Prioritization schemes for weed management
Co-leaders: John Knapp and Gina Darin
October 5, 2011

"Your worst weed is not *my* worst weed." We all think that our weeds are more important than everyone else's weeds. Potential funding agencies have to choose which projects to fund, and therefore they have to prioritize. Weed workers should, too.

Have you attempted to prioritize, and if so, how? Coming up with the right questions about how to make a judgment is difficult, as is identifying the criteria for prioritization. A challenge is to separate personal bias from reality on the ground.

Prioritization examples from the discussion group:

1) By species and populations, but there are data gaps, with missing plant populations.
2) By linking snapshots in time to the current situation via comprehensive data
3) By risk to natural features
4) By feasibility
5) By available methods of control
6) By available funding
7) By landowner access
8) By geography—keeping clean areas weed free vs. treating highly infested sites

CDFA attempted eradication on A rated weed sites, but they were only successful with smaller infestations. Keep in mind:

- The reason to prioritize is to promote success
- Define what you want to do: eradicate or control. Identify your goals
- You will need several tiers of prioritizing.

Prioritizing is part of a process:

1) Inventory weeds
2) Survey sites
3) Prioritize control
4) Make a management plan
5) Treat weeds
6) Monitor
7) Analysis
8) Re-prioritize

- You must define your goals and objectives
- Even before you inventory, you have to prioritize *what* to inventory.
- Fighting a weed if you don't have a good inventory/survey is likely a waste of money
- Projects are often funding-dependent, so you need good data on the plants that you have funding for.
- We have to remember that the end goal is to get rid of the seed bank. Treating a 50-year seed bank with three years of funding is not ideal. You have to plan. Keep your eyes on the ball.
- Mapping is key, but it takes time. Map as you treat, and update your maps so you can update your management plans.
- Cal-IPC now has regional maps for species that may be coming your way.

National and Global Efforts:

Pre-screening for weeds

1) Biosecurity Australia: The Australians are very careful about allowing new plants into the country. They say: Plants are guilty until proven innocent.
2) USDA Q37: AKA Plants for Planting. The USDA is checking both the soil that comes into the country for pathogens AND the plants themselves—finally. They put the plants through a risk assessment procedure.

Post-Border work

1) Use the Cal-IPC inventory to figure out how to work with your weeds. It may not apply to your part of the state, so look online at the regional maps for trends in your area.
2) Use the CDFA plant pest rating list for guidance.
3) Alien Plant Ranking System
4) Natureserve Invasive Plant Assessment Protocol

John's Prioritization Method (done for master's thesis in 2002)

This work was done for the Catalina Island Conservancy. What were the data gaps? John did 466 transects=600 miles=6 months of work. 72 different weeds were found. John raised a million dollars with this information, which he used to create a big map. This information gave him a good idea of the feasibility of control and of management of the weeds.

Do landscape level surveys:

1) Number of populations per species
2) Median population size per species
3) Net area infested per species
4) Consider seed viability too (if you know what it is)

WHIPPET (Weed Heuristics: Invasive Population Prioritization for Eradication Tool) is designed to help prioritize weed infestations for eradication based on potential impact, potential spread, and feasibility of control.

Use WHIPPET if:

1) You have access to Microsoft Excel and ArcGIS software
2) You can map or have mapped all occurrences of highest priority weed species in and around your region of interest and
3) You're considering eradication targets and have a control method that can keep every plant in a targeted population from flowering every year until you have exhausted the seed bank.

Using WHIPPET: (see Gina's handout for more details)

1) Identify your weeds
2) inventory: ID priority weed species and inventory occurrences:
   - Gross size of infestation (survey area)
   - Net size of infestation (treatment area)
   - Accessibility of site
   - Detectability of infestation before seeding

3) Gather background info on each species and assign a score. Sometimes you come up with surprises.
4) Run the program. It will do the ranking for you. You can swap layers out for your own special situations. For example, if you are working in a park, then you would not use the "distance to parks" attributes. And you always need to do a reality check on the ground. Data out is only as good as the data in.
   - Calculate priority and review output. Consider external circumstances.
   - Use the Weedsearch tool to estimate project cost and the probability of success
   - Apply the prioritization

Tips:

- If you fail to plan, you are planning to fail
- Start doing these information-gathering steps for better success in getting funding
- You will be more successful and get more done in this competitive time for grants
- You need GIS software
- You can use WHIPPET on any spatial area, but not too many populations at once – best for eradication targets.
- We will be able to get WHIPPET on line in the future.
- Get information from Gina now, gsdarin@water.ca.gov.