UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Memorandum

Date: January 30, 2015
Subject: Analysis of suppression questions from Chemrisk Study
To: File
From: Ellen Weitzler

This is to document calculations made to analyze responses to questions from the 1989/1990 Chemrisk survey of licensed Maine anglers regarding suppression due to fish consumption advisories.

Data Provided

By email of October 3, 2013, Ellen Ebert, primary author of the Chemrisk study[1], sent me excel spreadsheets consisting of raw data from the survey (in two files : CHEM6_DAT_1of2_A.xls and CHEM6_DAT_2of2_B.xls) as well as a summary spreadsheet of fish consumption from consuming anglers (MaineConsumingAnglers.xls) and the user's guide to the data (Users Guide.pdf).

This analysis is of the raw data.

Methodology

I used Microsoft Excel to tally question responses and calculate basic statistical functions. I analyzed the responses to questions 38 through 44 for all survey respondents (consuming and non-consuming anglers).

Results

Below are the questions asked on the survey and results for each question.

Intro to questions provided in survey:

> Some people have raised health concerns about water quality in public waterways. We would like to learn about any concerns you might have about the areas you fish.

Question 38. Are you aware of any official fish consumption advisories concerning fish caught in Maine?

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[1] ChemRisk, A Division of McLaren/Hart, *Consumption of Freshwater Fish by Maine Anglers,* Portland, Maine, July 24, 1992.

No – If no, skip to Question 45 (1,017 or 65%)
Yes (556 or 35%)

Question 39. The following are some statements about fish consumption advisories in Maine. For each statement, indicate whether each statement is true, false, or if you don't know.

The existing fish consumption advisories apply only to fish caught in lakes and ponds	True (25 or 4%)	False (460 or 83%)	Don't know (71 or 13%)
Only some rivers in Maine are the subject of fish consumption advisories	True (436 or 78%)	False (75 or 13%)	Don't know (45 or 8%)
The fish consumption advisories recommend that no one eat any fish caught in locations covered by the advisories	True (149 or 27%)	False (347 or 63%)	Don't know (59 or 11%)
The fish consumption advisories cover only certain species	True (76 or 14%)	False (389 or 70%)	Don't know (90 or 16%)
The fish consumption advisories cover all sizes of fish	True (411 or 74%)	False (52 or 9%)	Don't know (93 or 17%)

Question 40. During 1990, did you ever eat fish at locations covered by an official fish consumption advisory?

No – If no, skip to Question 44 (341 or 60%)
Yes (160 or 28%)
Don't know – if don't know, skip to Question 45 (70 or 12%)

Question 41. Do fish consumption advisories affect whether you keep the fish caught at locations covered by fish consumption advisories?

No (29 or 18%)
Yes (135 or 82%)
If yes, circle all that apply:
I keep no fish (81 or 60%)
I keep fewer fish (27 or 20%)
I keep only the smaller fish (2 or 1%)
I keep only certain species (18 or 13%)
Other (12 or 9%)

Question 42. Do fish advisories affect whether you eat the fish caught at locations covered by fish consumption advisories?

No (27 or 16%)

Yes (137 or 84%)

If yes, how do they affect whether you eat the fish you catch?

I don't eat any of the fish (91 or 66%)

I eat only the smaller fish (4 or 3%)

I eat only certain species (23 or 17%)

Other (17 or 12%)

Question 43. Do fish consumption advisories affect how you prepare and serve the fish caught at locations covered by a fish consumption advisory?

No (106 or 71%)

Yes (44 or 29%)

If yes, how do they affect how you prepare and serve the fish?

I only broil or grill these fish (8 or 18%)

I trim and discard any dark flesh (11 or 25%)

I trim off all fat (13 or 30%)

I trim off the lateral line (9 or 20%)

Other (24 or 55%)

Question 44. Suppose conditions were different so that there were no fish consumption advisories in Maine. Would you have fished any additional bodies of water during the 1989-1990 ice fishing season or 1990 open-water seasons?

No (388 or 81%)

Yes (93 or 19%)

Discussion

Awareness:

Although there were fish advisories for certain waters in Maine at the time of the survey, only 35% of the respondents were aware that there were any fish advisories in Maine (see Question 38). During the 1989-1990 fish seasons, there were fish consumption advisories for sections of specific Maine Rivers, but no statewide fish advisories. Maine issued two of the fish advisories for the first time in the year of the study. These were the main stem of the Penobscot River, where the Penobscot Nation reservation is located, the Androscoggin River (1985), and the Kennebec River, (1987), and it issued advisories for the Presumpscot River and West Branch of the Sebasticook River in 1990.[2]

Impact of Fish Advisories on Fishing:

Of those respondents who were aware of the site specific fish advisories, 20% indicated that they would have fished in additional bodies of water if there were no fish consumption advisories (see Question 44).

Impact of Fish Advisories on Fish Consumption:

[2] Maine DEP testimony to the Maine Legislature, April 25, 2011, p. 20.

The survey provides evidence that fish advisories affected whether fishers kept and ate their catch (see Questions 40 through 42). Of those respondents who were aware of fish advisories and fished in those waters anyway, 82% responded that the fish advisory affected whether they kept the fish the caught there. Of those, 80% reported that they kept no fish or fewer fish from those waters because of the fish consumption advisories. Of the same group, most (84%) responded that the fish consumption advisory affected whether or not they actually ate the fish they caught, with most of them (66%) saying that they didn't eat the fish caught from those waters at all and the rest adjusting their consumption by eating smaller fish, only certain species, or other modifications.

Conclusion

EPA analysis of the ChemRisk survey response data indicates that 35% of respondents (556 individuals) were aware of the advisories during the time of the survey. Of the 160 respondents who reported that they ate fish from locations covered by fish consumption advisories, 82% (135) reported that the advisories affected whether they kept the fish caught at those locations. [3] It is not clear (because the question was not asked) whether anglers avoided certain waters in the 1989/1990 fishing season because of the fish advisories and whether that avoidance affected their total fish consumption. Nonetheless, it is clear that the existence of the advisories did result in some anglers reducing their take from those rivers.