

Effectiveness of Aquatic Invasive Species Public Awareness Campaigns for Eliciting Prevention Behaviors



Findings, Takeaways, and Recommendations

This study was: commissioned by the Western Regional Panel (WRP) on Aquatic Nuisance Species Education and Outreach Committee, conducted by Dr. Gerard Kyle (Professor, Range, Wildlife and Fisheries Management, Texas A&M University), funded by a USFWS Quagga Zebra Mussel Action Plan Grant, coordinated by the Invasive Species Action Network, a survey of 3,900 individuals across all 19 WRP states and one Canadian province. Greatest participation was in UT, KS, OR, TX, and CA.

Boater Perceptions and Behaviors

All respondents (hereafter referred to as “boaters”) **expressed concern over the threat AIS posed toward the health of the state’s freshwater lakes and rivers and fish and wildlife. Boaters:**

- Reported being highly familiar with the need to Clean, Drain, and Dry (CDD) their boats.
- Felt AIS impacted them
- Self-reported usually practicing CDD steps
- Believed CDD is at least moderately effective and easy (cleaning and draining more so than drying).

25% of boaters indicated barriers from practicing Clean, Drain, Dry including:

- Crowding at boat ramps
- Lack of cleaning stations
- Belief that others are not taking action

Recommendation: Although funding and site logistics may limit the ability to install cleaning stations, their availability could help to increase CDD actions and help it to become a normative behavior. Wildlife Forever’s [Access Enhancement Guidebook](#) can guide implementation of cleaning stations.



Key drivers of behavior include:

- Perceived ease of taking action
- Perceived effectiveness of CDD
- Increased boating frequency corresponded with greater:
 - Familiarity and concern with AIS issues
 - CDD compliance
 - Belief that CDD is common behavior

Recommendation: Messaging emphasizing the effectiveness of CDD and simplifying them could aid in increased compliance.



Boaters reported a high sense of responsibility to take positive personal actions, but were cynical in their belief in others’ adoption of CDD.

Recommendation: Outreach seeking to increase the perception of CDD being normative and expected behavior may have value for encouraging boaters who do not feel personal responsibility.



Message Effectiveness

Various message frameworks used by western states or included in previous studies were tested to determine which framing boaters felt to be most effective for encouraging Clean Drain Dry behavior.

Notably, all messages tested included detailed CDD instructions, which may be critical to promoting desired behaviors

Each of the following messaging frameworks were compelling and highly ranked:

- Science metaphor (fact-based)
- Protecting nature
- Ecological benefits of action
- Impacts on aquatic ecosystems
- State’s economic health

Key findings by boater demographic:

- Recreational boaters/anglers found factual scientific information to be more effective than tournament anglers
- Protecting nature and ecological gain messaging performed equally well across boating demographics
- Jet ski & ski/wakeboard boat owners found economic loss messaging to be significantly more compelling

Recommendation: Consistent use of factual science metaphor framing for most target demographics could enhance message consistency across the West and has been found to have lower marketing costs.

Outreach Needs and Key Target Demographics

Trust in agencies to provide the best information about AIS was moderate, with recreational anglers and hunters significantly less trusting.

However, State agency websites, Boat ramp signage & Inspection station personnel were generally rated as the most frequent and trusted sources of information.

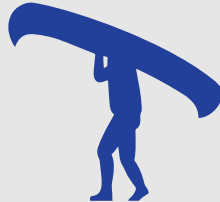
- Recommendations:**
- Ensure that CDD and AIS prevention information is featured prominently and consistently on websites and at boat ramps, and encourage inspection station personnel to engage in outreach.
 - Provide AIS information with watercraft registration and hunting/fishing license sales.

Non-Motorized Users

Survey results indicate a need to increase awareness among canoe / kayak / paddleboard owners.

- CDD is not perceived as normative or expected behavior
- Users reported not knowing what to look for
- Many reported receiving and trusting information from conservation organizations

Recommendation: Identifying and developing targeted outreach partnerships with conservation organizations could enhance efforts with this group.



Jon/Bass Boat Owners

Survey results indicate a need to increase awareness among Jon/bass boat owners.

- Users reported low personal or moral obligation to help prevent the spread of AIS.
- Many reported receiving and trusting information from conservation organizations
- Highly visible signage and web information is essential



Recommendation: Developing targeted outreach partnerships with conservation organizations such as B.A.S.S. and Ducks Unlimited could enhance efforts with this group.

Ski/Wakeboard Boat Owners

Reported the highest perceived threat of AIS, effectiveness of CDD, sense that others are taking action, and personal commitment to CDD actions but also reported the highest perceived difficulty of taking action.

- Reported constraints to CDD include:
 - The perceived unimportance of preventing the spread of AIS
 - Crowding at the ramp
 - Lack of cleaning stations

Recommendation: Clear outreach on reasons for prevention and simplifying CDD actions may be beneficial as the majority already finds AIS issues important and seems willing to take action, while a subset see challenges to CDD and feel uncertainty that preventing spread is important.



Hunters

May be a key demographic to target with outreach efforts.

- Were particularly skeptical of other boaters efforts to CDD suggesting this is not perceived as normative behavior.
- Felt less of a personal or moral obligation, less sense of guilt for inaction, and were less likely to feel they should do everything they can to prevent the spread of AIS.
- Were more likely to say that practicing CDD is difficult.



Recommendation: Increase hunter awareness of the effectiveness of drying watercraft. State agency websites, boat ramp signage, license sales, and boater registrations are natural contact points. Partnership outreach efforts could be invaluable (e.g. Ducks Unlimited).

Younger Boaters

Reported trust in conservation organizations for AIS information. Were less aware of AIS and CDD and reported being constrained by time.

Recommendation: Conservation organizations may aid in amplifying messaging to this demographic.

Tournament Anglers

Were more likely to report their social world as an information source.

Recommendation: Outreach via groups or influencers on social media (e.g. YouTubers) could enhance awareness of AIS and CDD among this target demographic.