

## Comparisons between MRIP Fishing Effort Survey and Coastal Household Telephone Survey

The MRIP Fishing Effort (MFES) will be tested in MA, NY, NC and FL beginning with wave 5 (September/October), 2012. The pilot survey will overlap with the ongoing Coastal Household Telephone Survey (CHTS), which will provide an opportunity to evaluate potential sources of survey error for the two survey designs. In addition, the MFES and CHTS will produce independent estimates of recreational fishing effort. Any measurable differences in estimates will be assessed within the context of survey errors.

Previous studies (Andrews et al., 2010, Brick et al., 2012) demonstrated that mail survey designs generally produce larger estimates of fishing effort than telephone survey designs, and that these differences are largely driven by differences in reported fishing incidence (proportion of respondents reporting fishing during the reference period). Specifically, mail survey respondents are more likely to report fishing activity than telephone survey respondents. The forthcoming pilot study will compare CHTS and MFES estimates of fishing incidence in the strata where the two surveys overlap. Table 1 provides the estimated sample sizes for a given reference wave, as well as the expected detectable differences in fishing incidence between the surveys.

Recreational Fishing Survey Design	Expected Responses <sup>1</sup>	Expected Fishing Incidence	Expected Detectable Difference in Fishing Incidence
CHTS	6,670	10%	
MFES	6,670		1.49%

Any observed differences in estimates of fishing incidence will be explored within the context of survey errors. For example, the MFES will collect information about household telephone service, which will allow us to assess coverage error in the CHTS – we will compare fishing incidence for those who would be covered by the CHTS, a random-digit-dial telephone survey, to those who would not be covered. Similarly, we will assess nonresponse error in the MFES by comparing fishing incidence between MFES respondents and respondents to the MFES follow-up study.

MRIP is well aware of the shortcomings of the CHTS and is committed to implementing an improved survey design for estimating recreational fishing effort. Consequently, the decision to implement a particular survey design will be based upon measures of survey accuracy, provided the costs are within the MRIP budget. As previously described, the accuracy of design alternatives will be assessed in terms of minimizing potential sources of survey error.

<sup>1</sup> Expected number of completed interviews for a reference wave in the strata where the CHTS and MFES overlap (coastal counties).

Previous MRIP pilot studies (Andrews et al., 2010, Brick et al., 2012) document the benefits of mail survey designs over telephone survey designs in terms of response rates and coverage, and suggest that for recreational fishing surveys, mail survey designs are less susceptible to bias than telephone survey designs across all sources of survey error. In addition, these studies describe gains in efficiency resulting from sampling licensed anglers. The MFES incorporates the beneficial design features tested in previous studies, as well as a recommended design modification that will eliminate bias resulting from inaccurate frame matching. As a result, we anticipate that the MFES will provide an affordable alternative to the CHTS that will provide more accurate estimates of recreational fishing effort.

#### References

Andrews, W.R., J.M. Brick, N.M. Mathiowetz, and L. Stokes (2010). Pilot Test of a Dual Frame Two-Phase Mail Survey of Anglers in North Carolina. Retrieved from [http://www.countmyfish.noaa.gov/projects/downloads/Final\\_Report%20NC%202009%20Dual%20Frame%20Two%20Phase%20Experiment.pdf](http://www.countmyfish.noaa.gov/projects/downloads/Final_Report%20NC%202009%20Dual%20Frame%20Two%20Phase%20Experiment.pdf).

Brick, J.M., W.R. Andrews, and N.M. Mathiowetz (2012). A Comparison of Recreational Fishing Effort Survey Designs. Retrieved from [https://www.st.nmfs.noaa.gov/mdms/doc/08A\\_Comparison\\_of\\_Fishing\\_Effort\\_Surveys\\_Report\\_FINAL.pdf](https://www.st.nmfs.noaa.gov/mdms/doc/08A_Comparison_of_Fishing_Effort_Surveys_Report_FINAL.pdf).