Inventory Monitoring and Mapping Invasive Species
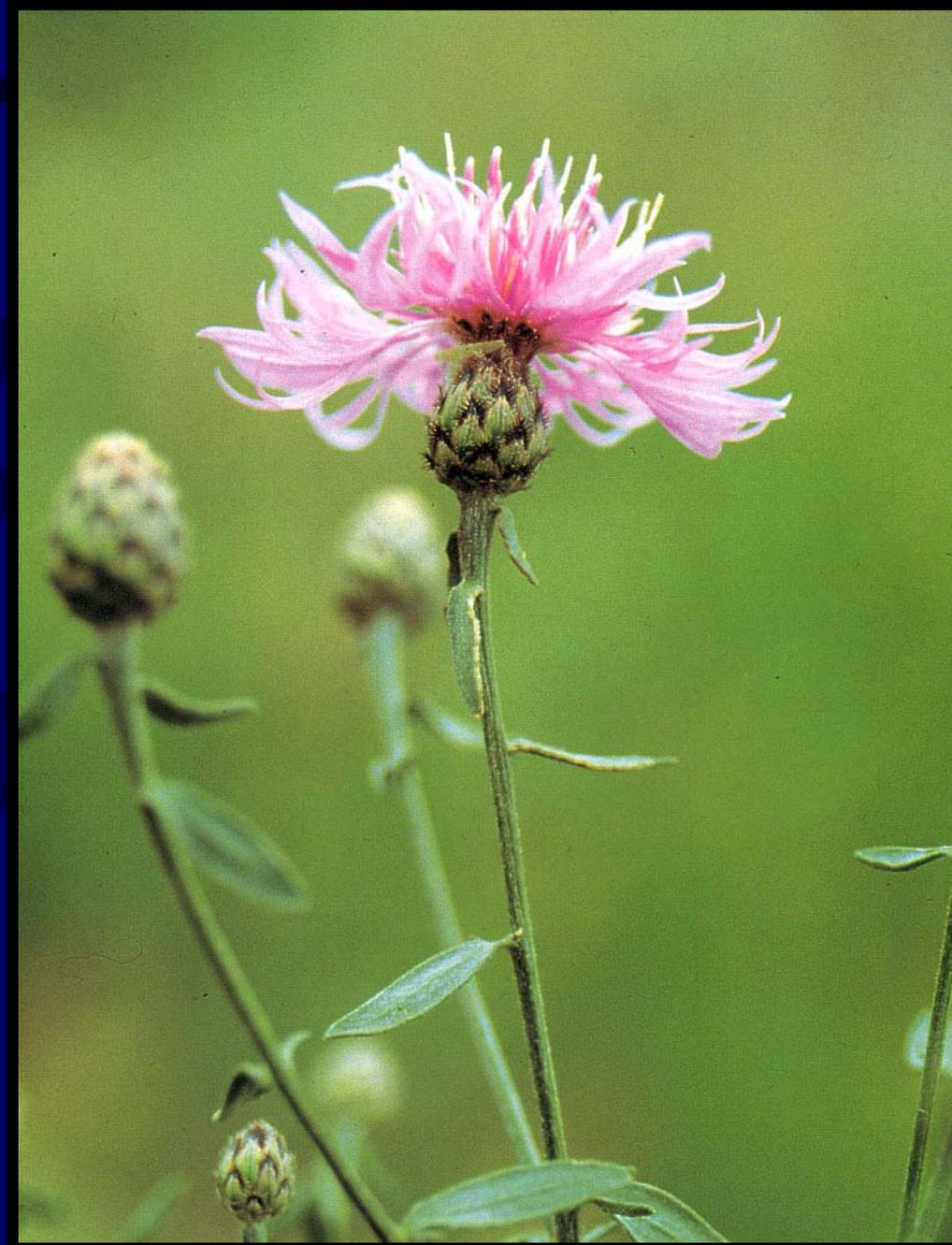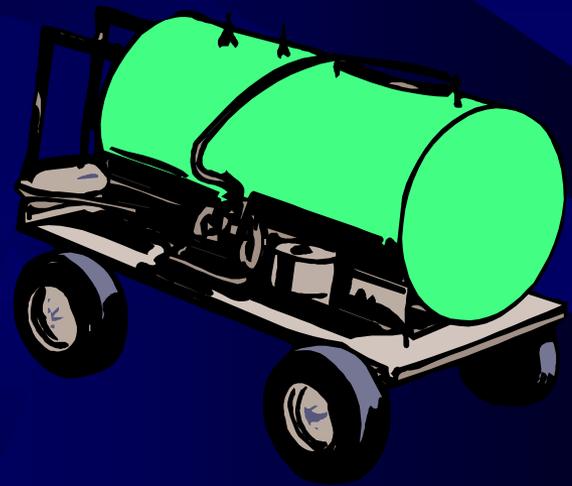
The Mission of a Weed Management Program-

What Needs To Be Done To Kill The Weeds??

Why Inventory and Map? Location *Location*Location

- Cornerstone of any weed management program
- Record of where weed populations are located
- Pass information on to your descendents

Why Inventory and Monitor? Changes

- Monitor changes in weed populations
- Monitor effectiveness of treatments
- Create strategies for weed management
  - Identify areas for treatment
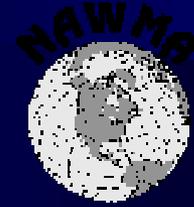 - Set priorities for treatment

Current Situation

- Mapping invasive plants for 20+ years
- Variety of data bases and inventory systems
- GIS coverage is inconsistent
- Information can not be readily shared across ownerships, agencies, between units of agencies

Assumptions

- Mapping and monitoring are a critical component of invasive species management

- Information/data not easily shared with neighbors and cooperators can not be effectively used in integrated weed management planning.

- Information and data must also be available for internal reporting and must be compatible with other data systems

- Inventory and Monitoring can not break the bank!!

NAWMA Standards

North American Weed Management Association

Who participated:

- Federal Agencies
- States
- Counties
- Provinces
- Academia
- Landowners
- Weed Specialists

Components

- Gathering Information
  - Inventory
- Repeated measurements
  - Monitoring
- Stockpiling and storing information
  - Forms, maps, data bases, GIS, GPS

Core Data:

WHAT IS IT?

WHERE IS IT?

HOW MUCH IS THERE?

What is it?

Species name – required

Genus

Species

– Subspecies - optional

– Authority - optional

- Common name – optional

- Species code - optional

Where is it?

- Ownership
  - National Ownership (required)
  - Local ownership (optional)
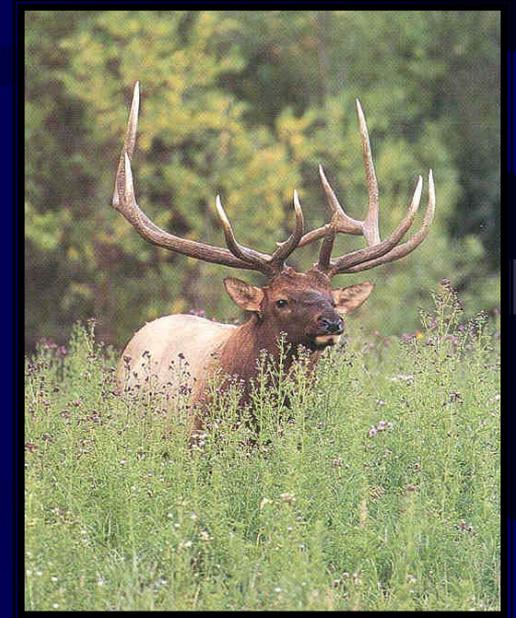
- Location (required)
  - Legal, UTM, Lat/Long, Metes and Bounds

    - Quad Number (optional)
    - Quad Name (optional)

Where is it?

- Country (required)
  - Postal Codes
- State – Province (required)
  - Postal Codes
- County – Municipality (required)
  - FIPS Codes

How much is there?

What is an acre of weeds?

Are all infested acres created equal?

How much is there?

- Infested Area (required)
    - Area of land containing one or more weed species. An infested area of land is defined by drawing a line around the actual perimeter of the infestation as defined by the canopy cover of the plant. Generally, the smallest area of land will be 1/10th of an acre or 0.04 hectares

How much is there?

- Gross Area (optional)
  - Like infested area it is an area of land occupied by one or more noxious weed species.

  Unlike infested area the area of land is defined by drawing a line around the general perimeter of the infestation not the canopy cover of the plants. The gross area may contain significant parcels of land that are not occupied by weeds.

How much is there?

- Canopy Cover (required)
  - Canopy cover will be estimated as a percent of the ground, covered by foliage of a particular weed species.

Pitfalls And Resistance

- Why should I participate?

- The standards do not cover all of the information I need to collect!

- Why should I change what I am doing?

Why Participate?

Invasive Species Do Not Respect Jurisdictional Boundaries!

- Facilitate cooperative management across property boundaries

- Create local, WMA, regional management strategies

- Share information across ownerships, boundaries and scale

Cooperation with Challenges

In the US

- 50 states
- 849 counties
- 17 federal agencies with an interest in invasive plants
- More than 300 colleges and universities

All have invasive plant responsibilities

The Standards provide a common language!

How Mapping Helps Education

- Educate and inform the public and public officials as to extent of problem

- Display the economic consequences of invasives

- Display the ecological consequences of invasives

- Make a case for more $$$$$$$$$$$$$

Use all available information to draw these pictures using the standards!

I Need More Information!

Tailoring the Core Standards

- Each agency/organization/individual can add elements as needed.
  - Ecological data, Treatment data, Agency metadata
- More precise information is required
  - More precise information can be generalized to fit guidelines.

Why Change?

- Is the legacy system actually fitting your needs?

- NAWMA standards based on existing standards as much as possible

- Benefits of data exchange out-weigh the difficulties

Now What?
A New Mapping Project

- Develop your mapping project:
  - What is the goal of your inventory/monitoring/survey?
  - Choose your priority areas
  - Choose your tools
  - Plan your effort
    - Here Is Where The Standards Should Be Incorporated!
  - Develop Protocol and Train Personnel Using Standard Definitions!

Now What?
An Existing Mapping Project

- Check to see if any of the existing definitions are compatible with the Standards.
- Check to see if any existing information can be combined or manipulated to match the Standards.
- Identify what information is missing in order to be compatible with the Standards.
- Decide on a course of action to become compatible with the standards.

Now What?

- Mapping is not a goal in and of itself. What do YOU want your mapping to do?

- All required element should be incorporated into any plant inventory

- If you do nothing else, survey!

NAWMA's Next Steps

- Version 2 publication on CD and web site
  - Name Adoption: North American Mapping Standards For Invasive Plants (NAMSIP)
- Expansion application of the standard
  - Further coordination with Canada and Mexico

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