

Biological control of *Arundo donax*

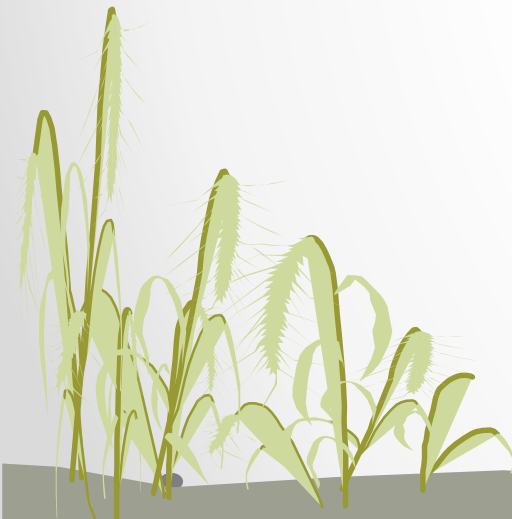
Sacramento and San Joaquin watersheds

Ellyn Bitume and Patrick Moran



United States Department of Agriculture

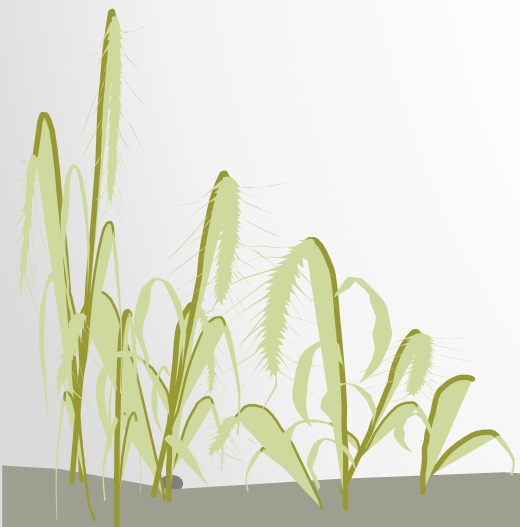
Agricultural Research Service



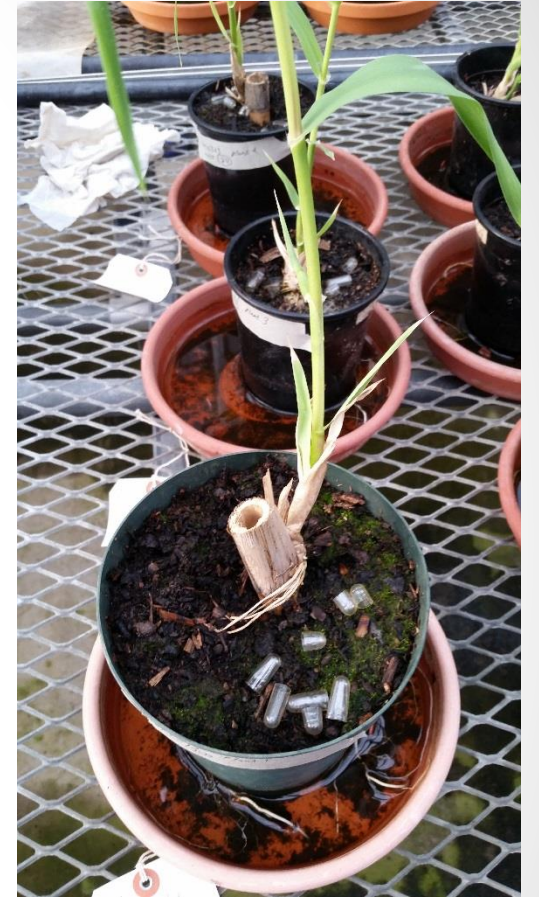
Biological control: Arundo wasp



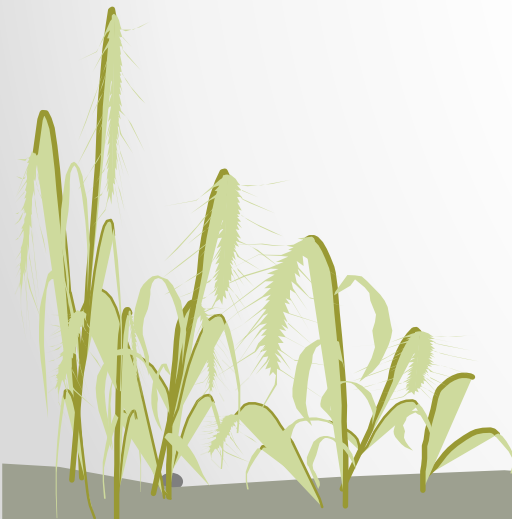
Tetramesa romana



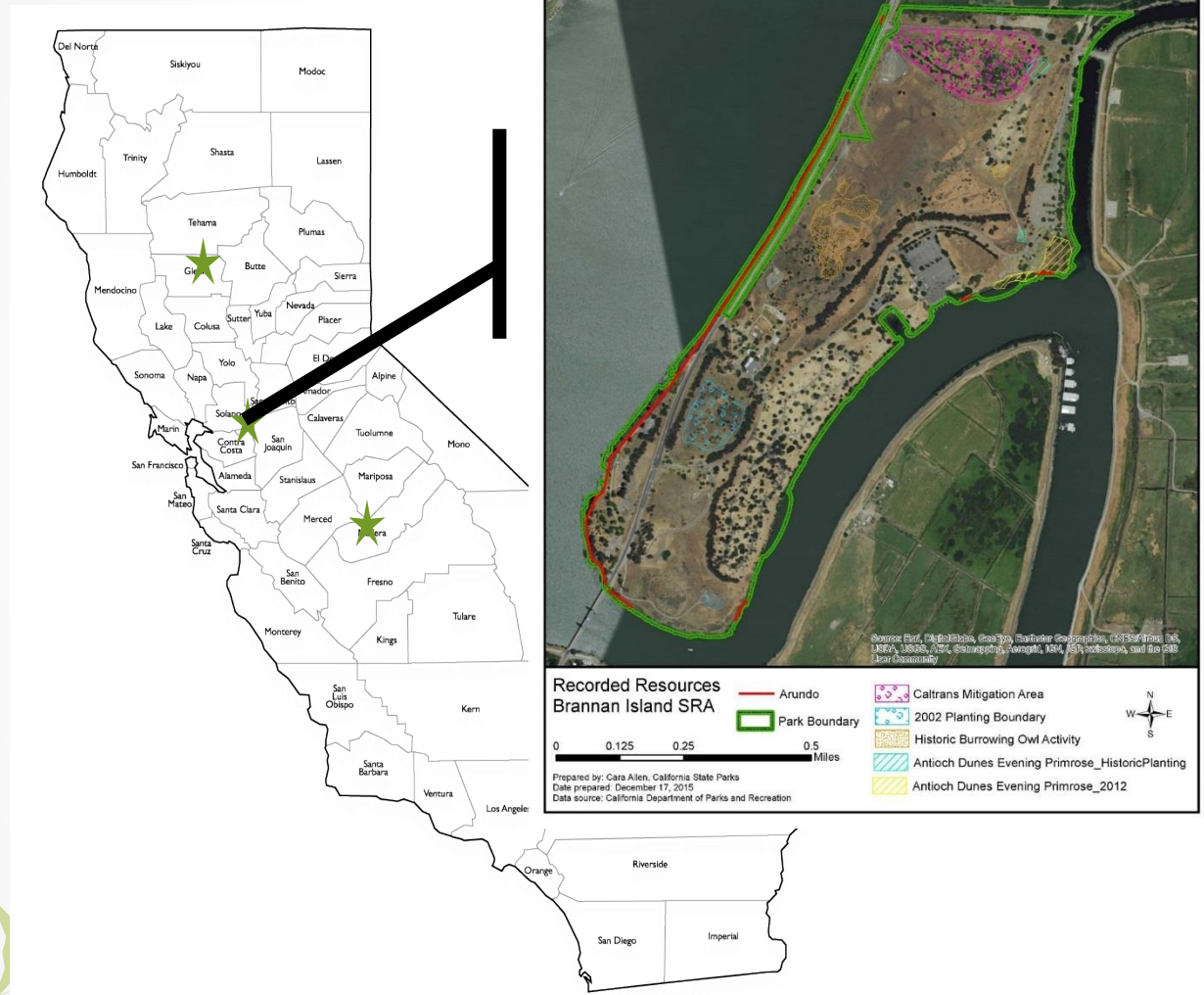
Biological control: Arundo armored scale



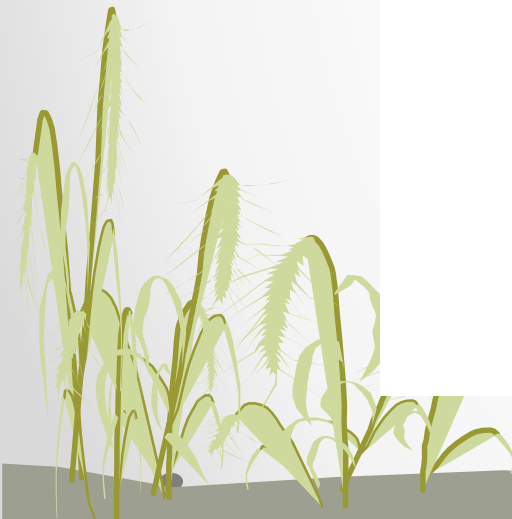
Rhizaspidiotus donacis



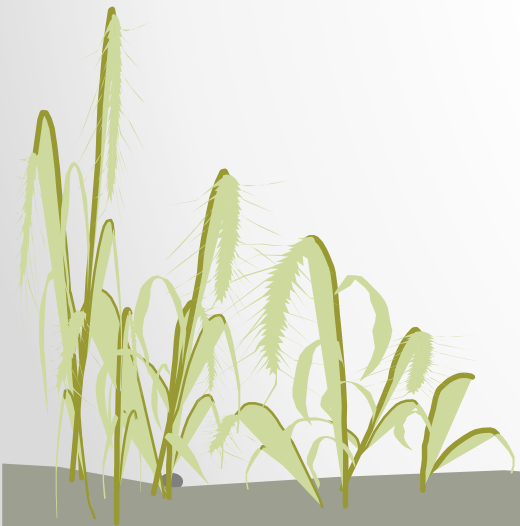
Field sites



- 3 in Sacramento Valley
- 3 in the Delta
- 3 in Central Valley



How does mechanical treatment of arundo affect wasp/scale density?



Topped Plot



Cut to 1m in June 2017



6 week regrowth

Ground cut



Cut to ground in June 2017



6 week regrowth

Control plot



Topped Plot



Cut to 1m in June 2017



6 week regrowth

Ground cut



Cut to ground in June 2017



6 week regrowth

Control plot



How does mechanical arundo affect wasps

- August 2017: 7,680 wasps in 54 plots
- 100 per plot + 20
- Follow up monitoring
- Density of exit holes
- Plant biomass
- Destructive sampling



Results and Future Plans

- New wasp releases in October in the Delta
- Scale to be released starting September 2017
- New sites?



Acknowledgements

- Patrick Moran
- Valle Rogers
- Irene Wibawa
- Scott Portman
- Marlee Little



Arundo donax

- Covers over 5,000 ha in CA
- Ecological transformer
- Drought tolerant
- Flood/Fire hazard
- Chemical/Mechanical control possible but \$\$

