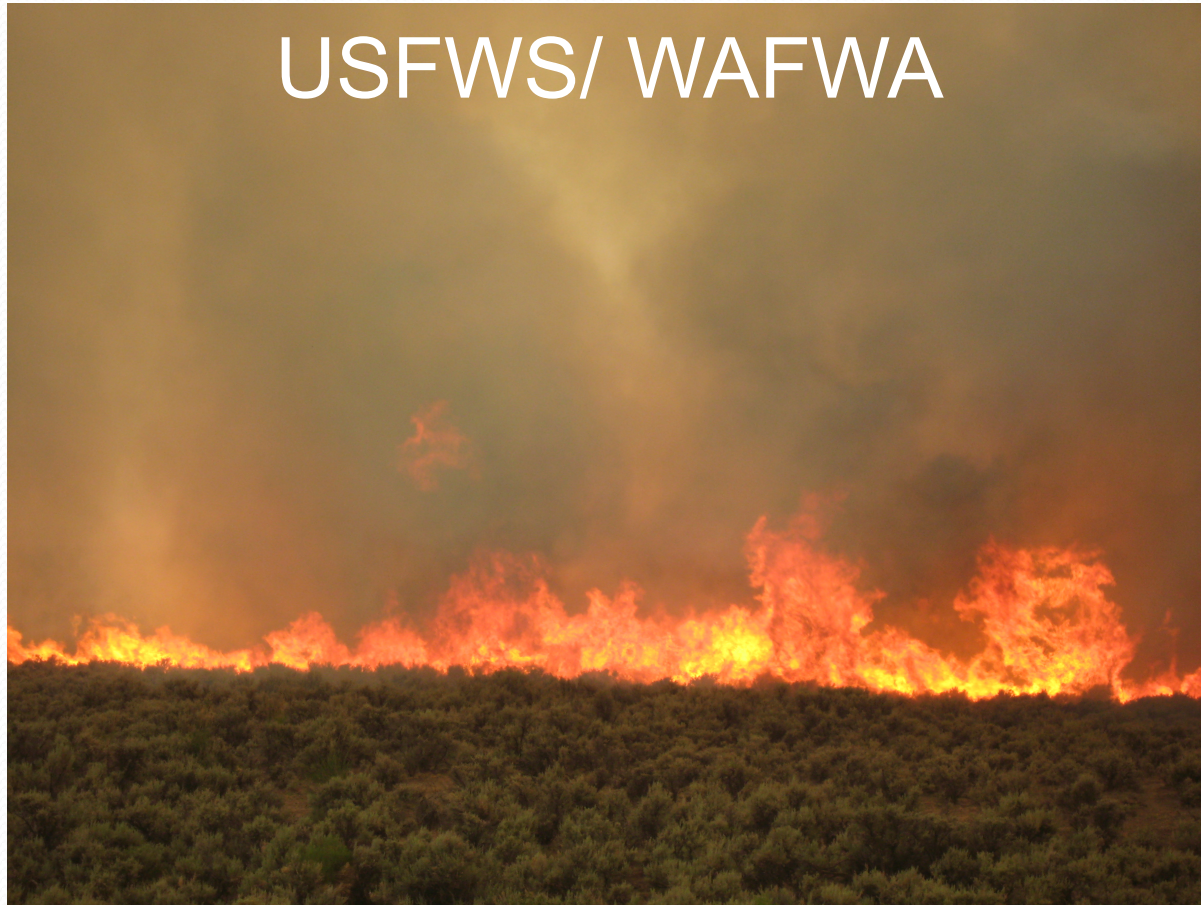


Wildfire and Invasive Initiative

Presented by Ken Mayer

USFWS/ WAFWA





Why WAFWA

- WAFWA possesses the unique capability to coordinate and leverage the capacity and research capabilities of multiple Western state fish and game management agencies.
- WAFWA and the FWS have a mutual interest and concern for sage-grouse and the entire Great Basin Ecosystem.
- WAFWA is uniquely positioned to organize and lead a scientifically based assessment that includes all interest and agencies (public and private)



Mission

- To develop a report of the current work and a set of concise, concrete, prioritized and integrated actions, land managers and policy makers can take to effectively preclude the dominance of invasive species and reduce their influence on the fire cycle in sagebrush ecosystems in the west.

Goals

- The primary goal is to not recreate what is currently being done.
- To initiate a collaborative assessment of management options for the conservation of sagebrush-steppe habitats across multiple ownerships.



Goals Cont.

- To benefit all sagebrush dependent species of mutual management interest to the FWS and WAFWA member agencies.
- Compile and coordinate existing information and management efforts.





04.15.2006



Objectives

- Identify what is going on in the Great Basin to manage or affect the wildfire/invasive threat (who, what, when, where and why?)





Objectives

- Develop an objective, biologically based approach to assess these efforts.
- If the efforts are not working identify the problems/ shortcomings and or “gaps”
- Suggest ways to improve or fix these problems/ shortcomings of conserving sage-grouse habitat.
- Based on the assessment, propose a new integrated approach to manage the wildfire/invasive threat (building on the programs or efforts that are working as a better plan going forward).

Wildfire/Invasive Initiative Working Group

Fire Ecology and Fire Suppression

- Pete Anderson-NV State Forester
- Laurie Kurth-USFS
- Ted Milesneck-BLM
- Doug Havlina-BLM

Wildlife Management and Sage-grouse Ecology

- Tom Christiansen-WYGF
- Dawn Davis-ODFW
- Shawn Espinosa-NDOW
- Don Kemner-IDFG
- Jeremy Maestas-NRCS

Restoration Ecology, Range Management, Invasive Species

- Chad Boyd-OSU
- Jeanne Chambers-USFS Research
- Mike Ielmini
- Brian Meador-UoWY
- Mike Pellant-BLM
- David Pyke-USGS Research
- Jason Vernon-UTDW

Federal Land Management and Planning

- Joe Tauge-BLM



Products To Date

- 1. A Conceptual Landscape Approach to Assessing the Wildfire/Invasive Threat (Managing invasive annual grasses and altered fire regimes using resilience concepts – An integrated approach. A Sage-grouse Habitat Matrix).
- 2. Preliminary “Gap Analysis” (Wildfire and invasive species in the west: Challenges that hinder current and future management and protection of the sagebrush-steppe ecosystem).

ENVIRONMENTAL GRADIENTS



Wyoming Big Sage



Mtn Big Sage



Mtn Big Sage
- Mtn Brush

Warm-Dry —————> Cold-Moist

Elevation/Productivity



Sage-grouse Matrix and Management Strategies

- Based on resilience and resistance concepts, for Sage-grouse Management zones III, IV and V.
- The matrix is meant to be applied to historic, potential, or current sage-grouse habitat.
- The rows show the plant communities' relative resilience to disturbance and resistance to invasive annual grasses.
- The columns show the current proportion by sagebrush to support viable sage-grouse populations over the long term.
- The management goal is to move toward a better site condition within a row--it is not possible to move between rows within a landscape or site.
- Management strategies provided for each matrix cell.

Proportion of Landscape Dominated by Sagebrush

Resilience to Disturbance & Resistance to Invasive Annual Grasses

	Low < 25% Sagebrush-Dominated Landscape	Moderate 25-65% Sagebrush-Dominated Landscape	High > 65% Sagebrush-Dominated Landscape
High	Sagebrush lacking - Natural recovery likely Sufficient PNH Low annual invasive risk Seeding success high Appropriate livestock grazing Strategies - M1, M5, M6, M7, R1, R2	Sagebrush limiting- Natural recovery likely Sufficient PNH Low annual invasive risk Seeding success high Appropriate livestock grazing Strategies - M5, M5,M6, M7, R1, R2, R3	Sagebrush sufficient- Natural recovery likely Sufficient PNH Low annual invasive risk Seeding success high Appropriate livestock grazing Strategies - M2, M5, M6, M7, M8, R3
Moderate	Sagebrush lacking Natural recovery possible PNH site dependent Invasive risk moderately high on warmer and drier sites Seeding success site dependent Strategies – M4, M5, M6, M7, M8 R1, R2, R3, R5	Sagebrush limiting Natural recovery possible PNH site dependent Invasive risk moderately high on warmer and drier sites Seeding success site dependent Strategies – M1, M4, M5, M6, M7, R1, R2, R3	Sagebrush sufficient -Natural recovery likely on cool moist sites PNH site dependent Invasive risk moderate Seeding success site dependent Strategies: M1, M2, M4, M5, M6, M7,M9, R3
Low	Sagebrush lacking Natural recovery unlikely PNH lacking High annual invasive risk Seeding success low Strategies - M2, M3, M4, M6, M7, M8,R4, R5, R6	Sagebrush limiting Natural recovery unlikely PNH lacking High annual invasive risk Seeding success low Strategies - M1, M2, M3, M4, M7, R4, R5, R6	Sagebrush sufficient Natural recovery unlikely PNH lacking High annual invasive risk Seeding success low Strategies - M1, M2, M3, M4, M6, M7, M9, R3, R5, R6



Management Strategies

- **Maintain/conserves**
- **M1.** Immediately suppress wildfires to protect highest priority habitats
- **M2.** Establish fuel breaks in strategic locations to facilitate compartmentalization of future fires
- **M3.** Contain existing invasive annual grasslands using integrated approaches
- **M4.** Manage livestock grazing to increase abundance of perennial grasses and forbs
- **M5.** Remove early to mid phase post-settlement conifers (typically pinyon pine and/or juniper species) to retain shrub/herbaceous cover and reduce fuel loads
- **M6.** Detect and control new weed infestations and control invasion corridors and vectors
- **M7.** Protect remaining sagebrush patches from disturbances that decrease resilience and resistance including those resulting from management actions
- **M8.** Suppress wildfires once suppression is provided for in highest priority habitats
- **M9.** Apply wildfire preparedness (e.g., resource positioning, prevention outreach) in the highest quality habitats

Management Strategies

Restore

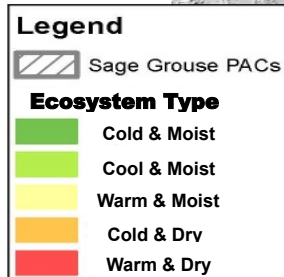
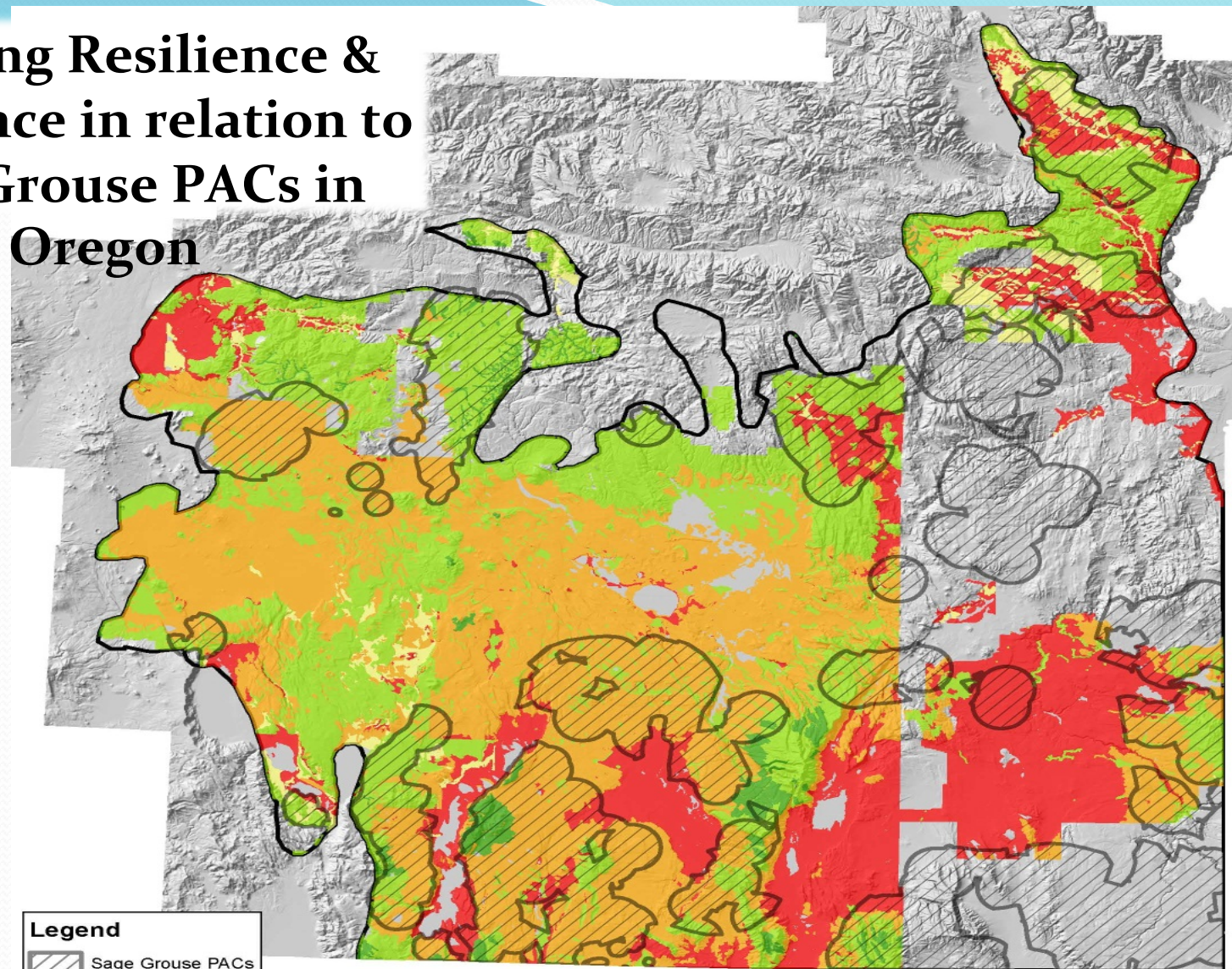
- **R1.** Seed/transplant sagebrush in strategic corridors and/or large patches to serve as seed sources and decrease the time required to increase landscape cover of sagebrush
- **R2.** Remove later phase post-settlement conifers (typically pinyon pine and/or juniper species) to reduce conifer dominance and reestablish shrub/herbaceous cover. Since these areas represent non-habitat for sage-grouse, prescribed fire may be appropriate on cooler/moister sites, but restoration of sagebrush and perennial native herbaceous species may be necessary.
- **R3.** Seed native perennial herbaceous plants in areas where they have been depleted
- **R4.** Seed/transplant sagebrush and fire-tolerant perennial herbaceous plants. Use integrated strategies and plan for repeated interventions in the least resilient/resistant sites.
- **R5.** Reduce fine fuel continuity to decrease risk of repeated fire during the restoration process
- **R6.** Stabilize annual grasslands by seeding introduced perennial grasses on warmer and drier sites, and native perennial grasses on cooler and moister sites. Use integrated strategies and plan for repeated interventions in the least resistant/resilient sites.



How Can the Matrix Be Used

- Organizing framework for a landscape approach to manage invasives and fire.
 - All partners with a consistent approach*
- Planning and reporting tool at a regional and local level.
- Ecologically-based recommendations for management and restoration.
 - improve current programs*

Mapping Resilience & Resistance in relation to Sage-Grouse PACs in Oregon



1:2,000,000



Gap Analysis

- 21 Gaps Identified and grouped by:
- Programs, Funding and Policy Gaps
- Science, Implantation and Monitoring Gaps



Top 5 Gaps

- 1. Land management agencies need a long-term pre- and post-fire restoration funding initiative to secure dedicated funding to ensure that appropriate fuels management is accomplished and sagebrush ecosystems can be restored following fire. These funds need to be separate from fire suppression funding.
- 2. Agencies lack comprehensive, range-wide maps of vegetation types, their ecological conditions, and soil surveys to assist managers in conservation, restoration, and planning effective management practices.



Top 5 Gaps

- 3. Seeding methods, seed mixes, and equipment used for post-fire rehabilitation or habitat restoration need to be updated to improve native plant (especially sagebrush) reestablishment. New technologies like seed coating and soil pathogens to counter cheatgrass need to be employed.
- 4. Rancher, private landowner, and agency (local, state, and federal) fire management coordination (e.g., Fire Protection Associations) need to be supported and implemented across the Great Basin.



Top 5 Gaps

- 5. We lack the necessary information, policy, and administrative support to:
 - Determine appropriate timeframe for removal or level of reduction of livestock grazing to promote ecosystem recovery after fire.
 - determine utility of using livestock to reduce fuels.
 - ensure that existing livestock grazing is managed to promote resiliency within the understory vegetative community before a fire occurs.

Questions?

