

**North Carolina
Division of Marine Fisheries**

**Fishery Independent Surveys
for Finfish and Shrimp**

November 16, 2005

JUVENILE STOCK ASSESSMENT ESTUARINE NURSERY AREA

(Program 120)

- Purpose (State Funds)

- Produce annual recruitment indices
- Identify nursery areas for non-anadromous fish and shellfish

- Methods

- May and June after 1989 (monthly back to 1978)
- Statewide fixed stations (variable number by year with 105 core stations every year)
- Two seam 10.5' otter trawl, 1/8 inch bag, 1 minute tow
- Environmental and bottom type data
- Count and measure

PAMLICO SOUND SURVEY

(Program 195)

- Purpose (Federal Funds)

- Determine and monitor distribution and relative abundance in sound and rivers

- Methods

- June and September 2 week cruises (1987 to 1991 was quarterly)
- Stratified random design (7 strata: 4 in Pamlico Sd, Neuse, Pamlico and Pungo rivers)
- 52 grids per cruise
- Two 30' mongoose trawls, 20 minutes, $\frac{3}{4}$ in tailbag
- Environmental data
- Count, measure and weigh

PAMLICO SOUND AREA INDEPENDENT GILL NET SURVEY

(Program 915)

- Purpose (Federal Funds)

- Produce annual abundance indices by cohort
- Characterize habitat

- Methods

- February through November (1998 - partial areas; all areas simultaneous 06/2003), 64 samples per month
- Stratified Random (OBX, Hyde Co Bays, Neuse and Pamlico/Pungo-shallow & deep)
- Gang of gill nets 30 yards each, 3 to 6 ½ by ½ inch (240 yard/sample)
- Environmental and bottom type data
- Determine condition, count, measure, and weigh

ALBEMARLE SOUND INDEPENDENT GILL NET SURVEY

(Program 135)

- Purpose (Federal Funds)

- Characterize striped bass population in Albemarle Sd. & Chowan River areas by size, age, sex, and relative abundance

- Methods (Since 1990)

- 3 seasons: Fall, Winter (11-02), Spring (03-05)
- Stratified Random (6 Zones divided into 1 mile quadrants), 48 samples per month
- 40 yard anchored, floating, and sinking gill nets, from 2.5 through 7.0 inch by 1/2 inch, & 8 and 10 inch
- Environmental data
- Count, measure (sex and tag for striped bass)

ASSESSMENT OF FISH POPULATIONS IN THE CAPE FEAR

(Program 127)

- Purpose (Federal Funds)
 - Characterize fish community in the lower Cape Fear River
- Methods
 - Monthly 1997-1999, 2001- ongoing
 - 3 Gears Used:
 - electro shocking, trawls (smaller fish), and gill nets (adults)
 - trawl-10.5 (program 120)
 - gill nets- 50 m, 5 ¼ inch mesh, shocking –183 m reach
 - 9 fixed sites: 5 Cape Fear, 1 Brunswick River, 3 northeast Cape Fear
 - Environmental data
 - Count, measure, disease condition

RED DRUM SEINE SURVEY

(Program 123)

- Purpose (Federal Funds)

- Annual index of abundance for juvenile red drum

- Methods

- September – November, 1992- ongoing

- 20 fixed sampling sites throughout coastal area

- Each site sampled every other week with a 6 foot, 1/8 inch mesh seine

- Environmental data and presence of SAV noted

- Count for each species and red drum measured

JUVENILE ANADROMOUS SURVEY ALBEMARLE SOUND AREA

(Program 100)

- Purpose (Federal Funds)

- Annual index of abundance for juvenile anadromous (aliosids, and striped bass)

- Methods

- Weekly seasonal sampling in western & central Albemarle Sound, 1972- ongoing
- 9 seine stations, 6 weeks (06-07), 60 foot bag seine with 1/4 inch mesh bag
- 19 trawl stations, 15 weeks (07-10), 18 ft balloon trawl, 1/2 inch mesh tailbag
 - 7 w/ tow 15 minutes (western-Hassler)
 - 12 w/tow 10 minutes (central)
- Environmental data, count and measure

STRIPED MULLET ELECTROSHOCK SURVEY

(Program 146)

- Purpose (State Funds)
 - Annual CPUE of striped mullet
- Methods
 - Monthly, year round since 2003 only in Neuse River tributaries
 - 12 fixed stations at 4 sites
 - Fixed 500 m stretch of shoreline in a linear transect at each station
 - Environmental data and bottom composition
 - Count and measure for economically important species

AMERICAN EEL ELVER SURVEY

(Program 176)

- Purpose (State Funds)

- Annual abundance of elvers (ASMFC compliance measure)

- Methods

- Daily for 6 weeks beginning February 1 at a single site in Newport River
- Small mesh fyke nets, lead length of 35 feet, mesh size of 0.062 inches, and a funnel diameter of 3.5 inches.
- Environmental data
- Count each species and measure and pigmentation stage for elvers

SHRIMP SAMPLING IN ESTUARINE AREAS

(Program 510)

- Purpose (State Funds)

- Produce annual recruitment indices
- Monitor movements and size to establish closure lines

- Methods

- May through September since the mid- 70's
- Statewide fixed stations (variable number by year, over 110 stations)
- Two seam 10.5' otter trawl, 1/8 inch bag, 1 minute tow
- Two seam 20' otter trawl, 1/8 inch bag, 5 minute tow
- Environmental and bottom type data
- Count and measure shrimp only