FISH
RECEIVED JAN 28 2005

Final Report

Lake Erie Protection Fund Project SG 229-04

Communicating Safe Fish Consumption Advisory Information to At-Risk Communities in the Lake Erie Basin

Vicki Deisner, Project Director
Ohio Environmental Council
1207 Grandview Ave. #201
Columbus, OH 43212

January 2005

Executive Summary

The Ohio Environmental Council (OEC) is pleased to submit our final report to the Lake Erie Projection Fund (LEPF) for our small grant project, "Communicating Safe Fish Consumption Advisory Information to At-Risk Communities in the Lake Erie Basin." With the assistance of LEPF, and other funding organizations such as The Cleveland Foundation and The George Gund Foundation, the OEC and its contractual partners were able to pilot one of the most important and successful public health campaigns in the Lake Erie basin. OEC's collaborative work with the Earth Day Coalition (EDC), The Nature Center at Shaker Lakes (NCSL), and the Cuyahoga County Board of Health (CCBH) established an outreach model, and created tools and resources for health educators to better communicate fish consumption advisory information to the public. Mercury poses a considerable health threat to Ohio citizens. One government analysis shows that 630,000 children each year are exposed to potentially unsafe mercury levels in the womb. Because the State of Ohio has the nation's second highest level of annual mercury emissions, many Ohioans may be affected by mercury contamination. The primary pathway for mercury exposure in utero is through maternal fish consumption. In the last two years hundreds of articles have been written that address mercury contamination and its threat to public health, highlighting the importance of fish consumption advisories. However, information is not education, and according to focus groups the majority of Ohioans have little understanding about the sources of mercury contamination, the populations most at risk, or the ways in which individuals can reduce their risk and protect their families. To address this threat, the OEC and its partnering organizations developed on-the-ground partnerships with community groups, hospitals, and government programs such as WIC to engage and educate high-risk and at-risk populations in the Lake Erie basin about the dangers of contaminant exposure via fish consumption. This project aimed to educate communities in the Lake Erie basin about minimizing the health risks associated with eating fish, and to equip individuals with the materials and decision-making skills to allow them to make the most informed choices regarding fish consumption. Through the course of this project the OEC and its partners

conducted a creel survey of angling behavior on the Cuyahoga River and Lake Erie waterfront in Cleveland, Ohio; Organized a focus group to better conduct outreach to Hispanic communities about fish consumption advisories, and began printing advisory materials in Spanish; Created partnerships with over 115 organizations in the Lake Erie basin to engage in educating at-risk individuals, as well as the general public, about mercury contamination and safe fish consumption practices; Redesigned our educational pamphlet, "A Family Guide to Eating Fish from the Lake Erie Basin," and distributed 28, 616 copies through our local partners; and Created an outreach-model for fish consumption advisories that can be duplicated throughout the state.

Project Background

The Ohio Environmental Council (OEC) incorporated as a 501(c)(3) environmental organization in 1969 with the mission to "inform, unite, and empower Ohio citizens to protect the environment and conserve natural resources." Over the past five years the OEC has demonstrated an exceptional commitment to educating at-risk communities about Ohio's fish consumption advisory. The OEC, in coordination with the Ohio Environmental Protection Agency (OEPA), has worked to build a strong network of local government and community supporters to enhance the state's fish consumption advisory program. The OEC engages in important outreach work (printing an easy-to-use advisory pamphlet for the general population, creating public-private partnerships with government and community-based organizations, targeting education efforts to at-risk populations in hospital birthing centers, and providing educational and material support to WIC staff and their clients) for which OEPA had neither the budget nor staff to conduct on its own.

The OEC began addressing the threat that mercury posed to Ohioans by establishing a fish consumption advisory program in 2001. This preliminary program was carried out in partnership with the Lake Erie Lakewide Management Plan (LaMP), the Delta Institute, Great Lakes United, and the National Wildlife Federation. The OEC worked with these partners to create and distribute easy-to-read fish consumption advisory information throughout the Lake Erie basin. From 2001 to 2003 the Lake Erie LaMP pamphlet and related materials alerted the public to the dangers of consuming contaminated fish and provided positive alternatives for cleaning, cooking, and selecting fish in order to decrease health risks. The OEC recognized an opportunity to enhance our fish consumption advisory program by redesigning our educational materials and transitioning our methods from informational material distribution to developing on-the-ground educational partnerships with organizations in the Lake Erie basin.

In order to launch this new project the OEC applied for and received funding from The Lake Erie Protection Fund, The Cleveland Foundation, and the George Gund Foundation. The project was carried out by partnering with the Cuyahoga County Board of Health (CCBH), the Earth Day Coalition (EDC), and the Nature Center at Shaker Lakes (NCSL). With the goal of establishing sustainable local partnerships between community groups and health organizations to help reduce the health risks associated with eating contaminated fish, the OEC and its partners focused on three important objectives: 1) Determine the most effective means of outreach regarding this issue, 2)

Engage and educate at-risk populations (women of child-bearing age, young children, individuals in low-income communities who may be subsistence fishers) about safer fish consumption habits, and 3) Create a collaborative effort that can be duplicated throughout the Lake Erie basin.

In order to achieve these objectives the OEC and its contractual partners committed to these activities:

- Organize a focus group to determine how the public receives information about Ohio's sport fish consumption advisory and to determine how to better message-to and educate Ohioans living in the Lake Erie basin.
- Conduct a creel survey in partnership with the Cuyahoga County Board of Health to analyze the fishing and consumption habits of anglers in the greater Cleveland area.
- Utilize effective outreach tools as determined by the creel survey and focus group to engage and educate at-risk populations about safer fish consumption practices.
- Produce and distribute educational materials such as the OEC's "Family Guide to Eating Fish from the Lake Erie Basin."
- Work with partnering organizations to build a long term, sustainable fish consumption advisory education network in the greater Cleveland area.
- Design the project in such as way that it would be self-sustaining in the Cleveland area and that it could be duplicated throughout Ohio.

Addressing Objectives

Objective 1: Determining the most effective means of outreach on this issue

Early in the project planning the OEC, EDC, NCSL, and CCBH decided that outreach to the Hispanic community was a priority of this project. From the start we were committed to reaching out to members of this community by translating fish consumption advisory information into Spanish. We agreed that making this information more accessible to Latinos/Latinas was in the interest of environmental justice, and was a necessary component for improving our program. The United States Department of Agriculture (USDA) Nutrition Assistance Report Series indicates that 17% of participants in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the Midwest are of Hispanic descent. That translates to roughly 43,350 Hispanic WIC participants in Ohio. It was our feeling that by dedicating a portion of our printing budget to Spanish translations we could help, in part, to insulate Hispanic children (in Cleveland and Toledo) from the negative impacts of mercury contamination. The partnership hypothesized that preferences for fish consumption are embedded into the Hispanic culture, putting children of Hispanic parentage more at risk for the negative health impacts of consuming fish than their peers.

In March 2004, the OEC and EDC conducted a focus group at the Spanish American Committee on Cleveland's west side to test this hypothesis. We had 19 Latino/Latina participants in the focus group who participated in a roundtable, interactive

discussion about fish consumption practices and effective messaging regarding Ohio's sport fish consumption advisory to the Hispanic community. Many participants did not speak English, and much of the focus group was conducted through a translator. We asked a standardized set of questions to all participants. These questions were reviewed and analyzed by a social-scientist as an in-kind contribution to EDC. Our partnership was able to glean a large amount of useful information from the focus group with respect to better crafting our outreach message and determining the best avenues of outreach in 2004. Please see "attachment A" for Anjali Mathur's (EDC) full report on the focus group findings. Some of the significant initial findings from the focus group are as follows:

The Hispanic community needs to be targeted for fish consumption advisory outreach, as analysis revealed 84% of focus group participants ate fish 2-3 times per week, putting those individuals into the high-risk category for negative impact. Nationally, only 6% of people eat fish twice a week or more. Higher fish consumption directly correlates to higher mercury levels within the body. Almost all participants felt that access to better information and educational resources was critical for behavior changes toward safer fish consumption practices. 100% of respondents were in favor of Spanish translations of OEC's fish consumption advisory materials. It was in light of these numbers that OEC pursued and secured additional funding to print our educational pamphlets in Spanish. See "attachment B" to review OEC's "Guia Para La Familia Para Comer Pescado De La Cuenco Del Lago Erie."

Additionally, the majority of focus group participants (68%) regularly bought fish from the market. These statistics strengthened our partnership's inclination to overhaul our advisory pamphlet to include information about commonly bought market fish. Our new educational pamphlet now includes consumption guidelines for seafood commonly bought in the market place such as shellfish, salmon, cod, haddock, ocean perch, canned tuna, and swordfish among others. All dietary recommendations included in our pamphlet reflect the recommendations of the Food and Drug Administration (for market fish) and OEPA (for sport fish). See "attachment C" to fully review OEC's "Family Guide to Eating Fish from the Lake Erie Basin."

Though a proportionally smaller number of respondents (16%) regularly engaged in the activity of fishing with the intent of eating the catch, 53% of respondents knew people in their communities who regularly fished from and consumed fish from waters in the Lake Erie basin. This highlighted once again that the Hispanic community needs access to the best public health information available to make informed decisions about where to catch fish, which species are best to consume, the safest ways to prepare fish for consumption, and dietary guidelines with respect to limiting the mount of fish consumed on a weekly basis.

Only 32% of participants were aware that mercury in fish was a toxin that presents a relevant health concern. In general, most participants had not heard about Ohio's sport fish consumption advisory and most were interested in knowing more. These numbers strongly supported the need for our public health campaign and further underscored the need to reach out to Ohio's Hispanic communities about this issue.

In addition to the focus group, OEC worked in collaboration with the Cuyahoga County Board of Health to conduct a creel survey and analysis of the fishing habits of Lake Erie basin anglers. Information gleaned from this survey was to serve in shaping

the content of our advisory for the general English-speaking population. In addition to gathering information about anglers' attitudes regarding Ohio's sport fish consumption advisory, the survey also sought to catalogue angler behavior with respect to where they fish, how often they fish, what kinds of fish are being consumed, and how the catch is being prepared. The survey design was modeled after a survey conducted in 1993 by the CCBH, in conjunction with the Cuyahoga River Remedial Action Plan, along the same waterways. Results were to be compared between surveys to allow for a measurement of the most effective means to disseminate information regarding the fish advisories, and to observe changes in high-risk behaviors associated with consumption of contaminated fish.

CCBH chose eleven locations along the Cuyahoga River and the Lake Erie shoreline for conducting the survey. Each day a starting location was chosen randomly. An effort was made to vary times and days of the week for each location. An intern at CCBH conducted the survey interviews and entered the information into an access database. The interviews took place over a six-week period in September and October. There were 184 total surveys conducted. Survey results indicated that our survey population was predominately male, African American and had an age range of 20 to 89 years of age. These results were consistent with the results of the 1993 survey. Education and employment figures were also consistent with the previous survey. Surprisingly, the percentage of anglers who met the criteria to be considered subsistence fishermen was only 3%. (6 of 184), as compared to 10% in 1993 (32 of 339). The most significant finding was in the number of anglers with knowledge of the fish advisory. In 1993 just 50% of survey respondents had knowledge of the fish advisory. In the 2004 survey 75% of the anglers had knowledge of the advisory. This is a significant increase that correlates to a reduction in high-risk consumption behaviors.

In determining the dominant sources of information regarding Ohio's fish consumption advisory, the results indicate that media coverage is the most effective way to reach the average angler in the Lake Erie basin. Survey respondents indicated that they gained knowledge of the advisory from radio sources (33%), newspapers (22%), television (20%), word of mouth (17%), magazines (4%), fishing license (2%), and "other" (2%). It is not surprising that the major media outlets would be the dominant source of information, but it is surprising that the point of purchase for fishing licenses, as well as other sources like health education and the internet comprise just 4% of the information source. This information indicated to our collaborative the importance of working with local media sources to further both public awareness and educational opportunities in future outreach work. This is useful information that should be taken into account when groups ask the question of how to reach anglers with the message contained in the fish advisory.

There is a clear indication that the fish advisories that have been disseminated over the last 11 years have increased knowledge of risk. The increase in knowledge of the advisory from 1993 to 2004 indicates that the dissemination of this material has been effective, as through our survey we found a decrease in high-risk behavior. Given our sample size, we are unable to speak of a direct correlation. Though it is possible to say that a significant increase in knowledge occurred and a significant decrease in subsistence anglers occurred. A larger sample size may have helped to shed more light on this relationship. As it stands, this data can be used for future studies on fishermen in this

area. Also data obtained on socio-economic status and information sources can be used to better reach out to the target population. Please see "attachment D" for CCBH's analysis of the creel survey results. These results will be published in the *Ohio Journal of Environmental Health* in the March-April edition of 2005.

Unfortunately, the creel survey did not take place until the end of the project, and as a result the information gleaned from the survey was not incorporated into the redesign of our educational pamphlet. Putting the survey execution in conflict with the original timeline, CCBH felt that the summer months were not the prime angling season and that the survey should be conducted later in the year—well past our printing deadline. CCBH proved to be correct, as we found that the majority of fishing in the Lake Erie basin does indeed takes place in the spring and fall seasons. Though the result of pushing back the timetable on completing the creel survey left us unable to incorporate its findings into our latest version of the Family Guide, the information is available to OEC, CCBH, and OEPA for future efforts.

It is important to note that the collaborative did not move blindly into the redesign of the brochure or make stabs in the dark as to the most effective means of outreach when conducting a fish consumption advisory program. Micah Vieux, the OEC Outreach Coordinator, spearheaded the project leadership role in January of 2004. This is due in large part to his attendance of the Seventh Annual National Forum on Contaminants in Fish, which brought together national, state, and local participants from government, non-profit organizations, and community groups to share various aspects of work being done in relation to contaminants in fish. Participation in this event was very helpful for him, in that he was able to see first hand the multidisciplinary approach to addressing environmental quality and public health problems such as the contaminants leading to fish consumption advisories. While at the conference he was able to become familiar with the latest research, hear success stories and learn program implementation skills from veterans in the field, as well as sample a variety of advisory materials from around the nation and build relationships with key personnel from state and federal EPA staff. His attendance at this national forum helped to further inform the collaborative in determining the most effective means of outreach on this issue. Additionally, attending the conference contributed to successfully completing the second objective, engaging and educating at-risk populations.

Objective 2: Engaging and Educating At-Risk Populations

The "Safe Fish Consumption Education Project" partnership accelerated its activities in the months of February and March 2004. During this time we conducted our focus group, then scrutinized, redesigned, and finalized our educational pamphlet for the 2004-2005 fishing season. During April, May, June, July, and August the partnership engaged community groups and health organizations in the Lake Erie basin. The OEC and its partners distributed 28,616 advisories during this time, the most in any year since we began this program. In addition to our Family Guide, we also distributed hundreds of copies of OEPA's sport fish consumption advisory, the Ohio Department of Natural Resources fish identification guide, mercury fact sheets, and fact sheets tailored to healthcare professionals. During this time the OEC also developed an interactive PowerPoint that served as the structure for the educational workshops and seminars

carried out at community group meetings, WIC clinics, and hospitals during the project. Please see "attachment E" to review these supporting materials.

To carry out this portion of the project, the OEC contacted the staff of hospitals and WIC clinics and asked for the time to provide a workshop at an upcoming staff meeting. We then visited each agreeing facility and taught the healthcare provider or staff member how to effectively message and educate their clients about this issue. The OEC created and distributed a pamphlet for healthcare providers that supplies information on key research about the impacts of mercury and PCB exposure on the development of fetuses and young children (see attachment E). During this project we emphasized the unique role that hospitals and clinics can play in reducing the disorders associated with environmental toxins. This model worked well during the project, as we were able to work with numerous hospitals and WIC clinics using this method. In making its initial contacts, the OEC has found that most healthcare providers were very receptive to the importance of addressing this issue and were eager to have the training and materials to better serve their patients and clients. For a full listing of community groups and health care providers that our partnership worked with during the course of this project, as well as a record of the materials distributed to each, please see "attachment F."

Objective 3: Creating a sustainable collaborative effort that can be duplicated throughout the Lake Erie basin.

By reaching out to community groups, health care providers, birthing clinics at hospitals, and allying with government agencies like county boards of health and WIC clinics, our partnership was able to build a wide network of support throughout the Lake Erie basin. The planning period for this project involved a geographic assessment of our distribution partners, detailing where and when our partners would engage in educational workshops, material distribution, surveying, and follow up support. We feel that we have laid a strong foundation for lasting relationships with our healthcare providers and community groups. In March of 2004 we had targeted just over 50 community organizations and individuals to partner with for this project. By October 2004 we had connected with over 115 organizations, all of which are now working with us to incorporate safe fish consumption outreach into their work. Their contributions and willingness to help educate have been central to success of this program. Though we weren't able to conduct a "train the trainer" workshop with all of the organizations who agreed to distribute the fish consumption advisory information, we have a laid the foundation for doing so with each of them. Funding was a limiting factor for this portion of the project. In the end, there weren't enough resources to complete workshops with so many organizations. It is clear that organizations want to help address Ohio's pervasive mercury contamination and educate others about the risks, benefits, and best practices regarding fish consumption.

Much has been accomplished through this project, however, without dedicated funding our vision of a self-sustaining, basin-wide community network whose local efforts will coordinate updating, printing, and distributing the fish consumption advisory brochure remains only partially constructed. The OEC implemented a fish consumption advisory effort in the Ohio River basin based on the model piloted in this project. The

design, implementation, and success of the Ohio River basin project (funded by an OEEF grant) mirrored that of this project. Indeed, we have created a model that can duplicated and we are proud of the successes we have garnered in both the Lake Erie and Ohio River basins. However, without identifying local sources of funding for each geographic area in which the program resides communities will be hard pressed to consistently have this educational material available to members of this community.

Reflection on Challenges, Successes, and Project Continuance:

To start, our partnership had to close the gap between health departments, WIC, and environmental organizations to make this a successful project. Indeed, there was reluctance on the part of CCBH to work with the three environmental organizations carrying out this project. Through phone conversations, face to face meetings, and committed relationship building, the OEC, EDC, and NCSL fostered a collaborative atmosphere that made CCBH a full partner in all decision making relating to this project. In the end, most of our fears were unfounded. Furthermore, we are pleased to indicate that the success of this pilot project and the good working relationship that was forged with CCBH, the OEC is currently applying for funding to build a fish consumption advisory program in the Black River watershed and partner with Ken Pearce at the Lorain County Board of Health. Additionally, as a result of forging a strong partnership, CCBH is exploring a partnership with both Earth Day Coalition and the Nature Center at Shaker Lakes to conduct outreach on water quality and public health hazards related to combined sewer overflows and stormwater.

The most pleasant surprise has been the continued interest of The George Gund Foundation in this project. We were awarded a discretionary grant from the George Gund Foundation to print our fish consumption advisory materials in full-color, increase our print volume, and print copies of the educational materials in Spanish to better target the at-risk Hispanic community. These monies helped to make a more well-rounded project by allowing us to engage in important research with the creel survey, increase the amount of targeted out reach to at-risk communities as opposed to general community outreach, and create a more desirable and user-friendly product (printing in color, as well as in translation).

The OEC will remain committed to educating Ohioans about the dangers of sport fish consumption. We have already submitted grants to USEPA's Office of Environmental Education and OEPA's Environmental Education Fund to further outreach to underserved communities in Ohio. Our partnerships are in place, but without dedicated funding to power the distribution of educational materials we may well be left with a successful pilot project, ready to be reproduced, with willing partners lined up, yet unable to fulfill the public need.

The OEC is currently working in collaboration with Ohio EPA regarding their future actions with Ohio's sport fish consumption advisory. OEC Executive Director, Vicki Deisner, and Outreach Coordinator, Micah Vieux, regularly meet with Ohio EPA staff and have shared all of their fish consumption advisory work with the state. In light of the successful outreach OEC has engaged in with WIC clinics, Ohio EPA will begin to focus the distribution of their sport fish consumption advisory (which is 26 pages long) to

those outlets. In addition to this, they are currently drafting a one page educational paper to accompany the advisory. We are pleased to hear this as their material to date is unwieldy at best, and that the sole distribution focus of their advisory has been to licensed anglers—most of whom are not part of the at-risk population regarding fish consumption. Ohio EPA appreciates our ongoing dialogue and continues to support our work. Ohio EPA recognizes the vital role that we fill in engaging in one-on-one outreach to Ohioans about fish contamination, performing a task for which they are neither adequately staffed nor funded. We are working together to jointly improved the environmental quality, public health, and community heritage of the state.

To date, the Ohio EPA's fish consumption advisory is only accessible via the Internet for the general public. With no appropriated funding to drive targeted distribution, the State of Ohio has been unable to adequately educate the public about this critical public health issue. The State of Ohio has been mired in a 4 billion dollar budget deficit since 2001 and is planning to sunset a 1 cent temporary sales tax in January 2005. We are fearful that the State will once again drop their program entirely. Every body of water in the state contains fish with dangerous levels of mercury in their flesh. It is clear that if government at the state level is failing to address the situation, then local government and community groups must take up the task. OEC is proud to coordinate these public-private partnerships and looks forward to continued success promoting safe fish consumption practices to all Ohioans.

Attachments

A. EDC focus group report
B. Spanish translation of OEC's Family Guide
C. English version of OEC's Family Guide
D. CCBH creel survey results
E. Supporting educational materials
    1. "Educating Ohio Families" CD
    2. Ohio EPA sport fish consumption advisory
    3. ODNR fish identification guide
    4. Mercury fact sheet
    5. Health care provider fact sheet
F. Spreadsheet of material distribution