

Cooperative Monkfish Survey  
March 1-May 22, 2004

**Standard Operating Procedures**

**I. Towing**

**Tow duration:** 30 minutes (from time winches locked to time winches engaged for haul back)

**Tow speed:** 2.5 knots

**Tow direction:** tow along depth contour, towards next station if possible.

**Scope:** 2:1 plus 25 fathoms of wire

Shake out net as comes up on every tow so that we do not have fish remaining in the net from previous tows.

**II. Station locations**

Station location marks start point of tow.

If location is not towable for any reason, relocate station as close as possible at similar depth.

**III. Sampling Priorities**

1. **Weight** of the catch of each species

2. **Length composition** for each species (subsample freely for all species but goosefish. Subsample goosefish lengths only if catches are very large and size composition is uniform)

3. Detailed **biological sampling for goosefish:** individual lengths, individual weights, food habits, sex, maturity, vertebra removed for ageing (see below). Egg veil weights are per stratum. See below for monkfish otolith samples.

Check carefully for blackfin monkfish – see species ID photo's.

Do full biological workup **for goosefish found in goosefish stomachs.**

Sampling rate for biological samples:

	per tow	per tow	per stratum
	Sex, Maturity, Food Habits	Age	Egg Veil Weight (ripe veils only)
Total length			
10-19 cm	2	1	
20-29 cm	2	1	
30-39 cm	3	1	3
40-49 cm	3	1	3

50-59 cm	3	1	3
60-69 cm	3	1	3
70-79 cm	4	2	4
>= 80	ALL	ALL	ALL

Special goosefish samples:

Otoliths: 1 sagittal otolith per fish

<u>Stage</u>	<u>Size</u>	<u># samples</u>
Juveniles	10-20 cm	10
Mature males	> 45 cm	15
Mature females	> 55 cm	<u>15</u>
		40

Need 1 complete set of otoliths (40 otoliths) from each of the following areas:

Cape Hatteras (strata 61-64)

Baltimore Canyon (strata 70-72)

Hudson Canyon (strata 2-4)

Southern New England (strata 6-8)

Southern flank Georges Bank (strata 13-15)

Northern flank Georges Bank (strata 20-22)

Western Gulf of Maine (strata 26-28)

Eastern Gulf of Maine (stratum 36)

**Total: 8 sets of 40 oto's = 320 oto's total.**

#### **IV. Communications**

Daily email to Betty Holmes ([Betty.Holmes@noaa.gov](mailto:Betty.Holmes@noaa.gov)) [or [Anne.Richards@noaa.gov](mailto:Anne.Richards@noaa.gov) on leg 2] sent at around 10:00 a.m., summarizing progress and any issues/concerns which arise. See white notebook for phone lists.