

*Hook, Line, and
Sinker:*



a profile of

FISHING

And FISH CONSUMPTION in the DETROIT RIVER AREA.



*Hook, Line, and
Sinker:*
a profile of shoreline
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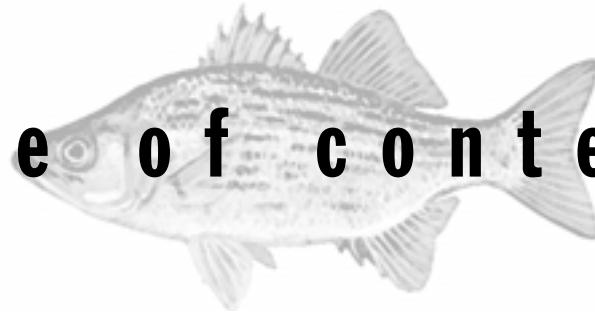


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Fish and Wildlife Nutrition Project

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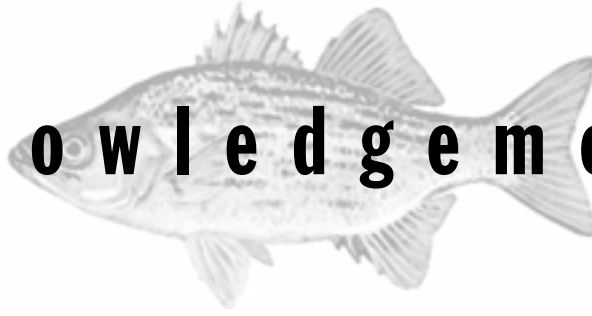
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a c k n o w l e d g e m e n t s



This profile of fishermen on the Detroit River is part of a larger project that involved the active support of many people. Thanks to Brian Gibson, whose initial observations of fishermen on the Niagara River and subsequent pilot research with Kelly R. Cavan and Mai Bui laid the basis for this project. In addition to funding the research, staff at Health Canada provided invaluable leadership and support. Dieter Riedel and Jill Kearney helped to design and promote the project in its early stages. As the Technical Authority for the project Sandra Owens consistently championed the project, provided practical advice, maintained communications with members of the RAP community in Windsor and the other survey locations, and participated throughout as an active member of the project team. More recently, Dora Boersma stepped into the role of Technical Authority and provided the support and direction we needed to see this project through to completion. Other members of the research team, Donald Cole, Judy Sheeshka, David Kraft and Fran Scott (who joined the project in the later stages), participated in every aspect of research design and implementation, as well as providing editorial comments on early versions of this and other project reports. In the early stages of this multi-year project Michelle Hooper assisted with the development of the survey instrument, Leo Keating managed data analysis and Heather Young-Leslie oversaw development of the interview guide and training of research assistants. In the later stages of the project Humaira Khan managed data analysis. Rachel Derry provided

accurate and prompt transcription of tape-recorded long interviews throughout.

This project could not have been carried out without our intrepid team of research assistants, who diligently trudged the shoreline, patiently interviewing shoreline fishers from morning to night in every kind weather. Their insights and observations as well as extensive knowledge of the river and the local fishery, were captured in thousands of pages of field notes, which made a major contribution to the success of the project. Research assistants who surveyed on the Detroit River were Cameron Byne, Marta Lejkowski and Lisa Tulen.

The Ontario Ministry of Environment provided more than 3000 copies of the *Guide to Eating Ontario Sport Fish* which our research assistants distributed to survey participants on the shoreline. Chuck Cox of the Sport Fish Contaminant Monitoring program provided helpful comments when we were drafting the one-page explanation of how to use the Guide. The Ministry of Natural Resources offered advice on the development of the list of fish species that was used in the survey questionnaire.

In Windsor we received help, feedback and professional advice from Mike Santavy, the RAP coordinator when this project began. Mike organized a tour of Detroit River fishing locations, provided administrative support and supplied office space for our research assistants. His successor, Gary Johnson, actively supported the project and helped



to organize our presentation of results at a public meeting in Windsor. Lynda Corkum from the University of Windsor provided photographs of the Goby, which we added to our species lists and the photo album which RA's used for shoreline identification. Thanks also to Rick Coronado and the Citizens' Environmental Alliance for their feed-

back and interest, not to mention their considerable patience in waiting for the final version of this report. Finally, thanks to all those shoreline fishers who patiently answered our questions, allowed us to tape extended conversations and record their opinions, observations and insights into the local fishery.



executive summary



THIS REPORT PRESENTS THE DETROIT RIVER RESULTS OF A SURVEY ON SHORELINE FISHING AND FISH CONSUMPTION WHICH WAS CONDUCTED IN SELECTED LOCATIONS OF FIVE ONTARIO AREAS OF CONCERN. THE SURVEY COMBINED QUALITATIVE DATA, IN THE FORM OF TAPE RECORDED INTERVIEWS AND FIELD NOTES, WITH QUANTITATIVE DATA, COLLECTED BY QUESTIONNAIRES, TO GATHER INFORMATION ON: THE AMOUNTS AND SPECIES OF FISH CONSUMED; PERCEPTIONS OF HEALTH RISK AND BENEFIT; USE OF FISH CONSUMPTION ADVISORY INFORMATION; AND THOUGHTS ON ENVIRONMENTAL AND RESOURCE MANAGEMENT ISSUES. RESEARCH QUESTIONS WERE DESIGNED TO PROVIDE INFORMATION AND OFFER RECOMMENDATIONS TO POLICY MAKERS, RESOURCE MANAGERS AND OTHERS INVOLVED IN ENVIRONMENTAL INITIATIVES IN THE AREAS WE SURVEYED.

At the close of three seasons of surveying (1996–1997), we had interviewed 999 individuals fishing along the Detroit River from Peche Island to Amherstburg, including two locations on River Canard. Sixteen percent were American residents who crossed the border to fish the Canadian side of the river for what they perceived was a more peaceful atmosphere, superior waterfront access, and better quality fish. Most of the Detroit River interviews were conducted in four highly popular fishing locations which were—in descending order of greatest number of interviews—Lasalle Marina, Assumption Park, Peche Island Park, and Mill Park Pier. Dwindling shoreline access all along the river was identified as a critical concern for practically all those with whom we spoke.

Fishing itself was a highly valued and ‘healthy’ activity, offering the opportunity to de-stress, to interact with others and to spend time with family. Fishing was appreciated for giving children and adolescents a productive, wholesome pastime.

Forty-eight percent of Detroit River interviewees had not eaten fish from the river in the 12 months

prior to being interviewed. When asked why not eat the fish, 42% replied that the water was ‘polluted/dirty’. It appeared, however, that those who ate the fish and those who didn’t eat the fish were not two discreet groups; there were a considerable number of participants who, given the right circumstances, might well have decided to eat their catch. Twenty-two percent of those who didn’t eat Detroit River fish simply stated that they ‘didn’t like fish’. ‘Non-eaters’ tended to view fishing ‘for fun’ and ‘for keeps’ as very separate activities.

Of the 52% of Detroit River interviewees who had eaten fish from the river in the previous 12 months, just over half had eaten 1–11 meals over that time period, 22% had eaten 12–25 meals, 20% had eaten 26–95 meals and 5% had consumed 96 or more meals. Over three quarters of fish consumers, when asked what they liked about the fish, responded that the fish ‘tasted good’ or ‘was fresh’. Only 5% appreciated their catch because it was ‘cheap/free’, a finding consistent with opinion shared in tape recorded interviews and field notes that eating the fish was not about poverty and necessity but was about superior taste and quality control.



The top 10 species of Detroit River fish consumed—in terms of greatest number of participants reporting them—were (1) yellow perch, (2) walleye, (3) white (or silver) bass, (4) rock bass, (5) small-mouth bass, (6) white perch, (7) channel catfish, (8) bluegill, (9) largemouth bass, and (10) crappie. The top 10 lists for Canadian and American residents were slightly different from each other. The greatest difference, however, appeared to be the variety of species consumed by residents of each country. Americans ate many species of fish while the majority of Canadian residents stuck devotedly to walleye and perch. It seemed that born-and-bred Canadians lacked the know-how and desire to prepare some of the species which Americans and recent immigrants would eat if more desirable species weren't available. Seventeen percent ate parts of the fish other than the fillet.

When Detroit River fish consumers were asked if they had 'concerns' about the fish they caught, 51% answered 'no'; they explained that they hadn't suffered any ill effect, that the risks from fish consumption were less than or equal to other risks they took, that fish migrated through the river, and that they didn't "eat enough to worry". Of the 49% of fish-eaters with concerns, most were pollution related. Fish consumers had noticed improvements in the river but were highly conscious of ongoing problems and were not yet content; they wanted greater corporate and individual accountability, and increased government involvement, to ensure the positive trend continued. Those who ate Detroit River fish attempted to manage and minimize the risk through various methods, including choice of location, releasing larger fish and particular species, removing parts of the fish when cleaning, releasing any strange-looking or unappetizing catches and reducing overall consumption. It appeared that there was a stigma to eating fish from

the Detroit River, which many coped with by turning offensive comments about glowing in the dark and nuclear fish into a self-deprecating joke.

Sharing fish was an important component of social interaction on and off the shoreline, both with familiar faces and strangers. Thirty-nine percent of Detroit River interviewees, when asked what they did with their catch, replied 'give some away'. More than three quarters of American residents 'gave away' some of their catch; many kept all the fish they caught and requested fish from shoreline neighbours to take across the border for friends, family, neighbours, and others in the community.

It appeared that the more Detroit River fish a participant ate, the more likely s/he was to report eating fish from other Ontario locations. Even so, an average of 67% of the total Ontario fish meals for Detroit River fish consumers came from the river. Popular locations were Lake Erie and Lake St. Clair, and participants—particularly those who didn't eat fish from the river—spoke romantically of fishing "up north" for the purity of the water and the quality of the fish.

Twenty-seven percent of Detroit River fish consumers stated that they used the *Guide to Eating Ontario Sport Fish* (hereafter referred to as the Guide). This percentage dropped to 14% for those fish consumers who spoke only a language other than English at home and to 12% for U.S. residents. Comments from participants pointed to the complexity of the publication; its scarcity; and to the cursory and creative manner in which it was used. A number of species caught and eaten from the river were missing from the 1997–8 version. It appeared that the more fish one ate, the more likely one was to be consuming species for which the Guide contained no advice. Information sources



which were popular with anglers included the media, fishing organizations, their own personal judgement, and each other.

Of the 999 Detroit River participants, 8% had eaten aquatic wildlife over the previous 12 months. Seventy percent of these individuals had also eaten Detroit River fish during the same time period. Almost half of aquatic wildlife consumers had eaten one or two meals of duck, goose or other aquatic wildlife species. The species most frequently reported consumed were mallard and Canada goose; most frequently reported locations from which wildlife meals were taken were Lake Erie, inland southern Ontario, and the Detroit River Area of Concern.

Comments about the Detroit River fishery were often in the form of complaint; interviewees contrasted contemporary fish runs with the good ol' days on the river and it was generally felt that the numbers of most species were down and that only very small yellow perch could now be caught. Fishermen* remarked on the introduction of the zebra mussel and goby into the Detroit River ecosystem. While

many felt the zebra mussel had been a boon, the goby was frustrating to those fishing and was feared to cause havoc with fish populations.

Those we interviewed were a very concerned and vocal constituency and frequently spoke about issues of fishery management, illegal activity and breach of fishing etiquette. Very often such comments were linked to the sustainability of the fishery and it was quite clear that many we spoke with viewed their role as one of stewardship for future generations. We heard many complaints about cutbacks in the Ministry of Natural Resources, use of license money, and the impact of commercial fisheries.

Key recommendations offered in the conclusion of the report are: to protect and enhance public shoreline access along the Detroit River; to integrate resource management and fish consumption issues in Ontario's fish advisory and to use the channels fishermen already employ to distribute this information; and to include fishermen, especially those who eat fish from the river, as advocates and resources when planning and implementing environmental initiatives on the river.



**Finding a suitable term by which to refer to our survey participants has been a challenge. We initially chose the label "fisher", since it was gender neutral and avoided the elitism and emphasis on rod-and-reel technique which are implied by the term "angler". On several occasions, however, we have been confronted by individuals who have objected to the term "fisher" and have preferred instead to be called by the more traditional and gender-specific "fisherman". An interesting article in the Globe and Mail (March 21, 1998) highlights this issue; a woman drew a standing ovation at a public meeting regarding a government fisheries report when she stated, "I won't be referred to as 'fisher' by no damn bureaucrats or politicians from Ottawa. I'm a fisherman and proud of it!". Given the absence of a definitive and uncontested way to refer to our participants, then, we have chosen to alternate use of the terms "fisher", "fisherman", and "angler" in this report.*

1.0 INTRODUCTION AND BACKGROUND

1.1 The research project

The Fish and Wildlife Nutrition Project—a multi-disciplinary research team whose members include an epidemiologist, nutritionist, sociologist, community medicine physician, environmental scientist and anthropologist—was contracted by Health Canada to conduct a survey of shoreline fishermen in Toronto, Hamilton, and along the Canadian sides of the Niagara, St. Clair and Detroit Rivers from 1995 to 1997.

The study was designed to provide detailed information about fishing in each of these water bodies, including who eats the fish, how much and which species are eaten, how the fish is cleaned and prepared, and use of Ontario’s fish consumption advisory and other information sources. We also asked participants for their perspective on the risks and benefits of fish and aquatic wildlife consumption and their opinions about the state of the local fishery and environment. This information was collected to fill data gaps and help guide policy and action in the areas we surveyed.

Data was collected using three methods: structured questionnaires, semi-structured tape recorded conversations and field notes taken by research assistants (RAs). Copies of the Sport Fish and Wildlife Consumption Study in Areas of Concern questionnaire and tape-recorded interview guide can be found in Appendix A.

1.2 The research context and rationale

In 1985, the International Joint Commission’s Great Lakes Water Quality Board identified 42 “Areas of Concern” around the Great Lakes. These

locations, commonly referred to as “AOCs”, were accorded this acronym based on the point source pollution and destruction of fish and wildlife habitat which had caused significant degradation of local ecosystems.

The Great Lakes Water Quality Agreement requires that clean-up plans—officially referred to as Remedial Action Plans—be developed and implemented in each of the Areas of Concern through the involvement of federal, state, provincial and local agencies; technical experts; interested groups; and local citizens. The five locations we surveyed—Metro Toronto, Hamilton Harbour, and the Niagara, St. Clair and Detroit Rivers—are all classified as AOCs and, to varying degrees, have Remedial Action Plans (RAPs) in place. These are all places where local sources of environmental contamination have resulted in restrictions being placed on the consumption of locally caught fish.

Consumption of Great Lakes fish was first recognized as a health concern in the mid-1970s when research identified the presence of persistent toxic chemicals in fish found throughout the Great Lakes basin. Since then, research has explored the extent to which particular communities or groups may be at higher risk of exposure to persistent toxic chemicals as a result of the sources and quantities of fish and wildlife they eat.

The impetus behind our research was the need to identify potentially ‘at risk’ groups eating Great Lakes fish. Hence we targeted Areas of Concern, sought to interview individuals who ate locally caught fish and wildlife, and focused our attention on the rarely-studied shoreline fisherman. The research, however, was designed from the outset to explore both the risks and the benefits of catching and eating local fish and wildlife. Candid, insight-



ful and challenging conversations with fishers from many different backgrounds demonstrated that issues of risk and benefit were complex, carefully considered and contested. The data we collected helped to recast our research question from 'who is at risk?' to 'how is risk defined?' and from 'who follows fish consumption advice?' to 'how do different groups and individuals balance the risks and benefits of fish consumption?'

The use of qualitative methods was part of a conscious strategy to broaden our understanding of issues of risk and benefit and to more accurately reflect the complexity of risk/benefit analysis. Readers of this report may well have spoken to fishermen in the course of their professional work and may, in fact, recognize some of the opinions and ideas which are quoted in this report. The documentation and analysis of such conversations and observations 'from the field' is a research method with a long history and varied application within the social sciences. Qualitative methods range from a one-off focus group which is quickly transcribed and analysed to years of intensive 'participant-observation' and key informant interviews with a particular group or community. Our method—conducting semi-structured tape-recorded interviews and writing field notes over several months—falls somewhere in the middle. Members of our research team did not live with fishermen, nor did they necessarily spend any time fishing in the areas we surveyed. Within the constraints of the survey format, however, we did attempt to gather in-depth and experiential information which could be analysed in a detailed and interpretive way.

1.3 The Detroit River study area and the Detroit River AOC

This report focuses on results from those participants interviewed while fishing in selected areas of

the Detroit River AOC. The river itself is a 32 mile long channel which links Lake St. Clair to the north with Lake Erie to the south and forms part of the international boundary between Canada and the United States. Appendix B shows both the AOC and study area boundaries. The two differ somewhat because 1) we chose to focus on the main waterbody and major tributaries rather than the entire watershed and 2) our survey strategy was dictated by the movements and preferences of the fishers.

Particular issues of concern which have been identified in the Detroit River RAP (1996) are: contaminated sediments; municipal and industrial discharges; stormwater runoff and atmospheric sources of pollution; combined sewer overflows; loss in fish and wildlife habitat; impacts of water and sediment quality on living organisms; introduction of exotic species; changes in fish community structure; and reductions in wildlife populations.

Progress on river clean-up is measured by improvements in 14 areas, three of which have direct relevance to this study: restrictions on fish and wildlife consumption, tainting of fish and wildlife flavour, and fish tumors or other deformities.

At the end of 1999, the Detroit River RAP did not have a full-time coordinator but research and initiatives were being undertaken at the local level by the Detroit River Clean-up Committee—a group of agency representatives, environmentalists, citizens and academics interested in the recovery of the river. The Clean-up Committee is a Canadian organization and at the time this report was published there was no formal coordination with activities and organizations on the U.S. side of the river.

	NUMBER OF REFUSALS	NUMBER OF FISHERS INTERVIEWED BEFORE	NUMBER OF PARTICIPANTS	NUMBER OF FISHERS APPROACHED
1996	102	110	568	780
1997	85	162	431	678
TOTAL	187	272	999	1458

TABLE 1. PARTICIPATION RATE OF FISHERS IN THE DETROIT RIVER SURVEY AREA*

* Survey protocol dictated that fishers were to be surveyed only once. Those who refused to participate and those interviewed previously have been excluded from the 'participant' total.

1.4 The Detroit River data

Surveying on the Detroit River took place from June 7 to November 7, 1996 and from April 1 to June 23, 1997. Research assistants—one of whom was fluent in Polish and two who were fluent in the ways of the local fishery—almost daily drove the length of the Detroit River from Peche Island to Amherstburg, including two spots on River Canard, in a tireless quest for new volunteers for the project. Although they had a list of priority locations to survey and were cautioned to avoid unsafe situations, RAs were encouraged to seek out participants who might be fishing at unusual times or in out of the way locations—an aspect of this unique job which one RA enthusiastically referred to as a “stake-out”. Our survey method was different from the more systematic and mathematical creel census used by the Ministry of Natural Resources to collect data about fish caught. The goals were to follow the fishermen, to encourage maximum participation and to capture the eccentricities of the study area.

The RAs—who were the eyes and ears of the project on the shoreline—became familiar faces along the Detroit River, sharing information and stories with many of the regulars in the local fishing scene. In return, these fishers gave our RAs notebooks—full of insightful information about life on the river and a chance to feel part of the local fishing culture. Table 1 shows that a total of 1458 Detroit River

fishermen were approached during the 3 seasons of surveying. Of this 1458, 187 refused to participate in the study. The most popular reason for declining to participate—offered by 24% (n=44) of the 187 people who refused—was that it was the individual's first time fishing here/they were a tourist. Eighteen percent (n=34) did not participate because of a language barrier; a wide range of languages were represented here but the most frequently encountered languages which presented a barrier were Vietnamese (n=6), Cambodian (n=4) and Italian (n=4). Sixteen percent of those who refused claimed they were “not interested”; 15% were busy or didn't want to be disturbed; 9% refused because they were a ‘beginner’; and 2% expressed concerns about consent/disclosure issues. The reasons for refusal offered by 17% (n=31) were categorized as ‘miscellaneous other’.

Nineteen percent of the 1458 had been interviewed previously and were therefore not surveyed again. Thus the statistics presented in this report have been generated from the responses of the 999 Detroit River fishermen who agreed to participate in the study and had not been interviewed before.

The questionnaire used in Metro Toronto, Hamilton Harbour, and along the Niagara River during 1995 underwent some changes before the 1996 survey season. Significant modifications to the 1996 questionnaire included: 1) asking demo-

graphic questions of all interviewees, not just fish consumers 2) asking for estimates of number of days per year and number of years each interviewee had fished 3) adding 'fish taste/smell bad' as a response to the questions 'why don't you eat what you catch?' and, for fish consumers only, 'what are your concerns [about the fish you catch]?' 4) asking fish consumers about their sources of information for eating fish and 5) asking 'do you use the *Guide to Eating Ontario Sport Fish?*' rather than 'are you aware of the *Guide to Eating Ontario Sport Fish?*' As a result of these alterations to the questionnaire, the data collected in 1995 and 1996–7 are not always exactly equivalent. While this does not affect any comparisons within the Detroit River dataset, since the 1996 version of the questionnaire was used for all Detroit River interviews, there are times when comparison to results from other survey areas may be slightly affected. Readers are alerted to such instances by footnotes to any affected tables.

The Detroit River dataset also includes transcripts of tape recorded conversations with twenty-nine survey participants who were interested in giving us a more comprehensive, lengthy and informal response to research questions. These conversations—all conducted in English—ranged from 10 to 90 minutes, with an average length of 38 minutes. Twenty were conducted with men, 6 with women and 3 with both

the husband and wife present. Twenty-four interviewees had eaten Detroit River fish in the previous 12 months and 5 had not.

The dataset also includes 845 pages of handwritten field notes, penned by the research assistants during shoreline shifts and when inspired by thoughts and recollections at home. These notes capture the conversations, observations and analytical commentary of the RAs and have allowed us invaluable insight into the findings from both the questionnaire and taped interview data.

Each of the sections of this report integrate the quantitative data collected via the questionnaire with the qualitative data collected through field notes and tape recorded interviews. This report relies heavily on qualitative data both because of the background and training of the author and because qualitative methods lend themselves very well to a study designed to capture the viewpoint of the participants themselves.

The primary purpose of this report is a practical one: to present results from our survey and to offer interpretation and recommendations to those interested in issues specific to the Detroit River area. For more general and comparative information we refer the reader to the related works and published papers listed in Appendix B.



2.0 DESCRIPTION OF SURVEY PARTICIPANTS

The following section offers a demographic overview of the fishers we surveyed, including comparisons of Detroit River participants to those interviewed in other survey areas and to the Essex county population. We then describe in greater detail the U.S. residents who fished the Canadian side of the Detroit River, first comparing American anglers to their Canadian counterparts and then exploring some of the reasons behind this cross-border fishing movement.

2.1 Comparisons to other survey areas

We found that fishers encountered along the shorelines in all five of the areas we surveyed were usually friendly, helpful and willing to participate in our study; participation rates ranged from 90% in Hamilton Harbour and 88% along the St. Clair River to 81% along the Niagara River and 78% in Metro Toronto. Thus the high participation rate of fishermen along the Detroit River (84%) was the rule rather than the exception.

It appears that we were more likely to encounter 'regulars' on the Detroit River and St. Clair River shorelines than in other survey areas; 19% of our total contacts along each of these south-western Ontario waterways were classified as 'interviewed before' compared to 15% in Hamilton Harbour, 9% along the Niagara River and 5% in Metro Toronto. In fact, field notes indicate that the Detroit River 'interviewed before' total may be an underestimate. Instead of religiously filling out questionnaire information on each angler encountered on every shift, RAs tended to approach—at least with the intent to survey—only those individuals who were not immediately recognized as 'repeat customers'.

The Detroit River sample (999 participants) was second only in size to Metro Toronto (1531 participants). Total numbers of participants in the other three survey areas ranged from 924 along the St. Clair River and 618 along the Niagara River to 565 in Hamilton Harbour locations.

In some ways, the overall demographic profile of the Detroit River fishers we interviewed differed little from the results from all 5 survey areas. Educational attainment, for example, was similar to other survey areas. Most Detroit River participants (36%) had finished high school but had not continued on to post-secondary studies. Twenty-eight percent of Detroit River respondents had less than a Grade 12 education; 11% had some college or university; 15% had a college or trade diploma; and 9% had a university degree.

Household income, too, did not differ markedly from our overall findings. Most Detroit River respondents (26%) had a household income of \$15,000 to \$29,999, although 22% reported having an annual income of \$30,000 to \$44,999, 19% were in the 45 to 59 thousand dollar range and 22% reported income in excess of \$60,000.

Household size ranged from one person (12%) to five or more people (17%), with the highest proportion of Detroit River respondents (26%) reporting a household size of two. Twenty-three percent each reported a household size of 3 and 4 people. Sixty-four percent of Detroit River participants were married or living with a partner and 45% had children under the age of 18 living in the household. With the exception of the 3-person household—where the survey total was slightly lower at 20%—all of these findings were consistent with overall survey results.



In other ways, however, those interviewed along the Detroit River appeared different from participants in the four other survey areas. Two unique characteristics of shoreline fishing on the Detroit River were the number of women and Americans encountered. Eleven percent of Detroit River respondents were female, compared to 7% when the data is examined overall; eighteen percent of Detroit River respondents were American-born, as opposed to 8% over all survey areas. We also collected data on the residency of anglers interviewed in the Detroit River area; sixteen percent of participants were residents of the United States.

Almost half of the Detroit River participants (49%) were aged 19 to 39, a finding consistent with an overall survey total of 50 percent. But Detroit River respondents appeared slightly older (27% were 50 years and older; 5% were under 19) than those in other survey areas (23% were 50+; 8% were under 19). Associated with this is the slightly higher number of Detroit River respondents who were retired (17% as opposed to 14% overall). As was the case in the other four survey areas, however, most of those interviewed along the Detroit River (62%) were working full or part-time and fewer than 5% reported that their main activity was any of the following: homemaking, receiving disability, or 'other'.

Seventy-two percent of Detroit River respondents spoke only English at home, while 18% spoke English and another language and 10% spoke only a language other than English. These percentages are in some cases identical to those from Niagara River and Hamilton Harbour and in other cases vary only by one or two percent. In contrast, respondents from the St. Clair River were more uni-lingually English-speaking (82% spoke English only) while Metro Toronto interviewees were much

less so (only half spoke solely English at home). Almost one third (30%) of Detroit River interviewees who reported speaking languages in addition to or other than English spoke French at home, a proportion higher than the overall survey finding of 16% French speakers.

Twenty-one percent of those encountered on the Detroit River had been born in a country other than Canada or the U.S., compared to a high of 62% in Metro Toronto, a low of 14% along the St. Clair River, and an overall survey total of 30%. Almost half (49%) of the newcomers to Canada we encountered fishing along the Detroit River had immigrated in the past 15 years, a finding consistent with an overall survey finding of 48%. However, 21% of the Detroit River respondents had arrived during 1965–74, a number higher than the 16% reported across all areas.

As was the case in all 5 of the locations we surveyed, those interviewed along the Detroit River were long time fishers. In fact, Detroit River anglers—perhaps because they tended to be older than the survey total—had fished for more years than their counterparts in other survey areas (60% fished 20 or more years versus a survey total of 55%; 21% had fished for less than 10 years versus a survey total of 25%). It appears, however, that Detroit River survey participants fished fewer days per year than those in other survey areas. Thirty-eight percent fished fewer than 20 days a year, compared to a survey total of 34%; twenty-eight percent fished 50 or more days a year compared to a survey total of 35%. Even so, almost one fifth (18%) of Detroit River respondents reported that they fished from 50 to 100 days a year.

2.2 Where participants lived

We asked survey participants if they would like to



receive a summary of the results of our study and, if so, recorded their address on the questionnaire to develop a mailing list. Forty percent (n=404) of the Detroit River interviewees gave us their home address; of this 404, 328 (81%) lived in the Essex county census division area and 68 (19%) lived in the U.S. One participant lived in each of the Metro Toronto, Niagara, Waterloo, Lambton, Middlesex, Simcoe, Alberta and Manitoba census divisions.

2.3 Comparing survey to census data

Comparison of the background information we collected from Detroit River fishers to the 1996 census data for Essex county shows that there are differences between our sample and the surrounding population, some subtle and some striking.

Sex was certainly one of the more obvious differences; 48% of the Essex county population was male compared to 89% of our participants. We encountered fewer people on the shoreline who spoke exclusively English at home (72% of fishers compared to 87% of the Essex county population) and more people who spoke English and another language (18% versus 2% of the Essex county population). Numbers of participants who did not speak any English at home were, however, similar to the census numbers (10% fishers, 11% census). We interviewed fewer fishers who were 10–18 years old (5% fishers versus 13% census) and more who were 19 to 49 years old (68% fishers, 56% census) but the proportions of our participants who were 40–49, 50–64 and 65+ were similar to those reported in the 1996 census.

Educational attainment was yet another area of difference. Thirty-six percent of Detroit River fishermen had completed high school but not pursued

post-secondary education, compared to 14% of the census population. Those we interviewed tended to have less post-secondary education than the census population; 35% had at least some post-secondary education compared to 53% of the census population. However, similar proportions of fishermen and census respondents had less than a Grade 12 education. Detroit River anglers tended to have household incomes lower than that of the general population. Seventy-eight percent of our respondents had incomes of less than \$60,000 compared to 63% of the census population.

2.4 The cross-border fishing phenomenon: Americans fishing the Canadian side

One of the most striking aspects of the Detroit River fishing scene was undoubtedly the large number of Americans—most of them African-Americans—who fished the Canadian side of the river. This section of the report offers both the statistics and the story behind this cross-border fishing phenomenon; later sections explore in more detail the locations fished by these respondents, their patterns of fish consumption and use of Ontario fish advisory information.

Background information by country of residence

Comparing those participants who lived in Canada with those who resided in the U.S. offers an initial—if imperfect—peek at the Americans fishing the Canadian side of the river. Unfortunately, it was after the questionnaire had been pre-tested, finalized and printed that we were apprised of the large number of U.S. residents fishing from Windsor to Amherstburg. It was too late to add a specific question about residency, but in an attempt to capture this important information we asked research assistants to note the residency of



interviewees on the front of the questionnaire. In the end, residency data was missing for only 22 of the 999 respondents.

Experience in the field and notes written by RAs clearly indicate that most of the Americans fishing the Canadian side were African-Americans. Not having anticipated a need to collect data on ethnicity—believing that language and country of birth would sufficiently illustrate shoreline diversity—we are left merely with qualitative data about the number of African-Americans fishing in Canadian waters.

Having offered these caveats, we can look at some of the demographic details of the 163 U.S. residents who participated in the survey along the Detroit River. A primary difference between Canadian and American residents was the sex of respondents. Thirty-two percent of interviewees who lived in the U.S. were women, compared to 7% of Canadian residents. As one participant told us:

I don't usually see too many kids around here. Mostly, a lot of women fish. A lot of black women. Come here, you come here Saturday, Saturday morning. There'll be all kinds of women. Actually you'll notice about 60%, 65 of them will be women. Mostly older women. Forties to 80s.

Not only were African-American women present in greater numbers on the shoreline than other women, but they played a pivotal role in their fishing parties as trip organizers, species identifiers, and quality control managers, deciding which fish to keep and which to release. African-American women were often responsible for getting their children and grandchildren into the sport; even those men we interviewed fishing solo often attributed their love of fishing to trips out with auntie,

mom or grandma, who first fixed them up with a stick, a piece of string, a safety pin and a worm.

The American residents we interviewed tended to be older than those living in Canada. Many more U.S. residents were over 50 (65% versus 20% of Canadian residents) and, while almost a third (31%) of Canadian residents were under 30, only 4% of those residing in the States were in this age group. American residents were more likely to live alone (18% U.S. versus 11% Canadian residents) or with only one other person (37% versus 24% of Canadian residents) and were half as likely as Canadian residents to live in a household of 4 people (12% of U.S. residents versus 25% of Canadian residents). Fewer American residents appeared to have children under the age of 18 at home (32% versus 48% of Canadian residents). U.S. residents were considerably less likely to be working (48% versus 66% of Canadian residents) or going to school (1% versus 13% of Canadian residents). Not surprisingly—given the large number of American residents over 50—those living in the U.S. were much more likely to be retired (42% compared to 11% of Canadian residents).

U.S. and Canadian residents differed little with regard to household income, particularly since we know that most Americans we interviewed did not convert their incomes to Canadian dollars. Most responses for both groups fell into the \$15,000 to \$29,999 income bracket (29% of Canadian residents, 27% of U.S. residents). U.S. residents seemed slightly more likely to report a household income of less than \$15,000 (15% U.S., 10% Canadian) and between \$30,000 and \$45,999 (26% U.S., 21% Canadian) and were less likely to report an income in excess of \$45,000 (32% U.S., 39% Canadian).



Forty percent of American residents were high school graduates but had not enrolled in post-secondary studies, compared to 35% of Canadian residents. Slightly more Canadian residents had at least some post-secondary education (36% compared to 33% U.S.). Eleven percent of those living in the States had not pursued formal education beyond Grade 8, compared to 8% of those living in Canada. Slightly more Canadian residents had left high school after Grade 11 (21% Canadian versus 17% U.S.).

American residents were long term fishers; 59% had fished 30 or more years compared to 31% of Canadian residents. Americans also appeared to fish more days a year than their Canadian counterparts. Twenty-seven percent of those who crossed the border to fish estimated they spent 75 or more days a year fishing compared to 20% of Canadian residents. In contrast, Canadian residents were more likely to state that they fished fewer than 10 days a year (18% versus 6% of American residents).

Why fish in Canada?

Many of the African-Americans we interviewed had been travelling to Canadian waters for years and sometimes decades. They considered fishing-focussed day-trips and extended holidays across the border to be a long standing and much enjoyed tradition, often begun in the company of close friends and relatives who had now "passed-on".

We often asked these interviewees why they chose to fish in Canada, or how Canadian fishing differed from its American equivalent. Respondents were often a bit reticent and reluctant to directly criticize the Detroit area and its fishing. However, analysis of their responses, taken from field notes and tape recorded interviews, clearly indicates that Canadian fishing was a highly-valued escape from the constraints and conditions of fishing on the

U.S. side which we discuss below: crowding, violence, poor access, and tainted fish.

For many, the attraction of the Canadian side was the "quiet", "clean", "relaxed", "peaceful", "slower-paced" and "hassle-free" atmosphere and the "nice", "friendly" people. One African-American candidly admitted, "people over here ignore colour". Safety provided strong motivation to cross the Ambassador Bridge from the Detroit side. One African-American fisherman explained, "Sometimes I go [fishing] over there [Detroit] but the people are just nuts. There's all sorts of weird activity going on and you never know if you'll have to fight your way back to your car. I'd certainly never take my kids fishing over there, but I'll bring them here to Canada". Another African-American interviewee explained, "It's a lot more peaceful and quiet over here. If my husband's working, I know I can come to Canada and go fishing by myself and not worry about getting hurt or mugged or something". A Canadian fisherman clearly articulated what was described subtly and euphemistically by Americans as "confusion", "too many people", "having to get into it with people" and feeling "unsafe". He explained:

There's too many guns in Detroit. One lady, she put it to me this way, she comes here to fish 'cause over there the drunks—people rip you off. Even when you're fishing they'll break into your car or something. Here you don't have that much problems. Everybody watches out for everybody else when you're down fishing anyway. Over there they said, they'll rip you off. Pull a knife on you, rob you and stuff over in the States. That's what a lot from Detroit say.

American residents were also openly critical of the poor waterfront access on the U.S. side of the river



and frequently noted that they crossed the border for more opportunities to fish. Curious about the state of access on Uncle Sam's side, the research team took a day-trip to Detroit and its environs. Guided by a location list developed with the assistance of a helpful American fisherman, we witnessed an enormous range of fishing sites in terms of access, amenities and aesthetics. What we best remember is lots of driving and little chance to get to the waterfront. Some of the suburban locations near Grosse Pointe and in Ecorse were treed and offered reasonable access, but one of the more attractive spots down-river of Detroit in Wyandotte was fenced off from the waterfront and a nearby park posted "no fishing". Elizabeth Park was certainly the nicest of the accessible suburban areas; a large, well-maintained park on an island, it offered handicapped fishing access, washrooms—which were both clean and open to the public—all under a beautiful forest canopy. In contrast, downtown Detroit locations offered a fishing-in-the-urban-jungle experience. Anglers—mostly black and mostly fishing alone—were scattered and sequestered in spots made claustrophobic by the crowding of office complexes and industry.

Our experience of these spots was confirmed by the American fishers interviewed on the Canadian side of the river. One interviewee laughingly recalled sneaking in to fish behind the Detroit News building when he was a kid and added, "I fished up in Wyandotte, I don't like it there. I'll go down to Elizabeth Park and fish. And that's about it. There's no place to fish". Another remarked:

Best places to fish years ago they closed them all up. I had a good spot over in the U.S. over there, a good spot, they built a coast guard on it. They could have made it where the people still could have come around and fish. But they blocked off the whole, put a fence up, blocked it all, they don't want you in there. People protested and talked about it, but you know, that's a state thing. When the state do something, ain't nothing you can do about it. Nothing. They can buy your house, buy your land, push you about your business.

African-Americans also fished the Canadian side of the Detroit River because they believed the fish tasted better. Fish caught on the U.S. side were frequently and damningly described as tasting "oily", "greasy", "full of oil", "strange", "different", and "not as fresh". One African-American, when asked for his opinion on fish from warm-water outflows, replied, "The fish that stays in there, they're lousy. What I'm saying, you get that taste if he stays in there long enough, like Munroe [Michigan], behind the plant down there. The fish taste just like the water smells. Old soggy taste, like you get a little motor oil on your hand and taste it or something". Spots on the U.S. side apparently infamous for tainted fish were Point Mouillee, Wyandotte, the Rouge River, Flatrock, Front Street and the Edison power plant in Munroe, Michigan. American residents mentioned Zug Island, Great Lakes Steel, industry on the Rouge River, and the Fermi Nuclear power plants as contributing both to the tainting of U.S. caught fish and to the exodus of American anglers to the Canadian side of the river.



3.0 DETROIT RIVER INTERVIEW LOCATIONS

While our research team surveyed upwards of 20 locations along the Detroit River from the mainland park across from Peche Island at the mouth of Lake St. Clair to Amherste Point near Lake Erie (see Map), less than half of these fishing spots were what one would call popular. In fact, 61% of the anglers we interviewed were encountered at one of 4 locations: Lasalle Marina (17%), Assumption Park (14%), the mainland park across from Peche Island (16%), and Mill Park Pier (14%). The popularity of these 4 locations was largely unwavering, except among those participants who did not speak English at home—who preferred Alexander Park (10%) to Lasalle (2%)—and American residents—who were encountered much more frequently at the River Canard bridge (16%) and at Sunnyside Tavern (12%) than at Peche Island Park (1%).

A discussion of the most popular fishing locations can be somewhat misleading, in that it implies that fishermen were prone to plunk themselves in one favoured spot, either for the day or the season. In fact, the opposite seemed to be true. Fishermen tended to follow the fish, fishing at one spot while it was “hot” and moving on when the fish run was over. And it was common for RAs to encounter the same individuals during a single day at different locations; people would move in an endless search for where the fish were biting, following the advice of the newspaper, the guy at the local bait shop and others on the shoreline, including our well-travelled research assistants.

It is also important to note that individuals—particularly those who preferred one or two species to the exclusion of all others—were often passionate devotees of less popular spots and weren’t above

sneaking onto private property or off-limits industrial land to access excellent fishing. Others—especially those who were fishing with small children—would forego the better fishing at locations like Lasalle, Lakeview Marina and Morton Terminal for the safety and amenities of downtown Windsor parks like Kiwanis. Our results regarding the most popular locations are also likely a product of the fact that we did not survey over the winter. Many participants mentioned that they preferred to eat fish from cold water or “through the ice” because the summer alternative was potentially “muddy”, “mushy”, “fishy-tasting”, “wormy”, and bacteria-ridden. Thus particular spots which were inaccessible or less productive in the summer were reputed to be immensely popular with hardy ice fishermen and those who fished early spring and late fall. Lakeview Marina, for example, was a popular spot with anglers from early November till the end of April; during the boating season it was forbidden to fish there and fishermen would be promptly evicted by marina staff. Walleye, perch, muskie and the odd sturgeon could be caught at the marina and interviewees enthused at the excellent pan fishing through the ice.

A number of people we spoke to raved about the perch fishing at Morton Terminal and the perch and pickerel fishing at “the salt mines”; fishing was ostensibly permitted at these locations and Windsor Salt even hosts an annual fishing derby for kids. One interviewee described Morton Terminal as “the only place to catch fish without a boat” and another enthused about the excellent ice fishing, “I come in here one day last winter and filled a 5 gallon pail so it was overflowing with big perch. They were all 10 or 12 inches”. But these locations—being highly industrial—may have had less appeal to those who were interested in the aesthetic of fishing rather than “catching double-headers” or coming home




 LOCATIONS	# OF INTERVIEWS	BY LANGUAGE SPOKEN AT HOME			BY COUNTRY OF RESIDENCE		ATE DETROIT R. FISH*	
		English only	English + other	Other only	Canada	U.S.	Yes	No
Peche Island Park	161 16%	101 14%	37 21%	21 23%	155 19%	2 1%	65 13%	96 20%
Lakeview Marina	35 4%	22 3%	13 7%	0 0%	35 4%	0 0%	24 5%	11 2%
Kiwanis Park	45 5%	37 5%	3 2%	4 4%	42 5%	1 1%	20 4%	25 5%
Reaume Park	27 3%	19 3%	6 3%	2 2%	27 3%	0 0%	11 2%	16 3%
Alexander Park	50 5%	27 4%	14 8%	9 10%	47 6%	3 2%	24 5%	26 5%
Great Western Park	20 2%	16 2%	3 2%	1 1%	19 2%	1 1%	10 2%	10 2%
Assumption Park	143 14%	87 12%	25 14%	27 29%	120 15%	17 10%	72 14%	71 15%
Mill Park Pier	138 14%	93 13%	23 13%	19 20%	106 13%	26 16%	67 13%	71 15%
Morton Terminal	66 7%	53 7%	9 5%	3 3%	64 8%	2 1%	36 7%	30 6%
Lasalle Marina	168 17%	145 20%	20 11%	2 2%	111 14%	54 33%	97 19%	71 15%
Sunnyside Tavern	37 4%	28 4%	9 5%	0 0%	17 2%	20 12%	25 5%	11 2%
R. Canard/Hwy 18 bridge	68 7%	54 8%	11 6%	3 3%	41 5%	26 16%	39 8%	29 6%
R. Canard/up from Hwy 18	10 1%	6 1%	2 1%	2 2%	8 1%	2 1%	7 1%	3 1%
Duffy's Marina	15 2%	14 2%	1 1%	0 0%	9 1%	6 4%	11 2%	4 1%
Other Detroit R. †	16 2%	12 2%	4 2%	0 0%	13 2%	3 2%	9 2%	7 1%
TOTAL PARTICIPANTS	999	714	180	93	814	163	517	481

Table 2. Number of people interviewed at Detroit River interview locations

* Participant was specifically asked if s/he had eaten Detroit River fish in the 12 months prior to the interview.

† Includes locations where less than one percent of interviews were conducted: Little River, St. Rose Beach Park, Dieppe Park, Chewet St. Ramp, Tourist Info Booth (Hwy 18), Amherst Point and 'other Detroit River locations'.

with a cooler-full. Morton Terminal, in particular, was an out-of-the-way location, inaccessible by car and requiring a 20 minute trek through the bush to reach the shoreline. The sporadic erection of a barricade and occasional drappings of yellow 'caution' tape at the gate of Morton Terminal also conveyed the sense that fishermen were not welcome. One RA commented in his field notes, "I've seen them throw

fishermen out of here before".

Sunnyside Tavern, quite popular with the African-Americans who fished the Canadian side of the river, was reputedly good for perch, bullhead, and panfish. Some complained that it cost money to fish there but others were content to pay the price. As one interviewee acknowledged, "I come here because they got a bait shop, they got a restaurant

and it's nice here. The lady's nice, she treats me nice and I come here. It only costs a couple of bucks. It's cheaper than the casino", he laughed, "I'll tell you that".

Below we discuss the locations which seemed to appeal to the greatest number of fishers: Lasalle Marina, the park across from Peche Island, Assumption Park, Mill Park Pier, and River Canard.

3.1 Lasalle Marina

The old marina in Lasalle was considered an ideal fishing spot by pretty much everyone: locals and visitors from across the border, those who ate Detroit River fish and those who didn't. In fact, as Table 2 shows, Lasalle was the most common interview location, both for American residents and those who ate fish from the river. As one African-American woman effused, "I fish all over from Port Lambton all the way down to Leamington and this is the best spot around".

No longer used as a marina, Lasalle offered free-of-charge and convenient access to fishermen, at least in 1996 and 1997. Unlike some of the parks in downtown Windsor—which were criticized for being "prettied up" at the expense of the fishing—Lasalle's slightly run-down appearance and rickety docks meant that the spot had little attraction for rollerbladers, large-scale festivals and other uses which might interfere with fishing. It also meant that important fish habitat had been left undisturbed. Unlike spots like Morton Terminal—where only the most dedicated and brave would make the lengthy trek into the bush—fishers at Lasalle could drive right to their fishing spot and immediately become part of a vibrant and friendly fishing community. Lasalle also offered amenities not found at many other Detroit River locations; near the boat

launch just upriver of the marina was a pavilion, restaurant and washrooms.

Lasalle was also valued for the quality of its fishing, including the number of fish and variety of species available. Common catches at Lasalle included sheephead, yellow perch, white perch, channel catfish, largemouth bass, rock bass, bluegill, pike, and garpike. The occasional sturgeon could be caught there, too.

Oldtimers spoke fondly of Lasalle as a place they had fished since they were children, and coming to the marina was considered a decades-old "family tradition". The marina was, however, slated for condo development and all of the buildings had been demolished and trees removed by the end of summer 1996. Fishermen by-turns expressed despair at the impending loss of this prime location and elation that slower-than-expected condo sales were buying them a little bit of precious time. As an older African-American man from Detroit lamented:

This is my favourite spot to fish. It's close to home, the island out there is nice to look at and I can drive right out. The last time I was here, a security guard was working and he came out and said they were going to put a stop to fishing here but let me stay for that day. I haven't been back in about 3 weeks because of that but then some friends said they were still coming here fishing so I thought I'd come back today. I don't know how much longer till they put an end to it.

While the condo project at Lasalle was perhaps the latest and most devastating development to affect shoreline anglers, the problem of dwindling waterfront access was certainly not limited to Lasalle and is discussed in more detail at the end of this section.

3.2 Peche Island Park

The fenced park and boat launch on the mainland across from Peche Island was another popular spot along the Detroit River, particularly with English-plus-another language speakers and those who did not eat Detroit River fish. Like Lasalle Marina, this park was not developed for any particular use save fishing; unlike Lasalle, however, it lacked any conveniences such as washrooms, eating establishments or picnic tables and fishermen were required to leave their vehicles in a parking lot on the opposite side of Riverside Drive. An interesting bit of fishing culture could be found here: an all-male group of seniors—affectionately known as “the Cuckoo Club”—who had known each other for 30 years and frequently fished together at the park.

Anglers would spread themselves along the break-wall to catch sheephead, smallmouth bass, silver bass, yellow perch and rock bass; an unintentional and frustratingly frequent catch was the irritating goby. Hopeful walleye-catching-wannabes would line the breakwall during the spring run and curse at the success of the many boat fishermen casting nearby. Experienced fishermen targeting bass species would stand at the western-most corner of the breakwall and cast to where the current broke around a point of Lakeview Marina.

3.3 Assumption Park

Assumption Park, an area which stretches along approximately 2 kilometers of the river’s shoreline, was the most frequent interview location for non-English speakers but was also very popular with all but the American residents we interviewed.

Unlike Lasalle and Peche Island, Assumption was a park in the true sense of the word, sporting a playground, bike trail, benches, washrooms, and a guard rail for the protection of the public. In

addition to people fishing, it was common to see bike-riders, rollerbladers, dog-walkers, picnickers, gregarious and active folks out for a waterfront stroll and others, more reclusive and passive, reading the paper or enjoying the view from the comfort of their cars. The view of the Detroit skyline and Ambassador Bridge was an appreciated aspect of fishing at Assumption. As one woman told us, “There’s no other city in the world where you can sit and fish and enjoy a view like this with the big bridge and the city skyline”. Special provisions for fishermen had been made in park design; there were two fishing decks with no guard rail and a fishing pier which jugged into the river by the Ambassador bridge. But fishermen go where the fish are, regardless of amenities and convenience, and it was common to see people fishing on the old train dock pilings past the eastern-most extremity of the park. Common catches at Assumption Park included silver bass, white perch, yellow perch, rock bass, sheephead, smallmouth bass, bluegill, and crappie. Carp could be caught by the warm water outflow in the spring.

There were a number of complaints, however, that park development at Assumption had ruined the fishing through habitat destruction and dumping of construction waste. As one interviewee angrily asserted:

They changed it up here and where it used to be excellent fishing, we don’t get nothing there anymore. At this corner. Right at the foot of Bridge Avenue there? It isn’t worth the powder to blow it to hell to go down there and bother anymore. I don’t know. And they’re supposed to not change it. They were supposed to put it back the way it was supposed to be, just put a railing in but the whole thing has changed down there. And the new park that they built, if you drop your lure to the bottom, like your sinker to the bottom, you’re lucky if



you get it back up. As soon as it hits bottom you're snagged, you can't get it back. And every sinker's 40 cents. So I don't know whether they take and bulldoze the rest of their garbage in the river when they were finished or what happened down there, but it's the most disgusting area to fish in. It's no good. Unless you're top fishing.

3.4 Mill Park Pier

Mill Park Pier was the second-or-third most popular interview location, regardless of whether the data is examined by residency, language, or 'eater'/'non-eater'. The area offered plenty of fishing opportunities in a variety of spots: along the marina, the dock pilings, the shoreline in front of a warehouse, and along the shore on the opposite side from the canal. All spots were accessible by car; even the spots beyond the canal could be reached by a dirt road off of Mill Street. Common catches at Mill Park included bluegill and other panfish, pike, sheephead, rock bass, and both yellow and white perch.

The Mill Park location was reputedly the seediest and least safe of all the locations surveyed along the river. While the park itself was visible from the road and appeared to be regularly maintained, the adjacent area was secluded by bushes and overshadowed by an abandoned warehouse. One RA commented that "nice and friendly people always fish in the public park and we always get bad vibes from the people who are fishing in the area behind the warehouse". Anglers themselves were wary of this spot and some exercised caution while there. One interviewee, for example, remarked that he would not linger in Mill Park past dark because "it's a strange area. Strange things happen here". Interviewees expressed concern about illegal activities such as drug deals, prostitution and theft from vehicles parked there after dark.

3.5 River Canard

This spot was really popular only with the African-American residents we interviewed and was referred to rather distastefully by some Canadians as "nigger bridge". Some locals enjoyed fishing River Canard but the location was inconvenient unless one had access to a vehicle. People would fish for bluegill, crappie, pumpkinseed, yellow perch, carp, and the occasional largemouth bass or pike in the canal which separated the parking area and old Highway 18 from a private marsh. Other popular spots were actually on River Canard; casting downstream from the parking area or upstream towards the Highway 18 bridge one could catch catfish, sheephead and white perch. Occasionally people would fish beneath the bridge itself. River Canard was especially popular in early spring when the panfish were running, in May to catch spawning catfish, and in September for crappie.

A couple of interviewees remarked on changes at River Canard in recent years. One blamed a dyke for severing the channel from the main river and affecting fish populations. Another, an African-American who had fished River Canard since 1959, reminisced about the large numbers of bass, bluegill, bullhead, catfish and dogfish available and the "hoards of crappies" that would come into the canal when a pump, used to drain the nearby marsh, was turned on. Now, he complained, the pump is rarely on.

3.6 Access issues

Conversations with Detroit River anglers very clearly and passionately indicated that shoreline access was a big problem along the river. While our interviewees asked about pollution and contaminants and fish recipes, for more than half of those we tape recorded, access issues were of more pressing concern and received more air-time. Residential,

industrial, marina and casino-oriented development were condemned for privatizing shoreline from Windsor to Amherstburg which should be left public for the good of all. As one interviewee lamented, "We're a town that was born with its feet in the water, and now we can't even get close to it". Parks once open to fishing had been "prettied up" and posted "no fishing", vacant waterfront land was marked "no trespassing", and even boat-owners found themselves unable to fish the very productive canals near River Canard because private landowners acted as if "they own the water". Fishers spoke of travelling to the St. Clair River to find shoreline to fish on, of run-ins with security guards and land-owners, of being unable to find a parking spot in order to fish Windsor parks, of scaling fences and fighting City Hall.

Free public access to the waterfront was considered an important equity issue; those with money to purchase waterfront property or a boat were the privileged elite while the typical fisherman was treated like a second-class citizen. As one fisherman stated angrily, "They're basically saying, 'Too bad, you ain't got nowhere to go. That's your fault. Go get a boat'". Another exclaimed, "There's been places where they stopped development because of rare species of plants and silly things like that. In this place, like a lot of people go there and they're going to develop it and I wish they found some sort of a reason why they couldn't build on it because a lot of people can enjoy it, not just the people that are going to live there, you know." A third told us,

"Anything they turn into a marina is only for the people who own a boat. The people who pay the taxes in the city, they can't use it to fish off of. It seems to be all for the rich and not for the people who want to go out and fish. To me it's the river and we should have as much right to it as anybody". Yet another interviewee remarked with resignation, "Everything is closing up to fishermen who fishes on the bank now. Private land, what have you, industry is buying up everything, people with money, you know. So we don't have that many places to fish on land anymore. If you don't have a boat, you're just about out of it. Yeah, that's the main concern. But I guess if you've got the money you can buy the land, you have the right to tell people you can't fish in here."

Some of the fishermen we spoke with offered concrete advice to decision-makers along with their admonishments. One advised that a fence be erected at Lakeview Marina—a city-run establishment—to separate the boats from the cement walkway, enabling "taxpayers" to fish in peace while protecting the boats. Other interviewees recommended that the city purchase riverfront property to guarantee public access; that the condo development at Lasalle include a public fishing dock; and that special fishing piers which reach into the river be built. Parking was also a popular issue. It was suggested that one-hour parking limits at certain city parks be increased; that the amount of parking available everywhere be enhanced; and that seniors who fish be given a sticker or pass for free parking near the casino.



4.0 ENJOYMENT OF FISHING

One might automatically assume that a report which is written about an Area of Concern and discusses fishing in the context of health would be focussed on physical health and negative topics: health risks and health effects. But we were reminded repeatedly during our two years of surveying on the Detroit River that fishing itself is about psychological benefit and positive topics: relaxation, strong families, life-long learning, and social interaction.

4.1 Fishing as a de-stressor

Invariably, the top three responses offered by Detroit River participants to the questionnaire query “why do you fish?” were—in order of popularity from most to least—‘fun or pleasure’, ‘peace and quiet/get away’, and ‘sport/challenge’. All of these reasons for fishing clearly connect to mental health benefits. In fact, the data suggest that Detroit River interviewees may seek more of an escape through their fishing than their counterparts in other survey areas; a third (33%) of Detroit River participants offered ‘peace and quiet/get away’ as a reason for fishing compared to an overall survey finding of 22%. Only those interviewed on the St. Clair River showed a similar appreciation of the peaceful ‘get away’ qualities of fishing.

Tape recorded interviews and field note jottings of conversations with Detroit River fishermen suggest that interviewees valued fishing as a way to cope with stress; they fished “to relax”, “for therapy”, “to meditate”, “forget problems” and “to think”. A number admitted that fishing kept them from drinking, out of “smoky bars”, away from the casino, “off the street and out of trouble” and was a much better way to spend time than indoors and glued to the boob-tube. Instead, anglers were out-

side, in fresh air and sunlight, enjoying the view: boats, “girls”, sunsets, wildlife, the Detroit skyline. Many mentioned the therapeutic qualities of being by the water. “It releases a lot of stress”, one woman told us, “and when I’m depressed, I don’t know why, but the water is so soothing”. Another remarked, “I feel closer to God when I fish. I believe that man came from the water, not from a tree”. A third confessed, “I’m addicted. I just come out at the water. I can sit here, like I’m doing right now with that rod in the water and sit here for hours and just the water sounds, I don’t know”.

Fishing allowed these folks the freedom to get inside their minds and work through the confused tangle of obligations, changes, pressures, hopes, worries, aspirations, and losses in their lives. This seemed especially important for those who worked long hours at demanding jobs; recent immigrants adjusting to a new country, language and culture; those who had been recently struck by tragedy among family or close friends; and those who were recovering from illness, coping with chronic conditions like arthritis or high blood pressure, or managing pain because of acute injury or long-term ailments.

Stress, however, can result from understimulation and boredom as well as overstimulation and a crisis-paced lifestyle. People who were laid off, on disability, on strike, retired, or out of school for the summer often mentioned that fishing gave them something to do with their extra free-time. Those who were unemployed or had jobs which accorded them little societal respect could be experts on the shoreline, envied and sought after for their fishing skill and environmental knowledge. As one fisherman explained, “It’s the challenge and style needed to catch fish. Fish don’t just jump on your line. It takes talent to catch them”.

4.2 Social interaction

Participants told us that not only did fishing get people outdoors, but that an appreciated aspect of shoreline fishing in urbanized areas was that it got people out talking to each other. Fishermen, as a group, were very often described as “nice”, “friendly”, “helpful” and “good people”; the low refusal rate and engaging, lengthy conversations our research team experienced attests to the gregarious and helpful attitude of many fishermen encountered along the Detroit River. Interviews were often interrupted by side-conversations with neighbouring fishermen, people trading and sharing bait, fish donations, requests to borrow lighters or fishing equipment, advice on where and how to fish, and the excitement of another’s catch. Those fishing close by did not hesitate to contribute their two cents worth when they overheard an RA ask a question which piqued their interest. Parks were people places and fishermen enjoyed showing off their catch to admiring individuals who were down for a stroll. One interviewee, when asked what he liked best about fishing, replied with a good-natured laugh:

Sit there and listen to the stories. The older guys that have retired now, you learn a lot from them and the stories. About everything, not just fishing, it’s about the community, the environment, everything. They’ll tell you all kinds of stuff from when they were young to what their age they are. Some of them are 80, 90 years old. I met a guy who’s 96 years old. I guarantee you every morning he’s down at the river. He’s walking along, looking at the water. He’s checking out to see what kind of fishing. And that guy can catch fish.

Through fishing on the Detroit River, people from many different backgrounds and ages met and

interacted—black and white, English speaker and non-English speaker, old and young, able-bodied and disabled, employed and unemployed, rich and poor. There was, unfortunately, evidence of understated or explicit racial, ethnic or generational conflict on the river. Recent immigrants were accused of pretending not to speak English so they didn’t have to follow the rules. Youngsters were said to be the targets of old-timers who “took the sport too seriously” and complained that inexperienced kids were interfering with the fishing. We heard at-times bitter and often derogatory comments about Americans: they fish illegally, throw their garbage around, occupy fishing spots which should be reserved for Canadians and eat garbage fish. But most anglers, happily, saw the variety of people and inevitability of contact as an advantage to fishing from shore. They spoke fondly of casual small-talk with strangers; of long-term friendships made through chance shoreline encounters; of a safe, trusting atmosphere and camaraderie on the waterfront.

4.3 The connection to family

Only 5% of Detroit River respondents replied that they fished “to spend time with family” and a scant 1% of U.S. residents gave this response. Tape recorded interviews and field notes, however, convey the extent to which fishing and family were connected for many of the Detroit River fishers we encountered.

A number of interviewees—all of them men—joked that they fished to escape the demands of spouse and kids and were frustrated when forced to fish with tots in tow. But most appreciated fishing because it allowed them to spend time with their children and many had taken up the sport or had renewed their waning interest at the inspirational urging of their children, grandchildren, nieces, nephews and neighbours. As one of our RAs wrote,



"I've noticed now that school's done for the summer, a lot of adults bring their kids fishing. People bring their kids, grandkids, and friends' kids and neighbours. It's common to see one adult with a bunch of kids that aren't even theirs."

For many of these interviewees, fishing was fundamental to their early socialization and a fondly recalled pastime shared with dads, uncles, grandpas and—sometimes—moms. As one interviewee reminisced, "I remember going fishing with my dad a lot when we were kids. It seemed to be an activity that, well, I don't know if you'd call it bonding or not, but it was pretty good... I think it established a rapport between dad and us kids that exists today. We all get along well. Then of course, my brother and I took up fishing and continued at it, and still do it. It's a fun, pleasure, leisure activity, now. It isn't a necessity like it used to be, but it's still sort of a balm for the spirit."

Implicit in many of the statements about fishing with kids was an almost-self-righteous stance: fishing was a big part of quality parenting and not enough parents took such interest in their kids. "What better way to spend time with the family than fishing?" one interviewee asked rhetorically. Another asserted, "It's good to grow a good family when you go fishing because you can spend a lot of time with your family which a lot of people don't nowadays". Another prophesied, "Normally if you come to shore [to fish] you bring your whole family. And a family coming together, spending the whole time together will stay together".

A surprising number of children, however, fished without adult supervision. Numerous field note entries describe kids—many under 14 and therefore not eligible to participate in our study—who had

ridden bikes or hitched rides to come fishing by themselves or with friends. Some of these children developed relationships with unrelated elders on the shoreline who taught them the tricks and techniques of catching and cleaning fish. But sometimes it was the kids who taught the old dogs new tricks; as one RA wrote admiringly, "this kid was an amazing fisherman. He caught at least 20 fish in the 2 hours that I was there. He had this special bait that he had ordered from an American magazine and was showing the old man beside him how to fish".

Fishing was applauded for giving kids a constructive alternative to hanging out in the mall or the local pinball joint; for teaching them patience, self-sufficiency, independence, and respect for nature; for keeping them busy, away from the TV, and outside in the fresh air. One interviewee, speaking about his son, asserted, "Fishing keeps him out of trouble and it is a very good way for him to spend his time. It teaches him respect for the outdoors and it's part of his heritage".

Another succinctly stated, "I'd rather see kids hooked on fishing than hooked on drugs". A third explained:

My grandchildren and the two little girls next door that call me grandma, those kids would come fishing any time I ask them. They love it. They've learned to take off their own fish. They can bait their own hooks. My oldest granddaughter is 14 and she's kind of gone away from it right now, but if she ever gets involved with a guy or a boy or a man, whatever you're going to call them some day, she knows enough about fishing that she can pick it right up with him. And so far she has given her mother no problems. I mean, this kid has—so far, so good. And I think if you can get them into any sport, I don't care what it is, and fishing is one of the cheapest sports you can get em into.



5.0 THOSE WHO DIDN'T EAT DETROIT RIVER FISH

This section of the report takes a close look at those interviewees who had not eaten fish from the Detroit River survey area in the 12 months prior meeting one of our RAs on the shoreline. We first compare the demographic information provided by those who had eaten fish from the river and those who had not kept any over the past year. The section concludes with a discussion of why these participants chose not to eat their catch which combines statistical data with information from field notes.

Fewer than half (48%) of Detroit River interviewees had not eaten fish from the river over the 12 months prior to the interview. In contrast, 80% of those interviewed in Hamilton Harbour, 77% of Metro Toronto respondents and 68% of those fishing in Niagara River locations had not eaten fish caught in their survey area. Only the St. Clair River appeared to sport fewer 'non-eaters' than the Detroit River; a mere 36% of St. Clair River fishermen released or gave away all of their catch.

5.1 Demographic differences between 'eaters' and 'non-eaters'

Below we present a demographic comparison of those who had eaten Detroit River fish in the 12 months previous to the interview ('eaters') and those who had not eaten any fish during that time period ('non-eaters').

A striking finding was the proportion of Americans who had eaten Detroit River fish. Over three quarters (76%) of U.S. residents were 'eaters', while less than half (48%) of Canadian residents reported eating fish from the river. 'Non-eaters' appeared to be younger; 64% were under 40 years old, compared to 44% of those who ate Detroit River fish. 'Eaters' seemed slightly more likely to be married (67% versus 60% of 'non-eaters') and to have only a Grade 1-8 education (11% versus 5% of 'non-eaters'). Equal proportions of 'eaters' and 'non-eaters' appeared to report having children under 18 at home and there appeared to be little difference between the two groups regarding household size, sex and language spoken at home.

'Non-eaters' stated with greater frequency that their main activity was working full or part-time (67% versus 58% of 'eaters') or going to school (14% versus 8% of 'eaters'). 'Non-eaters' were less likely to be retired (11% versus 21% of 'eaters'). More 'non-eaters' reported a household income of \$30,000 to 49,999 (25% versus 19% of 'eaters') and an income in excess of \$60,000 (26% versus 19% of 'eaters'). More of those who ate Detroit River fish reported an income between \$45,000 and \$59,999 (22% versus 16% of 'non-eaters') and less than \$30,000 (41% versus 33% of 'non-eaters').

'Non-eaters' appeared to have fished for fewer years than their shoreline companions who had eaten Detroit River fish. One quarter of the 'non-


	METRO TORONTO	HAMILTON HARBOUR	NIAGARA RIVER	DETROIT RIVER	ST. CLAIR RIVER	TOTAL PARTICIPANTS
'NON-EATERS'	1186 77%	454 80%	420 68%	482 48%	333 36%	2875 62%
TOTAL PARTICIPANTS	1531	565	618	999	924	4637

TABLE 3. PARTICIPANTS WHO DID NOT EAT THEIR CATCH BY SURVEY AREA

eaters' we interviewed had fished for fewer than 10 years, compared to 18% of 'eaters'; twenty-eight percent of 'non-eaters' had fished for more than 30 years compared to 43% of 'eaters'. 'Non-eaters' were also more likely to fish fewer than 20 days each year; just over half (51%) of 'non-eaters' gave this estimate of their annual fishing activity compared to 26% of 'eaters'.

5.2 Why not eat fish from the river?

Pollution-related reasons

As part of our questionnaire, those interviewees who reported they did not eat any fish from the

Detroit River survey area were asked to give their reasons for not consuming their catch. When these responses are compared to the overall survey results, it is apparent that fewer Detroit River fishers focussed on poor quality fish and water than was the norm, especially in comparison to the Lake Ontario locations we surveyed. While 42% of Detroit River 'non-eaters' offered 'water polluted/dirty' as a response, over half (55%) of Metro Toronto and two-thirds (66%) of Hamilton Harbour 'non-eaters' gave this answer. Seventeen percent of Detroit River 'non-eaters' responded that the fish were 'dirty/contaminated', compared to 40% of Niagara River, 37% of Metro Toronto and 33% of Hamilton Harbour 'non-eaters'. Only

	DETROIT RIVER (N=453)	SURVEY TOTAL (N=2769)
WATER POLLUTED/DIRTY	188 42%	1304 47%
DON'T LIKE FISH	98 22%	413 15%
FISH DIRTY/CONTAMINATED	77 17%	829 30%
CLEANING/COOKING	36 8%	90 3%
FISH TOO SMALL	36 8%	175 6%
NOTHING CAUGHT	31 7%	263 10%
TUMORS/DEFORMITIES	29 6%	62 2%
SPORT ONLY/NO KILLING	23 5%	106 4%
FISH STOCKS DWINDLING	9 2%	124 5%
FISH TASTE OR SMELL BAD [†]	4 1%	28
FISH TOO BIG/OLD	1 <1%	28 1%

TABLE 4. WHY DETROIT RIVER PARTICIPANTS DON'T EAT THEIR CATCH*

[†] The 1995 survey in the Toronto, Hamilton and Niagara areas did not record "fish taste/smell bad" as a separate response. Therefore the "fish taste/smell bad" responses which are listed in the Survey Total column have also been included under the "fish dirty/contaminated" line. For that reason a separate percentage has not been calculated for the "fish taste/smell bad" totals.

on the St. Clair River did poor water and fish quality appear to be less of a concern than on the Detroit River. Nine percent of St. Clair River fishermen, when asked why they didn't eat their catch, stated that the water was 'polluted/dirty', and 9% replied that the fish were 'dirty/contaminated'.

Detroit River interviewees, more than those in any other survey area, commented that 'tumors or deformities' were reasons they avoided eating the fish. Only 1% of Metro Toronto participants, 2% of those interviewed in Hamilton Harbour and along the St. Clair River and 3% of Niagara River interviewees offered this reason for not eating their catch. Detroit River field notes were replete with references to tumors, cancers, sores, warts, and lumps on fish, specifically walleye. It could be that the combination of a prolific walleye fishery on the Detroit River, and the propensity for this species to develop an unsightly virus at particular times of the year (see the *Guide to Eating Ontario Sport Fish 1997-8*, page 8), has led to a greater awareness and sensitivity to tumors among Detroit River anglers.

Although admittedly to a lesser extent than in some of the other areas we surveyed, 'water polluted/dirty' was the most common answer to the question 'why don't you eat what you catch?' among Detroit River 'non-eaters'. Field notes, too, were full of explanations and elaborations on the twin themes of polluted water and dirty fish.

Interestingly, field note entries indicate that most 'non-eaters' described the river, not in specific or technical terms, but with sweeping generalizations and damning-but-colloquial comments; the river was "smelly", "scuzzy", "gross", "poisonous", "filthy", "grubby", "dirty", "polluted", "polluted beyond belief", "contaminated", "full of oil", "full of garbage", and "full of crap". Many specifically

mentioned "mercury" while others referred to "lead", "toxic chemicals", "heavy metals", "dioxins", "spills" and "blobs". Others gestured in the general direction of Detroit or Morton Terminal, or pointed more particularly to the coffee cups and styrofoam worm containers littering the shoreline, when defending their decision to keep none of their catch for personal consumption.

Some 'non-eaters' reacted with disgust and horror to the suggestion that they might actually eat fish from the Detroit River. When asked "why don't you eat the fish?", a number of interviewees exclaimed, "It's the *Detroit River!*". Others simply laughed at the query and responded with a rhetorical question of their own, "Eat fish from the Detroit River?" or "Who would?". Some joked about not wanting to "glow in the dark", or to eat fish which had this capacity; others accused those who would eat Detroit River fish as being mentally disturbed or otherwise aberrant.

Common replies to the question "why don't you eat what you catch" were "I don't trust the water", "I don't trust the river", "I don't trust the fish", "I only trust salt-water fish" or "I only trust what I buy at stores/restaurants". As one interviewee admitted, "When I see the pollution that goes into this water I lose my appetite. I only trust seafish". Another explained, "I worry about the concentrations of pollution in here. You read things about it. They say the small ones are okay but not the big ones. I don't really trust any of them". A third remarked, "They have to treat the water to drink it from here. Well, the fish don't get treated water so I don't trust them to eat them".

All of these reactions—colloquial comments, sarcastic derision, insufficient trust—seem symptomatic of an emotional and intuitive articulation of



concern about the Detroit River, rather than a carefully reasoned or evidence-based defense of decision-making. These anglers appeared to have lost their faith in the river and, to a large degree, had written off the waterway as a valuable resource deserving of respect. Their decision to forego a Detroit River fish feast did not require a well-developed and argued defense. Rather, the statements of these 'non-eaters' appear to conform quite closely to the opinion of many: urban environments have been sullied, wholesome natural spaces do not exist in cities, therefore those who eat fish from urban areas must be desperate, crazy, unknowing, or all three.

Nowhere was this dismissal of the Detroit River more clearly conveyed than in the numerous instances when fishing on the river was unfavourably compared to that available in other parts of Canada and the U.S. Invariably, fishing in B.C., Alberta, "out west", "up north", "on the east coast", New Brunswick, Newfoundland, Nova Scotia and Florida was considered superior to that available around Windsor in terms of water quality, the species available, the taste of the fish, and waterfront access. "Out there", we were repeatedly told, "you can eat the fish". The Detroit River, in contrast, "sucked" because fish were unknown species and "garbage fish"; were "deformed" and had "growths and stuff"; and were "polluted" and contained "a lot of mercury".

Not all 'non-eaters' slandered the river in the process of explaining their decision to release or give away the fish caught there. Some acknowledged that their choice to forego eating Detroit River fish was motivated by a lack of information and expertise, and an inability to fully understand or critically analyze the issues. These interviewees mentioned that they were unaware of how to clean and cook

fish to reduce contaminant intake; unsure about pollution levels or "what's in the water"; ignorant about the extent of river clean-up; uncertain of where to "draw the line" between safe and unsafe fish consumption; unclear about the consequences from eating dirty fish; and confused about unsubstantiated rumours and "stories" about pollution. Like other 'non-eaters', however, these interviewees wished to exercise control. In the face of uncertainty, rumour, lack of information and risk, they chose to take control in the only way guaranteed to eliminate any hazard: they abstained from eating fish from the river.

We received a total of 582 responses from the 453 'non-eaters' to whom we posed the question: 'why don't you eat what you catch?' Just over one quarter (26%) of interviewees gave 2 responses and 2% gave 3 responses. Most interviewees, therefore, gave only one response. Field notes indicate, however, that although many interviewees mentioned pollution, this was often only one part of a bi-or-trifold reason for not eating the fish. Polluted water and dirty or tumoured fish may have been the most salient reasons for releasing fish from a water body known to have a long, troubled and ongoing history of environmental contamination. Pollution may have been a convenient and widely-accepted reason. But when given an opportunity to elaborate on their rationale for releasing or giving away all of their catch, many interviewees clearly regarded environmental concerns as only a contributing factor and not the sole reason. The taste of fish in general, labour involved in cleaning them, conservation of fish stocks, and the selection and size of species commonly caught were also important reasons which, although not the first to spring to mind when asked 'why not eat the fish?', were nonetheless important influences on decision-making which might be shared later in the interview .

‘Circumstantial eaters’

There was, for example, a less adamant and committed group of ‘non-eaters’ fishing the Detroit River. We can refer to these participants as ‘circumstantial eaters’—individuals who used to eat fish from the river and hoped to resume in the near future, those who hadn’t ever eaten the fish but might if the circumstances were right, and those who hadn’t yet sat down to a Detroit River meal but planned to catch enough “today”. The existence of these ‘circumstantial eaters’ is evidence that those who eat Detroit River fish and those who don’t are not two discreet groups. Instead, ‘eating’ and ‘not-eating’ would be better described as end points on a continuum, or intersecting circles, like a Venn diagram.

Our questionnaire was not designed to ask specific questions of these potential fish consumers. We asked ‘what do you with the fish you catch from this area?’ and ‘why don’t you eat what you catch?’ but not ‘would you eat in the future?’ or ‘what would need to be different for you to eat this fish?’ or ‘did you eat in the past?’. Information from tape recorded conversations and field notes, in combination with responses to the questionnaire query ‘why don’t you eat what you catch?’ can, however, highlight the circumstances under which a participant, originally classified as a ‘non-eater’, might decide to fry one up for supper.

Eight percent of those we interviewed on the Detroit River, for example, claimed not to eat the fish because they were ‘too small’. It appears that this was of greater concern to those who fished fewer than three weeks each year (12% of whom mentioned that the fish were too small) than for those who fished 21 to 50 days (6% of whom gave this response) or over 50 days (4% of whom didn’t eat because the fish were too small). This perhaps

indicates that less experienced fishermen, or those who had less opportunity to stock freezers with the odd fish of “eating size”, were more likely to “not be bothered” keeping any. Field notes reveal that perch was frequently the species of concern; consensus was that perch stocks were dwindling and that it was difficult to catch any “big enough” to warrant keeping for a meal.

There appeared to be an equally important and connected concern regarding the species of fish which were commonly caught on the river. Seven percent of Detroit River ‘non-eaters’ explained that they didn’t eat the fish because it was ‘not the kind wanted’ and frequent field note entries included quotes like, “I’d eat the fish if it was the right kind and right size” and “I’d eat a perch or pickerel (or occasionally bass) if I caught one”. Common complaints were that the fish caught on the river were “not worth keeping”, “the wrong species”, “no good”, “the wrong kind”, “garbage fish”, “junk fish”, “bottom-feeders” and “kind of the cockroaches of the fish world”. Specific mention was made of sheephead, catfish, and gobies. Perch and pickerel were definitely the favourites, but the former could not be caught in large enough quantities and the latter was considered difficult to catch from shore. One participant explained, “I catch mostly bass so I release them. I’d eat perch or pickerel, but I haven’t caught any pickerel, and perch it seems like you only get small ones or only one or two big ones which is no sense keeping”. Another admitted, “It’s been a long time since I’ve caught anything here worth eating. Most of them are too small or else they’re the wrong species. I would keep the walleye of course or the perch”. A third remarked, “I’d love to catch a mess of perch here and eat them but you can’t catch a lot anymore. You always catch a couple of nice perch, but not enough to make it worth keeping any”.



Other 'circumstantial eaters' included those recently introduced to the sport and those who did not usually fish the Detroit River. These interviewees would often remark that they didn't eat the fish because, being unfamiliar with specific techniques for fishing the river or with fishing altogether, they were not expecting to catch enough to eat. Table 4 shows, in fact, that 7% percent of 'non-eaters' admitted that they hadn't kept any fish because of their poor luck to date. Other beginners lacked confidence in species identification or were unsure of which to keep, having received conflicting advice about which fish were good to eat from well-meaning shoreline companions eager to promote their preferences.

Those who didn't like fish

Detroit River anglers seemed more preoccupied with questions of personal preference—they didn't like fish (22%)—and the technicalities of preparation—concerns over cleaning and cooking (8%)—than their counterparts in Hamilton Harbour (12% didn't like fish; 2% referred to cleaning/cooking), Metro Toronto (14% didn't like fish; 2% discussed preparation issues), Niagara (16% didn't like fish; 4% mentioned cleaning/cooking) and St. Clair (13% didn't like fish; 3% mentioned cleaning/cooking).

Looking specifically at the Detroit River data, it appears that 'non-eaters' who fished more days a year were more likely to offer 'don't like fish' as their reason for releasing or giving away all their catch. A third (33%) of those who fished 50+ days annually said they 'didn't like fish' compared to 24% of those who fished 21 to 50 days a year and 19% of those who fished 20 or fewer days a year. Those who did not speak English at home were less likely to refuse Detroit River fish because they disliked fish on principle than were those who spoke

at least some English at home; 11% of non-English speakers gave this response compared to 22% of English-plus-another language speakers and 24% of English-only speakers. In contrast, U.S. residents were more likely to release or give away their catch because of a dislike of fish in general than were their Canadian counterparts; 44% of American residents who didn't eat fish from the Detroit River survey area offered the explanation 'don't like fish' versus 23% of Canadian residents.

Field notes offer some elaboration of the 'don't like fish' responses we received. Many interviewees admitted a preference for salt-water or sea-fish over the freshwater varieties available in the Detroit River. Others were allergic to fish, were repulsed by fish smell, or preferred other kinds of meat. As one acknowledged with a wry chuckle, "I'm a red meat man".

Fishing for fun, not food

Many 'non-eaters' characterized fishing as a dichotomy: one either fished "for fun" or "for food". Rather than see eating the fish as part of the pastime, these interviewees were adamant that fishing "for fun", "for sport", "for enjoyment", "for relaxation", "for a day out with the kids" or "for something to do" meant keeping the stringer and fish cooler at home. Eating fish necessitated planning ahead to have the means to keep the fish; targeting particular species; making decisions about which ones to keep; and cleaning, storing and cooking the fish. Some interviewees obviously felt such restrictions and requirements interfered with their enjoyment and equated keeping the fish with work rather than pleasure. Some of these same 'non-eaters', however, spoke with nostalgia and reverence of trips "up north" where fish—still flapping in the pan—was fried up for breakfast, lunch and dinner. Perhaps, for these 'non-eaters', it was the location and pur-

pose of the trip rather than the labour of cleaning and cooking which was important. To keep fish from presumably pristine northern spots while camping, canoe tripping, or cottaging was to play at subsistence living and procuring food from the wild. Fishing in the city, however, was an urban and civilized experience. Field notes record comments such as, “I don’t need to eat this fish, I’ve got other stuff in the freezer” and “If I need fish, I just go to the grocery store to get it”. For these anglers, need—real or manufactured in the context of an “up north” experience—was required to warrant keeping any fish for consumption.

In conclusion, most of the ‘non-eaters’ we interviewed equated eating Detroit River fish with voluntary risk-taking. Why take the risk of eating fish from a polluted location if you don’t like fish anyway, if none of the fish are good eating size, if they’re all undesirable species, and if you’re only out “for fun”? For those who did not value eating fish as part of their experience of fishing, abstention from consumption was an easy and uncomplicated decision which required no compromise.



6.0 THOSE WHO ATE FISH FROM THE DETROIT RIVER

This section of the report combines data from questionnaires, tape recorded conversations and field notes to describe those Detroit River interviewees who ate the fish they caught from the river. We present information on how much participants ate; how they differed demographically depending on their level of consumption; what they liked about eating fish from the river; the species they ate; how they prepared their fish; and, finally, their concerns about Detroit River fish and how they coped with these concerns.

Just over half (53%) of Detroit River fish consumers had eaten between 1 and 11 meals in the past year ('rare' consumers); 22% fell into the 'occasional' consumption category (12-25 meals annually); 20% reported between 26 and 95 meals ('frequent' consumers); and 5% were 'very frequent' consumers (96+ meals annually). There appeared to be no notable differences between Detroit River interviewees and those in other survey areas with regard to the proportion of fish consumers in each consumption category.

6.1 Demographic details by level of Detroit River fish consumption

The following analysis compares two levels of annual Detroit River consumption: 1-25 meals ('occasional consumers') and 26+ meals ('frequent

consumers'). Those who ate 26+ meals appeared more likely to be female (17% versus 11% of occasional consumers) and to speak only English at home (78% versus 68% of occasional consumers). Those who ate more fish appeared to be older. Almost half (48%) of frequent consumers were 50 or older, compared to only 28% of occasional consumers. Just over half (51%) of those who had eaten 1-25 meals in the previous 12 months were 30 to 49 years old, compared to 35% of those who had eaten more than 25 meals. U.S residents were much more likely to be frequent consumers of Detroit River fish; 45% of Americans had eaten 26 meals or more during the past 12 months compared to 19% of Canadians.

Those in the frequent consumption group seemed less likely to be working full or part-time (51% versus 61% of occasional consumers) and more likely to be retired (31% versus 18% of occasional consumers). There were no apparent differences between the two consumption groups regarding household income and level of education completed.

Fishermen in the occasional consumption group appeared much more likely to report fishing fewer than 50 days a year (70% versus 40% of frequent consumers). Those who ate fewer meals also seemed to have fished for fewer years. Twenty-one percent of occasional consumers had fished for less than 10 years compared to 9% of frequent consumers, while one third of those who had eaten over 26 meals of Detroit River fish reported having


	RARE (1-11 MEALS)	OCCASIONAL (12-25 MEALS)	FREQUENT (26-95 MEALS)	VERY FREQUENT (96+ MEALS)	TOTAL FISH-EATERS
DETROIT RIVER	276 53%	112 22%	102 20%	27 5%	517
SURVEY TOTAL	911 52%	386 22%	368 21%	97 6%	1762

TABLE 5. NUMBER OF MEALS OF DETROIT RIVER FISH EATEN OVER THE PREVIOUS YEAR AS REPORTED BY DETROIT RIVER PARTICIPANTS


	DETROIT RIVER (N=503)	SURVEY TOTAL (N=1716)
TASTES GOOD	347 69%	1084 63%
NOTHING IN PARTICULAR	80 16%	284 17%
OKAY TO EAT/UNCONTAMINATED	22 4%	113 7%
FRESH	36 7%	120 7%
CHEAP/FREE	25 5%	89 5%
OTHER	56 11%	122 7%

TABLE 6. WHAT DETROIT RIVER ‘EATERS’ LIKE ABOUT THEIR CATCH*

* More than one response was recorded.

fished for 40 or more years, compared to 20% of those who ate fewer than 26 meals.

6.2 Why eat the fish?

Superior quality

More than two-thirds (69%) of those who had eaten fish from the Detroit River over the 12 months prior to being interviewed stated that they liked the fish they ate because it ‘tastes good’. Add to this the 7% who specified that they liked Detroit River fish because it was ‘fresh’ and we see that the taste and quality of fish from the river were by far its most appreciated aspects. This seemed even more true of the frequent consumers we interviewed. The consumer of 1-11 meals was less likely to offer ‘tastes good’ as a response than were those who had eaten 12+ meals (63% versus 76%) and was more likely to say they didn’t like anything in particular about the fish they ate (22% versus 9% of frequent consumers). U.S. residents were slightly more likely to say that the fish ‘tastes good’ than were their Canadian counterparts (74% versus 68%) and seemed more likely to appreciate fish

from the river because it was ‘fresh’ (13% versus 5% of Canadian residents).

A few interviewees were clear that the taste of Detroit River fish was motivation enough to keep their catch. As one told us, “When I even smell the fish when I do it, I can’t even wait until I put it on the table, I have to taste it”. But fishers more frequently conveyed their respect and affection for Detroit River fish, not by describing what it was, but rather by discussing what it wasn’t. Fish from the river looked pretty good in comparison to the store-bought alternative; field notes and tape recorded interviews were rife with repulsed references to the well-aged, freezer-burned, slimy, mushy, cellophane-wrapped stuff on display at the local store or market. “Lord knows when it was killed”, one interviewee exclaimed. Another remarked, “fish is good only when it’s fresh and the freshness of the fish is not always imminent in the stores”. Another admitted, “when you’ve caught and eaten fish fresh, you’re reluctant to go to the fish monger to get your supper”. A fourth, as if purchased fish were a form of contagion, com-

mented, "I won't eat any fish from the supermarket, though. I don't want to touch that stuff".

Freshness was about more than just superior taste, however. Many interviewees were suspicious of supermarket fish and feared that poor quality control on commercial vessels and sloppy handling by stores could lead to bacterial contamination, tainting, and eating fish "full of worms". Eating purchased fish added an element of uncertainty and risk to the experience for these fishermen. How long had the fish "been sitting out"? How much care was taken when it was cleaned? Was there a worm or tumor that was cut out before the fish was "thrown out on the store shelf"?

Catching fish from the Detroit River gave interviewees a measure of control. They knew the exact location from which the fish was caught; what it felt like on the end of the line and looked like once it was landed; the method and care taken in cleaning; and how long it had been since the fish was caught until it was refrigerated, frozen and eaten. As one interviewee articulately admitted, "In the market I don't know how old it is, I don't know how fresh it is, I don't know where it was caught. They don't even know where it was caught. They don't know where it comes from. I don't know who handled it, I don't know how it's been cleaned. I'd rather catch it myself and so I know. From it's swimming to being in my stomach, I know exactly what's happened to that fish."

The desire for quality control and risk reduction was common both to those who ate Detroit River fish and those who released or gave away all of their catch. The key difference was in the way each group sought to maximize control and minimize health risk. 'Non-eaters' "didn't trust" the water or the fish in the river, believed that fish purchased or

caught elsewhere were invariably superior, and focussed their attention on 'pollution' and chemical contaminants. Perhaps these 'non-eaters' possessed an unshaken confidence in the inspection of commercial foodstuffs and the quality of other-than-local environments. Or maybe their attitudes could be conveniently summed up by the sayings 'what I don't know won't hurt me' and 'ignorance is bliss'. Regardless, these anglers chose to eat fish taken from locations and handled in ways about which they likely knew little or nothing. Those who ate fish from the river, however, took a different approach, more akin to the old adages 'knowledge is power' and 'better the devil you know than the devil you don't'. These fishermen "didn't trust the quality in stores", frequently focussed their attention on bacterial contamination, were often convinced that purchased fish were the same as those caught in the river, and preferred to follow the fish they ate through every step from water to table. For 'non-eaters', the key to control was eating anything "not from this river". For those who ate fish from the river, however, the key was eating anything "I caught myself".

Productivity, pride and pleasure

It was difficult for many anglers to articulate exactly why they chose to eat their catch rather than release it or give it all away. Some related their enjoyment only through the enthusiastic and detailed description of mouthwatering dishes; fish from the river was obviously regarded as a delicacy and worthy of dedicated experimentation with batters, spices, and the latest in recipes from the chef on TV.

Others conveyed their enjoyment of eating fish from the river in cryptic code: eating their catch was "the icing on the cake", made fishing "whole", and couldn't be "divorced" from the fun of catching fish. The message, when decoded, might read

like this: something would be missing from the pastime if every fish was to be released or given away. A number, in fact, stated outright that if they could no longer eat fish from the Detroit River they would discontinue fishing there.

While “sport”, “fun”, and “challenge” were all important to those who ate fish from the river, some clearly distinguished their brand of fishing from those who fished solely “for sport”. As one stated, “Now if you’d say, ‘go fish catch and release’, I don’t see any purpose in that at all. I just don’t like to hook something and then throw it back in. If I’m going to catch it, well, I want to eat it...Because to me, there’s no purpose in that. Its just like going hunting, shooting something and leaving it there, you know. What’s the use, if you’re not going to eat it.”

For some, eating Detroit River fish was about self-sufficiency and pride; these interviewees liked the fact that “I caught it myself” and “the satisfaction of the harvest”. As one stated, “It feels better to catch it by yourself. You can say to your family, ‘I caught it’. It’s about pride. I can still support my family. They don’t see my paycheck because it goes straight to the bank so at least they see the fish that I bring home”. Others regarded eating fish as forging and strengthening a link to family, community and culture; eating fish was a connection to roots, whether they be in the bush surrounding Ottawa, rural Asia, Alabama, or even around the Great Lakes.

Economic benefit

As shown in Table 6, only 5% of fish consumers responded that what they liked about fish from the river was that it was ‘cheap/free’. U.S. residents were even less likely than those living in Canada to offer this response (1% versus 6%). Initially we were surprised at these small numbers, since they

did not support our assumption that people ate fish from urban environments because they were poor and hungry. Analysis of field notes and tape recorded conversations, however, has given us a less simplistic and reductionist understanding of why people eat fish from locations considered by many to be contaminant hot-spots.

Many Detroit River interviewees were adamant that they did not fish ‘for food’. In fact, only 18% of Detroit River fish consumers gave the ‘for food’ response when asked “why do you fish?”. Tape recorded interviews and field notes, too, indicate that it was the rare interviewee who admitted that fishing helped out with the grocery bill, even among those who consumed well over 75 meals of locally-caught fish a year. One interviewee, who admitted to being on a “limited income” quickly added, “I still eat enough fish strictly for enjoyment”. Another eater professed, “I look at fishing more as a sport though. Not as a source for food. Because I’m not poor. If I don’t catch any fish I can still go to the market and get something else to eat and come home. So, I look at it more of a sport, but I do enjoy also eating it...It’s more of a hobby than a need”. Some newcomers to Canada contrasted life back home, where fishing was driven by a need for food, and life in Canada, where fishing was, as one explained, “more about pleasure than survival”. Some fishermen would point the finger at others who “fished to eat”: the unemployed, “drug addicts”, “starving fishermen” suffering “from welfare cuts”, and those who came to the shoreline to beg fish from anglers. The clearly conveyed message, however, was that they themselves did not keep fish out of economic need. To eat their catch was a choice, not a necessity; the fish they took home was a supplement to their diet, not a staple item.



The closest most Detroit River fish consumers came to admitting an economic benefit to eating their own catch was to make passing reference to the price of fish—in dollars and cents per pound—in the marketplace. Lake Erie perch might be \$8, \$11 or \$14 a pound, we were told, and a hungry family could easily eat its way through 3 or 4 pounds of fillets at a sitting. Thus it could be prohibitively expensive to purchase freshly-caught commercial fish of a quality comparable to that caught by the fisherman him or herself. The alternative, then, was the cheaper—both in terms of cost and quality—frozen variety available at the market or grocery store. It appeared that most interviewees who spoke on this subject would choose to spend money on beef, chicken, and canned tuna before they would buy the bagged and frozen fillets of pollock, sole or snapper available at the store or purchase the premium-priced fresh fish available locally.

Interviewees may have been reluctant to draw a direct connection between fish caught and money saved, but there was certainly an acknowledgement that without their Detroit River catch, their diet would likely contain less fish and definitely contain more purchased sources of protein. Depending on the amount of Detroit River fish the individual and his or her family consumed, the savings—while certainly not the primary purpose for fishing—could be considerable. One fisherman summed up his thoughts on the subject of economic benefit in this way:

To go to buy perch at a store, it probably costs you about 6 or 7 bucks. To go fishing and catch a truckload of perch, it probably costs you a buck, a buck fifty. That affects choices. That does. They're all coming from the same area, most likely, so you weigh the cost and if you enjoy fishing, then you're going to go. If

you don't enjoy fishing, you're going to go to the grocery market. If it's something that you enjoy, then you're not really spending any money...I just think that when you go to the grocery store, I think they charge a little too much for fish. I think it's really expensive. But then again, they've got to pay all the people that filleted this fish and everything else, which I can do here. So in the long run, I'm not really spending any money that, or doing anything that I don't enjoy. It's that simple.

The fish-food connection was perhaps viewed less self-consciously by those who ate more fish and by American residents. Almost one quarter (24%) of those who had eaten 26+ meals of Detroit River fish stated that one of the reasons they fished was 'for food' compared to 17% of those who had eaten 1-25 meals. American residents were also more likely to offer 'for food' as a motivator for fishing than were the Canadian residents we interviewed (16% versus 10%).

Health benefits

It was rare for an interviewee to mention, without prompting, that they liked to eat fish from the river because it was healthy. In fact, only 3% of Detroit River respondents volunteered that they liked their catch because it was 'good for health'. When asked directly about their thoughts on the link between fish and health, however, many interviewees were quick to comment. Most advocated eating fish because it was a low fat alternative to the much maligned "red meats" like beef and pork; a few, however, remarked that their preparation method of choice—frying—nullified most of the low-fat advantage. Fat was a particular preoccupation of those trying to lose weight. As one woman mentioned, "I was on Weight Watchers for about 6 months and they're really heavy on fish. So I always

feel good when I'm eating fish. I feel like I'm doing something nutritious for my body. And then I can go out and eat something bad afterwards (laughs), isn't that terrible?". Another admitted with a shy giggle, "If I'm going to eat the fish every day, maybe I'm not getting chubby. If I'm going to eat something where it makes me so feel good when I'm eating, it's going to stay in my body, but if I just eat junk food, I just eat because I don't want my stomach empty. But, this always makes me feel so good when I eat it."

Other commonly mentioned health-oriented advantages of fish included the amount and quality of its protein; its capacity to prevent heart attacks; the vitamins and minerals it contained; and the fact that it didn't "sit heavy in the stomach" or give "that ol' bulgy feeling". Some recalled—usually with a sardonic laugh—the old adage that "fish is brain food" while others parroted the fish-once-a-week recommendation found in health promotion publications.

6.3 Species, cooking and parts of fish eaten

This section of the report describes the species that were eaten by respondents on the Detroit River, and specifically compares the species eaten by Canadian and U.S. residents. We also tackle the question of species preference—why some species were favoured over others—and present findings regarding the parts of fish which Detroit River fish-eaters consumed.

Specifics on species eaten from the Detroit River

The first section of Table 7 (see page 34) presents species consumption data for the Detroit River as a whole. The top 10 species of Detroit River fish consumed—in terms of greatest number of partici-

pants reporting them—were (1) yellow perch, (2) walleye, (3) white (or silver) bass, (4) rock bass, (5) smallmouth bass, (6) white perch, (7) channel catfish, (8) bluegill, (9) largemouth bass, and (10) crappie. The top 10 list for all survey areas (not shown) was markedly different in some respects from the Detroit River list. Perch and walleye still topped the list but the third most frequently reported species was rainbow trout, followed by smallmouth bass, rock bass, white bass, largemouth bass, channel catfish, northern pike, and coho salmon. Rainbow trout and coho salmon—likely due to their rarity on the Detroit River—did not make it into the Detroit River top 10; neither did northern pike. White perch, bluegill and crappie—popular on the Detroit River—did not make into the overall top 10 list.

Table 7 also presents data for the Detroit River according to country of residence. All of the species, with the exception of bluegill and pike, were common to the top 10 lists for both Canadian and American residents. Yellow perch was at the top and white perch was 6th on both the Canadian and American lists. Apart from these two species, however, the order of popularity of species differed according to country of residence. Walleye, for example, was second in line behind yellow perch for Canadians and smallmouth bass was a distant third. For Americans, silver bass and rock bass were a close second and third to the ever-popular yellow perch, followed closely by bluegill—which didn't even make it into the top 10 for Canadian interviewees—and channel catfish—ranked at 8th on the Canadian list.

It appears that the Canadian residents we interviewed were unwavering devotees of yellow perch and walleye and infrequent at best consumers of the other 8 species in their top 10. American residents, in contrast, ate a number of different



species in almost equal proportions. For example, 56% of the Canadian residents who ate fish from the river reported consuming walleye, compared to 41% of Americans. One might expect that, given the relatively small difference between the two percentages, that walleye would be ranked similarly on the U.S. and Canadian lists. Interestingly, however, walleye was the second most popular fish among Canadian residents who ate Detroit River fish and 6th among Americans. Similarly, smallmouth bass, which was consumed by 28% of Canadians and 25% of Americans, was the third most frequently reported species eaten by Canadians but was 9th on the American list. Largemouth bass was last on the American top 10 and 7th on the Canadian list. Even so, a larger percentage of Americans reported consuming this bass species than did Canadians (19% versus 15%).

Analysis of the number of species eaten by Canadians and Americans confirms this finding; U.S. residents were less likely to report eating only one species (17% versus 28% of Canadian residents) or 2-5 species (48% versus 60% of Canadian residents) and more likely to report consuming 6-10 species (26% versus 11% of Canadian residents) and 11+ species (10% versus 2% of Canadian residents). Field notes, too, indicate that not only did U.S. residents eat a wide variety of species but that they often ate them together in one meal. This certainly posed a challenge for research assistants required to make a 'meals per year' calculation for these participants by summing the number of meals of each species consumed. Regarding an African-American interviewee whose ultimate meal total was 175, one RA confessed, "It was extremely difficult to get a total of fish meals per year because he eats almost everything and always mixes species together when having a meal. For example, he said when they cook up a bunch of


fish, he'll typically have some bluegill, rock bass, bullheads, catfish, sheephead, perch, crappie and silver bass all on the table."

We not only collected data on what species were being eaten, but also on the number of meals which respondents had eaten of each species. We have chosen not to present this data here only because the enormous range of meals eaten for most species makes any calculation of average meals rather misleading. All species listed in Table 7 have one meal as their lowest reported level of consumption but examples of meal totals at the upper end include: 160 for yellow perch, 150 for silver bass and channel catfish, 104 for rock bass and 94 for bluegill and pumpkinseed. The extreme variance in consumption patterns offers a challenge to those who would attempt to describe the average, 'typical' or 'normal' amounts of particular fish species which are eaten by a sample of fishermen.

Why these species?

Canadian and American residents appeared to appreciate particular fish species for the same reasons. Favourites were described as "sweet", "flaky", "fresh", "lean", "mild", "tender", "smooth", and "meaty" while the infrequently consumed or altogether rejected alternative species were considered "coarse", "tough", "fishy", "mushy", "oily", "greasy", "bony", "muddy", "fatty" and "wild-tasting".

Bluegill and crappie were described as "mild-tasting" and "sweet" by everyone with an opinion, regardless of which side of the border they came from. There was, however, a considerable difference between the proportion of fish consumers from the Canadian side who reported eating these species over the 12 months prior to the interview (8% bluegill, 11% crappie) and those who lived on the American side of the river (46% bluegill, 27%



	OVERALL DETROIT RIVER (N=517)		CANADIAN RESIDENTS (N=390)		U.S. RESIDENTS (N=123)		
	N	%	N	%	N	%	
Yellow perch	379	73	296	76	81	66	
Walleye	270	52	217	56	63	51	
White (silver) bass	163	32	Smallmouth bass*	109	28	60	49
Rock bass	142	27	White (silver) bass	100	26	56	46
Smallmouth bass*	141	27	Rock bass	82	21	55	45
White perch*	112	22	White perch*	64	16	50	41
Channel catfish	102	20	Largemouth bass*	57	15	48	39
Bluegill*	88	17	Channel catfish	47	12	33	27
Largemouth bass*	80	15	Crappie*	43	11	31	25
Crappie*	76	15	Northern pike	42	11	23	19
Northern pike	63	12	Bluegill*	32	8	21	17
Pumpkinseed*	29	6	Pumpkinseed*	15	4	21	17
Brown bullhead*	29	6	Muskie*	13	3	14	11
Sheephead (Drum)	22	4	Sheephead (Drum)	10	3	11	9
Muskie*	17	3	Rainbow trout*	9	2	9	7
Carp	16	3	Brown bullhead*	8	2	6	5
Rainbow trout*	13	3	Carp	7	2	4	3
White sucker*	9	2	Lake whitefish	6	2	4	3
Sunfish	8	2	Sturgeon	5	1	4	3
Lake whitefish	7	1	Sunfish	4	1	2	2
Sturgeon	6	1	Coho salmon	4	1	1	1
Coho salmon	6	1	White sucker*	3	1	1	1

TABLE 7. DETROIT RIVER FISH SPECIES[†] BY NUMBER OF PARTICIPANTS EATING ONE OR MORE MEALS, AND BY RESIDENCY.

[†] Tables include only those species which were reported eaten by 5 or more Detroit River participants.

* Indicates a species not included in the 1997–8 Guide to Eating Ontario Sport Fish for the Detroit River.

crappie). A probable explanation for this finding connects the size of these species with the different culinary customs of Canadians and African-Americans. Bluegill and crappie were infamous for being small. While this did not pose a problem for the African-Americans we interviewed—many of whom were comfortable preparing fish whole—keeping these species was usually considered a waste of time by Canadians who preferred their fish in fillet-form. Sunfish like bluegill and crappie often weighed less than a pound; once skinned and trimmed, fillets were usually little more than a mouthful and not considered worth the effort of cleaning.

Many of the long-term Canadian residents denounced species like sheephead, catfish, carp, bowfin and sucker with evangelical fervour, condemning these fish-sinners for being “garbage

fish”, “dirt suckers”, “bottom feeders”, “polluted”, “ugly” and “no good for society”. But, as Table 7 clearly shows, Americans were not so averse to including these species in their diet. Channel catfish was consumed by almost half (45%) of American residents but only 12% of Canadian residents; brown bullhead was eaten by 17% of Americans but a scant 2% of Canadians; sheephead made up at least one meal for 9% of U.S. residents compared to 3% of Canadians; and carp was eaten by 7% of Americans but only 2% of Canadians.

A number of the Canadian residents we interviewed admitted that their avoidance of these species was partly propaganda and the tastes of dads, uncles and grandpas that had been passed down through the years. One participant, for example, shared this apparently very old joke, “Here’s what you do with sheephead. You bake it in

this clay. Then you break open the clay, throw out the fish and eat the mold”. Those with a more open mind had enjoyed sheephead fish patties made by American friends, had tried to fry up a carp or sucker, or admitted “probably they taste okay if you prepare it right”. But most of those participants who had given these fish “a try” were not happy with the end result. One fisherman commented that an attempt to mimic his neighbour’s successful stuffed carp recipe had failed abysmally. “It tasted just like the sole of my sneaker”, he admitted with a chuckle. “So there’s something I wasn’t doing right”.

Most of the participants who were repulsed by these fish were generations-old Canadians whose fish cuisine was largely limited to “frying in butter”, deep frying and “throwing it on the barbecue”. Many took a brand-name approach to fish prep; they used Lawrey’s seasoning salt, store-bought fish crisp, Kellogg’s Corn Flakes and Shake ‘n’ Bake. These participants didn’t like to “mask the taste of the fish” or do “a lot of things that take away the flavour of the fish”. As one interviewee acknowledged, “When we have a fish, we just eat the fish. We don’t do anything fancy with it. But some people do fish in stew and soups and all sorts of things. I suppose you could use any type of fish. I don’t know it would matter”. Standard Euro-Canadian preparation methods would do little for bony fish that may have tougher flesh or a stronger taste and require grinding, boiling, marinating, and many more additives than just salt, pepper and lemon to taste appealing. Lacking sufficient variety in their fish preparation repertoire, these fishermen instead went to greater lengths to catch fish species that they could prepare according to their own North American culinary traditions, or simply went without.

In comparison to many of the born and bred Canadian residents we spoke to, the newcomers to Canada and African-Americans we met on the shoreline were often veritable fish gourmands. They recommended removing particular parts of fish—like the brown flesh on silver bass and the mud-vein on catfish—to improve the taste of these species. They suggested marinades and additives to eliminate any “wild” or “fishy” taste and spices—including fresh herbs, chili pepper, cajun seasoning, ginger and garlic—to disguise any bad taste that by chance remained. They prepared fish in particular ways, for example grinding, extended frying, stewing and canning, to deal with bony, tough or otherwise difficult species. Newcomers to Canada often used fish as one ingredient among many in recipes like soups, stir-fries, and sauces, rather than highlighting the fish as the sole ingredient in a dish all of its own. Thus, while American and recent immigrant interviewees might prefer wall-eye, yellow perch and other panfish to the taste of some other species available from the river, when the favourites were not biting these anglers were not compelled to return home empty-handed.

Parts of fish eaten

Seventeen percent of Detroit River questionnaire respondents who ate their catch reported eating parts of the fish other than the fillet. This percentage was the lowest of all areas we surveyed; almost half (49%) of Hamilton Harbour respondents, 30% of St. Clair River fish consumers and 23% each of Toronto and Niagara River ‘eaters’ reported eating parts other than the fillet. Those Detroit River fish consumers who spoke languages other than English at home were more likely than those who spoke English-only to report eating ‘other parts’ (26% of non-English and 25% of English-plus-another language speakers versus 7% of English-only speakers). American residents, too,

were more likely to report eating 'other parts' (23% versus 15% of Canadian residents).

Field notes and tape recorded conversations indicate that the skin of fish—particularly yellow perch—was among the more preferred 'other parts' eaten by interviewees on the Detroit River. Some anglers, particularly U.S. residents or recent immigrants who ate fish too small to fillet, would scale and gut fish which were then fried, baked or ground to make patties. Some of these interviewees ate the bones of the fish while others picked them out of the fish once fried or baked. Asian fishers sometimes mentioned using fish heads in soups and other dishes. The "cheeks" of larger walleye and pan-fried yellow perch eggs were considered a delicacy by some.

6.4 Concerns about eating Detroit River fish

Those without concerns

Just over one half (51%) of Detroit River fish consumers, when asked directly if they had any 'concerns' about the fish from the river, answered 'no'. We interviewed more unconcerned fish consumers along the Detroit River than we did in Metro Toronto (40% were unconcerned), along the Niagara River (47% did not have concerns), and in Hamilton Harbour (49% were unconcerned) but the same proportion along the St. Clair River (51% had no concerns). Our questionnaire was not designed to ask any follow-up questions of fishermen who were *not* concerned about eating fish from the river, but field notes clearly indicate that our respondents often offered their reasons unsolicited.

Detroit River respondents very often explained, in a manner that ranged from matter of fact seriousness to black humour, that they themselves or oth-

ers they knew, including pets, had not yet experienced anything to cause concern. Such comments as, "I've been eating them for x years and they haven't made me sick" or "I've never heard of anyone dying from eating Detroit River fish" or "I've been eating this fish all my life and it hasn't done anything to me yet" were a running theme throughout tape recorded interviews and field notes. In the court of fish consumption, Detroit River fish were considered innocent until proven guilty; without concrete evidence of negative effects there seemed little reason for these fishermen to be concerned. As one interviewee admitted, "Maybe if I ran into a problem once I would really get concerned, but having never run into it and always had really, just enjoyable experiences eating it, it's just, it's not a concern".

Other anglers downplayed their concerns about Detroit River fish in the context of other, equally important or uncontrollable risks they took or were exposed to daily. Some participants offered this risk-in-context assessment in a thoroughly defeatist and fatalistic manner. "Everything these days is contaminated", we were repeatedly told. "Everything today will give you cancer". If not the fish, these interviewees predicted, it would be the air or lightning or a drive around the block. So, rather than attempt to control a thoroughly capricious world fraught with risks to life and limb, the reaction of these fishermen was to throw their hands in the air and resign themselves to what might come.

Some, less fatalistic fishers offered specific comments about their lack of confidence in other foods. Prime candidates for an impromptu and intuitive comparative risk assessment were the meat, fish and produce available at the local grocery store. Fishermen specifically mentioned injec-



tions of hormones and antibiotics into cattle, chicken and pigs; chemical additives to animal feeds; chemically-based pesticides, herbicides and fertilizers; tainting and bacterial contamination due to improper handling; and global pollution levels believed to affect imported fish. These interviewees, likely because of the sense of control which comes from eating what you catch and prepare yourself, claimed to be “more worried” or “more concerned” about commercially available food than they were about fish from the Detroit River.

The migration of fish was another reason Detroit River fishermen offered for their lack of concern. Some believed that fish caught in the Detroit River were permanent residents of Lake Erie and Lake St. Clair; the seasonal swim through the Detroit River was not considered of long enough duration to result in substantial contamination. Others saw migration of fish as evidence that, while one could attempt to control contaminant intake by only eating fish from particular water bodies, reality was that fish travelled. As one interviewee asserted, “The fish in the Detroit River are from all over and if you’re not going to eat them from here you can’t eat them from anywhere else either”.

Interviewees frequently explained that their lack of concern was because “I don’t eat enough to worry”. Only those who ate “too many”, ate “a ton”, or ate “too much”—an amount which varied from one meal a day to 45 meals a day—needed to be concerned about eating fish from the river. The old adage ‘all things in moderation’ seemed to be the underlying message from these interviewees. But what, exactly, was the accepted definition of moderation? Some interviewees restricted their consumption to fewer than 12 meals annually. But others, who similarly claimed not to eat enough to be concerned, had eaten anywhere from 26 to 91 meals in the past year.

It seems, then, that the difference between moderation and “eating enough to worry” depends upon your perspective. For many of the Detroit River fishermen we spoke with, eating fish from the river at least once—if not close to twice—a week was moderate and even restrained consumption.

Fish consumers with concerns

Forty-nine percent of Detroit River fish consumers replied ‘yes’ when asked if they had concerns about the fish they caught. The specific concerns were very similar to those expressed by Detroit River ‘non-eaters’: water pollution, fish contamination, and tumors. Comparison of the concerns of Detroit River fish consumers with the overall survey results shows that markedly fewer Detroit River consumers were concerned with contaminated fish but that tumors/deformities and dwindling fish stocks were of greater concern than in other survey areas.

Concerns about pollution in the river

Tape recorded interviews and field notes reveal that, overall, fish consumers believed that there had been some improvements to water quality in the Detroit River. Some referred to water clarity, some said that the smell, taste and appearance of fish had improved. Citizen action and an interest in environmental issues were credited with putting pressure on government and industry to effect change. But what anglers had seen was not enough.

While some of the fish consumers we interviewed spoke in very general terms about pollution, others referred to specific industries responsible for environmental contamination. Fishermen pointed to Detroit, they pointed “downriver”, they pointed to Chemical Valley on the St. Clair, and they pointed at each other for causing pollution which ranged

from toxic chemicals to shoreline garbage. Specific concerns were expressed about factories belching smoke; exhaust from cars and trucks; warm water discharge points; spills in Sarnia; blobs of oil seen leaking from gravel piles maintained by a local corporation; boats emptying their ballast-water; large-scale fish kills; medical waste washing up on beaches; beach closings; funguses and flu-like symptoms from swimming in the river; poor quality drinking water; life in a throw-away society; cut-backs in the Ministry of Environment; and ozone depletion. Fishermen—many of whom spent most of their time watching the Detroit River flow past the end of their pole—were often witness to environmental mishaps, to green goo coming out of pipes, to hundreds of fish floating belly-up down the river. They were also full of local history and could tell frightening tales of pollution from days past. One interviewee shared this story about an old fuel dump located at Lasalle Marina:

I used to work here when it was a marina. I remember them taking a core sample of soil from 10 feet down right there by the end of the barn there. The guy took a handful of that soil and lit it on fire. When we built the breakwall for the marina, we put clay in between the fuel dump and the wall but you know that fuel has just been leaching into the water for years... They can do all they want to stop factories from polluting but there's still a million sites like this that are leaching into the river and will be for the next 100 years.

A second commented with distaste, "There's a sewer down there that every time it rains there's nothing, you can't get nothing on your line but toilet paper, so something's still draining in here. That's filth...And there's probably more than one sewer along this river that does it. 'Cause I've heard a lot about the American side polluting the waters.

	DETROIT RIVER (N=248)	SURVEY TOTAL (N=913)
WATER POLLUTED/DIRTY	120 48%	433 47%
FISH DIRTY/CONTAMINATED	84 34%	402 44%
TUMORS/DEFORMITIES	60 24%	151 17%
FISH STOCKS DWINDLING	46 19%	130 14%
OTHER	17 7%	39 4%
FISH TOO SMALL	4 2%	30 3%
FISH TASTE OR SMELL BAD [†]	4 2%	23

TABLE 8. SPECIFIC CONCERNS DETROIT RIVER FISH CONSUMERS HAD WITH THEIR CATCH*

[†] The 1995 survey in the Toronto, Hamilton and Niagara areas did not record "fish taste/smell bad" as a separate response. Therefore the "fish taste/smell bad" responses which are listed in the Survey Total column have also been included under the "fish dirty/contaminated" line. For that reason a separate percentage has not been calculated for the "fish taste/smell bad" totals.

I've been down there when it empties, your line for about 6 feet out is nothing but toilet paper."

Interviewees spent considerable time speaking their minds on the politics of pollution. What follows here is a summary of sentiment shared in taped interviews and recorded in field notes. Many of those we spoke with did not trust industry. So-called 'accidental' spills were thought to be cheap and convenient ways to avoid the costs of environmentally sound disposal, volunteer monitoring or regulation was considered a dangerous farce, and polluters were believed to be profiting greatly from activity which cost 'the little guy' and the Detroit River ecosystem greatly. Anglers saw a strong role for government at all levels—municipal, provincial and federal—in enforcing environmental regulations and punishing polluters. However, there was a strongly conveyed belief that, as things stood right now, pollution was government sanctioned and polluters received little more than a "slap on the wrist" following illegal activities. Most participants were critical of the American commitment to environmental clean-up and believed progress on the Canadian side was overshadowed by pollution problems left unchecked across the border. Participants specifically cited the pollution released daily by Detroit's incinerators and sewer overflows, and expressed concern over Zug Island and discharges from nuclear plants on the American side of the river.

Industry might be the obvious culprit, but those we interviewed were clear that each individual person made choices and decisions daily which affected the quality of the air and water in the Detroit River area. When asked specific questions about who should be responsible for the health of the water and fish, it was common for interviewees to promptly reply, "we all are" or "everybody is". As one interviewee noted, "I seen people changing their oil of their cars over a

sewer. I've seen people pour paint, gallons of paint down the sewer right in front of their house. It's people, factories, it's everybody".

Managing the risk from fish consumption

Tape recorded interviews and field notes clearly indicate that those who ate fish from the Detroit River did not normally do so without taking particular precautions to manage and minimize their risk. As one interviewee acknowledged, "Just about everything you do puts you at risk some way or another. I try and minimize it". What follows is a brief description of the more frequently mentioned approaches to risk management.

A number of interviewees commented that concern over contaminants was one of a myriad of reasons for releasing all the "bottom feeder" species like carp, sheephead, sucker and—to a lesser extent—catfish and sturgeon. Many participants kept smaller fish, believing that younger fish not only had superior taste and texture, and were less important as "breeders", but that they contained lower levels of contaminants. This held true for walleye and other larger fish but not often for panfish like perch, crappie and bluegill which were regarded as "small" even at their maximum size. A large number of interviewees took care to remove "belly meat", the "lateral" or "mud" line, fat, skin, and any "grey" or "brown" coloured meat when cleaning their fish. Again this decision was in part motivated by the desire to improve the taste of fish. Cleaning fish also offered an opportunity to inspect the fish for parasites, worms, internal growths or deformation of organs, and to judge the quality of the fish by the colour of its flesh.

Most fish consumers were careful to release any fish that didn't pass an initial visual inspection. These interviewees claimed that their wealth of experience

with a particular species, location, or with fishing in general gave them an almost intuitive ability to distinguish what was normal from what was deviant. It was common for participants to react to sores, strange fish behaviour, tumors, worms, fungus and other mystery marks with some variation on 'I don't know what it is or what it could do, so why take a chance?'.

Choice of location was another popular form of risk management among those who ate fish from the river and included: eating fish from the upper river or from Lake St. Clair; avoiding areas heavily concentrated with factories or shoreline industry; forgoing spots near "pumping stations" and warm water outflows; keeping fish only from the lower river near Lake Erie; and focussing food-fishing on canals and rivers off the Detroit River, like Belle River, River Canard, or the canal at Mill Park. Little River, however, was not a favoured place from which to keep fish. A number of fishers preferred to eat fish from water bodies with a fast-flowing current, believing that swift-moving water would dissipate contaminants, keep fish lean, and reduce the chance of catching muddy-tasting fish.

Some interviewees approached food safety from a different angle and took care to minimize their risk from bacteria and food poisoning. These participants were careful to avoid eating fish from warmer summer-temperature water, did not keep any fish with sores or parasites which could indicate infection, cleaned and froze their fish immediately upon returning home, and ensured that their fish dishes were thoroughly cooked at a high temperature. Some recommended soaking fish in a salt-water or vinegar-water solution to remove contaminants and "filth".

Perhaps one of the most prevalent ways to minimize the risk, however, was to restrict the con-

sumption of Detroit River fish. By keeping their number of meals to a level about which they needn't be "worried", interviewees could feel more confident that they would not experience any ill effects from their consumption. As discussed previously, however, assessments of 'safe' consumption levels varied greatly among the fishermen we interviewed and seemed to be based on individual risk tolerance and the intensity of worry or fear rather than on scientifically-informed information.

The sad stigma associated with eating Detroit River fish

One might well ask if the kinds of questions posed by our RAs actually caused fishermen to question their consumption. One could even wonder whether the questions we asked may have inadvertently induced a kind of contaminant-panic. It was immediately apparent, however, that for the vast majority of fish consumers we spoke to, the interview was not the first time they had been asked to speak on the subject of Detroit River fish, pollution, contaminants, and concerns. Contaminant-talk was a part of shoreline culture, and a number of interviewees had regularly felt obliged to defend a way of life that neighbouring fishermen and curious strangers encountered on the shoreline had already intimated was stupid or dangerous. Participants reported that reactions about their local fish consumption ranged from incredulous disbelief, "You eat the fish?" to disgusted judgements, "How could you eat it? It's all got chemicals in it" to strict admonishments, "Well, you shouldn't eat the fish out of the river" to morbid curiosity, "Why are you eating that fish?". For many interviewees, eating Detroit River fish was a much enjoyed and normal activity. It was the comments of others that made it seem irresponsible, dirty, and abnormal.

In response to the stigma of eating fish from the



river, a number of participants chose to adopt the language of the oppressor. They laughed and joked—sometimes with biting sarcasm, sometimes with a sardonic chuckle—about losing their hair, glowing in the dark, feeding the fish to their enemies and growing extra limbs. One fisherman good naturedly called our research assistant “the poison control lady” and asked her if she was going to tell him he should be dead. Eating fish from the

Detroit River was not necessarily something to feel good about and describing one’s fish consumption ‘in glowing terms’ did not necessarily mean positive imagery. On one level, this gallows humour was a coping strategy. On another level, however, it was an acknowledgement of the negative image of local fish consumption and symbolic of the threat posed to an already-tenuous link between fishermen, their local environment, and a valued food source.



7.0 SHARING FISH

Those we interviewed along the Detroit River appeared much more likely than those in most other survey areas to report that they 'gave fish to others' when asked what they did with their catch. Thirty-nine percent of Detroit River interviewees said they gave fish away while only 7% of Metro Toronto and Niagara River interviewees, and 5% of Hamilton Harbour participants, offered this response. Once again, only the respondents on the St. Clair River had a similar sharing pattern; 41% of St. Clair interviewees reported giving fish to others.

Tape recorded interviews, field notes and direct experience on the Detroit River shoreline revealed the operation of an interesting and vibrant informal fish economy. While some catch-and-release purists and avid conservationists were adamant that fish should not be shared, this was not the norm on the Detroit River. Many participants would regularly donate their catch to others for a number of reasons: because they had already caught their limit; because they had injured or accidentally killed fish they didn't want themselves; because they hadn't caught enough to warrant taking any home for a meal; because they caught species they considered undesirable; because the fish, although a favoured species, was thought too small to warrant keeping; and because they were responding to requests from their shoreline neighbours.

For many anglers, releasing a fish was an option only after one had carefully considered the needs and tastes of others. Some generous souls would keep fish they had caught on the stringer or in the bucket in anticipation of a request or would approach others fishing to make sure there were no takers before releasing a recent catch. Some had developed relationships with those regularly

encountered on the shoreline and knew to keep all the unwanted sheephead, silver bass, white perch, carp and catfish in reserve for these individuals. But other fishermen—who were less good-natured and more judgemental—did not deign to volunteer their fish. Instead they gave their catch on a request-only basis, typically responding to queries of "are you keeping that?" with a disgusted sniff or reply like "you really want to eat that?" followed by a reluctant donation.

There were reports of individuals—all of them recent immigrants—who were not fishing themselves but who requested the catch of others who did have a line in the water. For example, one RA wrote, "Today walking through Assumption [Park] I see three Muslim women in traditional clothing strolling. Later I find out that they are collecting sheephead from all the fishermen who don't want it. They don't pay for it but simply ask if they can have it".

Taking fish from others was usually characterized as something practiced by newcomers to Canada or by those from across the border. "I'll give any carp, suckers or sheephead away to any Yankee plate that I see", one jocular interviewee asserted. Others offered comments like, "the coloured people love catfish. I usually give catfish to them"; "If I get catfish, I give them to the coloured people. They'll eat any fish"; and "Sometimes I'll keep a bunch of rock bass and give them to a coloured person who wants them". Interestingly, almost all references to selling fish involved the purchase of carp, sheephead, catfish, perch, bluegill, silver bass and rock bass by American residents. As one interviewee asserted, "The coloured folks will eat anything out of here. They'll even come along and buy a big carp off of you if you have one". Some quoted prices—invariably in U.S. dollars—such as \$5 a pail



for sheephead, \$7 a string for rock bass and perch, \$3 a fish and \$20 a cooler for silver bass, and \$5 for a large carp.

The “they’ll eat anything” refrain commonly reserved for African-American anglers appears to be more assumption and misunderstanding than a true representation of taste and habit. Certainly, as reported in Table 7, there were distinct differences between the Canadian and American residents we interviewed in terms of species eaten. But a fondness for different fish should not be mistaken for indiscriminate eating. Many of the African-Americans we spoke with were themselves quite particular about the species they would eat, preferring varieties of bass, perch, and other panfish to species like bullhead, carp, sucker and sheephead. These anglers often “kept everything” and accepted any donations of less desirable species, not for their personal consumption, but to take back over the border for “seniors”, “neighbours”, “old ladies”, “friends”, and “people from church”. “I don’t like catfish at all”, one African-American interviewee admitted, “but my neighbour loves them and he takes all I can give him”. Another stated, “I very seldom eat fish, but when I do, it’s the good ones. I catch a lot of sheephead, catfish, and suckers that I give to my neighbours. I’ve got neighbours that will eat any fish I bring them, no matter what kind it is. I want walleye and bass to eat myself”. A third admitted his preference was for walleye, largemouth bass, bluegill and perch. In reference to the carp and catfish on his stringer he explained, “All my neighbours want them. When I get home from fishing and they line up in my driveway. I don’t eat very many fish myself because there is none left by the time my neighbours are through. I even once had a guy driving by in his car stop and come ask me if I had fish. He offered me money for one.” A fourth interviewee mentioned:

That’s another reason, I didn’t think about it at the time, when you asked your question why I like to fish on this side. Whatever you catch, most of the fish you can keep legally, you know. Like the panfish, which I like to catch. You can keep as many as you want. Keep as many silver bass as you want. And I can give ’em away to my neighbours, and most of the elderly people or people that don’t fish, or the people that can’t get out to fish, aren’t as fortunate as I to still be mobile at the age of 65 or 70, people who haven’t had that meat given so much, I try to remember them. We even give a lady who works at the customs, a lady who works at a little refreshment stand there, she has 7 kids.

Statistical data on sharing fish support these qualitative findings. Seventy-seven percent of those who lived in the U.S. responded that they gave fish to others, compared to 32% of Canadian residents. Among those who ate their Detroit River catch, U.S. residents appeared less likely to report that they alone ate the fish (7% versus 14% of Canadian residents) and seemed more likely to share their catch with other relatives (20% versus 11% of Canadian residents), neighbours (20% versus 4% of Canadian residents), friends (32% versus 25% of Canadian residents), children (51% versus 39% of Canadian residents) and their spouse or partner (58% versus 50% of Canadian residents).

Over the course of this research, we have encountered a number of policy-makers, environmentalists and academics at conferences and meetings who immediately assumed that African-Americans fishing in urban, contaminated locales must be “subsistence fishers”, living in poverty and reliant on the fish they catch to supply much-needed protein in their diet. We can’t comment on those African-

Americans who fish the U.S. side of the Detroit River. We do know, however, that there appeared to be little difference between the Americans fishing the Canadian side of the river and those who lived in Canada regarding education and income—as proxies for poverty—a finding made all the more striking given the fact that most of the American residents we interviewed were over 50 years old and retired. And we also determined that American residents were not eating all their fish themselves. The picture of generosity and benevolence painted in the preceding paragraphs indicates that the African-Americans we surveyed on the Canadian side of the Detroit River were not, in fact, “subsistence fishers”. Rather, they appeared to be among the more privileged members of their communities—in terms of mobility, free-time, financial standing, level of education and health—and as such played an important role as distributors of fish-wealth in their home communities across the border.

Canadian residents, though perhaps less frequently, also spoke of giving fish to those back home—neighbours, uncles, “older people”, friends—who would eat species like catfish, suckers, silver bass and sheephead. As one interviewee explained, “Neighbour next door, a friend of mine, Michael. He’ll eat anything. Catfish, sheephead, silver bass. He’s requested them. ‘If you ever catch any of them, don’t throw them back, I’ll take them’. Watched him trying to clean a garpike one day”. Fish were also given away for charitable reasons by Canadian residents: to those subsisting on a meagre welfare or disability cheque, to the “old buddies at the legion” who couldn’t get out to fish, to “the old man down the street”. Often, however, giving fish to others was a way to share the chore of fish cleaning and helped make room in an over-full freezer.

A very popular way to share fish—for both Canadian and American interviewees—was via the fish fry. Fish fries could be spontaneous or planned well in advance and eagerly anticipated. They could be held on the shoreline, at home, or even at the local bowling alley. They could entail dedicated stockpiling over weeks or be bring-your-own-fish affairs. They could have a restricted guest list or be inclusive free-for-alls. But regardless of when, how and where they occurred, fish fries were always an opportunity to gorge on platefulls of fresh fish in the company of people that mattered.

An interesting finding was that the more Detroit River fish one ate, the more likely one was to report sharing fish with others. Thirty percent of non-consumers and 42% of occasional consumers (1-25 meals/year) reported giving some fish to others, while 63% of frequent consumers (26+ meals/year) reported sharing their catch. And it appeared that frequent consumers spread their catch more widely among family and friends; those in the 26+ meal category were more likely to say that fish from the study area were eaten by their spouse or partner (58% of frequent consumers versus 49% of occasional consumers), other relatives (22% versus 10%), neighbours (17% versus 5%) and friends (41% versus 22%).

Those who spent more days per year fishing also appeared more likely to give their catch to others; there was a steady increase in the proportion of participants who reported giving fish away from 21% among those who fished fewer than 10 days a year to 56% of those who fished more than 75 days a year. Similarly, those who had fished for more years seemed more likely to give their catch to others. While only 26% of those who had fished for less than 10 years gave fish away, 34% of those who had fished 10-29 years, 48% of those who had



fished for 30-49 and 58% of those who had fished for 50 years or longer gave their catch to others.

7.1 Should you look a gift fish in the mouth?

Those who ate fish from the Detroit River were more likely to give some of their catch away to others than were those who hadn't eaten a meal from the study area in the last 12 months. Still, 135 respondents who hadn't eaten any Detroit River fish did claim to have given this fish to others. Forty-six (37%) of these respondents didn't eat their catch because they considered the Detroit River to be polluted/dirty and 22 (18%) because they considered the fish dirty or contaminated.

It is interesting and somewhat disturbing that individuals who believed the water quality too poor or the fish too contaminated to eat themselves would give these same fish to someone else to eat. It

speaks, perhaps, to a twisted version of *caveat emptor*—recipient beware—operating on the shoreline, where the burden of responsibility for asking the right questions and determining the safety of fish donations falls on the shoulders of the recipient. The fish donor—who may willingly offer fish or may acquiesce with grudging distaste to requests from others—is thus let off the hook.

A number of our interviewees, however, did show concern for the well-being of others and demonstrated prudence and care when giving fish away. Fish which looked unhealthy—those with tumors, gill flukes, a strange smell or which otherwise looked abnormal—were released rather than shared with others. At times fishermen would attempt to dissuade neighbours on the shoreline from keeping fish of questionable quality, using techniques which ranged from expressions of distaste to gentle education.



8.0 EATING FISH FROM OTHER ONTARIO LOCATIONS

Tape recorded interviews and field notes indicate that convenience was a consideration when interviewees were choosing a location to fish and that one of the attractions of Detroit River fishing locations was their proximity to home. For those without a driver's license or a vehicle, the accessibility of locations by foot, public transit or bike was of paramount importance. But even those who owned a car—and even a boat—often chose to fish the Detroit River shoreline because of the no-hassle instant gratification it offered. Anglers could quickly throw a line in before or after work, while waiting to pick up family members from an appointment or other activity, and when fishing with kids who would fidget and fight during a long

drive and tire of a whole day of fishing somewhere far away. Convenience was the extent of the Detroit River's appeal for adamant 'non-eaters'—those who considered the river a disgusting, industrial dumping ground—and serious sport fishermen—those who preferred the thrill of salmon and trout fishing to steady catches of panfish, sheephead, catfish and gobies. The fact that so many of our interviewees lived in Essex county is evidence of the river's attraction to locals.

However, many of those we spoke with had certainly travelled beyond the Detroit River to fish. In fact, when we asked survey participants who had eaten Detroit River fish whether they had eaten any fish meals from other locations in Ontario during the previous 12 months, 45% responded 'yes'. Frequent consumers of Detroit River fish were considerably

 OTHER ONTARIO LOCATIONS FROM WHICH FISH EATEN	# OF DR FISH MEALS		TOTAL PARTICIPANTS
	1-25	26+	
LAKE ERIE/LAKE ST. CLAIR	89 23%	54 42%	143 22%
LAKE HURON (INCLUDING GEORGIAN BAY)	29 7%	16 12%	45 9%
LAKE ONTARIO	7 2%	8 6%	15 3%
LAKE SUPERIOR	2 1%	2 2%	4 <1%
ST. LAWRENCE RIVER	2 1%	2 2%	4 1%
SOUTHERN ONTARIO INLAND [†]	28 7%	22 17%	50 10%
NORTHERN ONTARIO INLAND [†]	29 7%	15 12%	44 9%
NO OTHER ONTARIO LOCATION	232 60%	53 41%	285 55%
TOTAL PARTICIPANTS	387	129	516

Table 9. Number of Detroit River participants who reported eating fish from other Ontario locations by the number of Detroit River fish meals they ate*

* More than one response was allowed.

[†] Southern inland waterways were defined as lakes and rivers south of Lake Nipissing and the French River, including all of Georgian Bay. Northern inland waterways were north of these waterbodies.

more likely to report eating fish from other Ontario locations (59%) than were occasional consumers (40%). But even though a great many of the participants who ate Detroit River fish also ate fish caught elsewhere in Ontario, a calculation of the mean proportion of Detroit River meals out of total Ontario fish meals indicates that an average of 67% of Detroit River fish-eaters' meals came from within the study area.

Table 9 indicates that the water bodies at either end of the Detroit River—Lake Erie and Lake St. Clair—were by far the most frequently reported locations outside the Detroit River study area, regardless of the participants' level of Detroit River fish consumption. Northern inland, southern inland and Lake Huron locations were also popular places from which to eat fish for participants at all consumption levels.

8.1 Why eat fish from elsewhere?

It was clear, from field notes and tape recorded interviews, that many Detroit River interviewees travelled to Lake St. Clair, Lake Erie, Lake Huron and other inland locations “up north” for what they perceived to be cleaner, clearer water and better tasting, fresher, uncontaminated fish. Field notes were rife with the refrain, “I wouldn't eat anything from the Detroit River. But I'd eat fish from up north”. “Up north”, however, appeared in many cases to be a place of imagination that was, in reality, anywhere between Leamington and Wawa. Interviewees inevitably required prompting to name the location, as if part of the magic of “up north” was in a set of supposedly shared assumptions about what “north” actually was.

While many uncritically accepted the prevailing wisdom that places “up north” were pristine playgrounds, some recognized that their preference for

these spots was “a mental hangup”, “psychological” or “in my head”. These participants were unsure if there was any evidence to support the common presumption that larger, deeper water bodies in more northern latitudes were actually cleaner. A quick flip through the *Guide to Eating Ontario Sport Fish* had caused some to experience the disillusioning enlightenment that fish from ‘up north’ were sometimes just as contaminated as those in the Detroit River. Others were thrown off by the fact that fish caught in the Thames, Lake St. Clair, and Lake Erie—supposedly cleaner spots—were known to migrate through the Detroit River—ostensibly a contaminant hot spot.

But fishing ‘up north’ or on Lake Erie was not only about cleaner water and better tasting fish. It was also about holidays away from the hum-drum grind of life at home in the city. In many ways these excursions could be the antithesis of urban shoreline fishing: natural surroundings instead of “city stuff”; peace and isolation instead of elbowtoelbow jostle and lost tempers; deep-water downrigging for the big one instead of settling for small ones from the shore; “catching fish on every cast” instead of waiting ages for one measly bite. As one participant enthused about fishing the Trent-Severn waterway, “It's heaven. Oh my God. You would not believe the difference. It's pure heaven. There's trees all around you. It's quiet. It's secluded. The water's clear. It's like a dream. It's totally opposite to what we fish down here”. Another fisherman, speaking about a Lake Huron location, reminisced, “It's almost like you be in Alaska someplace, and you could see the big bears running across. It's got that feeling because of the cliffs, you know”. Fishing away from the home turf was a chance to play survival games, to live in “the bush” and to subsist solely on whatever was caught, cooked over a smoky campfire.

While many of the fishermen we spoke with would gladly eat fish from Lake St. Clair, and believed that Mitchell's Bay and Walpole Island were excellent places to catch fish for dinner, comments about the St. Clair River were not usually so positive. Some had fished along the St. Clair Parkway from the Bluewater Bridge to the delta and were excited about the fast-flowing water, big game fish, opportunity to fish with lures and the "blue, blue, really blue water". Some, in fact, did eat the fish caught in the river. But numerous interviewees referred with disgust to "Gasoline Alley", "Chemical Valley", specific high profile corporations and generic "chemical companies", "pollution in Sarnia", "toilet paper on your line", bottom feeders "eating oil", dry cleaning solvents, and the "toxic chemicals" in the St. Clair River. They blamed activity on the St. Clair River for contributing to the pollution in the Detroit River and unwaveringly asserted "I wouldn't eat anything from there".

African-American fishers we interviewed on the Detroit River often took their fishing holidays in southern Ontario; locations mentioned in tape recorded interviews included Rice Lake, Waubashene, Walpole Island, Mitchell's Bay, St. Luke's Bay, Port Lambton, Sombra, Leamington, Lake Ontario off Lakeshore Boulevard in Toronto, the Thames River, Jeannettes Creek and Tilbury. These locations were preferred for their cleaner water, for amenities such as places to park a trailer, and for the proliferation of preferred species like catfish, crappie and bluegill. Analysis of questionnaire data indicates that of the 163 American residents we interviewed, 31% (n=50) had eaten fish from Lake Erie/Lake St. Clair in the 12 months prior to the interview and 7% (n=11) had eaten fish from southern Ontario inland locations.



9.0 USE OF THE GUIDE TO EATING ONTARIO SPORT FISH

The *Guide to Eating Ontario Sport Fish*, a close-to-200 page document published biannually by the Ontario Ministry of Environment (MOE), is designed to encourage safe fish consumption. It contains written text and charts which provide specific and detailed information about the contaminants in species and sizes of fish at over 1600 locations in Ontario. Table 10 indicates that just under a third (32%) of all fish consumers we surveyed used the Guide. Twenty-seven percent of those we interviewed along the Detroit River claimed to use the Ministry of Environment publication; only those fish consumers interviewed while fishing in Hamilton Harbour locations reported a lower use of the Guide at 26%.

The findings for non-English speakers and American residents, also presented in Table 10, offer a partial explanation for the lower reported use of the Guide along the Detroit River. Fourteen percent of those who spoke only a language other than English at home and 12% of American residents claimed to use the Guide.

Given the complexity of the publication—consider-

able text presented in English and French, intricate charts and symbols, reliance on a fisher's detailed geographical knowledge—it is not surprising that non-English speakers made little use of this resource. The experiences of our research assistants clearly indicated that personalized instruction in the fisher's first language was necessary to properly convey both the rationale for producing the Guide and the technicalities of using it correctly. Some of the recent immigrants encountered on the Detroit River shoreline were able to understand the basics of Guide use only after reading a page-long 'guide to the Guide' which was produced by our project following advice from the Ministry of the Environment and translated into their first language. One Detroit River interviewee confessed, "I don't read the book [the Guide]. My English is not that good and I'm sorry. I always use the dictionary when I'm reading because I'm not sure what they say". Another fisherman, who had recently emigrated from Poland, made this unashamed admission to our Polish-speaking interviewer, "I take it from the government out of respect, not because it's any good. It's incomprehensible. It's throwing away money. I've only been here a few years. People new to Canada can't understand this!"

Explaining the less frequent use of the Guide among

PARTICIPANT USES THE GUIDE	BY LANGUAGE SPOKEN AT HOME			BY COUNTRY OF RESIDENCE		OVERALL TOTALS	
	English only	English + other	Other only	Canada	U.S.	Detroit River	All survey areas
YES	97 27%	38 38%	7 14%	127 33%	14 12%	142 27%	470 32%
TOTAL PARTICIPANTS	361	101	50	390	124	517	1453

TABLE 10. USE OF THE GUIDE TO EATING ONTARIO SPORT FISH BY THE LANGUAGE SPOKEN AND COUNTRY OF RESIDENCE OF DETROIT RIVER PARTICIPANTS*

* This table is based only on those participants who had eaten fish from the AOC in which they were surveyed in the 12 months previous to the interview. The question 'Do you use the Guide to Eating Ontario Sport Fish?' was added in 1996, thus the 'all survey areas' column does not include any data collected in 1995 from Metro Toronto, Hamilton Harbour and the Niagara River.

those who don't speak English at home as being due to its over-complexity, however, implies that those who are newcomers to Canada or are not fluent in English are making a conscious choice to ignore the Guide because they don't understand it. It could also be argued that these survey participants were not aware that the Guide exists, a hypothesis which is supported by the fact that our research assistants became a major and much appreciated supplier for those whose first language was not English.

In fact, a number of Detroit River interviewees complained about the inadequate advertising and poor availability of the Guide, particularly prior to publication of the 1997-8 edition, and expressed surprise that such information was not readily available at bait stores and other venues where one could purchase a fishing license. One interviewee, who had phoned a government office to obtain a copy, stated, "The ministry kept putting me on hold and it was awhile before they told me I should go to the Beer Store. Then when I got there, there was none left". Another acknowledged, "To tell the truth, I think publishing that info as a book is a waste of money. It would be far more useful to make a poster of fish eating info and put it up in bait stores. The bait stores would be happy to display it and a lot more people would see it there as well". When shown the Guide by an RA, many fishermen remarked that they had never seen a copy and were surprised that such comprehensive information was available. Others stated that they had seen or owned copies in the past but had not seen the Guide in recent years. A standard field note entry was "gave him/her a copy of the Guide. S/he was very happy to receive it".

The distribution method and scarcity of the Guide are the most plausible explanations for the very low reported use among American residents fishing the Canadian side of the Detroit River. While the pri-

mary method of distributing the fish advisory was through beer and liquor stores, most (65%) of the Americans we interviewed were over 50 years old, many fished in Canada to escape the rowdy shoreline culture State-side, and the Ontario establishments they appeared to frequent were bait stores, fishing license offices and restaurants rather than places where they could purchase alcohol for shoreline consumption. It was also evident that, even in beer and liquor stores, quantities dwindled significantly during the second year following publication. As a result, it is not surprising that many Americans were unfamiliar with the MOE document. In fact, one African-American fisherman—a much-loved regular on the Detroit River shoreline—became a personal distributor of the Guide among neighbours and friends back home in Detroit, taking multiple copies of the ministry publication every time he met one of our RAs.

There was an association between age and use of the Guide; thirty-five percent of Detroit River fish consumers who were 40-49 years old and 31% of those aged 30-39 reported using the ministry publication compared to 26% of those under 30, 25% of those aged 50-64 and 18% of those 65 years and older. Level of formal education also appeared related to Guide use, since those with a college or trade diploma (37%) or a university degree (31%) were most likely to report using the fish advisory, while 15% of those with less than a grade 9 education claimed to use the Guide. Those who fished more than 24 days per year appeared more likely to report using the Guide (31% versus 18% of those who fished 24 days or less). There did not appear to be an association between level of Detroit River fish consumption and use of the Guide.

The 27% of Detroit River respondents who "used" the Guide often commented that they "liked",



“trusted”, “appreciated”, and “followed” the information and found the advice “good”, “useful”, and “helpful”. As one remarked, “I like that. I trust that. They say it’s safe to eat a certain amount, well then I’ll trust that and try not to go overboard”. But even among those who claimed to be “users”, the Guide was usually discussed in very superficial terms, as resource material which was “skimmed” once, periodically, or every time a new edition was printed and then kept at home. As one admitted, “Every time I catch a fish, no, I don’t open it. I don’t”. Anglers tended to use the Guide to develop maxims and mottoes which they attempted to follow: don’t eat the big fish, don’t eat the black fish, don’t eat the belly fat, don’t fish in polluted areas, don’t eat too much fish. Others “used” the Guide for purposes other than fish consumption advice: species identification, determining what species were available in a particular area, finding new places to fish, and “records” of the biggest fish caught in a location.

Some fishermen were aware of the existence of the Guide but did not consider themselves “users”. For a number it was “just another book on the shelf” which they simply hadn’t yet found the time to read. Some found the thickness, complexity, and minute print of the book daunting. One railed, “The Guide is too scientific. All those dots, all those zones. It’s a waste of time. It took me 3 hours to read it. No one will put in that time to read it”. Others knew to stick to smaller fish or so-called uncontaminated locales up north and therefore did not see a need for the advice; still others didn’t use it because they didn’t eat fish. Others felt that the information in the Guide was “common sense” and only of use to amateurs and fair-weather fishermen. Many claimed to not eat enough to “worry” and therefore didn’t see a need for the advice. Others, however, felt that the Guide served up a

“don’t eat” message and—in defense of a favourite pastime—these interviewees completely disregarded the document. As one interviewee explained, “If you listen to it you might as well not eat fish. They tell you you can’t eat this, that, everything else, holy cow... You can’t use it as a guide. You can’t. Because if you use it as a guide you can’t eat”. Another admitted to owning a copy of the Guide but adamantly claimed to ignore the advice. He told us, “They tell you the fish from here will kill you but I don’t believe it. I’ve been eating them for 20 years. If it’s going to kill me, it’s going to kill me”. Another pronounced, “No one uses it. No one worries. People just don’t care. I read it through once and never looked at it again. Why should I worry about eating these fish? I drink this water. I can’t worry about everything. There is more chemicals in a can of food than in these waters. Everything is poisoned”.

At times fishermen questioned the rigour of government studies and called for more information on the methods and assumptions used to generate conclusions which often seemed at odds with their own personal experience. Many asked important questions. Why, if the fish are so bad, haven’t we got sick? What about hormones in beef and chemicals in bologna? Who is testing and regulating commercial fish? Others felt the Guide was an infringement on personal freedom, an attempt to dictate and regulate what was rightfully a private matter. As one fisherman asserted, “If I’m going to eat the fish then I’m going to eat it and that’s that. I don’t need the Guide to tell me what to do”.

Detroit River interviewees also had recommendations for improving the Guide. These included: providing more details on the river; simplifying the information; packaging information in smaller pamphlets for specific areas; including more local

information; including recipes for fish; distributing information through bait and tackle/sporting goods stores; and integrating consumption information with fishery management issues including stocking, regulations, where money from fishing license fees was spent, and maps of the best fishing spots.

A key recommendation was to enlarge the species list in the Guide to include all those available on the Detroit River. One participant, for example, criticized the Guide for “not including enough specifics from here, like muskie and bass”. An asterisk is used in Table 7 to highlight the 10 species which were consumed by those we interviewed along the Detroit River but which were not included in 1995-6 or 1997-8 editions of the Guide. Five of these species—smallmouth bass,

white perch, bluegill, largemouth bass and crappie—are among the ten most frequently consumed Detroit River species. Overall, an average of 20% of Detroit River fish meals were of species not found in the Guide. When these Guide gaps are reported by level of Detroit River fish consumption, a disturbing trend becomes evident. It appears that the more fish one eats from the river, the more likely it is that one will be eating species for which the Guide contains no consumption advice. We determined that 15% of the meals for those in the I to II meal category were of species not included in the Guide. This percentage increased to 22% among those who ate 12 to 25 meals, 28% among those who ate 26 to 95 meals, and reached a high of 31% for those in the 96+ meal category.

SOURCE OF INFORMATION	BY COUNTRY OF RESIDENCE		OVERALL TOTALS	
	CANADA	U.S.	DETROIT RIVER	ALL SURVEY AREAS
SELF (personal experience and appearance of fish)	108 29%	29 24%	136 28%	310 23%
INTERPERSONAL (another fisherman, friends, relatives, local people, word of mouth)	71 19%	25 21%	98 20%	406 30%
MEDIA (TV/radio, papers/magazines/books)	118 32%	53 44%	172 35%	426 32%
GOVERNMENT/ORGANIZATIONS [†]	110 30%	17 14%	128 26%	380 28%
NOTHING IN PARTICULAR	63 17%	23 19%	87 18%	201 15%
MISCELLANEOUS OTHER	10 3%	1 1%	11 2%	30 2%
TOTAL PARTICIPANTS	369	120	492	1347

TABLE 11. SOURCES OF INFORMATION USED TO MAKE DECISIONS ABOUT FISH CONSUMPTION BY COUNTRY OF RESIDENCE OF DETROIT RIVER PARTICIPANTS*

* This table is based only on those participants who had eaten fish from the AOC in which they were surveyed in the 12 months previous to the interview. More than one response was allowed. The question “What sources of information help you make decisions about eating fish that is caught?” was added in 1996, thus the ‘all survey areas’ column does not include any data collected in 1995 from Metro Toronto, Hamilton Harbour and the Niagara River.

[†] Includes responses “Guide to Eating Ontario Sport Fish”, “Fishing Regulations Guide”, “beer store”, “government agencies”, “fishing license office”, “OFAH/angling clubs/sportsman shows”, “bait/tackle shops”, and “Michigan Fishing Guide”.

9.1 Favoured sources of information

Table II reports that, when those who had eaten Detroit River fish in the last 12 months were asked “what sources of information help you make decisions about eating fish that is caught?”, the most frequently offered response (35%) was a media source like TV, radio, newspapers, magazines or books. It is possible that participants reporting these sources were actually receiving information from Ontario’s fish advisory which had been distributed through press releases or used by authors of articles, pamphlets or books independent of government direction. The next most prevalent sources of information reported were one’s own experience or judgement (28%) and government or organizational sources of information, including the *Guide to Eating Ontario Sport Fish* (26%).

It seems that Detroit River interviewees relied more on media sources than did interviewees in any other survey area, save the St. Clair River; the proportion of fish consumers who reported relying on the media were 17% in Metro Toronto and Hamilton Harbour, 18% on the Niagara River, and 38% along the St. Clair River. Detroit River participants mentioned magazines, television shows, scientific journals and newspapers—including the “weekly mercury report” and fishing column in the Detroit Free Press and the regular Thursday write-up on fishing in the Windsor Star—as media sources. Data presented in Table II shows that American residents reported reliance on media sources more often than Canadian residents (44% versus 32%).

Government or organizational sources of information mentioned in field notes and tape recorded interviews included local rod and gun clubs, the Ontario Federation of Anglers and Hunters, the Ministry of Natural Resources, the University of

Windsor, and public health departments, the latter being used to obtain information on beach closings which was then used as a proxy for overall water quality. It was clear that fishermen expected fishing clubs, lobby groups, academics and fishery managers to be involved in an issue as important and relevant as fish contamination.

It appears that Detroit River respondents relied considerably less on interpersonal information sources than did participants in other survey areas. Regardless, numerous anglers whose words were recorded in taped interviews and field notes indicated that they learned a great deal about fish-oriented issues from the people around them: husbands, parents and grandparents, bait store owners, physicians, university students and other researchers conducting studies on the river, and—perhaps most importantly—from “talk on the water” between fellow fishermen. Fishermen directed each other to where fish were biting and oriented first-timers to the popular locations; shared information and expertise regarding bait, equipment, species and even cooking; and passed on tidbits of information like where the biggest muskie was caught last year and who caught the first fish after bass season opened. They also sought the advice and help of our Detroit River research assistants. RAs assisted participants with species identification; using the Guide; finding locations to fish; identifying where to catch preferred species; tying knots; and even untangling fishing line, landing feisty fish and releasing the untouchables like mudpuppies and catfish. RAs were asked questions about the quality of the water; whether the fish were safe to eat; sources of pollution; licenses, limits, and seasons; and whether they themselves ate fish from the river. The prevalence and ease with which such information was sought and shared, and the eagerness with which participants

responded to personal contact with someone who appeared to be an expert, indicate that interpersonal methods of communication are extremely important to anglers. This was especially true of those who had recently emigrated to Canada. These fishers relied heavily on others fishing, ESL teachers, friends, relatives and our RAs to learn about environmental contamination, the safety of eating fish, and whether there was any substance to the scare-mongering on the shoreline.

Table II indicates that those interviewed on the Detroit River reported reliance on their own experience and judgement more often than did fishers over all survey areas. Even so, only 28% of participants offered 'appearance of fish' or 'personal experience' as a response when asked about their sources of information. In contrast, almost all the fishermen whose words were captured in field notes and interview transcripts openly offered their personal criteria for judging a fish fit for food. When compiled, these criteria become a laundry list that includes "the fight" of a fish; colour of gills and skin; firmness of flesh; clarity of eyes; presence of tumors, parasites, worms on the outside of the fish or in the flesh, spots, "black moles", "cancers", lamprey marks, battle scars, wounds from mishaps with boat propellers and open sores; the overall configuration of the fish; colour and consistency of the flesh once cleaned; defects in internal organs; and the smell and taste of the fish once cooked. In some cases participants admitted that their precautionary pickiness was perhaps unnecessary overkill. As one stated, in reference to fish having "unhealthy markings", "It proba-

bly wouldn't be harmful, but why take the chance? It's only one fish". Others recognized that their criteria for keeping and releasing fish was based more on aesthetics than risk management. These fishermen had read or heard that tumors on walleye were the result of an innocuous virus and that worms in fish flesh were rendered harmless by cooking. One, speaking specifically about tumors on walleye, admitted, "I read it that it is not harmful, but for me it was offensive. So, I never kept it".

Detroit River fish consumers also appeared more likely than those in other survey areas—except for Metro Toronto—to offer 'nothing in particular' as a response to the questionnaire query about information sources. Eighteen percent of Detroit River participants gave this response compared to 6% of Hamilton Harbour fish consumers, 7% of those interviewed along the Niagara River, 9% of St. Clair River 'eaters' and 40% of those who ate fish from Metro Toronto locations. The prevalence of the 'nothing in particular' response perhaps offers an explanation for the finding that, while only 28% of Detroit River fish consumers claimed to rely on 'personal experience' or 'appearance of fish' when making decisions about eating fish, the qualitative data indicate that it was the rare participant who did not rely to some extent on his or her own judgement. That 18% of Detroit River fish consumers responded 'nothing in particular' to the questionnaire query may indicate that a reliance on sensory cues and case-by-case assessment may be instinctual and automatic and therefore less frequently offered when asked a direct question about information sources.



10.0 AQUATIC WILDLIFE CONSUMPTION

Seventy-six (8%) of the 999 Detroit River participants had eaten aquatic wildlife—which we defined as ducks, geese, turtles, turtle eggs, frogs and snails—in the 12 months prior to the interview. In no other survey area—save along the St. Clair River where 11% of participants were aquatic wildlife consumers—was eating aquatic wildlife so prevalent.

Interestingly, 70% (n=53) of the 76 wildlife consumers interviewed along the Detroit River had also eaten Detroit River fish in the previous 12 months. However, when these 53 participants are compared to the 517 participants who ate Detroit River fish, we can see that, overall, only 10% of Detroit River fish consumers also ate aquatic wildlife. Five percent (n=23) of those participants who had not eaten Detroit River fish in the last 12 months were aquatic wildlife consumers. Those who ate aquatic wildlife were overwhelmingly Canadian residents (99%) and almost without exception spoke at least some English at home (99%).

Not only were the overall numbers of aquatic wildlife consumers small, but those that ate wildlife did not tend to eat very much annually. Almost half (45%) of aquatic wildlife consumers had eaten only one or two meals over the previous 12 months. Twenty-four

percent had eaten 3 to 5 meals, 11% had eaten 6 to 11 meals, 13% had eaten 12 to 25 meals and 8% had eaten 26 or more meals of aquatic wildlife species.

Mallard was by far the most popular species consumed; seventy-five percent of wildlife consumers ate at least one meal of this bird. Canada goose was the next favourite, with 34% of wildlife consumers reporting it. Fourteen percent ate green-winged teal; 13% each reported wood duck and canvasback; 9% ate blue-winged teal; 8% each reported red-head, black duck and lesser scaup; 4% each reported gadwall, goldeneye and bufflehead; 3% ate blue-bill; and 1% each reported red-breasted merganser, ring-necked duck and widgeon. Twelve percent of participants were not able to identify the species of duck. One participant reported eating frogs and no one interviewed along the Detroit River ate turtle or turtle eggs.

Participants were asked where the stuff for their various fowl feasts had originated. Lake Erie and inland southern Ontario were tied as the most popular locations from which aquatic wildlife was taken, since 70% of wildlife consumers reported eating wildlife from each of these spots. The Detroit River AOC was only slightly less popular; sixty-seven percent of wildlife consumers gave this as a source of their meals. Next in popularity was the St. Clair River AOC, which 16% of wildlife consumers gave as the origin of wildlife eaten.



11.0 QUALITY OF THE DETROIT RIVER FISHERY: DWINDLING STOCKS AND EXOTIC SPECIES INTRODUCTIONS

Some interviewees were quite content and even highly satisfied with the fishing on the Detroit River. Several remarked on the variety of species available from different locations. As one enthused, "I just moved to this end of town from the west side. It amazed me living there that I was 5 minutes away from just about every kind of freshwater fish available". Others focussed on the availability of particular, highly prized catches. One claimed, "this here is the best perch fishing in the world". Another, who had travelled the globe with his rod and tackle, had been bitten by the sturgeon bug. "I've been fishing in the West Indies, St. Lucia, St. Thomas, South America in Columbia, I caught a shark there. I've been in Florida fishing. But I caught the biggest one about 5 blocks from my house in the Detroit River. Sturgeon. We got it steaked and ate it. Beautiful". Mention was made, of course, of the excellent walleye—or pickerel—fishery on the river. "The Detroit River is a wonderful place for pickerel. Probably one of the better places in the province", one interviewee crowed. Another similarly commented, "It's one of the greatest fisheries in Ontario, as far as I'm concerned. A lot of people I know say there's not much fish, but then they don't know how to fish, eh? If you're educated, there's *lots* of fishing to do around here. Lake St. Clair is just *full* of fish. Detroit River is definitely full of pickerel, walleye, whatever."

However, comments about the Detroit River fishery were more often in the form of complaint, not compliment. Nineteen percent of Detroit River respondents who ate their catch—a proportion higher than in any other survey area—mentioned

that they were concerned with 'dwindling fish stocks'. Conversations recorded in field notes and captured on tape show that while participants noted some exceptions to the trend of declining numbers—sheephead, rock bass, gobies, pike and muskie—those species sought by the most fishers were almost unanimously believed to have been in decline for a period of time which varied from 1993 to the early 70s. "When I was a kid", young and old interviewees alike would begin, pailfulls of yellow perch or silver bass could be pulled from the river in the span of a couple of hours. Perch would bite—"a double every five minutes"—on nothing more than a line and hook. And one could catch 30 or 40 walleye a day, even from shore. Such bittersweet reminiscences about the good ol' days hint at a past Detroit River fishery of legendary quality. In 1996 and 1997, however, things weren't looking so good. Those anglers with access to a boat complained that even they had trouble catching anything other than "garbage fish". American residents, who crossed the border for better fishing, admitted that "it's not like it used to be". Some interviewees went so far as to declare desirable species like yellow perch, silver bass, smelt and rainbow trout "almost extinct" because resident populations were so scarce and the runs so poor. One participant, speaking specifically of yellow perch, noted, "Perch stocks seems to be down quite a bit. I can *definitely* remember that the fishing was considerably better at any time of the year. It wasn't unusual to go down ice fishing and then pick up a couple of meals full in an hour. It was not unusual at all, because I've done it. I told a neighbour lady 'you want some perch for supper?' and she said, 'sure'. This was 2 o'clock. So I came back at 3 o'clock with about 20 perch." Another, on the subject of walleye numbers, lamented, "The walleye sure doesn't seem to be as good as it should be. There was years that from shore, I mean down at the corner down there, we would get, between a bunch of



us, I'd see 35 pickerel a day brought in there. And the last 2 years, I haven't seen 2 or 3 brought in. And at night fishing, it was nothing to get walleye this big. Now you're lucky to get 10 inch spikes. The little bit bigger ones have been coming in, a pound and half to 3 pounds."

Participants offered a number of hypotheses for the decline in the numbers and sizes of fish like yellow perch, silver bass and walleye. Some suspected it was the pollution of Lake St. Clair and the Detroit River which had affected these "more delicate" and "finer" fish species. While most agreed that water quality had improved since the 70s, stocking of trout, walleye, bass and perch was seen by some as necessary to return the fishery to pre-pollution productivity. Some blamed the commercial fishery on Lake Erie and the aboriginal fisheries on the Thames, while others attributed the decline at least in part to the greed of individual fishermen during the boom years. Some blamed the turbidity of the water as being unattractive to fish; others the boats and jet skis which churned up weeds and generated noise pollution; still others focussed on shoreline development, particularly marinas, for destroying fish habitat. Cormorants, muskies and large fish stocked for "big shots with boats to catch" were also suspects in the decrease of choice species like panfish. A number of interviewees, however, believed that the population decline was symptomatic of a natural cycle; the reduced numbers overall and baby boom of younger, smaller fish were thought to indicate "good times ahead". Silver bass, in particular, was considered a highly cyclic fish. The run in 1995 was reputedly terrible and there were mixed reviews on catches in 1996 but the 1997 run appeared to be much more successful. Most believed, however, that even the best catches in '97 were no match for memories of silver bass runs in the 70s.

Exotic species, too, were felt to play a significant role in the state of the fishery. Species indigenous to the Detroit River had been affected by the introduction of zebra mussels and gobies; whatever natural balance still existed in the river had been thrown into a period of flux and adjustment as the effects of these newcomers were felt in the environment and the food chain.

In 1996 and 1997, zebra mussels were old news on the Detroit River. Many of those we spoke with seemed to believe that mussels, while a problem in principle because of their status as illegal aliens in the river ecosystem, had not wreaked the havoc expected of them. Zebra mussels were considered, in fact, to be an unexpected boon to a dirty, polluted river because of their ability to "clean" the water. There was a tendency, here, to confound "clear" water with "clean" water. Many believed that, since they could now see down 15 or 20 feet where once visibility was restricted to 6 or 12 inches, the zebra mussels had a positive effect on pollution levels in the river. Others, however, believed that the mussels had altered the river environment significantly for the worse. Clear water meant increased light penetration and species like walleye were suspected of staying in deeper water further from shore as a result. Silver bass—reputed to like "dirty water"—were also negatively affected. A number of fishermen associated enhanced light penetration with increased weed growth. While some thought this was beneficial, others offered criticisms which ranged from mild frustration at losing equipment in weeds and frequent grass-catches, to suspicion that weeds were eradicating spawning beds and altering fish habitat. Some interviewees, however, claimed that the peak in the mussel population was past and that its effect on the fishery was now minimal. Water which was once clear was now cloudy; seaweed once saturated with small

mussels was now spotted with one or two or none at all.

Gobies, however, were comparative newcomers to the Detroit River fishing scene in 1996 and 1997 and we encountered numerous fishermen who were catching gobies for the first time. A number had heard rumour of their arrival from Russia but were unable to identify these small, "strange-looking" foreigners with "eyes that stick out like frogs". "I thought it was going to spit at me", one fisherman laughed, recalling his first goby catch.

Several marvelled at the goby's ability to change colour from brown to black and a couple thought a goby would make a nice addition to the fish tank. But among those more familiar with the species, gobies were considered an irritating and even malignant newcomer. "In 10 fish caught, 7 or 8 of them will be gobies. There's way too many", one exasperated fisherman stated. A common complaint on the river was that gobies stole the bait intended to catch other fish. "They eat up your worm as soon as it hits the water and give nothing else a chance to get near your bait", one woman remarked, adding, "We've had days when we've gone through 3 dozen worms on nothing but gobies. I don't think other fish feed when they're around". Fishermen found their revenge, however. As an exotic species, gobies were not to be live released but could legally be killed for purposes other than consumption. Many anglers relished serving up the goby as a meal to hungry seagulls, or taking them home for pet food. But an even more attractive use

was as fish food; the goby had been discovered to be excellent bait for bass species and in an ironic reversal of fortune, the bait-thieves themselves became the bait. Bass apparently preferred smaller gobies, which were considered superior to minnows because "they are tougher and hold on better".

Gobies might make good bait, but fishermen expressed considerable concern about their effect on the fishery. As one fisherman predicted, "they're changing the ecology of the river". Aggressive, adaptable and omnipresent, the goby was feared to easily usurp the place of indigenous species like perch, eating not only their food but also their eggs. Gobies had been found in the stomachs of perch and walleye, and were obviously good for bass fishing. Like zebra mussels, gobies appeared to have both a negative and positive effect on the fishery; consensus was only that they would cause change.

Gobies were felt by most to be too small for human consumption, although a Chinese fisherman and the father of an Asian interviewee were reputed to fry goby. One interviewee, albeit with a bit of hesitation, saw a potential place for the goby in the ranks food fish. He asserted, "Like the goby [sic], now that's a delicacy in Russia. That's supposed to be, they're supposed to be a 10 inch fish and they're thick. They're supposed to be good fish but I don't know. Actually little ones like that, about this big around, they're all meat. There's no bones in them. They must be like a catfish with a backbone or something. I don't know. I've never tried one."



12.0 OTHER PRESSING CONCERNS: CONSERVATION, SHORELINE ETHICS AND FISHERY MANAGEMENT

Many of the fishermen we spoke with expressed concerns—ranging in tone from mild irritation to vehement condemnation—about activities and behaviour which they had witnessed on the Detroit River shoreline. Many of these were offenses not only punishable in the eyes of the law but considered morally reprehensible by most interviewees: taking more than the daily limit of species like walleye and bass; fishing without a license; selling fish; fishing with more than one rod; killing undesirable fish—like carp, sheephead, sucker, bowfin, and catfish—before releasing them; taking fish out of season; and disrespectfully distributing garbage—including pop cans, coffee cups, worm containers, broken fishing line, dirty diapers, cigarette packs and cigarette butts—along the shoreline. The exception was the one-rod rule; a number of interviewees felt that, given the already challenging conditions of shoreline fishing, those confined to the bank should be permitted to have two or more rods in the water at the same time.

Not all complaints were supported by legislation, however. Some were against behaviour permitted by law but seen by interviewees as a threat to a fragile fishery. Muskie was the only fish officially protected by a minimum size limit but participants were incensed at other fishermen who would keep smaller or “baby” fish of any species. Some spawning fish were legal to catch; even so, keeping any fish “full of eggs” was deemed disgusting. Interviewees were loudly critical of others for “eating everything”, even though many species were without possession limits.

Those who did not follow both the written and

unwritten rules of fishing were described as “ignorant”, “piggish”, “selfish”, “sneaks” and “braggarts”. Specific ethnic groups were often blamed, as well as the more generic “foreigners”, “immigrants”, “part-time fishermen”, and “fair-weather fishermen”. In most cases these groups were typified as placing their own needs—for a full freezer or for bragging material—ahead of protecting the fishery. The clearly stated sentiment shared by many interviewees was that one who could not follow the rules should not be fishing.

Many of the fishermen we spoke to were not silent witnesses to such activities, nor did they simply mumble complaints under their breath or vent to others after the fact. These were individuals who used peer pressure as a form of social control, including direct confrontation and off-hand, sometimes-subtle-sometimes-snide comments to others which were meant to be overheard by perpetrators. Those who sought punishment of law-breakers and resource-abusers telephoned the local police or Ministry of Natural Resources office to report a crime in progress. Many claimed to role model responsible and ethical fishing: purchasing a fishing license; releasing all the big fish—or “breeders”—to perpetuate the species; releasing the “babies” so they had a chance to grow up; never taking more fish than was needed; keeping fish which had been injured or exhausted by an extended fight rather than releasing them to die; treating all species—even the so-called “garbage fish”—with respect; releasing fish which were full of eggs; eating everything which was kept; and cleaning up, not only their own garbage, but the litter left by others on the shoreline. A number suggested that they would be willing to police the fishery on a volunteer basis. One in particular recalled the Deputy Game Warden program of the past and called for its re-instatement, especially given recent cut-backs in Ministry of Natural Resources staff.

Stewardship was a key aspect of the fishing ethic for many participants. These interviewees were prepared to deny themselves short-term gain in favour of long-term sustainability and in the interests of future generations. As one participant advised, "If you take care of the land, take care of the fish and the wildlife, then there's going to be something there for your kids to go after. If you just go kill everything and catch everything then when your kids grow up there's going to be nothing".

Another, whose beef was those who fished with more than one rod, acknowledged, "To me it's just totally disrespectful. 'Cause being fishing all my life, I like to be around where my kids can fish when they grow up and have my grandchildren fish. And at this rate, I ain't, no". A third characterized his participation in the Ministry of Natural Resources' Angler Diary Program—a program where volunteers record information for the ministry which is then used to make management decisions—with this statement, "I figure we're just helping ourselves in the long run so I want there to be something around when my kids get older, if they ever want to take their kids down, there should be something left for them".

The strong fishing ethic held dear by these interviewees was very clearly juxtaposed with recent changes in the Ministry of Natural Resources. While individuals on the shoreline struggled to follow the rules and protect the resource, government decisions were interpreted as short-sighted and an abdication of responsibility. A very common complaint was the slash-and-burn decimation of Ministry of Natural Resources staff and the resultant unresponsiveness of local offices to reports of resource abuse and dearth of game wardens to monitor illegal practices. Fiscal irresponsibility was another frequently-levelled accusation. Many felt that fishing licenses were a money-grabbing scam, especially

since little positive benefit had been felt from more than a decade of license revenue. "I'll pay a 100 bucks a year to fish", one fisherman told us, "if I know that money is going towards spawning, rebuilding the areas, or stuff like that. I think 90% of the fishermen feel that way, but a lot of times we don't know what's going on. As far as we know, somebody's padding their pockets again".

Participants felt the ministry was prejudiced against southwestern Ontario, shoreline fishermen and those who wanted to eat fish. Instead of investing in the specific communities which generated license money, the government was blamed for improving the fishing in northern Ontario and Toronto, improving fishing for boat fishermen and catering to those who practiced catch-and-release.

Complaints were also regularly received regarding the large commercial fisheries operating on Lake Erie and Aboriginal fishermen. "Indians" fishing the Thames were accused of abusing treaty rights by seizing vulnerable walleye from their spawning beds. The "Lake Erie guys" were blamed for the drop in the silver bass, smelt and perch populations and were felt to be the cause for the overall small size of any perch which was caught. Lake Erie commercial fishermen were also criticized for "wasting" fish, since gill nets caught all species, not simply those for which the fishermen had a permit. "Ghost nets"—commercial equipment which had been lost several years ago when Lake Erie froze over—spooked boat fishermen who would come upon them unexpectedly, lose expensive gear, and risk being pulled under. These migratory and never-retrieved nets were also believed to be needlessly killing fish.

Big business was viewed as unfair competition for individual recreational fishermen who seemed heavily regulated in comparison. The United States



had eliminated commercial fishing on its side of the Great Lakes. The fact that Canada continued to allow a sizable corporate catch was viewed as officially-condoned exploitation and, to those we interviewed, symbolized a valuing of commercial interests and overseas trade at the expense of a large and lucrative domestic sport fishing industry.

A number of participants, while passionate about their pastime and outspoken about changes they would like to see, were downbeat and dispirited when asked if they felt they could make a difference.

Individual anglers felt ignored and silenced by a government that no longer seemed to care about them or their sport. A few, while they saw the potential in collective action, lamented that they lacked a force to organize fishermen and unite their voices. Even the most optimistic of interviewees had this to say about the work of the Federation of Anglers and Hunters, "They got a spokesperson that's in the government, that lets them know what's happening and what's going on. And they try to give them solutions, how to fix it even though the government don't pay attention".



13.0 CONCLUSIONS

Shoreline fishing along the Detroit River is about community, culture, and connectedness to the environment. It is about mental health maintenance, management of physical maladies and growing good families. Compared to so many activities, shoreline fishing is largely barrier-free.

Fishermen, however, perceive their pastime to be threatened—by environmental degradation, by the loss of prime fishing locations to private enterprise, by exotic species introductions, by cutbacks in the Ministry of Natural Resources, by dwindling fish stocks. It is these subjects, and not issues of contaminated fish and health risks, which anglers are most interested in discussing. The potential risks to physical health posed by consumption of Detroit River fish seem small in comparison to the incalculable risks to mental health if local fishing is decimated due to poor decision-making by fishery managers and city planners.

This is not to suggest that those who eat Detroit River fish are ignorant or complacent regarding potential risk; although they are not preoccupied with questions of health risks, many are active about minimizing their exposure to both chemical and bacterial contaminants. It appears, however, that the primary method of communicating fish advisory information—the *Guide to Eating Ontario Sport Fish*—is not particularly effective at reaching those on the Detroit River shoreline, especially American residents and those whose first language is not English. We recommend that to be effective, this important information must be presented through communication channels fishermen already employ, like the media, fellow fishermen, and fishing-related organizations and businesses. We suggest the information be simplified, locally-specific

and available in a variety of languages. And we believe that it should build on other interests, like resource management issues, since anglers often see their own health and the health of the environment—including the fishery—as related concerns and symptoms of a common problem which deserve integration.

In terms of their fish consumption, Detroit River participants were quite different from those interviewed in Metro Toronto, Hamilton Harbour and along the shores of the Niagara River but seemed quite similar to those interviewed along the St. Clair River. More Detroit River interviewees ate fish from the river and those that didn't eat were less likely to offer pollution-related reasons for forgoing a fish meal. Those who ate Detroit River fish were less likely to be concerned about fish and water quality than those fishing in Lake Ontario locations. It appears, then, that the connection to a local, urban waterway has not been so thoroughly severed among Detroit River anglers. The stigma attached to eating fish from the river, however, could ultimately cut this important cultural and social link to the environment and alienate anglers from a potentially high quality and certainly highly valued food source.

Those who invest the most in the sport—in terms of years fished and days per year spent fishing—appear to be the greatest allies for the river. It is these fishermen who seemed the least likely to have written off the resource, being more likely to eat the fish and in greater quantities, and to state they didn't eat the fish for the simple reason that they “don't like fish”. Americans, too, were advocates for fishing on the Canadian side of the Detroit River. Americans were more likely to eat fish from the river, to be frequent consumers, and to spread their catch among strangers, family, friends, neighbours and



others in the community back home. But dwindling shoreline access and unimpressive fish runs were causing some to re-think their decision to fish the Canadian side of the river.

Local fishermen, particularly those who eat their catch, could be an incredible resource for the Detroit River RAP and other groups involved in fishery or environmental initiatives. They have hands-on understanding of environmental issues affecting the Detroit River and a personal investment in river clean-up. Many fishermen are vocal, opinionated, creative, committed individuals. They participate in MNR's Angler Diary Program, they bring garbage bags to the shoreline and clean up after their fellow fishermen, they would be willing to volunteer their time as Deputy Conservation Officers. The fishermen we met could rarely be

characterized as 'joiners', so some effort would have to go into mobilizing them, but they demonstrated an almost instinctual understanding of the ecosystem approach, strongly believed in stewardship, and had interesting ideas—all of which make them an invaluable resource to those working on environmental cleanup initiatives.

If our research strategy has shown one thing, it is the value of listening to the words of those who use the resource. As one Detroit River fisherman put it, "actually, the fishermen would be the closest to what's really happening here". Perhaps the most important point in this report is that questions regarding recreation, food, pollution, and risk assessment should be approached from the perspective of those closest to the issues, and those who may be impacted the most by particular policy decisions.



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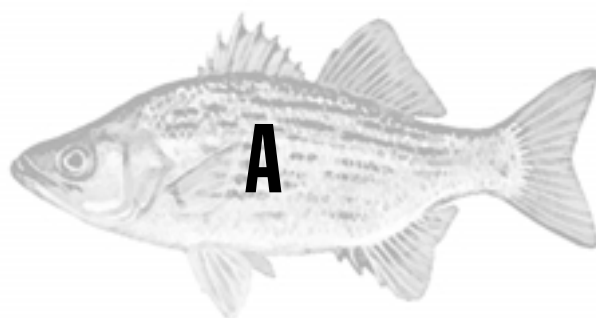
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a p p e n d i x



**SPORT FISH AND WILDLIFE
CONSUMPTION STUDY IN AREAS
OF CONCERN TAPED INTERVIEW GUIDE**

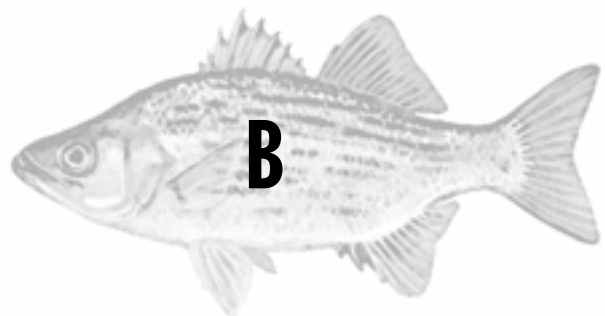
APPENDIX A: Sport Fish and Wildlife Consumption Study in Areas of Concern Taped Interview Guide

THEME	TOPICS TO EXPLORE	SAMPLE QUESTIONS	FOLLOW UP WITH
Benefits of fishing and eating fish	memories	What do you remember about the first time you went fishing/ came fishing here?	who was there? what happened? what was the occasion?
		Does a recent fishing experience stick out in your mind?	what made it memorable?
		What do you like about fishing?	what about eating fish?
	sharing fish with others	Who shares the fish you catch?	friends? family? people on shore?
		Have you ever given fish to strangers?	particular species? locations? do you say where it came from?
		Do you have any get-togethers around eating fish?	what happens? who comes? when?
	favourite ways to eat fish	What are some of the ways you cook fish?	fresh or frozen? what parts?
		Do you have any favourite recipes?	who cooks? who taught you/them?
		Is there a difference b/n market/store fish and what you catch?	what species?
		Are there some things you like about eating the fish you catch?	
		Have you eaten fish recently?	what was that meal like?
	health benefits	Do you think fish is good for you? In what ways?	how did you find out?
		Are some species better for you than others?	different benefits for different ages? sexes?
		Does it matter where you catch them?	
family traditions	How did you learn to fish?	who taught you? any specific lessons or info you remember?	
	Have you taught anyone to fish?		
	Does your spouse/boyfriend/girlfriend fish?		
cultural significance	Did you fish where you used to live? What was it like?	how does it compare to here? # of fish, kinds of fish, type of people fishing, the local environment	
	Is fishing different for you than for others you see fishing?		
	What's the difference b/n fishing "for sport" and "for food"?		
	What is a "sportsfisherman"? How can you tell?	what is "fishing for sport?"	
financial benefit	Does bringing fish home help with the grocery bill?	in what ways?	
	What do you think about the price of fish in stores?		
	If you didn't fish, would you eat as much fish as you do now?		
experiences at different locations	Is eating the fish important to your overall experience of fishing?	more important at certain locations? certain times?	
	Is your experience different when you eat vs. when you release?		

THEME	TOPICS TO EXPLORE	SAMPLE QUESTIONS	FOLLOW UP WITH
Perceived risks of eating fish	worries about safety of fish	Is there anything you would tell people about fishing in this area? What do you think about the attention fish safety has received?	is it too much? too little? where have you heard about it?
		How would you feel if someone told you it was dangerous to eat the fish you caught in this area?	would it change anything? would you still fish here? would you still eat the fish you caught?
		Do you have any worries about the safety of the fish you eat?	why is this a concern? is it a bigger concern for people of different ages/sexes? how did you hear about it?
	signs of an unhealthy fish	What does an unhealthy fish look like? smell like? taste like? act like? Do pollution/ chemicals have anything to do with that?	different for different species? how do the fish here compare to that?
		When would you say that a fish caught here was unsafe to eat? <i>NOTE: follow up on any discussion of "fresh" or "unfresh" fish</i>	
	health effects	<i>NOTE: This may be a difficult topic to discuss with someone who eats fish s/he catches, so approach it sensitively and supportively</i> Some people wonder if eating fish from here is bad for them. Have you ever wondered about this?	what might some of the consequences be?
		Could eating fish have a negative effect on a person?	short term? long term?
	feelings about the area's environment	Do you have any concerns about the environment around here?	where do these problems come from? where do you hear of them?
		When you think of pollution, what comes to mind? If you had a concern, would you talk to anyone about it?	who? have you ever done this? what was the result?
		Have you heard much about chemicals in the environment?	what effect do they have (on water/ fish/animals/people)?
		What ones are the problems? Why are they a concern?	
	personal definitions of "risky", "dangerous", "unsafe"	what makes an activity or practice "risky"? How do you personally feel about taking risks? would you say that eating the fish you catch is "risky"?	when do you draw the line? why or why not?
Personal protection	preparation practices	How do you clean the fish you catch? Have you made any changes in your method over time? What tips would you offer someone just learning to clean fish?	reasons for this method? different for different species? who taught you?
		What do you do with the fish from when it's caught to when it's eaten? Describe the steps you take. Do you take any special precautions for chemicals that might be in the fish?	who does the cleaning? how about when you give fish away?
	signs of a healthy fish	What does a healthy fish look like? smell like? taste like? act like? What can you eat from around here? Have you ever decided not to eat what you've caught?	diff. for diff. species? how do the fish you catch here compare to that? do you avoid some things? can you remember one of those times? did you ask anyone about it? did you tell anyone about it?
		How do you decide whether a fish is safe to eat?	

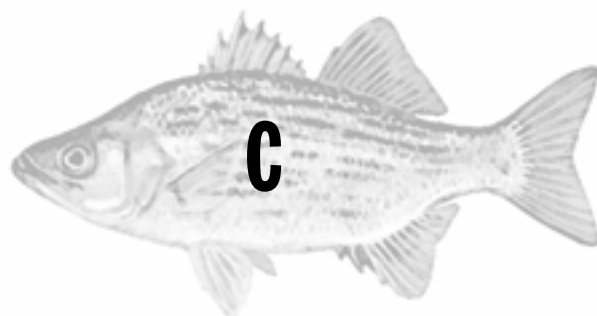
THEME	TOPICS TO EXPLORE	SAMPLE QUESTIONS	FOLLOW UP WITH
	comparisons between different locations	What specific things do you look for when you choose a place to fish?	things about the shoreline? water? the local area? the fish? are there additional considerations when you want to eat the fish?
		Do you prefer some places over others? Why? Does catching fish for eating require some planning, or is it a spontaneous decision?	
	where individual gets info and advice	How do you find out about good places to fish? Safe places?	specific sources? content of the advice? usefulness? trusted? what info does s/he share with others? who and why? anything to do with safety issues?
		Have you ever talked to your doctor about eating the fish you catch? Would you ever talk to him or her about it?	
awareness of advisories	If there were problems with the fish you were eating, how do you think you'd find out about them? Who is responsible for ensuring that those who eat fish are safe? What do you think of the Guide to Eating Ontario Sportfish? If you wanted more information, where would you go to get it?	how would you like to find out? what would you do with this info? what should be done? useful? believable? improvements? have you ever tried? were you happy with what you got?	
Management of the fishery	changes in the area	Have things changed since you've been coming fishing here? men, look/smell of water, local area	size/type of fish, #/type of fishermen
		What changes would you like to see?	some changes more of a priority?
		How important is it to be able to catch and eat the fish here?	
What changes would increase your confidence in the safety of the fish?			
components of an excellent fishing experience	What are the most important aspects of a fishing experience? What can be done to improve your experience at spots that lack these qualities?	why are these important? what locations have these qualities?	
	responsibility for protection of fishery	What are some things you see on the shore when you're fishing?	should anything be done about it? Who should be responsible for it? ie. anglers, community, volunteer organizations, government at diff. levels, no one etc.
Are we all responsible for the fishery, or are some people more responsible than others?		what are some of these responsibilities?	
Feelings/practices regarding food in general	opinions about food	what makes food healthy? Unhealthy? do you prefer certain kinds of foods? Avoid others? what do you think about chemicals in food?	how did you find this out? can you relate that to your feelings about the fish you catch?
		what are your feelings about food you catch yourself? How does it compare to food you buy?	What is different? The same? Does food from the wild have special meaning for you or your family?
	behaviour and choices	where do you do most of your shopping?	what do you like about it there?
		how do you choose the produce you buy? Meat?	
have your eating habits changed over the years? have you made any changes to the ways you prepare food? <i>NOTE: you could ask how fish fits into any of these issues</i>		why? in what ways? why? in what ways?	

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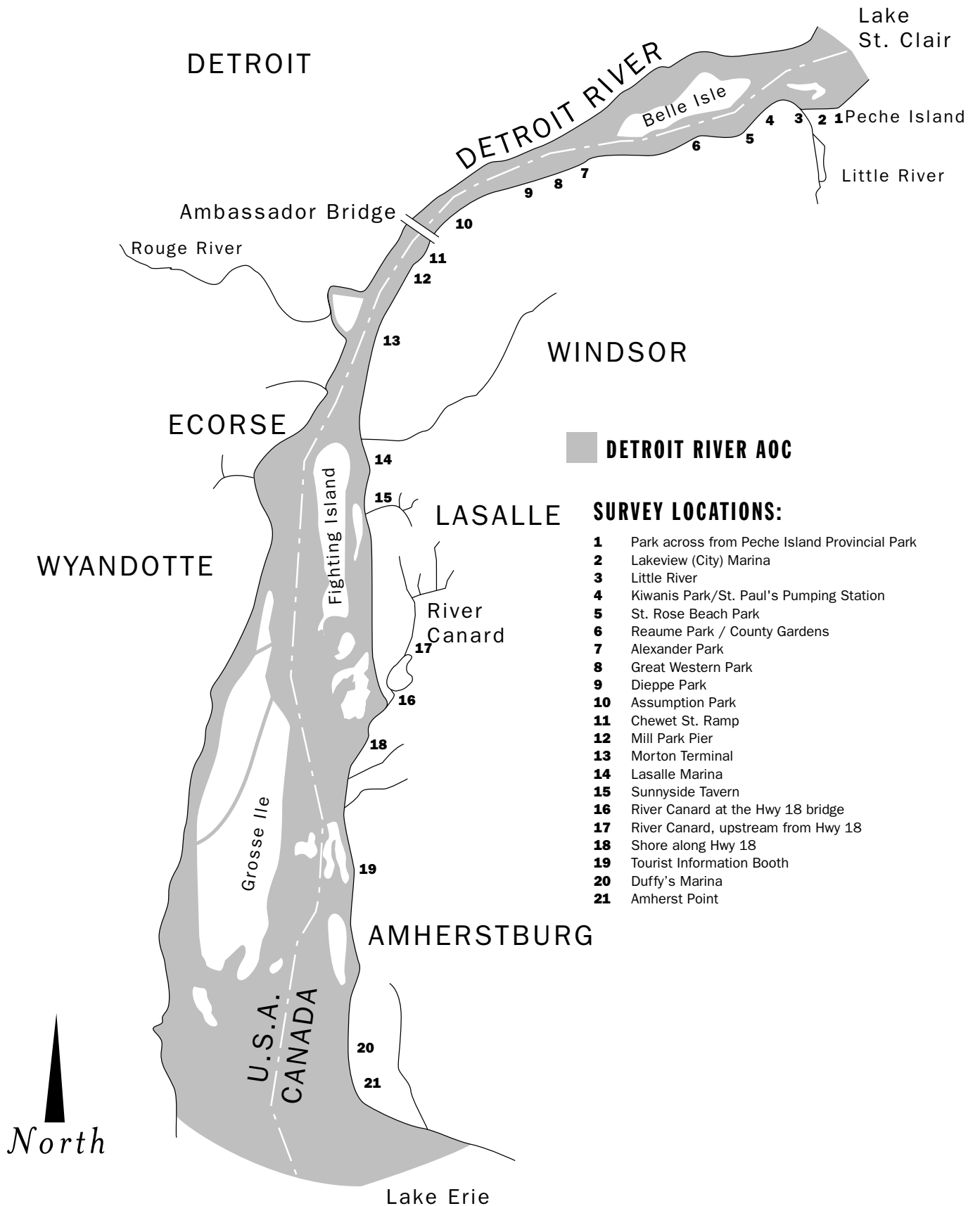
**SPORT FISH AND WILDLIFE
CONSUMPTION STUDY IN AREAS
OF CONCERN QUESTIONNAIRE**

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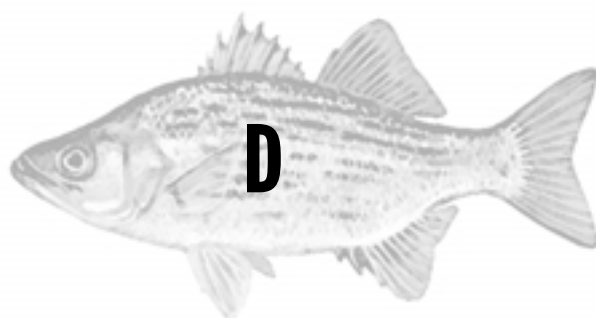


**DETROIT RIVER AOC
AND SURVEY LOCATIONS**

APPENDIX C: Detroit River AOC and Survey Locations



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**RELATED WORKS
AND PUBLISHED PAPERS**

APPENDIX D: Related Works and Published Papers

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