

# Cold Desert Fire and Invasive Species Management



Resources, Strategies,  
Tactics and Response

Jeanne Chambers, Beth Leger &  
Erin Goergen Synthesizers

# [ NUGGETS ]

- UNDERSTAND THE RESOURCE
- ASK THE RIGHT QUESTIONS
- THINK OUTSIDE OF THE BOX
- DEVELOP WELL-THOUGHT OUT GOALS
- DEVELOP SCIENCE-BASED SOLUTIONS
- TREAT THE CAUSE - NOT THE SYMPTOMS
- WORK TOGETHER!



# [ Notable Quotes ]

---

- Recognize that the cold desert is a valuable system so it gets the money put toward it that other areas do – the necessary fire fighting resources, rehab resources, research dollars, etc.

# [ Notable Quotes ]

---

- Land managers have to be historians and visionaries so that they can identify the appropriate solution

# [ Notable Quotes ]

---

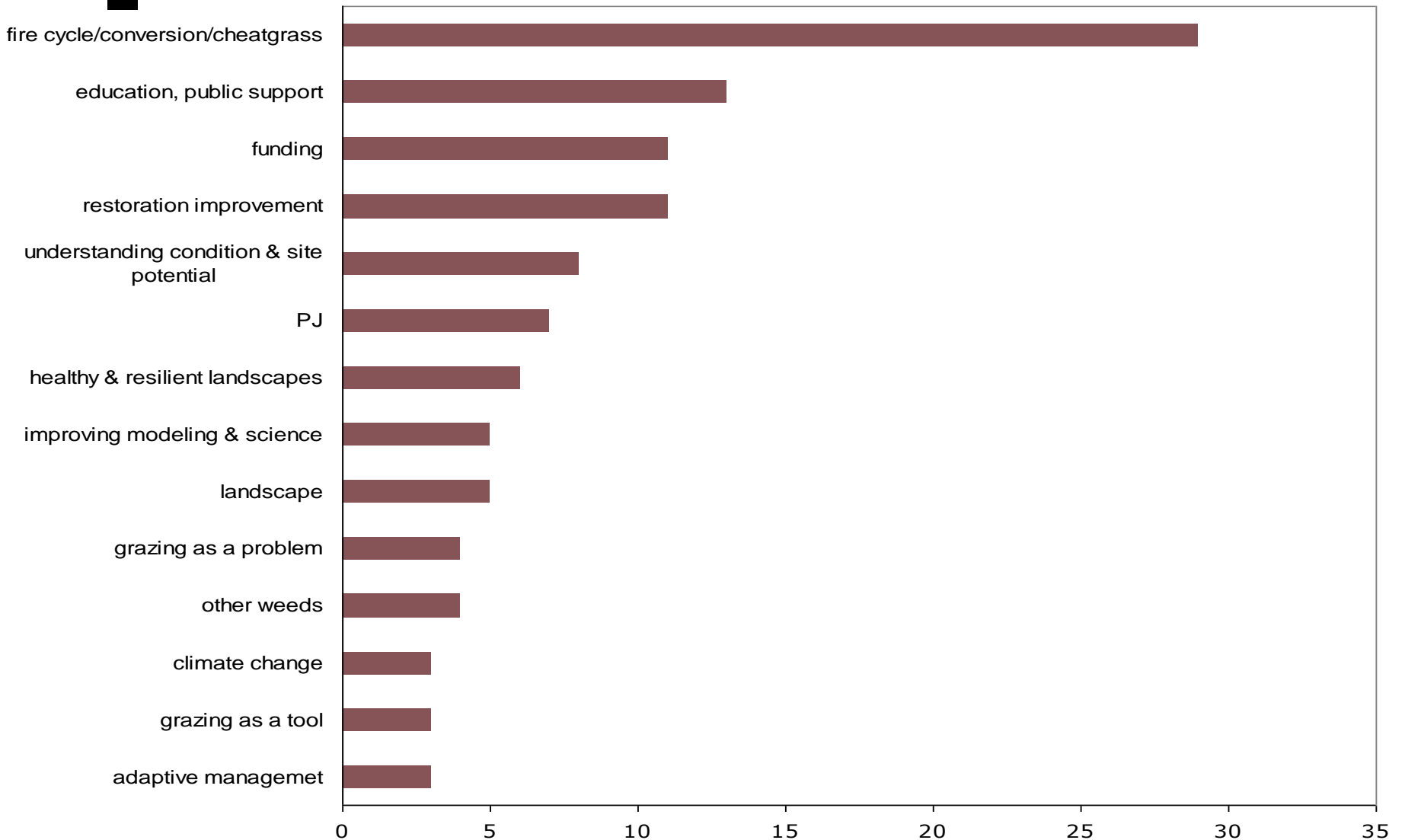
- How do we address climate change - the vast landscapes vulnerable to invasives migrating north from hot deserts and the problems they create with new fine fuels.

# [ Notable Quotes ]

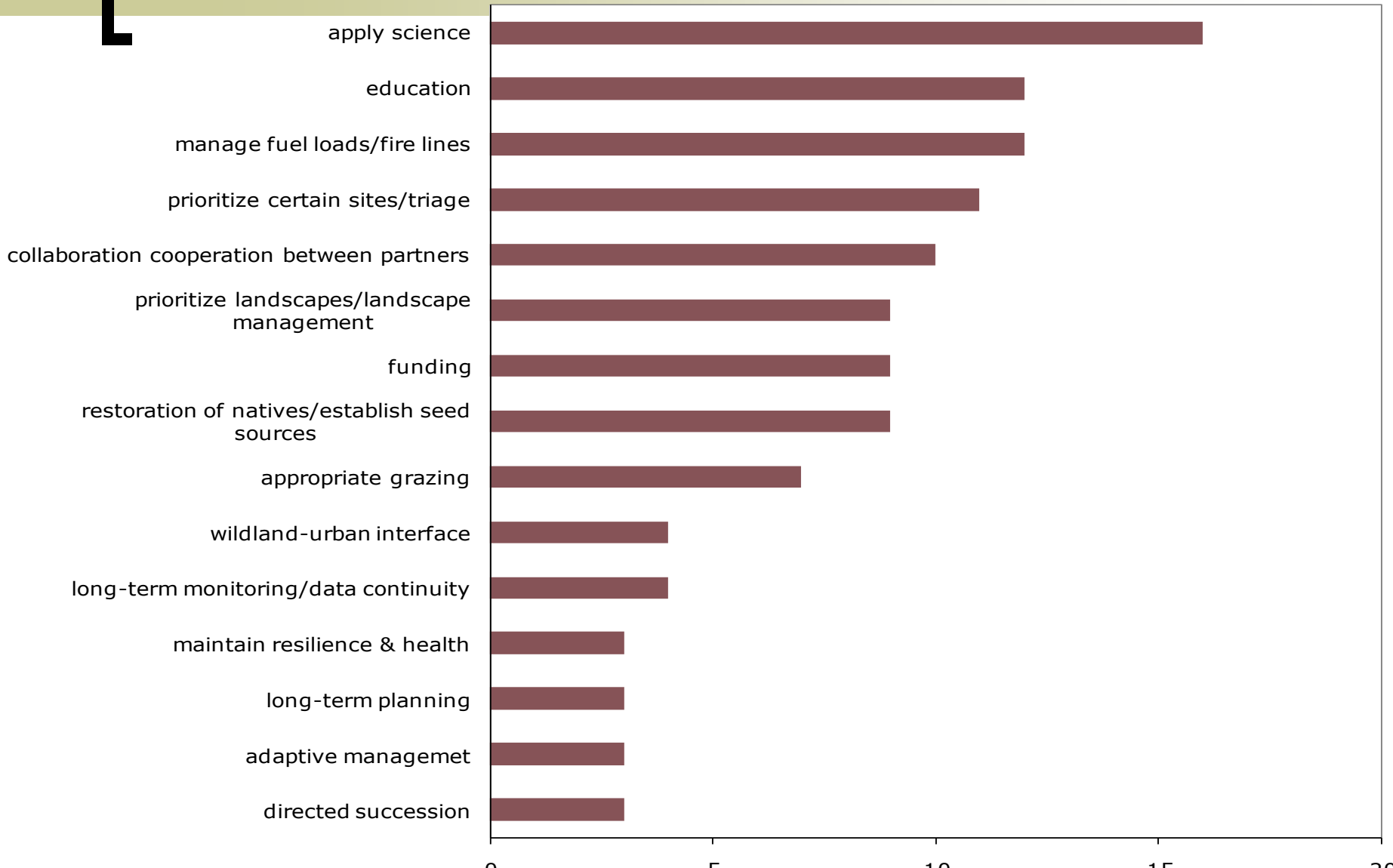
---

- Wildland land use planning on a planning horizon of say 50 years. Not 5/10 years!!

# Summary of Issues



# Summary of Strategies





# Science Recommendations

- Prediction and Modeling
  - Increase accuracy of predictions for regional climate change models
  - Increase capacity to predict vegetation change in response to climate/ fire/ invasives
  - Develop models that project outcomes for fire and invasives under different human population growth and management scenarios



# Science Recommendations

- Collaborative Research and Management Activities & Experiments
  - Determine relative resistance and resilience for major cold desert vegetation types
  - Define abiotic and biotic conditions that result in threshold crossings (use a process-based approach; recognize various feedback mechanisms) (Sage Step +)

# Science Recommendations

- Determine effects of timing and intensity of grazing on fire rehabilitation sites – experiments; consistent & long-term monitoring
- Determine short- and long-term effects of rehabilitation focused on non-natives (Crested wheatgrass, forage kochia, brome cultivars). Is it really the solution & are the trade-offs too great? Is there a better approach? Perhaps functional diversity? Perhaps use only for assisted succession/transitional communities until we have answers?

# Science Recommendations

- Develop an understanding of the relative plasticity of native species' responses to a changing climate and interactions of invasive species and fire.
- Step up efforts to select native cultivars, propagate them & develop establishment methods. Are natives adapting to disturbance? Let's find out so we can take advantage of these new adaptations.

# Science Recommendations

- New Concepts and Approaches
  - Incorporate resilience thresholds into state and transition models with necessary abiotic and biotic metrics
  - Develop new models more applicable to landscape scales that consider patch size, fragmentation, corridors, etc.

# Science Recommendations

## ■ Education

- Develop effective decision tools and guidelines for implementing invasives and fire management
- Develop tools and guidelines for restoration/ rehabilitation treatments that consider resistance & resilience

# Management and Policy Essentials and Changes

- Assessment and Monitoring
  - Develop a network of sites (intensive & extensive) to monitor ongoing change due to climate, N deposition etc. that feeds back into modeling and prediction efforts (Designate Research Sites)
  - Conduct routine and consistent assessments of vegetation types, ecological conditions, locations of invasives and likely FRIs at management scales
  - Develop consistent data bases that are readily accessible to all (research and management)

# Management and Policy Essentials and Changes

## ■ Strategic Planning

- Prioritize management activities based upon routine assessments
  - Protect remnant ecological types, newly restored habitats (islands), old growth p-j, etc.
  - Protect areas of critical habitat (e.g., Snake R. Birds of Prey)
  - Establish managed fire areas for intact communities with high resilience
  - Use vegetation management to maintain resilience
  - Use restoration/rehabilitation on priority management areas (WUI, critical habitat, adjacent to intact areas)



# Management and Policy Essentials and Changes

- Summary
  - Funding was often mentioned but no real suggestions
  - Using science to develop policy was often suggested with few specifics
  - Increasing recognition of the importance of public education and involvement
  - There was wide-spread recognition that managing on longer time scales and larger spatial scales is necessary



# [ NUGGETS ]

- UNDERSTAND THE RESOURCE
- ASK THE RIGHT QUESTIONS
- THINK OUTSIDE OF THE BOX
- DEVELOP WELL-THOUGHT OUT GOALS
- DEVELOP SCIENCE-BASED SOLUTIONS
- TREAT THE CAUSE - NOT THE SYMPTOM
- WORK TOGETHER!

