

## **Weed Control: Riparian Weeds Working Group Notes**

Leader: Mark Newhouser, Sonoma Ecology Center

Facilitator: Gretchen Coffman, WRA Environmental Consultants

Note Taker: Kai Palenscar, UC Riverside/Cal-IPC Student Chapter

Number Attending: 24

*Explore the mysteries of riparian weed control as we delve into the murky world somewhere between the terrestrial and aquatic. Discussion will include weed control challenges, new techniques and successful combinations, tricks of the trade and traps to avoid. Group participants are encouraged to prepare questions or scenarios and at least one gold nugget of advice to share. Rewards for best technique, worst scenario, best question, and best advice.*

Mark Newhouser started off the group with brief introductions and sent around a sign in sheet. Introductions lasted 10 minutes.

Invasive species of interest included: giant reed (*Arundo donax*), broom species (*Spartium junceum*, *Genista monspessulana*, *Ulex europaeus*), plum (*Prunus* sp.), mock orange (*Pittosporum undulatum*), tamarisk (*Tamarix* spp.), and white sweet clover (*Melilotus alba*).

### ***What is the best method of removal of 1 acre of calla lily (*Zantedeschia aethiopica*) along the creek within a riparian community?***

Location: Santa Cruz – Soquel Creek

- Tried and failed with hand removal but bulblets were not successfully removed.
- In agricultural systems fumigation is used to kill previous years crop of lilies.
  - This technique is not feasible along the creek.
- Check to the Presidio in San Francisco and other infestations of callallies along the coast to see if anyone has had success with removal.
- Example of other bulbiferous species
  - Arrowhead have been treated with glyphosate (Roundup)
    - Late season treatment tend to show regrowth from bulblets
    - Early season treatment may show better kill rates and may be effective on callalillies.
- **Cautionary note – DIGGING/MOVING TO REMOVE PLANTS JUST TRANSLOCATES BULBLETS TO NEW LOCATION**
- Grazing? Are wild boars and option?
- Water table depth = 10 feet.
- Pasture management - Missouri iris (*Iris missouriensis*) is treated (glyphosate - Roundup) when flowering, as this is the time of maximal herbicide translocation. Usually one treatment is enough to achieve a full kill. Treatment is by weed wipe application of Roundup.
  - Weed Wipe – foliar application of foaming herbicide from a roller device.

***How can leafy spurge be treated during early infestation when it is found within the riparian community? Access is difficult.***

Location: Siskiyou County, Klamath River – recent invasion of dalmatian toadflax (*Linaria dalmatICA*) and leafy spurge (*Euphorbia esula*)

- Is biocontrol an option?
  - Spurge population may not be large enough.
- Basic biology is important for control options. When is its most vulnerable moment? Dispersal is by seed.
- Kayaks or boats may be a viable option for access.
- GIS – has not mapped the problem areas associated with this question.
- Example – Montana and Idaho
  - Biocontrol (beetle) has been very effective on leaf spurge. Does not eliminate all plants but keeps current populations from expanding.
- Beetles have been released into California and Oregon.
- Check with USDA for more biocontrol options.
- Ensure local Agricultural commissioner knows of infestations.
- Toadflax – still available within wildflower mixes in Sonoma County as an ornamental. Likely to be an ongoing problem.

***How to best remove Arundo from within hard-to-access riparian areas?***

Location: Santa Clara River, CA

- Can you move cut *Arundo* stems to local sandbar for later burning?
- Agencies do not allow stems to be left on site as they can re-grow and are problematic during flooding.
- Work can occur between September 15 and March 15. Work during the rest of the year may negatively affect breeding or nesting activities of threatened/endangered bird species (least Bell's vireo, southern willow flycatcher)
- Burning permits (from CDFG, watershed protection district) are necessary to burn *Arundo*. Strict guidelines on when, how and where you can burn.
- It is easiest to treat (foliar herbicide treatment) and leave stems in place.
- Location is adjacent to a nature preserve.
- Size – 18 acres with approx. 6 percent cover of *Arundo*.
- Fire is a problem in this area and likely to spread.
- Can you float stems downstream?
  - Not an option. Too little water.
- It is most typical to kill in place and then to cut and transport stems off site or chip in place.
  - Southern California procedure
    - Spray
    - Leave in place for 3-4 months
    - Grind in place with a flail mower or some other chipping method
- Jason Giessow recommends to never cut *Arundo* stems prior to herbicide treatment. It re-grows and herbicide translocation is minimized to rhizome.

- Cut-paint application method is very successful but you still have biomass problem. This method is costly and time consuming.
- Cut stems left in watershed have led to infrastructure damage during flooding. Example - school damage that led to the county (which?) being sued for damage.
- Burning stems alleviates this problem but permits are necessary and agencies force you to clean up ash debris.
- Bend and spray technique
  - Alleviates biomass problem
  - Lessens the concern over fire and flooding damage
  - By bending stems the nodes snap/fracture but the phloem vessels (internodes) are not fractured allowing herbicide translocation to the rhizome.
  - Stems over ¾ in. dia. are too lignified to use this method.
  - Procedure lays stems (direction = downstream) to the ground in a fan and then each successive layer is sprayed with glyphosate (3 percent Roundup solution). Bent stems stay bent to the ground to lessen fire danger.
  - Tools – hook and/or ladder to gather stems to the ground
- Jason's wife has shown that it takes at least 6 weeks of drying to completely kill *Arundo* stems.
- Burning – burn days vary by location
- Float-a-pump – pumps water from a body of water so as to provide water to put out local fire. Can be used when burning *Arundo* stems. Also great for wetting native vegetation to keep from burning.
- Fire can be used as a training exercise for local firefighters.
- Surfactant necessary to stick herbicide to *Arundo* leaves
  - Mentioned – Agro Dex, R-11
- Imazapyr – Zorro Stroke, if used it does not need high percent foliar coverage
- Helicopter Method – Use helicopter to airlift stems out of the riparian zone.

***How do I get the County to control its invasive species problem in a county park?***

Location: Kern River

- The county park has a reservoir with an island. *Arundo* is on the island and water hyacinth is in the reservoir.
- Water recharge to the reservoir and river system spreads invasive.
- Local residents have treated plants with illegal spraying for free.
- The city (?) will charge \$786,000 to remove.
- What is the best method or action to solve this county problem?
  - Report the problem to the county.

***Awards***

- Six awards were given out to various participants.
- Grand Prize recipient – Dale Schmidt (LADWP)

