Using Detection Dogs to Enhance Invasive Plant Management Strategies

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Cal-IPC, October 30, 2020

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WD4C Programmatic Focus

ENDING WILDLIFE CRIME

Anti-poaching and antitrafficking around the world.

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STOPPING INVASIVE SPECIES

Preventing, mapping, and eradicating invasive species.

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MONITORING ELUSIVE SPECIES

Finding and protecting, rare, threatened and endangered species of animals and plants.

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- 60+ targets
 - Professional teams
- Program creation
- Consulting support



Among invasives...







The Dog Matters!







- Centaurea stoebe
- Lespedeza cuneata
- Lespedeza bicolor
- Lepidium latifolium
- Isatis tinctoria
- Centaurea solstitialis
- Thesium ramosum Hayne (Alberta Env. & Parks)
- Brachypodium sylvaticum (NYNJTC)
- Cytisus scoparius (NYNJTC)
- Heracleum maximum (Midwest Cons. Dogs)
- Tamarix ramosissima





What management stages/questions good candidates?

- First: Any incursion into new area of concern?
- Last: Eradication/Posteradication, miss any?
- Special purpose (seed stock)
- Every plant in known area

WORKING DOGS

• Where to focus limited control resources (mapping)



Dyer's woad, Missoula, Montana

Dyer's woad plants per year







High Outreach Potential: Dogs bring the charisma!







Is this plant a good candidate?

- Training samples
- In-situ training areas
- Some to find...but not too many
- Need not be "stinky" to humans
- Detectable at a longer distance a plus (but no way to know ahead of time)
 - Identifiable to handler a plus (rosettes tricky)
 - Seasonality (veg height, safety- foxtails)

WORKING DOGS for CONSERVATION

Coverage and Costs

- How much area can be covered? Depends on...
 - Detection distance (DD)
 - Density of plants (P)
 - Objective of deployment
 - What actions happen upon detection
- Examples of coverage
 - SC/PP: 20 acres/hr
 - Long DD, Low P, mid objective
 - Lesp/Milk: 10 acres/hr
 - Long DD, High P, easy objective
- Cost to hire \$3,000/week





Experience has taught us...

- Dogs handily search for multiple plant spp simultaneously, as long as there are sufficient samples for training (and otherwise a good fit)
- Show very good distinction between congeners
- Plants have different learning arc than other conservation targets
- Generalize well between life stages
- Handlers can opportunistically look for other species of interest





