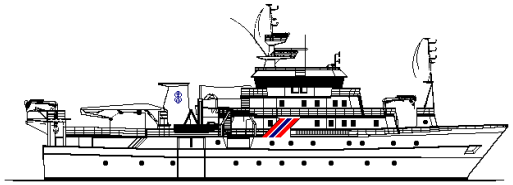
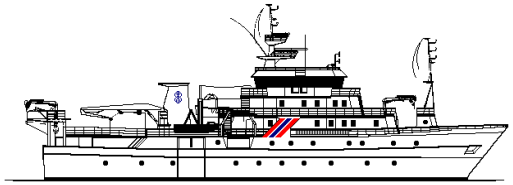
NANSEN PROJECT

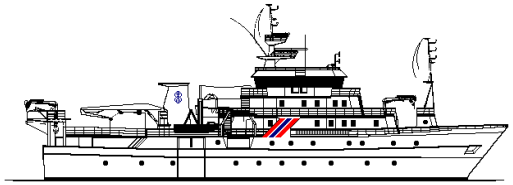
2013



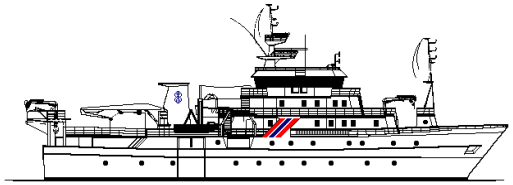
Survey No Title	Start/End dates (No of days)	Countries	Partners	Survey objectives
2013401 **BCC Survey No.1** **Transboundary Survey Between Namibia and South Africa with Focus on the Shared Stocks of Deep water hake**	15 January – 13 February (29)	South Africa, Namibia	MCM, IMR, NatMIRC	• To plan and conduct a transboundary survey from Cape Agulhas to Orange River to produce distribution maps and abundance estimates of the two species of hake, to be later merged with similar data from a co-occurring Namibian national demersal survey, to enable complete mapping and assessment of shared stocks, thus providing a measure of the degree of sharing the stocks at the time of the survey; • To collect data on maturity, food and age of both hake species, and in addition same for kingklip, monk and horse mackerel (under agreement with the Department of Agriculture, Forestry and Fisheries of South Africa); • To collect genetic samples for both hake species (small piece of muscle tissue) under agreement with the Molecular Zoology, University of Stellenbosch in the ECOFISH international programme; • To collect all other relevant data to better understand the environmental and biological impact on the distribution of hakes, and the fish community structure in the survey area, according to goals and principles of the Ecosystem Approach to Fisheries; • To conduct on board training exercises for junior staff comprising goals of EAF, purpose of conducting demersal survey, methods and practices of such a survey, practical exercises concerning species identification, etc. To conduct also training of middle rank



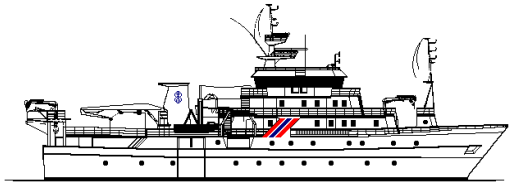
				staff in organizing and running demersal surveys.
2013402 **Survey of the pelagic resources of Angola**	16 February – 17 March (29)	Angola	INIP, Angola, IMR, Norway	• To estimate the abundance and map the distribution of the main commercially important pelagic and semi-pelagic fish species in Angolan waters, including the two sardinella species Sardinella aurita and Sardinella maderensis, the Cunene horse mackerel Trachurus trecae and the Cape horse mackerel Trachurus capensis. • To collect stomach samples from both horse mackerel species for analyses of diet composition. • To collect depth-stratified samples of zoo- and phytoplankton in order to continue the studies on feeding biology included relating stomach content to estimated zooplankton composition and observed density. • To map the general meteorological and hydrographical conditions in the survey area by means of continuous recordings of weather data, CTD-casts (temperature, salinity and oxygen) and ADCP measurements (Acoustic Doppler Current Profiler) along acoustical and hydrographical transect lines. • On-the-job training of cruise participants on the main survey routines, including using the Nansis database and scrutinizing acoustical
2013403 **SURVEYS OF THE FISH RESOURCES OF ANGOLA**	19 March-10 April (22)	Angola	INIP, Angola, IMR, Norway	• To survey, map and describe the distribution, composition and abundance of the main demersal species, with special emphasis on seabreams (Sparidae), croakers (Sciaenidae), grunts (Haemulidae), groupers (Serranidae), hakes (Merlucciidae) and shrimps (*Parapenaeus longirostris* and *Aristeus varidens*) on the Angolan shelf and slope (down to 800 m), from Cunene River



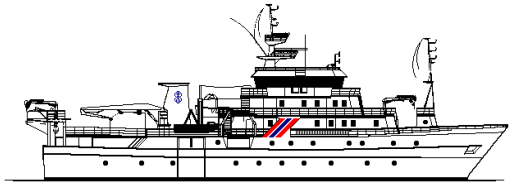
Survey of the demersal resources				(17°14'S) to Tombua* (15°40'S), and from Benguela (12°35'S) to Congo River (06°00'S) using bottom trawl and the swept-area method. • To collect biological data such as length, weight, sex and maturity stage of *Dentex macrophthalmus*, *D. angolensis*, *Pagellus bellottii, Pseudotolithus senegalensis, Umbrina canariensis, Merluccius polli, M. capensis, Trachurus trecae, Brachydeuterus auritus, Penaeus notialis, P. keraturus, A. varidens, P. longirostris,* and *Chaceon maritae.* • To collect the stomach contents and otholits for some species such as *D. angolensis*, *D. macrophthalmus*, *P. bellottii*, *P. senegalensis*, *P. typus, U. canariensis, B. auritus, Merluccius polli, M. capensis,* and *T. trecae,* for subsequent analyses in the INIP Lab. • To monitor the general hydrographical conditions using CTD-Sonde on each trawl station and map the temperature, salinity and oxygen.
2013404 **Recruitment studies on anchovy Engraulis encrasicolus and sardinella Sardinella aurita and S. maderensis in the coastal waters of**	1 – 23 May (22)	**Guinea, Guinea Bissau, Senegal and the Gambia**	• IMR,Bergen, Norway • Instituto Nacional De Desenvolvimento Das Pescas,Cape Verde • Mauritanian Institute for Oceanographic Research and Fisheries, Mauritania	• Identify the distribution area of sardinella (Sardinella aurita and S. maderensis) and anchovy (Engraulis encrasicolus) egg and larvae south of Cape Vert • Identify oceanographic features affecting their distribution • Explain the retention and distribution mechanisms for eggs and larvae in the survey area



Guinea, Guinea Bissau, Senegal and the Gambia			• Centre de Recherches Océanographiques de Dakar-Thiaroye, Senegal • Department of Fisheries Banjul, The Gambia • Centro de Investigação Pesqueira Aplicada, Guinéa Bissau • Centre National de Sciences Halieutiques de Boussoura, Guinéa	
2013406 **A Transboundary Study Of The Pelagic Fish Stocks Of Southern Angola And Northern Nambia**	18 July – 02 August (15)	**Angola, Namibia**	• IMR, Bergen, Norway • INIP, Luanda, Angola • National Marine Information and Research Centre, NatMIRC, Swakopmund, Namibia	• To map the distribution and estimate indices of abundance of the most commercially important pelagic species in the Namibia Angola transboundary area (15°50- 19°00'), following the survey design utilized in Angolan waters (6 n.mi spacing between transect lines), with special emphasis on the two horse mackerel Cunene horse mackerel (Trachurus trecae) and Cape horse mackerel (Trachurus capensis), sardine "Pilchard" (Sardinops sagax) and other small pelagic species, including anchovy (Engraulis capensis) and round herring (Etrumeus whiteheadi). • To map the distributions and estimate the abundance of the same species in central Namibia south to Dune Point (20°15' S), following the established survey design with 6 n.mi spacing



				between the transect lines. • To study and analyse the biological state of the main species, including length frequencies, length weight relationships, reproductive stages and length at maturity. • To map the meteorological and hydrographical conditions in the survey area by means of continuous recordings of weather data such as Sea surface temperature (SST), Sea surface salinity (SSS), wind speed and direction, using CTD-casts (Temperature, Salinity and Oxygen).
2013408 **Survey of the mesopelagic fish and environment in the Bay of Bengal**	22 October – 03 November (12)	**Sri Lanka**	• National Aquatic Resources Research and Development Agency Colombo, Sri Lanka • Institute of Marine Research, Bergen , Norway	• The main objectives of the survey were to study the distribution of mesopelagic fish and plankton in international waters, in an area east of Sri Lanka EEZ. The Oxygen minimum zone in deep water and the behavior of fish resources like the mesopelagic fish in relation to this minimum and other oceanographic features were questions of main interest. • To map the distribution and estimate the biomass of mesopelagic fish • To map the hydrographic regime by doing five transects • To map the distribution of plankton
2013409 **Myanmar Ecosystem Survey**	13 November – 17 December	**Myanmar**	• Institute of Marine Research, Norway • Department of fisheries, Ministry of Livestock, Fisheries and Rural Development, Myanmar	• To obtain information on demersal fish abundance and biodiversity by demersal trawling where conditions for bottom-trawling are adequate. • To determine the distribution and abundance of small pelagic fish resources using acoustic methods and a systematic grid survey strategy. • Additional biological sampling from trawl catches to collect data on size distribution, further biological information and genetic material



			• University, Mon State, Myanmar	from selected species. • To establish as far as possible the distribution, abundance and composition of other taxa at different trophic levels along the shelf (phyto- and zooplankton, fish eggs and larvae) • Map the environmental conditions in the survey area (temperature, salinity, oxygen, chlorophyll, nutrients and sediments). • Capacity building of BOBLME trainees and young scientists.