

Invasive Species Removal in an Urban Environment: Pitfalls and Lessons Learned

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Why are private lands so important?

- Invasive species cross property lines: public and private
- Including private land holders effective in treating invasives
- Funding agencies increasingly encouraging working with private owners





Spartina spp. removal along Corte Madera Creek (CMC) watershed:

- Implementation of Coastal Conservancy eradication plan
- Secure permission from private and public landholders along CMC
- Execute treatment plan for CMC watershed
- Educate private property owners and public resource users about project



Friends of Corte Madera Creek Watershed (Friends):

- Non-profit, all volunteer organization dedicated to protecting remaining natural ecosystems around CMC
- Members are residents of local communities and recruit volunteers locally
- **Goals:**
 - Increase public awareness and knowledge
 - Increase scientific understanding
 - Improve water quality
 - Preserve and restore wetlands
 - Restore self-sustaining populations of fish and wildlife
 - Promote self-sustaining plant populations

Friends of Corte Madera Creek Watershed:

Projects:

- Fish habitat improvement
- Water quality testing
- Creek clean-up
- Habitat restoration, various sites
 - **Invasive Spartina Project**



Corte Madera Creek Watershed:

- Located in eastern urbanized corridor of Marin County, from San Francisco Bay into foothills of Mount Tamalpais, about 12 miles north of San Francisco
- Watershed covers approximately 28 square miles – invasive *Spartina* goes up about 2.2 miles from SF bay.
- Area heavily visited by local residents.

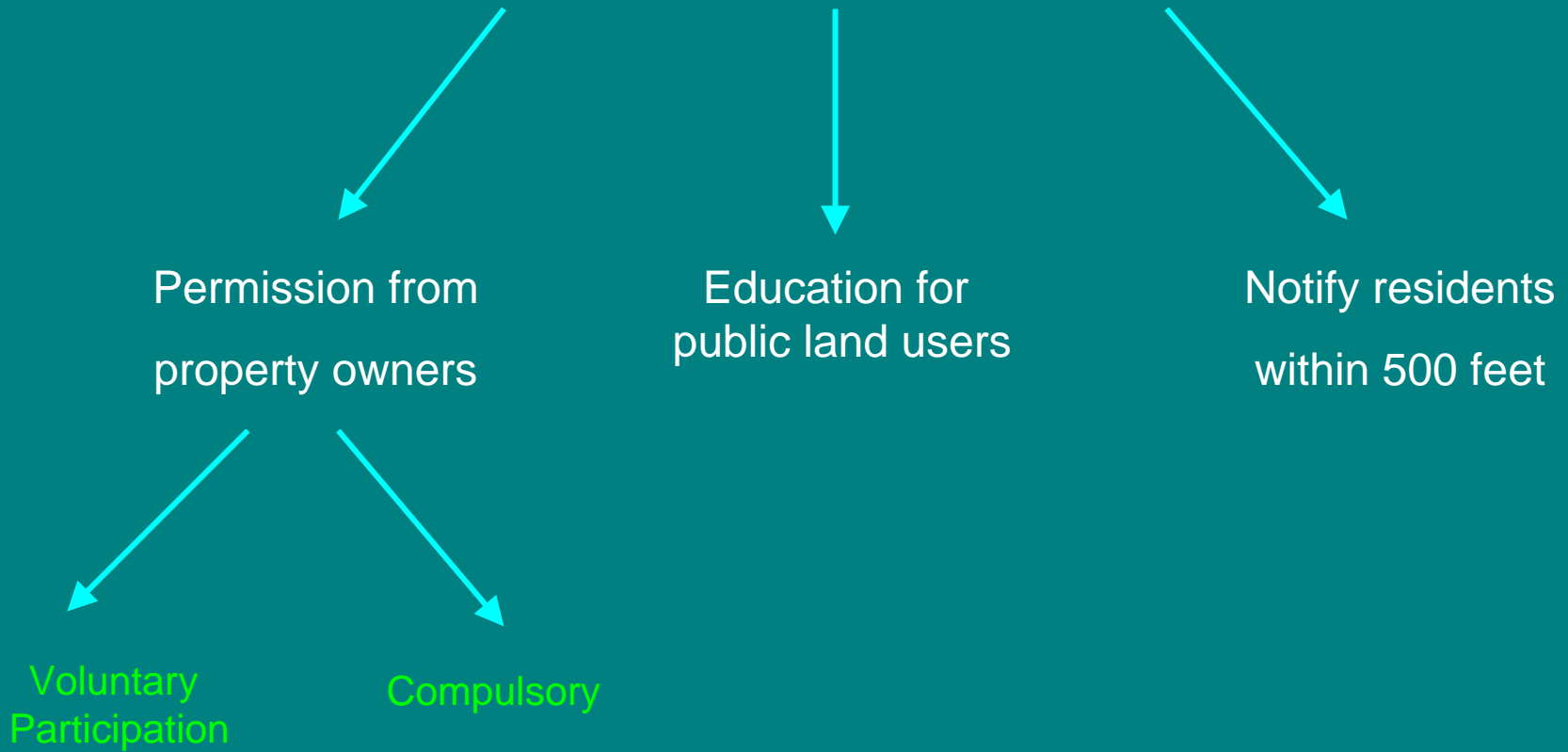


Corte Madera Creek Watershed:

Rare, threatened and endangered animals and plants:

- Steelhead (*Oncorhynchus mykiss*)
- Coho salmon (*Oncorhynchus kisutch*)
- Salt marsh harvest mouse (*Reithrodontomys raviventris*)
- California clapper rail (*Rallus longirostris obsoletus*)
- California black rail (*Laterallus jamaicensis coturniculus*)
- Marin knotweed (*Polygonum marinense*)

Outreach program for treatment



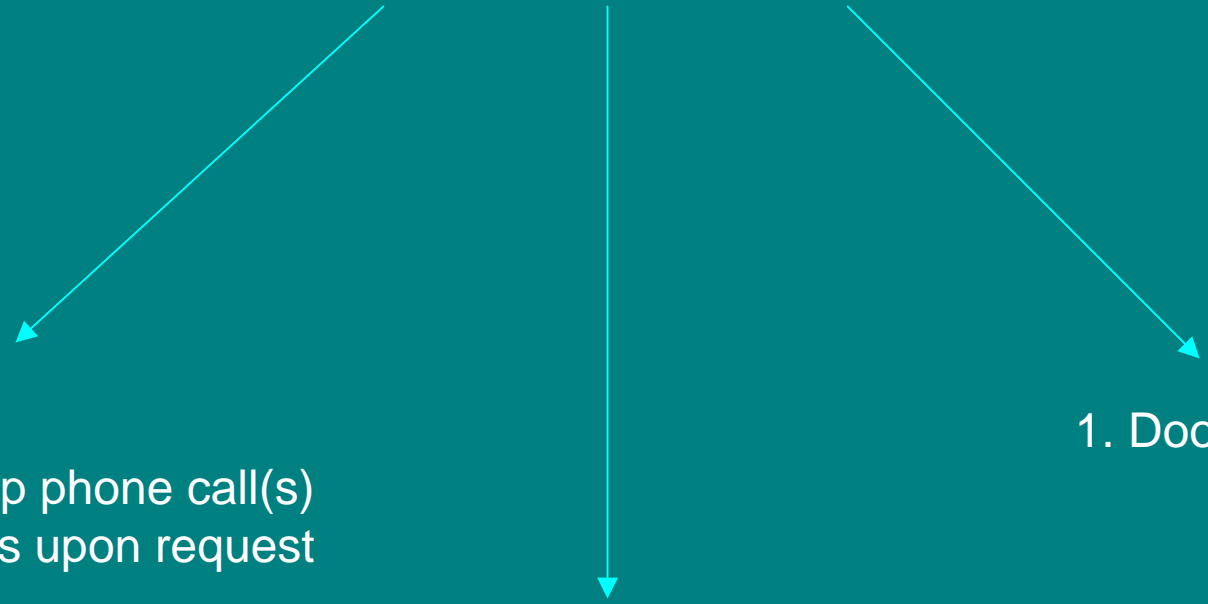


Treatment options:

- Treat with an herbicide containing imazapyr
- Digging
- Native plants and replanting available on request



Voluntary program participation (Permissions) :

- 
1. Mailings
 2. Follow-up phone call(s)
 3. Site visits upon request

1. Door to door

1. General meeting with all affected residents
2. Homeowner's association meetings
3. Meetings with small groups of neighbors



Compulsory program participation:

- Identify agencies with jurisdiction
- Enlist support of multiple agencies
- Use only as last resort



Anticipated areas of concern:

1. Herbicide use
2. Aesthetics
3. Privacy and property rights issues



Informational materials available to property owners:

- General letter about project with request for access to property
- Facts on invasive *Spartina*
- Information on native plants
- Materials about the herbicide
- Letters sent before treatment outlining general plan for area

During treatment:

- Signs posted around sites
- Organization members present day of treatment to answer questions

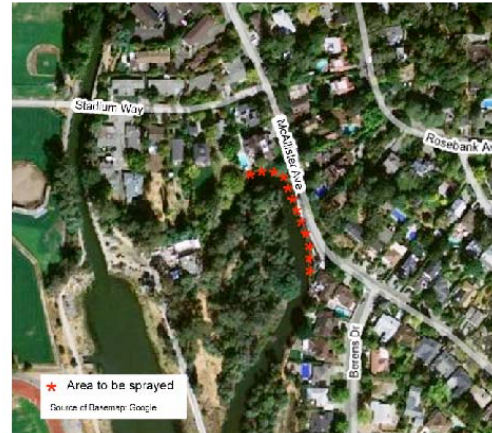


Sample treatment sign:

NOTICE

The area shown in red on the map below will be sprayed with imazapyr, an herbicide used to control weeds, on either Thursday or Friday, July 27 or 28, 2006. The spraying is being done to control invasive, non-native cordgrass (*Spartina densiflora*) that is crowding out native marsh vegetation and damaging habitat.

Spraying will begin early in the morning when tides are low or receding. To minimize the risk of drift, spraying will be done only when winds are less than 10 miles per hour.



The herbicide being used is very low toxicity; however, skin contact or inhaling the spray mist may be harmful to humans and animals.

Contact the Invasive Spartina Project at (510) 548-2461 if you have questions.



Treatment map:

370 - 416 Riviera Circle



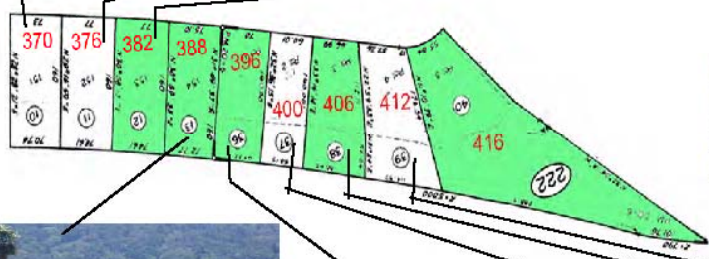
022-222-10
370 Riviera Circle



022-222-11 376 Riviera Circle



022-222-12 382 Riviera Circle



022-222-40 416 Riviera Circle



022-222-13 388 Riviera Circle



022-222-39 412 Riviera Circle

 Don't spray



022-222-36 396 Riviera Circle



022-222-37
400 Riviera Circle



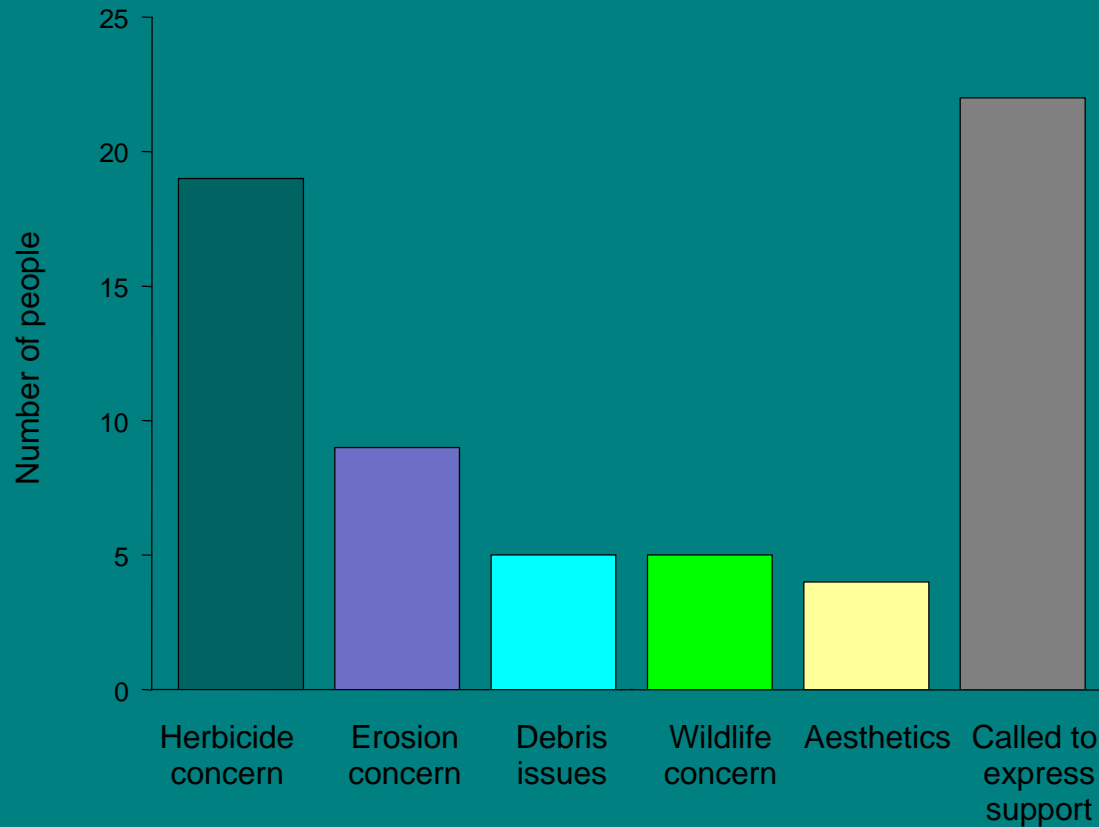
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406 Riviera Circle

Outreach efforts since August 2005:

- 7 neighborhoods
- Originally sought permission from 233 private property owners. Now reduced to 175.
- Everyone has received at least 1 permission request and 1 phone call.
- 79 site visits to private residences upon request.
- 5 Homeowner's Association Meetings; 1 general public meeting.
- 92 phone conversations with private property owners.
- Sent letters to 1381 sensitive receptors.
- Keep database of every affected resident and interaction.

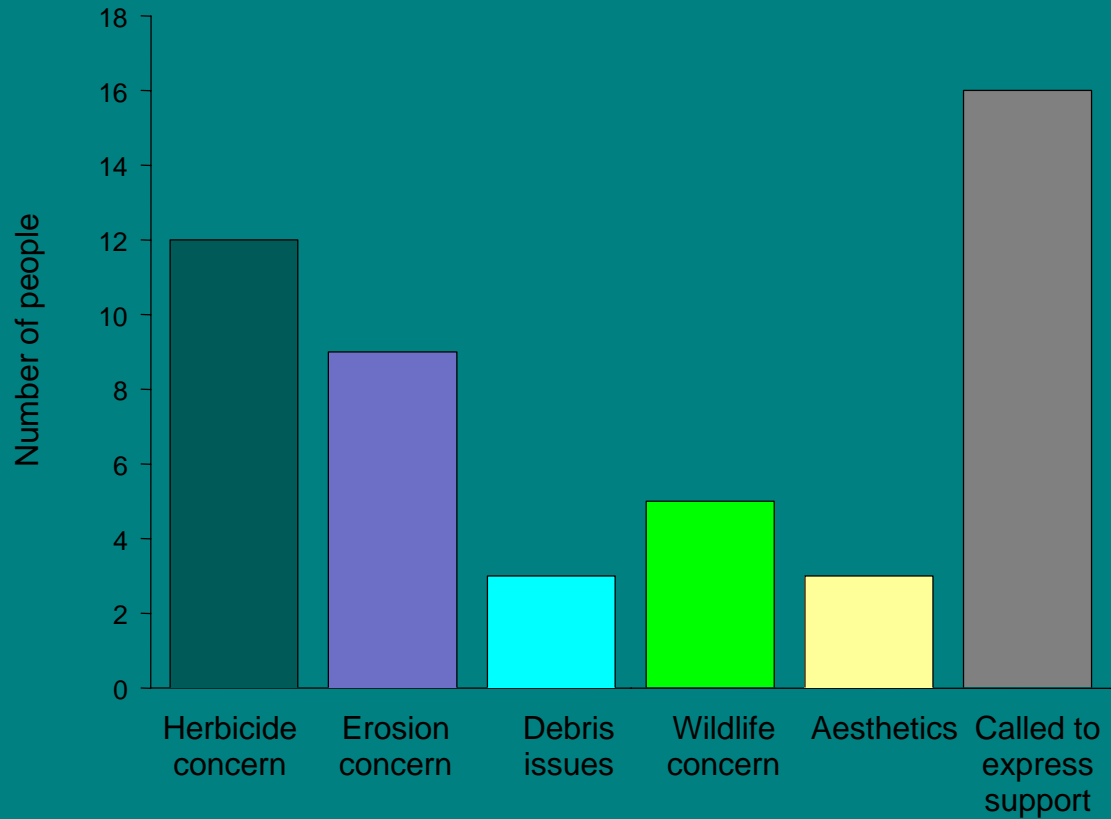
Actual concerns of private property owners:

All residents (92)

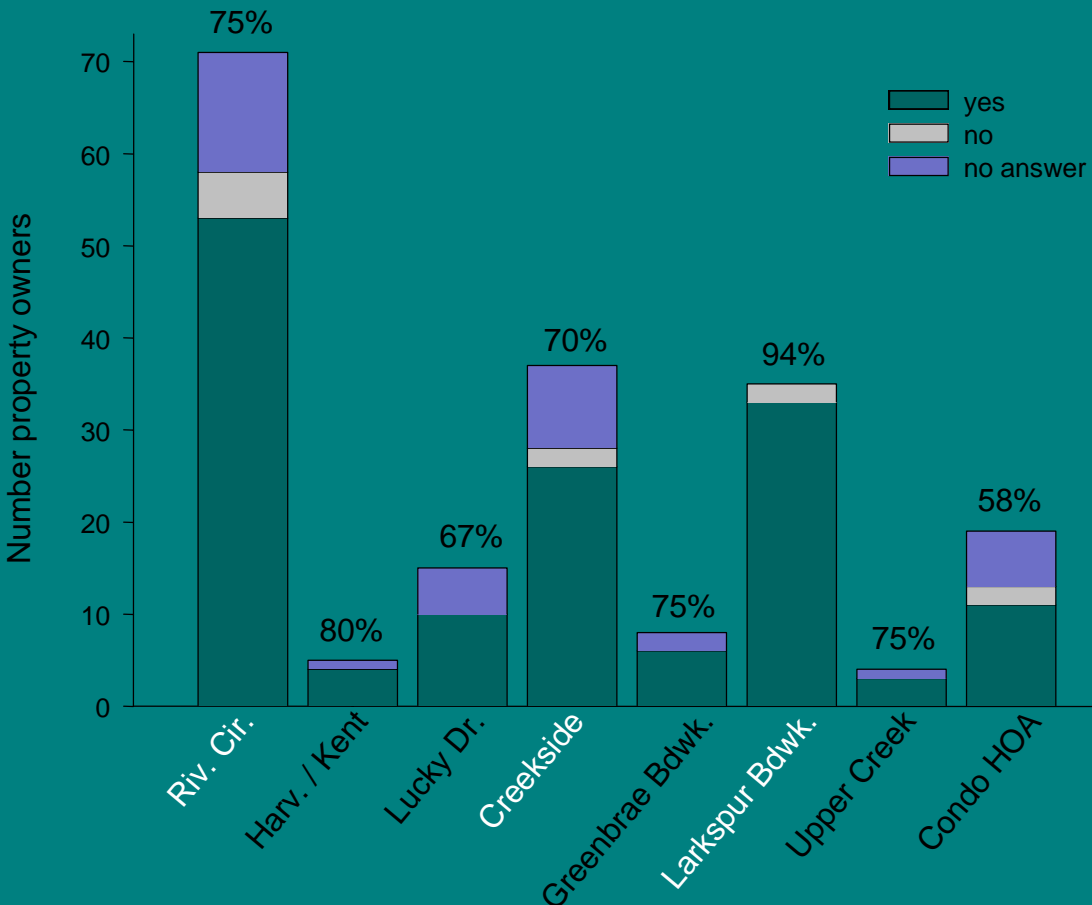


Actual concerns of private property owners:

Permissions only (68)



Voluntary participation by neighborhood:



Program participation:

- By end of this year's treatment season, had voluntary participation of 134 private property owners (~77%).
- 9 owners denied permission.
- Unable to get response 32 owners.
- Only 14 owners requested plants.
- 5 opted for no herbicide / 5 specified no digging.

- 7 properties received (48 individual property owners) received compulsory participation letter.
- 0 residents responded to letter.

- Have treated 141 properties (~81%).



Next steps:

- Get further support of local municipalities and an assortment of government agencies.
- Enlist neighbors to talk to other neighbors. Small group meetings.
- Make positive results known.
- Find way of changing mind of declines.
- Use compulsory participation if absolutely needed.
- Cost / benefit analysis.



Lessons:

1. Private property owners willing to participate.
2. Utilize homeowner's associations.
3. Small neighborhood groups most effective.
4. Neighborhood presence is important.
5. Know the neighborhood.
6. Multi-faceted approach necessary.
7. Herbicides are not as scary to most people as we assume.





Acknowledgements:

- Friends of Corte Madera Creek Watershed
- Coastal Conservancy, Invasive Spartina Project
- Marin County Department of Agriculture
- Marin County Flood Control
- Marin County Board of Supervisors
- Marin County Integrated Pest Management Committee
- The citizens of Larkspur, Greenbrae, Corte Madera and Kentfield.