

Untangling the Line: Constraints to Fishing Participation in Communities of Color

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Abstract.—In urban environments, participation in angling and other outdoor recreation activities has been declining. A range of factors including an aging populace, immigration, and busy lifestyles, may contribute to decreased angling participation in these urban centers. During the last 30 years the Minneapolis/St. Paul, Minnesota (USA) metropolitan area has had growing populations of African Americans, Asians, Chicano/Latinos, and individuals from other communities of color. It is important to understand how changing demographics may affect urban angling participation. We contracted African American, Chicano/Latino, and American Indian focus group moderators to conduct three focus groups in each community. These focus groups, which addressed the perceived benefits of, constraints to, and interest in angling, were conducted in 2006. Results suggest that individuals from these communities perceive fishing to provide benefits similar to those reported in research with White respondents. However, individuals from these communities of color face unique constraints to their fishing participation. Selective law enforcement and discriminatory behavior were mentioned as constraints to participation in all groups. Several groups said safety concerns related to lack of swimming ability constrained participation. Language barriers were identified as a problem for Chicano/Latino individuals. Focus group participants provided valuable suggestions for improving communication and promoting angling participation within their communities. We suggest that urban fisheries managers simplify communications, employ new media channels, confront discriminatory enforcement practices, and develop innovative educational programs to address the unique constraints to fishing faced by people of color.

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Introduction

Participation in angling and other outdoor recreation activities has been decreasing in Minnesota and elsewhere, particularly in urban environments (Kelly 2004; Pergams and Zaradic 2008). An aging populace, growing immigrant populations, and busy lifestyles may contribute to decreased angling participation in these urban centers. Projections suggest that the United States, particularly urban areas, will become more ethnically diverse (U.S. Census Bureau 2000). Research has consistently shown that smaller proportions of people of color purchase fishing licenses compared to Whites (Floyd and Lee 2002). Since the U. S. Fish and Wildlife Service began tracking the demographics of hunters and anglers in 1955, participation rates of people of color have consistently been below the national average for fishing (USFWS 2004).

Minnesota, which is located on the Canadian border in the center of the United States, is known as “the land of 10,000 lakes,” and has a strong culture of fishing. The state includes the Minneapolis/St. Paul metropolitan area (Figure 1), which has numerous angling opportunities. During the last 30 years, populations of African Americans, Asians, Chicano/Latinos¹ and other communities of color in the metropolitan area of Minneapolis/St. Paul, Minnesota have increased (U.S. Census Bureau 2000). Over 400,000 non-White individuals live in the metropolitan area, which comprises 78% of the ethnic diversity in Minnesota (U.S. Census Bureau 2000). Therefore, this area was

ideal for examining the attitudes and behaviors of individuals from communities of color as they relate to fishing.

The Minnesota Department of Natural Resources (MDNR) has implemented several programs to cultivate angler participation in the state and specifically in the Minneapolis/St. Paul metropolitan area. To improve the effectiveness of these programs, managers wanted to better understand attitudes and beliefs about, and participation in, angling among communities of color. Understanding the factors that motivate and constrain fishing participation is important to facilitating angling opportunities for all Minnesotans.

Studying attitudes and beliefs about fishing in communities of color in the Minneapolis/St. Paul metropolitan area is important for a number of reasons. Race and ethnicity are highly salient issues in the United States (Zarate et al. 2004). These issues have become increasingly important in Minnesota. A 2004 study commissioned by former Vice President Walter Mondale found “simmering resentment” toward immigrants in Minnesota (Peterson 2004; Peterson and Smith 2004). People from communities of color do not visit regional parks in the Minneapolis/St. Paul metropolitan area in proportion to their share of the population (Metropolitan Council 2004). The reasons for lower park visitation and outdoor recreation participation are unclear. Toth and Brown (1997) noted that research on minority leisure has focused on participation rates, and they emphasized the need to better understand the “reasons behind observed recreation rates and patterns.” Research needs to examine the factors that facilitate and constrain leisure among different ethnic groups (Henderson and Ainsworth 2001; Thapa et al. 2002; Shinew et al. 2006). Research has not adequately addressed the

¹We use the designations African American, American Indian, and Chicano/Latino to refer to the ethnic groups included in our study. We use these terms based on the preferences of our study participants. When we refer to other research, we use the ethnic designations used in the reference literature.



FIGURE 1. State of Minnesota (USA) showing the seven-county Minneapolis/St. Paul metropolitan area.

meanings and benefits derived from recreational fishing for members of different races and ethnic backgrounds (Toth and Brown 1997; Hunt and Ditton 2001). Bengston et al. (2005) noted that natural resource managers, planners, and policy makers need to understand the cultures, perspectives, needs, and concerns of ethnic minority communities in order to effectively serve these often neglected groups.

Although fishing research has primarily focused on White adult males (Ditton 2004), research has explored racial and ethnic differences in motivations for, meanings of, and perceived benefits of fishing (Toth and Brown 1997; Duda et al. 1999; Hunt and Ditton 2001; Roper 2002). Fedler (2000) noted that “the motive of engaging in recreational activities with the family is a key element of participation that cuts across Anglos,

minorities and ethnic groups." Duda et al. (1999) emphasized the importance of social motivations, noting that being invited to go fishing by a friend was a motivator for African Americans, and fishing with family was a motivator for Hispanic Americans. Roper (2002) found that 80% of African Americans and Hispanics would personally go fishing "for relaxation, to spend time outdoors, to spend time with family or friends, or to get away from the daily routine." Fishing for sport or to learn about conservation of the environment were not strong motivators for angling in these groups (Roper 2002). Hunt and Ditton's (2001) research compared the benefits of recreational fishing to Hispanic American and Anglo anglers, and found that Anglo anglers saw fishing as a way to enjoy nature and relax, while Hispanic anglers scored lower on these beliefs. They found that Hispanic anglers, compared to Whites, scored higher on their belief and evaluation of fishing as a way to develop and demonstrate skills (Hunt and Ditton 2001). Toth and Brown (1997) found that fishing was more of a subsistence activity for African Americans than for Whites. Blahna (1992) found that minorities see fishing as more of a social activity than Whites do. Related to the social aspects of fishing, Hunt and Ditton (2002) found that all groups fished most often in groups consisting of family and friends, but African American males fished alone to a greater extent than anticipated.

Research has documented fishing constraints by race. Roper (2002) found that the top reasons for not fishing more reported by African Americans and Hispanics were: (a) time constraints, (b) perception of others' lack of interest in fishing, and (c) a belief that nearby waters are too polluted to fish in. About 40% of African Americans and Hispanics reported

constraints including: (a) not having the necessary fishing skills, (b) not being able to afford to go, (c) feeling that fishing areas were too crowded or far away, and (d) not wanting to kill fish. One-fourth or fewer of the respondents felt that fishing was not a good activity or reported having had a bad fishing experience in the past. Several authors have noted that safety concerns limit fishing participation among people of color (Duda et al. 1999; Fedler 2000). Fedler (2000) noted that safety concerns and lack of skills leads to discomfort in outdoor settings for individuals from minority communities. A study by Duda et al. (1999) noted that African Americans "appear to have higher negativistic values toward fishing" due to safety concerns. They also noted cost and racial intimidation as other possible constraints for African Americans. The Duda et al. (1999) study found that cost was also a barrier for Hispanic individuals.

Research needs to better understand why people of color participate in fishing and other types of outdoor recreation at lower rates than White individuals. In this study, we examine the motivations, constraints and perceived benefits of angling among African American, Chicano/Latino, and American Indian individuals in the Minneapolis/St. Paul metropolitan area. We also describe methods for improving communication with these communities. The study objectives were to: (a) explore perceptions of and participation in angling among three communities of color in the Minneapolis/St. Paul metropolitan area (African American, Chicano/Latino, and American Indian); (b) examine motivations for and perceived benefits of angling in these communities; (c) determine perceived constraints to participation in angling in these communities; and (d) explore strat-

egies to attract people in these communities who are new to angling and those who may have fished previously.

Methods

The study population included Minnesota residents from three communities of color in the seven-county Minneapolis/St. Paul metropolitan area (including Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties). Although the target population included the entire metropolitan area, the majority of study participants were residents of the central cities of Minneapolis and St. Paul.

Individuals from the African American, Chicano/Latino, and American Indian communities were hired to conduct three focus groups within each community. We contracted community members to moderate the focus groups because people from within a community have enhanced trust of participants, better understanding of the cultural issues, and greater ability to frame questions (McAvoy et al. 2000). All moderators had experience conducting focus groups in their communities in the Minneapolis/St. Paul metropolitan area.

Focus groups were selected as the research methodology for several reasons. First, focus groups enable researchers to capture social interactions and shared beliefs among members of ethnic communities (Krueger and Casey 2000). Second, a group setting may empower members to express opinions they might otherwise be reluctant to reveal (Kitzinger 1995). Third, focus groups allow access to research participants who may find one-on-one, face-to-face interaction "scary" or "intimidating" (Madriz 2000).

Focus group protocols were de-

veloped following the guidelines of Krueger (1998). The researchers, focus group moderators, and resource managers from the MDNR worked together to ensure that questions met research objectives and were appropriate for each of the communities. A six-section discussion guide was developed with introductory questions about outdoor activities and nature, key questions addressing fishing knowledge, feelings, benefits, facilitators, obstacles, and concerns. Ending questions addressed existing information and promotion of fishing in the community. In addition, ending questions asked participants to comment on seven MDNR proposals to disseminate information about fishing in the Minneapolis/St. Paul metropolitan area, including: (a) information about eating fish and concerns about contaminants/toxins, (b) information about fishing regulations and licenses, (c) classes about fishing where instruction and equipment is provided, (d) information about where to fish, (e) introduction of different fish species to local waters, (f) exhibits about fishing at community events, and (g) fishing equipment available for use in parks or community centers. Probes were included throughout the discussion guide to elicit additional information if conversation stalled.

Focus group moderators recruited individuals to participate in the groups using flyers and contacts with community organizations. Participants completed consent forms and brief questionnaires detailing their sociodemographic characteristics and fishing background. Focus groups were conducted between February and June of 2006, and they were tape recorded and transcribed. The Chicano/Latino focus groups were conducted in Spanish, while groups in the other communities were conducted in

English. Upon completion of the focus groups, participants received a \$40 stipend. Moderators analyzed focus group content and organized it by themes.

This study was part of a larger project to better understand angling in both traditional and underserved communities in the Minneapolis/St. Paul metropolitan area. In this paper, we present quotes and generalizations from the focus groups, and compare these results with data gathered through a mail survey of the general public (Schroeder et al. 2008, this volume).

Study limitations

Although the Minneapolis/St. Paul metropolitan area is home to substantial populations of Asian individuals, including Hmong, Laotian, and Vietnamese, this study does not include results for these communities. We contracted with a Southeast Asian research center to conduct focus groups, but we are still awaiting results.

We must clarify the limitations associated with generalizing from this qualitative research. Focus group results cannot be inferred to larger populations. Because of targeted selection procedures and self-selection to participate, the individuals who participated in these focus groups do not statistically represent their communities of color. In addition, our analysis emphasized the differences and similarities among these ethnic communities, but we cannot assume homogeneity within a community of color. Intra-group differences may be equal to or greater than inter-group differences (Li et al. 2007). Personality, affect, and motivation are consistently better predictors of leisure participation than ethnicity and/or gender (Barnett 2006).

Results

Participant characteristics

A total of 100 individuals participated in the focus groups, including 33 African Americans, 32 American Indians, and 35 Chicano/Latino individuals. The percentage of male participants was 36% in the African American focus groups, 41% in the American Indian groups, and 49% in the Chicano/Latino groups. The Chicano/Latino groups included participants from a younger age range (21–40 years) than the American Indian (20–66 years) or African American groups (30–68 years). Fifty-eight percent of the African American participants had children less than 18 years of age living at home, compared to 72% of American Indian and 80% of Chicano/Latino participants. The participants from the African American groups had somewhat higher household incomes than those from the other groups. About 39% of African American participants had household incomes less than \$50,000 per year, while over 85% of Chicano/Latino participants and 91% of American Indian participants had incomes less than \$40,000 per year. More than one-third (38%) of Chicano/Latino focus group participants read only Spanish, and 72% were born in Mexico.

Past participation in fishing

Although past fishing experience was not a prerequisite for participating in the focus groups, the topic of the groups was presented in flyers and many participants had fished in the past. Nearly all of the African American focus group participants (97%) had fished in the past, with the same percentage planning to fish in the future. About 80% of these individu-

als planned to fish in Minnesota in the next year. Nearly 9 of 10 American Indian participants had fished in the past. About three-fourths of these individuals said it was likely that they would fish in the future, with a similar proportion saying they would fish in Minnesota in the upcoming year. Nearly two-thirds of Chicano/Latino focus group participants had fished in the past.

Motivations for and benefits of fishing

Participants from across the focus groups reported the social, food, and relaxation benefits of fishing. One participant in the Chicano/Latino focus group described these multiple benefits, commenting: "Besides just thinking about whether or not you are going to catch something, you can have fun with the people you are with." Two American Indian individuals remarked on the contemplative benefits of angling: "Quiet and contemplation. Patience" and "Time to think, clear your mind." A remark from a Chicano/Latino focus group participant notes differences between the motivations of this group and other anglers: "It's a cultural difference... for example we, as Mexicans, we fish in order to eat. And, excuse me, but the American does it for sport... they have their culture and we have ours." Participants from the African American groups reported that fishing was affordable and accessible. Participants in the African American focus groups also mentioned that fishing gave men the opportunity to hang out with male friends, and had sporting benefits in terms of skill development and competition. One African American participant said: "You see, I fish for the biggest fish. I don't even care what it is. It's just got to be big!"

Constraints to outdoor recreation and fishing

Respondents from all of the communities of color mentioned constraints to angling related to racial discrimination, selective enforcement of regulations, and negative behavior of others. A comment from the Chicano/Latino focus group describes concerns about selective enforcement:

"This has happened to me personally the past two or three times [I've gone fishing], that our fun is [interrupted] because we have had to leave the water. We have our papers in order but as an example [...] we have seen that we Hispanics are asked for everything, everything."

Similarly, a participant from the African American focus groups said: "If you see a brother out on a boat... you're sitting in the middle like a spot on a sheet and they're looking at you and as soon as you pull something in, mess around and keep it, and the DNR be waiting at the dock for you."

African American and Chicano/Latino focus group participants expressed concerns about cold weather conditions in Minnesota and safety related to lack of swimming ability. Participants in the American Indian and Chicano/Latino focus groups expressed concerns about pollution and expense, which were less of a focus among the African American participants. African Americans and American Indians felt that shoreline development and lack of boats limited access to fishing.

Some concerns were unique to each community. African Americans felt that lack of knowledge and skills limited angling participation in their community. A quote from an African American

focus group participant described how individuals in this community may have limited knowledge, skill, and comfort in the outdoors:

“We don’t grow up in the outdoors in nature with trees and bugs, and spiders and ticks. A lot of Caucasian people that I know, they camp and they’ve camped since they were young and they fish and they go up north, so they’re exposed to that and they have no fear as they get older. The more you get used to it, the more comfortable you are.”

American Indians felt constrained by fishing regulations in the Minneapolis/St. Paul metropolitan area, which differ from those on reservations in the region. A quote from one American Indian focus group participant was: “Don’t know how to get license.” Chicano/Latino participants felt their angling participation was limited by lack of Spanish language information and concerns related to their immigration status, specifically identification requirements to purchase a fishing license.

Strategies to promote fishing in communities of color

Existing information on fishing.—In general, focus group participants felt there was a substantial amount of information available about fishing in Minnesota, but they felt that information could be made more accessible to their communities. African Americans were satisfied with the quantity of available information addressing health threats and fishing regulations. Chicano/Latino participants felt that fishing was encouraged in Minnesota more than in other states. One participant commented that: “I think Minnesota is one of the states where they

promote hunting and fishing the most.” These participants expected to find information available at retail stores including Walmart, K-Mart, grocery stores, gas stations, and specialized sporting goods stores like Gander Mountain and Cabela’s. American Indian focus group participants mentioned that information was available in bait shops, MDNR publications and Web site, the Internet, park and recreation centers, and fishing departments of sporting goods stores or mass merchants, but they emphasized that word-of-mouth communication about fishing was key in their community.

Promoting fishing in communities of color.—Focus group participants described a wide variety of methods to promote fishing in their communities. They suggested promoting fishing through media and stores that cater to their specific ethnic group, community organizations, local papers, and community events.

African Americans emphasized the African American press, culturally specific advertising, the Internet, radio, television, and annual community events as means to promote fishing. Media suggestions included: (a) papers targeting the African American community (e.g., *Insight News*, *Spokesman Recorder*), (b) local papers (e.g., the *Southside Pride*), (c) radio stations popular in the African American community (e.g., KMOJ, KBEM). They underscored the need to target the African American community by hiring a culturally specific advertising firm “that understands what sells to African Americans.” One participant commented that “The DNR does not market to us.” Participants recommended promoting fishing at schools, camps, and community events such as Juneteenth, Rondo Days, the Aquatennial, the Jazz Festival or the Art Fair. The Internet was widely dis-

cussed as a source for fishing information for African Americans. Several participants suggested creating a volunteer network where people without a boat or knowledge about fishing could connect with those who were more experienced or were willing to volunteer their boats for use.

Participants felt that fishing could be leveraged to address challenges in the African American community. In particular, fishing was seen as a way to engage African American men with their community. They suggested developing strategic partnerships with existing organizations including African American men's groups (e.g., African American Men's Project, MadDads), African American churches, community centers, and African American members of local fishing clubs and VFWs. One participant noted:

"I'm not only getting a passion for fishing, I'm getting a passion for organizing where we can start to help other people... even something as simple as fishing can be used as a vehicle to organize and mobilize, something that God provided, and its like we could use that as something that could start to build back our core..."

Chicano/Latino participants identified a number of ways to promote fishing in their community. They suggested disseminating information about fishing at mass merchants (e.g., K-Mart and Walmart), Chicano/Latino clothing stores and supermarkets, community centers (e.g., the YMCA), schools, and Spanish-language media outlets (e.g., the *La Prensa* newspaper, the La K Buena and Radio Rey radio stations, and the Minnesota Univisión channel). One individual suggested distributing bilingual information

about fishing via mail. Unlike in the African American community, the Internet was not emphasized as a means of reaching this community.

Participants from the Chicano/Latino community relayed a number of unique points about promoting fishing. First and foremost, the MDNR must provide information about fishing in both English and Spanish. This includes printed materials, electronic resources, signs, and classes. Second, the agency must take cultural considerations into account when crafting educational or promotional campaigns about fishing. Chicano/Latinos view fishing as a family activity and a form of sustenance rather than a sport, and regulation of fishing may be a foreign concept to recent immigrants. So, promotional and educational materials could promote fishing as a family activity and explain why fishing regulations are in place.

The process of obtaining a fishing license may limit recruitment of Chicano/Latinos. Participants suggested that the MDNR could relax requirements for formal proof of state residency to allow Chicano/Latinos without a state identification card or driver's license to purchase a resident fishing license. Allowing residents to present a rent stub or a utility bill along with another form of picture identification, such as the Mexican Matrícula Consular, could facilitate fishing among Chicano/Latinos who do not meet current documentation requirements for a resident license.

Participants suggested a variety of ways to promote fishing to people from the American Indian community. American Indian participants suggested having contests, competitions, or fishing derbies at local lakes. Many thought that contests should emphasize youth participation, because targeting youth would engage

the whole family. They suggested rods, licenses, and free boat rentals as prizes. Participants thought the MDNR could communicate with American Indian organizations through presentations, flyers, brochures, posters, and fact sheets. Participants also suggested advertisements and articles in free community newspapers and in *The Circle*, a Minneapolis/St. Paul area paper targeting the American Indian community. In addition, American Indians would like to see booths at local American Indian events including: the Minneapolis American Indian Center (MAIC) Health Fair, Indian month celebrations, and local powwows. Other promotional ideas included a free family fishing day with no license required, a pole donation drive, and tying fishing to other media campaigns like *Groove Your Body*, which is a physical activity campaign to encourage all Minnesotans to make healthier choices and increase their physical activity. A few participants mentioned posting notices at lakes, and one thought that postings in grocery stores would be helpful.

Response to management proposals.— In general, respondents from all three communities responded positively to MDNR management queries for promoting fishing in the Minneapolis/St. Paul metropolitan area. However, the suggestion of introducing different fish species to local waters was met with limited support.

Despite a wealth of information about Minnesota fishing, participants from all groups were interested in more understandable information about (a) contaminants in fish, (b) fishing licenses and regulations, and (c) where to fish. African American participants emphasized the need to make communications, especially about contaminants in fish, easier

to understand. They suggested comparing the nutritional and contaminant content of fish to other foods they get at the grocery store or “at Burger King.” Other suggestions were: “Color code a map where I can see which [lakes] are safer.” “Use a different format... 6-panel cartoon books.” Participants across the Chicano/Latino focus groups emphasized the need for information in English and Spanish. Chicano/Latinos who had purchased fishing licenses had only received English-language information, and they commented that the signs at area lakes and rivers were largely in English. Language barriers made finding where to fish more difficult, and limited Chicano/Latinos’ ability to fish safely and in compliance with regulations. These participants suggested that the agency clearly communicate places where fishing is permitted and/or prohibited and use pictures and diagrams for people who cannot read. Participants in the American Indian focus groups suggested keeping messages simple and informing community gatekeepers so messages get spread by word of mouth.

Fishing classes and making equipment available locally were perceived as welcome and positive incentives for fishing, especially for children. Participants were also generally supportive of fishing exhibits at community events, although perhaps less so than of classes and equipment. African American participants suggested combining classes for water safety, outdoor cooking, and fishing. Several African American participants felt the MDNR could partner with schools to leverage fishing as a means to teach life sciences (e.g., biology, animal science, geography, environmental studies) with a class fishing trip to apply classroom studies. One participant’s comment was: “It would be great to have classes not

just about fishing but classes about how to keep yourself safe ... a series of classes [including] water safety, canoeing, outdoor cooking, to build up your confidence." Participants in the Chicano/Latino groups relayed the need to create more opportunities to rent or borrow fishing equipment in the metropolitan area. Participants across the groups stressed that fishing equipment (and especially fishing boats) can be expensive. Participants who owned equipment noted it was generally poor quality. Most American Indian participants were interested in classes about fishing with instruction and equipment provided. However, a couple of participants were not interested in introductory classes, and one thought that instruction should be the role of parents and grandparents. These less-interested participants were still interested in classes about cooking fish and improved fishing methods. Among the American Indian participants, specific suggestions about classes included: having classes for free at a lake, providing transportation, providing daycare for smaller children, and giving people incentives for participating (e.g., family licenses, rods and reels, and boat rentals). All participants favored seeing fishing exhibits at American Indian community events and having fishing equipment available for use in parks or community centers. Some suggestions were providing equipment at low cost or for free, and renting a variety of types of equipment like fly-fishing rods so people can learn new skills.

Participants were less interested in introducing new species of fish into local waters. In particular, American Indian participants were not interested in the introduction of nonnative species into local waters. Many participants felt "more research was needed" before doing this. A few people shared stories of

different fish species changing the ecosystems of lakes, and specifically impacting wild rice and other vegetation. One participant suggested that signs should be posted at lakes indicating any species introduction.

Discussion

Participant demographics and past participation in fishing

The demographic characteristics of our focus group participants may influence our study results. Compared to census data for the Minneapolis/St. Paul metropolitan area, a greater proportion of our African American focus group participants came from higher income brackets and a smaller proportion had children living at home (U.S. Census Bureau 2000). Alternatively, for the American Indian and Chicano/Latino focus groups a smaller proportion of participants came from higher income brackets and a larger proportion had children living at home (U.S. Census 2000). Nearly three-fourths of our Chicano/Latino participants were born outside the United States compared to the U.S. Census Bureau (2000), which reports that 49% of Hispanic residents of the metropolitan area were born in a foreign country.

The proportion of focus group participants who had fished in the past was higher than past fishing rates among the general public both nationally and in Minnesota (USFWS 2002). Nearly all of the African American and American Indian focus group participants and about two-thirds of Chicano/Latino participants had fished in the past. Based on the screening interviews conducted for the 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, 29.7% of African Americans, 54.7%

of American Indians, and 28.4% of Chicano/Latinos have participated in recreational fishing at some point in the past (USFWS 2002).

Motivations for and benefits of outdoor recreation and fishing

The strong social benefits of fishing reported by these focus group participants are consistent with the social motivations for fishing reported in communities of color elsewhere (Blahna 1992; Toth and Brown 1997; Roper 2002). Likewise, the relaxation benefits were consistent with the findings of Roper (2002). Our African American participants reported some achievement-oriented motivations, while previous research has not reported strong sporting and skill development motivations for fishing in communities of color. However, Hunt et al. (2007) documented stronger motivations for catching trophy/challenging fish among African American compared to Anglo males in Texas. In addition, Hunt and Ditton (2001) found skill development to be a stronger motivation among Hispanic anglers than among Anglo anglers in Texas. The food benefit of fishing described by our participants was consistent with the stronger subsistence and "keeping fish" motivations reported among African Americans by Toth and Brown (1997) and Hunt et al. (2007). Our focus group participants also appear to be more motivated to catch fish for food compared to the general public in the Minneapolis/St. Paul metropolitan area. Schroeder et al. (2008) reported higher social and appreciative motivations and lower achievement-oriented and food-oriented motivations for fishing in a sample of predominantly White respondents from the same geographic area.

Constraints to outdoor recreation and fishing

Our focus group participants faced constraints to fishing that have been reported in previous research. Duda et al. (1999) noted racial intimidation as a possible constraint to African Americans. We found that discrimination was a concern among individuals in all three of the communities we studied. In addition to fear of discrimination, our respondents were afraid for their safety as it related to swimming ability, adverse weather conditions, and contaminants in the water. These results parallel findings by Fedler (2000) and Duda et al. (1999) who reported that safety concerns may constrain minority groups' participation in angling. Similarly, Roper (2002) and Duda et al. (1999) documented concerns about pollution as constraints to angling in communities of color. Our participants expressed constraints to fishing related to cost and skill, which parallel findings reported by Duda et al. (1999), Fedler (2000), and Roper (2002).

Our results documented constraints related to fishing licenses and regulations, which have not been reported in earlier studies. American Indian and Chicano/Latino focus group participants reported that they did not know how to get a fishing license and did not understand regulations. This constraint among American Indians likely relates to licensing and regulatory differences between reservation and state fishing waters. It has not been previously discussed in the literature, perhaps because of limited research on fishing with American Indians who do not reside on reservations. Chicano/Latino individuals were limited by the lack of Spanish language information about fishing licenses and regulations. This has not been discussed in the litera-

ture, despite research looking into Hispanic participation in angling (Hunt and Ditton 2001).

Our results suggest substantive differences in constraints to angling between individuals from communities of color and the general public in the Minneapolis/St. Paul metropolitan area. In a study of the general public, Schroeder et al. (2008) found that time constraints related to work and family commitments most constrained their fishing. These barriers were not expressed as primary constraints in these communities of color. On the other hand, constraints related to discrimination and access were seen as not very limiting to fishing participation in the general public, while they were of serious concern in these communities (Schroeder et al. 2008). Our findings parallel those of Shores et al. (2007), who found that, with the exception of time constraints, people of color faced greater constraints to leisure than Whites. Our findings support several theories, including marginality (i.e., economic disadvantages), ethnicity (i.e., cultural values), racism/interracial relations (i.e., discrimination), and structural barriers (i.e., limited access), which have been used to explain lower outdoor recreation participation rates among individuals from communities of color (Manning 1999; Chavez 2000; Floyd and Johnson 2002).

Management Implications

Understanding the motivations for angling in these communities of color may help urban fisheries managers create promotional messages to emphasize these benefits. Specifically, managers could emphasize the social benefits of spending time with family and friends, and the appreciative benefits of relaxing. Messages could also emphasize the

benefit of fishing for food, because our results suggest that people from communities of color may be more motivated to fish for food and less motivated by nature appreciation than White individuals.

Urban fisheries managers could develop programs to address the unique obstacles that constrain participation in angling among people of color. Specifically, people of color may feel constrained by racial discrimination, safety concerns, language barriers, and cost-related issues not generally faced by the White majority. Agencies may have little ability to change discriminatory behavior in the general public, but they may be able to take measures to address perceived agency discrimination in terms of selective enforcement activity. They may also portray a more welcoming and less discriminatory image by actively recruiting job applicants from communities of color and including people of color in promotional materials. Safety issues related to lack of swimming skills could be addressed through creative programming to teach fishing, swimming, and other outdoor skills in these communities. The MDNR could incorporate water safety into its MinnAqua educational programming, which teaches angling recreation and stewardship, as well as the ecology and conservation of aquatic habitats. Language barriers could be addressed by providing promotional, regulatory, and safety information in multiple languages. Cost-related constraints could be addressed by making equipment available through community centers and parks, free fishing days to promote angling, and creative licensing ideas like family licenses for extended families. The MDNR currently offers free fishing for residents under age 16 and for mothers

during Mother's Day weekend. Free urban fishing opportunities might be offered to other individuals on other occasions to promote angling.

In order to reach communities of color, natural resource agencies will need to simplify their messages and use new channels of communication, including ethnic media and community organizations, along with signage at lakes, rivers, and streams in multiple languages. We concur with Chess et al. (2005) who described the need for agencies to change existing bland, generic, technical "government speak" to culturally relevant communication. Nearly 73 million adult Americans are illiterate, and communications prepared at an eighth grade reading level or above may not be comprehended by as much as one-third of the population (Harrison-Walker 1995). The need for clear, concise, and illustrated messages about fishing to communities of color and the White community cannot be emphasized enough.

Conclusions

This exploratory research adds to the limited knowledge on motivations for and constraints to fishing among communities of color. Future research could examine whether the motivations and constraints described here are observed in large, statistically representative samples from these communities of color. We emphasize the need for simplified communication of regulations, safety information, and promotional messages, and future studies could test the effectiveness of simplified communications strategies (e.g., different grade levels of writing, cartoons, photographs, maps) with different audiences. Finally, our results suggest that racial discrimination, including selective en-

forcement and communication, limits the participation of people in color in angling. Research could examine enforcement records to see if conservation officers ticket people of color at a higher rate than Whites.

Individuals from the African American, American Indian, and Chicano/Latino communities perceive benefits like social connections and relaxation from fishing. However, people of color face constraints to their participation beyond those faced by the general public. These constraints may partially explain why people of color participate in fishing at a lower rate. Restrained access to the benefits of fishing for people of color is an issue of environmental justice that must be addressed. Researchers and resource managers need to employ new methods for understanding and communicating with these communities.

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