

Opportunities for Urban Fishing: Developing Urban Fishing Programs to Recruit and Retain Urban Anglers

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Abstract.—As the United States has become increasingly urbanized, angling participation has declined. Urban fishing programs provide an opportunity to reverse this trend by effectively targeting new anglers while increasing fishing opportunities for current or recently lapsed urban anglers. There are three essential components in a successful urban fishing program: a resource with clean water and a quality fishery close to current or potential anglers, facilities to accommodate anglers, and advertisement of the fishery to inform and recruit anglers. Early in the development of an urban fishing program, urban anglers' interests should be assessed and the program should be developed to meet these interests. Next, access to a quality fishery must be developed—either by creating new bodies of water or enhancing existing ones. Depending upon the level of fishing pressure and the species of interest to anglers, supplemental stocking and intensive management may be needed to maintain the fishery. Amenities such as restrooms, picnic areas, docks, and waste receptacles may also be important. Different angling groups may desire different amenities, so providing different sites to cater to these different groups is advisable. Once the facilities and amenities are in place, the resource must be marketed to targeted potential anglers. The marketing strategy should be tailored to each market segment being targeted. Lapsed anglers are the most easily recruited segment and should be a top priority for advertising. Minorities and children are also commonly targeted. As the U.S. population becomes more urbanized, urban fishing opportunities will continue to grow in importance. Without these opportunities, urbanites will likely be drawn toward the numerous other recreational activities that are conveniently available in urban centers, leading to further declines in angling involvement and concern for natural resource conservation and the environment.

Introduction

As the United States has become increasingly urbanized, angling participation and license sales have declined (U.S. Census Bureau 2000; U.S. Fish and Wildlife Service 2007). The majority of the U.S. population (79%; U.S. Census

Bureau 2000), as well as the majority of current anglers (72%; U.S. Department of the Interior 2002), live in metropolitan areas. Yet this population's fishing participation rate is much lower than the rural population's (U.S. Department of the Interior 2002). Declining fishing license sales are in large part caused by anglers who do not consistently buy licenses ev-

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ery year (lapsed anglers; ASA&AFWA 2007). With the availability of quality fishing opportunities and proper advertising, these lapsed anglers can be effectively recruited back into active participation (Fedler 2007a; RBFF 2007). Key to this process, however, is providing quality angling opportunities that are close to where people live, as busy urban residents are often lured to other recreational activities that require smaller blocks of time (Fedler 2000; ASA&AFWA 2007).

Declines in fishing participation pose many threats to natural resources and their conservation. Many states depend on license sales, and related federal excise taxes on fishing tackle to fund conservation programs (Noble and Jones 1999; ASA&AFWA 2007). Decreased citizen participation in outdoor activities also disconnects people from nature (ASA&AFWA 2007). Urban fishing programs can increase clientele knowledge and concern for the environment (Kellert and Westervelt 1983; Siemer and Knuth 2001) and support for statewide fisheries programs (Dunlap and Heffernan 1973; Botts 1984; Schramm and Dennis 1993). Therefore, to ensure continued support for conservation, an increased public involvement in, and awareness of, outdoor activities is needed.

Urban fishing programs provide the opportunity to recruit and retain anglers in growing urban centers by providing quality fisheries that are close to people, allowing convenient recreational opportunities that do not require long time expenditures. The earliest urban fishing programs typically targeted underrepresented anglers. At the 1983 Urban Fisheries Symposium, Botts (1984) defined urban fishing programs as a program for residents of urban areas who do not otherwise have access to fishing opportunities, especially the poor, the

elderly, the handicapped, and minorities. While these demographic groups are still being targeted, contemporary urban fishing programs also provide fishing opportunities close to home for established anglers who may be time restricted (Schramm and Edwards 1994; Hunt and Ditton 1996; Fedler 2000). Contemporary programs increase recreational fishing opportunities, develop and increase environmental awareness and conservation ethics in anglers and nonanglers, and increase angling participation (Schramm and Edwards 1994). They also build and strengthen ties among community residents by bringing people together, including those who are otherwise divided by race or class (Walker 2004).

Therefore, urban fishing programs may be an effective tool to reverse the current trends of decreasing license sales. By targeting urban areas, urban fishing programs reach the largest untapped group of potential angler recruits (Hunt and Ditton 1997; Fedler 2000). They also make fishing more convenient for current anglers and minimize the likelihood that these anglers will become inactive due to time constraints (Fedler 2000; ASA&AFWA 2007). For an urban fishing program to be successful, a fishing resource must be identified or developed that is easily accessed, facilities need to be provided to make the site accommodating, and the resource must be advertised to recruit new and lapsed anglers. Planning and developing an urban program using this three-step process increases the likelihood of recruiting and retaining anglers in growing urban centers. Ultimately, a successful urban fishing program can help counter the decline in angling participation that has occurred in recent years (Fedler 2000; ASA&AFWA 2007).

Resource Development

Early in the development of an urban fishing program it is necessary to assess the needs of the anglers. These needs will often extend outside of the realm of traditional fisheries management and may require a multidisciplinary approach incorporating biology, sociology, economics, and political science to be successful (Radonski 1984; Fedler and Howard 1991). Each urban environment likely has a unique set of issues and solutions, and anglers may have different needs and desires. Gaining this information may be difficult depending on the clientele being sought. Interviewing existing anglers will not reveal what potential anglers, who have never fished (or at least never utilized an urban fishery), desire in a program. It may be better to use a data analysis resource such as Community Tapestry (ESRI, Redlands, California), which is a market segmentation tool with information from the U.S. Census Bureau that provides detailed demographic and lifestyle information for all neighborhoods in the United States (Fedler 2000; ASA&AFWA 2007). We also suggest it would be helpful to contact urban fisheries managers in cities with similar demographics to learn about their shortcomings and successes. Properly identifying angler desires up-front will save countless dollars and headaches after an urban program has been implemented. Based on angler interests, specific goals should be set for the program so its ultimate success can be clearly evaluated (Siemer and Knuth 2001; Fedler 2004; Fedler 2007a).

Key to developing an urban fishing program is providing a body of water suitable for supporting fish that is close to the anglers' (or potential anglers') residences. This habitat must then be stocked with, or managed for, one or

more fish species that anglers desire. Essentially, there are two options for adding fishable waters to an urban fishing program: using an existing body of water or creating a new one. In many cities there are existing bodies of water that can be renovated and restored for an urban fishing resource. If the existing fish populations are undesirable or undermanaged, a management plan will need to be implemented to remove undesirable species and enhance populations of desirable species (Wydoski and Wiley 1999). Providing access to large rivers or streams may be sufficient in some situations. In other cases, providing a pier for a saltwater fishery or a larger lake may provide access to quality fishing. Water supply lakes should not be overlooked as they are an excellent opportunity for an urban fishery (Radonski 1984). Smaller city lakes and ponds should also be considered. In many instances, habitat improvement will be needed (Radonski 1984). Often these existing bodies of water can continue to serve multiple uses to the public while providing additional fishing opportunities. However, in other cases, bodies of water may not exist and construction of new waters is required. The design and placement of these fisheries is crucial to providing opportunities to all demographics. City parks or state lands located in close proximity to housing developments or other densely populated areas are prime examples of where ponds (ranging in size from a few acres to 100 acres) with a put-and-take fishery could be placed to provide countless hours of fishing for thousands of residents, especially if located near public transportation routes (Radonski 1984).

Anglers that use urban fisheries typically choose these settings because of their convenient location and facilities (Manfredo et al. 1984). Most urban an-

glers travel very short distances to fish at a community lake (Hunt and Ditton 1996) and consider the closeness to home or work one of the most important attributes of a fishing site (Hunt and Ditton 1997; Fedler 2007b). Therefore, it is better to have many fishing opportunities spread out over a metropolitan area than to have one large body of water because this will provide opportunities that are close to as many different people as possible. This may need to be balanced against the cost inefficiencies of building or renovating numerous smaller waters. When financial constraints do not allow for this approach, careful consideration should still be given to the placement of the few larger facilities that will be constructed in order to maximize the number of people that can conveniently use them.

Intensive stocking is often required in small urban fisheries as fishing pressure exceeds that of most rural fisheries (Heidinger 1999). In many urban ponds, channel catfish *Ictalurus punctatus*, hybrid sunfish *Lepomis* spp., and largemouth bass *Micropterus salmoides* are stocked during the spring and summer and rainbow trout *Oncorhynchus mykiss* are stocked in the winter months to provide a year-round fishery (Fedler and Howard 1991). Hybrid striped bass *Morone saxatilis* × *M. chrysops* have also been used with success in some programs (Hutt et al. 2008, this volume). Providing different seasonal opportunities to anglers through stocking promotes higher angler use (Miko et al. 1995) and provides desired species for a wider range of anglers (Alcorn 1981). Many states such as Arizona, Arkansas, and Illinois stock catchable-size fish on a biweekly or monthly schedule to maintain the fishery. This is where managing urban fisheries becomes intensive. Stocking can be expensive, and it must be an

ongoing process to keep up with angler pressure and harvest (Heidinger 1999). Periodic sampling to determine standing stocks as well as creel surveys to determine harvest are needed to verify that appropriate numbers of fish are being stocked and funds are being spent as efficiently as possible (Boxrucker 1986; Wiley et al. 1993; Cowx 1994). Intensive stocking can place a strain on state or federal fish hatcheries. Therefore, some states are turning to private aquaculture to help alleviate the added stress on state-owned hatcheries (Brader 2008, this volume).

Intensive management and stocking are not always required to provide a successful urban fishery. In some instances, an existing fishery on a large body of water will have desirable species and natural reproduction that is adequate to meet anglers' needs (Radonski 1984). Streams or rivers located in or near cities can provide ample fishing opportunities, but restricted harvest may be needed (Carline et al. 1991). Every coastal and Great Lakes state can enhance river fish migrations by removing migration barriers or providing passage facilities to enhance anadromous fish stocks (Radonski 1984), although this may be a challenging political process. Many large bodies of water near cities only require piers or access points to make the resource useful to urban anglers (Radonski 1984; Fedler and Howard 1991). The fishery may already be sufficient to support anglers, but access may be the primary limitation.

Facilities and Amenities

An urban fishery will only be successful if nearby residents are aware of the resource and find it desirable and accessible (Fedler and Howard 1991; Schramm and Dennis 1993; Fedler 2000). Anglers that use urban fisheries choose

those settings because of their proximity and facilities (Manfredo et al. 1984). There are also a significant number of lapsed anglers that indicated they do not fish because they do not have a location to do so where the amenities and access provide the level of comfort they desire (Fedler 2000; Fedler and Ditton 2000). Therefore, it is important to provide the needed amenities in order to recruit and retain anglers. It may be important to provide a different set of amenities at different locations to accommodate the disparate desires of different urban angling groups (Hunt and Ditton 1997; Toth and Brown 1997). As previously mentioned, it is important to assess and understand the anglers' needs and interests. Without collecting and acting upon that information, the urban program will not be as successful as it could be (Manfredo et al. 1984; Schramm and Dennis 1993; Fedler 2000).

Anglers who fish alone tend to place the highest importance on their ability to catch fish and having the resource located close to home or work (Hunt and Ditton 1997). Therefore, they may not require much in the way of amenities. In fact, they prefer to fish in locations where people are not involved in other recreational activities. However, anglers who fish with others, especially other family members, place importance on amenities such as picnic tables, restrooms and camping facilities (Hunt and Ditton 1997). Connection between family and friends is one of the primary marketing messages that is effective across all ethnic groups (Fedler 2000; Responsive Management 2001; Fedler 2007b). But marketing to families will require that some urban sites include family-oriented amenities such as playground equipment, trash receptacles, picnic areas, barbecue pits, fishing docks, ample parking,

and restrooms (Toth and Brown 1997). These amenities may also make a first-time angling experience more enjoyable and facilitate recruitment. Existing parks often already have these types of amenities and are sites where fishing lakes can be established and the costs of amenity implementation and upkeep shared with city municipalities.

Anglers utilizing smaller ponds and lakes need easy access points where they can fish from the bank. If the goal of the fishery is to provide access to underprivileged anglers, then the fishery needs to be within walking distance for them or public transportation needs to be considered (Radonski 1984). Handicapped access should also be considered in the early stages of planning (Fedler and Howard 1991). On larger lakes and rivers in the urban setting, boat ramps may be desired by some anglers (Hunt and Ditton 1997). While attracting new anglers is often one of the objectives for an urban fishing program, existing anglers or lapsed anglers in cities often own boats (Hunt and Ditton 1996). Therefore, providing access for boats close to where these anglers live can help encourage these anglers to remain active or resume fishing.

Providing an environment where the public feels safe and secure must also be a priority. Many would-be anglers list safety as a factor limiting their involvement in angling and outdoor activities (Hunt and Ditton 1996; Fedler 2000). Providing a sense of security for anglers will also foster a sense of community when people come to share a common interest (Walker 2004). Providing educational classes can help anglers feel more comfortable in outdoor settings by providing the skills needed to succeed in fishing (Fedler 2000). We also suggest having a police patrol or game warden presence to provide a sense of security, especially if

the urban fishing resource is located in a less safe part of town.

It is important to minimize the cost of going fishing in the urban program in order to attract anglers who might otherwise not try fishing because of the initial costs. Many states have fishing tackle loaner programs that allow someone to try fishing without having to purchase equipment. Some states, such as Arizona, provide the option to purchase an urban-only fishing license for those who fish exclusively in urban waters. The license costs less than the regular annual state license (which is not required if the angler only fishes urban waters), so it saves these anglers money, but it has still proven economically feasible. Intensive fish stocking and implementation/maintenance of amenities can be expensive. Some urban programs have used permits that must be purchased in addition to a state license to generate revenue to help cover these costs. When possible, other sources of funding should be considered so as not to discourage anglers from using the program (Gilliland 2008, this volume). One of the most effective options may be partnering with parks and recreation departments, or area businesses that have a vested interest (such as bait and tackle shops, outfitters, etc.) to share initial or maintenance costs associated with an urban fishing program (Radonski 1984; Schramm and Edwards 1994; Sweatman et al. 2008, this volume). If an additional urban permit cannot be avoided, it should be as inexpensive as possible.

Advertisement and Recruitment

Marketing an urban fishing resource is vitally important to its success. In the past, the outdoor experience has been thought of as an easy sell that did not need

promoting. But today, with increased urbanization, many people have become disconnected from the outdoor experience and the outdoors needs to be advertised to attract urbanites. Additionally, many urbanites have other recreational options vying for their time (Fedler 2000; ASA&AFWA 2007). Realizing this, many states have applied a marketing model to the outdoor experience, much like what would be used to sell a commercial product, to try to increase participation (ASA&AFWA 2007). One of the most useful marketing approaches for promoting an urban fishing program is a two-step process of segmenting then targeting (Rupert and Dann 1998). Segmenting is separating the stakeholders into meaningful groups that can be marketed to differently depending on the needs of the group. Targeting is identifying a specific segment on which the advertising will focus and developing a marketing strategy that will appeal to this segment's interests. The process of identifying market segments will be driven by the goals and objectives of the program (Fedler 2007a). Computerized fishing license databases are an excellent tool to identify the segment of the population that is fishing or has fished in the past (Rupert and Dann 1998; Fedler 2007a). Community Tapestry can be used to identify potential target groups (Fedler 2007a; RBFF 2007).

It is important to make the segmenting as specific as possible when marketing budgets are limited. For example, Minnesota found that if they had targeted the top tier lifestyle segments for fishing participation (those with above average income, as defined by Community Tapestry) their response rate to marketing would have been significantly greater (RBFF 2007). In another example, the Ohio Department of Natural Resources (ODNR) was interested in

targeting African-Americans to increase fishing license sales. In order to be more specific, the ODNR combined Census data with their fishing license database to identify lapsed anglers living in areas with 80% African-American residents. The lapsed anglers were sent information specifically designed for an African-American audience with a direct mailing campaign. This illustrates that while no one database may have all the specificity that is desired, additional specificity can be achieved by combining multiple databases (Fedler 2007a).

One segment that should be targeted when marketing an urban fishing program is the lapsed angler. There is a large proportion of the fishing population that does not buy a license every year (ASA&AFWA 2007). These lapsed anglers can be more effectively recruited by marketing than most other segments, if they are targeted shortly after they first become inactive (Fedler 2000). This group is larger than most minority populations and also has a large proportion of women (Fedler 2000). Computerized fishing license databases can be used to track license buying histories and identify these lapsed anglers (Rupert and Dann 1998; Fedler 2007a). This database can also be used to track the success of outreach education classes and the successes or failures of different marketing techniques with respect to reaching these lapsed anglers (Rupert and Dann 1998; Fedler 2007a; RBFF 2007).

Another segment that is commonly targeted when promoting an urban fishing program is minorities (Botts 1984). Each ethnic group should be viewed as a separate segment to be targeted, as each will be best reached with different media (Burger et al. 1999) and marketing strategies (Fedler 2000). Minorities have historically had much lower fishing par-

ticipation rates than Caucasians (Fedler 2000; U.S. Department of the Interior 2002; ASA&AFWA 2007), and this tends to result from a lack of opportunity to acquire fishing knowledge and skill (Fedler 2000). This lack of knowledge can create discomfort during outdoor activities such as fishing and deter minorities from participating (Fedler 2000). Outreach programs targeting minority groups are needed to help educate these groups and increase participation rates. An especially important target group is Hispanics, which is one of the fastest growing segments in the U.S. population. This segment should be considered for targeting in states with increasing Hispanic populations (Fedler 2000). Minority focus groups have indicated that messages depicting or directed at their race or ethnic group are needed to reach these target groups (Fedler 2000). Word of mouth is also a primary source of information that minorities rely on for fishing information (Burger et al. 1999).

Children are also an important target group that should be considered when promoting an urban fishing program. Introducing children to fishing at a young age increases the chances that they will fish later in life (Responsive Management 2003). Many state agencies use outreach and aquatic education programs targeted towards children to promote fisheries resources and recruit new anglers (Zint and Dann 1995). These programs increase interest and skills in fishing (Rupert and Dann 1998; Fedler 2004); however, these classes should not stop at recruitment. There should be repeated contacts through workshops and informal venues (Rupert and Dann 1998; Siemer and Knuth 2001) to increase the likelihood that participants will become lifelong anglers. Aquatic education programs that involve fishing trips are more

effective than programs that only talk about fishing (Siemer and Knuth 2001).

Regardless of the target audience, a key to effective marketing is making multiple contacts with the potential angler (Fedler 2006; Fedler 2007c; RBFF 2007). In Iowa's evaluation of their marketing efforts, they found would-be anglers told researchers they needed two primary things: more reminders and encouragement to go fishing, and more information about where they could fish locally (Fedler 2007c). For example, direct mail in combination with other marketing activities such as radio ads and literature placed at tackle shops and city parks can be more effective than a single marketing activity alone (Fedler 2007a; RBFF 2007).

Conclusions

Urban fishing programs provide a strategic opportunity to counter the nationwide decline in fishing participation and license sales. Urban centers have a high concentration of nonanglers and lapsed anglers that can be effectively recruited and retained through properly designed and marketed urban fishing programs. For an urban program to be effective, it must provide a quality fishing resource that is accessible and close to the target anglers. Appropriate amenities are necessary to make anglers feel comfortable and safe. The resource must then be marketed to targeted potential anglers. As the United States becomes increasingly urbanized, urban fishing programs will continue to become more important as a means of providing fishing opportunities in these environments. Without these opportunities, busy urbanites will likely be drawn toward the numerous other recreational activities that are conveniently available in urban centers and require smaller amounts of time, leading

to further declines in angling involvement and concern for conservation and the natural world.

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