Project Title: Development of Tagging Methods for Monkfish, *Lophius americanus*
Contract Number: NA05NMF4721057

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The purpose of this project is to develop capture, handling and tagging/marking methods for a data-storage-tagging (DST) study of monkfish *Lophius americanus.* Our goal is to develop procedures that will maximize monkfish survival and retention of tags.

Most of the work for this project is not scheduled to begin until October-December 2006; however we developed tagging methods and conducted preliminary tagging trials in May and June of 2006. Full-scale experiments will be conducted during December 2006-March 2007.

Major Accomplishments

1) We evaluated several approaches for implanting data storage tags (DSTs) in monkfish, and concluded that implanting the tags on the dorsal surface of the tail will minimize impacts on the fish while maximizing the probability of tag detection. We used dead monkfish to develop and practice surgical techniques for tag implantation. We also experimented with external marking techniques (visco-elastic polymer injections, Peterson disc tags) which could increase detection of DST-tagged fish, but concluded that the additional handling and injury due to these treatments were not justified. We showed DST-tagged fish to several fishermen and they were confident that tags in this location would be noticed as the fish were being handled on board.

2) We developed near-sterile techniques for implanting the DSTs and practiced implanting tags on 8 live monkfish collected from gillnets by John Our, our industry

collaborator. We maintained the tagged monkfish for up to a month in the NEFSC aquarium, until they either died or were euthanized.

Unexpected Difficulties and Project Alterations

1) While not truly unexpected, we have encountered difficulties in maintaining monkfish in captivity. They typically develop cutaneous lesions which expand and lead ultimately to death of the fish within a few days to a week. The lesions have rarely (1 of 8 fish) been associated with the tagging location, but more typically with a minor injury to the caudal fin or jaw. We have been working with our Veterinary Aquarist (Dr. Dunnigan, NEFSC) to optimize on-board holding and transfer conditions, and have delayed the timing of our fall experiments so that water temperatures will be cool.

2) There have been no major project alterations.

Next Steps

December 2006-March 2007:

We will conduct two short-term experiments and one longer term experiment to test survival of tagged monkfish and tag retention of DSTs. For the short-term experiments (~3 weeks), Captain John Our will provide us with live monkfish captured in his gillnets, which we will transport to Woods Hole for tagging and maintenance in large tanks at the Marine Biological Laboratory. For the longer-term experiment, Joshua Moser (tagging technician) will tag monkfish aboard Captain Our's boat. The monkfish will then be transported to Woods Hole and maintained at the Marine Biological Laboratory for up to 3 months.

Impacts

There have been no major impacts to the fishing community as yet, aside from the collaboration with John Our.

We have been communicating with our scientific colleagues in Europe concerning our methods development. They are also beginning to explore DST tagging of monkfish *(Lophius piscatorius*), so our results are of interest to them.

Anne Richards Date