

## Appendix A. Summary of 2004 cruise operations.

### Ecosystems Monitoring Survey

**Cruise:** ALB0401  
**Vessel:** R/V Albatross IV  
**Dates:** 25 – 27 January  
**Sea Days:** 3  
**Instrument(s):** 2879  
**Total # of stations:** 7  
**# of vertical CTD/Profiler casts:** 0  
**# of double oblique Profiler casts:** 8  
**# Salinity samples:** 2  
**Salt correction:** N/A

**Cruise Objectives:** To assess the impact of changing biological and physical properties of the Northeast Continental Shelf ecosystem which influence the sustainable productivity of the living marine resources.

### Whale and Dolphin Survey

**Cruise:** DEL0404  
**Vessel:** R/V Delaware II  
**Dates:** 2 – 9 March  
**Sea Days:** 8  
**Instrument(s):** 2277  
**Total # of stations:** 16  
**# of vertical CTD/Profiler casts:** 13  
**# of double oblique Profiler casts:** 3  
**# Salinity samples:** 0  
**Salt correction:** N/A

**Cruise Objectives:** To (1) collect information on the relationship between cetaceans, particularly pilot whales and common dolphins, and oceanographic features using sea surface temperature and CTD data; (2) collecting data on school size; (3) collecting biopsy samples, principally from bow riding animals; and (4) collect photographs for several North Atlantic photo-identification catalogues.

## Wilkinson Basin Convection Study

**Cruise:** DEL0405  
**Vessel:** R/V Delaware II  
**Dates:** 23 – 25 March  
**Sea Days:** 3  
**Instrument(s):** 4493  
**Total # of stations:** 36  
**# of vertical CTD/Profiler casts:** 31  
**# of double oblique Profiler casts:** 0  
**# Salinity samples:** 5  
**Salt correction:** N/A

**Cruise Objectives:** To (1) conduct a hydrographic survey of the western Gulf of Maine to document the winter convection of the water columns in the Wilkinson Basin region; (2) look for evidence in the density distributions of the transect lines that would suggest that the colder coastal waters could have cascaded into the deep Basin and enhanced the convective winter mixing. The third objective of the cruise was to thoroughly test and familiarize the science party and deck department with a newly acquired CTD system.

## Winter Bottom Trawl Survey

**Cruise:** ALB0402  
**Vessel:** R/V Albatross IV  
**Dates:** 4 – 28 February  
**Sea Days:** 19  
**Instrument(s):** 1496, 1495, 1447, 1468  
**Total # of stations:** 140  
**# of vertical CTD/Profiler casts:** 83  
**# of double oblique Profiler casts:** 28  
**# Salinity samples:** 28  
**Salt correction:** 1496=+0.01, 1495=N/A, 1447=N/A,  
1468=N/A

**Cruise Objectives:** To (1) determine the winter distribution and relative abundance of fish and invertebrate species; (2) collect biological samples for studies of age and growth relationships, fecundity, maturity, and food habits; (3) collect hydrographic and meteorological data; (4) make collections of data and samples for cooperative researchers and programs

## Spring Bottom Trawl Survey

**Cruise:** ALB0403  
**Vessel:** R/V Albatross IV  
**Dates:** 3 March – 22 April  
**Sea Days:** 36  
**Instrument(s):** 1468, 1495  
**Total # of stations:** 332  
**# of vertical CTD/Profiler casts:** 170  
**# of double oblique Profiler casts:** 115  
**# Salinity samples:** 52  
**Salt correction:** N/A

**Cruise Objectives:** To (1) determine the spring distribution and relative abundance of fish and invertebrate species; (2) collect biological samples for studies of age and growth relationships, fecundity, maturity, and food habits; (3) collect hydrographic and meteorological data; (4) make collections of data and samples for cooperative researchers and programs.

## Marine Mammal Survey

**Cruise:** ALB0404  
**Vessel:** R/V Albatross IV  
**Dates:** 28 April – 19 May  
**Sea Days:** 17  
**Instrument(s):** 4501  
**Total # of stations:** 112  
**# of vertical CTD/Profiler casts:** 112  
**# of double oblique Profiler casts:** 0  
**# Salinity samples:** 0  
**Salt correction:** N/A

**Cruise Objectives:** To conduct satellite, VHF, and time-depth-recorder (TDR) tagging of northern right whales, and to conduct oceanographic sampling in association with mammal observations.

## Ecosystems Monitoring Survey

**Cruise:** ALB0405  
**Vessel:** R/V Albatross IV  
**Dates:** 25 May – 8 June  
**Sea Days:** 14  
**Instrument(s):** 4501  
**Total # of stations:** 124  
**# of vertical CTD/Profiler casts:** 5  
**# of double oblique Profiler casts:** 126  
**# Salinity samples:** 26  
**Salt correction:** N/A

**Cruise Objectives:** To assess the impact of changing biological and physical properties of the Northeast Continental Shelf ecosystem which influence the sustainable productivity of the living marine resources.

## Marine Mammal Survey

**Cruise:** END0495  
**Vessel:** R/V Endeavor  
**Dates:** 24 June – 3 August  
**Sea Days:** 32  
**Instrument(s):** 1496, 0853  
**Total # of stations:** 61  
**# of vertical CTD/Profiler casts:** 0  
**# of double oblique Profiler casts:** 59  
**# Salinity samples:** 0  
**Salt correction:** N/A

**Cruise Objectives:** To conduct satellite, VHF, and time-depth-recorder (TDR) tagging of northern right whales, and to conduct oceanographic sampling in association with mammal observations.

## Scallop Survey

**Cruise:** ALB0406  
**Vessel:** R/V Albatross IV  
**Dates:** 7 July – 5 August  
**Sea Days:** 26  
**Instrument(s):** 2277, 1468  
**Total # of stations:** 589  
**# of vertical CTD/Profiler casts:** 136  
**# of double oblique Profiler casts:** 0  
**# Salinity samples:** 42  
**Salt correction:** 2277=+0.018, 1468=N/A

**Cruise Objectives:** To (1) determine the distribution and relative abundance of the sea scallop *Placopecten magellanicus* and Iceland scallop *Chlamys islandica*; (2) collect biological samples and data relative to assessment needs; (3) monitor hydrographic and meteorological conditions; and (4) make collections for interested scientists at other institutions and laboratories.

## Ecosystems Monitoring Survey

**Cruise:** ALB0408  
**Vessel:** R/V Albatross IV  
**Dates:** 29 17 – 31 August  
**Sea Days:** 15  
**Instrument(s):** 2277  
**Total # of stations:** 168  
**# of vertical CTD/Profiler casts:** 2  
**# of double oblique Profiler casts:** 126  
**# Salinity samples:** 24  
**Salt correction:** N/A

**Cruise Objectives:** To assess the impact of changing biological and physical properties of the Northeast Continental Shelf ecosystem which influence the sustainable productivity of the living marine resources.

## Benthic Habitat

**Cruise:** DEL0412  
**Vessel:** R/V Delaware II  
**Dates:** 25 – 30 August  
**Sea Days:** 6  
**Instrument(s):** 1447  
**Total # of stations:** 34  
**# of vertical CTD/Profiler casts:** 8  
**# of double oblique Profiler casts:** 0  
**# Salinity samples:** 26  
**Salt correction:** N/A

**Cruise Objectives:** To monitor the recovery of the benthic habitat in the closed areas.

## Hydro Acoustic Survey

**Cruise:** DEL0413  
**Vessel:** R/V Delaware II  
**Dates:** 9 September – 11 October  
**Sea Days:** 21  
**Instrument(s):** 1447, 1496, 0851, 1495  
**Total # of stations:** 149  
**# of vertical CTD/Profiler casts:** 100  
**# of double oblique Profiler casts:** 0  
**# Salinity samples:** 12  
**Salt correction:** N/A

**Cruise Objectives:** The primary goal is to provide fisheries independent abundance estimates of Atlantic herring in the Georges Bank and Gulf of Maine regions, and to calibrate the EK-500 echo-integrator and test the mid-water trawl performance.

## Fall Bottom Trawl Survey

**Cruise:** ALB0409  
**Vessel:** R/V Albatross IV  
**Dates:** 11 September – 27 October  
**Sea Days:** 26  
**Instrument(s):** 0851, 0853  
**Total # of stations:** 319  
**# of vertical CTD/Profiler casts:** 196  
**# of double oblique Profiler casts:** 81  
**# Salinity samples:** 51  
**Salt correction:** N/A

**Cruise Objectives:** To (1) determine the autumn distribution and relative abundance of fish and invertebrate species; (2) collect biological samples for studies of age and growth relationships, fecundity, maturity, and food habits; (3) collect hydrographic and meteorological data; (4) make collections of data and samples for cooperative researchers and programs.

## Benthic Habitat

**Cruise:** DEL0415  
**Vessel:** R/V Delaware II  
**Dates:** 2 – 11 November  
**Sea Days:** 4  
**Instrument(s):** 1468  
**Total # of stations:** 6  
**# of vertical CTD/Profiler casts:** 0  
**# of double oblique Profiler casts:** 0  
**# Salinity samples:** 6  
**Salt correction:** N/A

**Cruise Objectives:** To monitor the recovery of the benthic habitat in the closed areas.

## ECOMON Survey

**Cruise:** ALB0410  
**Vessel:** R/V Albatross IV  
**Dates:** 2 – 18 November  
**Sea Days:** 17  
**Instrument(s):** 2879  
**Total # of stations:** 127  
**# of vertical CTD/Profiler casts:** 128  
**# of double oblique Profiler casts:** 6  
**# Salinity samples:** 25  
**Salt correction:** N/A

**Cruise Objectives:** To assess the impact of changing biological and physical properties of the Northeast Continental Shelf ecosystem which influence the sustainable productivity of the living marine resources.