



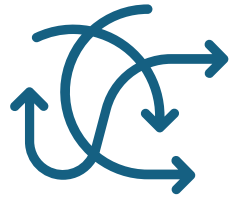
Understanding and improving the EDRR process - strategic communication for collective action in wetland management and restoration

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Need for EDRR research



Silos in organization by taxonomic group or organizational jurisdiction



Few structures to coordinate actions among groups



Few communication structures between broader prevention and monitoring efforts and EDRR programs



Little previous capacity and/or gap analysis

Scope of inquiry informed by:

1. Literature review (species-example and EDRR)
2. Interviews with Delta practitioners (n=15)
3. Expert elicitation across the country (n=8)
4. Survey with landowners and property managers in Suisun (n=40)
5. Interviews with landowners in Suisun (n=10)
6. Survey with Delta researchers (n=41)
7. Survey with general public in CA and FL (n=800)

How literature review informs EDRR process

- Literature review
 - Is time-consuming
 - requires certain expertise to derive action items from
 - improves with familiarity with scientific literature
- Assemble literature review ahead of time of “likely” invaders
 - Background
 - Impacts – what habitats, geography, etc.
 - Attempted control mechanisms



Emergent Themes

- Institutionalize processes to ensure sustainability of important EDRR work.
- Funding
 - Fund and authorize pilot testing of control methods
 - Include work in position descriptions
- Improve surveillance efficiency through technology to increase detection and potentially lower costs
- Coordinate reporting and data management
 - Link with existing databases to report species or search for species.
- Enhance stakeholder connections
 - Understand and enhance public outreach and communication
- Use existing structures to coordinate across silos (administrative and regulatory)
 - Streamline permitting process for invasive control
 - Leverage existing efforts
- Prioritize management actions using risk assessment tools

First step actions include:



Consistent messaging from partners that state-funded grantees must enter data in database that is spatially based, QA/QC'ed and queryable



Add a standing agenda item to CISAC for DPIIC restoration subcommittee to discuss species or identification



Find synergy with existing state mandates to consistently message



Combine with agricultural constituencies for messaging that invasive aquatic weeds are an agricultural challenge



Create (recreate) and maintain species occurrence list (both present and of concern species)



Add invasive tasks to existing job descriptions to allow time allocation

The role of communication framing in collective action

- Framing that centers cultural values and community-level action relies on key psychological and social theories that predict and shape human decision-making and behavior
- Sense of belonging can be driven by how people build literacy and develop personal agency to use that knowledge



Experts emphasize the importance of continued communication and EDRR

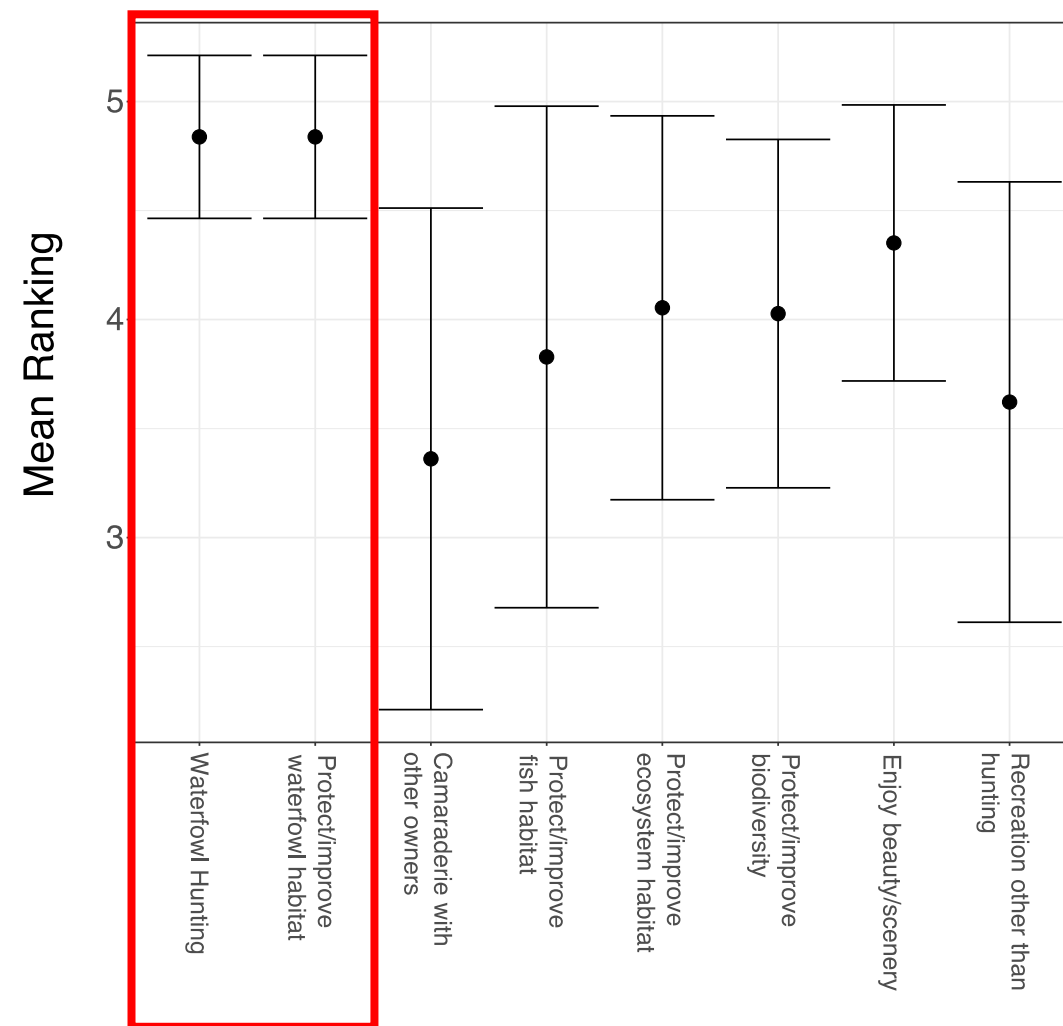


- Trusted messengers have:
 1. Shared cultural values (livelihood, background, hobbies, political views, age)
 2. Moderate management power – ability to disburse resources but not the source of those resources
 3. Low regulatory power
- Show policymakers and managers firsthand damage in the field
- Find long-term funding options for engaging landowners beyond initiatives
- Critically underscored the importance of public outreach in garnering support and literacy for invasive species control

Protecting waterfowl habitat and waterfowl hunting is the primary land management priority in Suisun Marsh

When asked about invasibility, the #1 way managers identify an “invasive” species is by its impact on waterfowl habitat

91.2% of respondents felt familiar with invasive species, but 80% still rely on the SRCD to tell them something is invasive



Interviews allowed more investigation of types of knowledge frameworks being employed

1. Primary knowledge acquisition

- Low levels in respondents without academic backgrounds – back to importance of prepared literature reviews

2. Knowledge transfer through an intermediary

- Most indicate both bidirectional and unidirectional means are common
- Water managers: “that’s our job in a nutshell”
- Many landowners report a “flood” of information
- Preferred in-person, online forums inaccessible to most

3. Knowledge application

- Highest use framework because of applied methodology
- Advocacy is the lowest scoring across all knowledge frameworks
- Landowners advocated for more public outreach

Delta researchers achieved less than half accuracy identifying the language and topics that motivate landowners to action

Phrases that lead to positive emotions and action	Phrases that lead to negative emotions and/or non-action
Suisun Resource Conservation District	Compliance standards
Coordinated plans	Laws and regulations
Habitat recovery	Protection of land investments
Invasive species control	Save money in the long run
Permit requirements	Improve fish habitat
Collaborative approaches	Protect biodiversity
Protection of unique waterfowl habitat	BCDC
Standards and policies	Enforcement officials
Duck clubs work together	Habitat maintenance
Stewards of this land and its inhabitants	Resilience
Resource managers	

Public perceptions of their involvement in EDRR

1. Report sightings

- How: paper form at the recreational site [3.79/5] or social media platform [3.31/5]
- To whom: state and federal agencies

2. Manage invasive species: local land managers, state/federal agencies, local landowners

- 7% of respondents deemed no governmental entity trustworthy for reporting
- 2.9% of respondents declared no public involvement necessary

We are ready to remodel and implement a new EDRR process in the CA Delta

- Experimental implementation of the methods we know are preferred alongside new restoration projects coming online
- Focus on repairing and building relationships with community groups, especially in disadvantaged communities
- Strengthening language, materials, programs used by the RCDs

We are searching for appropriate funding mechanisms and potential collaborators; please reach out to

Richelle (rtanner@chapman.edu) & Christine (Christine.whitcraft@csulb.edu) !

How much do you think like a Suisun Marsh duck club landowner? Find out with our invasive species management quiz!



Questions? Email Richelle at rtanner@chapman.edu