

2008 Oklahoma Aquatic Nuisance Species And Boating Survey

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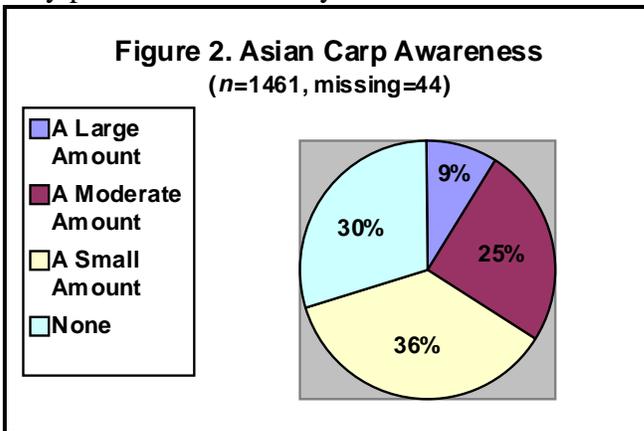
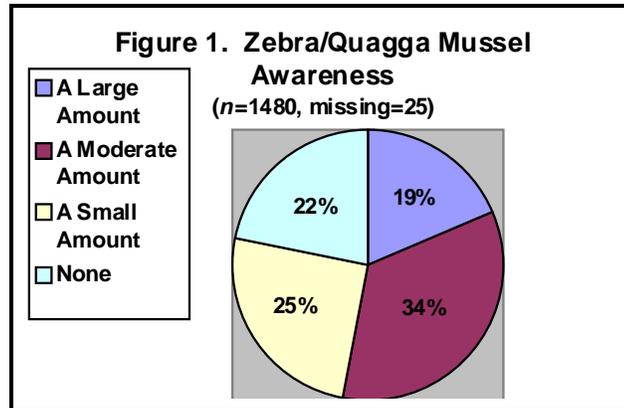
Survey Results

General Knowledge of Aquatic Nuisance Species

The respondents were asked to rank their knowledge of six aquatic nuisance species: zebra mussels/quagga mussels, golden alga, hydrilla, Viral Hemorrhagic Septicemia (VHS), Asian carp, and white perch. The ranking categories included “a large amount, a moderate amount, a small amount or none”.

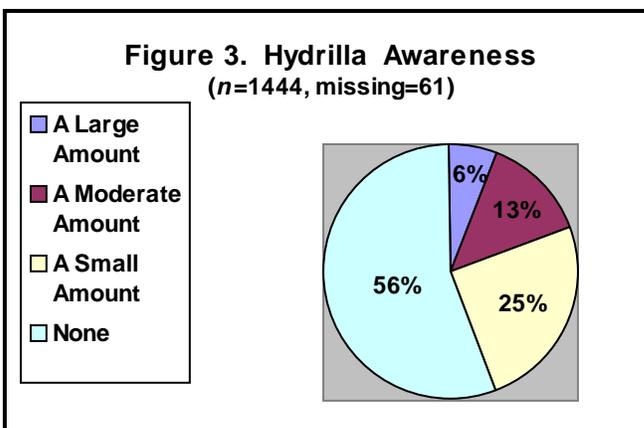
There were only two ANS out of six where there were more respondents who knew at least a small amount of information about the species than knew nothing at all. These include zebra/quagga mussels and Asian carp.

Zebra/quagga mussels were the most well-known of the six species with 78% knowing at least some information about the species (Figure 1). This species also had the highest ranking of “a large amount” at 19%. These results were somewhat expected because of the increasing publicity of zebra/quagga mussels and the devastating apparent threats that they pose to our economy and our environment.



Asian Carp were the second most well-known with 70% of the respondents having at least some knowledge of the species (Figure 2). This group of fish includes bighead, black, grass and silver carp. This group of fish also had the second highest ranking of “a large amount” at 9%. The awareness of this species is likely related to media accounts of Asian

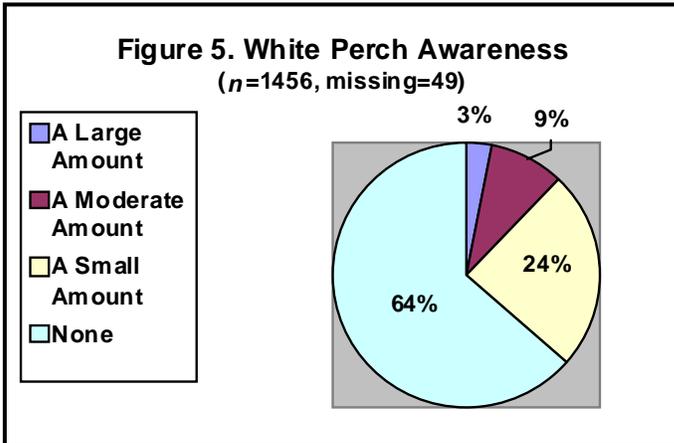
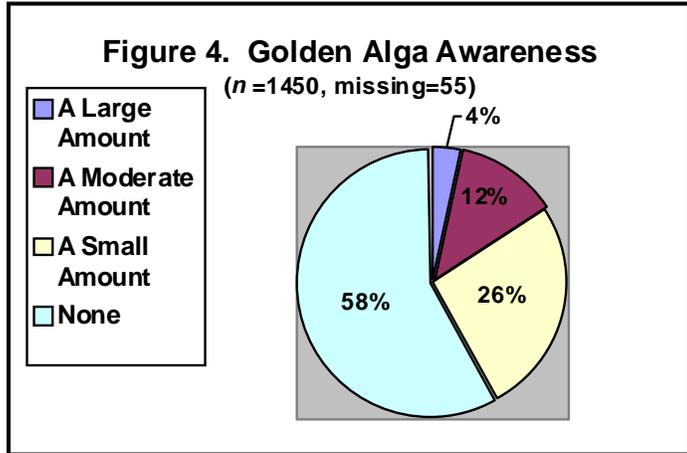
carp problems in the upper Mississippi River system and the use of grass carp to manage vegetation in private impoundments.



Hydrilla was ranked third with 44% of respondents having at least some knowledge about the species (Figure 3). Although it ranked third, it was well behind zebra/quagga mussels and Asian carp when it came to general knowledge. The majority of the respondents that had at least some knowledge of hydrilla

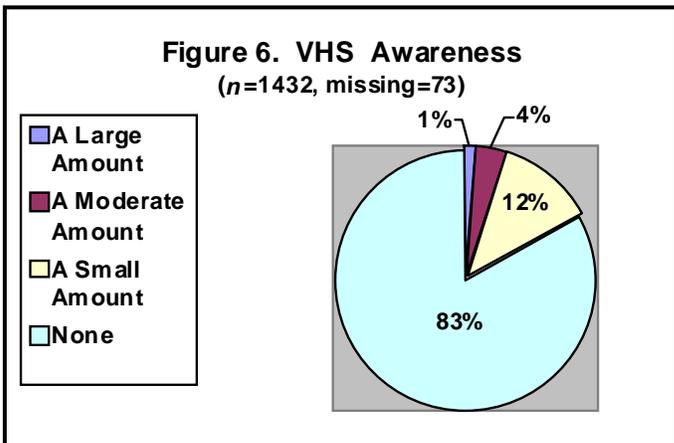
only knew “a small amount” at 25% and the “large amount” category only ranked at 6%. Hydrilla is currently found in Lakes Murray, Arbuckle and Sooner.

Golden alga is a species that has the potential to cause large fish kills in Oklahoma. It ranked closely behind hydrilla with 42% of the respondents having at least some knowledge (Figure 4). Only 4% of respondents knew “a large amount” about this species. This species has a well established population and usually causes blooms in Lake Texoma every year. Lake Texoma is a highly popular lake and this most likely attributes to the fair amount of awareness that golden alga receives.



White perch are a highly competitive species of fish which have established populations in Lakes Sooner, Kaw and Keystone. This species ranked next to last in general knowledge. Well over half, 64%, of respondents knew nothing at all about white perch (Figure 5). Only 3% of the respondents knew “a large amount” about this species. This low ranking of general knowledge

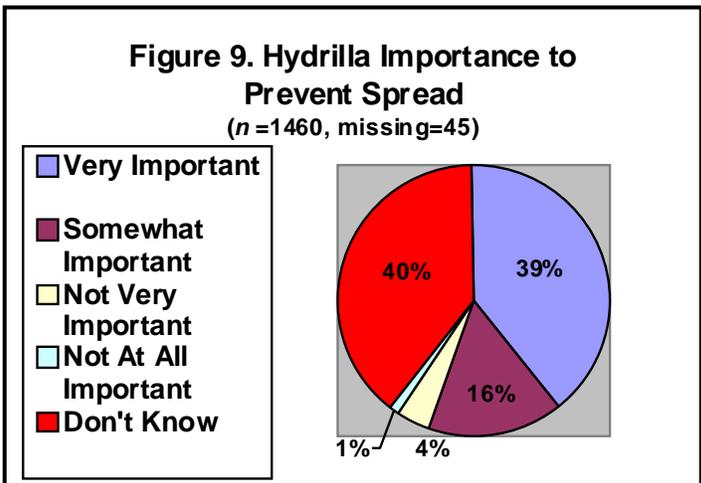
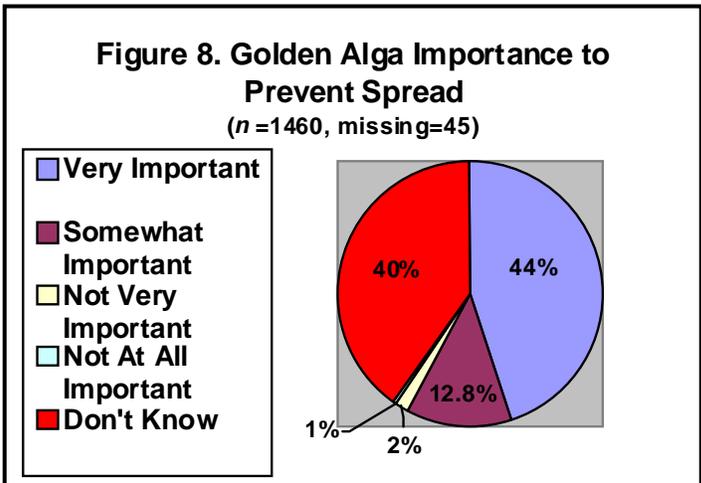
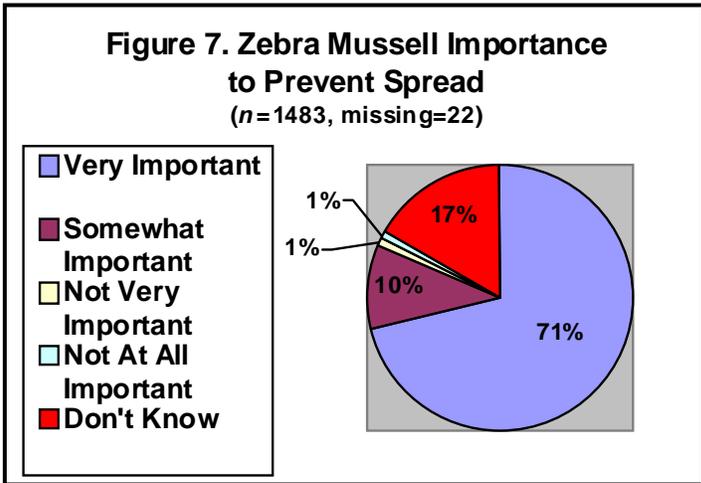
is probably due to the fact that people rarely encounter white perch. This species is also easily mistaken as a white bass therefore misidentification probably plays a large role.



Viral Hemorrhagic Septicemia ranks last when it comes to general knowledge of the species. Out of the respondents, only 17% knew anything at all about VHS (Figure 6). VHS is a somewhat new fish disease that is mostly found in the Great Lakes region. It has not yet been found in Oklahoma and this most likely directly attributes to the 83% of respondents having no knowledge

of it.

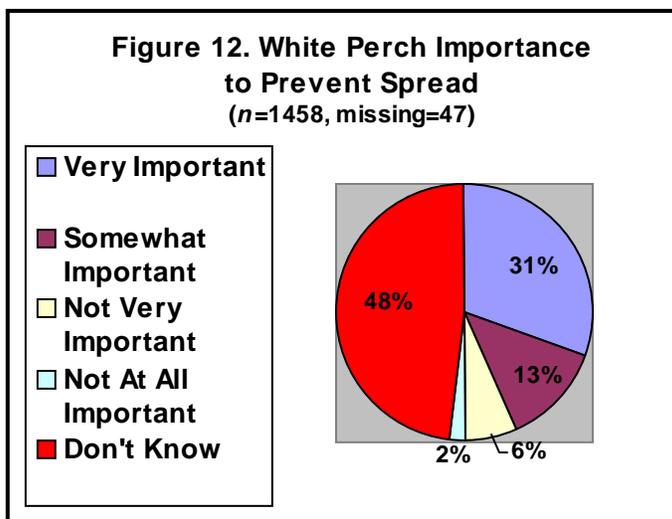
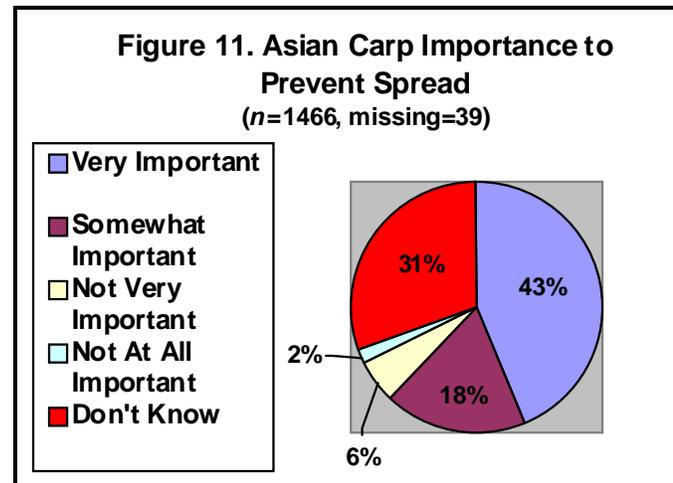
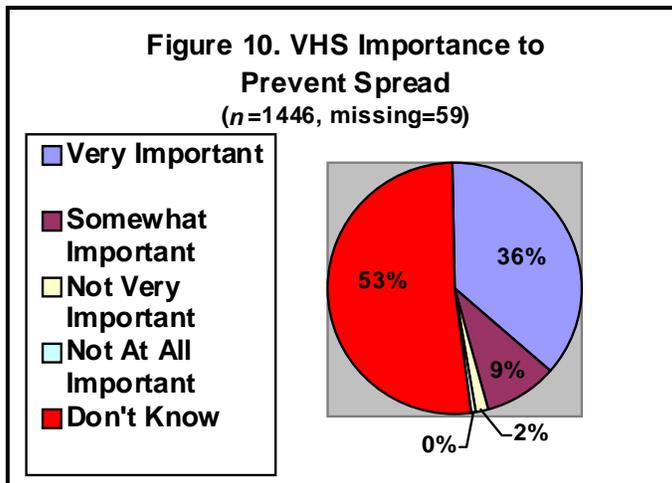
The importance of taking precautions to prevent the spread of ANS



Boaters were asked to rank the importance of preventing the spread of each aquatic nuisance species from the previous question. Respondents were asked to rank the importance into five categories: very important, somewhat important, not very important, not at all important and don't know. These responses were generally correlated with the general knowledge question. If boaters had a high amount of knowledge about the ANS, then the level of importance to help prevent the spread was usually high. Overall the responses for "not very important" and "not at all important" were fairly low for each species (Figures 7 through 12). Nearly half of the respondents for each ANS, except zebra/quagga mussels and Asian carp, didn't know if it was important to prevent the spread. This clearly shows that we must increase our outreach efforts for these species.

Only 19% of the respondents were unsure about the importance to prevent spreading of zebra/quagga mussels (Figure 7). More than three quarters, 81%, of the respondents felt like it was at least somewhat important to prevent the spread. Asian carp ranked second in highest responses of importance (Figure 11). At least 61% of the respondents felt it was at least somewhat important to prevent

spread of these species. VHS and white perch had the lowest responses for "very important" and the highest responses for the "don't know" category (Figures 10 and 12). This is directly correlated to the general knowledge question.



Sources of Information on ANS

Boaters were asked four series of questions that are related to general sources of ANS information and how effective different sources would be in getting them to take actions to help prevent the spread of aquatic nuisance species. These questions were designed to give us some insight on how future efforts for public awareness and education could be directed or enhanced.

From a list of twenty two sources, boaters were asked if they have heard of or read about ANS. These sources are in four categories: media sources, events, fishing or boating sources, and other sources. Nearly half of the respondents had gained knowledge about ANS through sources such as newspaper articles, magazine or newsletters, television programs, and fishing or boating pamphlets. These sources were somewhat expected to yield high rankings because of the various publications and materials available to the public. Television or news programs had the highest ranking with 48% (Table 1). Magazine or newsletters and newspaper articles followed shortly after with 48% and 45%, respectively. Fishing or boating pamphlets were good sources of information with 42% and signs/information at marinas or boat ramps followed shortly after with 40%. Information sources effective in reaching 10% or less of the respondents included radio public service announcements, billboards, and conferences, presentations or meetings.

These results were also somewhat expected because of the lack of efforts. Oklahoma has yet to use billboards or conferences as outreach tools.

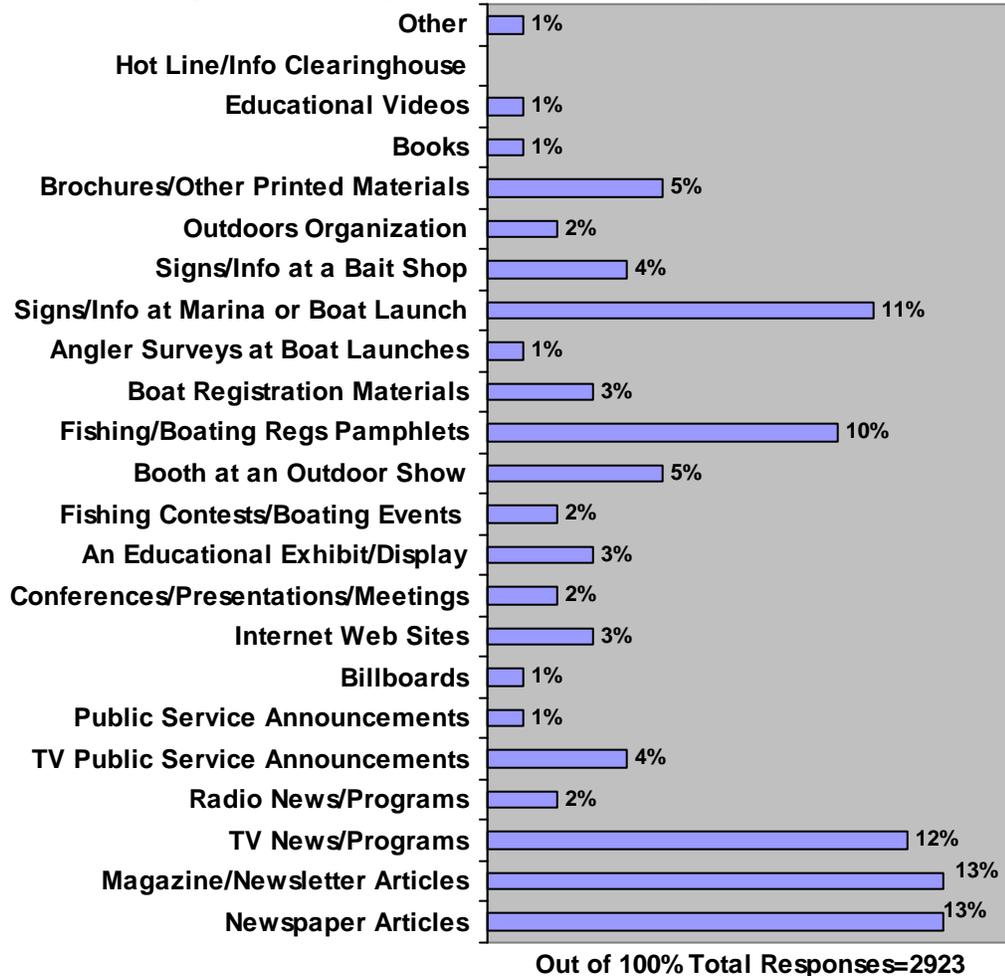
Table 1. Sources of ANS Information (n=1505)	Yes	No	Don't Know	No Opinion
Newspaper Articles	45%	33%	8%	14%
Magazine or Newsletter Articles	47%	30%	8%	15%
Television News or Programs	48%	31%	8%	14%
Radio News or Programs	12%	60%	12%	16%
Television Public Service Announcements	18%	55%	12%	15%
Radio Public Service Announcements	5%	65%	14%	16%
Billboards	7%	64%	13%	16%
Internet Web Sites	15%	57%	12%	17%
Conferences, Presentations, or Meetings	8%	67%	10%	16%
An Educational Exhibit or Display	18%	56%	10%	16%
Fishing Contests, Derby, or Sailboat Regattas	13%	61%	10%	16%
Booth at a Sport or Fishing Show or Similar Event	28%	49%	9%	15%
Fishing or Boating Regulation Pamphlets	42%	35%	8%	15%
Boat Registration Materials	17%	56%	11%	16%
Creel Surveys or Inspection Programs at Boat Launch	13%	61%	10%	15%
Signs/Information Provided at Marina or Boat Launch	40%	38%	8%	14%
Signs/Information Provided at a Bait Shop	23%	53%	9%	15%
Fish, Boat, Sport, or Environmental Organization	19%	55%	11%	15%
Brochures, Identification Cards, or Fact Sheets	27%	49%	10%	15%
Books	10%	65%	10%	16%
Educational Videos	6%	69%	10%	16%
Hot Line or Information Clearinghouse	1%	73%	11%	16%

Best sources of ANS information

Respondents were asked to choose up to four of the best sources of which they have heard about aquatic nuisance species (Figure 13). This referred to the previous question which had twenty two possible information sources. As compared to Table 1, these responses were nearly identical. The top responses for the best sources of information were newspaper and magazine articles, newsletters, fishing and boating pamphlets, and signs at marinas or boat docks. The responses that received the lowest amount of credit were billboards, public service announcements, angler surveys, books and educational videos.

Figure 13. Best Sources of ANS Information

(n=1505, multiple responses allowed)



Getting people to take action

Respondents were asked how effective certain things and events would be in getting them to take steps to prevent the spread of ANS. The choices were ranked on an effectiveness scale and included very effective, somewhat effective, and not very effective. In addition, the survey also asked if these certain things and events have already led them to take action.

"A desire to keep ANS out of our waters" had the most responses (65%) for "how effective it would be to get you to take action" (Table 2). "A desire to prevent damage to your boat" had the second most responses (63%) for this category. Respondents also had a strong opinion that it was a sense of personal responsibility (58%). "Signs at marinas or boat ramps" (56%) and "fishing and boating pamphlets" (47%) came in fourth and fifth for the most responses in this category.

The number one response for already leading people to take action (Table 3) was "a sense of personal responsibility" (31%). This was followed very closely by "a desire to keep ANS out of our waters" (28%). "A desire to prevent damage to my boat" (26%) and "talking with acquaintances and friends" (22%) were also effective sources of information that have led people to take action against ANS. "Signs at marinas and boat ramps also ranked high in this category at 17%.

Boaters value their property and when there is a possibility that their personal boat or equipment may become damaged, they are willing to take measures for prevention. The survey shows that this is of great concern because 63% said it would be effective and 26% said it has already led them to action. Over half (58%) of the respondents felt like it is their personal responsibility to take action. People want to protect the waters that they use and therefore feel like it is their responsibly to help stop the spread of ANS.

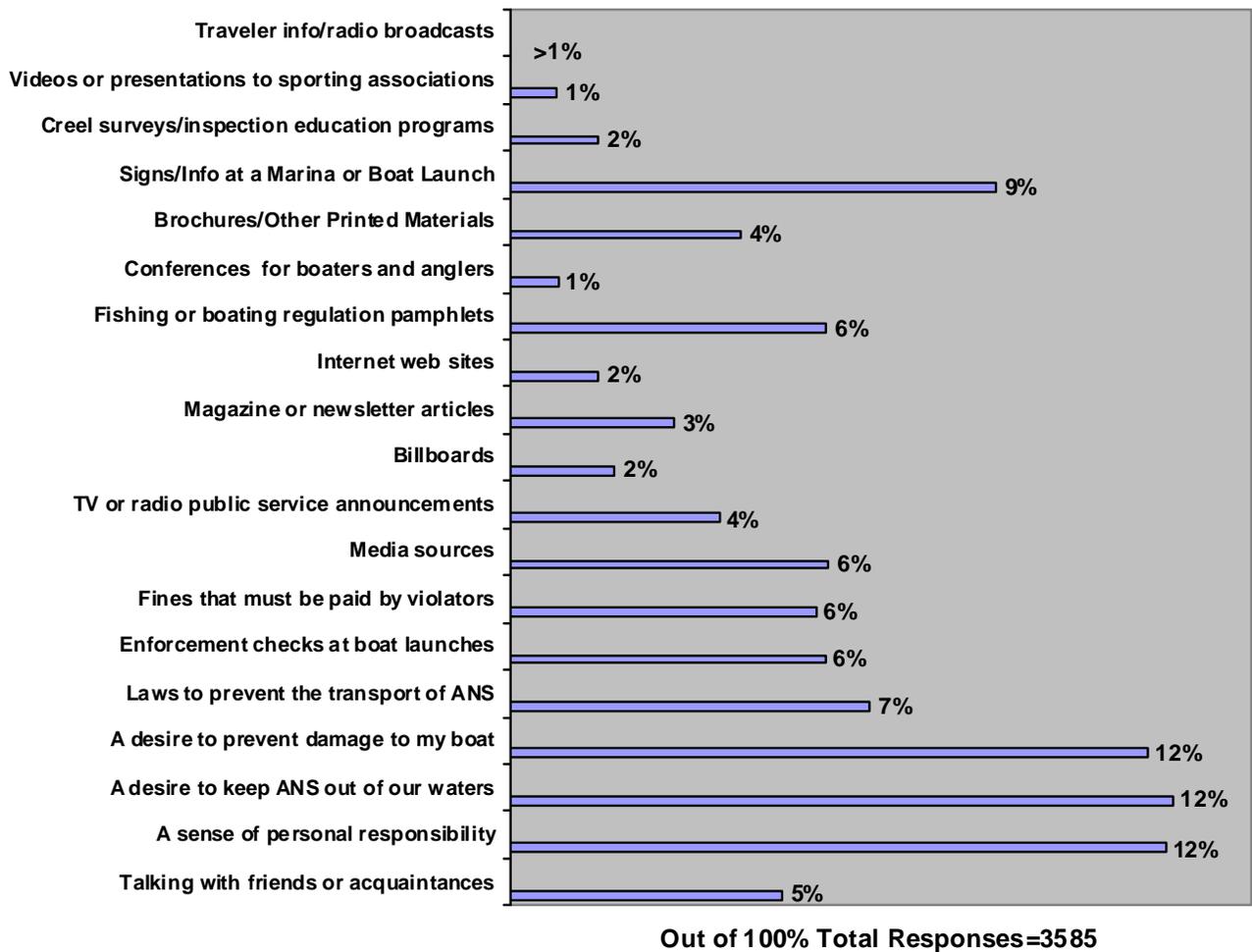
The least effective influences in getting people to take action are presentations, educational programs, radio broadcasts, angler surveys, enforcement checks, billboards and internet web sites. Respondents said that radio broadcast (39%) and internet web sites (22%) would not be very effective influences. ANS billboards have not been used in Oklahoma as an awareness tool due to costs but some states are investing in billboards as a way to educate and outreach to the public. Conferences and workshops (21%) and videos or presentations (20%) were also looked at as very ineffective influences.

Table 2. How Effective Would This Be In Getting You To Take Action? (multiple responses allowed)	Would Be Very Effective	Would Be Somewhat Effective	Would Not Be Very Effective	No Response
Talking With Friends or Acquaintances	34%	39%	8%	19%
A Sense of Personal Responsibility	58%	22%	3%	17%
A Desire to Keep ANS Out of Our Waters	65%	16%	2%	17%
Regulations to Prevent the Transport of ANS	43%	29%	12%	17%
A Desire to Prevent Damage to my Boat	63%	15%	5%	17%
Enforcement Checks on the Road or at Boat Launches to Catch Violators	38%	28%	16%	18%
Media Sources (Newspapers and Radio and TV News/Programs)	43%	33%	7%	17%
TV or Radio Public Service Announcements	41%	34%	8%	17%
Billboards	25%	39%	18%	18%
Magazine or Newsletter Articles	35%	37%	11%	18%
Internet Web Sites	25%	34%	22%	19%
Fishing or Boating Regulation Pamphlets	47%	30%	5%	17%
Conferences or Workshops for Boaters and Anglers	23%	38%	21%	18%
Brochures, Species ID Cards, Fact Sheets, or Other Printed Materials	42%	33%	8%	17%
Signs at Marinas or Boat Launches	56%	23%	4%	17%
Creel Surveys or Inspection/Education Programs on Roads or at Boat Launches	28%	39%	15%	18%
Videos or Other Presentations to Boating, Lake, and Sporting Associations	23%	40%	20%	18%
Traveler Info or Low Power Radio Broadcasts Along Roads	11%	31%	39%	19%
Fines that Must be Paid by Violators	39%	27%	16%	19%

Most effective influences for preventing the spread

The final series of questions asked the respondents to choose four of the influences that would be the most effective in influencing and motivating them to prevent the spread of ANS. A desire to keep ANS out of Oklahoma's waters, prevent damage to their boat, and a sense of personal responsibility all ranked highest at 12% (Figure 14). Again, radio broadcasts, presentations and conferences all scored very low.

Figure 14. Most Effective Influences For Preventing The Spread Of ANS
(n=1505, multiple responses allowed)



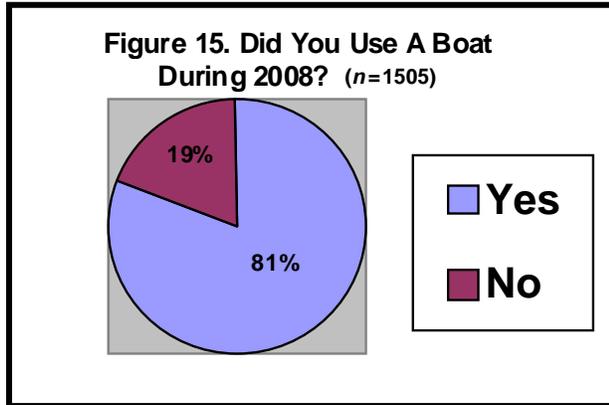
This has already led me to action

In the final column, respondents were asked which preventative steps had already led them to take action. They were asked to simply answer yes or no to each of the different approaches. A sense of personal responsibility scored highest at 31% shortly followed by talking with friends, preventing damage to boat, and keeping ANS out of Oklahoma's waters (Table 3). Signs at marinas and boat ramps scored respectively with 17% of the respondents saying it has led them to take action.

Table 3. This Has Already Led Me To Action... (n=1505) multiple responses allowed	Yes	No	No Response
Talking With Friends or Acquaintances	22%	26%	53%
A Sense of Personal Responsibility	31%	19%	50%
A Desire to Keep ANS Out of Our Waters	28%	20%	52%
Regulations to Prevent the Transport of ANS	10%	34%	55%
A Desire to Prevent Damage to my Boat	26%	22%	52%
Enforcement Checks on the Road or at Boat Launches to Catch Violators	6%	38%	56%
Media Sources (Newspapers and Radio and TV News/Programs)	14%	31%	56%
TV or Radio Public Service Announcements	9%	34%	56%
Billboards	5%	38%	57%
Magazine or Newsletter Articles	14%	30%	56%
Internet Web Sites	7%	36%	57%
Fishing or Boating Regulation Pamphlets	16%	28%	56%
Conferences or Workshops for Boaters and Anglers	4%	40%	57%
Brochures, Species ID Cards, Fact Sheets, or Other Printed Materials	11%	33%	56%
Signs at Marinas or Boat Launches	17%	28%	55%
Creel Surveys or Inspection/Education Programs on Roads or at Boat Launches	5%	38%	57%
Videos or Other Presentations to Boating, Lake, and Sporting Associations	4%	39%	57%
Traveler Info or Low Power Radio Broadcasts Along Roads	2%	41%	57%
Fines that Must be Paid by Violators	6%	38%	56%

Did you use a boat during the 2008 boating season?

In this question, respondents were asked whether or not they used a boat in the 2008 boating season. According to the survey, 81% of the people surveyed used a boat during the 2008 season while 19% said they did not use a boat (Figure 15). The people who answered yes continued answering more questions about boating while the people who answered no were told to skip to question 18. This shows that a large percentage of people who have registered boats actually use their boats on an annual basis.



What type of boat(s) did you use during 2008?

The people who answered yes to using a boat during the 2008 season were then asked what type or types of boats they used. The data in table 4 shows the most used boat was the small powerboat with 680 users followed by the large powerboat with 439 users and in third was personal watercraft with 220 users. The least used was the drift boat, or raft with only 10 respondents choosing it. Small personal watercraft can easily transport ANS from one body of water to another however larger powerboats, usually have a more complex engine system which can easily store aquatic nuisance species in more unseen areas.

Table 4. What Type of Boat(s) Did You Use During 2008? (n=1214)	Totals
Small Sailboat (less than 20 ft.)	59
Large Sailboat (20 ft. or longer)	43
Personal Watercraft (jet ski)	220
Duckboat	63
Small Powerboat (less than 20 ft.)	680
Large Powerboat (20 ft. or longer)	439
Canoe or Kayak	116
Driftboat or Raft	10
Other	180

How long was the boat in the water before being moved?

Respondents were then asked how long their boats were in the water before being transferred to another body of water, and also how often their boat was in the water for each time period given. Time spent in the water did not include time spent on a boat lift. Out of the people who moved their boats, the number one response was one day or less with over 60% of the boaters choosing this answer (Table 5). Fifteen to 30 days was the least chosen response with just 8% of the boaters choosing this option. Even though 15 to 30 days only scored at 8%, it only takes one or two occasions to spread ANS. Educational efforts and monitoring must be extended to these groups of boaters who keep their boats in a body of water for an extended period of time.

Table 5. How Long Were Your Boats In The Water Before Being Moved To A Different Waterbody? Multiple responses allowed (n=600 people moved boats; 614 never moved any boats; missing = 291)	% Circled
1 Day or Less	60%
2 to 4 Days	23%
5 to 14 Days	13%
15 to 30 Days	8%
More Than 30 Days	11%

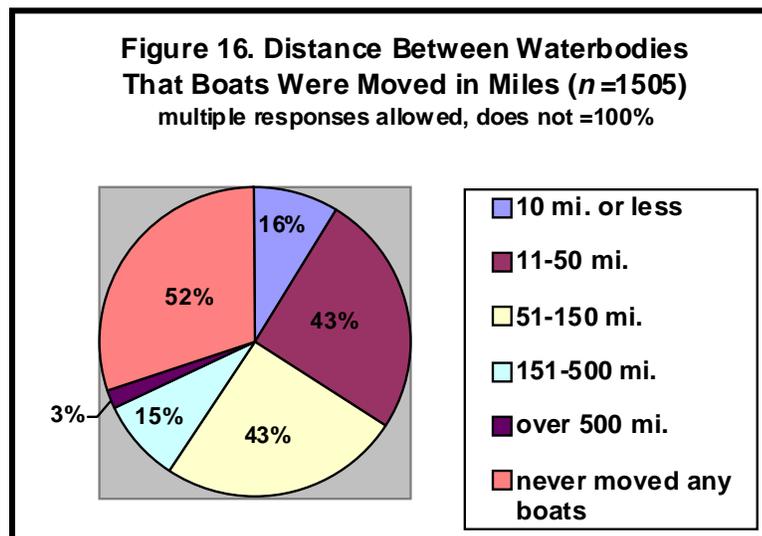
How long was the boat out of the water?

Next the boaters were asked how long they typically left their boats out of the water before placing them into a different body of water. The survey informed the boaters to write the number of times they left their boats out of the water for each time period given. The number one answer out of people who moved their boats was 5 to 14 days out of the water. Forty-two percent of the people surveyed chose this response (Table 6). Two to 4 days was the least chosen answer with 14% of the boaters choosing this response, followed by 1 day or less with 15%. This data shows that the majority of boaters tend to keep their boats out of the water for more than a few days before entering another water body. Again, 15% is a concerning score when you consider how easily ANS can be spread if the proper precautions are not taken.

Table 6. How Long Were Your Boats Out Of The Water Before Being Moved To A Different Waterbody? Multiple responses allowed (n=597 people moved boats; 617 never moved any boats; missing = 291)	% Circled
1 Day or Less	15%
2 to 4 Days	14%
5 to 14 Days	42%
15 to 30 Days	28%
More Than 30 Days	26%

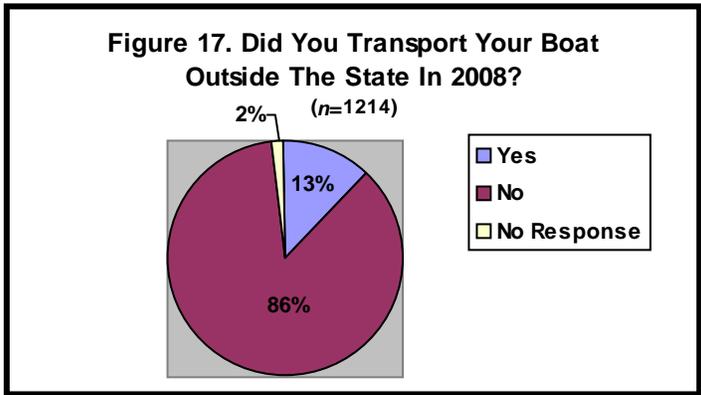
How far apart were the different bodies of water?

Next the boaters were asked how far apart the different bodies of water were that they brought their boats to. This question could have multiple responses for each respondent due to



the fact that many boaters own more than one boat. Because of the possibility of multiple responses these results do not add up to 100%. They were told to fill in the number of times they traveled each distance during the 2008 boating season. More than half (52%) of boaters never moved their boats during the season (Figure 16). Of the 660 respondents that moved their boats among water bodies, 43% moved their boats 11-50 miles and an equal percentage moved their boats 51-150 miles. This question was designed to portray the likelihood of ANS being spread to other water bodies within certain distances.

Table 7. Number Of Times Boats Were Moved Certain Distances In Miles (n=580; multiple responses allowed)	# Of Times Moved
10 miles or less	85
11-50 miles	240
51-150 miles	231
151-500 miles	87
Over 500 miles	17

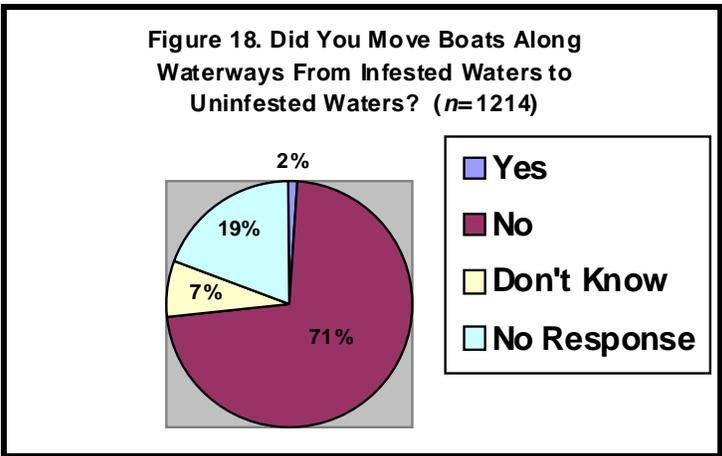


Did you transfer your boat outside of the state in 2008?

The vast majority of Oklahoma boaters (86%) did not transport their boats out of the state during 2008 (Figure 17). This helps reduce the chances of new ANS being introduced from surrounding states through this pathway.

Did you move boats along waterways from infested waters to uninfested waters?

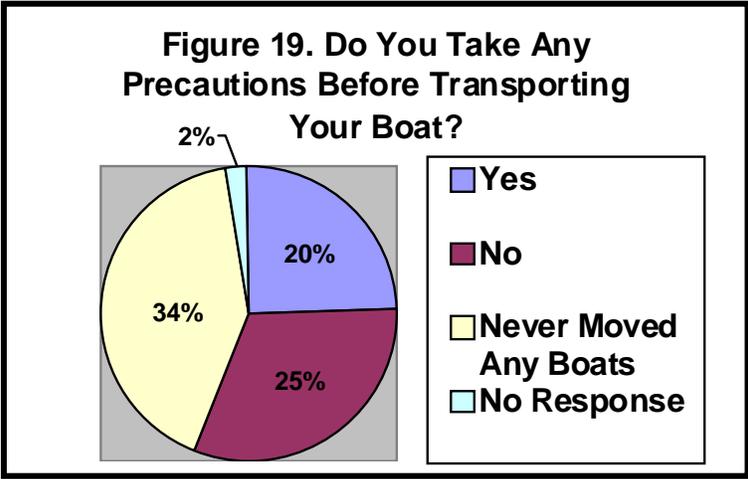
With the exception of the Arkansas River Navigation System, Oklahoma does not have waterways that allow movement between systems. Given the choices, 71% said they did not



move from infested to uninfested waters, 19.3% did not respond to the question, 7% said they did not know if they did, and 2% answered yes (Figure 18). Although three quarters of the respondents said they did not move from infested to uninfested waters the low level of ANS awareness makes it likely that many of these respondents did not know whether the system was infested or not.

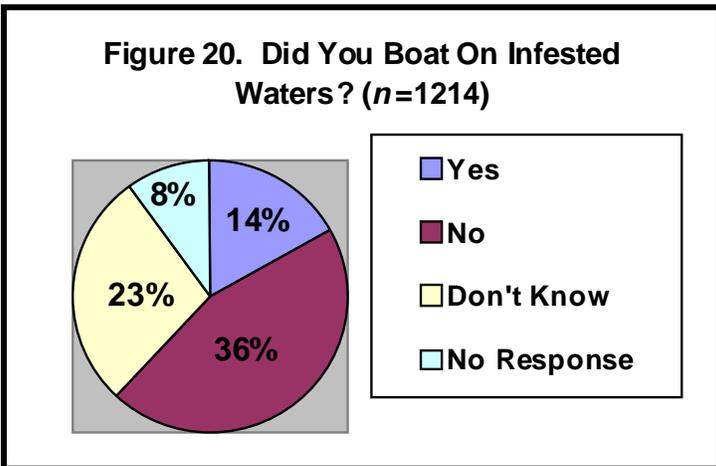
Do you take any precautions before transporting your boat?

One-third of the people surveyed (34%), never moved their boat during 2008. Of those that did, 25 did not take precautions, while 20% said they did take precautions. The boaters who claimed to not take any precautions were then asked why they chose not to. Nearly half of the



people surveyed answered that “they did not know exactly what to do”; 28% said they didn’t boat on infested waters (Table 8). Given the low level of awareness, it seems likely that many respondents simply did not know whether or not a system was infested. This reinforces the fact that increased outreach efforts are needed to ensure boaters are aware of what to do to prevent spreading ANS.

	Totals
I don't believe it will prevent the eventual spread of ANS	2%
It's inconvenient, I don't have time to take precautions	2%
I don't know exactly what I'm supposed to do	49%
I didn't boat on infested waters	28%
I don't believe aquatic nuisance species are a problem	1%
Boat washing equipment was not readily available	14%
Other	16%



Did you boat on infested waters?

Respondents were asked whether or not they had boated on waters known to be infested with ANS, and if so how did they know that the waters were infested. The majority (36%) said they didn’t boat on infested waters, while 23% didn’t know if they had or not (Figure 20).

The people who had boated on infested waters were given a list

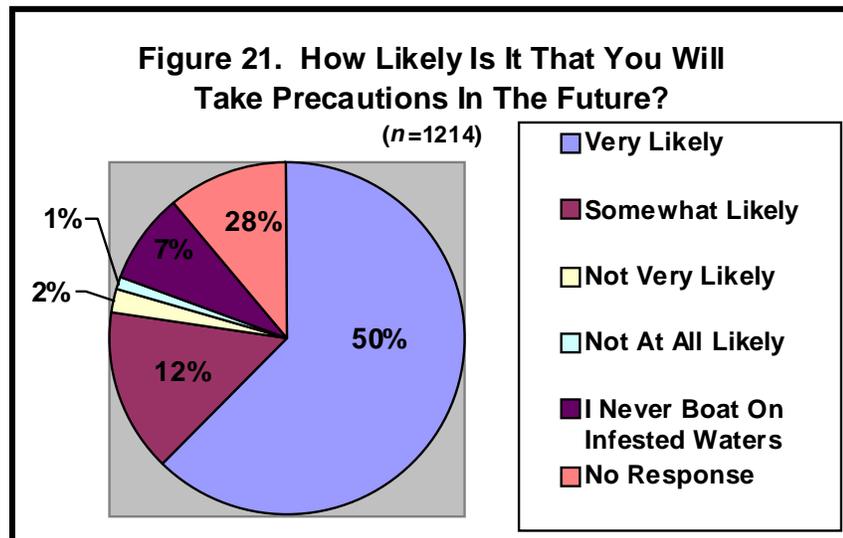
of options explaining how they knew the waters were infested (Table 9). The most effective way of informing about ANS was through the use of signs or posters at the boat ramp. This

response scored at 58%. The next most effective tool was word of mouth from a friend or relative. Neither watercraft educator nor hotline were selected by any of the respondents. ODWC is currently addressing this issue and is posting ANS signs at all infested bodies of waters and also many uninfested waters.

Table 9. How Did You Know The Waters Were Infested With ANS? (n=208; multiple responses allowed)	Totals
Sign or poster at boat launch or marina	58%
Brochure, fact sheet, or flyer	11%
Fishing, boating or waterfowl regulations pamphlet	18%
Internet web site	6%
Watercraft educator/ inspector	0
Media sources (newspaper, radio, TV)	23%
Hot line or information clearinghouse	0
Heard about it from a friend or relative	31%
Other	18%

How likely is it that you will take precautions in the future?

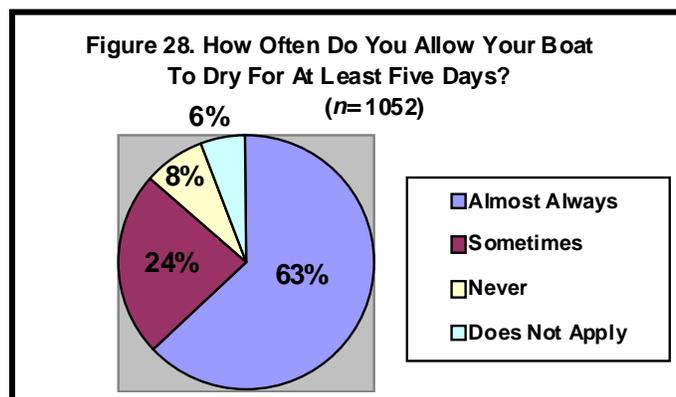
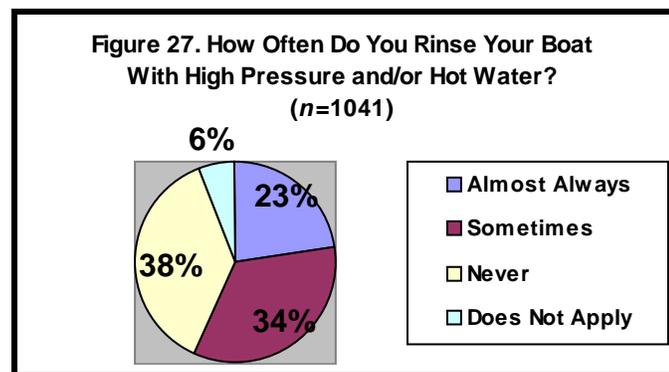
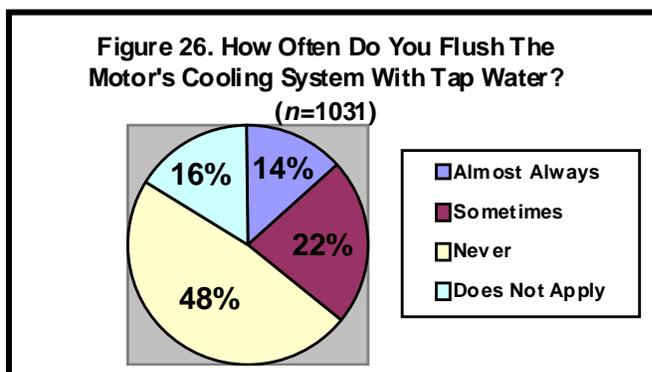
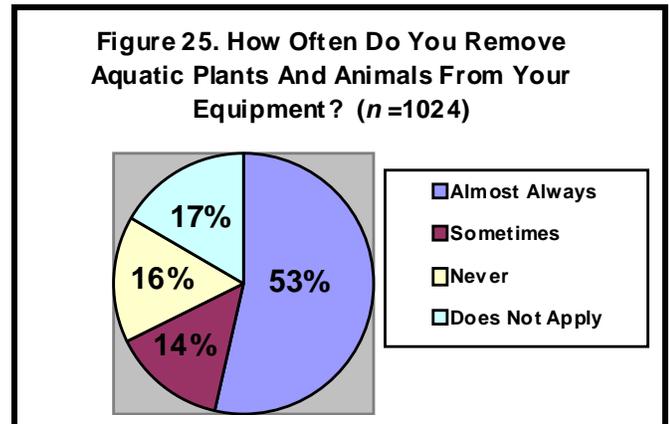
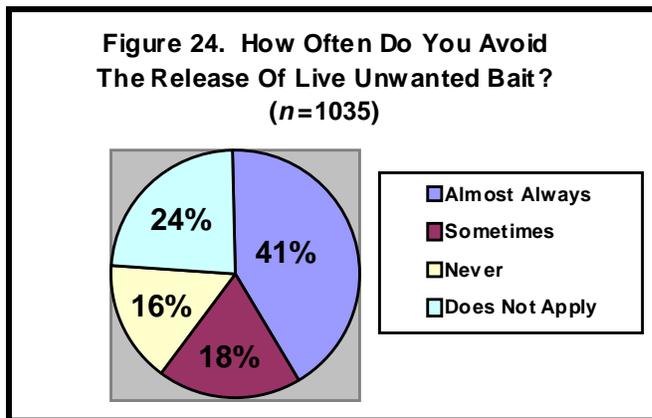
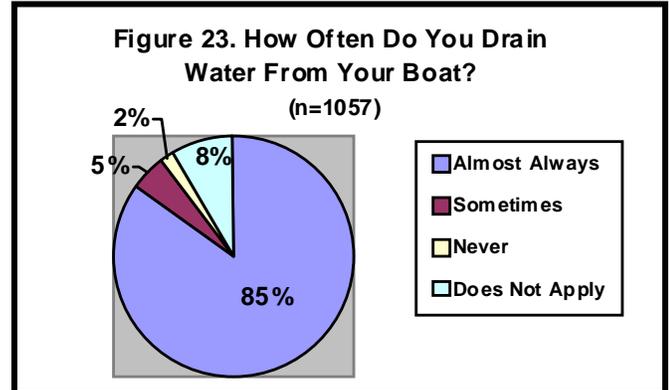
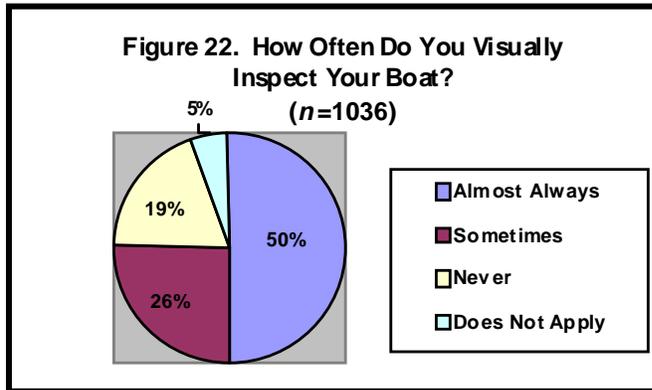
Half of the respondents (50%) said they will likely take precautions in the future and an additional 12% indicated that they were somewhat likely to take precautions. This indicates that with additional efforts to increase awareness of the issues, the majority of the public would take the necessary steps to limit the spread of ANS through the recreational boat traffic pathway.

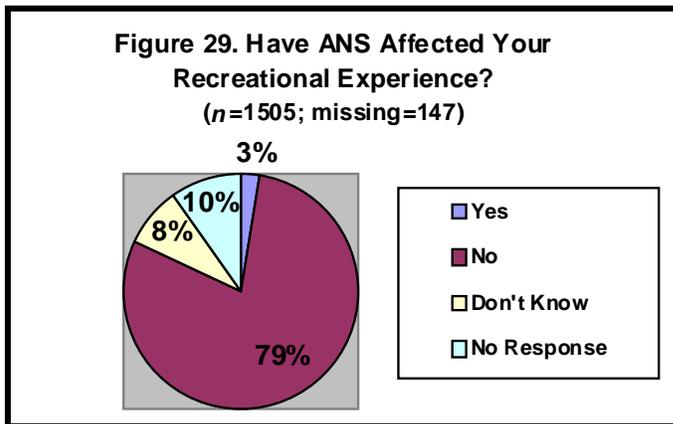


ANS precautions

Respondents were asked about a series of precautions and how often they performed these actions (Figures 22 through 28). The action most commonly practiced (85%) was draining of water from their boat. Allowing the boat to dry for at least five days scored second at 63%. These two responses were expected to yield fairly high responses because they are common practices. This doesn't necessarily mean that boaters perform these actions to prevent the spread of ANS therefore these actions may not be conducted properly. Nearly half of the respondents said they almost always visually inspect their

boat and remove any plants and animals from their boat and trailer. Surprisingly 41% of respondents said they almost always avoid the release of live unwanted bait. Washing the boat with high pressure and flushing the motor's cooling system with tap water had the lowest responses. Lack of washing facilities in rural parts of the state likely contributes to the low response rate and may warrant investment in boat wash stations.





Have ANS affected your recreational experience?

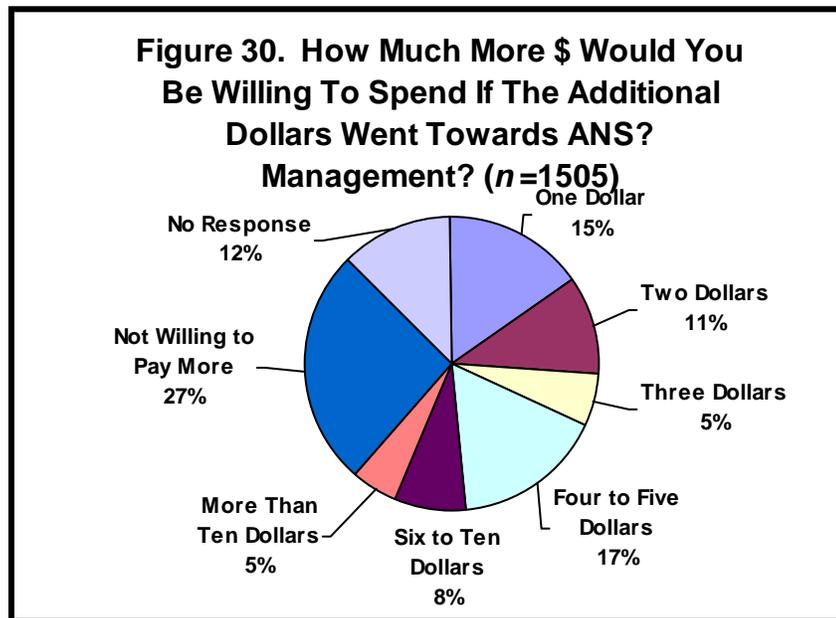
More than three quarters of the respondents (79%) said that ANS issues have not impacted their recreational activities (Figure 29). Only 3% of the boaters said that ANS have impacted their recreational activities and 8% were not sure. Recreational activities may not be heavily impacted at this point but ecological and

economic impacts are starting to be felt.

Increased fees to assist with ANS management

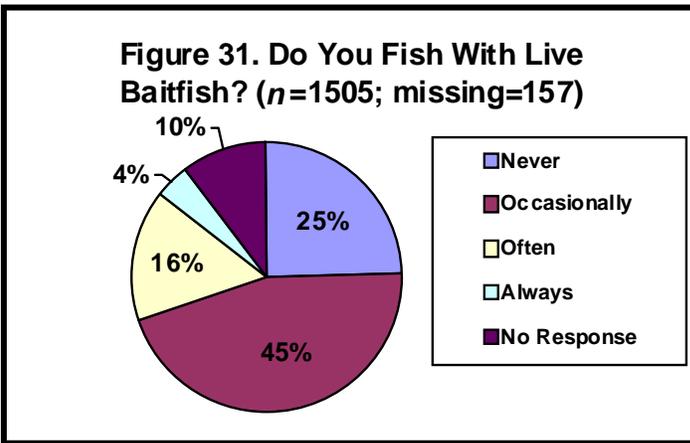
Every respondent was asked whether or not they would be willing to pay more for an Oklahoma fishing license if that money went towards ANS management. Overall, 61%

of the respondents said they would be willing to spend at least one extra dollar. Out of the people willing to pay more, 17% said they would pay four to five extra dollars. A considerable number of respondents, 27%, were not willing to pay more for a fishing license.

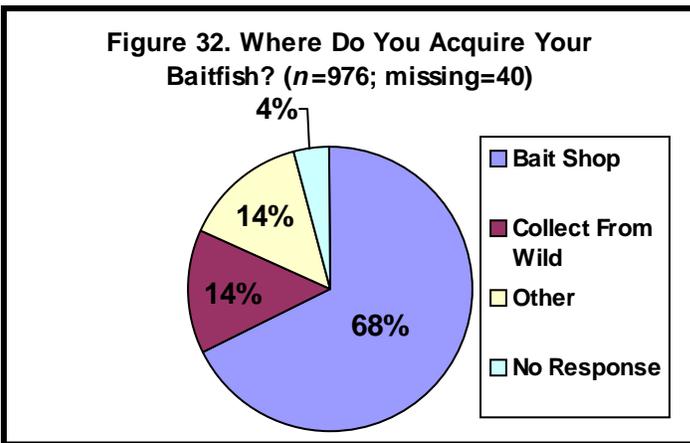


The use of live bait fish

Respondents were asked how commonly they use bait fish, where they obtain their bait and how they dispose of their bait after their fishing experience. Of the responses, 65% of the respondents said they use live bait fish at least occasionally and 25% of the people surveyed never use bait fish.



Most of the respondents (68%) said they obtain their bait from a bait shop and 14% said they catch their live bait from the wild. A concerning number of respondents (46%) said they release their live bait into the water. Since most respondents are getting their bait from a bait shop and are releasing the live bait into the water, we are not



sure exactly what species of bait fish are being released into public waters.

Willingness to take precautions

Boaters were asked how willing they were to take precautions dealing with two issues: draining water from their boats and the use of live bait fish. An overwhelming 90% of the respondents said they would be

willing to drain the water from their boats. This large percentage is somewhat related to the fact that 85% of the respondents said they almost always perform this action.

Respondents were also asked if they would consider purchasing live bait only from a certified dealer. According to the survey, 63% said they would at least maybe consider purchasing live bait only from a certified dealer. A somewhat large portion of the respondents (21%) said they would not be willing to take this precaution. In addition, 66% of the respondents said they would be willing to use live bait fish only in the body of water that they came from. This response is most likely due to the fact 14% of the respondents catch and use their own bait.

Figure 33. What Do You Do With Your Live Baitfish After Fishing?
(n=976; missing=107)

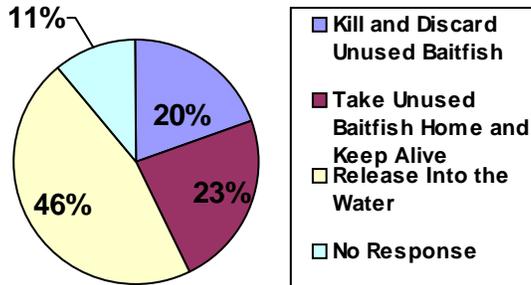


Figure 34. Would You Be Willing To Drain Water From Your Boat?
(n=1505; missing=53)

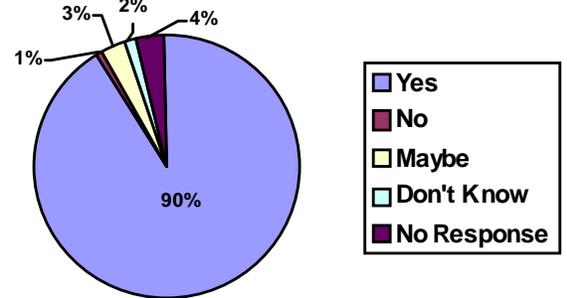


Figure 35. Would You Be Willing To Use Live Baitfish From a Certified Dealer Only?
(n=1505; missing=123)

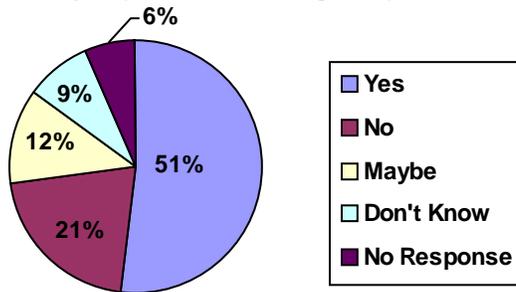
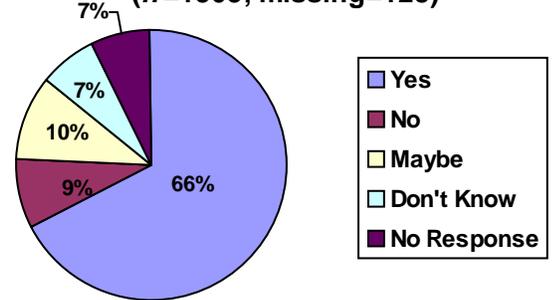


Figure 36. Use Live Bait Only From The Body of Water It Came From
(n=1505; missing=128)



Conclusions

The results from this survey indicate the need to increase outreach efforts. Outreach efforts should focus on publications and educational materials, signs at boat ramps, and hosting more public events that target ANS issues.

Appendix G. Oklahoma Aquatic Nuisance Species and Boating Survey

AQUATIC NUISANCE SPECIES AND BOATING SURVEY

Please circle the number which corresponds to the answer closest to your opinion or situation. ALL INDIVIDUAL RESPONSES WILL BE KEPT CONFIDENTIAL. For the purpose of this survey, BOATS are defined as canoes, kayaks, duck boats, sailboats, personal watercraft, fishing boats, and recreational watercraft.

Q1. AQUATIC NUISANCE SPECIES are plants or animals that enter places where they have NOT always lived. They can be harmful to fish and wildlife and to commercial and recreational water uses. How much information have you heard or read about each of the AQUATIC NUISANCE SPECIES listed below? (Circle one answer for each item.)

How much information have you heard about...

Aquatic Nuisance Species	A Large Amount	A Moderate Amount	A Small Amount	None
a. Zebra mussels/quagga mussels	1	2	3	4
b. Golden alga	1	2	3	4
c. Hydrilla	1	2	3	4
d. VHS (Viral Hemorrhagic Septicemia)	1	2	3	4
e. Asian carp (bighead carp, silver carp, black carp & grass carp)	1	2	3	4
f. White perch	1	2	3	4
g. Other (please specify): _____	1	2	3	4

Q2. In your opinion, how important is it that boaters and anglers take precautions to prevent the spread of each of the following aquatic nuisance species from one body of water to another? (Circle one answer for each item.)

Taking precautions to prevent the spread is...

Aquatic Nuisance Species	Very Important	Somewhat Important	Not Very Important	Not at All Important	Don't Know
a. Zebra mussels/quagga mussels	1	2	3	4	5
b. Golden alga	1	2	3	4	5
c. Hydrilla	1	2	3	4	5
d. VHS (Viral Hemorrhagic Septicemia)	1	2	3	4	5
e. Asian carp (bighead carp, silver carp, black carp & grass carp)	1	2	3	4	5
f. White perch	1	2	3	4	5
g. Other (please specify): _____	1	2	3	4	5

Q3. Have you heard of or read about aquatic nuisance species from any of the following sources?
(Circle one answer for each source.)

MEDIA SOURCES		Yes	No	Don't Know
a.	Newspaper articles	1	2	3
b.	Magazine or newsletter articles	1	2	3
c.	Television news or programs	1	2	3
d.	Radio news or programs	1	2	3
e.	Television public service announcements	1	2	3
f.	Radio public service announcements	1	2	3
g.	Billboards	1	2	3
h.	Internet web sites	1	2	3
EVENTS				
i.	Conferences, presentations, or meetings	1	2	3
j.	An educational exhibit or display	1	2	3
k.	Fishing contests, fishing derbys, or sailboat regattas	1	2	3
l.	A booth at a sport show, fishing show, or similar event	1	2	3
FISHING OR BOATING SOURCES				
m.	Fishing or boating regulation pamphlets	1	2	3
n.	Boat registration materials	1	2	3
o.	Creel surveys or inspection-education programs on roads or at boat launches	1	2	3
p.	Signs or information provided at a <u>marina</u> or <u>boat launch</u>	1	2	3
q.	Signs or information provided at a <u>bait shop</u>	1	2	3
r.	A fishing, boating, sporting, or environmental organization	1	2	3
OTHER SOURCES				
s.	Brochures, species identification cards, fact sheets, or other printed materials	1	2	3
t.	Books	1	2	3
u.	Educational videos	1	2	3
v.	Hot line or information clearinghouse	1	2	3
w.	Other (please specify): _____	1	2	3

Q4. Of the sources of information that you circled in Question 3, which four were your BEST sources of information about aquatic nuisance species? *(Write the letter for each item you select in the spaces provided below.)*

Q5. How effective would each of the following be in getting YOU to take steps to prevent the spread of aquatic nuisance species? (Circle one number for each item.) In the last column, please tell us which ones ALREADY led you to take action. (Circle Yes or No for each item.)

How effective would this be in getting you to take action...

	Would be very effective	Would be Somewhat effective	Would NOT be very effective	This already led me to take action	
a. Talking with friends or acquaintances	1	2	3	Yes	No
b. A sense of personal responsibility	1	2	3	Yes	No
c. A desire to keep aquatic nuisance species out of our lakes or streams	1	2	3	Yes	No
d. A desire to prevent damage to my boat or equipment	1	2	3	Yes	No
e. Laws or regulations to prevent the transport of aquatic nuisance species	1	2	3	Yes	No
f. Enforcement checks on the road or at boat launches to catch violators	1	2	3	Yes	No
g. Fines that must be paid by violators	1	2	3	Yes	No
h. Media sources (newspapers and radio and TV news/programs)	1	2	3	Yes	No
i. Television or radio public service announcements	1	2	3	Yes	No
j. Billboards	1	2	3	Yes	No
k. Magazine or newsletter articles	1	2	3	Yes	No
l. Internet web sites	1	2	3	Yes	No
m. Fishing or boating regulation pamphlets	1	2	3	Yes	No
n. Conferences or workshops for boaters and anglers	1	2	3	Yes	No
o. Brochures, species identification cards, fact sheets, or other printed materials	1	2	3	Yes	No
p. Signs at marinas or boat launches	1	2	3	Yes	No
q. Creel surveys or inspection-education programs on roads or at boat launches	1	2	3	Yes	No
r. Videos or other presentations to boating, lake, and sporting associations	1	2	3	Yes	No
s. Traveler information or low power radio broadcasts along roads	1	2	3	Yes	No

Q6. Of the items that you said "would be VERY EFFECTIVE" in Question 5, which would be MOST effective in getting you to take steps to prevent the spread of aquatic nuisance species? (Write the letter for each item you select in the spaces provided below.)

The next questions are about your recreational use of ALL boat(s) during the 2008 boating season. Your answers will help us determine the movement of boats between waterbodies.

Q7. Did you USE a boat or boats during the 2008 boating season? *(Circle one.)*

1. YES
2. NO (IF NO, SKIP TO QUESTION 18 ON PAGE 7)

Q8. What type of boat(s) did you use during 2008? *(Circle all that apply.)*

- a. Small sailboat (less than 20 feet)
- b. Large sailboat (20 feet or longer)
- c. Personal watercraft (jet ski)
- d. Duckboat
- e. Small powerboat (less than 20 feet)
- f. Large powerboat (20 feet or longer)
- g. Canoe or kayak
- h. Driftboat or raft
- i. Other type of watercraft (please specify) _____

Q9. Thinking about all boats you used during the 2008 boating season, about how long was the boat(s) IN the water before being moved to a different waterbody? Do NOT include time on a boat lift. *(Fill in the number of times during the 2008 boating season for each time period.)*

- a. I never moved ANY boat(s) to a different waterbody
- b. One day or less _____ times
- c. 2 to 4 days _____ times
- d. 5 to 14 days _____ times
- e. 15 to 30 days _____ times
- f. More than 30 days _____ times

Remember to write in the number of times

Q10. About how long was the boat(s) OUT of the water before you put it in a DIFFERENT waterbody than it was PREVIOUSLY used in? Include the amount of time on a trailer, on a boat lift, on a rack, or transported on a road. *(Fill in the number of times during the 2008 boating season for each time period.)*

- a. I never moved ANY boat(s) to a different waterbody
- b. One day or less _____ times
- c. 2 to 4 days _____ times
- d. 5 to 14 days _____ times
- e. 15 to 30 days _____ times
- f. More than 30 days _____ times

Remember to write in the number of times

Q11. If you moved any boat(s) to a different waterbody than it was previously used in, how far apart were the different bodies of water? (Fill in the number of times during the 2008 boating season for each distance category.)

- a. I never moved ANY boat(s) to a different waterbody
- b. Ten miles or less _____ times
- c. 11 to 50 miles _____ times
- d. 51 to 150 miles _____ times
- e. 151 to 500 miles _____ times
- f. More than 500 miles _____ times

Remember to write in the number of times

Q12. During the 2008 boating season, did you TRANSPORT (by truck, trailer, car top, etc.) any boat(s) to waters OUTSIDE the state where the boat is licensed? (Circle one.)

- 1. YES → → →
- 2. NO

- a. How many different times did you transport boat(s) to another state or province in 2008? _____ times
- b. Please list each state or province that you transported boat(s) to in 2008:

Q13. During the 2008 boating season, did you move any boat(s) along connected waterways (such as rivers or canals) FROM waters that you knew were infested with any of the aquatic nuisance species listed in Question 1 INTO uninfested waters? (Circle one.)

- 1. YES → → →
- 2. NO
- 3. DON'T KNOW

- a. Please list the names of the waterways that you went to and from in the boat(s):
WENT TO (uninfested waters): _____
WENT FROM (infested waters): _____
WHICH AQUATIC NUISANCE SPECIES: _____

Q14. Before you transport the boat(s), do you take any special steps to prevent the transport of water or aquatic nuisance species from one body of water to another? (Circle one.)

- 1. YES
- 2. NO → → →
- 3. I never moved ANY boat(s) to a different waterbody

(IF NO) If you do not take any special precautions, why not? (Circle all that apply.)

- a. I don't believe it will prevent the eventual spread of aquatic nuisance species
- b. It's inconvenient, I don't have time to take precautions
- c. I don't know exactly what I'm supposed to do
- d. I didn't boat on infested waters
- e. I don't believe aquatic nuisance species are a problem
- f. Boat washing equipment was not readily available
- g. Other (please specify) _____

Q15. During 2008, did you boat on waters that you knew were infested with ANY of the aquatic nuisance species listed in Question 1 on the front page? *(Circle one.)*

1. YES → → →
2. NO
3. DON'T KNOW

(IF YES) How did you know that the waters you boated on were infested with an aquatic nuisance species? *(Circle all that apply.)*

- a. Sign or poster at boat launch or marina
- b. Brochure, fact sheet, or flyer
- c. Fishing, boating, or waterfowl regulation pamphlet
- d. Internet web site
- e. Watercraft educator/inspector
- f. Media sources (newspaper, radio, TV)
- g. Hot line or information clearinghouse
- h. Heard about it from a friend or relative
- i. Other (please specify) _____

Q16. If you do boat on infested waters, how likely is it that YOU will take precautions in the future to prevent the spread of aquatic nuisance species between bodies of water? *(Circle one.)*

1. Very likely
2. Somewhat likely
3. Not very likely
4. Not at all likely
5. I never boat on infested waters

Q17. After removing boat(s) from the water, how often do you do the following? *(Circle one answer for each item.)*

Steps Taken:	Almost Always	Some-times	Never	Does Not Apply
a. Conduct visual inspection of boats and equipment for aquatic plants and animals	1	2	3	4
b. Drain water from boats, including live wells, bilge, and bait buckets	1	2	3	4
c. Avoid release of unwanted live bait into the water	1	2	3	4
d. Remove aquatic plants and animals from boats and equipment	1	2	3	4
e. Flush motor's cooling system with tap water	1	2	3	4
f. Rinse boat with high pressure and/or hot water	1	2	3	4
g. Allow boat to dry for at least five days	1	2	3	4
h. Other (please specify) _____	1	2	3	4

Q18. Have aquatic nuisance species caused problems for you or affected your recreational experience during the 2008 boating season? (Circle one.)

- 1. YES → → →
- 2. NO
- 3. DON'T KNOW

a. (IF YES) Please list all impacts, the aquatic nuisance species that were involved, and any associated costs you have experienced.

Q19. How much MORE would you be willing to spend for a boating or fishing license if the additional money was used to fund activities to prevent the spread of aquatic nuisance species and to reduce their harmful effects? (Circle one.)

- 1. \$1
- 2. \$2
- 3. \$3
- 4. \$4 to \$5
- 5. \$6 to \$10
- 6. More than \$10
- 7. Would NOT be willing to spend more

The following questions refer to your use of bait while fishing.

Q20. Do you fish with live baitfish?

- 1. Never
- 2. Occasionally
- 3. Often
- 4. Always

Q21. If you fish with live baitfish list the bodies of water where you fish with live bait fish most often.

_____	_____
_____	_____
_____	_____

Q22. If you do NOT use live baitfish why do you chose not to fish with live baitfish?

- 1. Don't fish in any bodies of water where live baitfish are allowed
- 2. Prefer to fish with artificial lures
- 3. Prefer to fish with other live bait such as leeches, worms or maggots
- 4. Using live baitfish is too expensive
- 5. Other (please specify): _____

Q23. If you use live baitfish where to you acquire your baitfish?

- 1. Bait shop
- 2. Collect it from the wild
- 3. Other (please specify): _____

Q24. How many dozen live baitfish do you use per year? _____ (dozen/year)

Q25. What do you do with your live baitfish after a day of fishing?

1. Kill and discard any unused baitfish
2. Take unused baitfish home and keep alive to use again but only on the one body of water
3. Take unused baitfish home and keep alive to use again on any other body of water
4. Release any unused baitfish into the water

Because of the risk of Aquatic Nuisance Species and fish diseases new regulations are being considered to try and prevent their introduction into Oklahoma waters and between Oklahoma waters.

Q26. Would you be willing to do the following:

1. Drain water from watercraft at boat ramp before transportation
Yes _____
No _____
Maybe _____
Don't Know _____
2. Use live baitfish from a certified bait dealer only i.e. no collection from the wild
Yes _____
No _____
Maybe _____
Don't Know _____
3. Use live bait fish only on the body of water where it originated or from a licensed bait dealer
Yes _____
No _____
Maybe _____
Don't Know _____

Please answer the following questions about yourself. This information will be used only to compare people's answers. It will not be used to identify you in any way.

Q27. What types of radio stations do you usually listen to? *(Circle all that apply.)*

- a. Classical music
- b. Country music
- c. Public radio
- d. New/alternative rock music
- e. Oldies/classic rock music
- f. Talk radio
- g. Other (please specify) _____

Q28. What is your zip code or postal code? _____

Q29. What recommendations or other comments would you like to make about the spread of aquatic nuisance species in your state's waters? _____
