

# **Summary of Western States' Aquatic Invasive Species Outreach Campaigns: Target Audiences, Messaging, Delivery, and Lessons Learned**



Summary Report Prepared By:

Western Regional Panel on Aquatic Nuisance Species Education and Outreach  
Committee

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## Executive Summary

Public awareness campaigns are widely recognized for their importance in prevention as part of a comprehensive Aquatic Invasive Species (AIS) management strategy, yet implementation varies across agencies and information sharing on this topic may help to increase consistency and enhance effectiveness. The Western Regional Panel (WRP) on Aquatic Nuisance Species (ANS) Education and Outreach Committee (EOC) conducted a survey of agencies in the WRP states (i.e., nineteen states from North Dakota south to Texas and westward, including Hawaii and Alaska) to gather and summarize information about AIS outreach campaign targeting, messaging, implementation, and evaluation as well as agency use of national AIS outreach campaign messaging/slogans and participation in national invasive species events (e.g., hosting related events). A high percentage of survey respondents reported using the Clean, Drain, Dry, Stop Aquatic Hitchhikers, and Don't Let It Loose national campaigns as well as participating in National Invasive Species Awareness Week events.

Quagga and zebra mussels, watercraft inspection and decontamination, and AIS vegetation were the dominant focal topics among outreach campaigns and motorized watercraft users and anglers were the most frequently targeted groups. Campaign messaging overwhelmingly used the Clean, Drain, Dry slogan across all types of watercraft user outreach campaigns and the Don't Let It Loose slogan for pet and aquarium store outreach campaigns. The Clean, Drain, Dry message was often used as a secondary slogan following an agency-specific primary slogan. Agency-specific messaging primarily incorporated lake protection language, inclusive language (e.g., your/our lakes), and/or command language (i.e., don't, stop) and language regarding laws was also incorporated into primary or secondary slogans by some agencies.

Most campaigns were implemented by multiple groups or entities, with strong involvement by AIS staff and other biologists and agency communications specialists and many agencies employing outside marketing agencies. Delivery methods used for outreach campaign delivery were diverse and varied greatly among agencies and included traditional delivery methods as well as strong use of paid digital advertising. Delivery method effectiveness was frequently assessed for digital media or via campaign "impressions" metrics provided by marketing companies; in contrast, cost-effectiveness of delivery methods was evaluated by only a small percentage of agencies, which conducted these evaluations only for digital media.

Key campaign implementation lessons learned included the importance of collecting baseline information prior to campaign implementation to facilitate later assessments and partnership with stakeholder and small interest groups and use of multiple delivery methods to expand reach.

The information gathered through this study will also contribute to an EOC-coordinated research study assessing the effectiveness of western states' AIS outreach campaign messaging and delivery methods for eliciting desired prevention behavior change.

## Survey Methodology

An online survey of WRP region state and local agencies was conducted by the EOC to summarize AIS outreach campaigns across the west and assess participation in national campaigns and events. The survey was shared with members of the Western Invasive Species Coordinating Effort, primarily representatives of state natural resource agencies, who were invited to also share the survey with local agencies in their states (e.g., river authorities or county governments). The survey was conducted in October 2020 using the Qualtrics online

survey platform. Additional survey follow-up via email was conducted in December 2020. A total of 25 individuals completed the survey including representatives from state agencies/programs (19), local office of federal agency (1), interstate compact agency (1) and regional/local agency (4). Following an initial question regarding use of national invasive species outreach campaigns, survey respondents were asked if they had implemented their own outreach campaign in the past ten years; 24 respondents who answered “yes” were included in the remainder of the survey, including a later question regarding national event participation. The survey included questions regarding the topic or specific organisms targeted (e.g., aquatic vegetation, zebra/quagga mussels, live bait pathway), specific species targeted within taxonomic groups, target audiences, delivery methods used, who is responsible for implementing campaigns, slogans used for different user groups, evaluations of delivery method effectiveness, evaluation of cost effectiveness, whether target audience surveys or focus groups have been conducted, and campaign lessons learned. Additional survey follow-up was conducted via email to obtain further information about state-specific outreach campaign slogans/messaging.

### National Invasive Species Campaign and Event Participation

Participation in the Clean, Drain, Dry (85%), Stop Aquatic Hitchhikers (81%), and Don't Let It Loose (58%) national campaigns was high. Participation in the PlayCleanGo (15%) and Habitattitude (8%) campaigns was substantially lower and one respondent reported having not used any of these campaigns in their AIS outreach efforts. Of the 23 survey respondents who participated in at least one national campaign, 75% used these campaign slogans without modification. Based on additional messaging information provided during follow-up surveys regarding campaign slogans, it seems that the entities modifying the slogans did so primarily by incorporating their own agency slogans in addition to the “Clean, Drain, Dry” phrase rather than modifying the phrase itself and the national campaign logos were often not used.

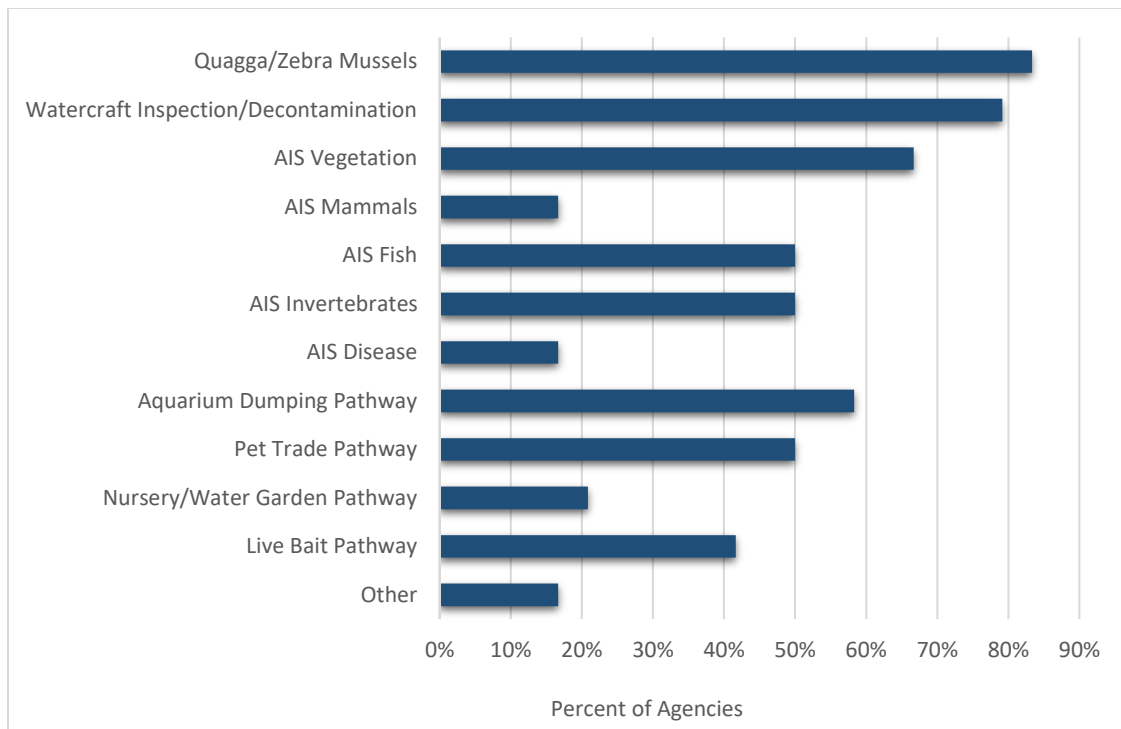
Participation in National Invasive Species Awareness Week I (67%) and Week II (46%) was substantially higher than for other national invasive species events. Participation in PlayCleanGo Awareness week (8%), Weed Awareness Week (8%), and Lake Appreciation Month (4%) was low, although it is possible that other agency programs' or divisions' (e.g., state parks) participation in these events was not captured given the AIS focus of the surveyed group. A total of 29% of the survey respondents indicated that their agency does not participate in any of these national events. During these events, the majority of the participating agencies reported promoting the Clean, Drain, Dry (88%) or the Stop Aquatic Hitchhikers (65%) national campaigns/messaging. State campaigns (47%) and Don't Let It Loose (41%) were also promoted by many of these agencies. Promotion of the PlayCleanGo (18%) and Habitattitude (12%) campaigns during events was substantially less common.

### Campaign Focal Topics

Western state agency AIS outreach campaigns place significant focus on quagga and zebra mussels (83%) and watercraft inspection and/or decontamination (79%); see Figure 1. The AIS vegetation was also a major focal area (67%), with Eurasian watermilfoil, curlyleaf pondweed, giant salvinia, hydrilla, waterhyacinth, and elodea mentioned as aquatic vegetation species of specific outreach focus. Although four survey respondents (17%) indicated targeting AIS mammals, only one provided a specific mammal species of outreach focus—the nutria. Half of survey respondents indicated AIS fish were targeted, with Brook Stickleback, Asian carp, Common Carp, and Northern Pike noted as fish species of outreach focus. Half of survey respondents also indicated AIS invertebrates were targeted, with New Zealand mudsnails

mentioned specifically for outreach, but many did not mention a specific species of concern and there may have been some overlap between this category and quagga/zebra mussels. Substantial focus was also placed on the aquarium dumping (58%), pet trade (50%), and live bait pathways (42%). Although agencies indicated targeting these topics, specific outreach materials for most of these topics were not provided. Rather this topical targeting may occur in many cases through agency websites and more flexible/adaptive social or digital media and in-person outreach rather than dedicated materials and specific messaging slogans.

Figure 1. Prevalence of key AIS outreach campaign focal topics among western state agencies.

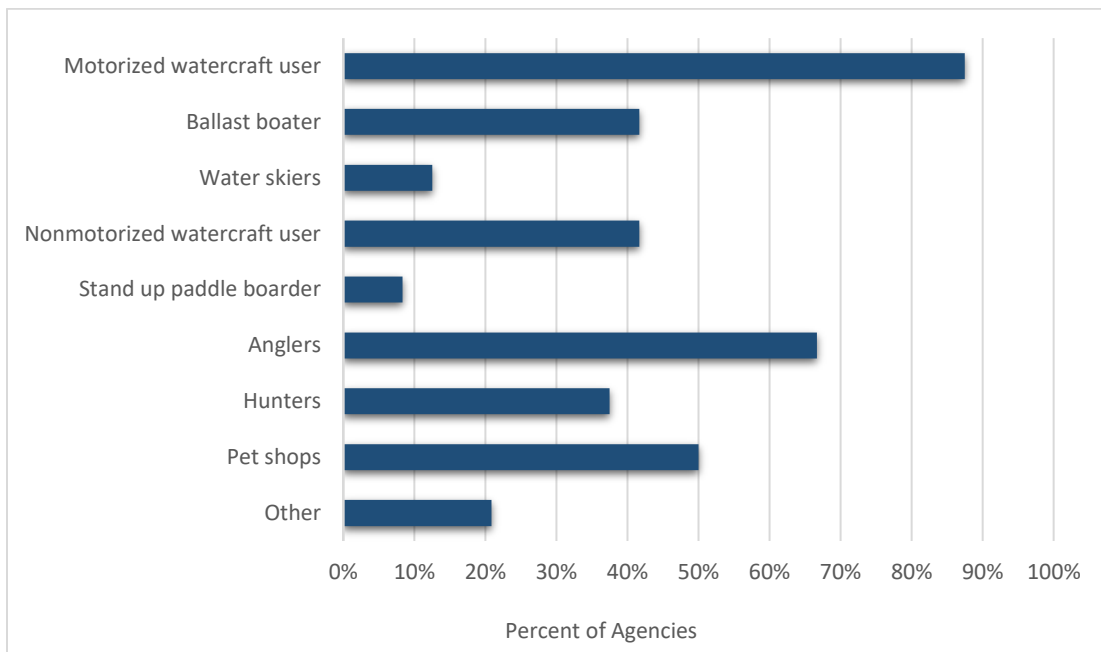


### Campaign Target Audiences

Most western state agencies reported implementing AIS outreach campaigns that targeted motorized boaters (88%), with some agencies reporting specifically targeting ballast boaters (42%) and water skiers (13%); See Figure 2. However, review of campaign messaging later in the survey indicated that the campaign slogans were not different for these motorized boater subgroups and messaging specific to these subgroups was not identified in campaign outreach materials. These subgroups were explicitly mentioned by one agency in brochures and rack cards mentioning draining ballast tanks and some agencies showed imagery of diverse watercraft in different iterations of outreach materials with similar messaging. Nonmotorized boaters were also an important target audience (42%); although messaging was similar, several agencies had outreach materials with imagery (e.g., kayak image) and some language specific to that boater group. Anglers and hunters were specifically targeted (67% and 38%, respectively) and several agencies had specific outreach materials, messaging, and imagery for these groups; see

Campaign Messaging below. Half of the surveyed agencies conducted campaigns targeting pet shops; the survey did not distinguish between pet and aquarium stores. Other target audiences mentioned were homeowners, pet owners, bait shops, “general water users,” and seaplane pilots (see Figure 2).

Figure 2. Audience targeting frequency for western state agency AIS outreach campaigns.



### Campaign Messaging

As part of the survey, participants were asked to provide slogans used for the specific user groups they had indicated were targeted by their campaigns. Across all types of motorized and nonmotorized watercraft campaigns, the Clean, Drain, Dry slogan was used by 93-100% of agencies and the Stop Aquatic Hitchhikers slogan was used by 8-18%, despite 81% having indicated participation in the latter campaign. The Clean, Drain, Dry slogan was used only slightly less for anglers and hunters (83-94%) and the Stop Aquatic Hitchhikers was used slightly more frequently for these groups than for some boater groups (17-18%). One state also used the PlayCleanGo slogan to target hunters. Pet and aquarium store outreach campaigns overwhelmingly used the Don't Let It Loose slogan (92%), with one agency using their own Never Dump Your Tank slogan instead and another using Never Let Your Pets Loose in combination with the national slogan.

Most slogans reported in the survey were the national slogans which are often used as secondary slogans following agency-specific slogans which were not noted. This is potentially due to lack of adequate specificity in the survey slogan question or the leading influence of including a question about national campaign use first in the survey. The EOC conducted follow-up surveys with respondents via email to identify state-specific messaging. A total of 18 survey

respondents provided additional slogan information and 16 provided a wide variety of campaign outreach materials for review (see examples next section), ranging from social media posts to boat ramp signage to long-form brochures and identification guides. Four additional agencies responded but indicated they did not have their own slogans.

Six agencies featured “protect” language prominently in campaign messaging as a primary slogan or supplementary language to the Clean, Drain, Dry slogan (e.g., Protect Our Waters Montana, Protect KS Waters, Protect the Lakes You Love, Protect Our Waterfowl Habitat). An additional seven featured similar language prominently on some outreach materials but not as a slogan. Three agencies also used similar environmentally motivational “keep” language (i.e., Keep Alaska Wild and Free of Invasive Species, Keep Alaska Waters Clean, Tahoe Keepers). One agency used this language in their AIS program website URL, which was featured prominently on many outreach materials (i.e., ProtectKSWaters.org).

Seven agencies used their own slogans with mandative, commanding “don’t” or “stop” language (e.g., Don’t Move a Mussel, Stop Aquatic Invasive Species, Don’t Spread the STD of the Sea) and two others used this type of language on some materials (i.e., sign, brochure) but not as a slogan. The national campaign slogan Stop Aquatic Hitchhikers is another example of this type of language and was used by some of these agencies as well as others that did not have their own agency specific slogans; see discussion above. The Don’t Let It Loose national campaign slogan is another example of this language and was used by all except one agency for outreach to pet and aquarium stores.

Four agencies used frequency or quantifier language (i.e., always, never, every) to express urgency (e.g., Clean. Drain. Dry. Every lake, every time.; Never Dump Your Tank). Similar secondary slogans were used by two agencies (i.e., All Equipment. Every Time.; It Only Takes One Time). Somewhat similar “least wanted” language was used by one agency in slogans and logos (i.e., SDLeastWanted).

Eleven agencies used some form of ownership or inclusive language (e.g., your, our, let’s) in primary slogans or prominent secondary messaging (e.g., Protect Your/Our Waters from Aquatic Invasive Species, Zebra Mussels - Let’s Stop the Spread). This language was primarily used in a way that might encourage a sense of ownership for water bodies at risk of invasion.

Three agencies featured explicit “It’s the Law” messaging prominently on many materials and five other agencies provided outreach materials examples that included clear messaging about laws and regulations and/or fines, albeit not as prominently. One state noted that, anecdotally, people seem to respond better when the messaging explicitly states it is a legal issue rather than something that may be interpreted as simply a recommendation. However, another state that continues to use “It’s the Law” language noted having previously included “\$500 fine” language prominently on outreach materials, including billboards, and receiving an overwhelmingly negative response from the public.

Only one agency reported or provided materials with primary messaging alluding to economic or other impacts. These messages included “What it’s Worth” and “Educate yourself. You can’t afford not to” messaging along with a list of impacts, including cost of control, and asking “Is it worth being responsible for the spread?” Some other agencies included mention of economic costs in longer-form outreach materials such as brochures.

Campaign AIS Outreach Materials Examples

**PROTECT THE LAKES YOU LOVE.**

**CLEAN, DRAIN AND DRY TO STOP INVASIVE SPECIES.**

**CLEAN. DRAIN. DRY.**  
Every lake, every time.

[ProtectKSwaters.org](http://ProtectKSwaters.org)

**DON'T SPREAD THE STD OF THE SEA**

Lake Powell Is The Only Infested Lake in Utah!

Keep Utah lakes free from a "SKIFF-TRANSMITTED DISEASE"

MONTANA FISH, WILDLIFE & PARKS

**PROTECT OUR WATERS**

**CLEAN. DRAIN. DRY.** [LEARN MORE!](#)

**DON'T MOVE A MUSSEL**  
Clean, Drain, Dry

In California it is illegal to import, transport, or possess live or dead quagga or zebra mussels, including water that may contain their microscopic juveniles. All conveyances are subject to inspection and may be quarantined. Violations are subject to penalty of up to \$1000. Fish and Game Code §2381; 14 CCR 1472.1

**CLEAN  
DRAIN  
DRY**

All motor and non-motorized vessels must stop at watercraft inspection stations.  
[INVASIVESPECIES.IDAHO.GOV](http://INVASIVESPECIES.IDAHO.GOV)

AQUATIC NUISANCE SPECIES CAN SEVERELY DEGRADE WATERFOWL HABITAT AND REDUCE HUNTING OPPORTUNITY.

**WATERFOWL HUNTERS**

Follow North Dakota regulations to protect waterfowl hunting for the future.

**CLEAN. DRAIN. DRY**

**DRAIN ALL WATER  
REMOVE VEGETATION  
PULL DRAIN PLUGS  
ALL EQUIPMENT EVERY TIME**

**STOP AQUATIC HITCHHIKERS!**

**NEBRASKA BAIT GUIDE**

**DON'T DUMP BAIT!**

**NEVER RESCUE** (except from and into water!)

**DRAIN** (not bucket before motor)

[neinvasives.com](http://neinvasives.com)

**PULL THE PLUG ON AQUATIC INVASIVE SPECIES**

**CLEAN, DRAIN & DRY YOUR WATERCRAFT. IT'S THE LAW.**

When leaving, you must clean, drain and dry your watercraft.

**FOLLOW THESE SIMPLE STEPS**

**CLEAN**  
Remove mud, plants and animals from every part of your boat, trailer, anchor, lines and equipment. If it gets wet, it could harbor AIS.

**DRAIN**  
Pull your drain plug every time. Before you leave the marina area, remove ALL water from your boat, including livewells, ballast and engine cooling water.

**DRY**  
Allow time for your boat and all equipment to dry before launching in other waters.

[WWW.AZGFD.GOV/AIS](http://WWW.AZGFD.GOV/AIS)

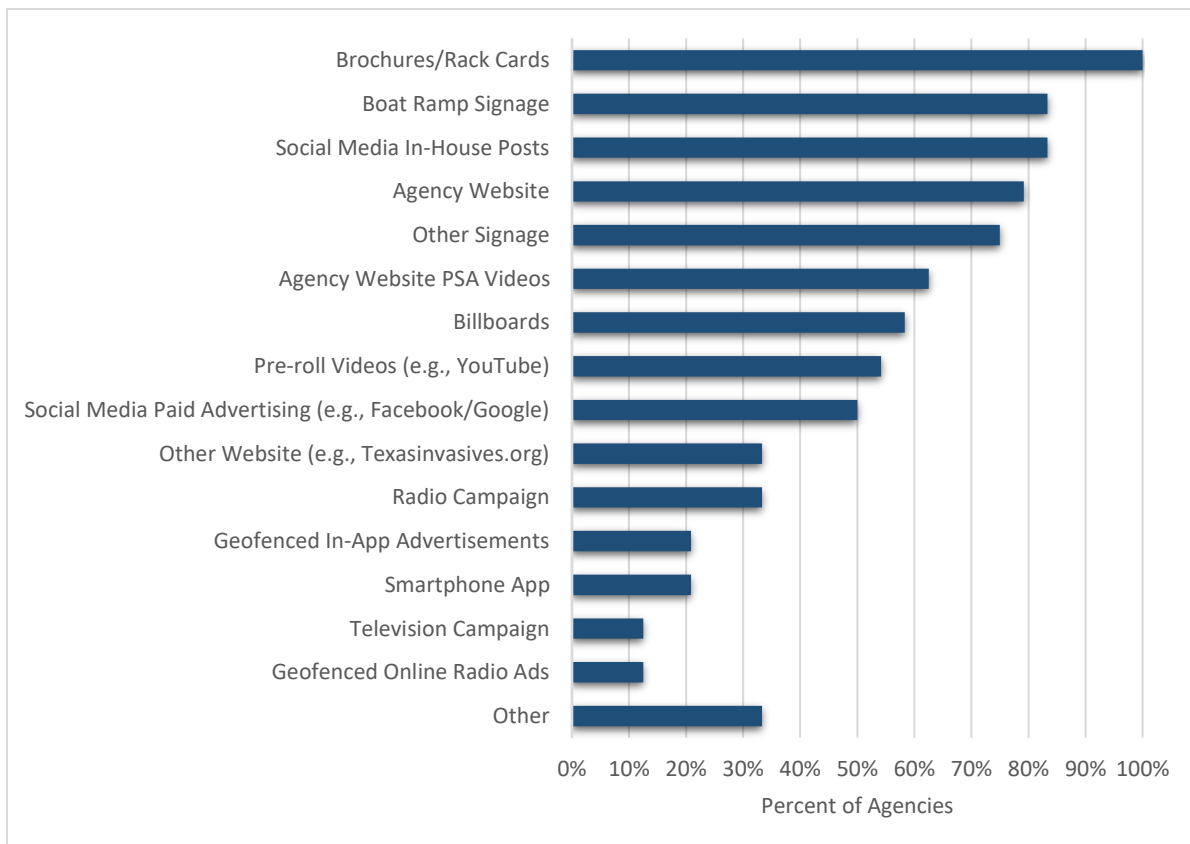
## Campaign Implementation

Most agencies indicated that multiple groups or entities were involved in campaign implementation; those that indicated only one group primarily noted implementation by AIS staff alone. Campaigns were implemented by a combination of AIS staff (75%), agency communications specialists (63%), agency biologists (58%), and marketing companies (33%). One agency indicated using a contractor only—no staff or marketing agency—but did not specify what type of contractor was used.

Delivery methods used for outreach campaign delivery were diverse and varied greatly among agencies; see Figure 3. Brochures and rack cards, boat ramp and other signage, agency websites and videos, agency social media posts, and educational videos posted on agency websites were most frequently used. Paid digital advertising—social media and pre-roll videos—was used by at least half of the agencies surveyed.

Other delivery methods not shown in Figure 3 that were used include gas station advertising (e.g., pump toppers and videos, beverage clings), movie theater advertising, press releases and local newspaper articles, sport/boating/commercial fishing shows (did not indicate medium), and staff providing education and watercraft inspections. It is likely that press releases and inspection staff are used by more agencies than noted these as outreach methods, but they were not included as categories for selection and so were required to be submitted as “other” responses.

Figure 3. Western state agency AIS campaign delivery methods.





## Effectiveness Evaluations

Of the agencies surveyed, 58% reported that they have conducted assessments of the effectiveness of the delivery methods used for campaign implementation. The most frequently mentioned assessments were website analytics, click through rates for social media (e.g., Facebook, Instagram), and campaign assessments of reach and impressions provided by a marketing company. For digital media, detailed metrics such as clicks, click through rates, view through rates, and engagement rates were used. One agency noted they were able to conduct analytics for some digital advertising geofencing efforts. Another agency also reported asking about delivery methods in an outreach survey, with respondents also indicating awareness of the AIS program through family, friends, or watercraft inspectors in addition to the traditional delivery methods.

In contrast, only 21% of agencies reported that they had not conducted assessments of the cost-effectiveness of the delivery methods used for campaign implementation. Among those that had conducted such assessments, cost per impressions and cost per click analyses were mentioned. One agency noted that Google ads were found to have low cost-effectiveness. Another noted that, while such assessments of cost effectiveness can help to guide how campaign dollars are spent, the relationship of cost to effectiveness in eliciting behavior change cannot readily be quantified.

Half of agencies reported conducting either surveys or focus groups to assess the effectiveness of their outreach campaigns. Surveyed/interviewed groups included boaters, anglers, marinas, bait shops, and homeowners. Survey respondents did not provide details on the results of these assessments. A planned research study coordinated by the EOC will evaluate the effectiveness of campaign messaging and delivery methods and provide insights and recommendations for guiding campaign implementation and is expected to follow up with survey respondents to obtain additional information on delivery method cost effectiveness assessments and results of surveys and focus groups.

## Campaign Implementation Lessons Learned

The following campaign implementation lessons learned are paraphrased and/or synthesized from survey responses:

- Collecting baseline awareness information when starting a campaign is vital for facilitating assessments of campaign effectiveness.
- Public buy-in and education from the start is key. The first year can be difficult but awareness increases quickly.
- Dedicated AIS outreach staff are needed for implementation of campaigns and having well-trained staff to explain AIS issues is important.
- Campaign art and copy needs to be updated periodically or the public gets “sign fatigue.”
- Consider partnering and meeting with private entities and small interest groups that can assist in increasing AIS awareness among hard-to-reach water recreationist groups.
- Multiple delivery methods enhance campaign effectiveness.
- Having a catchy program website URL (e.g., nomussels.com) can help increase visitation.
- The Clean, Drain, Dry slogan is not clear on its own and must be supplemented by other messaging or instructions.

- Target audiences responded very negatively to statements about law/fines when featured prominently in campaign creative design but, in focus groups, reported protecting lakes as highly motivating for implementing prevention behaviors.
- There is a big disconnect between boaters being aware of AIS rules and best practices and actually changing their behavior. Mandatory inspection stations and issuance of citations have greatly helped with compliance.
- We need to have more, do more, and get more creative – more outreach grants are needed.

### Participating Agencies

We would like to acknowledge the contributions of the following agencies to this western state agency AIS outreach campaigns assessment: Alaska Department of Fish and Game; Arizona Game and Fish Department; California Department of Fish and Wildlife; California Department of Parks and Recreation; Colorado Parks and Wildlife; Hawaii Division of Aquatic Resources; Homer Soil & Water Conservation District (AK); Idaho State Department of Agriculture; Kansas Department of Wildlife, Parks and Tourism; Lake County Water Resources Department (CA); Montana Fish Wildlife and Parks; Nebraska Invasive Species Program; North Dakota Game and Fish Department; Oklahoma Department of Wildlife Conservation; Oregon Department of Fish and Wildlife; Solano County Water Agency (CA); South Dakota Game, Fish and Parks; Tahoe Regional Planning Agency; Texas Parks and Wildlife Department; U.S. Bureau of Land Management Alaska; Utah Division of Wildlife Resources; Washington Department of Fish and Wildlife; and Wyoming Game and Fish Department.

### About the Western Regional Panel on ANS Education and Outreach Committee

The WRP was formed in 1997 by a provision in the National Invasive Species Act of 1996 (P.L. 101-636), the amendment to the Nonindigenous Aquatic Nuisance Control and Prevention Act (NANCPA) of 1990. The WRP is an advisory subcommittee of the Aquatic Nuisance Species Task Force and is one of six regional panels on ANS. The WRP is composed of representatives from nineteen western states, four Canadian provinces, federal agencies, tribes, private industries, and non-governmental organizations. The purpose of the WRP is to coordinate ANS efforts in western North America to help limit the introduction, spread, impacts of ANS. The EOC is one of the WRP's five standing committees and two ad-hoc workgroups. The committees and workgroups of the WRP are open for participation to anyone with an interest and are not limited to voting members. Current committee members are listed below:

#### Education and Outreach Committee Members:

- Monica McGarrity, Texas Parks and Wildlife Department – Committee Chair
- Allison Zach, Nebraska Invasive Species Program – WRP Executive Committee Liaison
- Tom Boos, Tahoe Regional Planning Agency
- Elizabeth Brown, North American Invasive Species Management Association
- Sam Chan, Oregon Sea Grant
- Tammy Davis, Alaska Department of Fish and Game
- Alanna Keating, BoatUS
- Deborah Kornblut, U.S. Fish and Wildlife Service
- Liz Lodman, Montana Fish, Wildlife & Parks
- Ed Rudberg, CD3
- Kate Wilson, Upper Columbia Conservation Commission / Montana Dept. Nat. Res. & Cons.
- Kyren Zimmerman, Remote Underwater Imaging
- Nick Zurfluh, Idaho Department of Agriculture