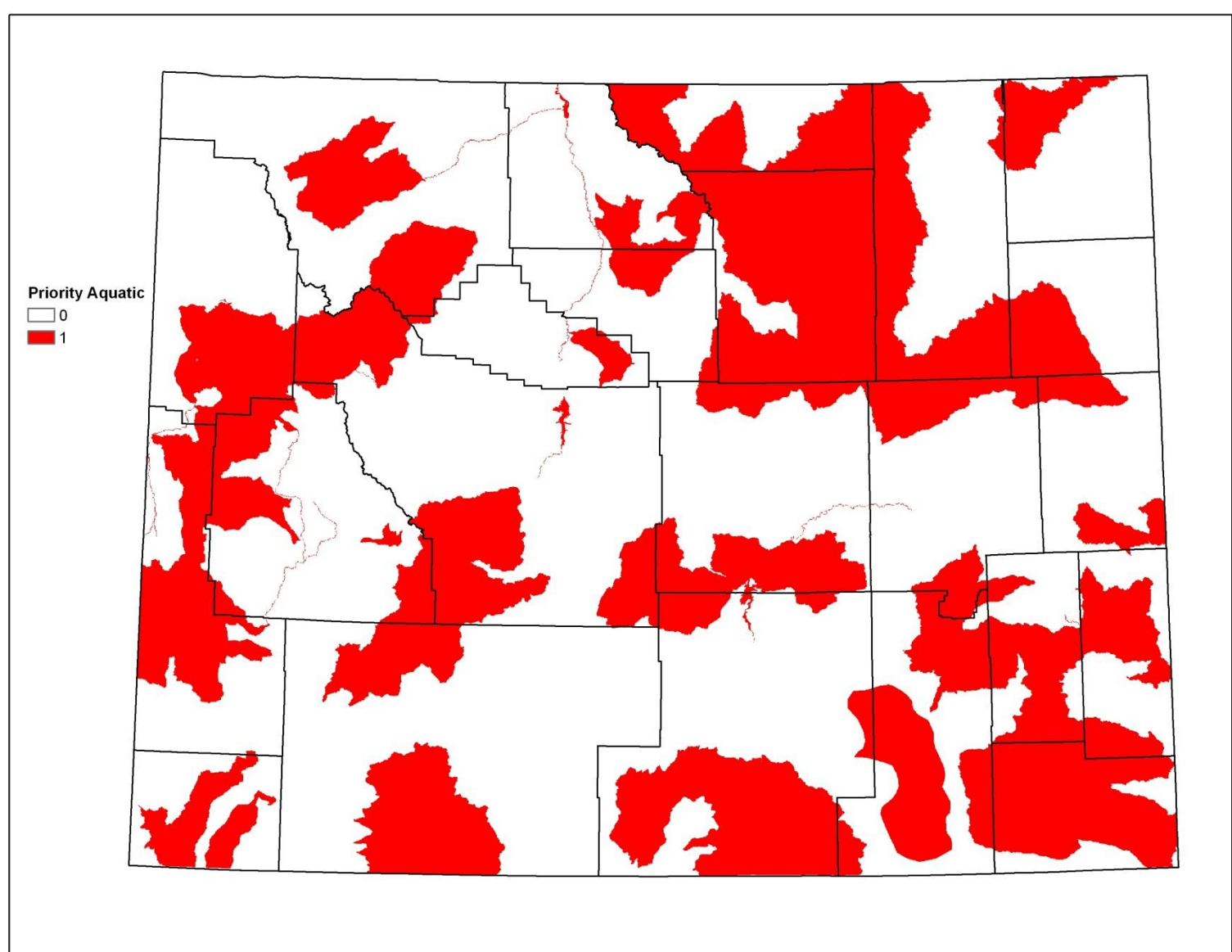
- Identify areas that contribute to wildlife habitat
- Chose to use G & F priority terrestrial and aquatic habitat plus sage grouse core areas
- Theme: Enhance benefits from forests
  - Protect, conserve, enhance wildlife habitat

# “Terrestrial Habitat”





# “Aquatic Habitat”





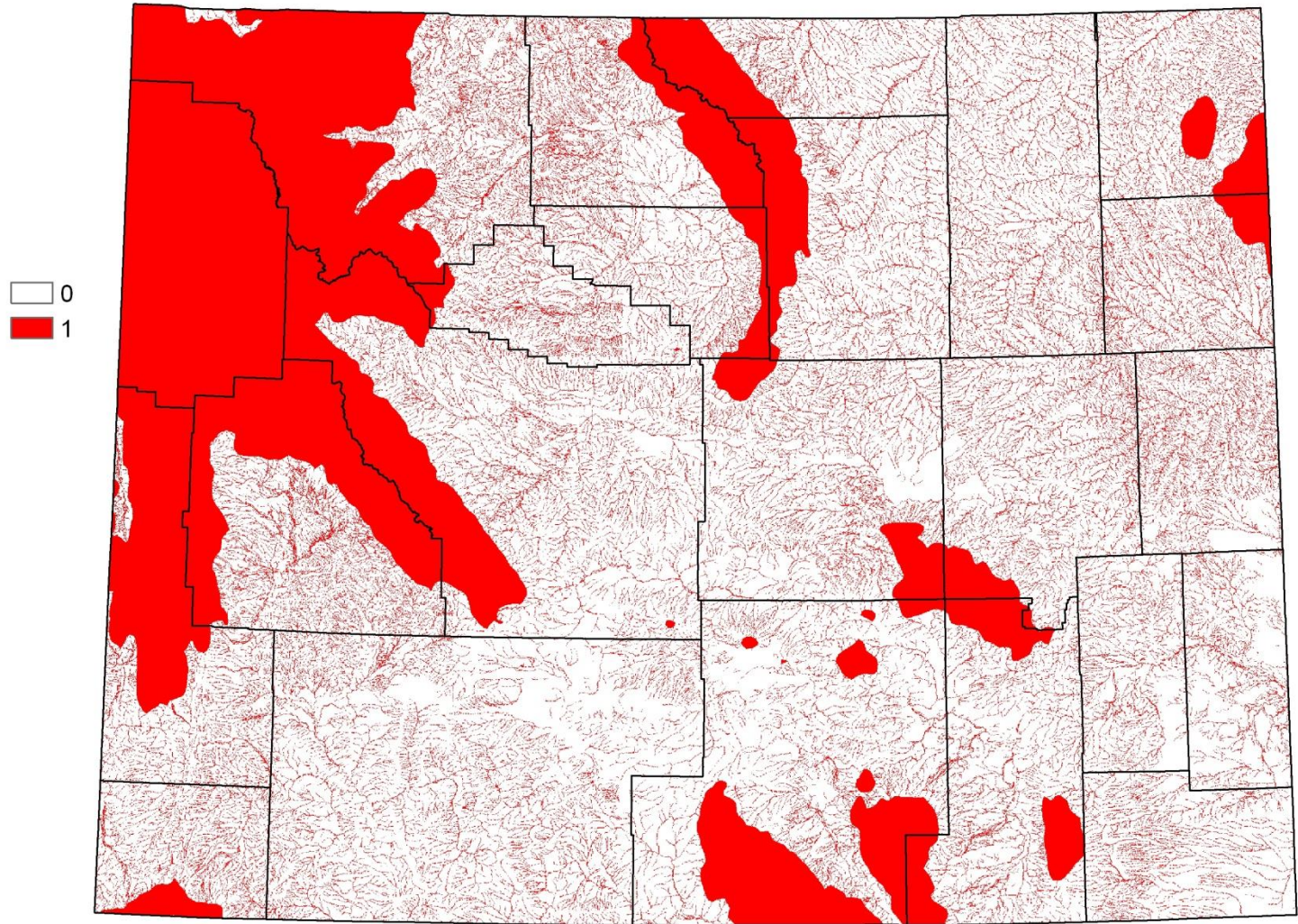


## Water Quality and Supply:

- Watersheds where continued forest conservation and management is important to the future water supply or where restoration is important
- Used areas over 20" precip plus streamside management zones per BMP's
- Theme: Enhance benefits from forests
  - Protect and enhance water quality/quantity



# “Water Quality and Supply”



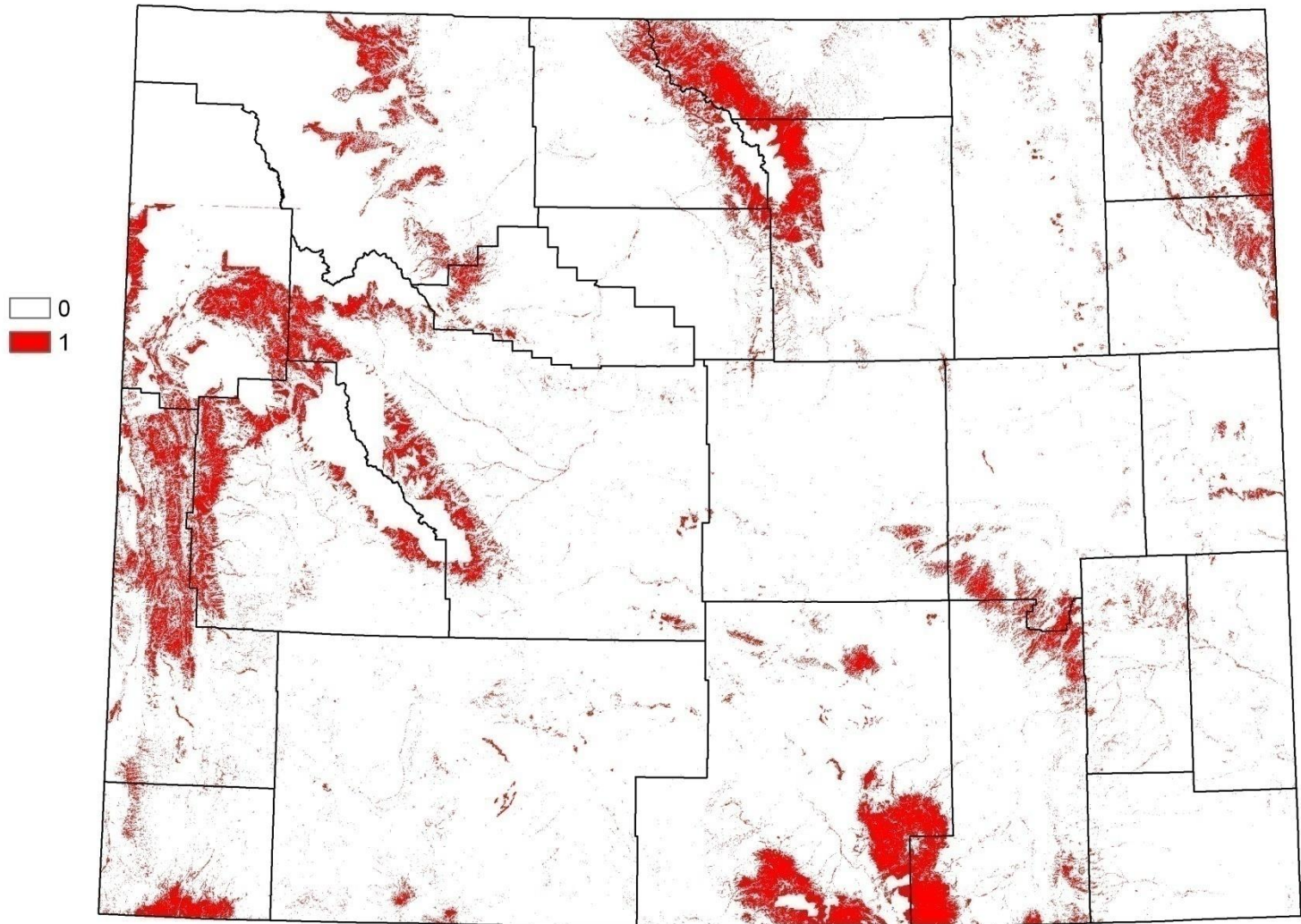




## Economic Potential

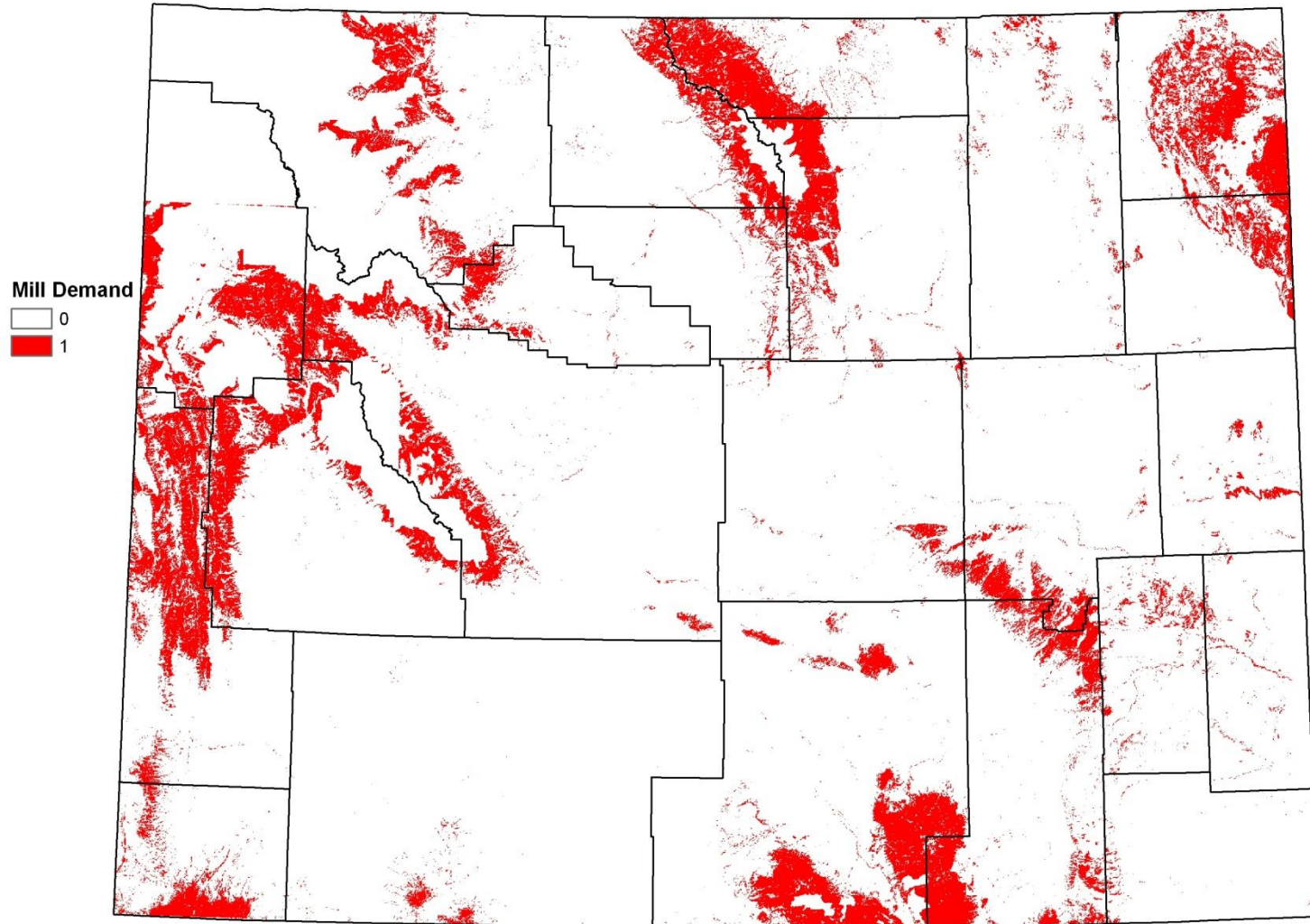
- Chose two layers: Working Forests and Mill Demand Forests, used a model for each layer
- Working Forests:  $< 50\%$  slope, site index  $> 50$ , forested, non-reserved
- Theme: Enhance benefits of forests
  - Specific to economic benefits of forest mgmt

# “Economic Potential” – Work. For.





# “Economic Potential” – Mill Dem. For.

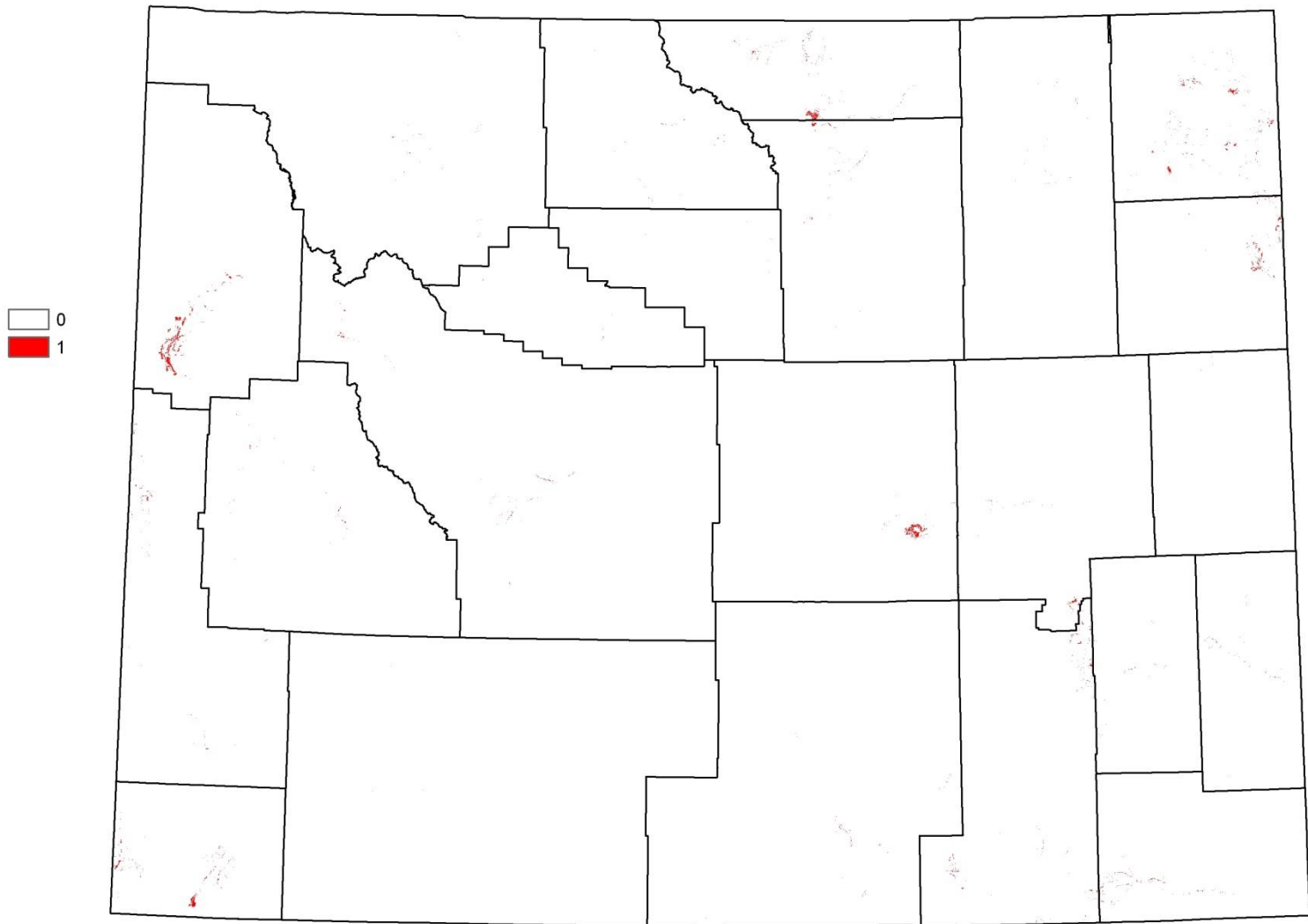




## Green Infrastructure:

- Identify ecologically important forest landscapes and open space
- Chose to use high priority lands identified by forest legacy assessment of need
- Theme: Conserve working forest landscapes
  - Identify and conserve high priority forests

# “Green Infrastructure”



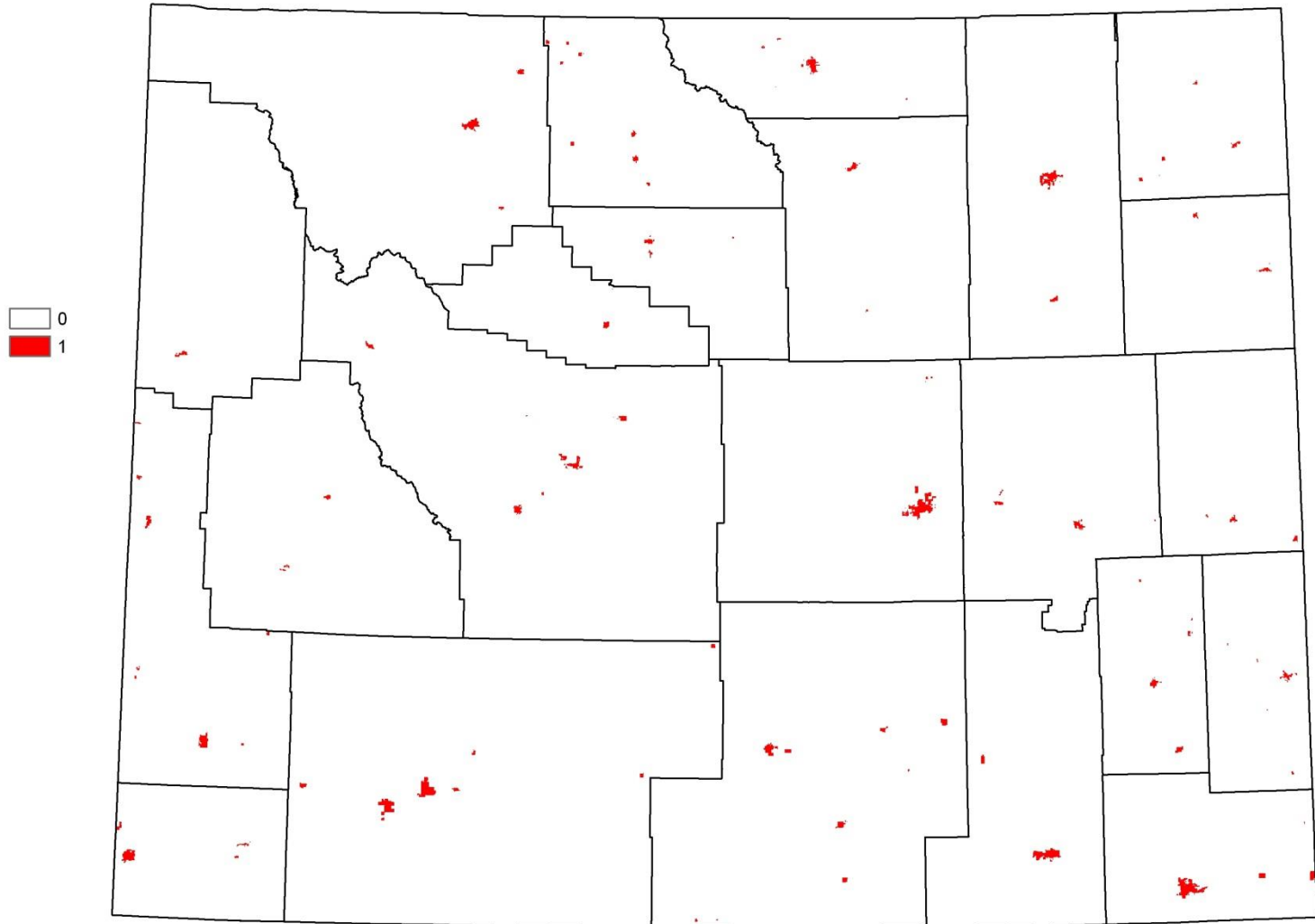




## Community Forestry:

- Important, but how do we make Wyoming's small communities stand out?
- Chose to use boundaries of incorporated communities
- Theme: Conserve working forest landscapes and Enhance public benefits
  - Identify high priority forest landscapes

# “Community Forestry”



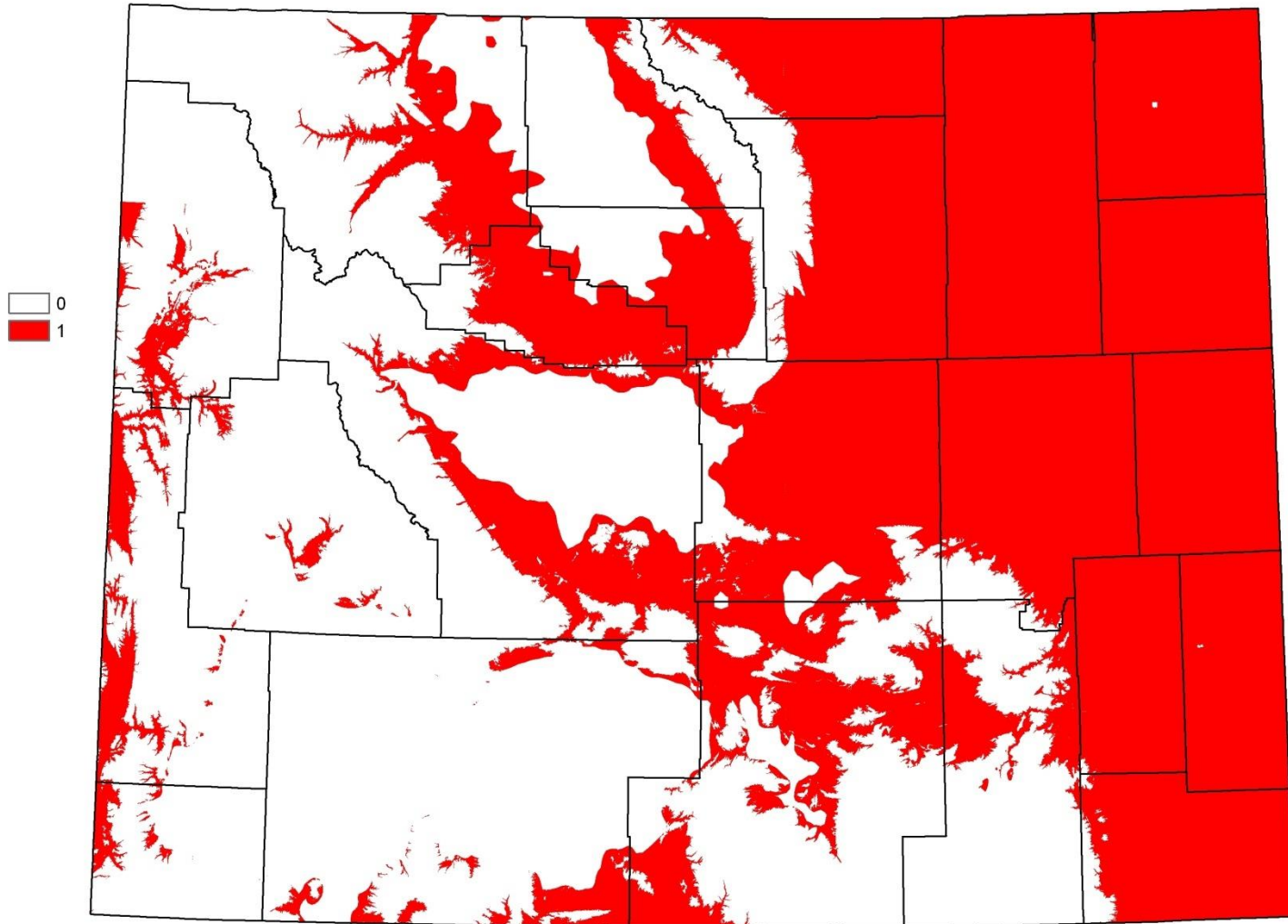


## Agro-forestry:

- Not specifically part of the national requirements
- Chose to focus on potential rather than existing plantings or other existing practices
- Chose to use agro-forestry layer from SAP but modified by including public lands and forested lands
- Below 7000', > 12" precip



# “Agroforestry”

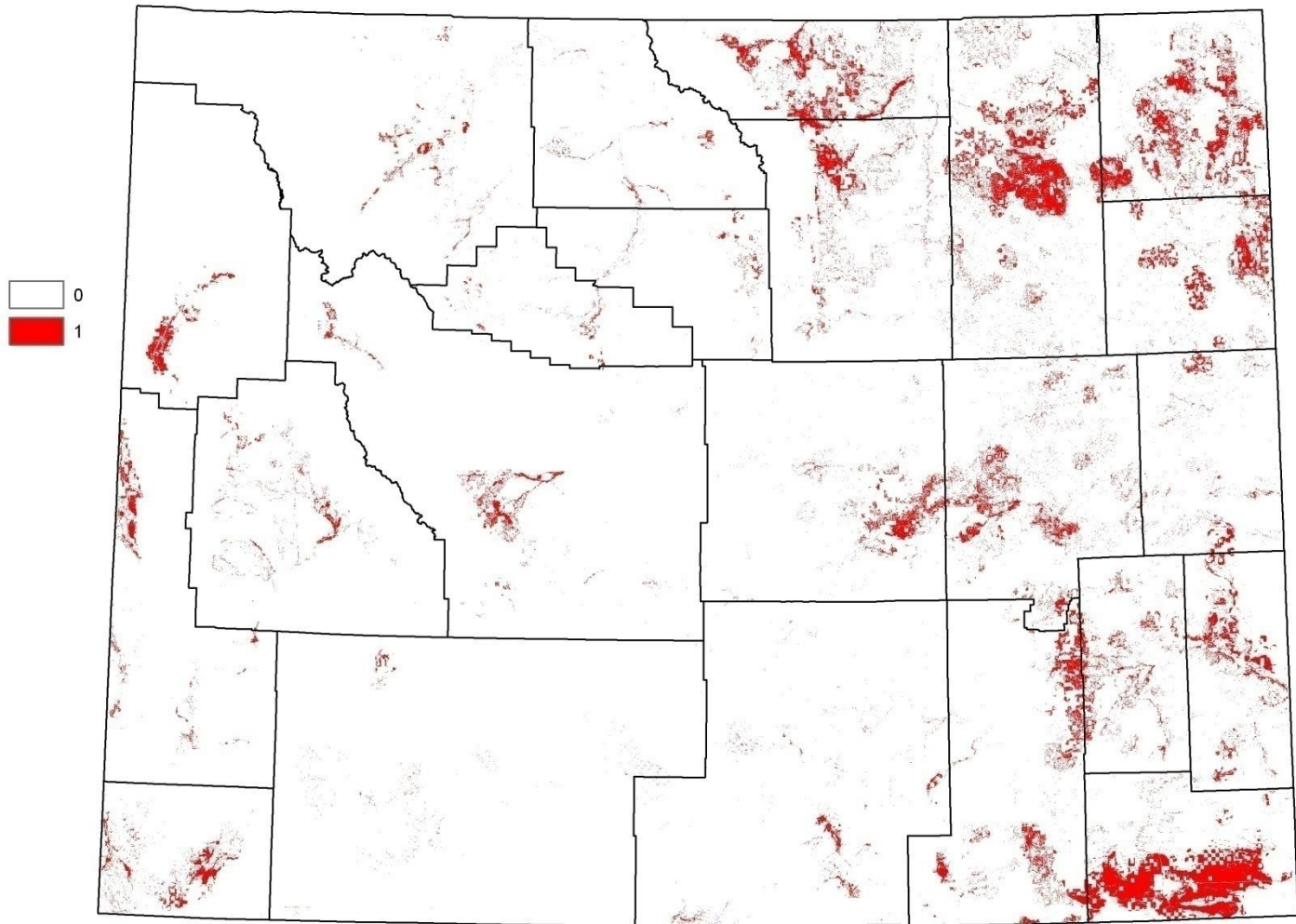




## Stewardship Potential

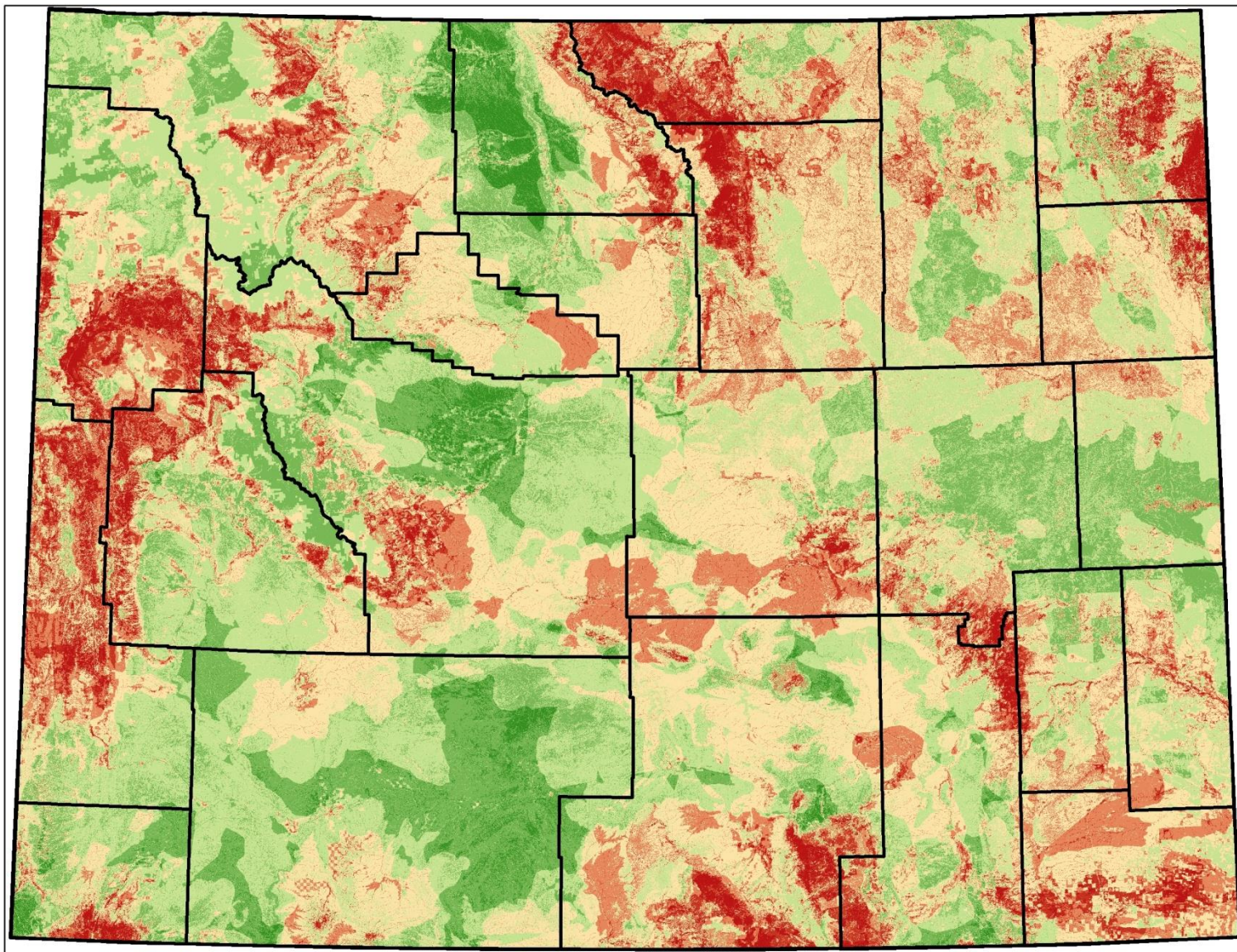
- High priority private lands
- Straight from the SAP analysis – where is our time best spent with private landowners
- Theme: Conserve working forest lands
  - Actively and sustainably manage forests

# “Stewardship Potential”





# Wyoming Forest Action Plan



# Resource Strategy

- *Identify threats/opportunities and strategies for priority Landscapes in the state consistent with national priorities of “Conserving Forests”, “Protecting Forests from Harm”, and Enhancing Forest Ecosystems”. Several of the threats and opportunities in the strategy document have been grouped with similar action strategies.*
- **Threat 1:** Wyoming is facing forest health issues that are probably unprecedented.
- **Threat 2:** A viable forest products industry is essential to enable effective forest management on a meaningful scale.
- **Threat 3:** In many areas, older forests are being converted to young forests on a large scale due to bark beetle epidemics.

# Resource Strategy

## Strategies:

- Increase age class, structural, and species diversity on lands suitable for forest management. Management should be directed towards achieving desired future conditions.
- Use fire as a tool on non-harvestable or administratively withdrawn lands to achieve species and age class diversity goals.
- Ensure a predictable, dependable supply of forest products to help sustain a viable forest products industry.
- Encourage development of additional forest products markets, including those generally described as biomass.
- Strive to retain whitebark and limber pine forest types.



# Resource Strategy

## Strategies:

- Mitigate the threat of falling trees in campgrounds, roads, trails, administrative sites, ski areas, and near power lines.
- Track on the ground management activities, insect and disease outbreaks, and wildfires as they occur.

# Resource Strategy

- **Threat 4:** The threat of fire in the Wildland Urban Interface (WUI) is significant and expanding.
- **Threat 5:** Wildfires in areas outside of the WUI are also a threat.

## Strategies:

- Mitigate the risk of catastrophic wildfires in the WUI areas.
- Increase the training and capacity of the state's local fire resources.
- Actively manage suitable lands to achieve structurally diverse, healthy forests to develop more resilient forest landscapes.
- Utilize prescribed fire where practical while focusing on lands that can not be managed by other means.

# Resource Strategy

## Strategies:

- Utilize natural fires to accomplish resource objectives and minimize the risk of catastrophic wildfires where practical while focusing on lands that cannot be managed by other means.
- Enhance and continue cooperation between agencies to increase capacity throughout the state.
- Track wildfires, prescribed fires, and fire use as incidents and projects occur.



# Resource Strategy

• **Threat 6:** Wyoming's low elevation riparian forests are in decline.

## Strategies:

- Increase stream flow rates in riparian areas.
- Manage ungulate populations to control herbivory.
- Manage upstream forests to increase runoff.
- Conduct forest management activities in riparian areas to increase forest health, improve species diversity, and increase residual tree vigor.
- Increase the public's understanding of the decline in our low elevation riparian forests and why it is important.

# Resource Strategy

• **Threat 7:** Aspen is a growing focus of concern within the Rocky Mountain's

## Strategies:

- Increase the regeneration of aspen stands through the use of forest management activities.
- Carefully analyze current and potential aspen sites for suitability and the probability of success.
- Manage ungulate populations to control herbivory.
- Track aspen management activities as they occur.

# Resource Strategy

• **Threat 8:** There are numerous challenges to maintaining healthy community forests in Wyoming.

## Strategies:

- Enhance species and age diversity.
- Increase local community forestry expertise.
- Enhance funding and build capacity within the communities.
- Measure the progress within communities.
- Build green infrastructure.



# Resource Strategy

• **Threat 9:** In an arid state like Wyoming, water quality and quantity will always be important issues

## Strategies:

- Continue compliance with Wyoming's Silviculture BMP's during forest management and road building and maintenance activities.
- Look for opportunities to conduct forest management activities to increase water quality and quantity.
- Emphasize riparian forest restoration and improvement of riparian habitats.
- Reduce runoff from urban areas into watersheds.
- Utilize aerial photography to evaluate community tree canopies to determine where plantings should be focused.

# Resource Strategy

- **Threat 10:** Terrestrial habitat is under pressure in Wyoming

## Strategies:

- Encourage land managers to undertake landscape level planning to maintain and enhance forest and woodland communities.
- Increase the capacity for providing management information to stakeholders.
- Maintain continuity across ownerships and programs.
- Mimic natural disturbance regimes where possible.
- Track on the ground management activities, insect and disease outbreaks, and wildfires as they occur.

# Resource Strategy

- **Threat 11:** Fragmentation of land ownership
- **Threat 12:** Access for management is becoming more complicated

## Strategies:

- Cross boundary collaboration is essential.
- Attempt to manage subdivisions as one land unit.
- Complete comprehensive landscape level travel plans.
- Provide incentives to conserve working forests.
- Keep forestry practices financially viable.
- Track accomplishments as they occur.



# Resource Strategy

- **Threat 13:** Management guidance for private lands is increasingly important

## Strategies:

- Emphasize stewardship plan development.
- Provide information and education to private landowners.
- Obtain better inventory information on private lands.
- Establish/maintain local contractor base and provide landowner education.
- Provide financial incentives for management.
- Develop and implement certification programs for landowners.

# Resource Strategy

- **Threat 14:** Wyoming will be on the leading edge of impacts of global climate change

## Strategies:

- Explore the carbon sequestration potential for forests.
- Forest management under a changing climate.
- Adapt water management to accommodate changes in flows and timing.

# Resource Strategy

- **Threat 15:** Invasive species, both insects and plants, pose a threat to forested lands

## Strategies:

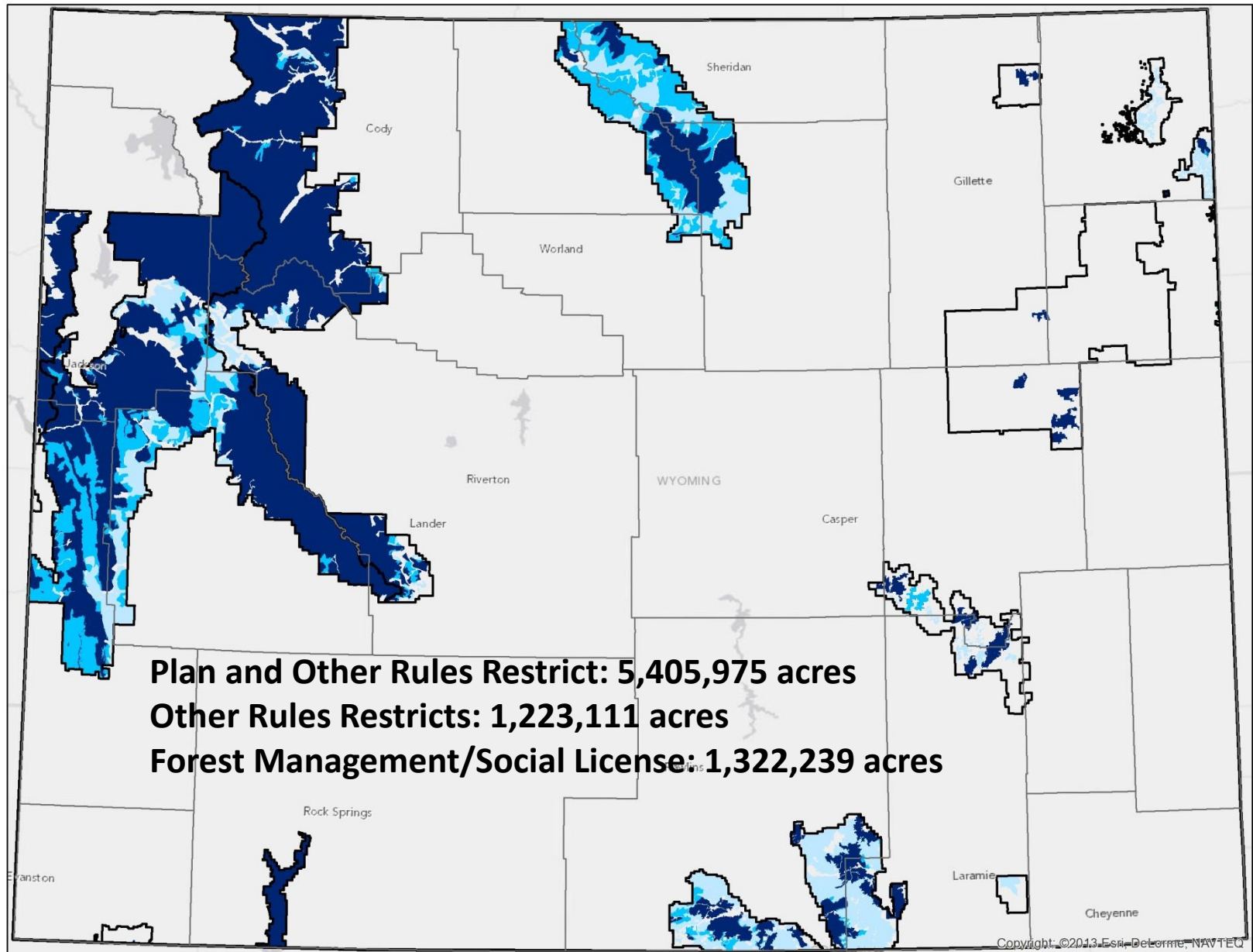
- Monitor invasive species within the state, region, and country.
- Continue to develop early detection and rapid response (EDRR) guidelines.
- Focus efforts on the control and management of invasive species.
- Develop rehabilitation and restoration strategies.
- encourage management techniques that do not promote the spread of invasive species.
- Manage forests and rangelands to promote a healthy landscape.



# Current Activity

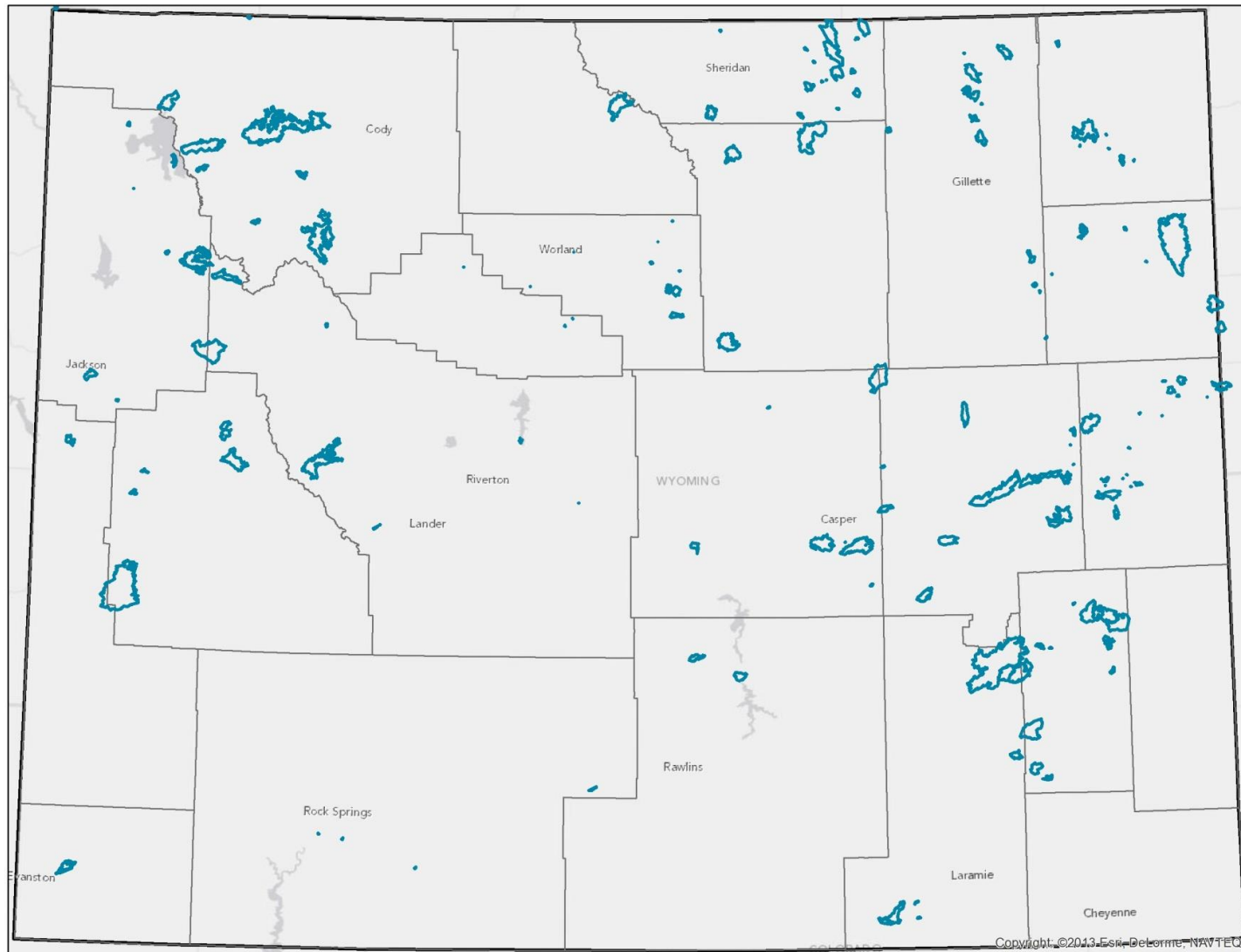


# US Forest Service Lands Management Status





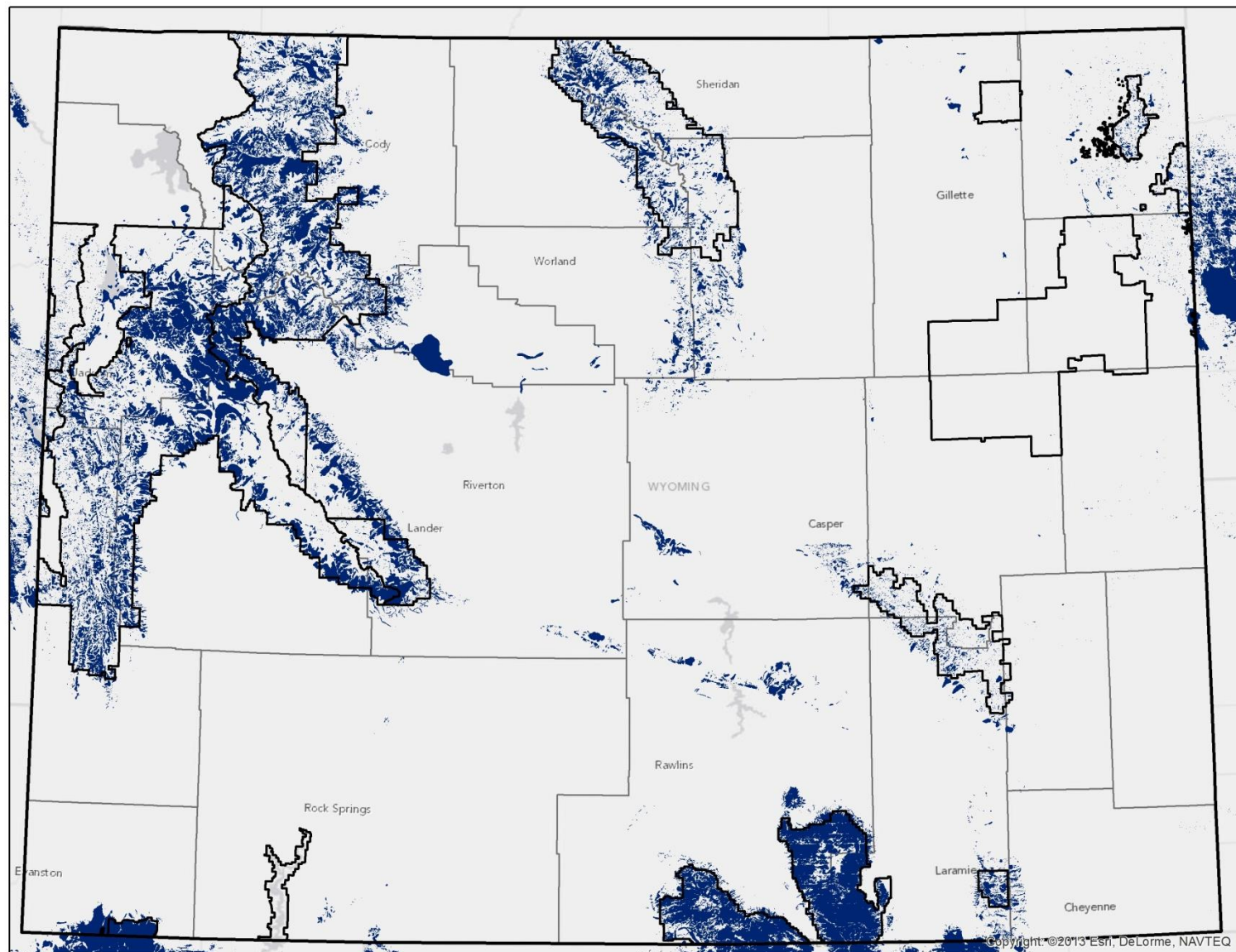
# Large Fire Perimeters 2006 -2012: 861,000 acres



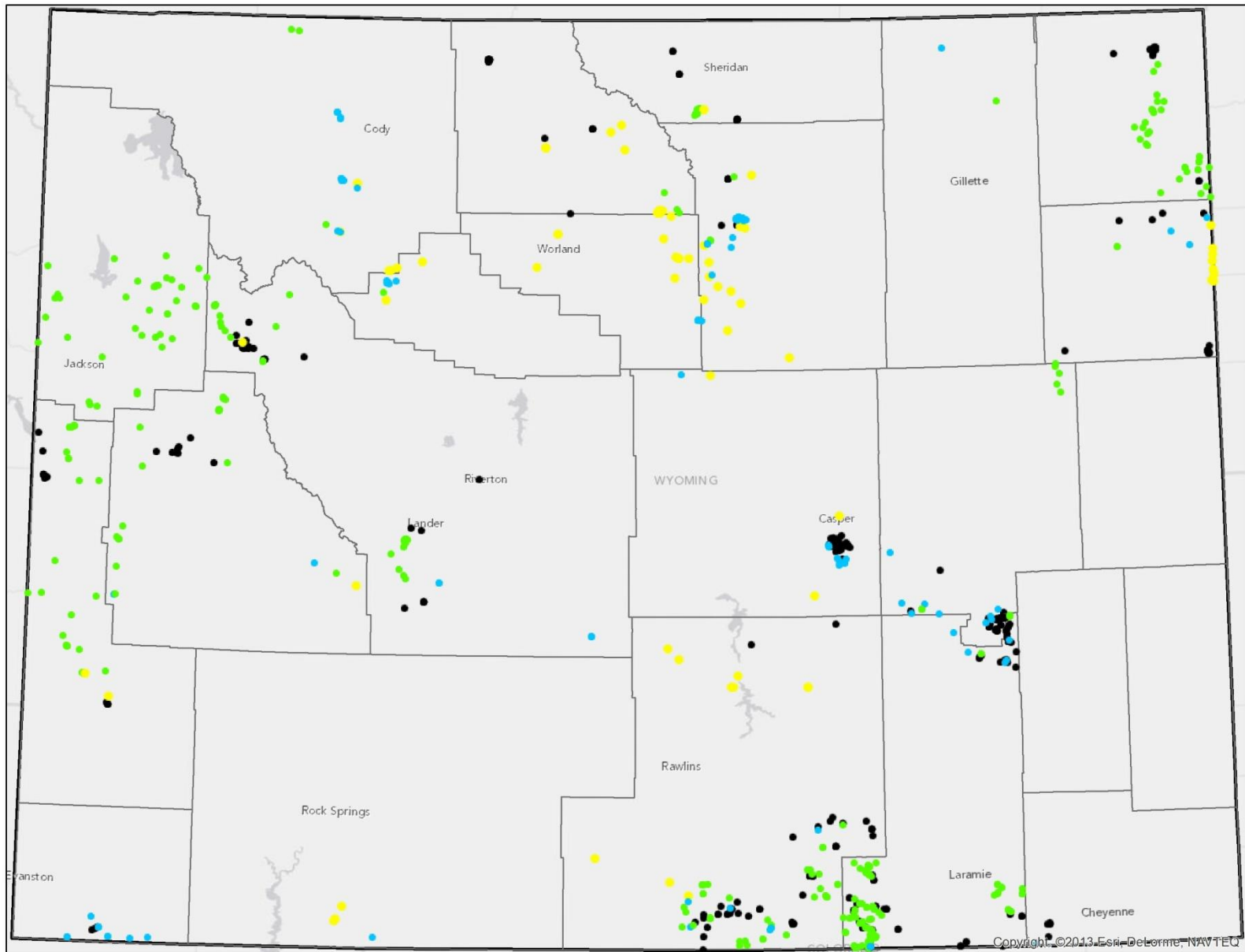


# Bark Beetle Infestation 1997 -2012:

## 3.6 million acres



# Vegetative Projects 2010 - 2012



# Vegetative Projects 2010 - 2012

- Prescribed Fire

- USFS 19,923 acres
- BLM 218 acres (incomplete data)

- Forest Improvement projects

- USFS 731 acres
- BLM 315 acres
- State Trust Land 1,330 acres

- Timber Sales

- USFS 10,016 acres
- BLM 2,442 acres
- State Trustland 4,757 acres

- Fuel Reduction and Fuel Break

- Private 3,034 acres
- BLM 4,639 acres
- USFS 9,948 acres

- Defensible Space

- Private 276 defensible spaces, approximately 300 acres

# Wyoming Forest Products Industry

- Renewed interest from several small operators
- Saratoga Resources; resumed operation in February 2013
- Thompson Logging; Encampment
- Westside Reclamation; Laramie
- South and Jones; Evanston
- Neiman Timber; Hulett, Spearfish, Hill City, and Montrose



# FAP with Insects, Fires, and Projects

