

The St. Louis Urban Fishing Program

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Abstract.—The St. Louis Urban Fishing Program (UFP) was established in 1969 to provide close-to-home fishing opportunities for urban anglers in St. Louis, Missouri through regular fish stockings at five lakes, totaling 8.4 hectares. Urban Fishing Clinics (UFC) were added for children and therapeutic patients in 1971 and 1979, respectively. Since 1973, UFP has been funded and administered by the Missouri Department of Conservation (MDC) with cooperation from municipal partners. Stocking rate, stocking schedule, and fishing regulation changes were made in the early 1990s. Since 1993, Community Assistance Program agreements have enabled MDC to improve UFP lake habitats and amenities. Subsequently, similar urban fishing programs have developed in Kansas City, St. Joseph, Sedalia, and Springfield, Missouri. Sportfish lakes are stocked with common carp *Cyprinus carpio*, channel catfish *Ictalurus punctatus*, hybrid sunfish *Lepomis macrochirus* x *L. cyanellus*, brown trout *Salmo trutta*, and rainbow trout *Oncorhynchus mykiss* from MDC hatcheries and commercial sources to create year-round angling opportunities. Annual fish stockings average up to 263 kg/ha, with a total of 1,119,105 kg since 1969. Completion of habitat improvement projects and subsequent successful natural reproduction of sportfish have allowed nine UFP lakes to provide additional opportunities for bluegill *Lepomis macrochirus*, largemouth bass *Micropterus salmoides*, redear sunfish *Lepomis microlophus*, and white crappie *Pomoxis annularis*. The UFC lakes are stocked with hybrid sunfish and channel catfish, averaging 152 kg/ha, with a total of 26,771 kg since 1978, and offer fishing program opportunities from April through October. In 2007, UFP lakes consist of 20 sportfish and six UFC lakes, totaling 30.1 hectares. All sportfish and most UFC lakes are partner-owned and located in municipal parks. Annual fishing pressure ranges from 439 to 12,019 h/ha and averages 109,470 trips/year. Over 48,000 children and therapeutic patients have attended UFC since their inception; however, UFC impacts to angler recruitment and knowledge of aquatic conservation are unknown. So, a new program, GO FISH! was launched in 2007.

Introduction

Missouri's Urban Fishing Program began in St. Louis during 1969, as a cooperative effort between the U.S. Bureau of Sport Fisheries and Wildlife (Bureau);

Missouri Department of Conservation (MDC); and St. Louis City Department of Parks, Recreation, and Forestry (Parks Department). It was one of six pilot programs initiated by the Bureau nationwide to provide close-to-home fishing opportunities for urban anglers, especially

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those in economically depressed inner-city areas, and consisted of five lakes, totaling 8.4 hectares. As the St. Louis Urban Fishing Program (UFP) was refined over the next three years, the Bureau phased out its involvement and MDC became increasingly involved. The first three years of UFP were described in detail by Shupp (1972), with additional descriptions by Ikeda (1971), Alcorn and Jeffries (1978), Jeffries (1979), Alcorn (1981), and Haas (1984).

Since 1973, UFP has been completely funded and administered by MDC with the continued support of the Parks Department. After 1983, municipal support expanded into unincorporated St. Louis County and the suburban communities of Ballwin and Ferguson. Since 1978, similar urban fishing programs have been established in Kansas City, St. Joseph, Sedalia, and Springfield.

The addition of Urban Fishing Clinics (UFC) in 1971 completed formation of the UFP's two main components: sportfish management and aquatic education. Urban Fishing Clinics were designed to teach urban children fishing skills and encourage their angling participation. This concept was later expanded to therapeutic patients and senior citizens (Haas 1984).

Urban Fishing Program funding is made possible through the one-eighth of one percent Conservation Sales Tax, which Missouri voters passed in 1976 through initiative petition. This stable funding source provides MDC with over \$100 million annually.

The lakes

In 1969, five St. Louis City park lakes were chosen to begin UFP. These lakes were located in or near low-income residential neighborhood parks which re-

ceived high public use (Haas 1984). Additional St. Louis City park lakes were added in 1978 and 1982. In 1983, expansion into suburban St. Louis County maximized geographic distribution of UFP opportunities for anglers.

Though ideally located for heavy use, several UFP lakes were built in the late 1800s and were not originally designed for fishing. Shallow depths encouraged water quality problems such as excessively warm water temperatures (up to 40 degrees centigrade) and low oxygen levels. Summer fish kills were common and sustainability of sportfish populations was minimal, pointing toward a need for habitat improvement.

The UFP lakes ranged in size from 0.1 to 3.6 ha, with mean and average maximum depths of 0.6 m and 0.8 m, respectively. They featured shorelines consisting of grass, gabions, rock, and concrete. Lake basins were mostly free of aquatic vegetation or other fish habitat. Lake bottoms were sandy or clayey, flat, and covered in organic material and other debris. Watershed ratios range from 1.1:1 to 140:1, with runoff water supplied by park lands and storm drains from adjacent urban lands. Most St. Louis City UFP lakes are seasonally-supplied with City drinking water from high pressure mains. This water supply increases flushing rates which reduce summer algae and oxygen problems. Lakes outside of St. Louis City commonly have summer algae blooms and rely on their watersheds for source water.

Angler access to lakes varied greatly. Flat topography and concrete-aprons surrounded several lakes, which allowed for very good access. However, over half of UFP lakes lacked suitable parking, trails, and shoreline treatments, making access difficult for anglers with limited mobility.

In 1993, fisheries management in UFP lakes diversified with completion of Community Assistance Program (CAP) agreements to improve fisheries management and cooperatively develop and maintain angling facilities. St. Louis City and County CAP agreements identified 42 lake and facility improvements at 24 UFP lakes with an estimated cost of \$1.9 million. The MDC provides the funding and fisheries management. Routine park, water, and aeration maintenance is provided by the parks and recreation departments of UFP partners. UFP partners and MDC split construction labor duties. Also, the approved St. Louis Urban Fishing Program Lakes Fisheries Management Plan outlined habitat and angler access projects to improve lake depth and substrate, fish habitat, water supply and quality, shoreline stabilization, and access for stocking trucks and disabled anglers.

In 2007, UFP contains 20 sportfish and six UFC lakes, ranging in size from 0.1 to 3.6 ha, totaling 30.1 ha. Maximum depths in renovated lakes average 3.6 m. Fishkills are rare. Access for anglers with disabilities is much improved.

Sportfish Management

Fish stocking

The mainstay of UFP sportfish management continues to be fish stocking. Bullheads *Ictalurus* spp., common carp *Cyprinus carpio*, channel catfish *Ameiurus punctatus*, hybrid sunfish *Lepomis macrochirus* × *L. cyanellus*, brown trout *Salmo trutta*, and rainbow trout *Oncorhynchus mykiss* have been stocked most. Fish species chosen share the ability to tolerate sometimes harsh urban conditions, are highly-vulnerable to angling, and readily-available from MDC and commercial sources.

During the first two years of UFP, most fish were obtained from wild populations. Bureau crews captured wild fish from northern states and transferred them directly to UFP lakes. However, this method was soon discontinued since wild fish collection and transfer was too labor intensive and inefficient (Haas 1984). Between 1971 and 2001, most UFP fish were supplied by commercial dealers with fish from wild and commercial sources. However, problems with performance of some channel catfish contractors necessitated use of MDC hatchery catfish, beginning in 2001. Trout are also provided by MDC hatcheries.

Stocking schedules and rates vary by species (Table 1). Rapid depletion of stocked fish was reported by Shupp (1972), Jeffries (1979), Watt and Persons (1990) and Meneau (1995) and impacted angler catch rates soon after stocking. To counteract the "boom and bust" nature of these fisheries, UFP stocking frequency was increased from once/six weeks to once/two weeks.

Average annual sportfish stockings total 259 kg/ha and 187 kg/ha for lakes with and without winter trout fisheries, respectively. For lakes with winter trout fisheries and special events utilizing hybrid sunfish, the annual stocking rate reaches the current UFP maximum of 263 kg/ha.

Bullheads and carp, averaging 0.2 kg and 1.1 kg respectively, were used from the beginning of UFP. They were desired by St. Louis' urban anglers, inexpensive, available from commercial sources, and tolerant of sometimes harsh aquatic conditions (Haas 1984). Bullheads' extreme vulnerability to angling, made them ideal for novices and UFC. However, they were discontinued in 1997 due to lack of contract-sized fish and increasing price problems. Carp are larger and more dif-

TABLE 1. Annual stocking rates and schedules, by species, used in St. Louis Urban Fishing Program.

Species	Average Size	Stocking Rates	Schedule	Average Cost/Fish	Comments
Bullheads	0.2 kg	83 kg/ha	3x/yr; April, August, October	\$0.75	Discontinued, 1997
Common carp	1.1 kg	69 kg/ha	1x/yr; March or April	\$1.00	Suspended, 2007
Channel catfish	0.4 kg	118 kg/ha	13x/yr; April–October	\$1.40	
Hybrid sunfish	0.1 kg	4 kg/ha	1x/event; June	\$1.05	Special event use only
Trout	0.3 kg	48 kg/ha	1x/yr; November	\$1.65	C&R lakes only
Trout	0.3 kg	79 kg/ha	8x/yr; November–February	\$1.65	Harvest lakes only

difficult to catch, providing greater challenge and trophy aspects. However, carp stocking was suspended in 2007 when a commercial supplier could not be found.

In 1979, channel catfish were added to UFP when bullhead and carp supplies were inconsistent. Channel catfish, averaging 0.4 kg, became very popular with anglers and sustain good fishing for longer periods of time after stocking (Haas 1984). Channel catfish have developed into the primary fish species used for UFP.

Hybrid sunfish became part of UFC and UFP special events in 1994. Program experience with their availability, vulnerability to angling, and ability to survive multiple angling releases made them the ideal replacement for bullheads, especially at UFC. Stocked hybrid sunfish average 0.1 kg.

Trout, averaging 0.3 kg, have been stocked into nine UFP lakes as a winter fishery, beginning in 1990. Though brown trout are occasionally used, rainbow trout comprise over 90% of the stockings.

Since 1969, UFP sportfish lake stockings have totaled over 1.1 million kg and \$1.6 million (Figure 1). Annually, it costs the UFP about \$45,000/yr to stock 30,006 kg of fish. Fish stocking costs have significantly increased as fuel and staff costs increased. Reductions in stocking amounts throughout the 1990s were due to discontinuation of bullhead stockings, stocking rate adjustments, and temporary closure of some lakes for renovation.

Upon completion of lake improvements, the lake management plan called for the diversification of UFP fisheries through establishment of bluegill *Lepomis macrochirus*, largemouth bass *Micropterus salmoides*, and redear sunfish *Lepomis microlophus*. From 1996 to 2004, lake renovations were completed and fish communities sampled at nine UFP sportfish lakes. Bass and bluegill populations improved or became established (Figure 2). Bass size structure has also improved. Redear sunfish have become established in only two of nine renovated UFP lakes.

White crappie *Pomoxis annularis* populations have become established in over 50% of renovated UFP lakes. Densities of other species have been reduced (Figure 2). Self-sustaining sportfish populations were made possible through a combination of improved lake habitats, increased incidence of catch and release fishing, angler avoidance of newly-placed habitat structures and aquatic vegetation, and conservative harvest regulations.

Regulations

The UFP lakes have gone through a series of regulation changes to minimize impacts of heavy fishing pressure and enhance natural reproduction of some species. In 1991, harvest regulations for stocked fish became more conservative than statewide limits to better spread out angler catch. In 1994, largemouth bass, bluegill, redear sunfish, and white crappie regulations were simplified for ease

of enforcement and angler understanding. Also, harvest regulations were made more restrictive to help ensure natural reproduction of sportfish. In 1997, seasonal catch-and-release trout regulations were established on two of nine UFP winter trout lakes to complete existing fishing regulations (Table 2).

The UFP anglers' fishing permit requirements mimic statewide requirements. All anglers, age 16–64, must possess a valid Missouri fishing permit. Trout anglers desiring to harvest trout must possess a trout permit. Catch-and-release trout anglers do not need the trout permit. No special urban fishing permit is required.

The anglers

In 1991, UFP anglers were predominantly male with an average age of 46 years (Meneau 1995). Alcorn (1981) and Ikeda (1971) found average age to be 38

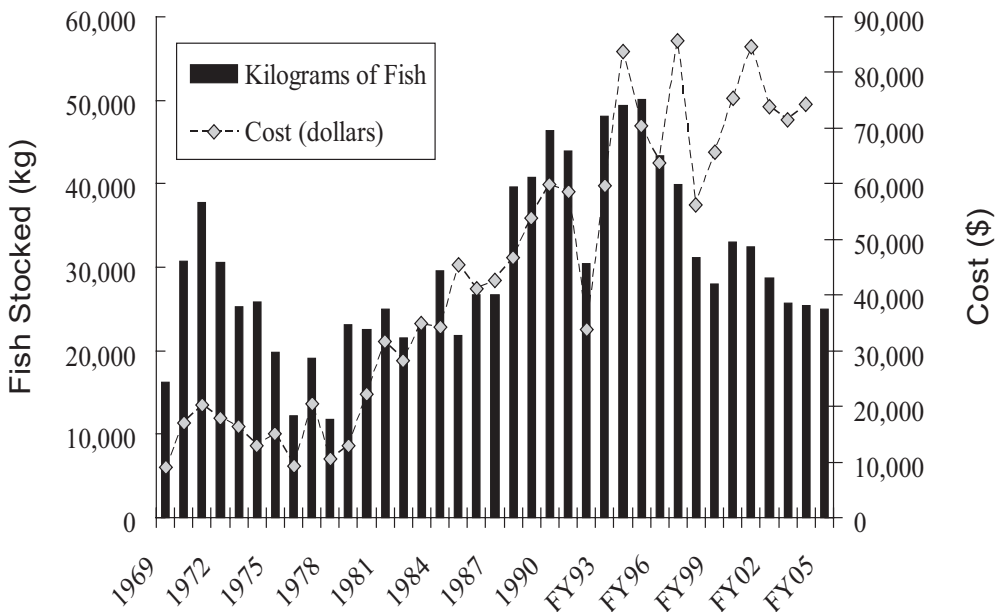


FIGURE 1. Cost and pounds of fish stocked in St. Louis Urban Fishing Program lakes, 1969–2005.

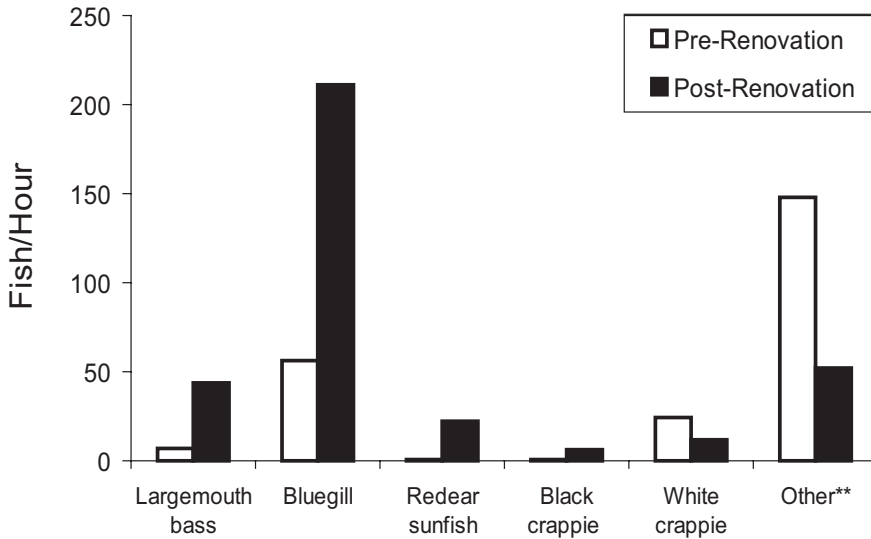


FIGURE 2. Mean Pre- and Post-Renovation electrofishing CPUE at St. Louis Urban Fishing Program lakes. **Other species include: bullheads *Ameiurus* spp., orangespotted sunfish *Lepomis humilis*, green sunfish *L. cyanellus*, common carp *Cyprinus carpio*, and goldfish *Carassius auratus*.

TABLE 2. St. Louis Urban Fishing Program fishing regulations.

Species	Daily Limit	Length Limit	Comments
Channel catfish	4	None	Statewide limit = 4
Common carp	4	None	No statewide limit
Crappie	15	None	Statewide limit = 30
Largemouth bass	2	18" minimum	Statewide limit = 6
Trout	4	None	7 of 9 lakes
Trout	C&R	-	2 of 9 lakes; Nov. 1–Jan. 31
All other species	10	-	Includes bluegill and redeer sunfish; statewide limit = 20

and 28 years respectively, which demonstrates the graying of UFP anglers and suggests recruitment of fewer new urban anglers.

Urban Fishing Program anglers enjoy stocked lakes located close to their homes. Ikeda (1971) found nearly 50% of anglers walked to lakes where they fished. Though mode of transportation has changed, about a third of UFP an-

glers still reside within one mile of the lake they fish. In addition, no UFP anglers reside outside of the St. Louis City and adjacent St. Louis and Jefferson, Missouri counties.

St. Louis racial demographics were reflected by UFP anglers. Sixty-five percent of St. Louis City and 32% of suburban anglers were Black (Meneau 1995), though recent influx of Hispanic and

eastern European immigrants have likely altered this dynamic. Ikeda (1971) found 69% of St. Louis City UFP anglers were Black and 31% were White.

Urban Fishing Program angling effort has always been high. Of the six cities piloted by the Bureau's initial urban fishing program in 1969, St. Louis anglers logged 79% of the total hours fished (Shupp 1972). Estimates from Ikeda (1971), Shupp (1972), Alcorn (1981), and Meneau (1995) demonstrate high season-

al (April–October) use (Table 3). Seasonal estimates did not take into consideration night-time fishing, which is considered to be significant (Haas 1984). This fishing pressure becomes even more impressive when compared to estimates from major Missouri reservoir fisheries during the same time period (Figure 3).

Winter trout fishing provides an additional 578 h/ha where offered (Meneau 1994). Winter angler success rates are much higher than during summer

TABLE 3. Annual angling effort, trips and catch rate at St. Louis Urban Fishing Program lakes.

	Ikeda (1971)	Shupp (1972)	Alcorn (1981)	Meneau (1995)
Effort (h/ha)	140,400	197,200	60,400	187,600
Trips (total)	56,160	78,886	19,008	83,772
Catch rate (fish/h)	1.5	-	0.43	0.42
Stocking rate (kg/ha)	496	606	259	266
Lakes (ha)	1.7	10.3	2.2	26.9

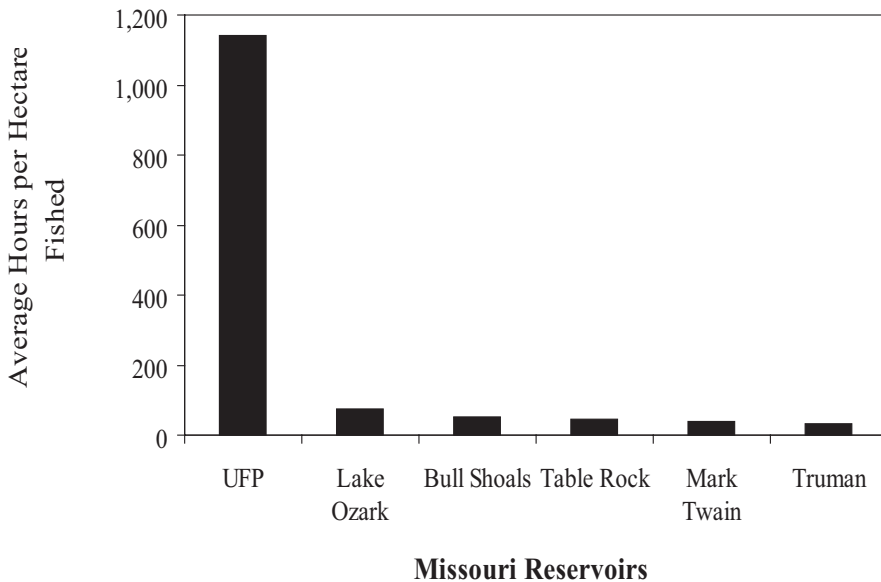


FIGURE 3. Estimated average hours fished/hectare at St. Louis UFP lakes and selected large Missouri reservoirs, 1988 and 1991.

and are 61% and 37%, respectively. Popularity of the St. Louis winter trout fishery was further demonstrated by a 16% increase in trout stamp sales to St. Louis anglers, which corresponded with the first trout stockings in UFP lakes. Over 35% of UFP trout anglers said they purchased trout stamps to fish exclusively at UFP trout lakes.

Number of seasonal UFP fishing trips ranged from 19,008 (Alcorn 1981) to 83,772 (Meneau 1995; Table 2). Where it was offered, winter trout anglers contributed 305 trips/ha for an additional 7,325 trips, annually (Meneau 1994). In 2007, UFP estimates of 85,806 trips and 23,664 trips for summer and winter respectively, equal 109,470 total trips annually. The UFP anglers fished for a relatively low average duration: 2.4 h (Ikeda 1971), 2.6 h (Alcorn 1981), and 2.2 h (Meneau 1995).

Alcorn (1981) and Meneau (1995) found angler catch rates were highest immediately after spring stockings, followed by low catch in summer with some recovery in fall (Figure 4). Alcorn (1981) and Meneau (1995) found similar total annual catch rates. These approach the

0.5 fish/h figure cited by Shupp (1972) as acceptable for most urban programs. Ikeda reported a much higher catch rate which benefited from a higher stocking rate (Table 3). In addition, UFP trout fisheries maintained a catch rate almost twice (0.75 fish/h) that of UFP's warm weather fisheries.

Fish species chosen for UFP stocking and management reflect angler desires. Angler preference, based on fishing effort, showed channel catfish (51%), largemouth bass (14%), carp (13%), and "anything that bites" (8%) to be most popular (Meneau 1995), and was similar to Alcorn (1981). Jeffries (1979) found Kansas City anglers strongly preferred channel catfish (63%), but preferred sunfish (13%), largemouth bass (8%) and crappie (6%) over carp.

Eating their catch is very important to UFP anglers. Size of fish and eating fish were rated by UFP anglers as important to very important by 74% and 76%, respectively (Meneau 1995). Also, anglers rated consumptive value of their catch as very important. Alcorn (1981) found fish size and quantity were rated very important.

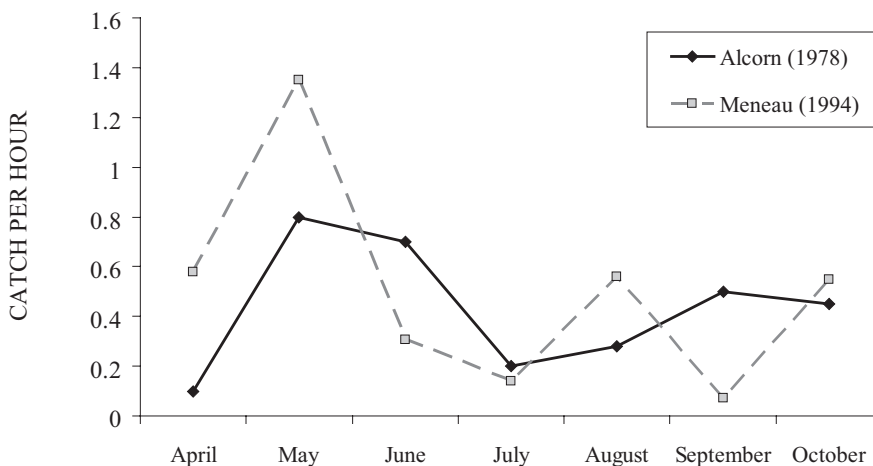


FIGURE 4. Average monthly catch rate in St. Louis Urban Fishing Program lakes, April through October.

In addition, Alcorn (1981) was able to tie UFP angler species preference to desire for food fish using Missouri statewide survey channel catfish data (Weithman 1978). Alcorn and Jeffries (1978) found 59% of UFP anglers planned to eat their catch.

The importance of catch and release fishing has increased since Ikeda (1971) found only 7% of fish caught were released. Alcorn and Jeffries (1978) found 30% of UFP anglers were practicing catch and release. Alcorn (1981) found 57% of caught fish were released despite UFP anglers rating catch and release fishing as somewhat unimportant. Meneau (1995) found UFP anglers rated catch and release as a moderately important part of their experience, with 33% rating it as extremely important. Also, release rates were 43%, 10%, 9%, and 10% for carp, channel catfish, bullheads, and rainbow trout respectively.

Outreach

Since 1990, public outreach has been an important part of UFP as MDC developed a FISH ST. LOUIS marketing program. Brochures outlining UFP and the winter trout program are annually updated and provided to various outlets. The FISH ST. LOUIS Web site outlines UFP and other St. Louis area fishing opportunities (Meneau 2003). The St. Louis Fish Stocking Hotline (636/300-9651) provides up-to-date UFP fish stocking information. Seasonal television and radio interviews and newspaper articles are also produced. Towels, hats, and rod/reel combinations, complete with FISH ST. LOUIS logos, are given away at special events, programs, and during stocking runs. FISH ST. LOUIS banners have been placed in UFP parks to mark the beginning of the spring fishing season.

Aquatic Education

Aquatic education has been the second major UFP component and UFC have been the primary method of delivery. MDC cooperates with the St. Louis Parks Department to transport St. Louis City children from playgrounds and recreation centers to heavily-stocked fishing ponds for instruction and angling, which are described by Haas (1984). In 1979, this concept was expanded to include senior citizens and mentally or physically-challenged persons (Haas 1984) during therapeutic clinics.

Urban Fishing Clinics have been successful at exposing urban children to fishing. From 1971 through 2005, a total of 48,432 children and therapeutic patients have been served during 2,220 clinics. Over 35% of children fishing UFC are first time anglers. Catch-and-release regulations are used to extend good fishing and successful first-time anglers receive First Fish Certificates. The average UFC angler success rate is 97%.

Initially, UFC were held at earthen-lined raceways located in an old Federal fish hatchery in St. Louis City. This area was renovated in 2002 to create four lakes, averaging 0.4 ha, with maximum depths of 3.1 m, aeration, fish habitat, shoreline access and water supply improvements, bank stabilization, and access for disabled anglers. The hatchery area is jointly maintained by MDC and the Parks Department. Two additional UFC sites, with a total of three lakes, were added during 2004.

The changes in species used at UFC lakes have paralleled those in sportfish lakes. Due to low availability and increasing expense of bullheads and low angler catch rates for carp, stocking of these species was discontinued in favor of hybrid sunfish and channel catfish in

2000. The UFC lakes’ annual stocking rate is 152 kg/ha. Since 1978, 26,771 kg of fish have been stocked at a cost of over \$82,000. Largemouth bass, bluegill, and redear sunfish have been established in renovated UFC lakes to add angling diversity.

In addition to UFC, MDC provides instruction, bait/tackle, fish, and fishing opportunity as part of Outdoor Skills Camps at sportfish lakes. These camps provide week-long instruction and opportunity for a variety of outdoor skills, including fishing. Since 1998, these programs have reached 3,840 children.

Fishing instruction also takes place during various special events, which MDC sponsors with municipal and media partners at sportfish lakes. The MDC contributes fish, publications, promotional, and other assistance to the St. Louis Family Fishing Fair, neighborhood festivals, and kids fishing derbies which serve an average of 3,500 participants annually.

Despite significant MDC efforts, impacts to angler recruitment by UFC and

other aquatic education is unknown. Beginning in 2007 to improve education effort evaluations, UFC will be rolled into a new angler education program called Gateway Opportunities to Fish, Interpret, and Share our Heritage (GO FISH!). GO FISH! will strive to increase long-term angling participation and knowledge of aquatic conservation by utilizing volunteers to instruct seven levels of angling experiences and aquatic education. GO FISH! targets 8–15 year olds in St. Louis City and County and will extensively use protocols developed by the Recreational Boating and Fishing Foundation’s Take Me Fishing Campaign (Fedler 2001), which helps transition children from first-time to veteran anglers and aids in program evaluations. GO FISH! consists of seven programs or “Hooks” (Table 4), each including at least 90 minutes of fishing and up to 30 minutes of instruction and evaluation. Anglers engage in evaluations after each hook and receive free fishing equipment after each successful completion (Table 4). Anglers successfully completing all seven hooks receive

TABLE 4. GO FISH! “Hook” descriptions.

Hook	Free Fishing Equipment Provided	Subjects Covered
General Fishing I	Tackle box	Fishing equipment basics, baiting techniques, casting
General Fishing II	Terminal tackle	Knot tying, fish handling
General Fishing III	Pliers	Fish identification and biology
Lure Fishing	Lure	Introduction to and use of various types of lures
Species Specific	Species specific lure	Specific techniques for bass, sunfish, trout, and catfish
Caring for the Catch	T-shirt	Caring, cleaning, and cooking techniques
Conservation/Ethics	Rod/reel combination	Fishing regulations, aquatic ecology, anglers’ impacts on aquatic conservation

all the fishing tackle needed to go fish. Fishing participation will be measured by comparing fishing permit purchases of GO FISH! participants to the general population from St. Louis City and County zip codes, by using Missouri's point-of-sale system.

Summary

Since 1969, UFP has been very successful in providing close-to-home fishing opportunities for reasons outlined by Haas (1984), but has evolved. The UFP began as a cooperative effort between the Bureau, MDC, and Parks Department and was one of six pilot programs initiated nationwide to provide fishing opportunities for urban anglers in economically depressed urban areas. Bureau involvement was phased out over the next three years and MDC became increasingly involved. The number of UFP lakes has increased from five (8.4 ha) to 26 (30.1 ha). Disabled-angler, shoreline, and stocking truck access facility improvements provide improved fishing and stocking access. Lake renovations have improved aquatic habitats through deepening, aeration, and addition of fish cover, which has virtually eliminated fish kills and greatly improved survival of stocked fish allowing for diversification and quality improvement of fisheries. With improved habitats, largemouth bass, bluegill, crappie, and redear sunfish populations are now present in many UFP lakes due to increased survival of adult fish and natural reproduction. Special fish harvest regulations, which are more conservative than statewide rules, were adopted to reduce the "boom and bust" nature of UFP, help ensure survival of adult fish for natural reproduction and improve the quality of fisheries.

Fish stocking evolved from utilizing only wild-caught fish to primarily hatchery-produced fish stocked once/two weeks compared to once/six weeks. These changes improved efficiency and reliability of shipments and reduced labor costs, while reducing the "boom and bust" nature of early UFP stockings. Species used early in the program included bullheads, carp, and channel catfish; however, now channel catfish are primarily used April through October due to their superior availability and overwhelming preference by UFP anglers. The addition of winter trout fishing opportunities has been very popular and extended UFP into a year-round fishery.

Success of previous aquatic education programs to impact angler recruitment and aquatic education is unknown. Urban Fishing Clinics and other UFP events were single-day programs which provided limited fishing opportunities and conservation education to urban children. Recent development of the GO FISH! program replaces UFC and will focus on multiple contacts with children (ages 8–15) which emphasize fishing, conservation education, evaluation, and free fishing equipment to further urban aquatic education, while attempting to improve angler participation. Important keys to UFP success include: good municipal involvement, ability to improve condition of aquatic resources, stocking of desirable, readily-available and relatively-inexpensive fish species, and stable funding.

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