Denver Water
Source Water Protection Plan
Upper South Platte Noxious Weeds
February 14, 2014
What? Me worry?
Today’s Outline

• Why manage weeds?
• Common weeds vs. “noxious” weeds
• Issues affecting management
• Impacts on water quality and quantity
• Noxious weeds in your neighborhood
• Best management practices
Why manage weeds?

- Agricultural productivity
- Native plant communities
  - value to wildlife
  - livestock
- Soil erosion
- Water consumption
- Wildfire
Common weeds vs. “noxious” weeds

- Alien plants or parts of alien plants that:
  - Aggressively invade or are detrimental to economic crops or native plant communities;
  - Are poisonous to livestock;
  - Are carriers of detrimental insects, diseases, or parasites; or
Common weeds vs. “noxious” weeds

- Alien plants or parts of alien plants that:
  - The direct or indirect effect of the presence of this plant is detrimental to the environmentally sound management of natural or agricultural ecosystems.
Issues affecting management

- A chronic problem – no crisis here!
- Hidden costs tend to lower the priority
- Costs of loss and recovery
- Land management goals
- NPDES & herbicide use in general
Impacts on water quality

- Soil erosion – sedimentation
- Re-seeding issues
- Herbicide use

Russian knapweed
purple loosestrife, wetlands
Impacts on water supply

- Water consumption by phreatophytes
Wildfire

- Shortens the fire cycle, sometimes considerably
- Has long-term consequences, even “permanent”
- Water quality – runoff, debris slides, etc.
## Noxious weeds in your neighborhood

- **List A species**
  - Orange hawkweed
  - Elongated mustard

- **List B species**
  - Thistles
  - Diffuse knapweed
  - Leafy spurge
  - Yellow toadflax

- **Other List B species**
  - Thistles
  - Russian and spotted knapweeds
  - Dalmatian toadflax
  - Hoary cress &
  - Perennial pepperweed
  - Daisies
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Noxious Weed Program

Noxious weeds in your neighborhood

orange hawkweed
Orange Hawkweed
Elongated mustard
biennial thistles
Noxious weeds in your neighborhood

Canada thistle
Noxious weeds in your neighborhood

diffuse knapweed
Noxious weeds in your neighborhood

Leafy spurge
Noxious weeds in your neighborhood

yellow toadflax
Noxious weeds in your neighborhood

others: hoary cress and perennial pepperweed
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others: oxeye daisy, chamomiles
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Best management practices

- Prevention!
- Keep from establishing
- Once established,
  - Survey & map
  - Contain & suppress
  - Eliminate

- Tools
  - Mechanical
  - Herbicides
  - Land management
  - Biological controls
  - Educate & report
Best management practices - IPM

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- Pulling, digging
- Mowing
- Grazing
Best management practices - IPM

Tools
- Mechanical
- Herbicides
- Land management
- Biological controls
- Educate & report

Label is the law
- Modes of action
- Selective vs.
- Non-selective
- Foliar vs. pre-emergent
- Soil activity
- “water’s edge”
- NPDES
Best management practices - IPM

- **Tools**
  - Mechanical
  - Herbicides
  - Land management
  - Biological controls
  - Educate & report

- Knowledge of weeds
- Cropping rotation
- Grazing rotation
- Fire
- Crop selection
- Financial vs. land health
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Best management practices - IPM

- Tools
  - Mechanical
  - Herbicides
  - Land management
  - Biological controls
  - Educate & report

- Cost-effective
- Will not eradicate
- Good for suppression
- Selected weed species
- CDA Insectary
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Noxious Weed Program

Best management practices - IPM

- Tools
  - Mechanical
  - Herbicides
  - Land management
  - Biological controls
  - Educate & report

- Weed ID
- Where/whom to report?
- EDRR
Noxious Weeds

The goals of the program are to:

- prevent the introduction of new invasive plant species
- eradicate species with isolated or limited populations
- contain and manage those invasive species that are well established and widespread

To accomplish these goals the program:

- implements preventative strategies to reduce the opportunity for new invasive species
- provides information and resources to local weed managers
- helps establish local weed management areas emphasizing coordinated efforts among public and private landowners
- educates public agency staff and private citizens about the negative impacts associated with noxious weeds
Resources

County Contacts

Below is a Google map of Colorado with contact information on each County Weed Program. Should you have any questions please feel free to contact us.

Weld County
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Musk thistle (Carduus nutans) is a non-native biennial forb that reproduces solely by seed. A biennial is a plant that completes its lifecycle within two years. During the first year of growth, the plant produces a rosette of leaves. In the second year, the plant will produce a flowering stem with a large pink thistle flower. The key to effective control of Musk thistle is to prevent the plant’s seed production. Planting desirable grasses and forbs to outcompete Musk thistle can also be effective. Dense Musk thistle stands can be treated by spot treatments of herbicides and by a persistent mechanical program. Details on the back of this sheet can help to create a management plan compatible with your needs.

Habitats for Musk thistle include disturbed, overgrazed areas. Once a pasture is infested, the livestock carrying capacity for that area is significantly decreased. The plant may also occur on rangeland, roadsides, ditches, riparian areas, and trails.

Identification and Impacts

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Thank you!

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Colorado Department of Agriculture

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