

Summary of Bermuda Spiny Lobster Workshop and Workshop Follow-Up

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The spiny lobster workshop at the Bermuda GCFI meeting was quite well attended, and much interest was evident with respect to getting a collaborative regional project underway. A principal objective of the workshop was to work out a uniform methodology for obtaining simultaneous estimates of puerulus/post larval recruitment.

Much of the workshop discussion focused on spatial and temporal variables which may affect settlement on collectors. Location, habitat, and fouling were identified as potential contributors to spatial variation. Inter-annual variability, seasonal variability, lunar periodicity, and recruitment patterns to certain collectors were identified as potential sources of temporal variation. A general consensus was that:

1. Replication of efforts is critical in order to establish within-site variation.
2. Between site variation could best be assessed by adoption of uniform (comparable) methodology.

At the meeting several representatives agreed to participate in a pilot effort to obtain simultaneous estimates of puerulus/post larval recruitment from geographically diverse areas using uniform methodology. The following guidelines were established:

1. Collectors would be positioned < 100 m from shore.
2. Collectors will float at the surface.
3. Collectors will be anchored at ≤ 15 ft depth.
4. ≥ 2 collectors will be monitored for 12 months.
5. Collectors will be sampled ≤ 1 week.
6. Parameters to be recorded include temperature, lunar cycle and date, bottom type, current (drogue), sea state, and weather three days preceding.
7. The PCV/"hog-fur" collector would be adopted in view of the cost of 3M's Nomad™ material.

Since the workshop, and with the help of a number of individuals, Mel Goodwin and David Miller have been collating information from a variety of sources in order to provide specific guidelines and necessary related information to interested colleagues. John Hunt, of the Division of Marine Resources of the Florida Department of Natural Resources, has provided detailed plans for the construction of collectors. These have been sent to workshop participants. With the exception of the "hog-fur", the tie wraps, and perhaps the quick release snap (optional) all materials should be available locally. John Hunt has obtained the filter material from Precisionaire, Inc. of St. Petersburg, Florida. The cost(1987)

per roll was \$31.80. One roll can make three collectors. For comparison, Nomad™ material for one Witham style collector costs about \$100 (Jack Ward, Bermuda Division of Fisheries). The tie wraps which Hunt is using are sold in electrical supply stores and are commonly used to bundle wires. They are about 0.25 in thick and 6—8 ft long. Once fastened, the excess should be clipped off.

Recently, John Hunt reported that 115 puerulus/post larval lobsters were collected from two of his collectors in December. These had been set out for one week. He noted that his collectors began to “catch” within two days. With respect to sampling collectors submerged in deeper water (90 ft), Hunt relates that they are planning to have divers put a small mesh bag around each collector prior to pulling it to the surface.

With regard to sampling surface collectors, it is necessary to determine whether using a mesh bag needed. Jack Ward reports his original sampling procedure required the use of a square framed mesh bag to prevent losses when his “Modified Witham” collectors were hauled, but that “this proved impractical in heavy weather and it was discovered that losses were negligible if the collectors were hauled in a fashion such that the fabric [Nomad™ material] ‘leaves’ collapse on each other quickly”. Whether the hog-fur fabric performs in a similar manner should be investigated.

With respect to the actual inspection for recruits, Rom Lipcius (Virginia Institute of Marine Science) has suggested that one approach would be to visually check until no new post larvae are spotted after a 5 minute period. This approach is recommended in order to prevent confounded interpretations due to different sampling procedures. A sample page from Jack Ward’s log book has been distributed to illustrate how data is recorded. Regarding classification of post larvae, Ward comments: “The three classes: full, partial, and clear refer to the degree of pigmentation of the post larvae. I have not used this information to date however it does allow one to refine the estimate of the day in which a given animal settled. It’s easy to determine and therefore worth doing. These categories are somewhat arbitrary as the sampling is done by several different staff members. Clear is clear, partial has pigmentation but still allows some light to pass through, and fully is first post larval stage and older, *i.e.*, no longer translucent.”

Another spiny lobster workshop will be held at the next GCFI meeting. At that time there will be an update on results. The intention is to get a preliminary effort underway in order to better refine our methods, more accurately determine costs, and to demonstrate the real potential for a regional effort.