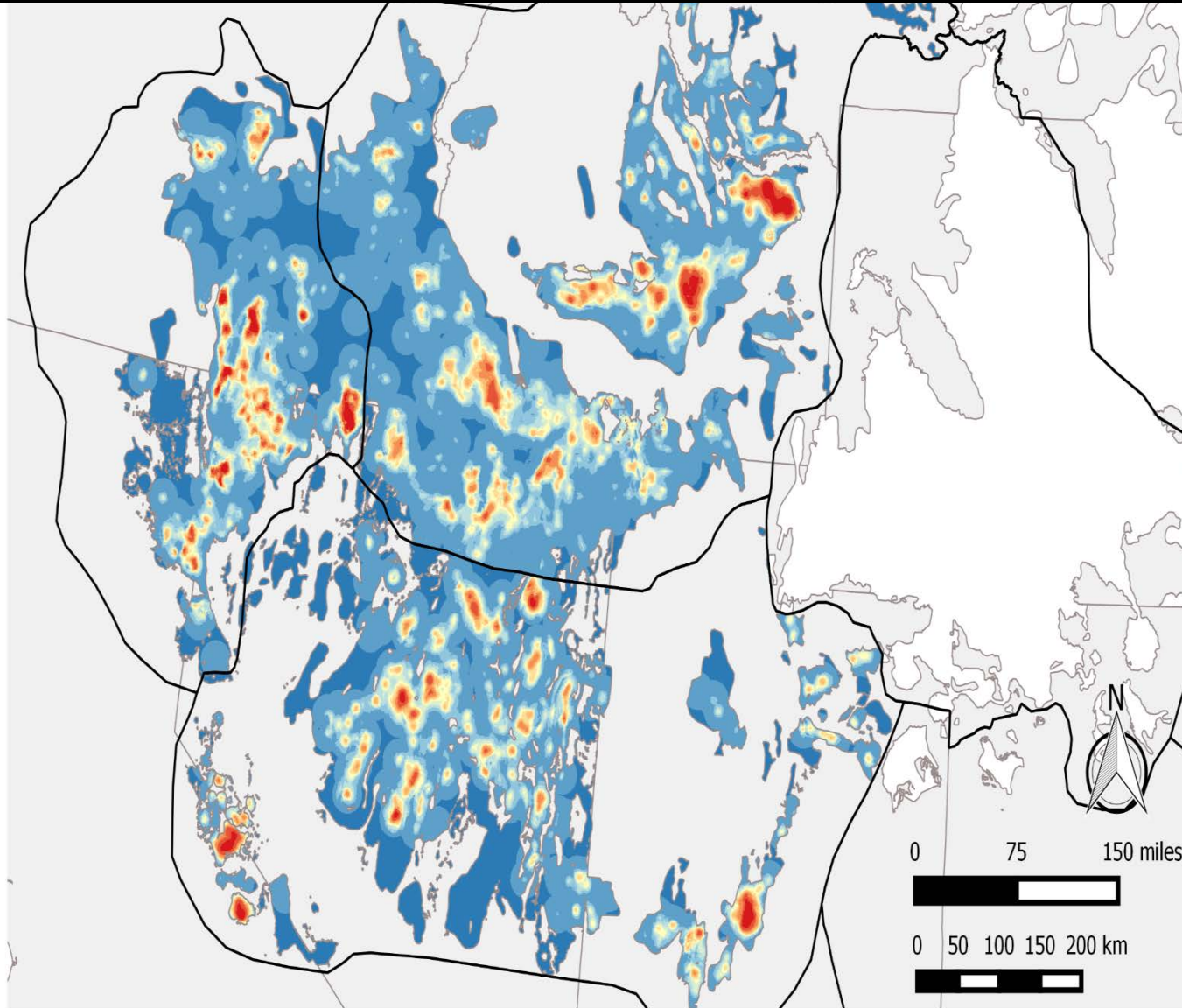


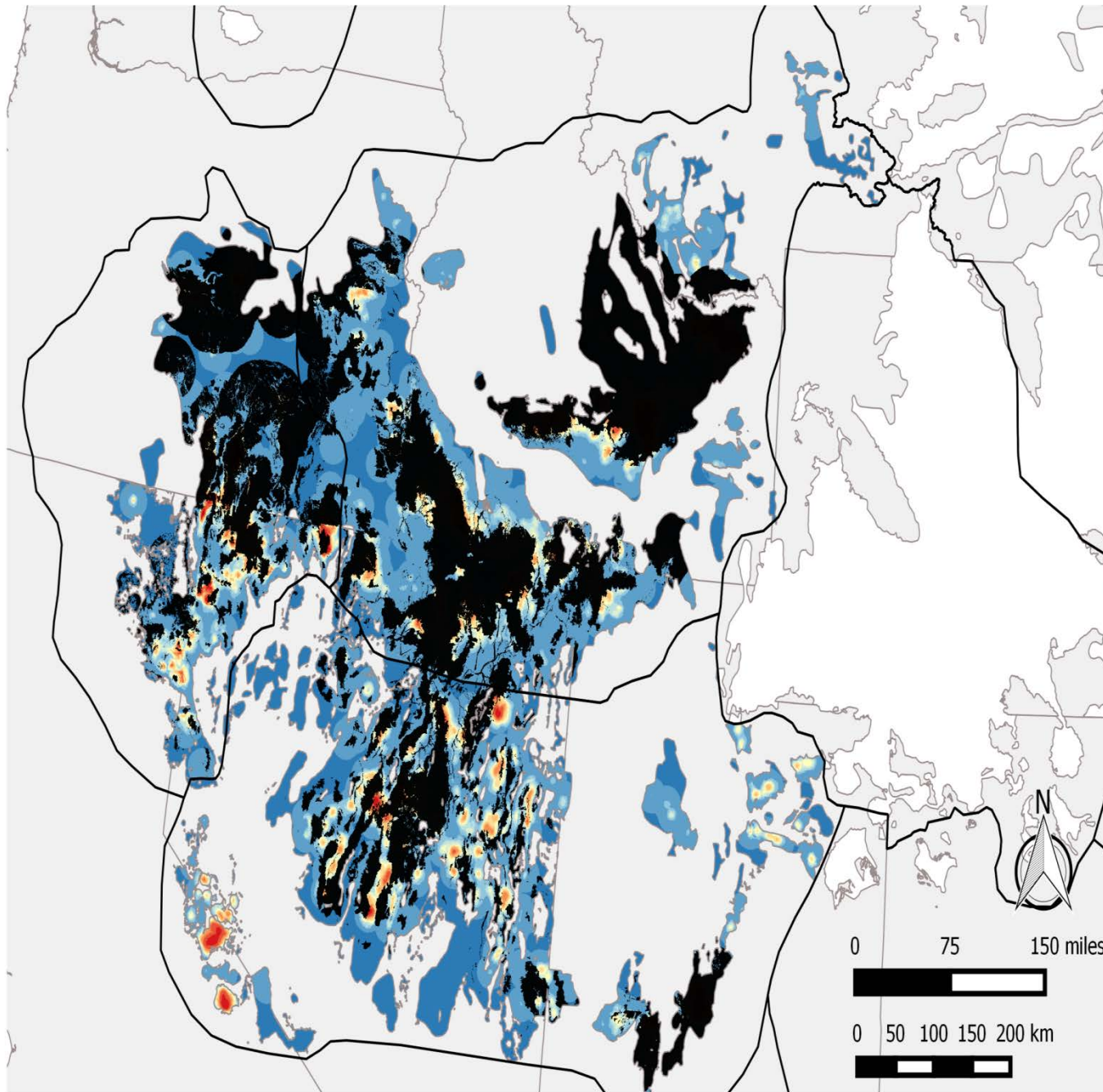


Greater Sage-grouse Status Review

Fire & Invasives

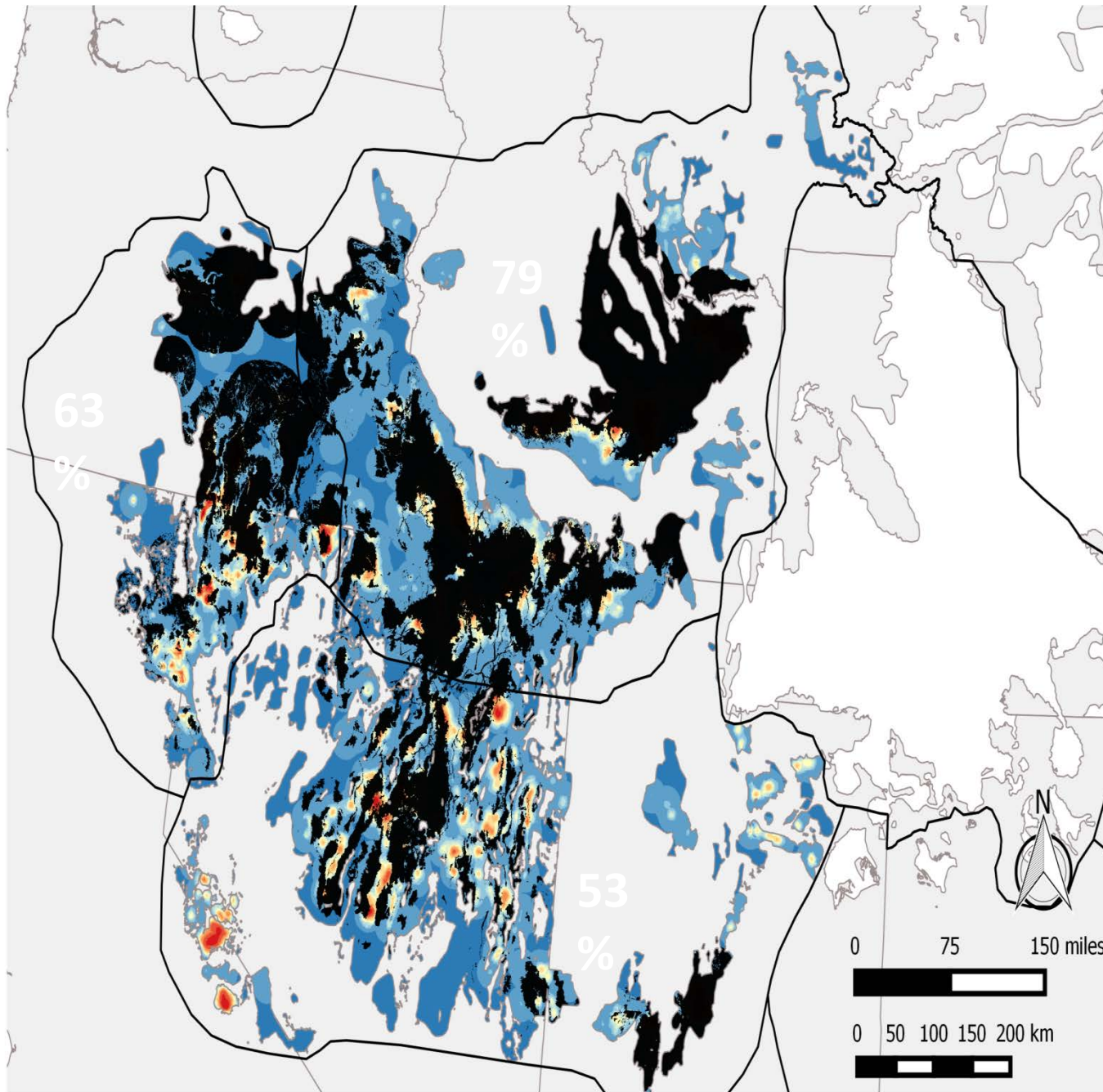
WAFWA R&R Matrix, Fire, & Sage-grouse exposure





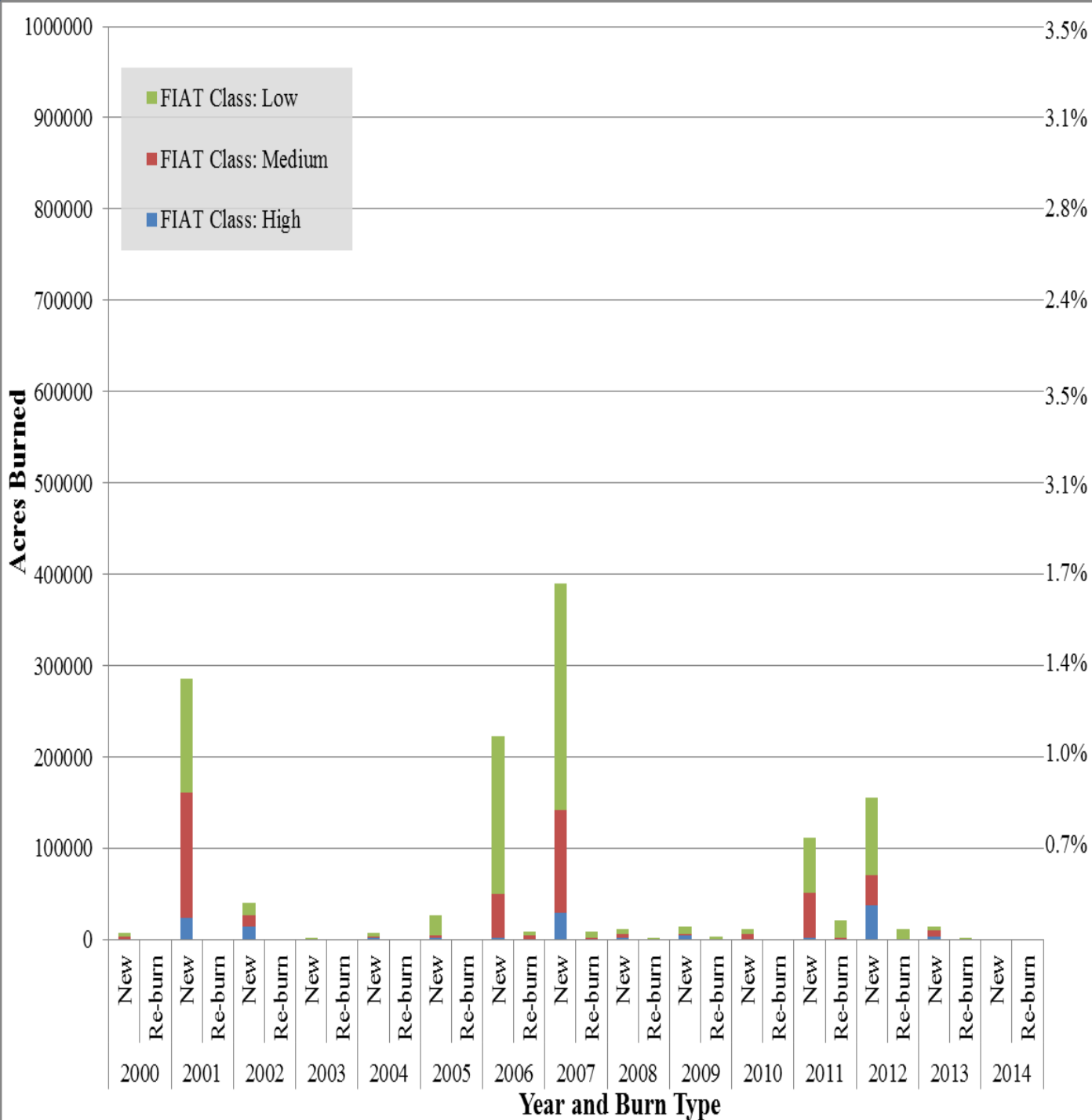
❖ WAFWA Fire & Invasives R & R Example

- ❖ Areas with high & moderate resistance and resiliency = black



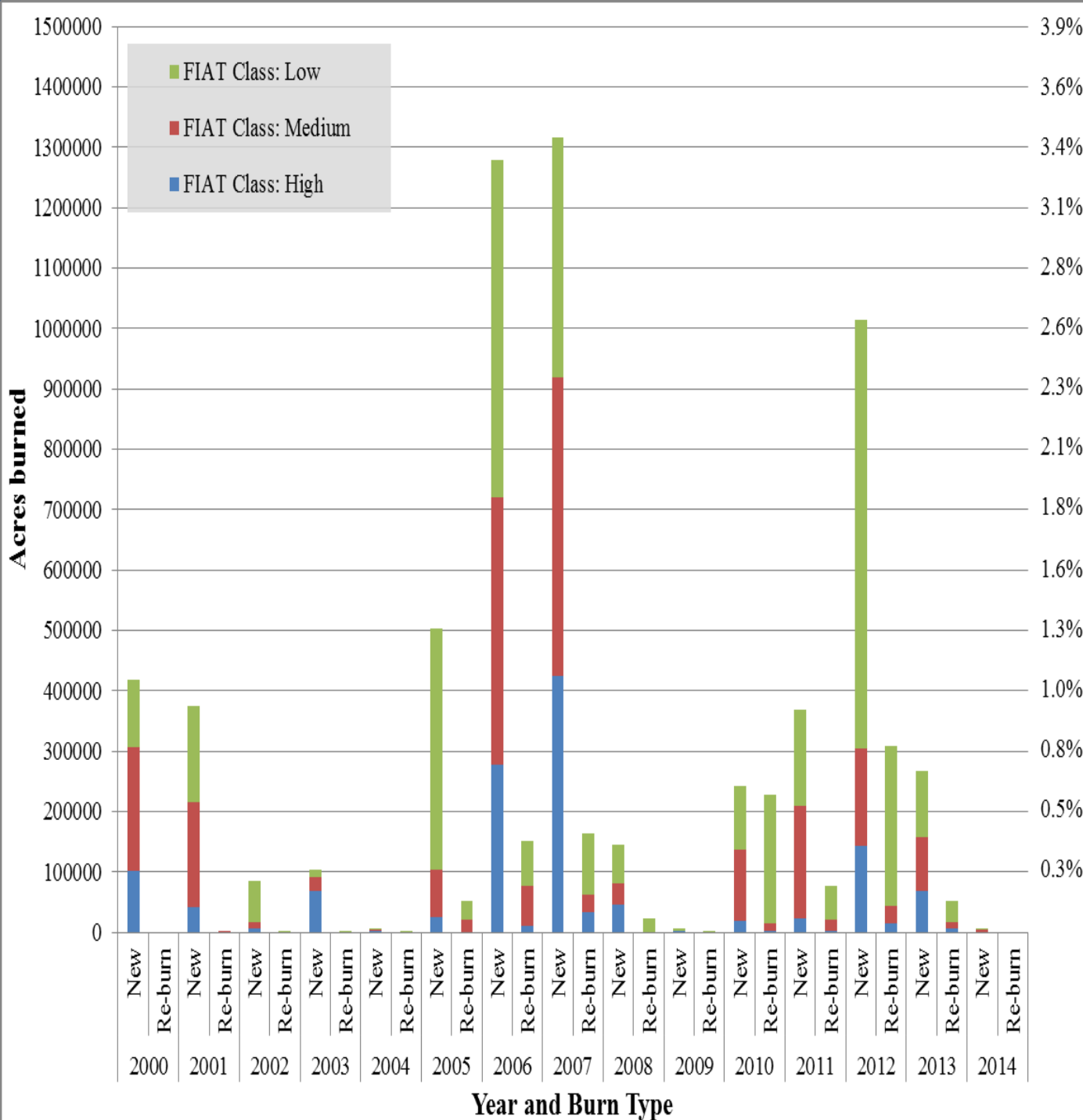
❖ WAFWA Fire & Invasives R & R Example

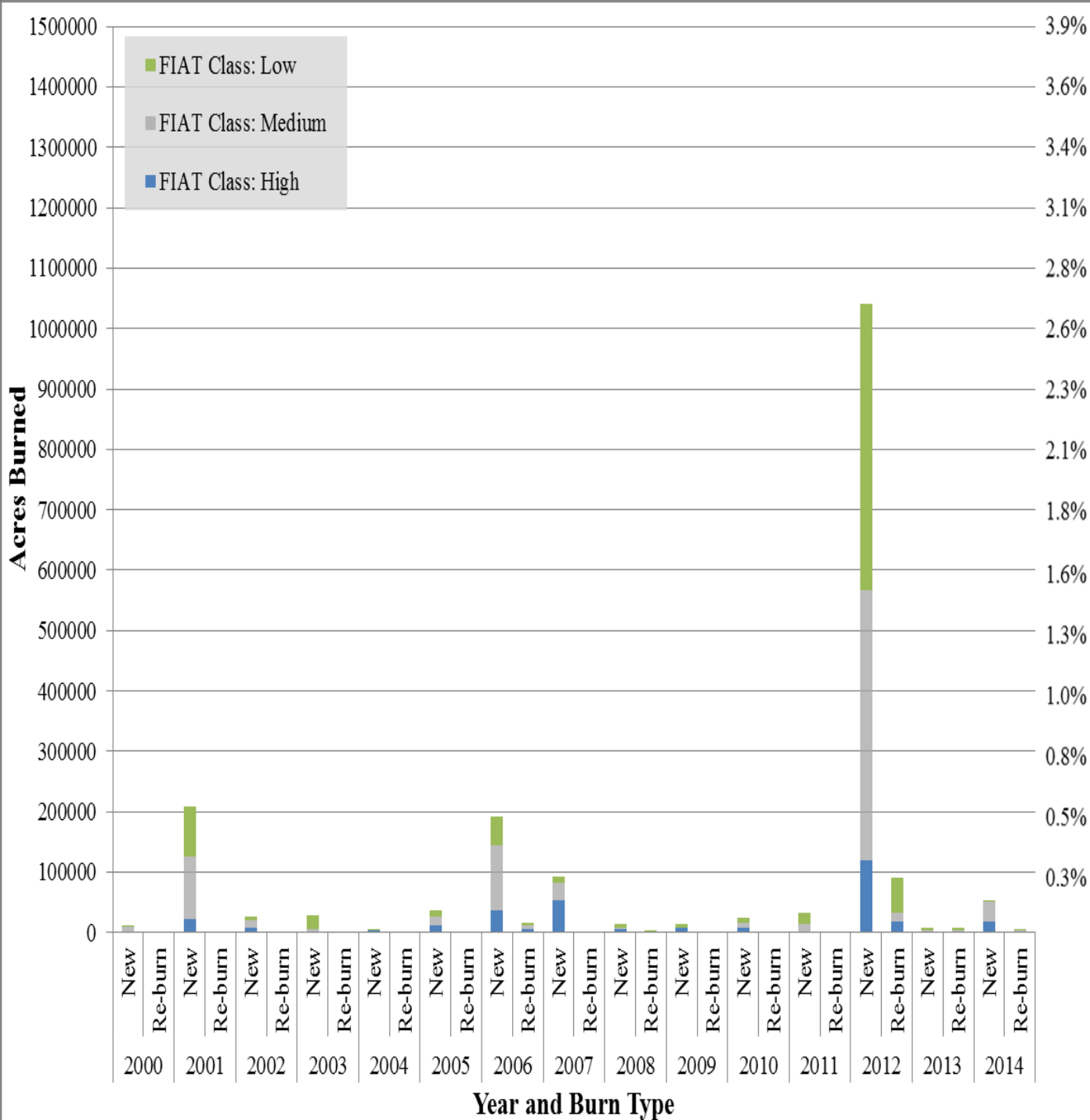
- ❖ MZ IV has the most resistance & MZ III has the lowest
- ❖ Need to cut out Bi-state populations in MZ III



❖ Burn
Rates
Through
Time MZ
III

❖ Burn Rates Through Time MZ IV





❖ Burn
Rates
Through
Time MZ
V

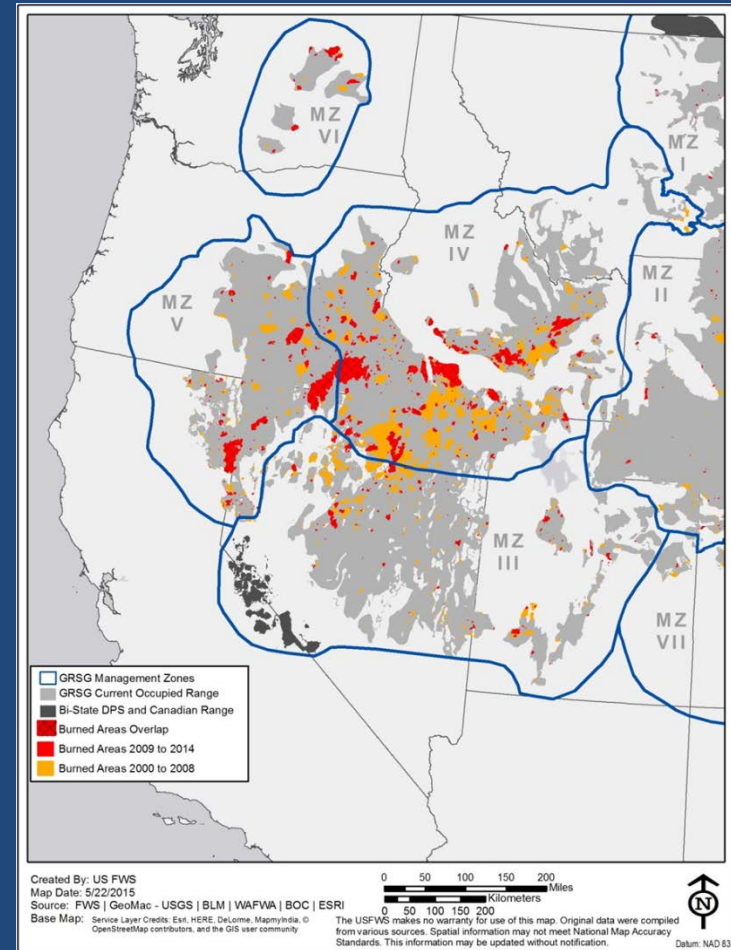
Impacts to Sage-grouse

- Fire in sage-grouse habitats has resulted in:
 - Habitat loss and fragmentation
 - Kills most varieties of sagebrush that sage-grouse depend upon
 - Creates a functional barrier to sage-grouse movements and dispersal
 - Lek abandonment
 - Population declines



Impacts to Sage-grouse

- In 2010, we concluded that fire is one of the primary factors linked to population declines of sage-grouse
- The introduction of invasive annual grasses has altered the fire return interval
- Concentrated in MZs III, IV and V (Great Basin region) and MZ VI (Columbia Basin)

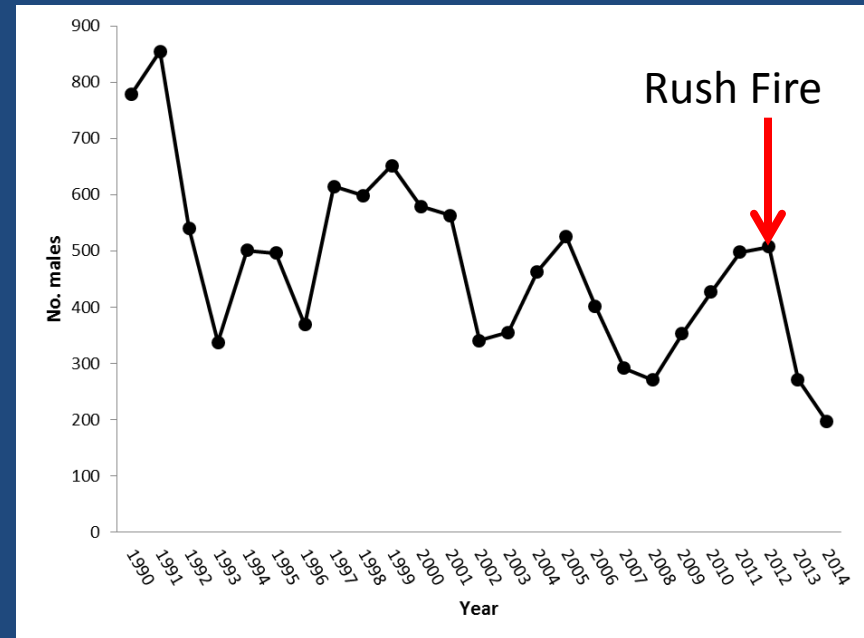
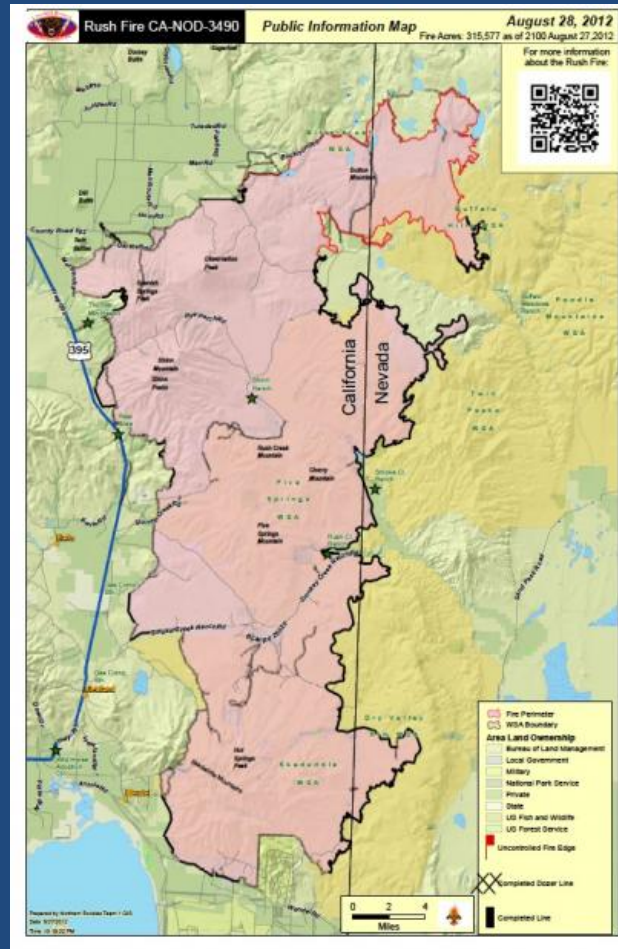


Changes Since 2010

- The BLM suppresses ~97% of all wildfire ignitions
- 2012:
 - ~1.7 million ac (4%) of PHMA
 - 0.57 million ac (3%) of GHMA
- 2014:
 - >225,000 ac (0.56%) of PHMA
 - >300,000 ac (2%) of GHMA
- Oregon: ~10% and 3.5% of PHMA in 2012 and 2014, respectively



Changes Since 2010



315,577 acres (271,911 acres in California and 43,666 acres in Nevada)

Fire in MZ VI

Summary of fires in sage-grouse habitat in Washington State as of July 31, 2014

Location and Timing	Acres	% of PAC
Connectivity	1,776	-
May (1 fire)	1,277	-
June (1 fire)	149	-
July (1)	350	-
Moses Coulee PAC (1,096,000 total acres)	11,430	1.0%
June (1 fire)	400	0.0%
July (6 fires)	11,030	1.0%
YTC PAC (478,000 total acres)	22,996	4.8%
July (2 fires)	22,996	4.8%
Grand Total (12 fires)	36,202	7.6%

Note: acreage of fires reported from Northwest Coordination Center
(www.nwccweb.us); analysis - h mcpherron (7/31/14)



Fire Models

Percent of populations which occur within the 3 classes of R&R:

	MZ III	MZ IV	MZ V
Wetland/Riparian	2%	2%	2%
High Resistance	20%	43%	8%
Moderate Resistance	30%	35%	54%
Total of High & Moderate Resistance	52%	79%	63%
Low Resistance	48%	21%	37%



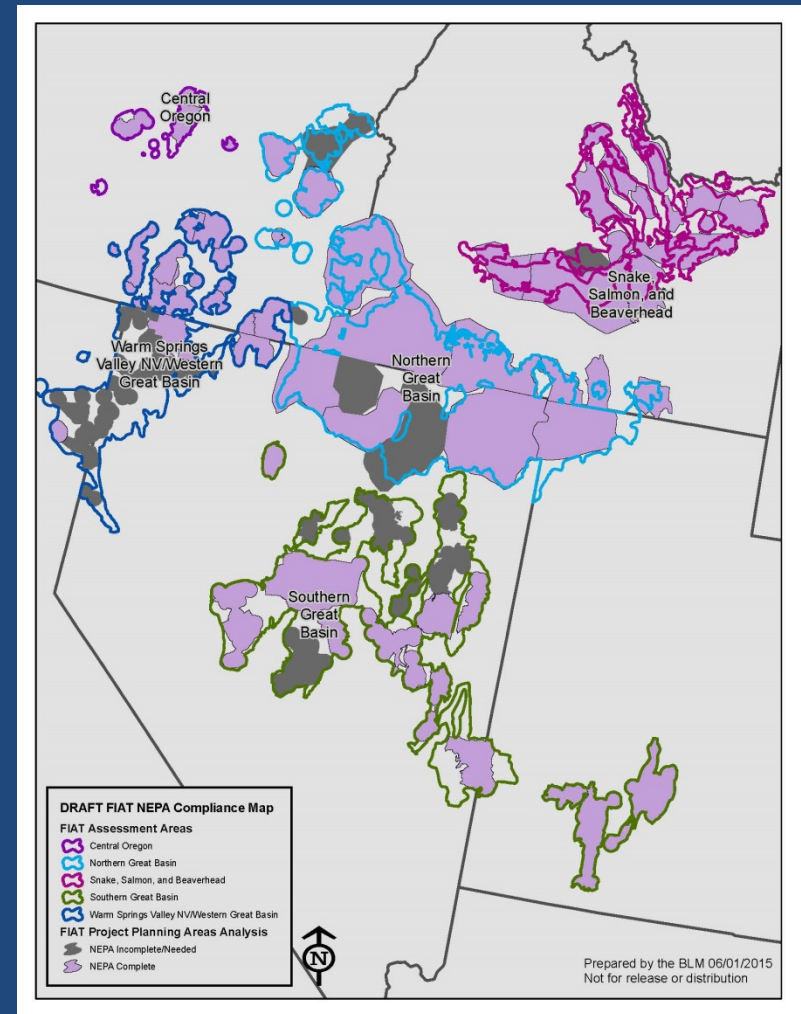
Fire Models

- Total area burned in the Great Basin region has increased (1984-2013).
- All 3 FIAT classes burned equally compared to the proportion that was available.
- Losing habitat to wildfire faster than restoration is occurring.



FIAT

- Potential Treatments:
 - >10,000 mi fuels treatments
 - ~7.4 million ac conifer treatments
 - >5 million ac invasive plant treatments
 - >19 million ac of post-fire rehabilitation (i.e., should a fire occur, the post-fire rehabilitation identifies what areas BLM priorities for management would be)
- Most treatments require NEPA analysis



Secretarial Order 3336

- The Integrated Rangeland Fire Management Strategy is intended to improve the efficiency and efficacy of actions to address rangeland fire, to better prevent and suppress rangeland fire, and improve efforts to restore fire-impacted landscapes.
- These activities involve targeted investments to enhance efforts to manage rangeland fire in specific portions of the Great Basin region.
- >\$4 million in projects will be implemented to reduce the threat of rangeland fire and protect sagebrush habitat in the Great Basin:
 - **Idaho** will receive \$1.78 million
 - **Nevada** will receive \$638,000
 - **Utah** will receive \$811,000
 - **Oregon** will receive \$1.03 million



Resilient Landscapes Projects

- Collaboration projects supported by Wildland Fire Management.
- Focus on addressing broad land-health outcomes in fire-adapted ecosystems through a place-based approach.
- \$10 Million in FY2015:
 - Bi-State \$395,000
 - Bruneau-Owyhee \$166,000
 - Greater Sheldon Hart Mountain \$3,984,250
 - Southern Utah \$2,605,000
 - Southwest Colorado \$557,000

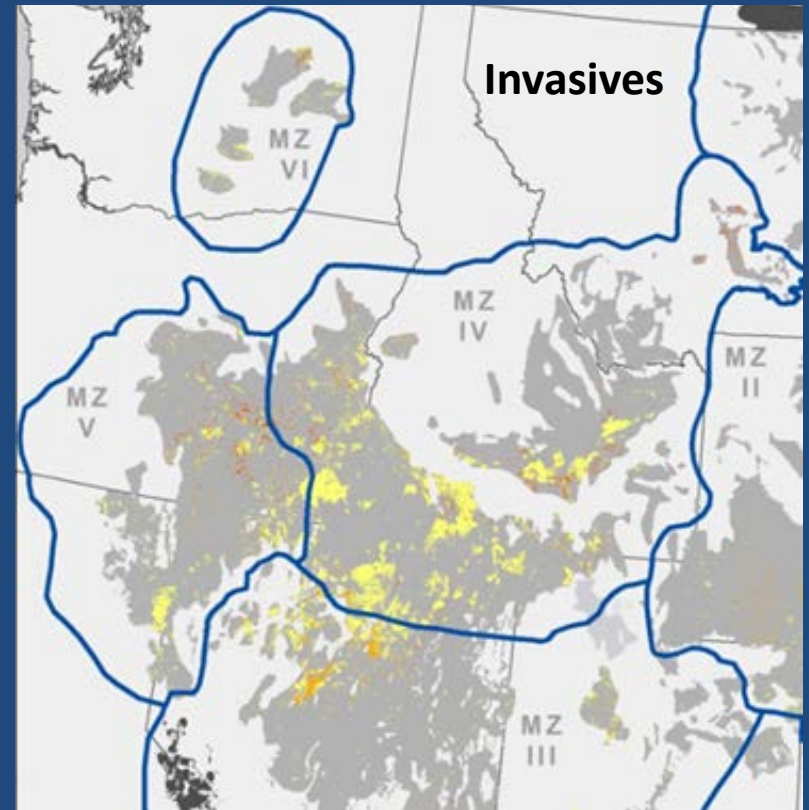
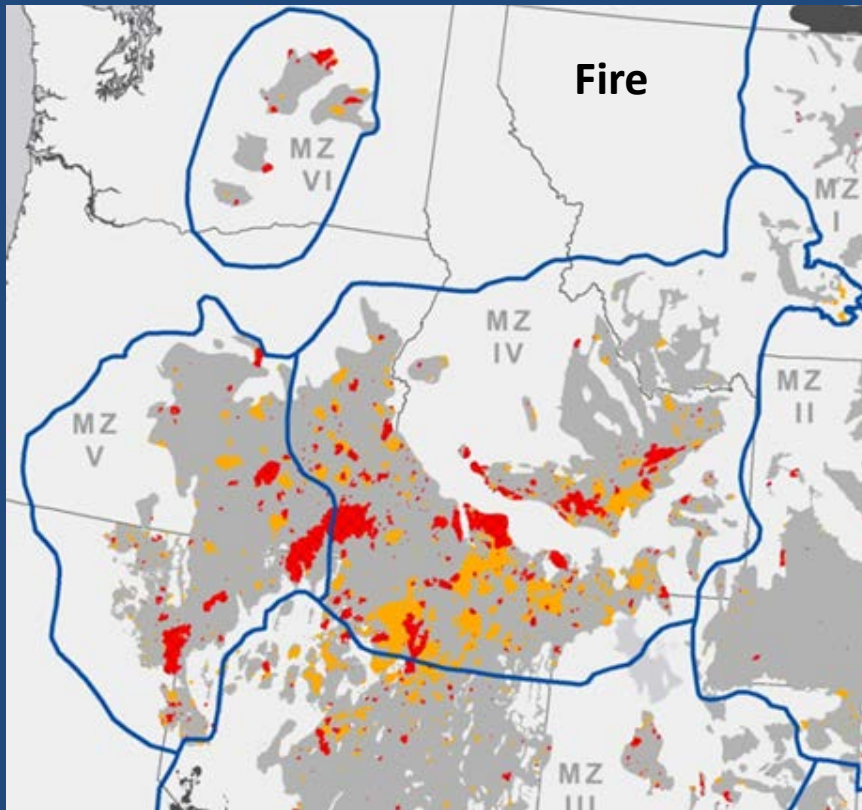


Uncertainties

- Efficacy of FIAT and SO?
- The budget for the Resilient Landscapes program is unknown in FY 2016
- Ratio of recovery post-fire vs. annual losses to fire
- Increased fire suppression effectiveness provides short-term benefit but may not meet long-term objectives for R&R landscapes
- Restoration and rehabilitation is largely ineffective



Uncertainties



Is it a fair assumption that low R&R landscapes will result in a catastrophic regime shift?

Summary

- Loss of sagebrush habitat to wildfire had been increasing due to an increase in fire frequency and size.
- The positive feedback loop between cheatgrass and fires facilitates future fires.
- The FIAT and SO established local guidance and sets forth enhanced policies and strategies for preventing and suppressing wildfire and for restoring sagebrush landscapes impacted by fire across the Great Basin region.
- While we do not know the extent to which these proposed treatments will alleviate the fire and invasives threat to sage-grouse, in 2010, we found that similar approaches to ameliorating the threat were appropriate and significant.





Invasives

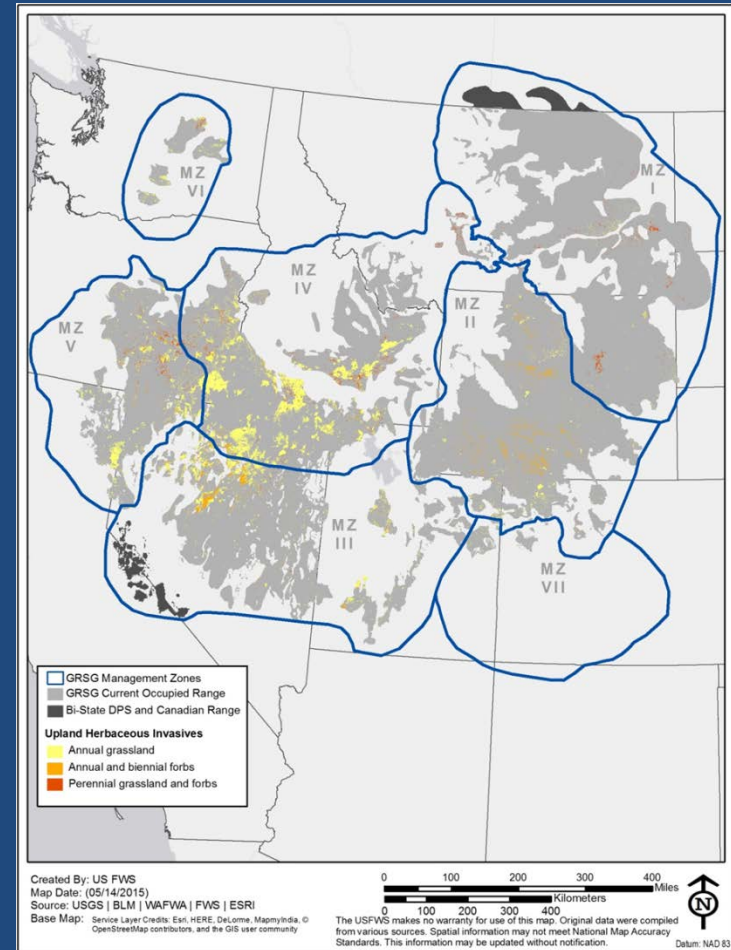
Impacts to Sage-grouse

- Invasives in sage-grouse habitats has resulted in:
 - The replacement or removal of vegetation essential to sage-grouse
 - Fragmentation
 - Lowered recruitment and annual survival
 - Lek abandonment



Location and Extent of Invasives

- Rangewide (6.3% of occupied range)
- ~8.3 million ac of annual grasses (4.8% of occupied range)
- 2.6 million ac other invasive species (1.5% of occupied range)



Changes Since 2010

- In our 2010 we found that invasives were a serious rangewide impact, and one of the highest risk factors for sage-grouse.
- More scientific literature addressing local and landscape scale effects of invasives on sage-grouse distribution and abundance.



Uncertainties

- Restoration and rehabilitation techniques are considered to be mostly unproven and experimental.
- Test applications of biological control agents are not ready for management and implementation.
- The number of acres treated annually is not keeping pace with the rate of spread.



Summary

- There has been a significant increase in activity and awareness, but much remains to be done.
- The concerns presented by the stressor will likely continue to influence the persistence of sage-grouse, particularly in the Great Basin.

