

LARGE PELAGICS RESEARCH CENTER
SEMI-ANNUAL PROGRESS REPORT – DEADLINE 07/30/2007



Report: #2

Reporting Period: 11/01/2006 – 05/30/2007

Project Title: Habitat utilization and movement patterns of porbeagle sharks (*Lamna nasus*) in the North Atlantic.

Principal Investigator(s): Gregory Skomal, Lisa Natanson, Nancy Kohler, Diego Bernal, Chugey Sepulveda

1. Purpose of the Project:

The primary objective of the proposed study is to deploy pop-up satellite (PSAT) tags to examine the migratory routes, potential nursery areas, swimming behavior, and environmental associations that characterize habitat utilization by the porbeagle shark.

2. Progress during the last six months:

To date, the study is moving forward as proposed. During this reporting period, PSAT tags were deployed on 20 juvenile porbeagle sharks (128-154 cm FL) from the F/V Eagle Eye II while fishing on George's Bank November 18-23, 2006. The tags were programmed to pop-up in three groups at four month intervals in 2007 on March 20 (n=7), July 20 (n=7), and November 20 (n=6).

Of the seven tags programmed to pop-up in March, five worked successfully. Data from these tags were processed and analyzed with the assistance of a graduate student from the University of Massachusetts. One of the tags programmed to pop-up on July 20 reported prematurely on May 29, 2007; the cause of this detachment is currently being assessed.

3. Preliminary Data:

From the five PSAT tags that successfully popped-up in March, depth/temperature vertical profiles and preliminary estimates of horizontal movements were presented at the LPRC principal investigator meeting held April 10 in Durham, NH. In short, the porbeagle sharks moved through water that ranged 1.2-22.4°C at depths of 0.0-928.0 m. Four of the five sharks exhibited two patterns of vertical behavior: a shallow period (0-200 m) and a deep (>200 m) period (generally in December and January). A single shark remained shallow (<200 m) for the duration of the track. The extent to which these patterns are related to horizontal movements is currently under investigation as the estimation of geositions based on light data continues. There were no discernable diurnal differences in vertical behavior.

4. Difficulties:

None to date.

5. Plans for the next six months to year:

As tag data become available from the July and November tags, they will be analyzed for temporal and spatial patterns of habitat use by the porbeagle shark. Project completion is expected by June, 2008. Results of the study will be disseminated at scientific meetings and through peer-reviewed scientific journals.

6. Dissemination

Publications:

Workshops: As noted above, preliminary findings were presented at the LPRC principal investigator meeting April 10, 2007.

Conferences:

Manuals, Protocols:

Outreach Activities: This research has been highlighted in public presentations made by G. Skomal as part of the outreach campaign of the MA Shark Research Program.

Patent, Copyright, Invention Disclosure Activity:

7. Collaborators and Personnel:

In addition to the principal investigators, this project has been assisted by:

John Chisholm, Mass. Marine Fisheries Biologist, MS - Univ. Mass.

Heather Marshall, MS student - Univ. Mass., Bernal Lab.

8. Students:

Although a student participated, none were funded by this grant.

Note: Information provided will be included in the Center's reports to NMFS-NOAA and made public through the center's website. Clearly indicate any confidential information that you do not wish to make public at this time.

9. Images and Captions:

Figure 1: Porbeagle PSAT.jpg Credit: G. Skomal



Caption 1: Porbeagle shark being released after PSAT tagging

Figure 2: PSAT Porbeagle.jpg Credit: G. Skomal



Caption 2: Porbeagle shark tagged with a PSAT

Note: Information provided will be included in the Center's reports to NMFS-NOAA and made public through the center's website. Clearly indicate any confidential information that you do not wish to make public at this time.

Figure 3: Eagle Eye II.jpg Credit: G. Skomal



Caption 3: Longline vessel Eagle Eye II used to tag porbeagle sharks

Note: Information provided will be included in the Center's reports to NMFS-NOAA and made public through the center's website. Clearly indicate any confidential information that you do not wish to make public at this time.