Invasive Plant Management on Rights-of-Way

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Objectives

- Right of way (ROW) as a corridor
- Invasions into unique locations
- Adaptive characteristics of weeds
- Difficulty of management techniques
Total miles of roadway = 46,773;
40 acres of roadside per mile = 1.87 million acres
ROW as a corridor

- Continuous “connector” for north-south and east-west
- Intended “crop” is a grass monoculture
- “Crop” managers are many
  - Intent is to manage growth, not species diversity
- Many personnel working on ROW lack extensive weed ID skills
- Spread of invasive weeds on ROW subtle
- Geo-referenced Spotted Knapweed
  2007
There are more when you really start to look for them!

Missouri Spotted Knapweed Infestation 2008

Releases
- Root Borer weevil (cypholeon)
- Root Borer and Flowerhead weevil (cypholeon and larinus)

Spotted Knapweed
- Evident: < 10 plants per 1/10 mile
- Infested: > 10 plants per 1/10 mile
- State System Routes
Common invasive weeds along Missouri ROW

- Poison hemlock
- Teasel
- Spotted knapweed
- Sericea lespedeza
- Musk thistle
- Johnsongrass
- Bush honeysuckle
ROW has a unique environment

- Non-cropped, but disturbed
• Present near obstructions
• Atypical soils
Adaptive characteristics of weeds

- Deep root systems; cutleaf teasel
Deep root systems important in nutrient-poor soils
• Form dominant communities
• Use present management techniques to spread

Mowing done at prominent times of year; Memorial Day, Independence Day, Labor Day
• Photosynthetically active early and late in year
Management techniques- starts with biology and life cycle

Cutleaf teasel

Seedling (2 months)

Pre-flowering (1 month)

Reproduction (3 months)

Rosette (12 months)
Mapping populations
Management techniques difficult

- Few herbicides labeled on specific weeds
  - Selectivity for desirable roadside species also a concern
- ROW separated within a state into districts; implementation of practices differs
- Some vegetation desirable to minimize erosion
- Many species well established before control measures widely practiced
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• Chinese phrase
Successful management

• Early detection and action
• Integration of techniques
• Replacement of undesirable species with a desirable one adapted to that environment
• Cooperation of multiple agencies (Academia, DNR, DOT, conservation groups, wildlife groups (eg. Ducks Unlimited))
• Industry interest in labeling new compounds (aminopyralid, aminocyclopyrachlor)