

Highlights of Angler Recruitment, Retention and Reactivation (R3) Literature

Prepared for the
**Aquatic Resources Education
Association**

By
Bob Byrne Consulting
Amissville, VA

Funding provided by
a grant from
Recreational Boating and Fishing Foundation

March 2016

Photo Courtesy of Take Me Fishing

Table of Contents

Introduction	3
Executive Summary	4
Detailed Information	12
Important Terms	12
Number of Anglers	12
Angler Churn	13
Angler Demographics	17
Access	19
Age of Initiation	20
Angling Initiators	22
Interest in Fishing	24
Angler Sources of Information	26
Resources to Facilitate Fishing	26
Fishing Preferences	27
Barriers to Fishing	29
Crossover Activities	30
Urbanization’s Effect on Fishing	30
Electronic License Databases	31
First-Time License Buyers	32
Potential Target Audiences	33
Hispanic Anglers	38
R3 Activities	42
Reference List	46

Highlights of Angler Recruitment, Retention and Reactivation (R3) Literature

Introduction

This literature review is part of a larger project to assist the fishing community to develop a strategic model to encourage the recruitment, retention, and reactivation (R3) of anglers. This review summarizes recent literature on angler R3 so those developing the model have a common understanding of angler numbers, behaviors, churn rates, trends, motivations, barriers, potential marketing strategies, and other issues that may affect R3 efforts. Both the literature review and strategic model development are funded by a grant to the Aquatic Resources Education Association from the Recreational Boating and Fishing Foundation.

A similar process was used to develop the *National Hunting & Shooting Sports Action Plan: Strategies for Recruiting, Retaining and Reactivating Hunting and Shooting Sports Participants* (Frampton and Dunfee 2015). The Wildlife Management Institute and the Council to Advance Hunting and the Shooting Sports coordinated that process. The Wildlife Management Institute and Bob Byrne Consulting is facilitating the development of the angler R3 strategic plan.

The path to becoming an angler is similar to becoming a hunter. However, many of the steps to becoming an angler may be abbreviated, simpler, or comparatively easier to negotiate. People can—and do—move in and go out of the angling community with relative ease, resulting in a larger and more dynamic population of anglers.

The Recreational Boating and Fishing Foundation, as well as the American Sportfishing Association, and others, have recognized the dynamics of this population for several years and have invested considerable resources in researching general populations of anglers, as well as the numerous angler sub-sets. A scan of the references used in this literature review reflects this investment.

As a result of this investment, the angling community has an unprecedented understanding of current, lapsed and past anglers, and is favorably positioned to improve existing, or develop new strategies to become more effective at recruiting, retaining and reactivating anglers.

Reversing the trend in the long-term decline in angler participation is the overall goal of the yet-to-be-drafted strategic model. The strategic investment in human dimensions research by leaders in the angling community, summarized in this literature review, will help create the framework for a richer and robust R3 plan.

Executive Summary

Age Factors

According to the U.S. Fish and Wildlife Service and the American Sportfishing Association, between 41.2 and 60.0 million people in the United States over six years old participate in fishing each year. Of those, approximately 29.3 million are certified fishing license holders (there are numerous reasons why not every angling participant is a license holder). The numbers appear to reflect: (a) a relatively stable population and (b) a slight increase during the last five years. Research would suggest that this conclusion is incorrect.

The U.S. Fish and Wildlife Service estimated that, in 2010, 124 million individuals aged 16 and over had, at some point in their lives, participated in fishing. This extremely high number of past anglers means many people have tried angling but have dropped out (that is, are inactive). It also may show that there is a great potential for the number of active anglers to increase through reactivation and continued recruitment.

That said, the aging population of current anglers will likely reduce retention of anglers and put downward pressure on the size of the angling population as the baby boomer generation ages beyond 50 years of age.

If recruitment and retention of younger age classes does not increase, the aging of baby boomers will likely adversely impact total fishing participation.

More than 80 percent of current anglers fished as children, indicating that many who recently purchased licenses are reentries into the sport. They may or may not need to be treated as new anglers. More than a third of all anglers, and 50% of avid anglers, first went fishing when they were five years old or younger.

Approximately, 45 percent of anglers were initiated at 10 years old or younger, and 55 percent were 15 years old or younger. Currently, 63 percent of first time anglers are 20 years of age or younger. Recruiting young anglers is important. However, approximately one-third of first-time anglers are 21 years of age or older.

Unfortunately, the national fishing initiation rate for children declined steadily from 1990 to 2000. The fishing initiation rate for children fell from 53 percent in 1990 to 50 percent in 1995 to 42 percent in by 2005 and rose only slightly to 43 percent in 2010.

License-Buying Patterns and Churn Rates

Recent research into buying behaviors of anglers reveals that the year-over-year buying habit of individual anglers is dynamic, and the seemingly stable population actually undergoes considerable annual turmoil. The American Sportfishing Association and Recreational Boating and Fishing Foundation reported annual “churn rates” (that is, the annual percentage of anglers that lapse in the activity) between 45 and 51 percent.

Because of these dynamic license-purchasing patterns, it is possible—over a 10-year span—for an angler to transition from a *recruited* angler to a *retained* angler to a *lapsed* angler to a *reactivated* angler and, potentially, back into a *recruited* angler. Carefully defining—and using—the terms used to describe anglers and their current, past, and future participation in fishing is needed to focus R3 activities. Improving license sales databases will allow R3 practitioners to refine and target the stage of individual anglers and to apply specific marketing tactics to encourage them to remain active. The refinement of license sales databases and targeting individual anglers is critical for R3 efforts to succeed. In addition, actively communicating with anglers on a continual basis is an important element of marketing tactics.

Considerable variation exists within the churn rates of different age groups, gender and residency. R3 efforts will need to target specific groups and their sub-sets in order to be effective.

Multipronged efforts that focus on each category of license purchaser will likely be needed to grow angler populations.

In addition, first-time anglers are twice as likely to lapse than anglers who have purchased their second license. Approximately 70 percent of 2011's first-time anglers lapsed in 2012. Suggestions to counteract these trends include:

- Marketing efforts that focus on retaining first-time anglers and transitioning them to repeat anglers will likely have the greatest impact.
- More than half of the first-time license buyers who did not renew indicate they are still interested in fishing.
- First-time license buyers are high potential targets for retention marketing efforts.

Surveyed lapsed anglers generally cite time constraints, typically family or work obligations, as the reason for limited fishing participation. While “not enough time” is frequently noted, it is likely that people simply choose other ways to spend their free time. Essentially, other activities provide greater perceived benefits or deliver desired benefits with greater convenience. Fishing is marketed as providing fun and relaxation outdoors. If it fails to deliver these benefits, anglers may take up other outdoor activities. Further, when anglers feel they are short on free time, the time they have likely will be allocated to more convenient activities that allow them to share that time with friends and family.

Interest in fishing remains high. The angling community is fortunate in that it does not have to create demand; the demand already exists. Effectively meeting this latent demand will require a continuous effort, but the effort is more desirable and manageable than if the angling community had to create demand for their product.

Family and Friend Factors

R3 efforts may be most effective when conducted within the social structure of families. In addition, providing opportunities to initiate or reinstate young adults into fishing is also important. This may be a particularly important strategy to establish fishing as a

The high rate of fishing as a child validates the importance of youth angler recruitment efforts. Initial fishing experiences need to be simple, fun, social, and exciting.

culture or tradition in new or younger families.

Fathers, followed by another male family member, are the most common people to initiate youth into fishing. However, the importance of this role diminished as youth aged into teen years when friends and programs increased their importance in angler initiation.

Parental initiation and participation is critical in a child's initiation. If a father did not fish at all, a son was three times less likely to fish than the U.S. average (10 percent versus 28 percent). For daughters, the discrepancy is even greater; only five percent fished when their fathers did not.

When a household's father fished one to three days per year, the participation rate of sons increased from 10 percent to 71 percent, and the rate for daughters increased from 5 percent to 45 percent. Participation on the part of the mother resulted in even higher participation rates of both sons and daughters than the same level of activity on the part of the father. If a mother fished one to three days per year, 70 percent of daughters and 85 percent of sons participated. This indicates that:

- Developing strategies to improve parental retention likely will improve initiation of children.
- Developing strategies to increase the number of days per year a person fishes should reduce the churn rate and increase angler retention.

A personal invitation to fish is rated as the top motivator for adults, first-time license purchasers, and lapsed first-time license purchasers. Consider:

- The surest way to create a new angler is for a family member or friend to take them fishing. Developing strategies to encourage invitations from existing anglers to non-anglers will likely reduce churn rates and increase retention.

Family and friends who are experienced anglers were the most common source of fishing information and instruction. However, anglers also seek information through state agency websites and small bait and tackle retailers.

Reasons to Fish

The top three reasons people fish are: (a) to spend time with family and friends, (b) to relax, and (c) for sport or recreation. For new anglers, the opportunity for relaxation is a strong driver while avid anglers tend to be in it for the excitement.

The top reasons to continue to fish identified by new angling participants were: (a) to relax (30 percent), (b) to catch fish (22 percent), (c) to be outdoors or get fresh air (19 percent), (d) to be in a peaceful or tranquil setting (15 percent), and (e) to participate in a family activity (15 percent). Current, adult anglers rated the "best things about fishing" as: (a) catching fish, (b) enjoying the sounds and smells of nature, (c) getting away from the demands of life, (d) being close to nature, and (e) observing scenic beauty.

Most anglers are optimistic about continuing to fish in the next year. Numerous studies reported the intent to go fishing as a measure of program success. However, angler intentions do not match their actions.

More than three-quarters of recruited anglers think they will fish each year over the next five years; however less than 10 percent actually do so. Statements regarding the intent to go fishing should be viewed as an expression of continued interest in fishing, not a prediction of actual behavior.

Residence Factors

Fishing close to home is an important consideration for anglers. Freshwater anglers reported the least willingness to travel, with 23 percent reporting traveling less than 15 minutes on their last fishing trip, 24 percent traveling less than 30 minutes, and 18 percent traveling less than one hour. Most fishing trips were somewhat spontaneous, with 40 percent of anglers reporting that the trip was unplanned. An additional 41 percent of trips were planned within one week. To increase participation:

- Improve access, especially to reduce travel time to a fishing spot;
- Realize that improving access does not always mean increasing access (such as improving the facilities or increasing the number of boat launching lanes);
- Keep fishing as a top-of-mind activity that can be done on relatively short notice.

The decline in participation is partly attributed to a broad demographic change in the United States—urbanization. In 2000, only 22 percent of the United States population lived in rural areas, compared to 36 percent in 1950, 30 percent in 1960, and 25 percent in 1990.

Urbanization also decreases access for fishing. As an area becomes urbanized, there is a dilution of fishing traditions and loss of social groups that participate. Specifically, as an area urbanizes, anglers will likely have fewer neighbors who participate in these activities, the availability of alternative activities increases, and the costs associated with angling (such as preparation and travel time) perceived to be higher and thus may lead to lower renewal rates. Because most anglers live in urban and suburban areas, convenient fishing opportunities must be provided, promoted, and protected to maintain their participation. In addition, recruitment efforts targeting ethnically diverse neighborhoods located in urban and suburban and urban areas are critical to diversifying if angler populations are going to become more diverse, and to increasing relevancy of fishing is going to become relevant in ethnic populations in the future.

Increasing fishing participation will likely require reaching new audiences where angling may not have been part of their youth.

Successful urban fishing programs require: (a) clean water, (b) a high-quality fishery close to current or potential anglers, (c) facilities to accommodate anglers, and (d) marketing efforts to inform and recruit anglers. These urban programs should not stop at recruitment; repeated contact to maintain or increase interest and skills should be incorporated into the development plan.

Marketing Demographics

Researchers identified the following audiences for marketing, access awareness, recruitment, and

retention programs:

- Females
- Youth
- Suburban dwellers
- Veterans and recently returned soldiers
- Out of state students
- Recent graduates
- New state residents
- Organic food and locavore proponents

Angling marketing messages should emphasize fun, relaxation, family, friends, and a way to experience the outdoors with others. Mailings and angler contacts early in the year, along with hybrid approaches that integrate e-mail with conventional direct mail, will likely be successful. And marketing efforts to retain current anglers are as important as marketing to recapture lapsed anglers. Marketing programs that quickly contact recently lapsed anglers have higher success rates than those that do not do so.

Marketing programs in one state may have different outcomes in another. Photos should show people from many walks of life—across various ages, genders, and ethnic backgrounds—fishing. Complex, costly, or extreme types of fishing should be avoided.

- Marketing efforts should focus on convenient locations to fish that are close to urban and suburban populations and on local programs where anglers can borrow or rent gear and receive easy, affordable instruction.
- The future of fishing likely will depend on making fishing attractive and convenient to population segments who currently show low rates of angler segments. These segments (that also have high churn rates and low retention rates) differ greatly from the segments with the highest retention rates. For example:
 - Marketing efforts directed toward Hispanics should focus on states with growing Hispanic populations.
 - Hispanics who fish tend to be avid participants. Therefore, lower participation rates among Hispanics are more likely the result of lower recruitment rates, not of high lapse rates.
 - Recruitment efforts for Hispanics should also be in Spanish.
 - Seven barriers for recruiting new Hispanic anglers are:
 - Lack of exposure and experience
 - Fishing is perceived as a passive, waiting game
 - Full family participation is often difficult
 - Outdoor activities in general are waning
 - Cost, whether real or perceived, is a significant issue
 - State licenses and regulations are problematic
 - A culturally relevant invitation is missing

- The growth of the fishing population will, to a large extent, depend on engaging ethnically diverse communities.

The R3 Process

Repeated contact is needed to maintain and increase fishing interest and skills. R3 programs should not only initiate new participants but also reactivate former anglers.

- Most current R3 programs (as they were conducted) were more effective at retaining those already initiated into fishing than they were at recruiting newcomers.
- Most participants in current programs have fished prior to attending the program and have come from a fishing family.
- Designing and incorporating “next steps” for R3 programs will direct participants toward other angler learning opportunities and keep interest levels high.

Most states evaluated their R3 programs using basic process evaluations that measure outputs such as, numbers of anglers, youth served, and catch rates. But few programs have conducted a more thorough analysis that measure outcomes, such as effectiveness of programs in recruiting and retaining anglers, or cost-benefit studies. Unfortunately, many educators think about evaluation only as an after-the-fact judgment as to whether desired outcomes were achieved.

An updated and modified Outdoor Recreation Adoption Model (Figure 1) similar to what was developed for the *National Hunting & Shooting Sports Action Plan: Strategies for Recruiting, Retaining and Reactivating Hunting and Shooting Sports Participants* is recommended for use in the development of the fishing communities’ strategic model. The Outdoor Recreation Adoption Model is based, in part, on information contained in RBFF’s *Best Practices Workbook: For Boating, Fishing, and Aquatic Resources Stewardship Education* to plan educational programs. This model builds upon five stages that a person goes through when adopting any new idea or activity and adapts it for outdoor activities.

The five stages are: awareness, interest, trial, continuation with support, and continuation without support. For program-planning purposes, *recruitment* programs fall within the first three stages (awareness, interest, and trial). *Retention* programs fall within the last two stages (continuation with support and continuation without support). *Reactivation* programs were added to accommodate people who have lapsed or have permanently deserted the activity.

Evaluations of R3 programs should be viewed as a systematic and ongoing process that begins when a program is being planned, is carried through implementation, is used as a learning tool, that supports program decision making and improvement.

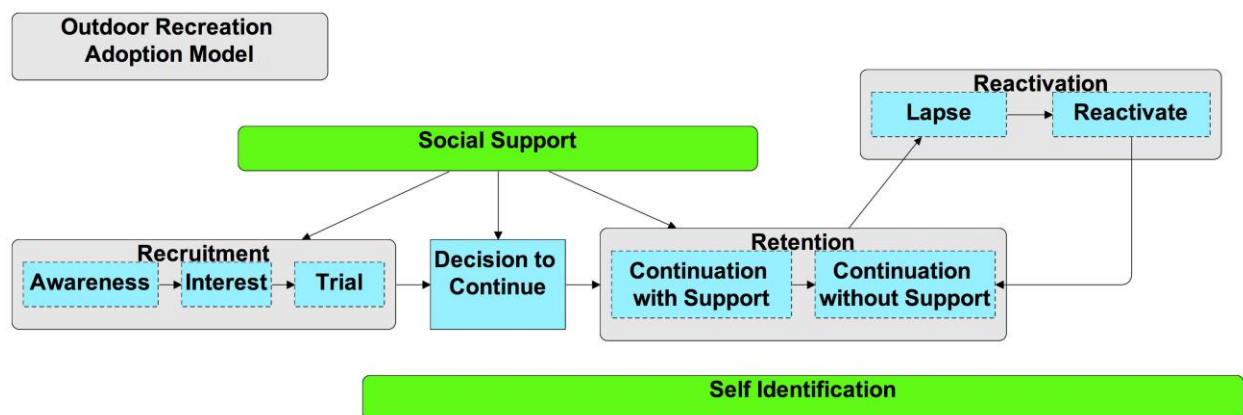


Figure 1. The Outdoor Recreation Adoption Model used to plan hunting programs. (Byrne and Dunfee, 2016)

The Outdoor Recreation Adoption Model helps program developers to identify the various stages of their target audiences and to develop programs to help them advance to the next step. Programs should be viewed as interventions that act as bridges between the various stages. All of the stages need to be completed before a person can pursue any given activity independently. *The Best Practices Workbook: For Boating, Fishing, and Aquatic Resources Stewardship Education* recommends that programs:

- Clearly define goals and objectives
- Are based on a needs-assessment and/or logic model
- Receive adequate support, resources, and staffing
- Plan for program evaluation in the initial stages of development
- Rely on experienced staff to develop, implement, and evaluate programs
- Involve stakeholders during program development
- Be learner-centered
- Be designed to match the developmental stages of the learners
- Recruit, train, and screen experienced and knowledge instructors
- Provide multiple learning opportunities
- Use the Recruitment-Training-Retention Intervention Model
- Develop a network of social support for participants (Recreational Boating and Fishing Foundation, 2010).

However, it is unclear how often best-practices resources are used for program planning or implementation. When designing programs, stakeholders should identify target audiences first, and then develop specific programs to meet their needs. Designing programs that market to a specific target audience and then providing program materials that matches their interests and skill levels will help insure the programs produce the desired outcomes rather than just outputs. Currently, most programs are developed first and then are marketed to a general audience of potential participants. To monitor the effectiveness of programs, participants must be tracked from program to program and, ultimately, to license purchases.

Conclusion

Because of the high popularity and interest in angling, recruitment of young anglers may likely take place somewhat organically. This recruitment should be supported through programs that focus on families, social support systems, and that provide multiple contacts to improve skills and knowledge. It appears that the angling community is providing recruitment opportunities.

However, well thought out, and implemented, retention programs seem to be lacking. The Outdoor Recreation Adoption Model is a useful tool for program managers to “map” programs so that they span all of the stages necessary creates an independent active angler.

To increase the diversity of anglers, efforts will need to focus on urban and suburban areas that have high ethnic diversity. These programs should concentrate on locations that potentially could provide a high-quality fishery that is convenient to the targeted population. As with youth recruitment, focusing on families and providing multiple contacts will be important. In addition, a culturally relevant invitation to attend should be extended, and culturally diverse instructors will help make angling more pertinent to those who attend.

In the short term, developing programs to reduce churn rates, especially for first-time anglers, will likely produce the greatest return on investment. Encouraging existing anglers to extend invitations and empowering first-time anglers to ask experienced anglers to take them more often are keys to reducing churn rates. Participating three times in a year appears to be a critical number to encourage retention.

Enhancing the angling communities’ ability to regularly communicate with anglers via email; developing ongoing relationships with anglers – and potential anglers – to keep fishing “top of mind;” identifying the needs of target audiences and developing processes to meet their specific needs; and monitoring buying behavior through license-sales databases are all critical steps.

Considerable research—underwritten by the Recreational Boating and Fishing Foundation and the American Sportfishing Association—has identified additional target audiences and messages that can be used to bolster angler numbers. Developing, fine-tuning, implementing, and evaluating programs based on this research will be key to long-term success.

Detailed Information

Important Terms

The Recreational Boating and Fishing Foundation (2007) noted that there has been little consistency in angler marketing terminology over the years. It is critical that a common language is used when discussing angler population numbers, participation rates, avidity and strategies to influence this population.

There are two primary behavioral means to classify anglers for marketing purposes: license purchasing behavior and fishing participation history. Using license databases has limitations in that not all anglers are captured in the system. Similarly, marketing to anglers based on their fishing participation history assumes greater knowledge on this behavior than generally exists (Recreational Boating and Fishing Foundation 2007).

American Sportfishing Association (2015a) has proposed the following definitions to describe various angler categories based on license purchasing history:

Recruited anglers: anglers who purchased a license in a given year but have not purchased a license in any of the five preceding years

Retained anglers: anglers who purchased a license in a given year and also purchased a license in the preceding year

Reactivated anglers: anglers who purchased a license in a given year and purchased at least once in the previous five years but not the immediately preceding year

Lifetime or multiyear anglers: anglers who did not purchase a license in a given year but are licensed by virtue of holding an active lifetime or multiyear license purchased in a previous year

Assembling a group of researchers and stakeholders to define important terms and then distributing the resulting definitions to all stakeholders is highly recommended.

Other terms have been used, and may or may not have been defined. These include: new anglers, new recruits, first-time anglers, lapsed anglers, returning anglers, repeat anglers, lost anglers, avid anglers, active anglers, regular anglers, and occasional anglers. Readers are cautioned to pay attention to the terms used by different authors. In some instances, differences in terms and definitions may make comparisons among studies of angler behavior difficult to compare.

Number of Anglers

The estimated total number of people six years old or older participating in fishing in 2010 is 41.6 million (U.S. Fish and Wildlife Service 2011). These estimates represent an 11-percent

increase in angler participation above the 2006 estimates, which includes approximately 33.1 million people 16 years old or older and 8.5 million people between 6 and 15 years old. The population of anglers is considerably larger than that of active anglers. Using data from the screening questionnaire, the U.S. Fish and Wildlife Service (2015) estimated that, in 2010, 124 million individuals aged 16 and over had at some point in their lives participated in fishing. Of this, 59 million are considered active anglers because they participated from 2008 to 2010.

This estimate represents 16 percent of the U.S. population. Angling was rated as the second most popular outdoor recreation. Angling ranked as the fourth most popular outdoor recreation by youths aged 6 to 17 years old, with 20 percent of youths in this age group participating (The Outdoor Foundation 2013).

The estimates provided by the U.S. Fish and Wildlife Service (2011) and The Outdoor Foundation (2013) contrasts to the 29.3 million certified fishing license holders in 2012 reported by state fish and wildlife agencies to the Wildlife and Sport Fish Restoration Program (2015). Of the total number 16 years old or older who participated in fishing, the U.S. Fish and Wildlife Service (2011) estimated 21.5 million purchased licenses.

An additional 5.9 million people 16 years old or older are exempt from purchasing a license, and 6.8 million people 16 years old or older engaged in angling activities requiring no licenses (nor are required to be exempt), or are among those who failed to buy a license for activities requiring one. Based on these estimates, only 65 percent of fishing participants 16 years old or older purchased licenses (U.S. Fish and Wildlife Service 2011).

Reasons for not requiring a fishing license include: (a) being under or over the age for having a license (commonly under 16 or over 65), (b) fishing on your own land or land of a relative, (c) being an active duty member of the military, (d) fishing for species or in areas not requiring a license (in saltwater or fishing for some “rough fish”), and (e) fishing on days not requiring a license (free fishing days) (Recreational Boating and Fishing Foundation 2007, Association of Fish and Wildlife Agencies, unpublished data).

American Sportfishing Association (2015b) reported that participation is growing slightly in 17 states. These states were predominantly in the West and Southeast.

Angler Churn

Research indicates anglers are a very dynamic population, and not all anglers’ purchase licenses each year (American Sportfishing Association 2015a). The American Sportfishing Association (2013) estimated that there are approximately 60 million anglers in the United States, of which 46 million fish in a given year. However, as indicated earlier, not all of these participants purchase (or need to purchase) a license.

Only 4 percent of anglers purchase licenses 10 out of 10 years, and 49 percent purchase only one license during a 10-year period (American Sportfishing Association 2015a). The American Sportfishing Association (2015a) and Recreational Boating and Fishing Foundation (2013f) reported churn rates between 45 and 51 percent. The rolling five-year averages seem to show a

surprisingly stable population of anglers (American Sportfishing Association 2015a). But, the appearance does not represent the dynamics of angler numbers.

Considerable variation exists within the churn rates of different age groups. American Sportfishing Association reported that churn rates of 18-to-24-year-old (55 percent) and 25-to-34-year-old (51 percent) anglers is higher than older anglers (40 to 46 percent). It also reported higher churn rates for females (55 versus 42 percent for males) and for urban residents (54 versus 40 percent for rural residents) (American Sportfishing Association 2015a).

Recreational Boating and Fishing Foundation (2013f) reported first-time anglers were twice as likely to lapse than repeat anglers. Approximately 70 percent of 2011's first-time anglers lapsed in 2012.

Because most anglers have dynamic license-purchasing patterns, it is possible—over a 10-year span—for an angler to transition between a *recruited* angler to a *retained* angler to a *reactivated* angler and, potentially, back into a *recruited* angler (American Sportfishing Association 2015a).

Anglers in the 18-to-24-year-old category are more likely to be recruited anglers in rural areas while anglers in the 25-to-34-year-old category represent the greatest proportion of recruited anglers in urban areas; older age classes are more likely to be in the retained category (American Sportfishing Association 2015a, 2015c). However, all age categories have significant proportions of recruited anglers and reactivated anglers.

License purchasing habits are even more dynamic among females and urban residents. Females are more likely to fall in the recruited category (35 to 37 percent) than males (24 to 25 percent), and they are less likely to be in the retained category (41 to 42 percent versus 54 to 57 percent for males). A similar trend exists for urban residents, which are more likely in the recruited category (36 to 37 percent) than rural residents (22 to 24 percent) and are less likely to be in the retained category (43 to 45 percent versus 56 to 59 percent for rural residents).

Angler Retention

A dropout curve created by the U.S. Fish and Wildlife Service (Figure 2) illustrates that fishing retention declines rapidly through the teenage years, remains reasonably flat from the early 20s through the early 40s, declines steadily from the early 40s until the early 60s, and then declines rapidly in the late 60s.

Because of the dynamic nature of license purchases, multipronged efforts that focus on each category of license purchaser will likely be needed to grow angler populations.

– American Sportfishing Association 2015a

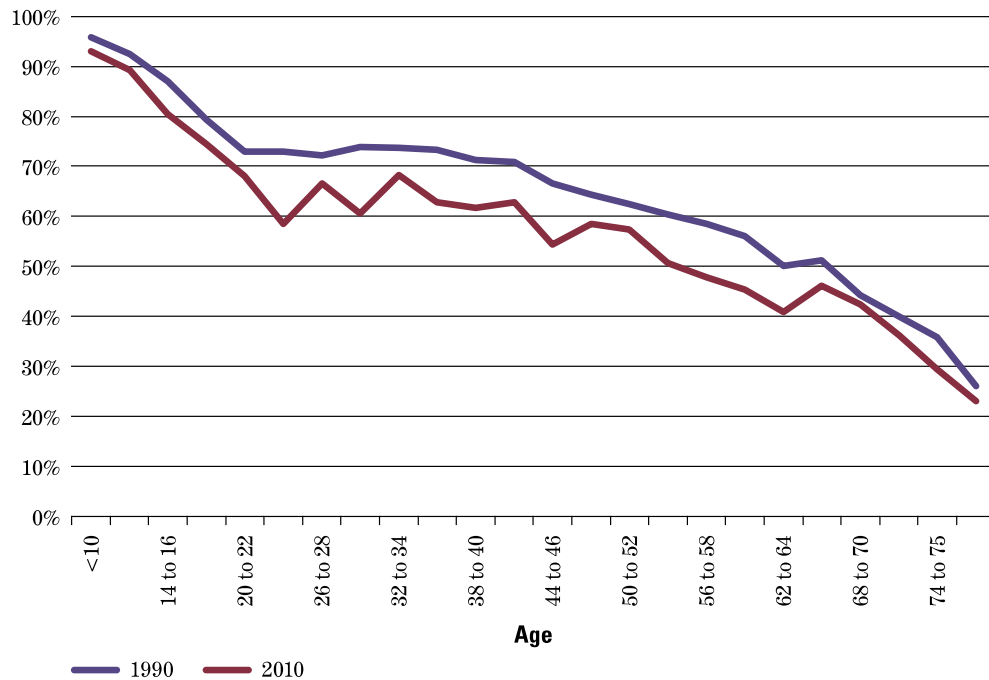


Figure 2. Dropout curve for anglers by Age: 1990 and 2010 (U.S. Fish and Wildlife Service 2015)

The American Sportfishing Association (2015b) reported that the Midwest had a 53-percent retention rate, followed by the Northeast with a 46-percent rate; the Southeast had the lowest rate at 30 percent. These regional differences are consistent with those reported by the U.S. Fish and Wildlife Service (2015), except they reported that the Pacific region had the lowest rate.

More than 20 percent of anglers purchased a license five out of five years in the Northeast and Midwest—compared to just 8 percent and 16 percent of anglers in the Southeast and West, respectively (American Sportfishing Association 2015b). However, the relatively high avidity rates in the Northeast and Midwest, and their correspondingly lower churn rates, are still dynamic enough to warrant developing programs to increase participation.

The American Sportfishing Association (2015c) reported that more than 60 percent of the licensed angler population might be considered stable with high renewal rates from one year to the next.

Angler retention rates tend to increase with age and decrease among urban residents. Females also have a lower retention rate (American Sportfishing Association 2015a, 2015c).

Reasons for Lapsing

An angler’s decision to renew a license is influenced by available time, competing recreational interests, and other commitments (American Sportfishing Association 2015b). For urban anglers, the

Because of the significant lapsing rate of first-time anglers, marketing efforts should focus on retaining this group and turning them into repeat anglers.

— Recreational Boating and Fishing Foundation 2013f

availability of alternative activities is greater, and the costs associated with angling (such as preparation and travel time) are higher. The American Sportfishing Association (2015b, 2015c) speculated that these competing forces lead to lower renewal rates.

In addition, continual efforts to promote angling and to assist anglers in planning their fishing trips in advance so angling can compete more effectively with other activities may encourage younger, urban, and female anglers to maintain their interest in fishing (American Sportfishing Association 2015b).

The long-term aging of the U.S. population will likely influence the long-term angler retention (U.S. Fish and Wildlife Service 2015). The aging population of anglers will also profoundly impact license sales since, as the angler population ages, a greater number will be eligible for free license exemptions. States have begun to adjust their license structures and marketing strategies to address this trend.

Lapsed anglers generally cite time constraints, typically family or work obligations, as important reasons for limiting fishing participation (American Sportfishing Association et al. 2013, American Sportfishing Association 2012a). While “not enough time” is frequently cited, it is likely that people simply choose other ways to spend their time. Essentially, other activities provide greater perceived benefits or deliver desired benefits with greater convenience (American Sportfishing Association 2012a).

Fishing is perceived as a means to have fun and relax in the outdoors. If it fails to deliver these benefits, compared other pursuits, anglers will take up other outdoor activities. When anglers feel they are short on free time, what time they do have will be allocated to activities that are the most convenient or that allows them to share that time with friends and family (American Sportfishing Association 2012a).

Interestingly, almost all anglers—active, lapsed, and former—average slightly more than 3 hours of recreation per workday and 6.5 hours per weekend day (American Sportfishing Association 2012a).

Some people took breaks from fishing for reasons other than reallocating their recreational time. These primary reasons include: military obligations, health problems, and attending school. Other reasons include a loss of interest in fishing, cost, lack of equipment, and problems related to fishing, such as access (American Sportfishing Association 2012a).

Fishing Reactivation

Reasons people restart fishing include: a return to their home state following a military deployment or college, family members fish, children are now old enough to fish, or there is more free time (American Sportfishing Association et al. 2013, American Sportfishing Association 2012c).

Angler Demographics

Gender

Female anglers appear to be increasing. The U.S. Fish and Wildlife Service (2006, 2011) reports an increase in female anglers from 25 percent in 2006 to 27 percent in 2011. The Outdoor Foundation reported females represented 31.8 percent of anglers in 2010 and 34.8 percent in 2014 (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2015). While these increases are encouraging, the American Sportfishing Association (2015a) cautions that higher churn rates for females (55 percent versus 42 percent for males) may moderate increases in overall participation numbers.

Race and Ethnicity

Anglers are predominantly Caucasian. However, the U.S. Fish and Wildlife Service (2006, 2011) reports the angler population increased its diversity between 2006 and 2011. In 2006, 92 percent of anglers were Caucasian; 5 percent were African-American; 1 percent were Asian; 2 percent were other ethnicities. In 2011, 86 percent of anglers were Caucasian, African-Americans (7 percent), Asians (2 percent), and other ethnicities (5 percent); each increased their representation in the angler population.

The Outdoor Foundation (2013) reported that African-Americans rated fishing as their second most popular outdoor recreation with an 11-percent participation rate. Asian-Pacific Islanders rated fishing as their fifth most popular outdoor recreation with a 9-percent participation rate. Hispanics rated fishing as their third most popular outdoor recreation with a 14-percent participation rate. And Caucasians rated fishing as their second most popular outdoor recreation with a 17-percent participation rate.

Angler Residence

The U.S. Fish and Wildlife Service reports that, while residents of metropolitan statistical areas (MSAs) had lower angler participation rates than non-MSA residents, they still accounted for the majority of anglers. The significance of residence is reflected in the fact that, in 2011, 13 percent of all MSA residents fished, but they composed 89 percent of all anglers (U.S. Fish and Wildlife Service 2006, 2011).

The large shift in angler residence reported by the U.S. Fish and Wildlife Service (2006, 2011) that occurred between small MSAs (14 percent in 2006 versus 29 percent in 2011) and those residing outside MSAs (27 percent in 2006 versus 11 percent in 2011) is not explained. This shift could potentially be the result of reclassification of areas based on the 2010 U.S. Census.

American Sportfishing Association (2015a) used different definitions for residency. They reported that approximately 45 percent of anglers reside in rural neighborhoods characterized by country living, farms, and single-family homes; 45 percent reside in suburban neighborhoods; 10 percent reside in urban neighborhoods.

Licensed anglers who live in different areas have different retention rates. Urban anglers represent a larger portion of recruited anglers (36 to 37 percent) than rural residents do (22 to 24

percent), and they were less likely to fall into the retained category (43 to 45 percent versus 56 to 59 percent for rural residents). In addition, anglers who reside in these urban neighborhoods have a higher rate of lapsing (54 percent), relative to anglers who reside in rural neighborhoods (40 percent) (American Sportfishing Association 2015a, 2015c).

Angler Age

The U.S. Fish and Wildlife Service (2006, 2011) reported angler age by various cohorts. Data indicate that anglers are underrepresented in the two lowest age groups and overrepresented in older age groups.

The American Sportfishing Association (2015a) reported the age distribution of licensed anglers during two specific years (2004 and 2013). Figure 3 depicts two noteworthy trends: (a) the importance of baby boomers to the fishing population and the aging of this group and (b) a slight decrease in license holders in the 18-to-34-year-old group between 2004 and 2013.

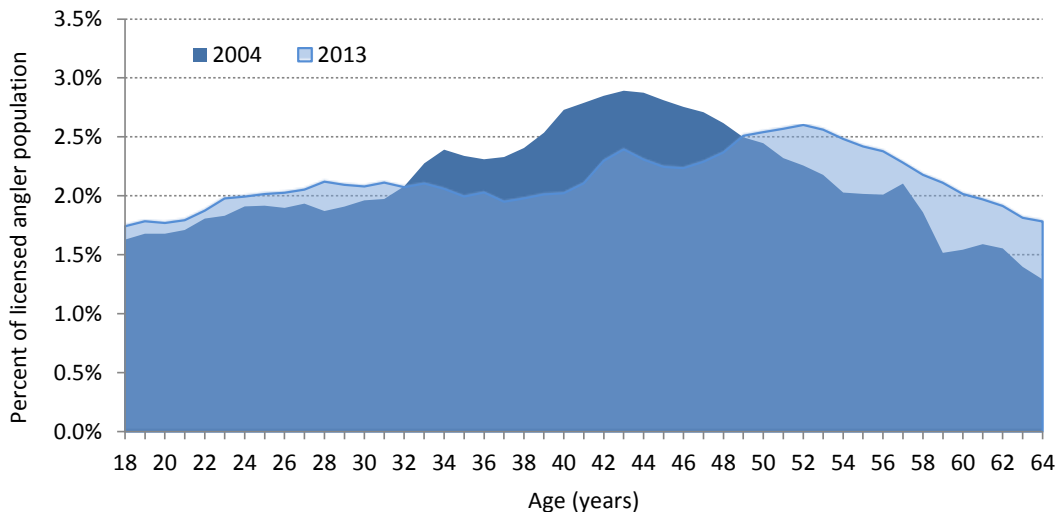


Figure 3. Age distribution of licensed angler population in 2004 and 2013 (age 18 through 64 only) (American Sportfishing Association 2015a)

The Recreational Boating and Fishing Foundation and The Outdoor Foundation estimated the age structure of the angling population using different cohort segments. Nonetheless, the same general conclusion can be made: anglers are aging and recruitment of younger cohorts is relatively low. Of particular note is the decline in participation from the 6-to-12-year-old group to the 13-to-17-year-old group (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015).

Angler Income

Recreational Boating and Fishing Foundation and The Outdoor Foundation (2012) reported that current anglers are underrepresented in the lowest income bracket, while being overrepresented in the other income brackets. U.S. Fish and Wildlife Service (2011) also reported the similar

trend for angler income. In both reports, a considerably greater percent of anglers fell in the over-\$100,000-per-year income bracket than the general U.S. population.

Access

Access problems are consistently named as a constraint to participation and a reason for attrition. Therefore, efforts to improve access should benefit participation. American Sportfishing Association et al. reported that new or returning anglers indicated that improved access, having more land available, and less crowding of fishing areas would prompt them to fish more often (American Sportfishing Association et al. 2013).

However, lack of time is commonly mentioned as a constraint for fishing. This constraint might be reduced if better access reduces the time it takes to get to the fishing spot (American Sportfishing Association and Responsive Management 2016).

The American Sportfishing Association and Responsive Management (2010) reported the majority of anglers surveyed (64 percent) access their primary water body from public land, 16 percent do so from private land, and 19 percent do so from public and private land about equally. In addition, a majority of anglers rated fishing access in general, access to public land, and to access to private land as excellent or good. This rating was higher than ratings given by land and fisheries management agency professionals (American Sportfishing Association and Responsive Management 2010).

Anglers identified several issues adversely affecting access, including: crowding at boat ramps, launches, or put-in sites (31 percent of respondents); insufficient places to access the water (30 percent of respondents); fewer areas to fish due to development (26 percent of respondents); insufficient places to fish in general (23 percent of respondents); insufficient parking at access areas or boat launches (22 percent of respondents); expensive access or user fees (22 percent of respondents); poorly marked boundaries of public and private land in fishing areas (22 percent of respondents), less fishing access or boat access due to development (21 percent of respondents); and poorly marked public-access areas (21 percent of respondents) (American Sportfishing Association and Responsive Management 2010).

It is important to remember that ways to improve access does not always mean increasing access.

– American Sportfishing Association and Responsive Management 2010

More than half of anglers use a boat when fishing, and the majority of those use a public facility. Having the access area close to home was rated as very important. The median distance that anglers travel to go fishing is 35 miles. However, about one-third are willing to travel more than 50 miles (American Sportfishing Association and Responsive Management 2010).

Many states have focused efforts to improve public access to fishing opportunities by targeting areas that are relatively more urban than rural (American Sportfishing Association 2015a).

Friends, family members, or acquaintances typically own the private lands used by anglers to access fishing areas. However about a quarter of anglers use private lands owned by someone

who was not previously known to the angler (American Sportfishing Association and Responsive Management 2010).

Anglers indicated the top reasons that private-land access has worsened are: landowners have closed their lands, ownership changes resulting in closed lands, development resulted in closed lands, and the cost of access (American Sportfishing Association and Responsive Management 2010).

Landowners report that they may disallow access to people they do not know. Twenty-three percent of private landowners reported having problems with anglers and/or non-anglers in the past five years. The top four problems reported by private landowners are: trespassing or use without permission (51 percent), loss of privacy (51 percent), pollution or litter (47 percent), and poor stewardship or care of the land or water (40 percent) (American Sportfishing Association and Responsive Management 2010).

Most anglers rated public access to their primary fishing area as excellent or good (79 percent). However, 20 percent reported this access as fair or poor. Fourteen percent of the anglers surveyed reported that access has worsened (American Sportfishing Association and Responsive Management, 2010).

The most common reported reasons that public access has worsened include: insufficient access in general, private land blocks public land or access to it, poor maintenance of boat access areas, and crowding from other anglers (American Sportfishing Association and Responsive Management, 2010).

Anglers identified the following strategies to improve fishing access: posting current and accurate information on a website showing access areas open to the public (60 percent), posting maps of fishing access and boat access areas on a website (60 percent), posting current and accurate information about closed areas (57 percent), erecting signs that clearly mark access to fishing areas (55 percent), and purchasing more land for access by state agencies (52 percent) (American Sportfishing Association and Responsive Management, 2010).

Unfortunately, landowners did not rate any of the suggested strategies offered by researchers as being effective at encouraging them to allow fishing access on their properties (American Sportfishing Association and Responsive Management 2010).

Fifty-nine percent of anglers oppose a fee of \$20 or less to support fishing access programs (American Sportfishing Association and Responsive Management 2010).

Age of Initiation

The U.S. Fish and Wildlife Service (2015) reported that individuals are initiated to fishing at a younger age than hunting. Approximately, 45 percent of anglers were initiated at 10 years old or younger; 55 percent were 15 years old or younger (an age when a license would normally be required). Currently, 63 percent of first-time anglers are 20 years of age or younger. Figure 4 depicts the age of initiation and illustrates the importance of recruiting young anglers. However, it also shows that approximately one-third of first time anglers are 21 years of age or older.

Anglers residing in rural areas tend to start fishing at younger ages than those in urban areas (U.S. Fish and Wildlife Service 2015).

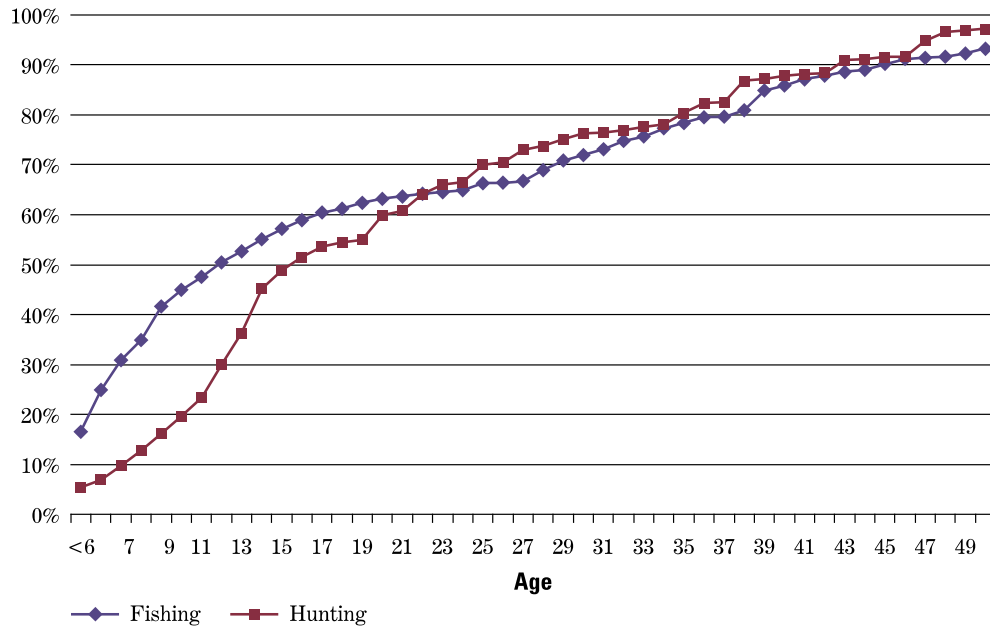


Figure 4. Cumulative percent of first-time hunters and anglers, by age: 2010. (U.S. Fish and Wildlife Service 2015)

This initiation curve sharply contrasts rates reported in the mid-1990s. Responsive Management (2003) reported 85 percent of current anglers (at that time) started fishing before the age of 12 and 92 percent started before the age of 17.

The fishing initiation rate for children—of any age—declined steadily from 1990 to 2000. It fell from 53 percent in 1990 to 50 percent in 1995 to 42 percent by 2005, and it rose only slightly to 43 percent in 2010. In addition, initiation rates for children living at home also have generally declined during the past two decades (U.S. Fish and Wildlife Service 2015).

Ethnicity, race, residency and region of residency, gender, and income influenced the initiation rates of children residing at home. Specifically, initiation rates of African-American children, Caucasian children, Hispanic children, females, children residing in rural areas, and children living in households with less than a \$25,000 income increased slightly during the past ten years (U.S. Fish and Wildlife Service 2015). These increases are reflected in the increase in the overall initiation rate for children living at home reported in 2010 (U.S. Fish and Wildlife Service 2015).

More than 80 percent of anglers participated in fishing as children and likely discontinued for a long period of time (American Sportfishing Association 2015b, 2015c; Recreational Boating and Fishing Foundation 2014, 2015; Recreational Boating and Fishing Foundation and The Outdoor Foundation 2014, 2015). This indicates that many people who recently purchased licenses have

reentered the sport. However, their skill levels are unknown, and they may or may not need to be treated as beginner-anglers. More than a third of anglers tried fishing when they were five years old or younger, and more than 50 percent of avid anglers were initiated into fishing when they were five years old or younger (American Sportfishing Association 2015b, 2015c). Only three percent of retained anglers began fishing when they were older than 15 years old, which suggests a strong relationship between age of initiation and long-term avidity. However, age of initiation does not necessarily preclude a person who was introduced at an older age from becoming an avid participant (American Sportfishing Association 2015c).

Angling Initiators

Fathers, followed by another male family member, were the most common people to initiate youth into fishing (American Sportfishing Association 2015b, 2015c; Responsive Management 2003; Recreational Boating and Fishing Foundation 2011f). However, the importance of this role lessened as youth aged into teen years when friends and programs increased their importance (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011).

Parental initiation and participation is critical to youth initiation (U.S. Fish and Wildlife Service 2015). If a father did not fish, the son was three times less likely to fish than the U.S. average (10 percent versus 28 percent). For daughters the discrepancy is even greater; only five percent participated in fishing when their fathers did not (U.S. Fish and Wildlife Service 2015).

The high rate of fishing as a child validates the importance of youth angler recruitment efforts.

– Recreational Boating and Fishing Foundation 2014

When a father in the household fished one to three days per year the participation rate of sons increased from 10 percent for the sons of fathers who did not fish to 71 percent; and the rate for daughters increased from 5 to 45 percent. Participation on the part of the mother resulted in higher participation rates of both sons and daughters than the same level of activity on the part of the father. If a mother fished one to three days, 70 percent of daughters and 85 percent of sons participated. When mothers go fishing, they are more likely to go with their children. This implies that fathers are more likely to fish without their children (U.S. Fish and Wildlife Service 2015).

Invitations to Fish

Being asked to go fishing by someone else was rated as the top thing to encourage youth and first-time anglers to go fishing (Responsive Management 2003, 2013; Recreational Boating and Fishing Foundation 2013d, 2015; American Sportfishing Association 2015b, 2015c). The rankings for an invitation are: friend (80 percent), father (78 percent), another family member (75 percent), or mother (72 percent).

Being asked by a child was an important fishing motivator for adults, first-time license purchasers, and lapsed license purchasers (Recreational Boating and Fishing Foundation 2014).

The best way to create a new angler is for a family member or friend to take them fishing.

– American Sportfishing Association 2012a

Among lapsed and former anglers, an invitation would motivate them to fish again or more often. Being asked by family, friends, or a child was identified as particularly important motivators (Responsive Management 2003; Recreational Boating and Fishing Foundation 2013d).

Parents were more comfortable letting their children participate with other family members or individuals whom they knew very well. Parents appeared more willing to allow their children to fish with someone like a game warden if the parent accompanied the child. Youth highly supported organized fishing trips with other kids their own age (Responsive Management 2003).

Motivations for Fishing, Continuing to Fish, and Enjoying Fishing

Motivations for fishing frequently shift with age (Recreational Boating and Fishing Foundation 2007, Responsive Management 2013). Younger anglers may be particularly interested in catching fish while older anglers may be more open to social and nature-based aspects of fishing. In addition, for many individuals, fishing is simply the backdrop or setting in which people can reminisce and socialize (Responsive Management 2013).

Duda et al. reported that motivations to participate in fishing also have changed over time. Social and psychological motivations for fishing have become more important while utilitarian motivations have declined (Duda et al. 2010).

These changes reflect desires to have a more cultural, social, and naturalistic experiences rather than just recreational. Between 1980 and 2006, Duda et al. reported large increases for “being with family or friends” and “for relaxation” as motivators for fishing, along with a large decline in “to catch fresh fish [to eat]” (Duda et al. 2010). Interestingly, hunting for food has increased in importance in recent years (Responsive Management 2013b).

Recreational Boating and Fishing Foundation (2007) noted that different motivations may be more prevalent within different groups of anglers, i.e., one set of motivations may represent avid angler motivations while an alternate set may better characterize lapsed anglers.

Duda et al. (2010) also reported that women fish for different reasons; they are more likely to fish to be with family and friends and less likely to fish for sport.

The top three reasons people fish are: (a) to spend time with family and friends, (b) to relax, and (c) for the sport or recreation (Recreational Boating and Fishing Foundation 2007, 2011d, 2015; American Sportfishing Association 2012a; American Sportfishing Association 2015b; Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015). For new anglers, the opportunity for relaxation is a strong driver while avid anglers tend to be in it for the excitement (American Sportfishing Association 2012a; Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015).

The top reasons to continue to fish identified by new angling participants were: (a) relaxing (30 percent); (b) catching fish (22 percent); (c) being outdoors or getting fresh air (19 percent); (d) being in a peaceful or tranquil setting (15 percent); and (e) participating in a family activity (15 percent) (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015).

Current, adult anglers rated the best things about fishing as: (a) catching fish, (b) enjoying the sounds and smells of nature, (c) getting away from the demands of life, (d) being close to nature, and (e) observing scenic beauty (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2014, 2015).

Note the Recreational Boating and Fishing Foundation and The Outdoor Foundation reported that catching a fish was important for both males and females. However, spending time with family and friends and being outdoors were more important reasons to females for fishing (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2014, 2015). Responsive Management (2003) reported similar rankings but attributed the differences to the older age of participants.

The Recreational Boating and Fishing Foundation (2011f) postulated that enjoyment from fishing comes with participating in outdoor activities with family and that fishing conjures up images of dad, grandpa, or an older brother and is a sport that is frequently enjoyed with loved ones on a summer day.

Spending time outdoors immersed in nature rated as the top positive memory by 68 percent of current participants. Additional top-rated memories include: (a) spending time with family or friends (66 percent), (b) reminder of childhood (48 percent), (c) enjoying the water in a way not typically done (42 percent), and (d) helping to connect with a simpler way of life (38 percent) (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015).

Interest in Fishing

Angling regularly ranks as the second most popular outdoor recreational activity in the United States. In addition, among non-anglers, the interest in fishing remains relatively high with between 8.4 and 9.2 percent of the U.S. population considering fishing; more than 40 percent of those interested in trying fishing are females (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015).

Among youth, the interest is even greater, with between 10.4 and 12.5 percent considering fishing. The interest in trying fishing is higher among young males (56.4 to 61.9 percent) than females (38.1 to 43.7 percent). Interest in angling declines among females once they reach their teen years (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015).

Recreational Boating and Fishing Foundation (2014) reported more than half of the first-time license buyers who did not renew indicate they are still interested in fishing. These first-time license buyers are high potential targets for retention marketing efforts.

Responsive Management (2003) reported that many of their youth focus group participants felt that fishing is traditionally a male activity. Further, several female focus group participants noted that fathers tend to take their sons fishing more than their daughters. The participants speculated that fathers thought girls would not enjoy the activity and would be afraid to get dirty. While

these focus group participants somewhat agreed, they also stated that they would be willing to try fishing.

Interest in fishing by non-angling Hispanics (6.7 to 8.5 percent are interested versus 6.7 to 8.5 percent that currently participate), African-Americans (8 to 13.4 percent versus 5.5 to 10.2 percent), and Asians (3.5 to 7.1 percent versus 3.7 percent to 4.5 percent) is equal to or slightly higher than current participation rates (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015). Note that these studies assess interest using large sample sizes across broad population segments.

In a small study, the Recreational Boating and Fishing Foundation reported very high rates of interest in smaller, niche markets studied: 23.6 percent for African-Americans, 23.9 percent for Hispanics, 25.7 percent for Asians, 10.7 percent for women, and 4.7 percent for seniors. However, this study cautioned that each market segment had sub-segments and specific barriers that needed to be factored into marketing strategies (Recreational Boating and Fishing Foundation 2011b).

In a parallel study, the Recreational Boating and Fishing Foundation (2011a) identified potential marketing segments based on leisure activities and motivational drivers. Eight marketing segments were identified. Of these, five had potential for specific marketing campaigns based on expressed interest in fly-fishing, freshwater fishing, and saltwater fishing. The potential groups and interest level in each respective fishing type are: outdoor enthusiasts (19 percent fly-fishing, 9 percent freshwater fishing, 20 percent saltwater fishing), affable adventurers (23 percent, 10 percent, 21 percent, respectively), family outdoors (20 percent, 11 percent, 21 percent, respectively), outdoor excitement (19 percent, 9 percent, 20 percent, respectively), and dabblers (26 percent, 20 percent, 27 percent, respectively).

Fishing for Food

The desire for food plays a part in fishing participation; 32 percent of anglers fish for fresh fish to eat (American Sportfishing Association et al. 2013). Sixty-two percent of anglers kept fish to eat on their last fishing trip (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015). American Sportfishing Association et al. reported that 51 percent of anglers believed that fish were a natural, or “green,” source of food, and this influenced their decision to go fishing. Concurrent with people fishing to supplement their food budgets, there has also been a rise in people searching for locavore opportunities, getting food from local sources (American Sportfishing Association et al. 2013).

Intentions to Fish

Numerous studies reported “intentions to go fishing” as a program measurement (Fedler et al. 2010; Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015; Responsive Management 2011).

However, the American Sportfishing Association (2015b) explicitly stated that intentions don’t match actions. More than three-quarters of recruited anglers think they will go fishing each year over the next five years; however, less than 10 percent actually do so (American Sportfishing

Association 2015c). Statements regarding intentions to go fishing should be viewed as an expression of continued interest in fishing.

Angler Sources of Information

Family and friends who are experienced anglers were identified as the most common source of fishing information and instruction (American Sportfishing Association 2015b; Recreational Boating and Fishing Foundation, 2011f, 2014). In addition, anglers seek information through state agency websites and small bait and tackle retailers (Recreational Boating and Fishing Foundation 2014).

Lapsing first-time license buyers are twice as likely to report they do not need fishing information and are less likely to seek information about fishing (Recreational Boating and Fishing Foundation 2014).

Sources of information for tech-savvy anglers include: Google, fishing and boating websites, fishing magazines, and equipment supply stores (Recreational Boating and Fishing Foundation 2011f).

Novice anglers identified a shortcoming in major general-purpose retailers: employees may be ill-equipped to answer questions from new anglers about various types of fishing equipment, licenses, or stamps needed for specific lakes and water bodies (Responsive Management 2013).

It was noted that that individuals generally learn how to fish from other people, not from books or instructional manuals. Additionally, numerous instructional fishing videos are available on YouTube (Responsive Management 2013). Reactions to attending educational events or classes hosted by your state fish and wildlife agency were mixed, with limited free time the biggest impediment to attending (Responsive Management 2013). There was little consensus over the best ways to distribute information on local fishing opportunities; some preferred hard copies in the mail or at a store while others preferred e-mail, television commercials, or Twitter messages (Responsive Management 2013).

Web users are looking for something with local and all-inclusive fishing-specific information. Specific suggestions include: information about catching fish, local spots to fish, correct bait to use, photos, condition reports, rules and regulations, local weather, and tide and moon tables. The need for local information was specifically highlighted (Recreational Boating and Fishing Foundation 2011f).

Using online resources to renew licenses and obtain fishing information presents a cost-effective opportunity to collect e-mail addresses to follow up and communicate with anglers (Recreational Boating and Fishing Foundation 2014).

Resources to Facilitate Fishing

The top three tools or resources that would make it easier to fish are: easier or more affordable access to boats (44 percent), easier or more affordable access to fishing equipment (43 percent),

and mobile guides that can be accessed on the water (18 percent) (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015).

Fishing Preferences

Angling in freshwater dominates both participation numbers and fishing effort. The U.S. Fish and Wildlife Service (2011) reports that 83 percent of anglers fished in freshwater, resulting in more than 455.8 million days of angling. Ninety-three percent of these days were in their state of residence. Freshwater anglers averaged participating 17 days per year in both 2006 and 2011 (U.S. Fish and Wildlife Service 2006, 2011).

The U.S. Fish and Wildlife Service (2011) reports that 27 percent of anglers fished in saltwater (note the percentages do not add up to 100 percent because anglers may fish in both fresh and saltwater), resulting in more than 99.5 million days of angling. Eighty-eight percent of these days were in their state of residence. Saltwater anglers averaged participating 11 days per year in both 2006 and 2011 (U.S. Fish and Wildlife Service 2006, 2011). Saltwater anglers are more likely to be male, Caucasian, older, and have higher incomes (U.S. Fish and Wildlife Service 2006, 2011; Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015).

Hispanics also represent greater percentage of saltwater anglers than the general angler population (11.2 percent versus 7.4 percent of general fishing) (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015). This greater representation may be related to a larger Hispanic population along the southeastern and Gulf coasts.

Saltwater anglers have the lowest average number of trips per year and the highest percent of anglers participating in three or fewer trips per year (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2012, 2014, 2015).

Distance, Group Size, and Trip Planning

Having places to fish close to home is an important consideration for anglers (American Sportfishing Association and Responsive Management 2010, American Sportfishing Association et al. 2013).

On their last fishing trip, freshwater anglers reported the least willingness to travel compared to saltwater anglers and fly fishing anglers. Twenty-three percent of freshwater anglers reported traveling less than 15 minutes, 24 percent traveled less than 30 minutes and 18 percent traveled less than one hour. These figures are 13 percent, 17 percent and 18 percent respectively for saltwater anglers and 18 percent, 18 percent and 19 percent respectively for fly fishing anglers. Saltwater anglers reported the greatest willingness to travel four hours or more from home (37 percent) compared to freshwater anglers (22 percent) and fly fishing anglers (29 percent) (The

First-time license buyers who fish two or three times in their first year are twice as likely to renew their license (70 percent), compared to those who only fished once (30 percent).

– Recreational Boating and Fishing Foundation 2014

Outdoor Foundation, 2011). A possible reason for this disparity is that going on a saltwater fishing trip may be part of a vacation requiring longer travel distances, or is considered as a special event that is worth the extra travel time.

The average number of trips per year is greatest for freshwater anglers (15.5 to 17.1 days per year), compared to fly fishing anglers (13.6 to 16.6 days per year). Saltwater anglers averaged the lowest number of trips per year (12.6 to 16.7 days per year) (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015).

Fly fishing anglers averaged the highest percent of anglers who participated only one to three times per year (36.4 to 43.2 percent). Thirty-five to thirty-eight percent of saltwater anglers participated only one to three times per year. Freshwater anglers were more avid and averaged the lowest percent of anglers who participated only one to three times per year (25 to 27.9 percent) (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015).

When a father in the household fished one to three days per year the participation rate of sons increased from 10 to 71 percent and the rate for daughters from 5 to 45 percent (U.S. Fish and Wildlife Service 2015). Encouraging anglers to fish more often also encourages license renewals; renewal more than doubles when first-time license buyers go fishing more than once during their first year (Recreational Boating and Fishing Foundation 2015).

Developing strategies to encourage first-time license buyers to fish more often will likely result in higher renewal rates (Recreational Boating and Fishing Foundation 2014).

Profile of a Fishing Trip

Eighteen percent of anglers reported that they fish alone. Forty-two percent reported that they fish with one other person. And 36 percent reported that their group size was three to five people (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015).

Fishing venue preferences were split evenly between fishing from the shoreline and fishing from a boat. Approximately 40 percent of anglers reported fishing from a river shoreline, and 25 percent reported fishing from a jetty or a pier (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015).

Sixty-five percent of anglers reported that they choose to fish with adults. Twenty-nine percent chose to fish with both adults and youth while only seven percent choose to fish with youth (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015).

Encouraging anglers to fish with others is a potential strategy to increase participation and decrease churn rates.

Most fishing trips were somewhat spontaneous with 40 percent of anglers reporting that the trip was unplanned. An additional 41 percent of trips were planned within one week (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015). This implies that keeping fishing as a top-of-mind-activity that can be done on relatively short notice could increase participation.

Most anglers are optimistic about continuing to fish in the next year. Fifty-four percent reported that they expected to fish eight or more times in the upcoming year. An additional 44 percent

believed that they would fish between one and seven times next year. Only 1 percent believed that they would not fish at all in the upcoming year (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015).

Perceptions of First Fishing Trips

Seventy-eight percent of first-time fishing license buyers indicated that their first fishing trip either met or exceeded their expectations (Recreational Boating and Fishing Foundation 2014). More than 80 percent of first-time anglers caught fish on their last fishing trip (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015).

Recreational Boating and Fishing Foundation and The Outdoor Foundation (2015) reported new angler perceptions of fishing before and after their first fishing trip. The perception of fishing as “exciting” remained relatively constant (52.3 percent before and 58 percent after). The perception of fishing as “an intriguing activity” increased from 35.1 percent before the trip to 63.6 percent after the trip. However, other perceptions had more negative connotations after the trip: “time consuming” increased from 24.5 percent to 56 percent, “uninteresting” increased from 16 percent to 73.3 percent, “not for someone like me” increased from 10.6 percent to 70 percent, “for only serious outdoors people” increased from 12.6 percent to 66.7 percent, and “requiring too much equipment or financial investment” increased from 7.4 percent to 71.4 percent (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015). These findings support the need for initial fishing experiences to be simple, fun, social, and exciting.

Barriers to Fishing

Given the overall popularity of fishing, it is not surprising that more than 50 percent of respondents did not identify any barriers to fishing (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2014). The top barriers reported were: cleanliness of water or surrounding area (17.5 percent), lack of bodies of water (15.1 percent), lack of knowledge (12.4 percent), lack of equipment (11.4 percent), and equipment is too expensive (11 percent) (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2014).

However, the lack of barriers should not be confused with a willingness to participate every year. Recreational Boating and Fishing Foundation and The Outdoor Foundation reported that the number-one reason that new participants will not fish the following year is that they simply did not enjoy it. Other reasons include: smell of fish, lack of time, lack of money, poor health, lack of interest, and traveling to a different holiday destination (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015).

Responsive Management reported that reasons youth would fish less include: time constraints (57 percent), boredom (22 percent), reluctance to kill fish (21 percent), and disinterest in the sport (21 percent). In addition, youth identified not having a place nearby or too much travel time (32 percent) and conflicts that their parent(s) had with work (24 percent) as reasons they would fish less. Lack of someone to go with, of knowledge on fishing locations, and knowledge about fishing were other limitations on youth participation in fishing (Responsive Management 2003).

Not catching any fish and crowded fishing spots were identified as the worst thing about fishing by both current anglers and first-time anglers (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2014, Recreational Boating and Fishing Foundation 2014). Other issues identified by first-time anglers were: hassle of dealing with equipment, finding a place to fish, and driving long distances. Lapsed first-time license buyers are more likely to report hassle factors as something they liked least about their trip (Recreational Boating and Fishing Foundation 2014). Of particular note, females were more than five times more likely than males (29.7 versus 5.5 percent) to state that baiting the hooks or taking the fish off the hook was the worst thing about fishing (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2014).

While not specifically identified as a barrier, the Recreational Boating and Fishing Foundation and The Outdoor Foundation (2014, 2015) reported that more than 50 percent of females responded that, when they thought of a fishing participant, they did not envision someone who looks like themselves.

The Recreational Boating and Fishing Foundation (2011b) identified niche segments to target for marketing efforts, as well as potential barriers that each group may experience. The informational or skill barriers are issues within the fishing community, which it can address. However, barriers relating to conflicts with other family activities, recreational preferences, and convenience compared to other competing activities may not be addressable. In addition, not being able to swim or being afraid of water were identified as barriers by African-Americans, Hispanics, and Asians, and these may be difficult for the R3 community to overcome (Recreational Boating and Fishing Foundation 2011b).

Crossover Activities

The Recreational Boating and Fishing Foundation (2011f) identified outdoor activities commonly enjoyed by anglers include: camping, running, swimming, hiking, cycling, skiing, and wakeboarding, along with sports such as soccer, golf, and tennis. Among youth anglers, common crossover activities include: bicycling, camping, running, jogging, hiking, and paddling (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015).

Urbanization's Effect on Fishing

Participation decline is partly attributed to a broad demographic change in the United States—urbanization (American Sportfishing Association et al. 2013; Balsman and Shoup 2008). According to U.S. Census data, in 2000 only 22 percent of the U.S. population lived in rural areas. This compares to 36 percent in 1950, 30 percent in 1960, and 25 percent in 1990 (American Sportfishing Association et al. 2013).

Additional factors related to urbanization include the loss of land and access for fishing. As an area becomes urbanized, there is a dilution of fishing traditions and loss of social groups that participate. As an area urbanizes, anglers will likely have fewer neighbors who participate in these activities (American Sportfishing Association et al. 2013).

For urban anglers, the availability of alternative activities is greater, and the costs associated with angling (such as preparation and travel time) are higher which leads to lower renewal rates (Balsman and Shoup 2008; American Sportfishing Association 2015b).

Urban Fishing Programs

Twenty-four agencies have designated urban and community fishing programs that are coordinated at a regional or statewide level; the remaining agencies manage urban and community fishing programs as part of their overall fisheries management activities. Two primary goals were to increase fishing opportunities and to recruit and retain anglers. All agencies stocked fish as part of their program (Hunt et al. 2008).

Because most anglers live in urban and suburban areas, convenient fishing opportunities must be provided, promoted, and protected (American Sportfishing Association 2012a).

Successful urban fishing programs require: clean water and a quality fishery close to current or potential anglers, facilities to accommodate anglers, and marketing efforts to inform and recruit anglers (Balsman and Shoup 2008).

The marketing efforts should be tailored to a target audience. Minorities and children are an important target group for promoting urban fishing programs. However, lapsed anglers may be relatively easy to reactivate (Balsman and Shoup 2008).

Recruitment efforts targeting ethnically diverse neighborhoods located in suburban and urban areas are critical to diversifying angler populations and to making fishing relevant to future ethnic populations.
– American Sportfishing Association 2015d

Balsman and Shoup (2008) cautioned that programs should not stop at recruitment; repeated contact to maintain or increase interest and skills should be designed into the overall effort.

Electronic License Databases

The Recreational Boating and Fishing Foundation (2007) recognized the importance of fishing license purchase databases as an important tool for marketing to current and potential anglers. However, these databases need to be set up with a unique record identifier for each individual, and managed to avoid duplicate records, regularly consolidate records for individuals, and preserve license-buying history over time so that purchasing behavior can be monitored. Well-designed and managed databases have been used as the source of information for research on angler churn rates (American Sportfishing Association 2015a, 2015b, 2015c).

The ability to query databases by various fields is critical for marketing purposes. For example, marketing programs initiated within two years of an angler lapsing are most productive. In addition, monitoring license purchases is an effective mechanism for evaluating the impact of marketing programs (Recreational Boating and Fishing Foundation 2007).

Online Fishing License Purchasing Assessment

In 2012, the Recreational Boating and Fishing Foundation (2013d) conducted an assessment of the online fishing license purchasing process from the consumer's perspective. The study documented and tracked the online fishing license purchase experience in four categories: pre-purchase phase, purchase phase, post-purchase phase, and customer support. The study acknowledged that the structure and content of state systems and practices are constantly evolving. Many examples cited in the report may already have changed (Recreational Boating and Fishing Foundation 2013d).

The number of webpages required to complete the online transaction averaged between five and eight. The report recommended that the online transaction should include the following aspects:

- A welcome or greeting
- Customer information collection
- License purchase options and shopping cart
- Payment
- A "Thank you" acknowledgement after the license purchase

However, it was recommended that the license purchase options be moved up in the process so that potential buyers could review the license options before providing customer information (Recreational Boating and Fishing Foundation 2013d).

Agencies must balance the need to collect relevant information with the customers' privacy and security. It was recommended that states should request email addresses as a means to contact and develop a professional relationship with their anglers. Email enables an efficient method for future customer communications (Recreational Boating and Fishing Foundation 2013d).

Many states are required by statute to collect social security numbers. Providing customers with the reasoning behind the need to collect this information at the time of purchase will likely reduce resistance to providing this information (Recreational Boating and Fishing Foundation 2013d).

The Recreational Boating and Fishing Foundation (2013d) study made six recommendations:

- Go mobile
- Require every customer to provide an email address
- Say thank you
- Follow up and educate at every opportunity
- Focus on families
- Offer Spanish-language translation

First-Time License Buyers

The terms "first-time license buyers" and "first-time anglers" may not be used the same way, so the terms need to be used somewhat cautiously. More than 90 percent of first-time license buyers fished as a child (Recreational Boating and Fishing Foundation 2013d).

First-time buyers are more likely to be young, female, urban, and Hispanic than repeat anglers (Recreational Boating and Fishing Foundation 2013d, American Sportfishing Association 2015a), and they are twice as likely to lapse than repeat anglers (31 percent versus 68 percent renewal rate) (Recreational Boating and Fishing Foundation 2013d, 2013f).

Approximately 70 percent of 2011's first-time anglers lapsed in 2012 (Recreational Boating and Fishing Foundation 2013f).

Potential Target Audiences

The Recreational Boating and Fishing Foundation (2011a) postulated that gaining fishing participants will likely require outreach to new audiences where angling may not have been part of their youth. Eight market segments were identified with unifying factors largely based on leisure activities, five of which are predicted to have potential growth for fishing. See section on Tapestry Segmentation for additional information.

Core segments containing high numbers of anglers are: outdoor enthusiasts and affable adventurers. Growth segments that have a modest amount of current anglers include: family outdoors and outdoor excitement. The opportunity segment includes dabblers. Growth and opportunity segments may be better segments to target recruitment programs while core segments may be better suited for retention programs (Recreational Boating and Fishing Foundation 2011a).

Recreational Boating and Fishing Foundation (2011b) also conducted a parallel study, a niche segment review. Analysis of the niche markets determined that present participation rates for all ethnic groups were lower than the interest expressed within the niche. Of equal importance is that the percent of lapsed anglers within each segment is considerable. For women and seniors, lapsed anglers are greater than current participation *and* interest rates combined (Recreational Boating and Fishing Foundation, 2011b).

Recreational Boating and Fishing Foundation (2011b) recognized that, while each group had growth potential, some segments had higher potential than others, as follows:

- *Women*: showed the most promise because it is the largest and is well represented in the core and growth market segments and current level of participation (and high lapsed rate). This indicates that the interest is real.
- *Hispanics*: have significant potential, and demographic trends suggest that the niche will grow considerably. Because most Hispanics appear to be in the opportunity segment, conversion and increased participation may take time.
- *Seniors*: has a high number of lapsed boaters or anglers with strong representation among the core and growth segments. Marketing efforts that enhance motivations and overcome barriers should show results.
- *African-Americans*: will likely require different messages in order for marketing efforts to be successful.
- *Asians*: is a relatively small market but shows interest in fishing.

Marketing Efforts

Fifty-two percent of state agencies indicated they have a marketing or recruitment and retention plan to increase freshwater fishing participation (American Sportfishing Association et al. 2013).

American Sportfishing Association et al. (2013) identified the following audiences as potential targets for marketing, access awareness, and recruitment and retention programs:

- Females, young people, and suburban dwellers
- Returning military
- Returning students
- Out-of-state students
- New state residents
- Natural food and locavore proponents

Marketing efforts focused on retaining first-time anglers and turning them into repeat anglers is an important strategy to increase angler numbers

– Recreational Boating and Fishing Foundation 2013f

However, the American Sportfishing Association et al. (2013) cautioned each of these potential targets would require additional segmenting in order to realistically focus marketing efforts.

Marketing Messages

American Sportfishing Association et al. (2013) recommended marketing messages should emphasize fun, relaxation, family, and friends and that fishing provides a good way to experience the outdoors with others. Photos should show people from various walks of life—across ages, gender, and ethnic background—fishing. Complex, costly, or extreme types of fishing should be avoided. In addition, marketing efforts should focus on convenient areas that are close to urban and suburban areas and on local programs where anglers can borrow or rent gear and receive easy, affordable instruction (American Sportfishing Association 2012a, American Sportfishing Association et al. 2013).

Designing marketing strategies to encourage active anglers to invite others along would turn current anglers into a potential sales force was recommended by the American Sportfishing Association (2012a) as strategy to increase participants, in a cost-effective and practical manner. Thus far, efforts to implement this strategy have only been marginally successful.

Capacity Building

Recreational Boating and Fishing Foundation (2015) has hosted a series of marketing workshops for states to improve their promotional expertise. Highlights from the workshops include: learning from marketing experts, the latest consumer research and trends, and sharing techniques on how to engage audiences to increase fishing participation. The workshops are supplemented with state webinars, which are available on-demand, cover a variety of topics, and include presentations delivered at the workshops. Additional content for both the workshops and webinars is planned (Recreational Boating and Fishing Foundation 2015).

Recreational Boating and Fishing Foundation (2015) recommended that states build their marketing capacity by improving their email databases. Improved email databases would further states in implementing a customer relationship management system that, in turn, would support a series of e-communications. Suggestions for future communications include: acknowledgments, fishing information, and license-expiration reminders (Recreational Boating and Fishing Foundation 2015).

Take Me Fishing™

Fishing License Marketing Program

The Recreational Boating and Fishing Foundation (2011c) reviewed the evaluation of the Fishing License Marketing Program, a state direct marketing campaign, to determine its effectiveness. States participating in this program experienced 0.76 percent average increases in 2008 and 2009, compared to only a 0.02 percent average increase for nonparticipating states. Responses were higher among more recently lapsed anglers, suburban, and higher-income anglers. The study also strongly recommends that states incorporate emails into its marketing strategy and that marketing efforts to retain current anglers be considered as important as marketing to recapture lapsed anglers (Recreational Boating and Fishing Foundation 2011c).

In addition, this study recommended marketing messages that focus on spending time outdoors (68 percent). Other messages that were viewed positively were to: spend time with family (more likely among women than men), for the excitement of the catch, and to get away from the stresses of everyday life (more likely among urban residents). Messages that focused on local fishing and local access (within one hour away) were also viewed as important, as were messages that assured 100 percent of the money went to conservation or to ensure fishing opportunities (Recreational Boating and Fishing Foundation 2011c).

The study cautioned that marketing programs in one state may have different outcomes in another, and it recommended that mailings earlier in the year and hybrid approaches that integrate email with direct mail will likely be more successful (Recreational Boating and Fishing Foundation 2011c).

Refinements of the program reported by Recreational Boating and Fishing Foundation (2013) resulted in a 10.2-percent increase in fishing among the participating states versus a 5.0-percent decrease in fishing participation among the 15 nonparticipating states during the same period.

The Recreational Boating and Fishing Foundation (2015) follow-up evaluation showed that black-and-white postcards significantly outperformed color-postcard direct mailings. The report also reemphasized that direct mail efforts should be paired with email follow-ups. A separate, pilot test indicated that states still needed to create and maintain better email address databases (Recreational Boating and Fishing Foundation 2015).

Take Me Fishing Advertising

Respondents who recalled a Take Me Fishing advertisement (in print, on radio, on television, or online) are significantly more likely than those who do not recall to indicate that, in the next 12 months, they intend to: go fishing, take someone fishing, go boating for the purpose of fishing, or

visit the Take Me Fishing website. These results are comparable to those reported in 2011, 2012, and 2013. During 2011, 2012, and 2013, Take Me Fishing advertisements were modified to improve effectiveness; the changes are reflected in modest changes in effectiveness (Recreational Boating and Fishing Foundation 2011e, 2012, 2013b).

Nearly three-quarters of Take Me Fishing site visitors fell into one of three market segments: family centric, outdoor enthusiasts, or those who enjoy the outdoors (Recreational Boating and Fishing Foundation 2011d).

Take Me Fishing Website

Recreational Boating and Fishing Foundation (2013c) conducted a three-year assessment (2011, 2012, 2013) of the Take Me Fishing website. In general, it captures its intended target audience and received favorable reviews from visitors (Recreational Boating and Fishing Foundation 2011e, 2013c). The target audience represents less than 20 percent of the general population, but it makes up 81 percent of the website users. Note that first-time visitors rated the site higher than prior website visitors (Recreational Boating and Fishing Foundation 2013c).

Of particular interest to R3 efforts is an assessment of what website users were looking for compared to what visitors actually look at:

	What website users were looking for:	What website visitors actually look at:
Where to fish	57 %	58 %
General interest	55 %	45 %
What bait and tackle to use	45 %	25 %
State fishing regulations	39 %	25 %
New equipment or tackle	35 %	14 %

Table 1. Comparison website users interest verses actual use. (Recreational Boating and Fishing Foundation 2013c)

Equally encouraging is that 64 percent of the site visitors easily found what they were looking for; 16 percent found what they were looking for, but it some took time; 17 percent found some, but not all, of what they were looking for (Recreational Boating and Fishing Foundation 2013c).

Angler Tapestry Segmentation

American Sportfishing Association (2015d) examined fishing licenses purchased in five-year period (2009 to 2013) and classified the purchasers into Tapestry Segments. Tapestry Segments use lifestyle characteristics to classify purchasing and recreational habits into 68 segments. These segments are grouped into 14 LifeMode groups. Detailed descriptions of segments can be found online (ArcGIS 2016).

The premise of the American Sportfishing Association’s analysis is that, by understanding the types of people who prefer a specific activity, such as fishing, it is possible to identify and target

other groups with high levels of interest. Specifically targeting groups with higher interest should generate greater returns on efforts to promote fishing. Using fishing license sales data, the American Sportfishing Association (2015d) identified the types of neighborhoods (lifestyles) common to anglers of various interest levels. By understanding the many subsets of U.S. anglers, future R3 efforts can collect greater results per effort, or dollar spent (American Sportfishing Association 2015d).

The top four LifeMode groups account for 62 percent of licensed anglers, but only 39 percent of the U.S. population. Cozy Country Living LifeMode has the highest rate of fishing participation (24 percent), with its members 2.1 times more likely to fish than the rest of the U.S. population. Cozy Country Living LifeMode members are older, empty-nest, country-living folks who tend to be outdoor oriented, Caucasian, and politically conservative (American Sportfishing Association 2015d).

The top four, more-detailed Tapestry Segments (Tapestry Segments are subsets of LifeMode groups) for fishing participation are: Green Acres, Southern Satellites, Middleburg, and Salt of the Earth. These all share attributes of self-reliance, a love of outdoor recreation, and country living. Residents of these communities tend to be oriented around family life, although some have grown children and others are young professionals with children at home. They are twice as likely to fish as the rest of the U.S. population (American Sportfishing Association 2015d).

Additional top Tapestry Segments show significant diversity, even within the stereotypical older, Caucasian, male angler. For example, high rates of participation include educated and active empty nesters who choose to work longer to afford a vacation home (The Great Outdoors Tapestry Segment); semi-retirees who've paid off their mortgages, have no desire to leave their communities, and savor a slower pace of life (Heartland Communities Tapestry Segment); and educated suburbanites who love good food and wine, cultural events, home remodeling, and gardening (Savvy Suburbanites Tapestry Segment) (American Sportfishing Association 2015d).

Soccer Moms and Up and Coming Families Tapestry Segments include busy young professionals who value their time with their families. Up and Coming Families are one of the fastest growing markets in the country and are characterized by being younger with smaller children and being more ethnically diverse. Savvy Suburbanites are similar to Up and Coming Families but tend to be older. The In Style group tends to be single households or couples without children and are urban dwellers and have more time to focus on their interests. Bright Young Professionals is another growing market that is primarily located on the outskirts of large metropolitan areas and is a more diverse group of young, educated, working professionals (American Sportfishing Association 2015d).

The Green Acres and Southern Satellites groups are good targets for angler retention efforts but are not expected to grow in the coming years. Targets for angler recruitment efforts include: Ethnic Enclaves and Next Wave LifeModes (suburban and urban communities with ethnically diverse populations, particularly Hispanics). These groups currently have low rates of fishing participation but are predicted to have the largest population growth in the future (American Sportfishing Association 2015d).

Green Acres is the most common Tapestry Segment across all participation categories (R3 anglers) and accounts for about 7 percent of the angler population. They are avid do-it-yourselfers with all the necessary tools and equipment for home improvement and care of their land, including gardening, and they enjoy a range of other outdoor pursuits. They tend to be older married couples, most with no children, living in rural enclaves in metropolitan areas.

Southern Satellites is the second largest Tapestry Segment for all participation categories, accounting for about 6 percent of all anglers. Although these residents live in more rural areas, they share many attributes with Green Acres, but their median household income and home values tend to be below average (American Sportfishing Association 2015d). Prairie Living, Rural Resort Dwellers, and Rooted Rural Tapestry Segments have the lowest churn rate. They are the most rural market, residing in agricultural and forestry communities along the Appalachians, as well as in second homes in resort areas of the Midwest. All consider fishing and other outdoor activities important parts of their way of life (American Sportfishing Association 2015d).

High Rise Renters, City Strivers, and Military Proximity Tapestry Segments have the highest churn rate. They are primarily urban, young professionals who tend to move a lot, have lower incomes, and are likely ethnic minorities. More than 60 percent of these anglers will not renew their fishing license from one year to the next (American Sportfishing Association 2015d).

The ethnic and racial diversity of neighborhoods across the United States (both rural and urban) is increasing. The future growth of the fishing population will, to a large extent, depend on engaging these ethnically diverse communities in fishing. Within this trend are two noteworthy LifeMode groups that deserve attention: Ethnic Enclaves and Next Wave. Both communities are suburban or urban with ethnically diverse populations, particularly where Hispanics represent a majority. Currently, these communities show low fishing rates. However, they are predicted to have the largest population growth (American Sportfishing Association 2015d).

Note that, if the United States evolves towards the segments with low rates of fishing participation and low rates of angler retention, the future of fishing will depend on making fishing attractive and convenient to these segments of the population. Segments with the highest churn rates (and the lowest retention rates) are very different from the segments with the highest retention rates. Urban, minority, and low income represent many of the high churn anglers along with young, professional, mobile, urban, and often single neighborhoods. This contrasts with the suburban and rural families, Caucasian, and rooted communities that are more frequently seen fishing (American Sportfishing Association 2015d).

Hispanic Anglers

Hispanic Angler Background

Considerable cultural diversity exists within the overarching term Hispanic anglers. Ethnic subgroups, such as Mexican, Cuban, and Puerto Rican, are likely to be very different (Recreational Boating and Fishing Foundation, ND).

Recreational Boating and Fishing Foundation (2013e.) reported significant differences in the origins of Hispanics depending on the state examined. Seventy-eight percent of Hispanics in

Texas were born in the United States while only 44 percent in Florida were born here. In Florida, 31 percent of Hispanics indicate they were born in the Caribbean, and 15 percent indicate they were born in South America (Recreational Boating and Fishing Foundation 2013e).

People in the United States who identify themselves as Hispanic represent between 14 percent and 17 percent of the U.S. population (Recreational Boating and Fishing Foundation, ND; U.S. Fish and Wildlife Service 2011). This segment of the U.S. population is the fastest growing segment (Recreational Boating and Fishing Foundation, ND). However, they represent between 5 percent and 13.6 percent of anglers (Recreational Boating and Fishing Foundation, ND; U.S. Fish and Wildlife Service 2011; Recreational Boating and Fishing Foundation and The Outdoor Foundation 2015).

Seventy-five percent of U.S. Hispanics are located in seven states (California, Texas, Florida, New York, Arizona, and Nevada), with more than one-third of these consumers in California (Recreational Boating and Fishing Foundation 2011g). Marketing efforts should focus on these areas (Recreational Boating and Fishing Foundation 2013e). Additionally, areas with rapidly growing Hispanic populations are also important for targeting efforts.

The actual number of Hispanic anglers has remained relatively flat (Recreational Boating and Fishing Foundation, ND; U.S. Fish and Wildlife Service 2015). The U.S. Fish and Wildlife Service (2015) reports that Hispanics have a higher retention rate (60 percent) than non-Hispanics (55 percent). Approximately 3.1 million more Hispanics would be fishing (Recreational Boating and Fishing Foundation, ND) if they participated at the same percentage rate as non-Hispanics.

[L]ower participation rates among Hispanics are more likely the result of lower recruitment rates and not the result of high dropout rates.
– U.S. Fish and Wildlife Service 2015

Hispanics who fish tend to be avid participants, spending between 20 and 25.8 days angling. The average freshwater anglers spend between 15.6 and 19.4 days angling per year. In addition, Hispanic anglers tend to be more avid, and they averaged the lowest percent of anglers who participated only one to three times per year (22.3 percent to 34.1 percent) (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015).

The Recreational Boating and Fishing Foundation reported that initiation into fishing among Hispanics is similar to non-Hispanic anglers with 50 percent of current Hispanic anglers initiated before they were 10 years old. The two most important initiators identified were: fathers (50 percent) and mothers (21 percent) (Recreational Boating and Fishing Foundation 2011g). Important initiators identified by the Recreational Boating and Fishing Foundation and The Outdoor Foundation (2011) include: friends (46 percent), parents (45 percent), and other relatives (39 percent).

Current fishing companions are most likely to be a spouse (46 percent), friends (45 percent), and children (42 percent) (Recreational Boating and Fishing Foundation 2011g).

Interest in fishing by non-angling Hispanics, in each age group, is higher than current participation rates. Between 7.2 and 9.1 percent of Hispanics who do not currently fish are considering doing so. The Pacific and West South-central regions have the most Hispanics considering trying fishing (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2011, 2012, 2013, 2014, 2015).

Current Hispanic anglers also positively rated the following attributes of fishing: fishing is relaxing (88 percent), fishing is a good way to spend time with friends (87 percent), spending time with family is the best part about fishing (82 percent), fishing is exciting (81 percent), I don't need to catch fish to have a good time (77 percent), it is important to teach children to fish (72 percent), most of my family fishes (62 percent), fishing is part of my heritage (56 percent), most Hispanics I know are anglers (44 percent), and I fish to feed my family (35 percent) (Recreational Boating and Fishing Foundation 2011g). Potential anglers largely agreed with these messages. This bodes well for using them to encourage existing Hispanic anglers to mentor others (Recreational Boating and Fishing Foundation 2011g).

Importance of Hispanic Acculturation

Many attitudes and behaviors, including participation in fishing, depend upon the level of acculturation (that is, how much a Hispanic consumer has integrated into the American way of life) (Recreational Boating and Fishing Foundation 2011g). Two estimates of the current level of acculturation were examined but they provide a conflicting picture: those acculturated were estimated at 19 percent and 43 percent; those unacculturated were estimated at 29 percent and 6 percent; those partially acculturated were estimated at 51 percent and 52 percent (Recreational Boating and Fishing Foundation 2011g; Recreational Boating and Fishing Foundation 2013e.)

Approximately 50 percent of the Hispanics in the United States indicate that they speak Spanish when with their family, but most are fairly fluent in English (Recreational Boating and Fishing Foundation 2011g).

The Recreational Boating and Fishing Foundation (2011g) reported that current anglers are more likely to be unacculturated, or partially acculturated. However, a Take Me Fishing baseline survey querying the intent to fish in the next 24 months revealed that all acculturated levels are close to equal in their intentions: bicultural (partially acculturated), 42 percent; acculturated, 44 percent; unacculturated, 39.6 percent (Recreational Boating and Fishing Foundation 2013e).

Barriers to Recruiting New Hispanic Anglers

The Recreational Boating and Fishing Foundation (ND) identified seven specific barriers for recruiting new Hispanic anglers:

1. Lack of exposure and experience
2. Fishing is perceived as a passive, waiting game
3. Full family participation is often difficult
4. Outdoor activities in general are waning
5. Cost, whether real or perceived, is a significant issue
6. State licenses and regulations are problematic
7. A culturally relevant invitation is missing

The Recreational Boating and Fishing Foundation (ND) recommended the following three-step process to overcome these barriers:

1. *Exposure*: keep fishing at the top of mind; focus on fun, family, and excitement; keep it culturally relevant
2. *Experience*: provide information on how to fish, boat rules, regulations; develop guidelines and resources
3. *Invitation*: frame that fishing is something they need to experience for themselves to live the thrill of the catch, feel the rush of the water, have fun, and share the excitement

Lapsed Hispanic anglers identified not having a license as the reason for not participating (68 percent), followed by not having access to a boat (61 percent), liking other things better (52 percent), lack of skills or expertise (48 percent), and cost of equipment (45 percent). The same issues were the top answers, plus not liking to handle fish (65 percent) were given by Hispanics who are not interested in fishing (Recreational Boating and Fishing Foundation 2011g).

Marketing to Hispanic Anglers

The Hispanic-targeted Take Me Fishing advertisement campaigns positively impacted the Hispanic audience (Recreational Boating and Fishing Foundation 2013e). However, the radio advertisements produced the highest likelihood that Hispanic respondents would go fishing, take someone fishing, go boating, and visit the Take Me Fishing website than the other types of advertisements. Television advertisements rated second (Recreational Boating and Fishing Foundation 2013e).

In a slightly different question, 77 percent of respondents indicate they are either very likely or somewhat likely to go fishing within the next 24 months (Recreational Boating and Fishing Foundation 2013e).

Among acculturated Hispanics there are significant numbers of people classified in the Family Outdoors growth target group. (Note: the target groups identified in this study are different from previously mentioned Tapestry Segments or LifeMode groups.) Therefore, specific marketing programs aimed at acculturated Hispanics may not be needed (Recreational Boating and Fishing Foundation 2013e.). Crossover outdoor activities for Hispanic anglers include camping, running, bicycling, wildlife viewing, paddling and hunting (Recreational Boating and Fishing Foundation and The Outdoor Foundation 2013, 2014, 2015).

The Recreational Boating and Fishing Foundation (ND) identified three groups of Hispanics that are likely targets of marketing efforts:

- *Happy Hikers*: family-oriented nature lovers whose lives revolve around their kids; they plan activities around budget and time constraints, rarely including fishing, if ever
- *Social Anglers*: highly active recreation-minded singles and couples; they fish on occasion but prefer activities like hiking, camping, tubing, and mountain biking
- *Fishing Fanatics*: avid anglers who adamantly believe fishing is more a religion than a sport; they get out on water to drop a line every chance they get

Among current Hispanic anglers the major challenge identified was to encourage them to purchase licenses. Since current Hispanic anglers are the least acculturated, these efforts need to

be in Spanish. Because this group tends to be technologically savvy, online efforts should be used (Recreational Boating and Fishing Foundation 2013e).

The Recreational Boating and Fishing Foundation (ND) recommended 10 actions for the fishing community to consider when focusing on Hispanic audiences:

1. Commit for the long run
2. Invite prospective anglers
3. Make fishing fun and exciting for the younger mindset who are action oriented
4. Consider a Hispanic brand ambassador to offer relevance and credibility
5. Build a database identifying ethnicity and language preference
6. Provide in-language resource, including a company website or Facebook page
7. Offer sensory experiential, that is activities to see, feel, and play
8. Create family-friendly environment
9. Don't assume Hispanics have limited spending
10. Assume Hispanic customers have limited experience

R3 Activities

Recruitment and retention programs appear to be important for participation growth. Agency professionals viewed them as the most important reason for fishing license increases between 2006 and 2011. However, 92 percent of these professionals viewed the impact of these programs as minor (American Sportfishing Association et al. 2013). The U.S. Fish and Wildlife Service (2015), suggested that these programs helped stop the rapid decline of participation recorded in the 1990s.

R3 programs should not only pursue new participants, but also reactivate former anglers (American Sportfishing Association et al. 2013). Repeated contacts to maintain and increase fishing interest and skills workshops are recommended by Balsman and Shoup (2008) and Responsive Management (2011).

Fifty-two percent of state agencies reported they have marketing, or a recruitment and retention plan to increase freshwater fishing participation (American Sportfishing Association et al. 2013). Eighty-five percent of state agencies reported they have staff members whose responsibilities include implementation of freshwater fishing recruitment and retention efforts. Forty-four percent reported they employ one to three staff members, and twenty-six percent have at least five staff members (American Sportfishing Association et al. 2013).

Program Planning and Evaluation

Most states evaluated their programs using basic process evaluations that measure numbers of anglers, youth served, and catch rates. Few programs have conducted a more thorough analysis, such as effectiveness of programs in recruiting and retaining anglers and cost-benefit studies, to justify the long-term program existence. (Ballard 2008, Hunt et al. 2008)

Until recently, logic models have been suggested to guide program design, to develop the theory of action for the program, and to help identify key program outcomes that are measurable, attainable, and results oriented. In addition, effective programs build evaluations into the

program from the beginning (Ballard 2008, Marynowski 2006, Recreational Boating and Fishing Foundation 2010). Higher-level evaluations challenge programs with limited staff and resources. However, developing the capacity to conduct meaningful evaluations is critical (Ballard 2008).

Often, educators think about evaluation only in terms of an after-the-fact judgment as to whether desired outcomes were achieved (Marynowski 2006, Recreational Boating and Fishing Foundation 2010).

Marynowski (2006) and the Recreational Boating and Fishing Foundation (2010) recommend viewing evaluations as systematic and ongoing processes that begin during a program’s planning and implementation and are used as learning tools to support program decision making and improvement.

The concept of logic models has been updated to make program planning, improvement, and evaluation easier and more effective (Figure 5). Conservation problems are depicted as using a conceptual-model approach where stressors, impediments, barriers and threats are identified and mapped. This visual approach allows the most effective pathway to be identified to achieve the desired outcomes.

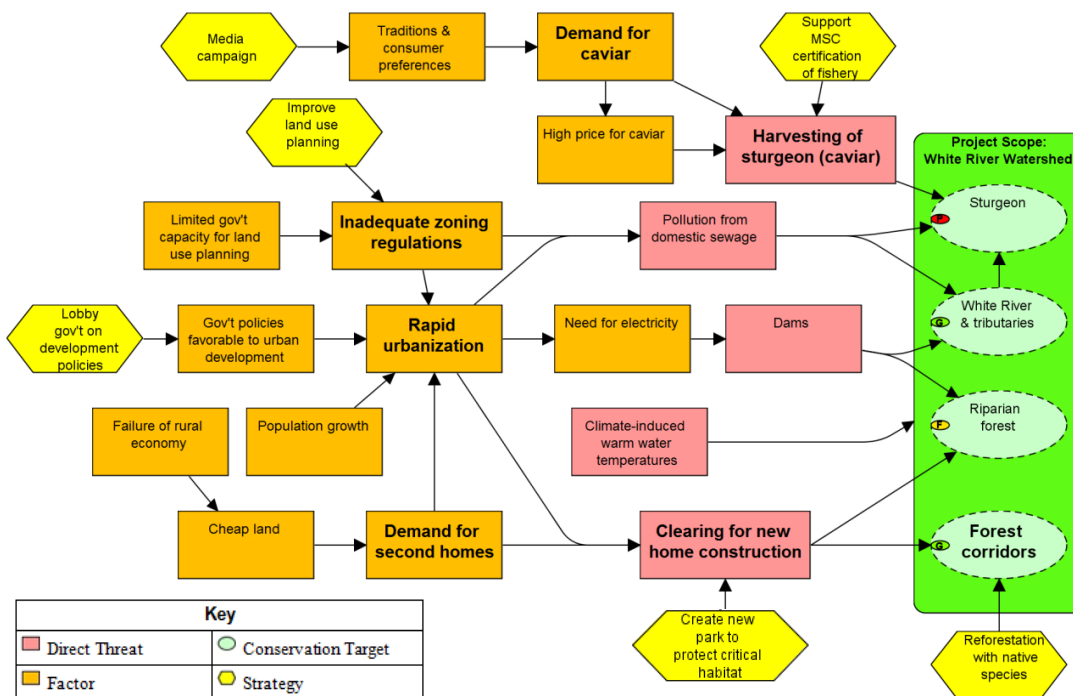


Figure 5. Example of a conceptual model for a watershed site with key intervention points and strategies identified. Key intervention points are shown in larger, bold font. (Conservation Measures Partnership 2013).

Conceptual-models also can be used to identify specific strategies or programs, and their elements. These strategies or programs are visually constructed using results chains whereby a series of midterm outcomes are identified that, when combined, will achieve a program’s long-

term outcomes. Note that results chains apply a theory-of-change approach and should not be confused with implementation chains that identify the steps necessary to implement a program. The theory-of-change process generally identifies skills, knowledge, or environmental conditions to be addressed in order to achieve the long-term outcomes that a strategy or program is trying to achieve (Figure 6) (Conservation Measures Partnership 2013).

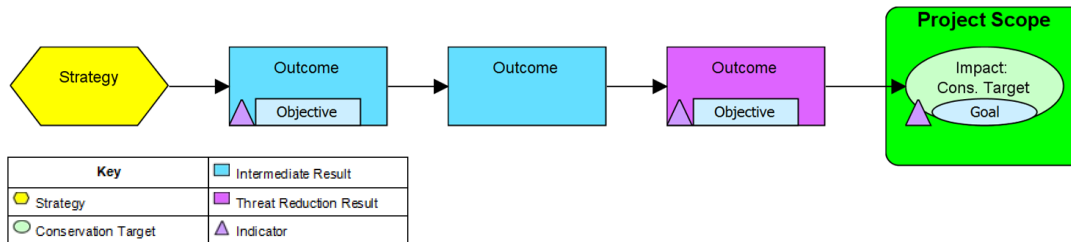


Figure 6. Generic results chain with indicators; indicators (illustrated with purple triangles) are selected for key information needs, along with a results chain (Conservation Measures Partnership. 2013).

For educational programs, Byrne and Dunfee (2016) have modified and adapted work of previous researchers to create the Outdoor Recreation Adoption Model (Figure 7) (also known as the Hunter Adoption Model). The Outdoor Recreation Adoption Model is based, in part, on information contained in RBFF's *Best Practices Workbook: For Boating, Fishing, and Aquatic Resources Stewardship Education* to plan educational programs. This model identifies five stages that a person generally goes through when adopting a new idea or activity and has been adapted for anglers and hunters. These stages are: awareness, interest, trial, continuation with support, and continuation without support. For program planning purposes, *recruitment* programs were identified as those falling within the first three stages (awareness, interest, and trial) and *retention* programs were identified as those falling within the last two stages (continuation with support and continuation without support). *Reactivation* programs were also added to accommodate people who have lapsed or have permanently deserted the activity (Byrne and Dunfee 2016).

This model helps program developers to identify the various stages of their target audiences and to develop programs to help them advance to the next step. Programs should be viewed as interventions that act as bridges between the various stages. Every stage needs to be completed before a person can pursue any given activity independently (Byrne and Dunfee 2016).

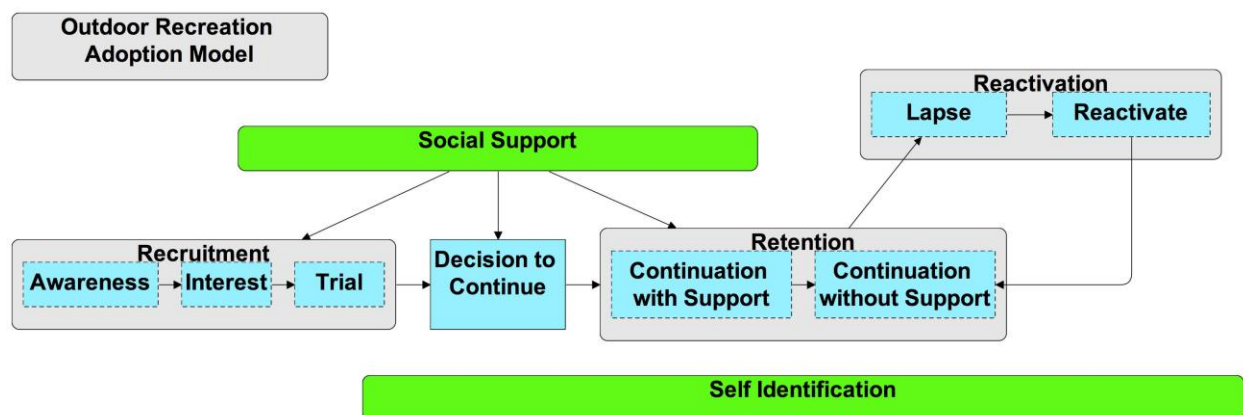


Figure 7. Example of the Outdoor Recreation Adoption Model used to plan hunting programs. (Byrne and Dunfee, 2016).

Elements of Successful Programs

Recreational Boating and Fishing Foundation (2010) developed best practices for angler education programs. Although, it is unclear how often these best practices are used for program planning or implementation. Among other items, the best practices recommend that programs:

- Clearly define goals and objectives
- Are based on needs assessment and/or logic model
- Receive adequate support, resources, and staffing
- Plan for program evaluation in the initial stages of planning
- Rely on experienced staff to develop, implement, and evaluate programs
- Involve stakeholders during program development
- Are learner centered
- Match the developmental stages of the learners
- Recruit, train, and screen experienced and knowledgeable instructors
- Provide multiple learning opportunities
- Use the Recruitment-Training-Retention Intervention Model
- Develop a network of social support for participants

Responsive Management (2011) developed a similar list of program recommendations. Family programs that encourage the involvement of parents along with their children may be a particularly fruitful target audience (Responsive Management 2011).

When designing programs, stakeholders should identify target audiences first, and then develop specific programs to meet their needs. Designing programs that market to a specific target audience and then providing program materials that matches their interests and skill levels will help ensure the programs produce the desired outcomes rather than just outputs. Currently, most programs are developed first and then are marketed to a general audience of potential participants. To monitor the effectiveness of programs, participants must be tracked from program to program and, ultimately, to license purchases (Byrne and Dunfee 2016, Recreational Boating and Fishing Foundation 2007).

Angler R3 Program Evaluations

Incorporating program evaluation into program design has been advocated for fishing R3 programs since at least 2006 (Marynowski 2006) and likely before. Very few programs have gone beyond the basic process evaluations that measure numbers of anglers, youth served, and catch rates (Ballard 2008, Hunt et al. 2008). Numerous process evaluations were examined during this review, but none are cited or included. Only a few programs have conducted a more thorough analysis or evaluations.

Responsive Management (2011) reviewed 15 fishing recruitment and retention programs as part of an analysis of a larger set of recruitment and retention programs. Unfortunately, only five of the fishing programs had data sets larger than 10 individuals, so conclusions were drawn using very small sample sizes. Having sufficient numbers of participants with whom to conduct the pre- and post-program surveys was an identified imperative. The need to track participants from program to program and, eventually, to license purchases is critical.

Most program participants fished prior to the programs and had come from a fishing family. Therefore, these recruitment and retention programs (as conducted) were more effective at retaining those already initiated into fishing than they were at recruiting true newcomers (Responsive Management 2011).

In addition, this review used surrogate measures (such as changes in self-identification as an angler) rather than specific program goals to measure results. Most of the programs incorporated basic process evaluations that measure numbers of anglers, youth served, and catch rates into the program, but none of the programs incorporated more thorough evaluations as recommended by Marynowski (2006), Ballard (2008), or Hunt et al. (2008).

Three examples of more thorough analysis and evaluations include: Fedler, Marshall and Waddell's (2010) evaluation of Florida's "*Family Fish Camp*" Weekend; Fedler's (2012) evaluation of the long-term impacts of the Joe Budd Fish Camp program on fishing behavior and conservation attitudes; and Wiggins, Bourret, and Beauchene's (2015) evaluation of Connecticut's CARE Family Fishing Course.

Reference List

- ArcGIS. "Tapestry Segmentation." Esri. Accessed January 31, 2016. <http://doc.arcgis.com/en/esri-demographics/data/tapestry-segmentation.htm>.
- American Sportfishing Association and Responsive Management. "Fishing Access in the United States," Accessed January 31, 2016. <http://asafishing.org/facts-figures/studies-and-surveys/fishing-access-in-the-united-states/>.
- American Sportfishing Association, Responsive Management, Oregon Department of Fish and Wildlife, and Southwick Associates. 2013. *Exploring Recent Increases in Hunting and Fishing Participation*. Alexandria, VA: American Sportfishing Association.
- American Sportfishing Association, The Association of Fish and Wildlife Agencies, and Sport Fish Restoration. 2007. *Lifestyles and License Buying Habits of America's Anglers: A*

- Five-Year Examination of U.S. License Buyers*. Alexandria, VA: American Sportfishing Association.
- American Sportfishing Association. 2012a. *On the Fence about Fishing?: A Study of Why Anglers Do and Don't Fish and What Will Get Them on the Water*. Alexandria, VA: American Sportfishing Association.
- . 2012b. *Sportfishing in America: An Economic Force for Conservation*. Alexandria, VA: Recreational Boating and Fishing Foundation, 2012.
- . 2013. *Sportfishing in America: An Economic Force for Conservation*. Alexandria, VA: American Sportfishing Association.
- . 2015a. *U.S. Angler Population: Who Comes and Who Goes*. Alexandria, VA: American Sportfishing Association.
- . 2015b. *A Snapshot of the U.S. Angler Population by Region*. Alexandria, VA: American Sportfishing Association.
- . 2015c. *The New Anglers: Who Are They? Why Did They Try? Will They Continue?*. Alexandria, VA: American Sportfishing Association.
- . 2015d. *Angler Segmentation: Looking at Licensed Anglers by Lifestyle*. Alexandria, VA: American Sportfishing Association.
- Ballard, Karen K. 2008. "Conducting an Evaluation of Your Urban Fishing Program." In *Urban and Community Fisheries Programs: Development, Management, and Evaluation*, edited by Richard T. Eades, J. Wesley Neal, Thomas J. Lang, Kevin M. Hunt, and Paul Pajak, 323–332. Bethesda, Maryland: American Fisheries Society.
- Balsman, Dane M., and Daniel E. Shoup. 2008. "Opportunities for Urban Fishing: Developing Urban Fishing Programs to Recruit and Retain Urban Anglers." In *Urban and Community Fisheries Programs: Development, Management, and Evaluation*, edited by Richard T. Eades, J. Wesley Neal, Thomas J. Lang, Kevin M. Hunt, and Paul Pajak, 31–40. Bethesda, Maryland: American Fisheries Society.
- Byrne, Robert, and Matthew Dunfee. 2016. "Evolution and Current Use of the Hunter Adoption Model," (forthcoming).
- Conservation Measures Partnership, The. *Open Standards for the Practice of Conservation, Version 3.0*. Accessed January 31, 2016. <http://cmp-openstandards.org/wp-content/uploads/2014/03/CMP-OS-V3-0-Final.pdf>.
- Duda, Mark Damian, Martin F. Jones, and Andrea Criscione. 2010. *The Sportsman's Voice: Hunting and Fishing in America*. State College, Pennsylvania: Venture Publishing, Inc.
- Fedler, A. J. 2012. *Follow-up Survey of Joe Budd Camp Program Participants*. Gainesville, FL: Florida Fish and Wildlife Commission
- Fedler, T., S. Marshall, and R. Waddell. 2010. *2010 Family Fishing Weekend Evaluation Survey Analysis*. Gainesville, FL: Florida Fish and Wildlife Conservation Commission
- Frampton, John and Matt Dunfee. 2015. *National Hunting and Shooting Sports Action Plan: Strategies for Recruiting, Retaining and Reactivating Hunting and Shooting Sports Participants*. Washington, DC: Council to Advance Hunting and the Shooting Sports.
- Hunt, Kevin M., Harold L. Schramm, Thomas J. Lang, J. Wesley Neal, and Clifford P. Hutt. 2008. "Status of Urban and Community Fishing Programs Nationwide." In *Urban and Community Fisheries Programs: Development, Management, and Evaluation*, edited by Richard T. Eades, J. Wesley Neal, Thomas J. Lang, Kevin M. Hunt, and Paul Pajak, 177–202. Bethesda, Maryland: American Fisheries Society.

- Wildlife and Sport Fish Restoration Program. 2015 *National Fishing License Report*. Washington, DC: U.S. Fish and Wildlife Service.
- Marynowski, Susan. 2006. *Best Practices Guide to Program Evaluation for Aquatic Educators*. Alexandria, VA: Recreational Boating and Fishing Foundation, 2006.
- Outdoor Foundation, The. 2013. *Participation Report 2013*. Washington, DC: The Outdoor Foundation.
- Recreational Boating and Fishing Foundation and The Outdoor Foundation. 2011. *2011 Special Report on Fishing and Boating*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2012. *2012 Special Report on Fishing and Boating*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2013. *2013 Special Report on Fishing and Boating*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2014. *2014 Special Report on Fishing*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2015. *2015 Special Report on Fishing*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- Recreational Boating and Fishing Foundation. 2007. *A Summary of Key Learnings from State Marketing Programs*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2010. *Best Practices Workbook: For Boating, Fishing, and Aquatic Resources Stewardship Education*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2011a. *Market Segmentation Profile Executive Summary*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2011b. *Niche Segment Review*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2011c. *Learnings Report for the RBFF Direct Mail Marketing Program 2008–2010*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2011d. *2011 Research Initiative: The Site Survey—Satisfaction & Effectiveness*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2011e. *Take Me Fishing Presentation*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2011f. *Fishing & Boating Bulletin Board Focus Group*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2011g. *Hispanic Segment Analysis*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2012. *2012 Take Me Fishing Presentation*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2013a. *State of State Partnerships Report, 2011–2012*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2013b. *Take Me Fishing: General Population Briefing*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2013c. *Website Effectiveness Survey: Review of Findings, November 27, 2013*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2013d. *RBFF Online Fishing License Assessment: 2012*. Alexandria, VA: Recreational Boating and Fishing Foundation.

- . 2013e. *2013 Take Me Fishing Hispanic Audience Report*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2013f. *2013 First-Time and Repeat Angler Analysis National Summary Report*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2014. *Insights into First-Time Fishing License Buyers: A Survey Analysis*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . 2015. *State of State Partnerships Report Programs and Resources: Developments, Results and Learnings, FY 2014–2015*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- . ND. *Engaging the Hispanic Audience: Insights to Actions*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- Responsive Management. 2003. *Factors Related to Hunting and Fishing Participation among the Nation's Youth, Phase III: Quantitative Survey*. Harrisonburg, VA: Responsive Management.
- . 2011. *Effectiveness of Hunting, Shooting, and Fishing Recruitment and Retention Programs: Final Report*, Harrisonburg, VA: Responsive Management.
- . 2013. *Understanding First-Time Fishing License Buyers: Focus Group Report*. Harrisonburg, VA: Responsive Management, 2013.
- . 2013b. *Nationwide survey of hunters regarding participation in and motivations for hunting*. Harrisonburg, VA.
- Take Me Fishing and Recreational Boating and Fishing Foundation. 2009. *2009 Take Me Fishing Campaign Evaluation: Target Audience Key Findings Report*. Alexandria, VA: Recreational Boating and Fishing Foundation.
- U.S. Fish and Wildlife Service. 2006. *2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*. Washington, DC: U.S. Fish and Wildlife Association.
- . 2011. *2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*. Washington, DC: U.S. Fish and Wildlife Association.
- . 2015. *Fishing and Hunting Recruitment and Retention in the U.S. from 1990 to 2010: Addendum to the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation Report 2011-5*. Washington, DC: U.S. Fish and Wildlife Service.
- Wiggins, J., T. Bourret, and M. Beauchene. 2015. *Angling for the Future: A Comparison of Knowledge, Skill, and Participation Before and after Attending a CARE Family Fishing Course*. Hartford, CT: Connecticut Department of Energy and Environmental Protection.