**APPENDIX A6: NSTC RESEARCH PRIORITIES, BENEFITS, AND RESOURCES NEEDED**

In order of importance from highest to lower priority:

1) Continue to examine values of natural mortality, M. Revisit older work that established M=0.25 (Rinaldo, Clark). Estimate M from year-sex-stage-class ratio data from surveys. Examine predation data and other environmental factors. Investigate possible annual variation in M. Benefits: better understanding of ecological role; more accurate model estimates of F and B. Resources required: several person-months for data analysis.

2) Examine several survey issues: recalculate fall survey indices for shrimp, eliminating the nighttime tows; verify that summer survey tow bottom tending times have been consistent; investigate survey design for optimal number and stratification of tows; explore ways to quantify age 1 and younger shrimp. Benefits: more accurate survey indices for model estimates of F and B; earlier estimates of future recruitment. Resources required: several person-months for data analysis, and further research into collecting small shrimp, possibly development of a trap survey.

3) Explore the stock-recruitment relationship and the impact of environmental factors on recruitment. Consider impacts of climate change. Benefits: better understanding of natural population fluctuations; better modeling of population dynamics. Resources required: many person-months for data analysis.

4) Better characterize shrimp discards in the shrimp and other small-mesh fisheries. Benefits: more accurate estimate of shrimp removals for modeling. Resources required: more at-sea sampling; several person-months for analysis of existing VTR and sea-sampling databases.

5) Recover/convert older port sampling data to useable database. Benefit: Data will be available for future queries re fishing locations, catch rates, size distributions, sex stage and timing of egg hatch, other shrimp species, etc. Resources required: several person-months for data entry, uploads, and proofing.