Pro-Active EBIPM: Establishing a Weed Prevention Area

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Weed Prevention

• Managing in a way that keeps weed invasions from happening.

• There are many instances where early response to a weed infestation could have headed off widespread invasion.

• Prevention is likely one of the most effective management principles and processes.
Weed Prevention

“Intellectuals solve problems, geniuses prevent them.”

Albert Einstein
Money spent on prevention can provide excellent returns on investment when you consider that every dollar spent on early intervention saves $17 in later expenses.
Weeds know no boundaries and disperse in amazing ways.
Limitations to Practicing Prevention

• Risk
  – Uncertainty

• Educational
  – Lack of knowledge

• Financial
  – Funding & Resources
  – Time

Graphs showing percentages of importance for different limitations:
- Level of Visible Results
- Limited Knowledge
- Time Required
- Inconvenience
- Funding and Resources

Legend:
- Not Important
- Slightly Important
- Somewhat Important
- Very Important
What is a Weed Prevention Area?

- People with common goal – maintaining or creating healthy land resources “where they live”

- WPAs help to:
  - Slow the spread of weeds
  - Minimize environmental and economic costs
  - Cooperatively manage areas
  - Prevent weed invasions
  - Implement early management efforts
Weed Prevention Area = WPA

- In some cases, protection for intact habitats.
- In others, containment of new invading species.
- In many locations, prevention of secondary or additional invasive plant species.
Ecologically-based Invasive Plant Management (EBIPM)

Establishing a Weed Prevention Area – A step-by-step user’s guide

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Provides help with organization and function of a Weed Prevention Area. Includes information, tools, worksheets, and resources.
Step-by-Step Guidelines

I. Introduce the WPA Concept
- Identify Initial Leadership
- Build Community Support

II. Organize the WPA
- Leadership and Structure
- WPA Boundaries
- Prioritized Weed Lists

III. Develop the Action Plan
- Set Goals and Objectives
- Develop Site-Specific Strategies to Achieve Goals

IV. Implement the Action Plan
- Put the Plan Into Motion
- Obtain Funding
- Keep Records

V. Evaluate the Action Plan
- Short-Term Effectiveness
- Long-Term Effectiveness
Developing an Action Plan

Components of a WPA Action Plan

- Vision, Goals, & Objectives
- People Involved & Partner Groups
- Prevention Strategies
- Mapping Strategies
- Early Detection/Rapid Response Strategies
- Ecosystem Management Strategies
WPA Site-Specific Strategies

• Reduce susceptibility of land to weed invasion
• Establish and manage competitive plants
• Limit soil disturbance
• Prevent the spread of invasive weeds into new areas
• Interrupt weed invasion pathways
• Limit weed seed production and dispersal
• Early detection and eradication of satellite patches
• Contain neighboring weed infestations
• Develop monitoring, education, awareness programs
What are Advantages of WPA?

- Easier for groups to apply for and secure additional funding
- Minimize costs associated with initiating prevention by providing funds to make treatments
- Develop awareness campaign
- Encourage people to become involved in prevention and early control efforts
WPA = Changing a long-held way of thinking about weeds.

• Traditional –
  – After a weed becomes a major economic problem in an area

• WPA approach –
  – Keeping land without invasive species free from invasion
  – Prevention and early infestation management
  – Develop a weed action plan with measurable objectives
WPA Case Study

- Weed Prevention Area (South Cache) established in 2009
- Core group of landowners organized to battle medusahead
- Funding provided for WPA coordinator
- WPA in terms of medusahead containment
- Has brought more partners to the table
- Visibility to weed problems in Utah
Contributors

- Cache County Weed Dept
  - Chemical, Recommendations
- Natural Resource Conservation Service
  - Technical Expertise, Monitoring Support
- USDA-ARS Area-Wide EBIPM Project
  - Funding for WPA Coordinator
- Utah Department of Agriculture and Food
  - Mapping Funds
  - Seed Contributions (GIP and UPCD)
  - Portion of Rangeland Drill
- U.S. Fish and Wildlife Service
  - Mapping Funds
  - Portion of Rangeland Drill
  - Seed(?)
- Utah State University
  - Research and Technical Expertise
    - Treatment plots, Grazing trials, Sociology, Education studies
  - Administer ARS funding
- Blacksmith Fork Conservation District and Utah Assn. of Conservation Districts
  - Staff
  - Portion of Rangeland Drill
  - Coordination of Project
South Cache WPA

- Coordinated mapping and spraying.
- Produced newsletters
- Tours & other education
- Purchased range drill
Medusahead 2010-2011 Successes

- Sprayed 985 acres
- Seeded 887 acres
- Spring tour
- Range drill
- Education products
- Research Efforts

The Curse of Medusahead

Medusahead turns forage productivity to stone, reducing it up to 80%

Medusahead is an invasive weed annual grass that has invaded 60 million acres in the Great Basin. First identified in Oregon in 1984, Medusahead invasion can be widespread, targeting CA, OR, and UT. The weed germinates in the fall and grows rapidly in the spring and for some time into the summer.

Why Should I Care About Medusahead?

- Medusahead is expanding rapidly in our county.
- It's poor quality forage and reduces forage production up to 80%.
- It forms dense stands that produce many seeds.
- Due to its high silica content, it accumulates and forms a barrier, preventing the growth of other plants.
- It is difficult to control with herbicides or grazing.

Preventing Spread of Medusahead

- Medusahead is less likely to invade dense, tall perennial bunchgrass communities, but more likely to invade annual grasses.
- Medusahead is likely to establish when seed density is as low as 10 seeds in a 10"² area.
- Seeds may travel further than 18' from the area of infested areas.
- Seeds can be removed if the infested area is surrounded by barriers to keep plants out.
- Seeds are dispersed from parent plants from July to October.
- Monohybrids can reduce Medusahead infestations.
Inventory: Remote Sensing and Ground Based
Weed Prevention Areas Address Concerns

Barriers to prevention

– Risk
– Educational
– Financial

Opportunities of a WPA

– Education
– Coordinate Efforts
– Pool Resources
– Additional Funding
Summary

• Prevention is the most cost effective weed management method.

• WPA’s can be a vehicle for encouraging the implementation of landscape scale weed prevention.

• WPA’s can engage additional people and bring added resources into weed management efforts.

• The development of a WPA near Paradise, Utah appears to be influencing management decisions, inventory and education efforts, and hopefully will increase weed management success.

• The WPA concept can be adapted to most weed management situations.
Questions?