RESPONSIVE MANAGEMENT

NEW YORK ANGLER PATTERNS, PREFERENCES, AND ATTITUDES REGARDING THE STATE'S FRESHWATER FISHERIES

REPORT 2 OF 4

Conducted for the New York State Department of Environmental Conservation, Division of Fish and Wildlife

by Responsive Management

2019

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REPORT 2 OF 4

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EXECUTIVE SUMMARY

To help assess both the biological and human dimensions aspects of managing New York's freshwater fisheries, the New York State Department of Environmental Conservation's (DEC) Bureau of Fisheries (hereinafter referred to as the "Bureau") has contracted surveys of its licensed freshwater anglers approximately every 10 years starting in 1973. This survey was conducted in 2018 and addresses angler effort, expenditures, and attitudes for calendar year 2017 (hereinafter referred to as the "2017 survey").

The 2017 survey was conducted by Responsive Management both online and by mail. The online survey was the primary method for obtaining data, with a mail survey conducted to address any potential biases in the online survey sample. Note that the online survey was a closed survey, meaning only those specifically invited to take it could complete the survey. In addition, a telephone survey of non-responders to the online and mail surveys was conducted to assess any potential biases in the other methods.

The study's results are presented in four reports, with data presented in reports 1 through 3 and the survey and analysis methodology presented in the fourth report.

The survey questionnaire was developed cooperatively by Responsive Management and the Bureau, based in part on the previous mail surveys that the Bureau had conducted. Two questionnaires were developed for the 2017 survey: a paper copy for mail surveying, and an electronic version for online surveying. Responsive Management conducted pre-tests of the questionnaires to ensure proper wording, flow, and logic.

The Bureau provided a database of individuals who had a valid freshwater fishing license any time during the calendar year 2017. Note that the database was used solely for the survey; all personal identifying information was stripped from any data provided to the Bureau. Upon completion of the surveying effort, Responsive Management has not and will not use the database for any other purposes.

From this database, a sample of anglers was drawn. The sampling and contact plan was to attempt to contact those with a valid email address by email and send mail surveys only to those who did not have a valid email address. Both samples (the online and mail samples) were drawn from the license database so that the various license types were proportional to their actual representation in the database and the angler age structure in the sample matched the age structure of the license database.

ANGLER DEMOGRAPHICS

The study compared anglers to the general population of New York State; anglers tend to be a little older than the general population, and males compose a much greater proportion of anglers than they do the general population (the general population is 49% male; anglers as a group are 90% male).

FISHING PARTICIPATION AMONG LICENSED ANGLERS

Half of licensed anglers surveyed were avid in that they had fished all 5 of the previous 5 years. About a third were intermittent (fished at least 1 of the previous 5 years), while the remainder (about a sixth) had not fished in the previous 5 years.

PREFERENCES FOR SPECIES, METHODS OF FISHING, AND WATERBODIES FISHED

Most commonly, anglers' top choices were largemouth and smallmouth bass. Indeed, in every DEC administrative region, one of those bass species topped the ranking. Brown trout, brook trout, and walleye were also highly preferred by anglers; followed by rainbow trout. Out of state anglers more preferred smallmouth bass, followed by largemouth bass, coho/Chinook salmon, and brown trout.

The survey also explored anglers' ability to fish for their preferred species, as some anglers had not fished their preferred species in 2017. For example, 60% of anglers who prefer to fish for channel catfish had *not* fished for it in 2017, with similar results for pickerel and bullhead (both 53%). On the other hand, 80% of those who prefer coho/Chinook salmon had targeted those species in 2017, along with anglers preferring brown trout (78%), muskie (77%), walleye (77%), and sunfish (76%) (note that sunfish included bluegill, pumpkinseed, redbreast, and rock bass).

Individual fish species were grouped for analysis into *warmwater gamefish*, *coldwater gamefish*, and *panfish* (defined below). Half of anglers (50%) prefer one of the warmwater gamefish, 33% prefer one of the coldwater gamefish, 7% prefer panfish, and 8% have no preference. One marked difference regionally (with "out of state" being its own "region") is that warmwater gamefish are most preferred by anglers from every region, while coldwater gamefish are the most preferred of anglers coming from out of state.

> Warmwater gamefish include largemouth and smallmouth bass, muskie, northern pike, pickerel, tiger muskie, and walleye.
>
> Coldwater gamefish include coho/Chinook salmon, lake trout, landlocked Atlantic salmon, steelhead, and brown, brook, and rainbow trout.
>
> Panfish include bluegill, sunfish, bullhead, catfish, crappie, and yellow perch.
>
> Striped bass and carp are categorized individually in this analysis.

The survey asked anglers to choose their two favorite fishing methods. Fishing by motorized boat is the most popular (35% chose this as their top method), followed by shore angling (27%), wading in streams (20%), and fishing from a non-motorized boat (11%). A relatively small proportion of anglers prefer pier or ice fishing (3% each).

Ponds/lakes other than the Great Lakes are the most commonly preferred water type for fishing statewide (44%). If the Great Lakes are included, the results increase to 55% preferring ponds/lakes.

HARVEST OF FISH

For each species, anglers were asked how often they harvest (i.e., keep) the fish they catch that are of legal size. The most commonly kept species include yellow perch, walleye, rainbow trout, brown trout, brook trout, and lake trout.

Species that are least commonly kept include tiger muskellunge, carp, muskie, channel catfish, pickerel, and striped bass.

BOATING

The survey found that 60% of anglers use a boat for at least some of their fishing, with 36% using a boat in multiple waters—these latter 36% were asked about what they do to minimize the spread of invasive species. Most anglers who use a motorized boat in multiple waters take some actions to help minimize the spread of invasive species: 68% of these anglers remove mud and clinging plants from their boat and trailer, 58% drain the bilge, 52% drain the baitwell or live well, 52% wash the boat, and 33% dry the boat (note that multiple responses were allowed; most boaters took multiple actions. Regionally, upstate and western New York State anglers were the most likely to use a boat in multiple waters (along with out-of-staters).

The boating data were examined by angler avidity (consistent anglers were defined as those who fished all 5 of the previous 5 years; intermittent anglers were defined as those who fished at least 1 year but not all 5 of the previous 5 years). Although intermittent anglers were less likely to use a boat in multiple waters compared to consistent anglers, they were, nonetheless, still more likely to use a boat in multiple waters *but not take any of the listed actions*.

LIVE BAITS

Just under half of anglers (46%) use some type of live bait, most commonly purchased baitfish (38%). Additionally, 14% use crayfish, 10% use personally collected baitfish, and 2% use aquatic insects (note that anglers could use multiple types). The use of purchased live baitfish is particularly prevalent in Regions 5 through 9.

The disposal of live baitfish into the waterbody is discouraged because doing so can spread invasive species and/or disease and/or it can introduce species that out-compete native fish for food. New York fishing regulations prohibit, among other things pertaining to live baitfish, the transport and dumping of live baitfish into any body of water from a different waterbody. The data show that 13% of anglers dump their unused baitfish into the body of water in which they are fishing. Note that the question did not determine if they are dumping baitfish *from a different body of water*.

OPINIONS ON THE SALE OF YELLOW PERCH, PUMPKINSEED, BLUEGILL, AND REDBREAST SUNFISH

The survey asked anglers about whether they had sold any yellow perch, pumpkinseed, bluegill, or redbreast sunfish that they caught. Less than 1% of anglers did so. The same question also determined that 62% caught those types of fish but did not sell them, and 38% did not catch those types of fish.

The survey asked about anglers' perceptions regarding the effect that allowing the sale of angler-caught yellow perch, pumpkinseed, bluegill, and redbreast sunfish has on those fisheries in New York. The majority of anglers think that the effect is harmful to the fisheries: 74% of anglers think it harms the yellow perch fishery, and 71% think it harms the fisheries of pumpkinseed, bluegill, and redbreast sunfish. Concerns with the potential harmful impacts of the sale of angler-caught yellow perch and sunfishes did not vary widely by region or angler avidity.

ENCOURAGING FISHING PARTICIPATION

Given a list of actions that that the Bureau could take to possibly encourage an increase in fishing activity, anglers most commonly chose having the Bureau provide better information on where to fish (21% chose this as the top action that could increase fishing participation) and increase the number of locations for fishing from the shore (also selected by 21%). Providing additional information on current fishing opportunities and conditions (14%), increasing the number of locations to launch a motorboat (11%), and simplifying the fishing regulations (10%) were also selected by substantial percentages.

TABLE OF CONTENTS

LIST OF TABLES

TABLE OF CONTENTS (continued)

LIST OF TABLES (continued)

TABLE OF CONTENTS (continued)

LIST OF FIGURES

INTRODUCTION

The management of New York's freshwater fisheries has both a biological aspect and a human dimensions aspect, requiring that the state know what its anglers' preferences and practices are. To this end, the New York State Department of Environmental Conservation's (DEC) Bureau of Fisheries (hereinafter referred to as the "Bureau") has contracted surveys of its licensed freshwater anglers approximately every 10 years starting in 1973. Prior to this latest survey, the survey was most recently conducted by the Human Dimensions Research Unit at Cornell University in 2007-2008 (Connelly and Brown 2009).

Prior surveys were conducted by mail in 1973, 1976-1977, 1988, 1996, and 2007-2008. All of the surveys prior to 2007-2008 were done as a single annual mailing (i.e., the survey asked about a calendar year, with one survey covering the entire year); the survey in 2007-2008 was conducted as a trimester recall survey, with three surveys spaced throughout the year in which respondents answered questions regarding the previous 3- to 5-month period. This was done to test whether this shorter recall time would be more accurate than the single-year survey. The 2007-2008 survey included a single-year survey, conducted by telephone, on a smaller sample to be compared with the trimester recall survey.

The conclusions of that report (Connelly and Brown 2009) were that there were very few statistically significant differences in the trimester recall survey compared to a single-year survey on the test variables. For instance, the report stated: "Estimates of fishing effort derived from the three-phase survey did not differ significantly very often from the 12-month recall survey, and when differences occurred, no consistent pattern could be found." In light of the greater costs associated with a three-phase survey, which were deemed to outweigh the benefits, the Bureau decided to contract a single-year survey in 2018 about angler activity during calendar year 2017 (hereinafter referred to as the "2017 survey").

The 2017 survey was conducted both online and by mail. The online survey was the primary method for obtaining data, with a mail survey being conducted to address any potential bias in the online survey sample. Note that the online survey was a closed survey, meaning only those specifically invited to take it could complete the survey. In addition, a telephone survey of non-responders to the online and mail surveys was conducted to help assess any potential biases in the other methods. The 2017 survey effort, which included online, mail, and telephone surveys, was conducted by Responsive Management. The study's results are presented in four reports, with data presented in reports 1 through 3 and the methods presented in the fourth report. This is Report 2, which explores anglers' preferences and attitudes toward fishing and fisheries management. (Report 1 shows effort and expenditures data, Report 3 shows results for each county, and Report 4 explains the full methodology.)

SURVEYING METHODOLOGY

The overarching purpose of these ongoing surveys is to determine angler preferences, opinions, behaviors, spending, and travel. The study entailed a scientific multi-modal survey of licensed New York freshwater anglers. Specific aspects of the surveying methodology are detailed below. (More detailed information on the survey methodology is presented in the fourth report as part of this project, *New York Angler Survey: Full Description of Methodology, Possible Biases, and Recommendations for Improving Future Surveys, Report 4 of 4*.)

Use of a Multi-Modal Survey

As mentioned previously, the survey combined a closed online survey of licensed anglers (closed means that only those identified and invited to take the survey could take it; a person surfing the Internet could not stumble across the survey and take it) with a mail survey of licensed anglers.

Questionnaire Design

The survey questionnaire was developed cooperatively by Responsive Management and the Bureau, based partly on the previous mail surveys that the Bureau had contracted but including some new questions. Two questionnaires were developed for this 2017 survey: a paper copy for mail surveying (shown in the Appendix), and an electronic version for online surveying. Responsive Management conducted pre-tests of the questionnaires to ensure proper wording, flow, and logic in them.

Survey Sampling

The survey goal was to obtain at least 10,250 completed questionnaires with resident and non-resident anglers who had purchased a fishing license valid at any time in 2017, including resident and non-resident 1-day, 7-day, and annual licenses, as well as lifetime, resident senior, and military licenses. The survey sampling plan called for approximately 8,200 questionnaires to be obtained from the closed online survey and approximately 2,050 to be obtained by postal mail. The sampling and contact procedures were to attempt to contact those with a valid email address by email and send mail surveys only to those who did not have a valid email address. Note that the plan was to give the full survey only to those anglers who had fished in 2017, 2016, and/or 2015, but the questionnaires of those who did not fish in any of those years were recorded to establish participation rates in fishing among various categories of license holders.

To start, the Bureau provided a database of individuals who had a freshwater fishing license valid for any time during the calendar year 2017 (this includes holders of any short-term licenses valid at any part of 2017 and annual license purchasers from January 1, 2016, through December 31, 2017—because annual licenses are valid 365 days from the date of purchase, all annual licenses purchased during that time were valid during part of the calendar year 2017). Note that the database was used solely for the survey; all personal identifying information was stripped from any data provided to the Bureau. Upon completion of the surveying effort, Responsive Management has not and will not use the database for any other purposes.

The database was first prepared for the samples to be drawn, one sample for email contact and another sample for postal mail contact. Responsive Management's initial task in preparing the database was to de-duplicate it. This is necessary because some people are in the database more than once, typically because they have purchased more than one license. Duplicate anglers are taken out so that each data record is a unique individual.

This de-duplicated database was used to establish the age structure of holders of each license type; the database can be thought of as containing two pools: an online pool (license holders with a valid email addresses in the database) and a postal mail pool (those without a valid email address—note that all records included a postal mail address). In the next step, Responsive Management removed invalid email addresses (e.g., "noemail@noemail.com"); these anglers were put into the postal mail pool. Responsive Management then used the online survey vendor's

automated pre-launch check, which identified additional invalid emails—these anglers were also put into the postal mail pool.

From the two pools in this database, an online sample and a postal mail sample of anglers were drawn. Each sample (the online sample and the mail sample) was pulled from the license database so that the various types of licenses were proportional to their actual representation in the database and the age structure within each license type in the sample matched the age structure of each license type in the license database.

Contact Procedures

The email survey was sent on February 28 and March 1 (random halves sent on each date; not two emails to the same person). The Bureau also sent a separate email to assure potential respondents of the legitimacy of the survey; it was sent on March 6, 2018. Email reminders encouraging anglers to take the survey were then sent on March 8, March 22, and April 3, 2018, under the direction of Responsive Management (i.e., not sent by the Bureau).

The mail survey was postmarked on March 15, 2018. A follow-up mailing to 1,025 of those who had not responded (with the paper survey again enclosed) was postmarked on June 8, 2018.

The cutoff after which no new mail or online surveys would be accepted was August 31, 2018.

Response Rates

The response rate is based on the number of completed questionnaires compared to the number of people in the survey of whom a contact was attempted. This calculation does not include invalid sample records that were removed in the development of the final sample, such as duplicate records of people already in the sample (which can happen when the same person is in the database twice because he or she held two licenses) or people who have no valid contact information. Nor does the response rate calculation include records in the sample that are determined to be invalid after the development of the final sample, such as those records for people who are no longer at the address or telephone number provided or who have died—these invalid records are revealed during the administration of the survey.

In the email sample, there were 43,514 contacts attempted that are considered valid email contacts. Responsive Management obtained 9,338 completed online questionnaires, resulting in a response rate of 21.5%.

For the final postal mail sample considered in the response rate, there were 13,410 questionnaires mailed to valid contacts. In the mail portion of the survey, Responsive Management obtained 1,997 completed questionnaires, resulting in a response rate of 14.9%.

ANALYSIS OF SURVEY DATA

This section on the data analysis discusses the data format, the weighting procedures, the types of fish, the types of waters, and the regions.

Data Obtained From Surveys

All of the data were in the online survey vendor's format. The online respondents entered their responses directly during the survey. The mail survey questionnaires were returned to Responsive Management's office, and the responses were entered into the online version of the survey from the mail surveys by Responsive Management staff. Once all the data were obtained/entered, the online data were then imported directly into IBM SPSS Statistics for analyses.

Data Weighting

The decision was made by the research team, in consultation with the Bureau, to weight all the data to the age, gender, and regional breakdown of the database from which the samples were pulled. The license database included the age, gender, and county of residence, and those data were appended to the survey data for each respondent. (Note that before any survey data were subsequently provided to the Bureau, all personal information that could link a survey respondent to a particular person was removed to ensure that all respondents were completely anonymous.)

Types of Fish

In the study, fish species groupings were used as shown in Table 1. These are the same groupings as were used in DEC's 2007 survey (Connelly and Brown 2009), with the exception of shad. The Hudson River shad fishery in New York was closed during 2017.

Table 1.   Species Groupings as Defined for This Report
Warmwater gamefish
Black bass (small or largemouth)
Muskie
Northern pike
Pickerel
Tiger muskie
Walleye
Coldwater gamefish
Coho/Chinook salmon
Lake trout
Landlocked Atlantic salmon
Steelhead trout
Trout (brook, brown, rainbow)
Panfish
Bluegill/sunfish
Bullheads, catfish
Crappie (calico bass)
Yellow perch
Marine/anadromous
Striped bass
Carp

Types of Waters

Fresh waters in the state were categorized as being inland or Great Lakes-related. In these reports "Great Lakes" waters were defined as Lake Erie and its embayments, the Niagara River, Lake Ontario and its embayments, and the portions of major Lake Erie and Lake Ontario tributaries in the county closest to the lake (below the first barrier impassable to fish), as well as the

St. Lawrence River and its embayment and tributaries. This categorization was possible only when the name of the waterbody was known, as well as the county for some waterbodies. Note that this survey and the analysis of data used a more detailed breakdown of the Great Lakes than did prior reports contracted by the Bureau.

Specifically, in the analysis of the Great Lakes waters, the following lists were used:

Lake Erie Embayments
 Dunkirk Harbor
 Barcelona Harbor
 Buffalo Harbor

Lake Erie Tributaries
 Big Sister Creek
 Buffalo Creek
 Buffalo River
 Canadaway Creek
 Cattaraugus Creek (only the portion in Chautauqua,
   or Erie Counties)
 Cayuga Creek
 Cazenovia Creek
 Chautauqua Creek
 Clear Creek (Erie County; tributary to Cattaraugus
   Creek)
 Delaware Creek
 Eighteen Mile Creek (Erie County)
 Silver Creek
 Smokes Creek
 Walnut Creek

Lake Ontario Embayments
 Black River Bay
 Blind Sodus Bay (Wayne County)
 Braddock Bay
 Buck Pond
 Chaumont Bay
 Cranberry Pond
 East Bay (Wayne County)
 Henderson Harbor
 Irondequoit Bay
 Little Sodus Bay
 Long Pond
 Maxwell Bay
 Mexico Bay
 Port Bay
 Sandy Pond
 Sodus Bay

Lake Ontario Tributaries
 Bear Creek (Wayne County)
 Black River (Village of Dexter; Jefferson County)
 Deer Creek (Oswego County)
 Eighteen Mile Creek (Niagara County)
 Four Mile Creek (Monroe County)
 Genesee River (only the portion in Monroe
   County/City of Rochester)
 Grindstone Creek
 Irondequoit Creek
 Johnson Creek
 Keg Creek
 Little Salmon River
 Little Sandy Creek
 Marsh Creek (Orleans County)
 Maxwell Creek
 Mill Creek (Jefferson County)
 Mill Creek (Monroe County)
 Ninemile Creek (Oswego County)
 Oak Orchard Creek (only the portion in Orleans
   County)
 Orwell Brook
 Oswego River (only the portion at the City of
   Oswego)
 Salmon Creek (the one in Monroe County)
 Salmon River
 Sandy Creek (AKA "North Sandy" - Jefferson
   County)
 Sandy Creek (Monroe County)
 South Sandy Creek
 Sterling Creek
 Stony Creek
 Twelvemile Creek (Niagara County)

St. Lawrence Embayments and Tributaries
 Brandy Brook
 Chippewa Bay
 Coles Creek
 Eel Bay
 Goose Bay
 Lake of the Isles
 Oswegatchie River (City of Ogdensburg only; St.
   Lawrence County)
 Raquette River (City of Massena only; St. Lawrence
   County)

Regions

Addition analyses were conducted at the DEC administrative regional level, as shown in Figure 1.

Region 1: Long Island
Region 2: New York City
Region 3: Lower Hudson Valley
Region 4: Capital Region / Northern Catskills
Region 5: Eastern Adirondacks / Lake Champlain
Region 6: Western Adirondacks / Eastern Lake Ontario
Region 7: Central New York
Region 8: Western Finger Lakes
Region 9: Western New York
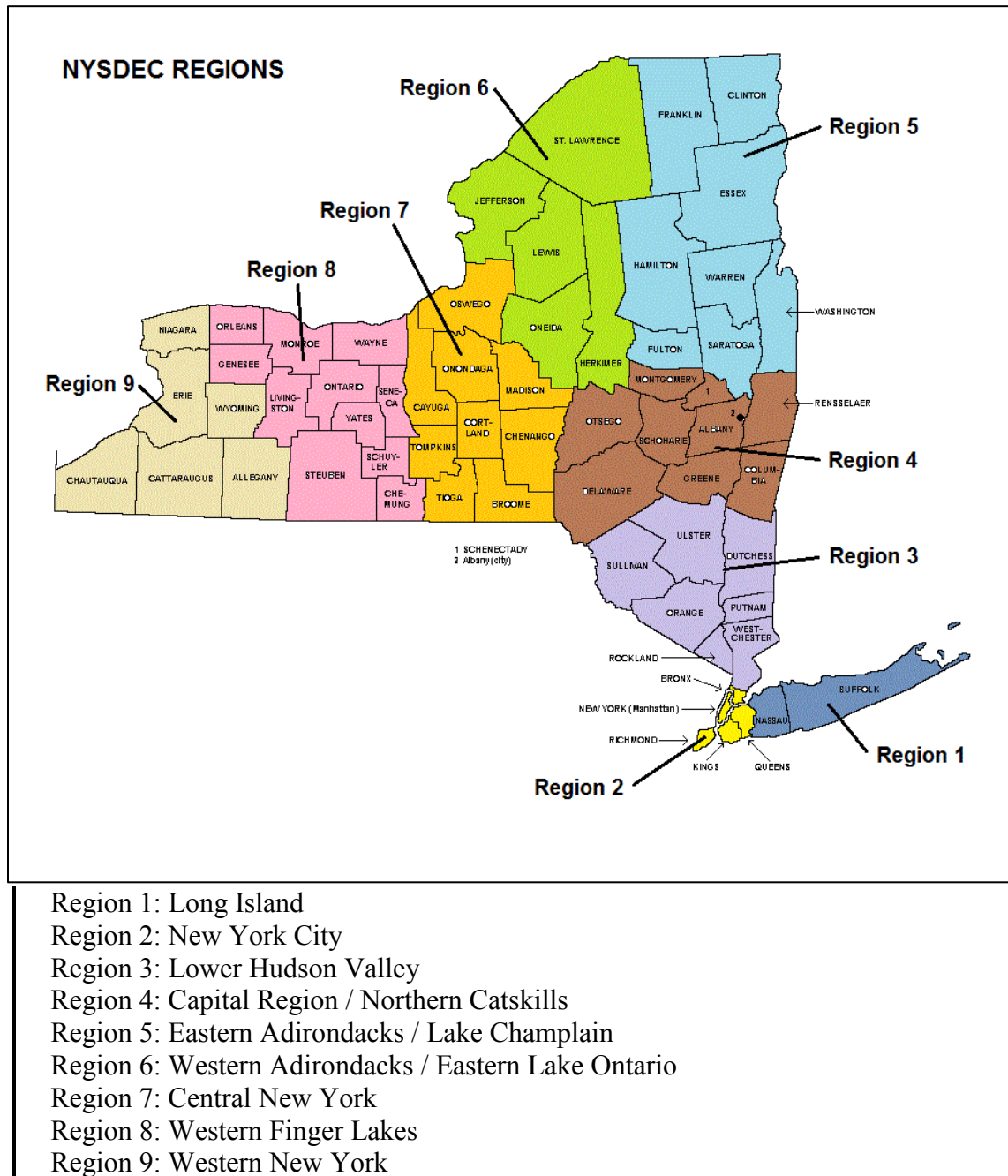
Figure 1. NYSDEC Regions

ANGLER DEMOGRAPHICS

Table 2 shows how angler age distribution compares to the general population of New York State. Interestingly, angler age distribution in the survey (any person who had a New York freshwater fishing license in the past 5 years) is very similar to that of the New York State population as a whole and to active anglers (defined as having fished at least once in 2017). Males compose a much greater proportion of anglers than they do the general population (the general population is 49% male; anglers as a group are 90% male). Figure 2 shows these results visually.

Table 2.	Comparison of NY State Population, All Anglers in Survey, and Current Anglers		
	NY State Population (U.S. Census Bureau)	**All Anglers in Survey**	**Current Anglers**
	Percent		
Age			
65+	20	20	19
55-64 years	16	18	19
45-54 years	16	19	19
35-44 years	15	15	16
25-34 years	18	16	16
18-24 years	12	10	10
16-17 years	3	2	2
Gender			
Male	49	90	90
Female	51	10	10

Current anglers are defined as those who fished at least once in 2017.

Comparison of NY State Population, All Anglers in Survey, and Current Anglers.
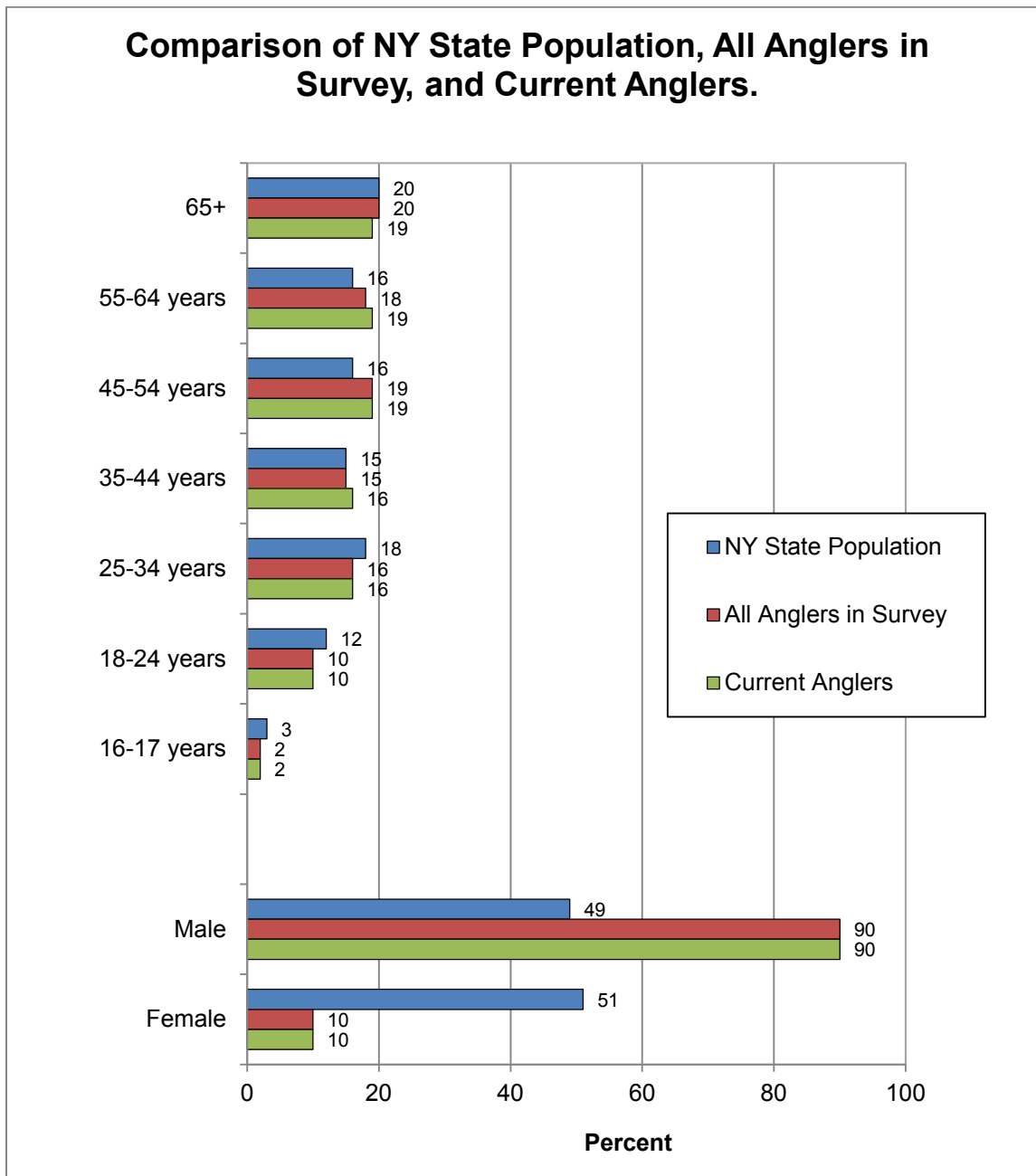
Figure 2. Comparison of Demographics

PAST FISHING ACTIVITY

The first survey question asked about the past 5 years of fishing activity (from 2013 through 2017), but note that the full survey was given only to those who had fished at least once in 2015, 2016, or 2017. Table 3 shows the results regarding the past 5 years. Figure 3 shows the statewide results regarding past fishing activity.

Table 3. Past Fishing Activity of Fishing License Holders, Statewide and by Region of Residence				
Region	**Did Not Fish in Past 5 Years**	**Fished Intermittently (at Least 1 Year But Not 5 Years)**	**Fished Every Year (Consistent Angler)**	**Fished in 2017, 2016, or 2015**
	Percent (Estimated Number in Parentheses)			
Statewide	15% (133,605)	34% (296,996)	51% (442,020)	83% (724,064)
Region 1: Long Island	21% (5,850)	34% (9,393)	46% (12,702)	75% (20,902)
Region 2: New York City	20% (6,481)	41% (13,672)	39% (13,032)	79% (26,189)
Region 3: Lower Hudson Valley	17% (14,164)	33% (27,123)	50% (41,674)	81% (67,017)
Region 4: Capital Region / Northern Catskills	17% (12,170)	30% (21,324)	53% (38,115)	81% (57,927)
Region 5: Eastern Adirondacks / Lake Champlain	15% (10,676)	28% (19,813)	56% (39,374)	83% (57,817)
Region 6: Western Adirondacks / Eastern Lake Ontario	15% (10,982)	28% (20,210)	57% (41,290)	84% (60,676)
Region 7: Central New York	15% (17,496)	30% (34,281)	55% (63,496)	83% (95,859)
Region 8: Western Finger Lakes	14% (17,622)	31% (38,167)	55% (68,217)	84% (104,395)
Region 9: Western New York	17% (19,577)	28% (31,848)	55% (62,102)	81% (91,650)
Out of state	12% (18,543)	50% (81,128)	38% (61,886)	88% (141,467)
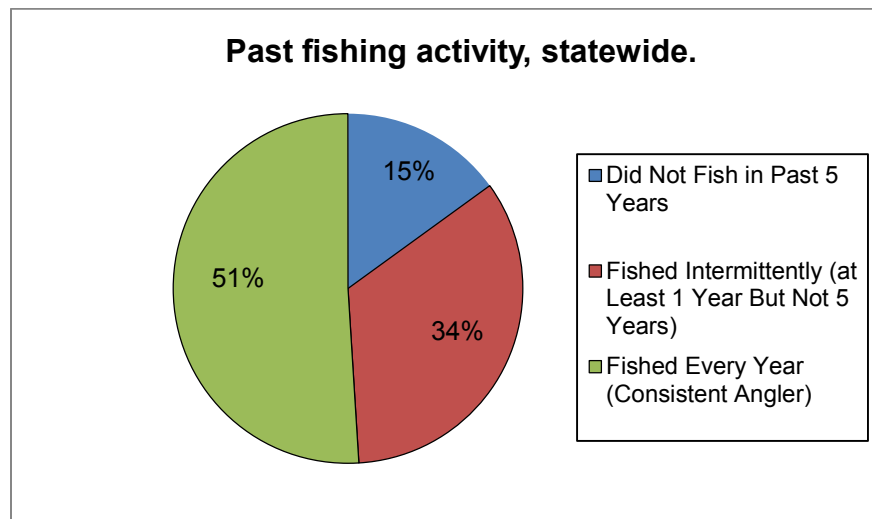
Figure 3.   Past Fishing Activity Among All License Holders in the Sample

PREFERENCES FOR SPECIES, WATERBODIES, AND METHODS OF FISHING

Table 4 and Figure 4 show anglers' preferred species; in the survey, anglers ranked their top 5 species. Most commonly, the top choice was largemouth bass, followed closely by smallmouth bass. The table and graph show the top choices ranked by percentage preferring that species.

Table 4. Anglers' Five Favorite Species to Fish for in New York State				
Species	**Percentage of Anglers Preferring Species**			
	Top Choice	Second Choice	Among Top 2	Among the Top 5
Bass, largemouth	22	17	39	62
Bass, smallmouth	16	19	35	63
Trout, brown	9	10	18	39
Trout, brook	8	6	14	29
Walleye	8	4	12	32
No specific preferred type	8	5	13	37
Trout, rainbow	5	8	12	34
Perch, yellow	4	6	9	34
Salmon, coho / Chinook	4	3	7	15
Steelhead	4	4	8	18
Northern pike	3	4	7	29
Trout, lake	3	4	6	20
Salmon, landlocked Atlantic	2	2	3	9
Bass, striped (freshwater only)	1	1	2	6
Bullhead	1	2	2	11
Carp	1	1	1	5
Catfish, channel	1	1	1	5
Crappie / calico bass	1	3	4	16
Muskie	1	1	2	6
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	1	2	4	21
Pickerel	0	1	1	8
Tiger muskellunge	0	0	0	3

Anglers' preferred species to fish for in New York.

Species	Percent
Bass, largemouth	22
Bass, smallmouth	16
Trout, brown	9
Trout, brook	8
Walleye	8
No specific preferred type	8
Trout, rainbow	5
Perch, yellow	4
Salmon, coho / Chinook	4
Steelhead	4
Northern pike	3
Trout, lake	3
Salmon, landlocked Atlantic	2
Bass, striped (freshwater only)	1
Bullhead	1
Carp	1
Catfish, channel	1
Crappie / calico bass	1
Muskie	1
Sunfish	1
Pickerel	0
Tiger muskellunge	0

Percent

Figure 4. Anglers' Species Preferences in New York

Table 5 shows the regional results regarding anglers' top choice of species. In every region, one of the two common bass species (largemouth and smallmouth) tops the ranking. There are also substantial percentages in the regions preferring brook, brown, or rainbow trout and walleye. Out of state anglers most prefer smallmouth bass (18%), followed by largemouth bass (15%) and coho/Chinook salmon and brown trout (both 13%).

Table 5.	Anglers' Top-Choice Species to Fish for in New York, by Region									
Species	**Percent Saying the Species Was Their Top Choice**									
	Region 1. Long Island	Region 2. New York City	Region 3. Lower Hudson Valley	Region 4. Capital Region/Northern Catskills	Region 5. Eastern Adirondacks/Lake Champlain	Region 6. Western Adirondacks/ Eastern Lake Ontario	Region 7. Central New York	Region 8. Western Finger Lakes	Region 9. Western New York	Out of state
Largemouth bass	45	25	32	26	20	17	22	25	20	15
Smallmouth bass	10	9	13	17	14	21	17	17	17	18
Striped bass (freshwater only)	2	3	5	3	0	0	0	0	0	0
Bullhead	0	0	0	1	1	3	2	1	0	0
Carp	1	2	1	1	0	1	1	1	0	0
Channel catfish	0	1	0	1	1	0	0	0	1	0
Crappie / calico bass	1	1	1	1	2	0	2	1	2	1
Muskie	0	0	0	0	1	1	1	1	1	1
Northern pike	1	2	1	3	5	6	2	4	3	2
Yellow perch	0	2	1	2	4	4	5	8	4	1
Pickerel	1	1	0	0	0	1	1	0	0	0
Coho / Chinook salmon	1	2	2	1	1	2	3	3	3	13
Landlocked Atlantic salmon	1	0	0	1	2	1	1	2	0	3
Steelhead	2	2	1	1	2	1	1	3	8	9
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	1	2	1	1	1	1	2	2	1	1
Tiger muskellunge	0	0	0	0	0	0	1	0	0	0
Brook trout	7	12	8	11	19	12	6	4	4	7
Brown trout	7	14	14	7	7	6	6	7	6	13
Lake trout	2	3	3	2	3	3	2	3	1	3
Rainbow trout	10	8	7	7	5	3	4	4	4	4
Walleye	1	2	1	6	5	12	14	4	17	5
No specific preferred type	8	12	9	9	8	7	9	10	9	4

Table 6 shows that most anglers were able to fish for their preferred species in 2017. Nonetheless, substantial percentages did not do so; for instance, 30% of anglers who said largemouth bass was their preferred species did not fish for it in 2017.

Table 6. Anglers Who Fished for Their Favorite Species in 2017		
Species	**Percentage Who Say the Given Species Is Their Favorite**	**Among Those Who Say the Given Species Is Their Favorite, the Percentage Who Fished for It**
Bass, largemouth	22	70
Bass, smallmouth	16	73
Bass, striped (freshwater only)	1	68
Bullhead	1	47
Carp	1	63
Catfish, channel	1	40
Crappie / calico bass	1	70
Muskie	1	77
Northern pike	3	69
Perch, yellow	4	71
Pickerel	Less than 0.5	47
Salmon, coho / Chinook	4	80
Salmon, landlocked Atlantic	2	63
Steelhead	4	73
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	1	76
Tiger muskellunge	Less than 0.5	58
Trout, brook	8	60
Trout, brown	9	78
Trout, lake	3	60
Trout, rainbow	5	58
Walleye	8	77

Table 7 shows anglers' preferred species by species group. The statewide results are in the first data row, and then the data are shown broken down by region of residence. One marked difference regionally (with "out of state" being a region) is that warmwater gamefish are the most preferred in every region, while coldwater gamefish are the most preferred of those coming from out of state. Table 8 shows the results by angler avidity.

The survey asked anglers to choose their two favorite methods of fishing. Fishing by motorized boat is most popular (35% chose this as their top method), followed by shore angling (27%), wading in streams (20%), and fishing from a non-motorized boat (11%). A relatively small proportion of anglers prefer pier or ice fishing (3% each) (Table 9).

Table 7.   Anglers' Favorite Species Group to Fish For, by Region

	Percent Whose Favorite Species to Fish For Is This Type					
	Warmwater Gamefish	Coldwater Gamefish	Panfish	Marine / Anadromous	Carp	No Specific Type
Statewide	50	33	7	1	1	8
Region of Residence						
Region 1: Long Island	59	28	2	2	1	8
Region 2: New York City	38	40	5	3	2	12
Region 3: Lower Hudson Valley	48	35	4	5	1	9
Region 4: Capital Region / Northern Catskills	52	29	7	3	1	9
Region 5: Eastern Adirondacks / Lake Champlain	44	39	9	0	0	8
Region 6: Western Adirondacks / Eastern Lake Ontario	57	27	9	0	1	7
Region 7: Central New York	56	22	11	0	1	9
Region 8: Western Finger Lakes	51	26	12	0	1	10
Region 9: Western New York	56	27	8	0	0	9
Out of state	41	52	3	0	0	4

Table 8.   Anglers' Favorite Species Group to Fish For, by Avidity Level

	Percent Whose Favorite Species to Fish For Is This Type					
	Warmwater Gamefish	Coldwater Gamefish	Panfish	Marine / Anadromous	Carp	No Specific Type
Avidity Level						
Consistent angler	52	33	8	1	1	5
Intermittent angler	47	33	6	1	1	12

Consistent angler = fished all 5 of past 5 years; Intermittent angler = fished less than 5 of all past 5 years.

Table 9.   Anglers' Preferred Ways to Fish

	First choice	First or second choice
From shore	27	54
From a fishing pier	3	13
Wading in streams	20	34
Through the ice	3	11
From a motorized boat	35	52
From a non-motorized boat/watercraft	11	30

Survey asked anglers' to choose their two favorite ways to fish, regardless of species.

Table 10 suggests that ponds/lakes other than the Great Lakes are the most preferred water type for fishing statewide when fishing for their preferred species (44%). If the Great Lakes are included, the results increase to 55% preferring ponds/lakes. Table 11 shows anglers' top choice of waterbody type by region when fishing for their preferred species.

Table 10. Waterbody Types for Anglers' Preferred Species		
	Top Choice	Second Choice
Pond/lake (other than Great Lakes)	44	40
Stream/river (other than Great Lake tributaries)	25	24
Great Lakes - lakes and bays	11	10
Great Lakes - tributaries	8	8
No preferred waterbody	8	NA

Survey asked anglers' to rank their five favorite species of fish and then their preferred type of waterbody for that species. Anglers were not directly asked to name their favorite types of waterbodies. An example of how to interpret the table is helpful: the first data cell shows that 44% of anglers named "pond/lake (other than Great Lakes)" as their preferred waterbody for their top preferred species of fish.

Table 11. Top Waterbody Type for Anglers' Preferred Species, by Region of Residence					
Region of Residence	**Percentage preferring pond/lake (other than Great Lakes)**	**Percentage preferring stream/river (other than Great Lake tributaries)**	**Percentage preferring Great Lakes**	**Percentage preferring Great Lakes tributaries**	**Percentage with no preferred waterbody**
Region 1: Long Island	63	24	1	3	10
Region 2: New York City	41	38	3	4	13
Region 3: Lower Hudson Valley	54	33	2	3	9
Region 4: Capital Region / Northern Catskills	57	32	2	2	7
Region 5: Eastern Adirondacks / Lake Champlain	60	29	2	2	7
Region 6: Western Adirondacks / Eastern Lake Ontario	42	30	12	7	9
Region 7: Central New York	54	24	8	5	9
Region 8: Western Finger Lakes	46	18	18	8	9
Region 9: Western New York	33	18	24	16	9
Out of state	35	27	15	18	5

The survey asked anglers' to rank their five favorite species of fish and then their preferred type of waterbody for that species. Anglers were not directly asked to name their favorite types of waterbodies. This shows only the waterbody type associated with their top choice of species. Note that some anglers fished outside their region of residence for that top species.

HARVEST OF FISH

For each species, anglers were asked to say how often they harvest (i.e., keep) the fish they catch that are of legal size. Table 12 shows the statewide results, while Tables 13 through 21 show the results of each region. Table 22 shows the results among New York anglers coming from out of state. In the statewide results, percentages among those who fish for the species are shown in the second row for each species.

Table 12. Harvest of Various Species, Statewide					
Q12. Please indicate how often you harvest the species listed below if they are of legal size.					
	Always	**Frequently**	**Occasionally**	**Never**	**Do not fish for the species**
Bass, largemouth	5	8	29	48	10
	6	9	32	53	
Bass, smallmouth	5	8	30	47	10
	5	9	34	52	
Bass, striped (freshwater only)	2	2	10	35	50
	5	5	19	71	
Bullhead	5	4	19	38	34
	7	7	28	58	
Carp	1	1	4	48	46
	2	2	8	88	
Catfish, channel	1	2	9	40	48
	2	3	17	77	
Crappie / calico bass	6	7	21	35	31
	8	11	30	51	
Muskie	1	1	6	44	49
	1	1	11	86	
Northern pike	3	4	20	43	29
	4	6	29	61	
Perch, yellow	12	15	26	28	19
	15	18	33	35	
Pickerel	2	3	13	47	35
	3	4	20	73	
Salmon, coho / Chinook	5	5	15	31	44
	9	9	26	56	
Salmon, landlocked Atlantic	4	3	13	33	47
	8	6	24	63	
Steelhead	4	4	17	34	41
	6	8	28	58	
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	5	9	23	43	20
	6	12	29	54	
Tiger muskellunge	1	1	3	44	52
	1	1	7	91	
Trout, brook	6	8	25	35	26
	8	11	34	47	
Trout, brown	7	10	30	32	20
	9	13	38	40	
Trout, lake	5	6	24	32	33
	7	9	36	47	
Trout, rainbow	7	10	31	31	21
	9	12	39	39	
Walleye	11	11	22	27	28
	16	16	30	38	

Table 13. Harvest of Various Species, Residents of Region 1: Long Island					
Q12. Please indicate how often you harvest the species listed below if they are of legal size.					
	Always	**Frequently**	**Occasionally**	**Never**	**Do not fish for the species**
Bass, largemouth	6	5	19	60	11
Bass, smallmouth	2	3	19	59	17
Bass, striped (freshwater only)	3	1	11	37	48
Bullhead	1	1	10	45	43
Carp	1	1	5	52	40
Catfish, channel	0	1	4	46	48
Crappie / calico bass	1	4	13	48	34
Muskie	0	0	1	38	60
Northern pike	1	1	6	44	48
Perch, yellow	3	6	18	48	25
Pickerel	1	3	10	57	29
Salmon, coho / Chinook	2	1	3	40	54
Salmon, landlocked Atlantic	1	1	4	36	58
Steelhead	1	1	5	38	55
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	2	7	15	59	18
Tiger muskellunge	0	0	1	40	59
Trout, brook	4	5	24	45	22
Trout, brown	4	5	28	43	20
Trout, lake	3	1	15	40	40
Trout, rainbow	5	6	31	40	18
Walleye	2	2	9	42	46

Table 14. Harvest of Various Species, Residents of Region 2: New York City					
Q12. Please indicate how often you harvest the species listed below if they are of legal size.					
	Always	**Frequently**	**Occasionally**	**Never**	**Do not fish for the species**
Bass, largemouth	4	6	24	54	11
Bass, smallmouth	4	5	25	52	15
Bass, striped (freshwater only)	4	3	14	36	44
Bullhead	1	2	7	46	44
Carp	2	1	7	45	44
Catfish, channel	2	2	8	40	48
Crappie / calico bass	4	5	17	39	35
Muskie	0	1	3	41	54
Northern pike	1	1	13	39	45
Perch, yellow	5	8	16	40	31
Pickerel	2	3	13	43	39
Salmon, coho / Chinook	2	0	6	36	56
Salmon, landlocked Atlantic	3	1	5	37	54
Steelhead	2	1	7	35	54
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	4	9	15	48	24
Tiger muskellunge	0	1	2	38	58
Trout, brook	4	6	20	47	24
Trout, brown	5	10	23	41	20
Trout, lake	3	5	20	37	35
Trout, rainbow	7	9	24	42	18
Walleye	3	3	12	35	46

Table 15. Harvest of Various Species, Residents of Region 3: Lower Hudson Valley

Q12. Please indicate how often you harvest the species listed below if they are of legal size.

	Always	**Frequently**	**Occasionally**	**Never**	**Do not fish for the species**
Bass, largemouth	6	10	27	50	7
Bass, smallmouth	6	7	29	50	9
Bass, striped (freshwater only)	6	8	20	30	35
Bullhead	2	3	13	43	40
Carp	2	1	4	45	48
Catfish, channel	2	2	10	41	46
Crappie / calico bass	5	7	23	38	28
Muskie	1	1	3	39	57
Northern pike	2	2	11	40	45
Perch, yellow	5	11	25	38	21
Pickerel	2	3	17	47	30
Salmon, coho / Chinook	5	2	10	30	53
Salmon, landlocked Atlantic	4	2	10	32	52
Steelhead	3	4	11	32	50
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	3	9	20	48	19
Tiger muskellunge	1	1	3	37	58
Trout, brook	9	12	25	33	21
Trout, brown	11	14	31	28	15
Trout, lake	6	6	28	29	31
Trout, rainbow	10	12	31	30	17
Walleye	4	6	16	34	41

Table 16. Harvest of Various Species, Residents of Region 4: Capital Region/Northern Catskills

Q12. Please indicate how often you harvest the species listed below if they are of legal size.

	Always	Frequently	Occasionally	Never	Do not fish for the species
Bass, largemouth	4	8	32	50	5
Bass, smallmouth	4	8	32	51	5
Bass, striped (freshwater only)	5	4	16	36	39
Bullhead	4	4	21	44	27
Carp	1	1	4	52	41
Catfish, channel	1	1	9	44	46
Crappie / calico bass	4	6	21	42	27
Muskie	0	0	4	42	54
Northern pike	3	3	19	48	28
Perch, yellow	8	10	29	34	19
Pickerel	3	3	17	51	27
Salmon, coho / Chinook	4	4	9	31	52
Salmon, landlocked Atlantic	3	2	13	30	53
Steelhead	3	1	12	36	49
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	3	9	23	50	15
Tiger muskellunge	0	1	4	42	54
Trout, brook	7	8	31	33	21
Trout, brown	8	9	34	29	20
Trout, lake	6	5	24	32	33
Trout, rainbow	7	8	37	27	20
Walleye	9	7	23	30	30

Table 17. Harvest of Various Species, Residents of Region 5: Eastern Adirondacks/Lake Champlain					
Q12. Please indicate how often you harvest the species listed below if they are of legal size.					
	Always	**Frequently**	**Occasionally**	**Never**	**Do not fish for the species**
Bass, largemouth	5	9	30	47	8
Bass, smallmouth	5	8	34	46	7
Bass, striped (freshwater only)	3	3	9	35	49
Bullhead	8	7	23	37	25
Carp	0	0	4	49	46
Catfish, channel	1	2	9	41	47
Crappie / calico bass	7	8	16	38	31
Muskie	1	0	5	46	48
Northern pike	4	5	26	46	19
Perch, yellow	15	17	28	29	12
Pickerel	2	2	14	51	31
Salmon, coho / Chinook	3	2	10	36	49
Salmon, landlocked Atlantic	7	4	18	32	38
Steelhead	2	2	11	36	49
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	4	8	23	48	17
Tiger muskellunge	1	2	4	44	50
Trout, brook	12	15	33	26	14
Trout, brown	10	13	33	27	16
Trout, lake	7	9	28	30	26
Trout, rainbow	11	14	33	28	14
Walleye	13	10	21	32	24

Table 18. Harvest of Various Species, Residents of Region 6: Western Adirondacks/ Eastern Lake Ontario

Q12. Please indicate how often you harvest the species listed below if they are of legal size.

	Always	Frequently	Occasionally	Never	Do not fish for the species
Bass, largemouth	8	12	36	36	8
Bass, smallmouth	8	17	37	33	5
Bass, striped (freshwater only)	2	1	8	35	54
Bullhead	13	11	32	24	19
Carp	1	2	4	46	48
Catfish, channel	1	2	8	41	48
Crappie / calico bass	6	12	26	30	25
Muskie	1	0	9	48	42
Northern pike	7	9	34	37	13
Perch, yellow	17	23	32	18	11
Pickerel	2	3	17	47	30
Salmon, coho / Chinook	3	4	18	33	42
Salmon, landlocked Atlantic	2	2	16	37	42
Steelhead	1	4	15	38	41
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	5	11	29	38	17
Tiger muskellunge	1	0	7	47	46
Trout, brook	10	14	32	27	17
Trout, brown	9	11	36	26	17
Trout, lake	3	6	25	35	31
Trout, rainbow	9	10	34	26	21
Walleye	15	16	33	20	15

Table 19. Harvest of Various Species, Residents of Region 7: Central New York					
Q12. Please indicate how often you harvest the species listed below if they are of legal size.					
	Always	**Frequently**	**Occasionally**	**Never**	**Do not fish for the species**
Bass, largemouth	5	8	34	42	10
Bass, smallmouth	5	9	34	41	11
Bass, striped (freshwater only)	1	1	6	33	59
Bullhead	7	6	26	34	27
Carp	1	1	5	48	45
Catfish, channel	2	2	12	39	45
Crappie / calico bass	9	10	25	29	27
Muskie	1	1	7	42	50
Northern pike	3	4	24	42	27
Perch, yellow	18	18	26	23	15
Pickerel	2	4	15	47	32
Salmon, coho / Chinook	7	4	14	29	47
Salmon, landlocked Atlantic	5	4	13	30	48
Steelhead	4	5	15	32	44
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	7	11	29	36	17
Tiger muskellunge	1	1	5	46	48
Trout, brook	6	10	26	32	25
Trout, brown	7	11	31	29	22
Trout, lake	5	6	24	28	38
Trout, rainbow	8	11	33	27	22
Walleye	17	17	24	22	20

Table 20. Harvest of Various Species, Residents of Region 8: Western Finger Lakes Q12. Please indicate how often you harvest the species listed below if they are of legal size.					
	Always	**Frequently**	**Occasionally**	**Never**	**Do not fish for the species**
Bass, largemouth	6	10	33	46	5
Bass, smallmouth	6	9	36	44	6
Bass, striped (freshwater only)	1	2	6	40	50
Bullhead	5	7	25	36	27
Carp	2	1	6	53	39
Catfish, channel	2	2	10	40	45
Crappie / calico bass	7	7	20	39	28
Muskie	1	1	7	45	46
Northern pike	4	5	25	45	21
Perch, yellow	14	16	31	27	13
Pickerel	2	3	15	49	31
Salmon, coho / Chinook	4	6	18	34	39
Salmon, landlocked Atlantic	3	4	14	35	44
Steelhead	3	5	20	35	36
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	6	11	26	43	13
Tiger muskellunge	1	0	3	47	49
Trout, brook	4	5	22	36	33
Trout, brown	6	11	32	30	22
Trout, lake	6	7	28	29	30
Trout, rainbow	7	9	32	30	23
Walleye	10	10	25	31	24

Table 21. Harvest of Various Species, Residents of Region 9: Western New York

Q12. Please indicate how often you harvest the species listed below if they are of legal size.

	Always	Frequently	Occasionally	Never	Do not fish for the species
Bass, largemouth	4	7	30	53	6
Bass, smallmouth	4	8	30	51	7
Bass, striped (freshwater only)	1	2	8	40	50
Bullhead	2	2	14	49	33
Carp	1	1	5	54	40
Catfish, channel	1	2	9	44	44
Crappie / calico bass	7	7	24	35	27
Muskie	1	1	7	52	39
Northern pike	2	5	23	46	24
Perch, yellow	16	17	30	24	14
Pickerel	1	1	7	45	45
Salmon, coho / Chinook	2	4	21	34	38
Salmon, landlocked Atlantic	2	2	8	38	50
Steelhead	4	5	27	37	27
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	6	10	24	44	16
Tiger muskellunge	1	0	3	49	47
Trout, brook	3	5	24	40	28
Trout, brown	4	8	29	37	22
Trout, lake	2	4	24	37	33
Trout, rainbow	4	9	33	34	20
Walleye	18	16	26	23	17

Table 22. Harvest of Various Species, Residents of Other States

Q12. Please indicate how often you harvest the species listed below if they are of legal size.

	Always	**Frequently**	**Occasionally**	**Never**	**Do not fish for the species**
Bass, largemouth	3	5	21	51	21
Bass, smallmouth	3	5	22	50	19
Bass, striped (freshwater only)	2	1	8	33	56
Bullhead	1	2	8	37	53
Carp	0	0	2	39	58
Catfish, channel	0	2	7	34	57
Crappie / calico bass	4	7	16	31	42
Muskie	1	1	4	42	53
Northern pike	2	3	12	43	39
Perch, yellow	6	11	21	29	32
Pickerel	2	3	8	44	44
Salmon, coho / Chinook	10	10	17	25	38
Salmon, landlocked Atlantic	6	5	14	32	43
Steelhead	6	7	21	31	35
Sunfish (bluegill, pumpkinseed, redbreast, rock bass)	3	7	16	39	36
Tiger muskellunge	1	0	2	40	57
Trout, brook	4	6	18	39	33
Trout, brown	8	9	26	35	22
Trout, lake	6	6	20	31	37
Trout, rainbow	6	9	23	36	25
Walleye	9	10	17	25	39

BOATING

The survey found that 60% of anglers use a boat for at least some of their fishing, with 36% using a boat in multiple waters—these latter 36% were asked about what they do to minimize the spread of invasive species. Most anglers who use a motorized boat in multiple waters take some actions to help minimize the spread of invasive species: 68% of these anglers remove mud and clinging plants from their boat and trailer, 58% drain the bilge, 52% drain the baitwell or live well, 52% wash the boat, and 33% dry the boat (note that multiple responses were allowed; most boaters took multiple actions). Regionally, upstate and western New York State anglers were the most likely to use a boat in multiple waters (along with out-of-staters). Figure 5 shows the actions among all anglers and the percentage of anglers who do not use a boat in multiple waters. Figure 6 shows the results among anglers who use a motorized boat in multiple waters.
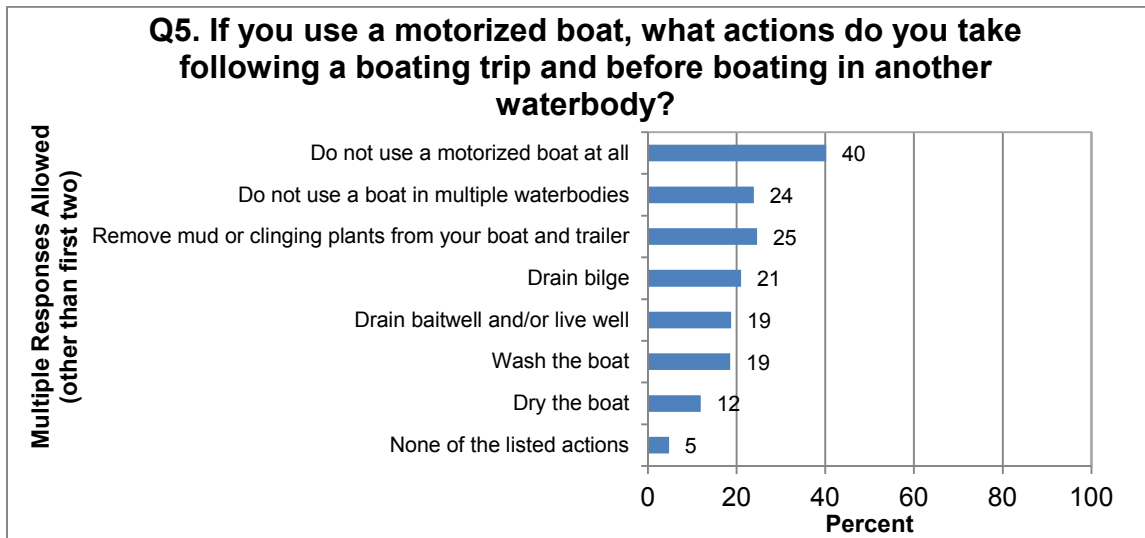

Figure 5.   Actions Boaters Take to Minimize the Spreading of Invasive Species, Among All Anglers
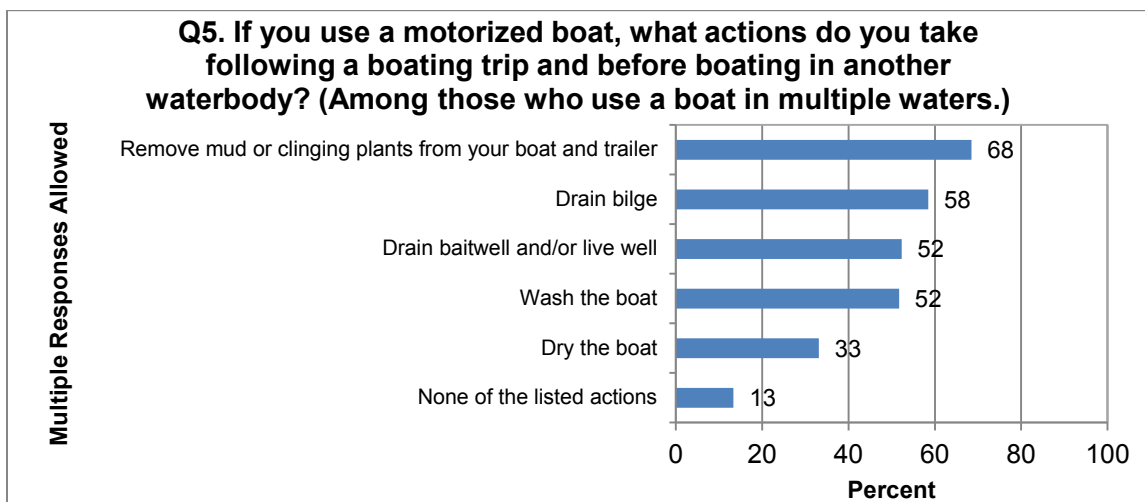

Figure 6.   Actions Boaters Take to Minimize the Spreading of Invasive Species, Among Anglers Who Use Boats in Multiple Waters

Table 23 shows the boat-related questions regionally. Upstate and western New York State anglers are the most likely to use a boat in multiple waters (along with out-of-staters). Table 24 shows the results by angler avidity. Although intermittent anglers, compared to consistent anglers, are less likely to use a boat in multiple waters in the first place, they are, nonetheless, still more likely to use a boat in multiple waters *but not take any of the listed actions*.

Table 23.	Actions Taken Following a Boating Trip and Before Boating in Another Waterbody, by Region							
Region of Residence	**Do not use a motorized boat at all**	**Do not use a boat in multiple waterbodies**	**Drain bilge**	**Drain baitwell and/or live well**	**Remove mud or clinging plants from boat and trailer**	**Wash the boat**	**Dry the boat**	**None of the listed actions**
Region 1: Long Island	56	17	12	9	14	16	8	6
Region 2: New York City	64	17	6	6	7	7	3	5
Region 3: Lower Hudson Valley	55	17	13	12	15	15	8	5
Region 4: Capital Region / Northern Catskills	45	21	21	19	26	21	14	3
Region 5: Eastern Adirondacks / Lake Champlain	36	29	23	19	28	22	15	3
Region 6: Western Adirondacks / Eastern Lake Ontario	32	31	23	22	26	19	11	3
Region 7: Central New York	37	25	23	21	29	18	14	3
Region 8: Western Finger Lakes	34	28	23	19	27	17	13	5
Region 9: Western New York	37	26	23	19	25	20	12	4
Out of state	38	21	23	23	26	21	12	9

Other than the first two columns and the last column, respondents can give multiple responses.

Table 24.	Actions Taken Following a Boating Trip and Before Boating in Another Waterbody, by Avidity							
Avidity Level	**Do not use a motorized boat at all**	**Do not use a boat in multiple waterbodies**	**Drain bilge**	**Drain baitwell and/or live well**	**Remove mud or clinging plants from boat and trailer**	**Wash the boat**	**Dry the boat**	**None of the listed actions**
Consistent angler	35	26	25	23	30	22	14	4
Intermittent angler	49	21	15	13	17	14	8	7

Other than the first two columns and the last column, respondents can give multiple responses. Consistent anglers are those who fished all 5 of the past 5 years; intermittent anglers are those who fished at least 1 year but not all 5 of the past 5 years.

LIVE BAITS

Figure 7 shows that just under half of anglers (46%) use some type of live bait, most commonly purchased baitfish (this number is derived as the converse of the 54% who used none of those live baits). Table 25 shows regional results; the use of purchased live baitfish is particularly prevalent in Regions 5 through 9. Table 26 shows the results by angler avidity.
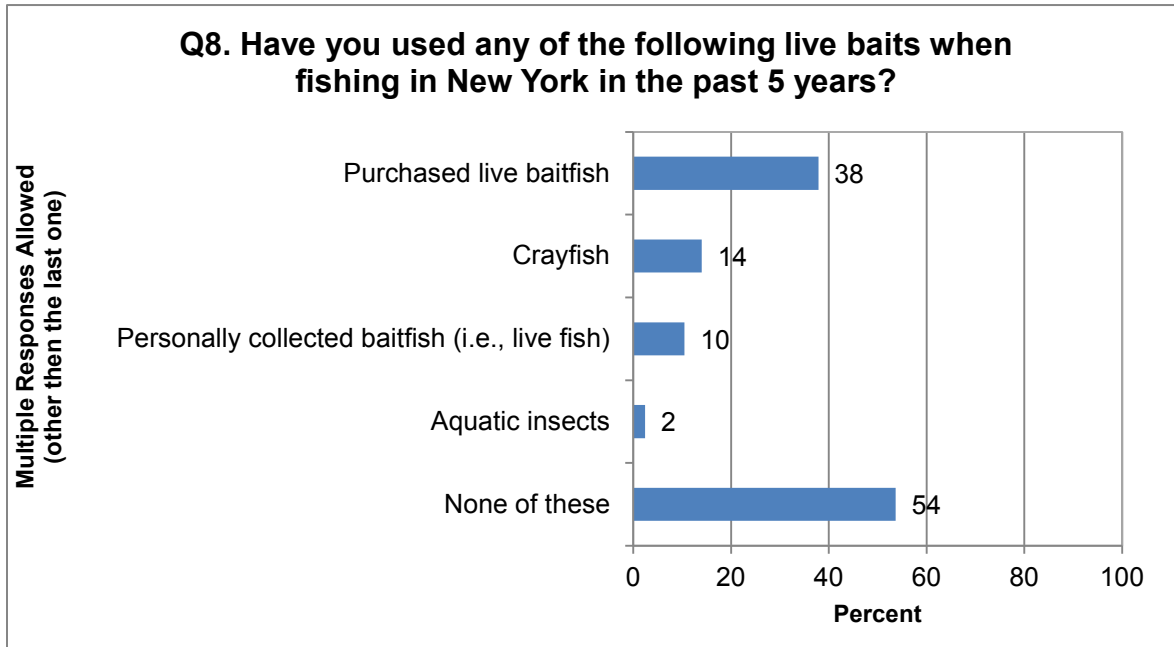

Q8. Have you used any of the following live baits when fishing in New York in the past 5 years?

Figure 7.   Use of Live Bait

Table 25. Use of Live Baits in New York in the Past 5 Years, by Region					
Region of Residence	Personally collected baitfish (i.e., live fish):	Purchased live baitfish	Crayfish	Aquatic insects	None of these
Region 1: Long Island	12	24	6	4	63
Region 2: New York City	8	26	5	3	66
Region 3: Lower Hudson Valley	13	37	7	2	53
Region 4: Capital Region / Northern Catskills	15	35	15	3	52
Region 5: Eastern Adirondacks / Lake Champlain	10	44	11	2	48
Region 6: Western Adirondacks / Eastern Lake Ontario	8	47	18	2	47
Region 7: Central New York	10	44	19	3	48
Region 8: Western Finger Lakes	11	46	21	4	44
Region 9: Western New York	18	48	23	3	42
Out of state	4	20	5	1	75

Multiple responses were allowed, except if last column's response was chosen.

Table 26. Use of Live Baits in New York in the Past 5 Years, by Avidity					
Avidity Level	Personally collected baitfish (i.e., live fish):	Purchased live baitfish	Crayfish	Aquatic insects	None of these
Consistent angler	13	47	18	3	45
Intermittent angler	6	24	8	2	68

Multiple responses were allowed, except if last column's response was chosen. Consistent anglers are those who fished all 5 of the past 5 years; intermittent anglers are those who fished at least 1 year but not all 5 of the past 5 years.

The disposal of live baitfish into the waterbody is discouraged because doing so can spread invasive species (e.g., zebra and quagga mussels, spiny water fleas) and disease, and/or it can introduce fish species that out-compete native fish for food. New York fishing regulations prohibit, among other things pertaining to live baitfish, the transport and dumping of live baitfish into any body of water from a different waterbody. The data show that 13% of anglers dump their unused baitfish into the body of water in which they are fishing (Figure 8). Note that the question did not determine if they are dumping baitfish *from a different body of water*. Table 27 shows the results regionally, and Table 28 shows the results by angler avidity.

Q9. How do you most frequently dispose of baitfish / crayfish?

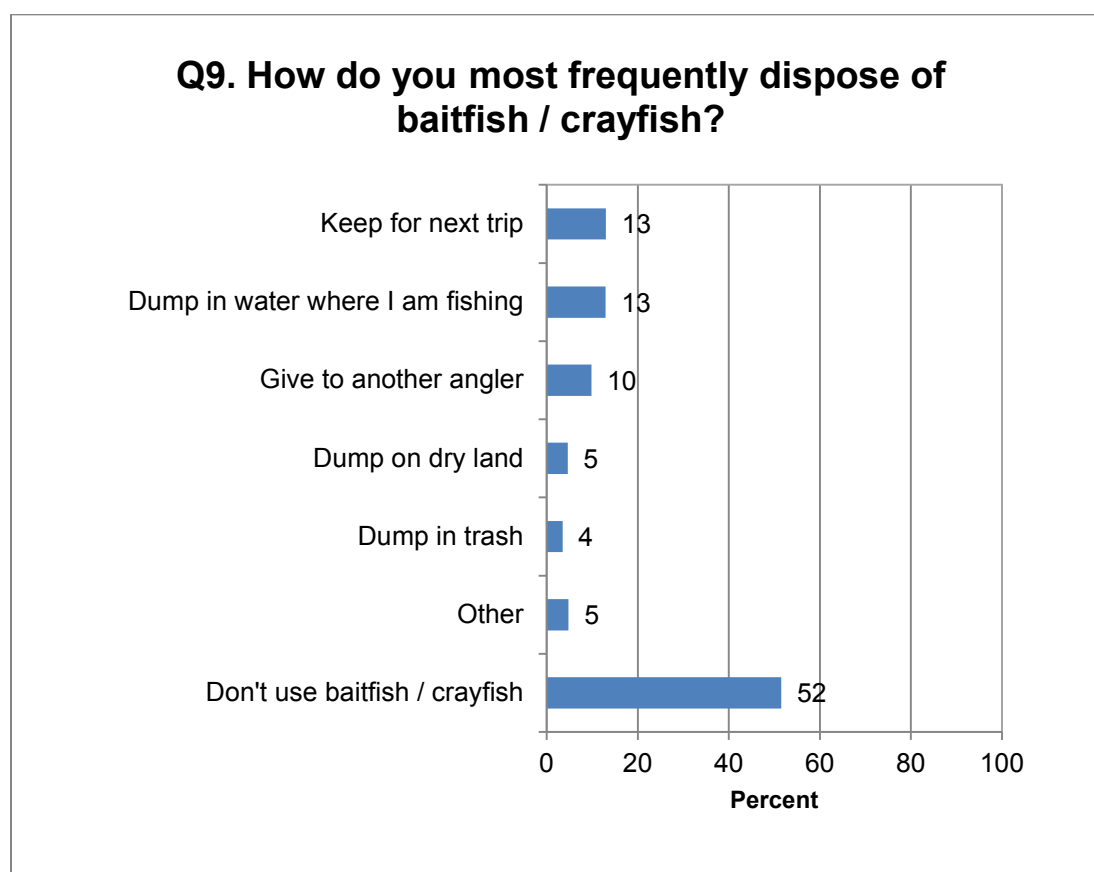| Category	Percent
Keep for next trip	13
Dump in water where I am fishing	13
Give to another angler	10
Dump on dry land	5
Dump in trash	4
Other	5
Don't use baitfish / crayfish	52

Figure 8.   Actions Taken With Leftover Live Bait

Table 27.   Disposal of Baitfish and Crayfish, by Region

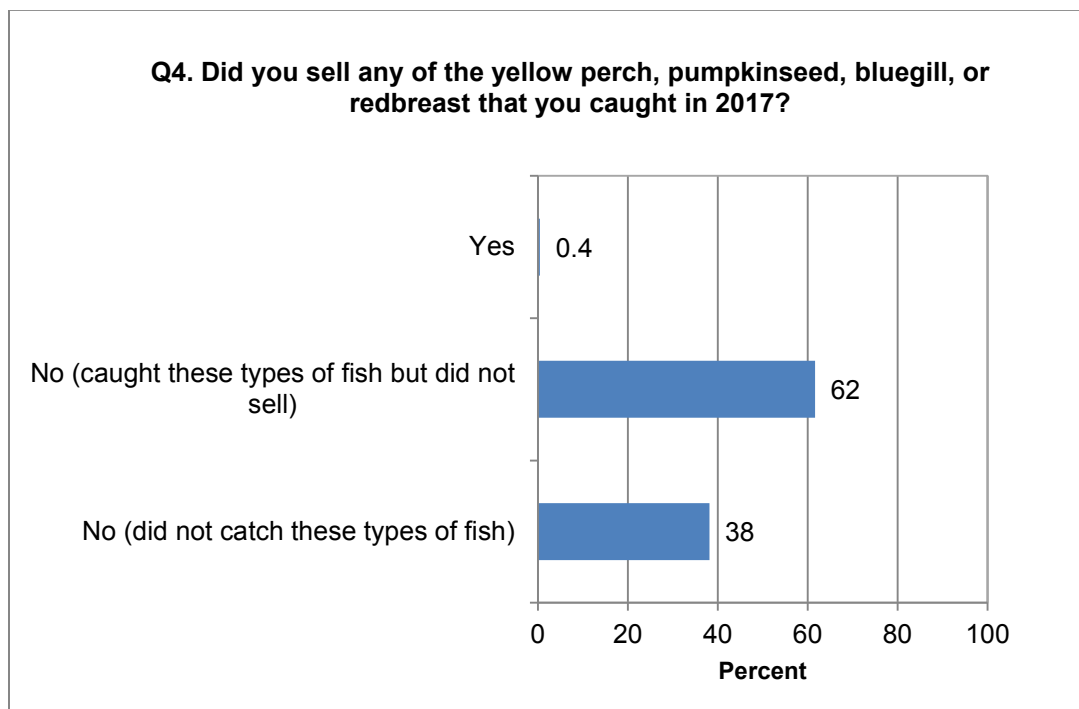| Region of Residence	Keep for next trip	Dump in water where I am fishing	Give to another angler	Dump on dry land	Dump in trash	Don't use baitfish / crayfish
Region 1: Long Island	8	12	11	1	4	61
Region 2: New York City	9	13	9	3	2	62
Region 3: Lower Hudson Valley	10	13	12	5	3	52
Region 4: Capital Region / Northern Catskills	12	12	10	6	4	51
Region 5: Eastern Adirondacks / Lake Champlain	16	12	9	8	5	46
Region 6: Western Adirondacks / Eastern Lake Ontario	19	13	10	5	3	45
Region 7: Central New York	17	13	11	5	3	45
Region 8: Western Finger Lakes	16	17	10	6	4	43
Region 9: Western New York	16	17	14	4	4	41
Out of state	6	8	6	3	2	71

Table 28.   Disposal of Baitfish and Crayfish, by Avidity

Avidity Level	Keep for next trip	Dump in water where I am fishing	Give to another angler	Dump on dry land	Dump in trash	Don't use baitfish / crayfish
Consistent angler	16	15	11	6	4	44
Intermittent angler	8	10	9	2	3	64

Consistent anglers are those who fished all 5 of the past 5 years; intermittent anglers are those who fished at least 1 year but not all 5 of the past 5 years.

OPINIONS ON THE SALE OF YELLOW PERCH, PUMPKINSEED, BLUEGILL, AND REDBREAST SUNFISH

The survey asked anglers about whether they had sold any yellow perch, pumpkinseed, bluegill, or redbreast sunfish that they may have caught. Less than 1% of anglers did so (Figure 9). The question was asked early in the survey to not be biased by later questions that discussed whether the fisheries of those species could be harmed by having recreational anglers sell some of their catch. Figure 10 shows the results of the question regarding possible harm. The survey asked about harm to yellow perch fisheries by itself in one part of the question and to pumpkinseed, bluegill, and redbreast sunfish fisheries in another part of the question. A combined 74% of anglers felt that the sale of yellow perch is either very harmful or somewhat harmful to the fishery. Results were very similar regarding the sale of pumpkinseed, bluegill, or redbreast sunfish (71% combined concern).

Q4. Did you sell any of the yellow perch, pumpkinseed, bluegill, or redbreast that you caught in 2017?

Yes — 0.4

No (caught these types of fish but did not sell) — 62

No (did not catch these types of fish) — 38

Note that this was asked early in the survey before the other questions about the fishery to avoid any bias that the other questions would have had on anglers' responses on this question. The use of the decimal for the "Yes" response is only because it would otherwise round to 0. The use of the decimal place is not meant to imply that the survey is accurate to that level, because the value is less than the confidence interval on the question.

Figure 9.   Sale of Yellow Perch, Pumpkinseed, Bluegill, or Redbreast Sunfish

Table 29 shows the regional results regarding the perceived effect of the commercial sale on yellow perch fisheries, and Table 30 shows those results regarding yellow perch by angler avidity. Table 31 shows the regional results regarding pumpkinseed, bluegill, and redbreast sunfish, while Table 32 shows those results by angler avidity. Concerns with the potential harmful effects of sale of angler-caught yellow perch and sunfishes did not vary widely by region or angler avidity.
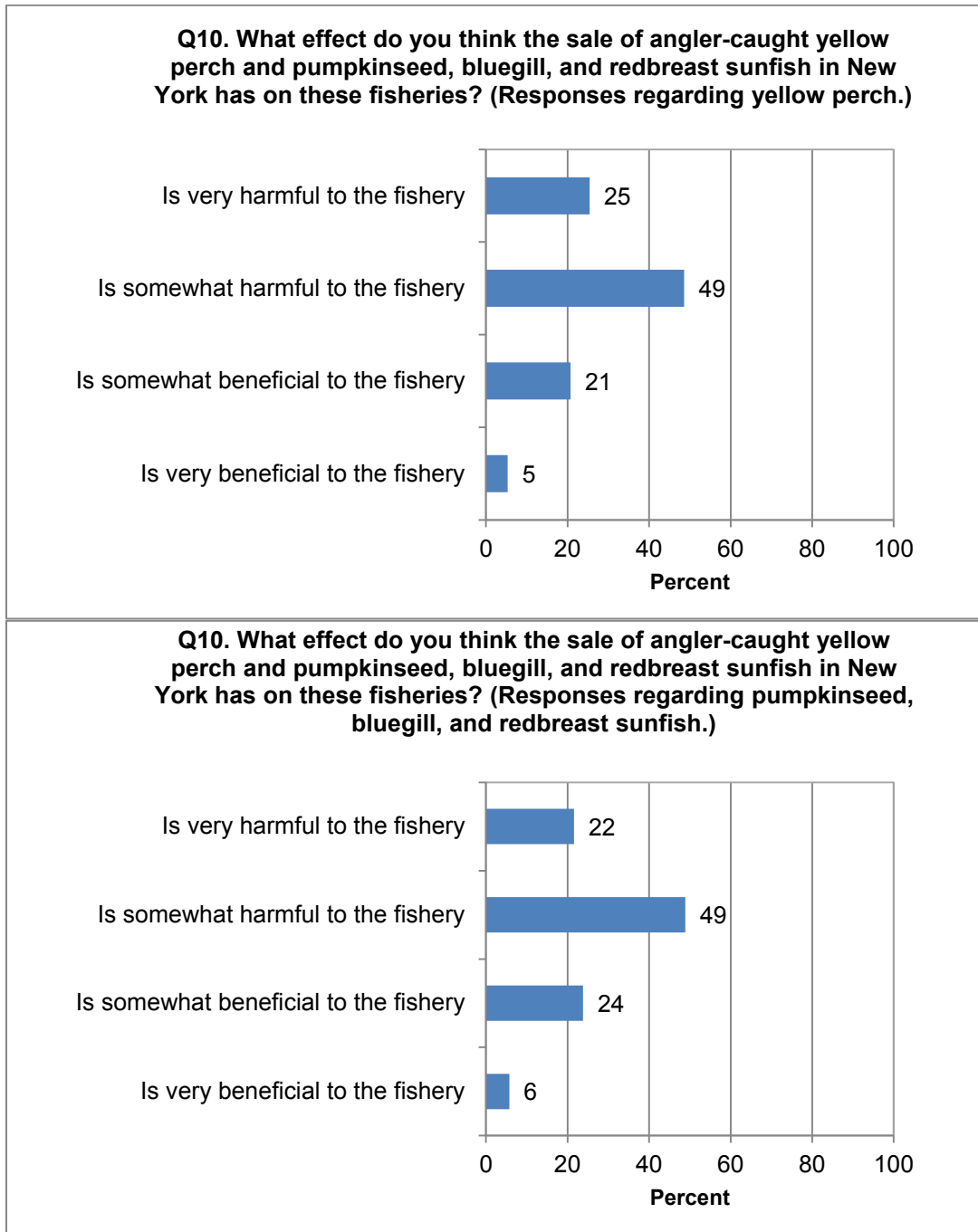
Q10. What effect do you think the sale of angler-caught yellow perch and pumpkinseed, bluegill, and redbreast sunfish in New York has on these fisheries? (Responses regarding yellow perch.)

Is very harmful to the fishery	25
Is somewhat harmful to the fishery	49
Is somewhat beneficial to the fishery	21
Is very beneficial to the fishery	5

Percent

Q10. What effect do you think the sale of angler-caught yellow perch and pumpkinseed, bluegill, and redbreast sunfish in New York has on these fisheries? (Responses regarding pumpkinseed, bluegill, and redbreast sunfish.)

Is very harmful to the fishery	22
Is somewhat harmful to the fishery	49
Is somewhat beneficial to the fishery	24
Is very beneficial to the fishery	6

Percent

Figure 10. Perceived Effect of Selling Fish on the Fisheries of Yellow Perch (top) and Pumpkinseed, Bluegill, and Redbreast Sunfish (bottom)

Table 29.   Opinion on the Effect of Sale of Perch, by Region

Region of Residence	Is very harmful to the fishery	Is somewhat harmful to the fishery	Is somewhat beneficial to the fishery	Is very beneficial to the fishery
Region 1: Long Island	33	45	17	4
Region 2: New York City	33	48	15	4
Region 3: Lower Hudson Valley	27	47	21	5
Region 4: Capital Region / Northern Catskills	25	48	23	4
Region 5: Eastern Adirondacks / Lake Champlain	22	48	23	7
Region 6: Western Adirondacks / Eastern Lake Ontario	23	45	24	8
Region 7: Central New York	23	53	20	5
Region 8: Western Finger Lakes	25	49	22	5
Region 9: Western New York	27	49	19	6
Out of state	27	49	19	5

Table 30.   Opinion on the Effect of Sale of Perch, by Avidity

Avidity Level	Is very harmful to the fishery	Is somewhat harmful to the fishery	Is somewhat beneficial to the fishery	Is very beneficial to the fishery
Consistent angler	28	48	19	6
Intermittent angler	22	50	24	5

Consistent anglers are those who fished all 5 of the past 5 years; intermittent anglers are those who fished at least 1 year but not all 5 of the past 5 years.

Table 31.   Opinion on the Effect of Sale of Pumpkinseed, Bluegill, and Redbreast Sunfish, by Region

Region of Residence	Is very harmful to the fishery	Is somewhat harmful to the fishery	Is somewhat beneficial to the fishery	Is very beneficial to the fishery
Region 1: Long Island	31	46	19	5
Region 2: New York City	32	49	15	4
Region 3: Lower Hudson Valley	24	49	23	5
Region 4: Capital Region / Northern Catskills	22	49	24	5
Region 5: Eastern Adirondacks / Lake Champlain	19	48	26	7
Region 6: Western Adirondacks / Eastern Lake Ontario	20	45	27	8
Region 7: Central New York	18	51	27	4
Region 8: Western Finger Lakes	20	49	26	6
Region 9: Western New York	21	51	22	7
Out of state	24	49	21	6

Table 32.	Opinion on the Effect of Sale of Pumpkinseed, Bluegill, and Redbreast Sunfish, by Avidity			
Avidity Level	Is very harmful to the fishery	Is somewhat harmful to the fishery	Is somewhat beneficial to the fishery	Is very beneficial to the fishery
Consistent angler	23	48	23	6
Intermittent angler	19	51	25	5

Consistent anglers are those who fished all 5 of the past 5 years; intermittent anglers are those who fished at least 1 year but not all 5 of the past 5 years.

Results regarding the opinion on the sale of yellow perch among those who fished for it or say it is their favorite species are shown in Table 33. Analogous results regarding the sale of pumpkinseed, bluegill, and redbreast sunfish among those anglers are shown in Table 34. Anglers who sold yellow perch or sunfishes in 2017 were much less concerned with the potential for fisheries impacts.

Table 33.	Anglers' Opinions on the Sale of Yellow Perch Among Those Who Fished Specifically for Yellow Perch		
By fishing for yellow perch:	**Fished for yellow perch in 2017**	**Did not fish for yellow perch in 2017**	
Very harmful	28	25	
Very or somewhat harmful	76	74	
Beneficial	24	26	
By favorite species:	**Favorite species is yellow perch**	**Favorite species is not yellow perch**	
Very harmful	27	25	
Very or somewhat harmful	78	74	
Beneficial	23	26	
By fishing method used for yellow perch:	**Ice fishing only for yellow perch**	**Open water only for yellow perch**	**Both ice and open water for yellow perch**
Very harmful	29	26	33
Very or somewhat harmful	76	78	72
Beneficial	25	22	29
By selling of yellow perch, pumpkinseed, bluegill, or redbreast sunfish in 2017:	**Sold yellow perch, pumpkinseed, bluegill, or redbreast sunfish in 2017**	**Did not sell these fish in 2017**	
Very harmful	12	26	
Very or somewhat harmful	43	74	
Beneficial	57	26	

These results are among those who fished for yellow perch in 2017 in New York.

Table 34. Anglers' Opinions on the Sale of Pumpkinseed, Bluegill, and Redbreast Sunfish Among Panfish Anglers			
By fishing for panfish:	**Fished for panfish in 2017**	**Did not fish for panfish in 2017**	
Very harmful	21	22	
Very or somewhat harmful	69	71	
Beneficial	31	29	
By favorite species:	**Favorite species is a panfish**	**Favorite species is not a panfish**	
Very harmful	22	22	
Very or somewhat harmful	67	71	
Beneficial	33	29	
By fishing method used for panfish:	**Ice fishing only for panfish**	**Open water only for panfish**	**Both ice and open water for panfish**
Very harmful	28	20	27
Very or somewhat harmful	68	69	70
Beneficial	32	31	30
By selling of yellow perch, pumpkinseed, bluegill, or redbreast sunfish in 2017:	**Sold yellow perch, pumpkinseed, bluegill, or redbreast sunfish in 2017**	**Did not sell these fish in 2017**	
Very harmful	10	22	
Very or somewhat harmful	34	71	
Beneficial	66	29	

Panfish consist of bullhead, channel catfish, crappie/calico bass, pumpkinseed, bluegill, redbreast sunfish, rock bass, and yellow perch. These results are among those who fished for any type of panfish in 2017 in New York.

ENCOURAGING FISHING PARTICIPATION

Given a list of actions that the Bureau could take to possibly encourage an increase in fishing activity, anglers most commonly chose having the Bureau provide better information on where to fish (21% chose this as the top action that could increase fishing participation) and increase the number of locations for fishing from the shore (also selected by 21%), as shown in Figure 11. Providing additional information on current fishing opportunities and conditions (14%), increasing the number of locations to launch a motorboat (11%), and simplifying the fishing regulations (10%) were also selected by substantial percentages. The survey asked anglers to select two actions, and Figure 12 shows the percentage who selected the actions as one of the top two.
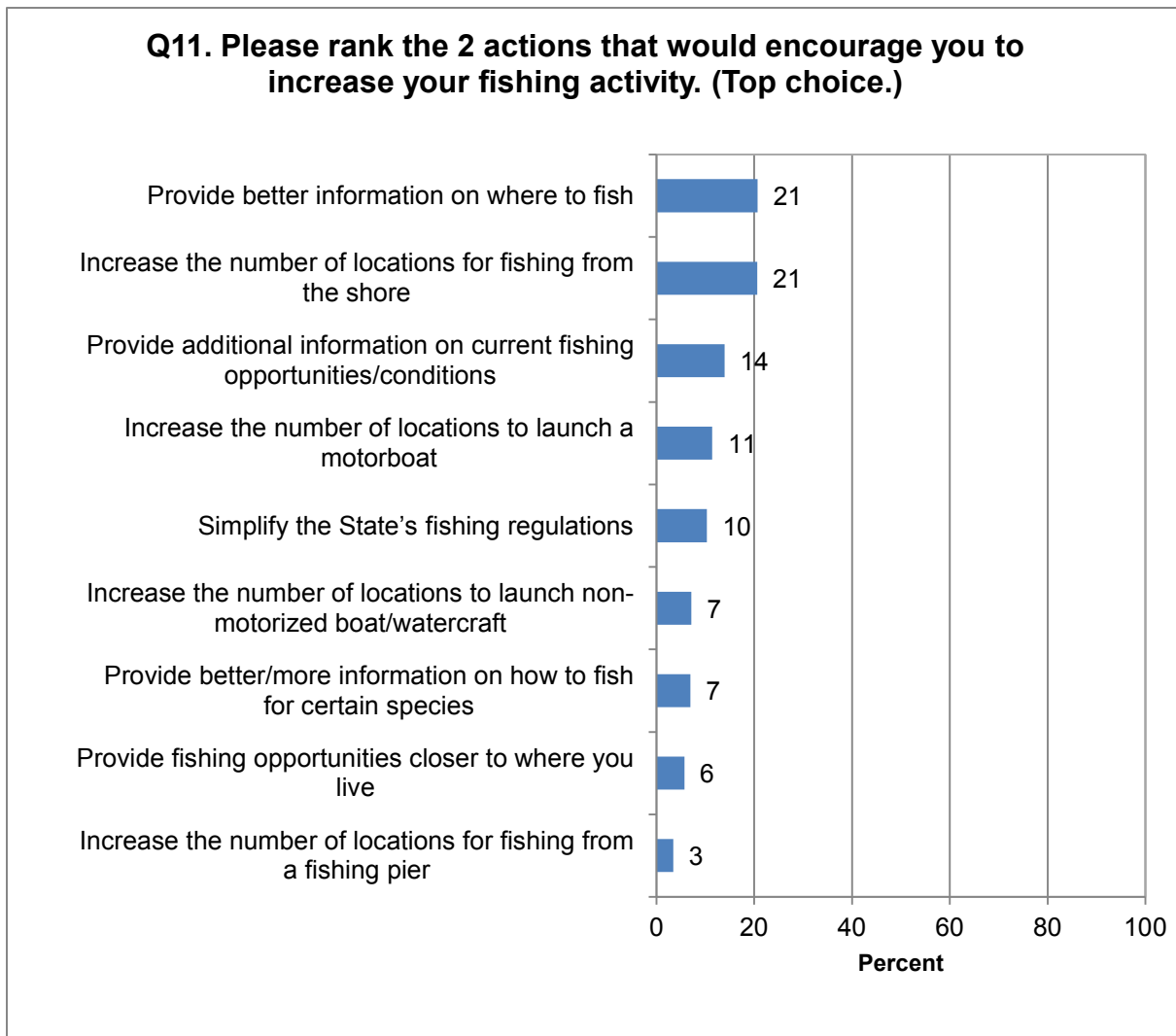
Q11. Please rank the 2 actions that would encourage you to increase your fishing activity. (Top choice.)

Action	Percent
Provide better information on where to fish	21
Increase the number of locations for fishing from the shore	21
Provide additional information on current fishing opportunities/conditions	14
Increase the number of locations to launch a motorboat	11
Simplify the State's fishing regulations	10
Increase the number of locations to launch non-motorized boat/watercraft	7
Provide better/more information on how to fish for certain species	7
Provide fishing opportunities closer to where you live	6
Increase the number of locations for fishing from a fishing pier	3

Figure 11. Top Actions That Would Encourage Fishing Participation

Q11. Please rank the 2 actions that would encourage you to increase your fishing activity. (Top two choices.)
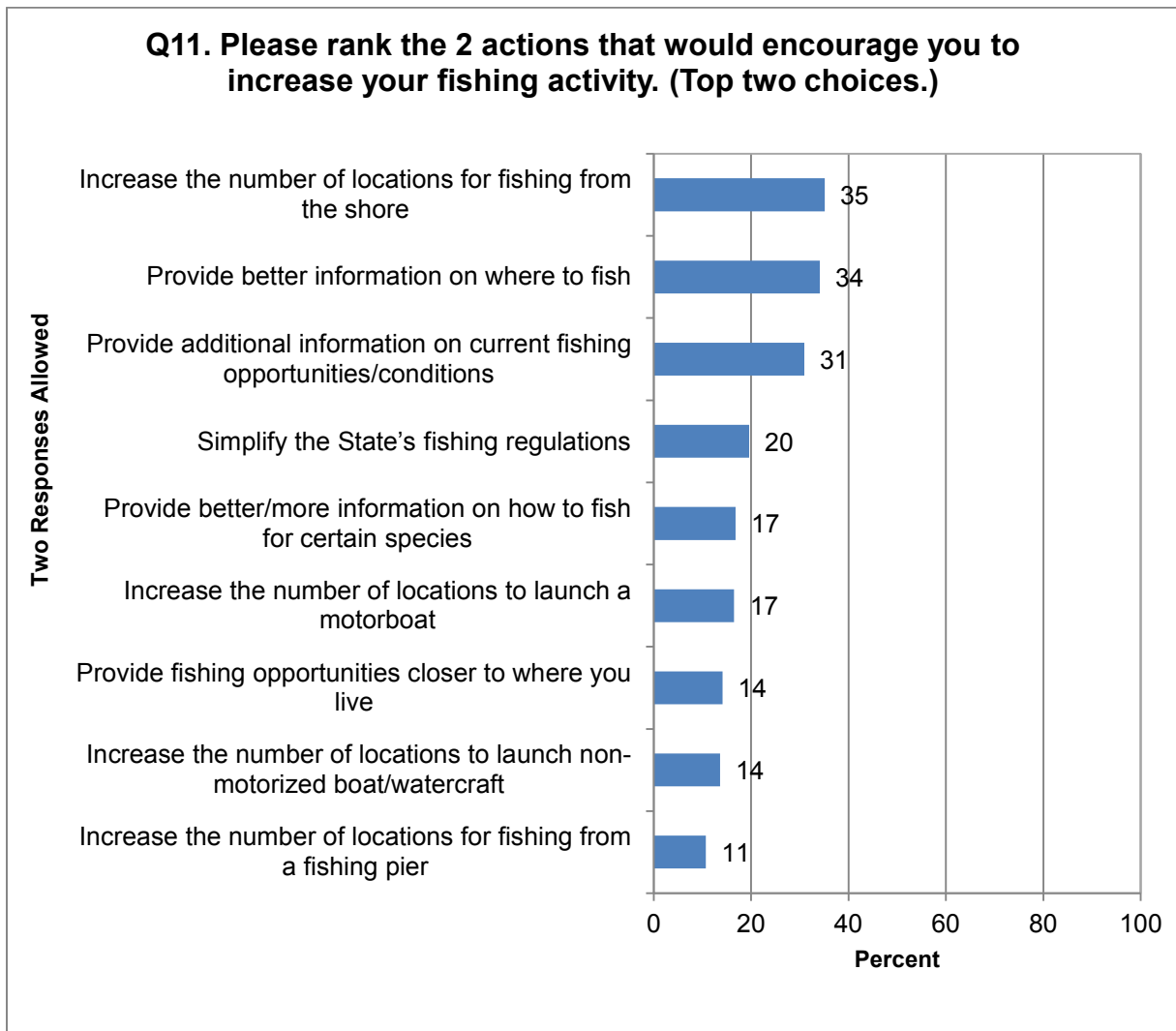
Figure 12. Top Two Actions That Would Encourage Fishing Participation

CHARACTERIZATION OF ANGLERS BY REGION OF RESIDENCE

TERMINOLOGY FOR CHARACTERIZATION SECTION

Throughout this section, "license holders" refers to those who held a fishing license in any of the past 5 years (from 2013 to 2017).

REGION 1 – LONG ISLAND

Among license holders who live in this region:
- Percentage of license holders who fished in New York waters in the past 3 years: 75%
- Approximate number who freshwater fished in the past 3 years: 20,902
- Percentage of license holders who fished in all 5 of the past 5 years: 46%
- Approximate number who fished all 5 of the past 5 years: 12,702
- Percentage who listed a warmwater gamefish as their favorite to fish for: 59%
- Percentage who listed a coldwater gamefish as their favorite to fish for: 28%
- Percentage who listed a panfish as their favorite to fish for: 2%
- Top species listed as their favorites: largemouth bass and smallmouth bass
- Percentage who think the sale of yellow perch is *very* harmful to the fishery: 33%
- Percentage who think the sale of yellow perch is *very* or *somewhat* harmful to the fishery: 79%
- Percentage who think the sale of yellow perch is beneficial to the fishery: 21%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* harmful to the fishery: 31%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* or *somewhat* harmful to the fishery: 76%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is beneficial to the fishery: 24%

REGION 2 – NEW YORK CITY

Among license holders who live in this region:
- Percentage of license holders who fished in New York waters in the past 3 years: 79%
- Approximate number who freshwater fished in the past 3 years: 26,189
- Percentage of license holders who fished in all 5 of the past 5 years: 39%
- Approximate number who fished all 5 of the past 5 years: 13,032
- Percentage who listed a warmwater gamefish as their favorite to fish for: 38%
- Percentage who listed a coldwater gamefish as their favorite to fish for: 40%
- Percentage who listed a panfish as their favorite to fish for: 5%
- Top two species listed as their favorites: largemouth bass and brown trout
- Percentage who think the sale of yellow perch is *very* harmful to the fishery: 33%
- Percentage who think the sale of yellow perch is *very* or *somewhat* harmful to the fishery: 81%
- Percentage who think the sale of yellow perch is beneficial to the fishery: 19%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* harmful to the fishery: 32%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* or *somewhat* harmful to the fishery: 81%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is beneficial to the fishery: 19%

REGION 3 – LOWER HUDSON VALLEY

Among license holders who live in this region:
- Percentage of license holders who fished in New York waters in the past 3 years: 81%
- Approximate number who freshwater fished in the past 3 years: 67,017
- Percentage of license holders who fished in all 5 of the past 5 years: 50%
- Approximate number who fished all 5 of the past 5 years: 41,674
- Percentage who listed a warmwater gamefish as their favorite to fish for: 48%
- Percentage who listed a coldwater gamefish as their favorite to fish for: 35%
- Percentage who listed a panfish as their favorite to fish for: 4%
- Top two species listed as their favorites: largemouth bass and brown trout
- Percentage who think the sale of yellow perch is *very* harmful to the fishery: 27%
- Percentage who think the sale of yellow perch is *very* or *somewhat* harmful to the fishery: 74%
- Percentage who think the sale of yellow perch is beneficial to the fishery: 26%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* harmful to the fishery: 24%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* or *somewhat* harmful to the fishery: 72%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is beneficial to the fishery: 28%

REGION 4 – CAPITAL REGION / NORTHERN CATSKILLS

Among license holders who live in this region:
- Percentage of license holders who fished in New York waters in the past 3 years: 81%
- Approximate number who freshwater fished in the past 3 years: 57,927
- Percentage of license holders who fished in all 5 of the past 5 years: 53%
- Approximate number who fished all 5 of the past 5 years: 38,115
- Percentage who listed a warmwater gamefish as their favorite to fish for: 52%
- Percentage who listed a coldwater gamefish as their favorite to fish for: 29%
- Percentage who listed a panfish as their favorite to fish for: 7%
- Top two species listed as their favorites: largemouth bass and smallmouth bass
- Percentage who think the sale of yellow perch is *very* harmful to the fishery: 25%
- Percentage who think the sale of yellow perch is *very* or *somewhat* harmful to the fishery: 73%
- Percentage who think the sale of yellow perch is beneficial to the fishery: 27%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* harmful to the fishery: 22%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* or *somewhat* harmful to the fishery: 71%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is beneficial to the fishery: 29%

REGION 5 – EASTERN ADIRONDACKS / LAKE CHAMPLAIN

Among license holders who live in this region:
- Percentage of license holders who fished in New York waters in the past 3 years: 83%
- Approximate number who freshwater fished in the past 3 years: 57,817
- Percentage of license holders who fished in all 5 of the past 5 years: 56%
- Approximate number who fished all 5 of the past 5 years: 39,374
- Percentage who listed a warmwater gamefish as their favorite to fish for: 44%
- Percentage who listed a coldwater gamefish as their favorite to fish for: 39%
- Percentage who listed a panfish as their favorite to fish for: 9%
- Top two species listed as their favorites: largemouth bass and brook trout
- Percentage who think the sale of yellow perch is *very* harmful to the fishery: 22%
- Percentage who think the sale of yellow perch is *very* or *somewhat* harmful to the fishery: 70%
- Percentage who think the sale of yellow perch is beneficial to the fishery: 30%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* harmful to the fishery: 19%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* or *somewhat* harmful to the fishery: 67%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is beneficial to the fishery: 33%

REGION 6 – WESTERN ADIRONDACKS / EASTERN LAKE ONTARIO

Among license holders who live in this region:
- Percentage of license holders who fished in New York waters in the past 3 years: 84%
- Approximate number who freshwater fished in the past 3 years: 60,676
- Percentage of license holders who fished in all 5 of the past 5 years: 57%
- Approximate number who fished all 5 of the past 5 years: 41,290
- Percentage who listed a warmwater gamefish as their favorite to fish for: 57%
- Percentage who listed a coldwater gamefish as their favorite to fish for: 27%
- Percentage who listed a panfish as their favorite to fish for: 9%
- Top two species listed as their favorites: smallmouth bass and largemouth bass
- Percentage who think the sale of yellow perch is *very* harmful to the fishery: 23%
- Percentage who think the sale of yellow perch is *very* or *somewhat* harmful to the fishery: 68%
- Percentage who think the sale of yellow perch is beneficial to the fishery: 32%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* harmful to the fishery: 20%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* or *somewhat* harmful to the fishery: 64%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is beneficial to the fishery: 36%

REGION 7 – CENTRAL NEW YORK

Among license holders who live in this region:
- Percentage of license holders who fished in New York waters in the past 3 years: 83%
- Approximate number who freshwater fished in the past 3 years: 95,859
- Percentage of license holders who fished in all 5 of the past 5 years: 55%
- Approximate number who fished all 5 of the past 5 years: 63,496
- Percentage who listed a warmwater gamefish as their favorite to fish for: 56%
- Percentage who listed a coldwater gamefish as their favorite to fish for: 22%
- Percentage who listed a panfish as their favorite to fish for: 11%
- Top two species listed as their favorites: largemouth bass and smallmouth bass
- Percentage who think the sale of yellow perch is *very* harmful to the fishery: 23%
- Percentage who think the sale of yellow perch is *very* or *somewhat* harmful to the fishery: 76%
- Percentage who think the sale of yellow perch is beneficial to the fishery: 24%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* harmful to the fishery: 18%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* or *somewhat* harmful to the fishery: 69%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is beneficial to the fishery: 31%

REGION 8 – WESTERN FINGER LAKES

Among license holders who live in this region:
- Percentage of license holders who fished in New York waters in the past 3 years: 84%
- Approximate number who freshwater fished in the past 3 years: 104,395 (this is the region with the most resident anglers)
- Percentage of license holders who fished in all 5 of the past 5 years: 55%
- Approximate number who fished all 5 of the past 5 years: 68,217
- Percentage who listed a warmwater gamefish as their favorite to fish for: 51%
- Percentage who listed a coldwater gamefish as their favorite to fish for: 26%
- Percentage who listed a panfish as their favorite to fish for: 12%
- Top two species listed as their favorites: largemouth bass and smallmouth bass
- Percentage who think the sale of yellow perch is *very* harmful to the fishery: 25%
- Percentage who think the sale of yellow perch is *very* or *somewhat* harmful to the fishery: 74%
- Percentage who think the sale of yellow perch is beneficial to the fishery: 27%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* harmful to the fishery: 20%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* or *somewhat* harmful to the fishery: 68%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is beneficial to the fishery: 32%

REGION 9 – WESTERN NEW YORK

Among license holders who live in this region:
- Percentage of license holders who fished in New York waters in the past 3 years: 81%
- Approximate number who freshwater fished in the past 3 years: 91,650
- Percentage of license holders who fished in all 5 of the past 5 years: 55%
- Approximate number who fished all 5 of the past 5 years: 62,102
- Percentage who listed a warmwater gamefish as their favorite to fish for: 56%
- Percentage who listed a coldwater gamefish as their favorite to fish for: 27%
- Percentage who listed a panfish as their favorite to fish for: 8%
- Top two species listed as their favorites: largemouth bass and smallmouth bass
- Percentage who think the sale of yellow perch is *very* harmful to the fishery: 27%
- Percentage who think the sale of yellow perch is *very* or *somewhat* harmful to the fishery: 75%
- Percentage who think the sale of yellow perch is beneficial to the fishery: 25%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* harmful to the fishery: 21%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* or *somewhat* harmful to the fishery: 71%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is beneficial to the fishery: 29%

OUT OF STATE

Among license holders who live in this region:
- Percentage of license holders who fished in New York waters in the past 3 years: 88%
- Approximate number who freshwater fished in the past 3 years: 141,467
- Percentage of license holders who fished in all 5 of the past 5 years: 38%
- Approximate number who fished all 5 of the past 5 years: 61,886
- Percentage who listed a warmwater gamefish as their favorite to fish for: 41%
- Percentage who listed a coldwater gamefish as their favorite to fish for: 52%
- Percentage who listed a panfish as their favorite to fish for: 3%
- Top two species listed as their favorites: smallmouth bass and largemouth bass
- Percentage who think the sale of yellow perch is *very* harmful to the fishery: 27%
- Percentage who think the sale of yellow perch is *very* or *somewhat* harmful to the fishery: 76%
- Percentage who think the sale of yellow perch is beneficial to the fishery: 24%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* harmful to the fishery: 24%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is *very* or *somewhat* harmful to the fishery: 73%
- Percentage who think the sale of pumpkinseed, bluegill, and/or redbreast sunfish is beneficial to the fishery: 27%

LITERATURE CITED

Connelly, N.A., and T.L. Brown. 2009. *New York Statewide Angler Survey 2007, Report 4: Survey Method Comparison and Analysis of Trends in Fishing Effort.* New York State Department of Environmental Conservation, Bureau of Fisheries, Albany, NY.

ABOUT RESPONSIVE MANAGEMENT

Responsive Management is an internationally recognized survey research firm specializing in natural resource and outdoor recreation issues. Our mission is to help natural resource and outdoor recreation agencies, businesses, and organizations better understand and work with their constituents, customers, and the public.

Focusing only on natural resource and outdoor recreation issues, Responsive Management has conducted telephone, mail, and online surveys, as well as multi-modal surveys, on-site intercepts, focus groups, public meetings, personal interviews, needs assessments, program evaluations, marketing and communication plans, and other forms of human dimensions research measuring how people relate to the natural world for more than 30 years. Utilizing our in-house, full-service survey facilities with 75 professional interviewers, we have conducted studies in all 50 states and 15 countries worldwide, totaling more than 1,000 human dimensions projects and almost $70 million in research *only* on natural resource and outdoor recreation issues.

Responsive Management has conducted research for every state fish and wildlife agency and every federal natural resource agency, including the U.S. Fish and Wildlife Service, the National Park Service, the U.S. Forest Service, Bureau of Land Management, U.S. Coast Guard, and the National Marine Fisheries Service. Additionally, we have also provided research for all the major conservation NGOs including the Archery Trade Association, the American Sportfishing Association, the Association of Fish and Wildlife Agencies, Dallas Safari Club, Ducks Unlimited, Environmental Defense Fund, the Izaak Walton League of America, the National Rifle Association, the National Shooting Sports Foundation, the National Wildlife Federation, the Recreational Boating and Fishing Foundation, the Rocky Mountain Elk Foundation, Safari Club International, the Sierra Club, Trout Unlimited, and the Wildlife Management Institute. Other nonprofit and NGO clients include the American Museum of Natural History, the BoatUS Foundation, the National Association of Conservation Law Enforcement Chiefs, the National Association of State Boating Law Administrators, and the Ocean Conservancy. As well, Responsive Management conducts market research and product testing for numerous outdoor recreation manufacturers and industry leaders, such as Winchester Ammunition, Vista Outdoor (whose brands include Federal Premium, CamelBak, Bushnell, Primos, and more), Trijicon, Yamaha, and others.

Responsive Management also provides data collection for the nation's top universities, including Auburn University, Clemson University, Colorado State University, Duke University, George Mason University, Michigan State University, Mississippi State University, North Carolina State University, Oregon State University, Penn State University, Rutgers University, Stanford University, Texas Tech, University of California-Davis, University of Florida, University of Montana, University of New Hampshire, University of Southern California, Virginia Tech, West Virginia University, Yale University, and many more.

Our research has been upheld in U.S. Courts, used in peer-reviewed journals, and presented at major wildlife and natural resource conferences around the world. Responsive Management's research has also been featured in many of the nation's top media, including *Newsweek*, *The Wall Street Journal*, *The New York Times*, CNN, National Public Radio, and on the front pages of *The Washington Post* and *USA Today*.

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