

Recommended Study Design for a Survey to Evaluate the Effectiveness of Mississippi Delta Fish Advisories

Final Report

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Prepared for

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Introduction

The U.S. Environmental Protection Agency (EPA) Office of Water, Office of Science and Technology contracted with RTI International to provide support for designing a survey approach for assessing the awareness and effectiveness of the Mississippi Delta Fish Consumption Advisory issued by the Mississippi Department of Environmental Quality (MDEQ) in 2001. This report describes the methodology used to develop the survey instrument and the recommended methodology for administering the survey instrument. The remainder of this section provides background on the Mississippi Delta Fish Consumption Advisory and discusses the purpose and objectives of the study.

1.1 BACKGROUND

Throughout the Mississippi Delta, fishing is an important part of life, and most people eat what they catch. Unfortunately, beginning in the 1950s, organochlorine pesticides were heavily used for agricultural purposes throughout the Delta and continued to be used until several of the more toxic compounds, such as DDT and toxaphene, were banned for such use in the United States in the early 1970s. Monitoring by Mississippi State agencies and the U.S. Fish and Wildlife Service (USFWS) of tissue from fish species harvested from Delta lakes during the 1970s through the 1990s has revealed levels of the insecticides DDT and toxaphene that exceed levels of concern for public health. Some of the highest levels of DDT measured in the United States have been detected in fish harvested from Delta waters. Although monitoring data do indicate a steady decline of these toxic organochlorine pesticides in fish harvested from Delta waters, the most recent data collected

from these waters indicated that concentrations still exceed levels of concern for human consumers.

In 1999, meetings were held between Henry Folmer of the MDEQ and Jeff Bigler of EPA to discuss the development of a cooperative effort to conduct an extensive study of contaminant levels throughout the Delta to determine whether existing fish consumption recommendations issued by the State of Mississippi were adequately protecting sport and subsistence consumers of fish harvested from Delta waters.

Those meetings led to the issuance of a cooperative grant in 2000 to MDEQ for the purposes of evaluating the following:

- concentration of DDT and toxaphene in edible tissue from selected Delta sites
- potential human health risks associated with eating fish
- need for revised fish consumption advisories in the Delta

The Mississippi Delta fish tissue study was initiated in 2000 and completed in 2001. Study results indicated that concentrations of pesticides such as DDT and toxaphene exceeded levels of concern for human consumers at all study sites. Further, the state determined that, based on the results of the study, a regional advisory was warranted for several species of fish. In June 2001, MDEQ issued a Regional Delta Advisory from Memphis to Vicksburg. Figure 1-1 shows a map of the advisory area. The advisory does not apply to the Mississippi River or its associated oxbow lakes located west of the Mississippi River levee. The advisory recommends that consumers should not consume more than two meals a month of buffalo fish, carp, gar, and large catfish (i.e., larger than 22 inches). Additionally, consumers should not consume any buffalo fish from Roebuck Lake.

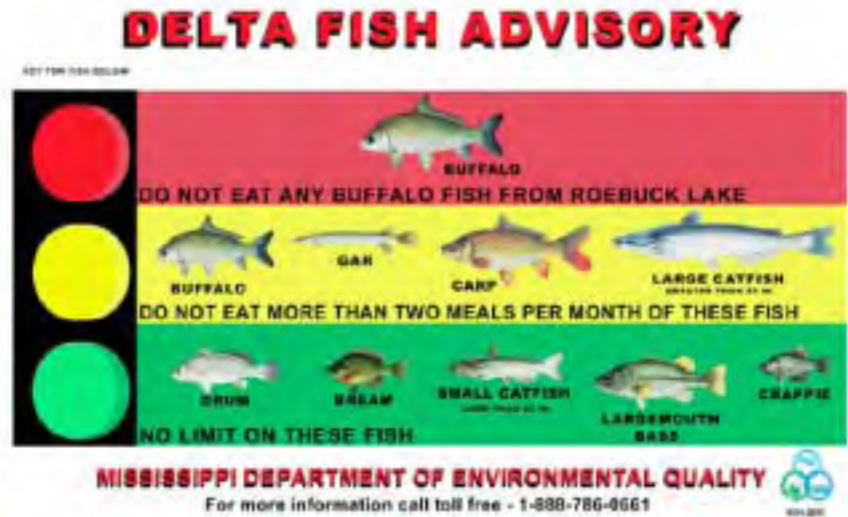
MDEQ developed an extensive outreach campaign in 2001 and began implementing it almost immediately. The implementation strategy included a public media campaign involving news conferences, news releases, staged sampling demonstration photo opportunities, radio and television spots on morning shows, call-in shows on gospel and blues radio stations, distribution of letters and posters to stores, and door-to-door canvassing in some communities. Additionally, signs were posted at fishing access points, such as boat ramps, as well as at commercial fish sales outlets and tackle shops throughout

Figure 1-1. Areas Affected by the Mississippi Delta Fish Consumption Advisory



the Delta (Figure 1-2). Letters and brochures were mailed to 1,400 churches; 16,000 coloring books were distributed; and posters and brochures were placed at Women, Infants, and Children (WIC) offices. Materials were distributed in English and Spanish. MDEQ is still implementing various aspects of the outreach campaign.

Figure 1-2. Sign Used in the Mississippi Delta Fish Consumption Advisory



1.2 PURPOSE AND OBJECTIVES

The purpose of this work assignment was to develop a consumer survey instrument and methodology that will be used to assess the awareness and effectiveness of the Mississippi Delta Fish Consumption Advisory. Any actual subsequent consumer survey will be conducted as a separate activity by and under the authority of FDA.

The purpose of this work assignment was to develop a consumer survey instrument and methodology that will be used to assess the awareness and effectiveness of the existing Mississippi Delta Fish Consumption Advisory issued by the MDEQ.

Specifically, the instrument will be used to collect information that will allow EPA to accomplish the following objectives:

1. Determine the extent to which Delta sport and subsistence fishermen and their families are aware of the advisory and its recommendations
2. Determine the extent to which Delta sport and subsistence fishermen and their families have changed their fish consumption behaviors as a result of the Delta advisory
3. Document specific behavior changes, such as amount of fish consumed, method(s) of fish preparation, species of fish consumed and avoided, and other parameters as determined by the workgroup and directed by the EPA Work Assignment Manager (WAM)

Any actual subsequent consumer survey will be conducted as a separate activity by and under the authority of the Food and Drug Administration (FDA), as provided by a specific Office of Management and Budget (OMB) approved Information Collection Request.

As part of this work assignment, RTI identified and coordinated a workgroup comprising individuals from MDEQ, academia, EPA and FDA experts, and Mississippi Delta communities that was responsible for developing and finalizing the survey instrument and methodology. Section 2 describes the methodology used to develop the survey instrument, and Section 3 describes the recommended survey methodology.

The core workgroup reviewed the method and questionnaire presented in this report and concurred that this is the best approach to meet the survey goals. The core workgroup is made up of the entire workgroup (excluding the community leaders).