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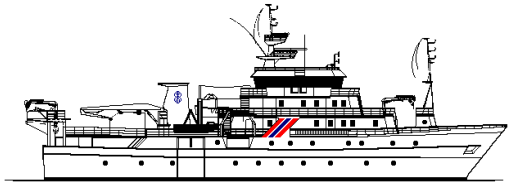
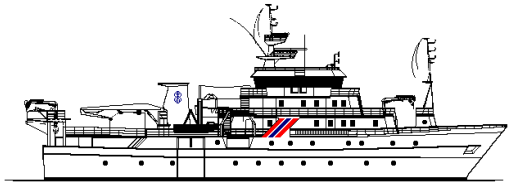
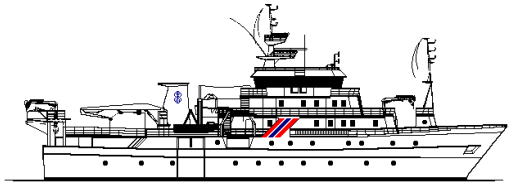


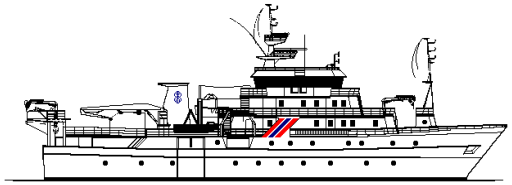
Survey No Title	Start/End dates (No of days)	Countries	Partners	Survey objectives
2011 BCC SURVEY **Transboundary survey between Namibia and South Africa with Focus on the shared stocks of deep water hake**	20 January – 16 February (28)	South Africa Namibia	BCRE, South Africa NatMIRC, Namibia IMR, Norway, ZMT Bremen, Germany	• To plan and conduct a transboundary survey from Port Alfred 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 of the stocks at the time of the survey. • To collect data on the maturity stages of the hakes to check for possible spawning activity. • To collect other relevant data to better understand the environment impact on the distribution of hakes, and the fish community structure in the distribution areas of the hake.
2011402 **Survey of the fish pelagic resources of Angola**	17 February- 19 March (30)	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*, the Cape horse mackerel *Trachurus capensis* and other clupeid and carangid pelagic species. • To collect stomachs from both horse mackerel species for analyses of diet composition. • To collect stomachs and otoliths from both sardinellas species for analyses of diet composition and length-age relationships. • To collect depth-stratified samples of zoo- and phytoplankton in



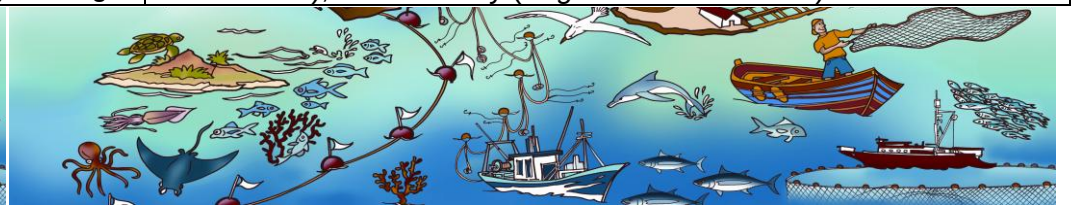
				order to continue the studies on feeding biology, relating stomach contents to estimated zooplankton compositions and densities. • To map the general meteorological, hydrographical and biological conditions in the survey area by means of continuous recordings of weather data, CTD-casts (Temperature, Salinity and Oxygen), ADCP measurements (Acoustic Doppler Current Profiler) and plankton sampling 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 data using IMR post-processing system, the Large Scale Survey System (LSSS). • To collect seal scats from the breeding fur seal colonies (with pups) in the Tiger Bay area in order to study their diet composition as basis for subsequent evaluations of their impact on the fish communities in the region.
2011403 **Survey of the Demersal Resources of Angola**	20 March – 9 April (21)	Angola	INIP, Angola IMR, Norway	• To map and describe the distribution, composition and abundance of the main demersal species, with emphasis on seabreams (Sparidae), croakers (Sciaenidae),grunts (Haemulidae), groupers (Serranidae), hakes (Merlucciidae), cephalopods and shrimps (*Parapenaeus longirostris* and *Aristeus varidens*) on the Angolan shelf and slope (down to 800 m), from Benguela (12°35'S) to Congo River (06°00'S) using bottom trawl and the swept-area method. Due to time constraints, it had been agreed to cover the southern region from Tombua (15°40'S) to Cunene River (17°14'S) at the end of the pelagic survey in July-August. • 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, Brachydeuterus auritus, A. varidens, P.longirostris, Chaceon maritae, Panulirus regius* and cephalopods. • To collect stomach contents for *D. angolensis*, *Merluccius polli, P. senegalensis*, *U. canariensis* and *B. auritus,* for subsequent analyses in the INIP Lab. • To monitor the general hydrographical conditions using thermosalinograph and CTD sondeon trawl station and map the temperature, salinity and oxygen. • To carry out four monitoring lines (Namibe, Lobito, Palmerinhas and Congo River mouth) using INIP's new standard hydrographical profiles for collection of temperature, salinity and oxygen, water nutrients, phytoplankton and zooplankton.
2011404 **Environment monitoring Ghana**	19 April – 7 May (19)	Ghana		• Waiting for final report
2011405 **Marine Environmental Survey of bottom fauna, selected physical and chemical**	9 May – 27 May (19)	São Tomé and Principe, Nigeria	JDA, São Tomé and Nigeria Uni Research AS, Norway University of Bergen, Norway	• Establish what fisheries and sediment resources exist in the JDZ and their commercial value • Perform environmental monitoring of the areas of the JDZ where petroleum activities have occurred with incidences recorded • Conduct an assessment of fish, zooplankton and phytoplankton biodiversity in the JDZ • Carry out an oceanographic and bathymetric mapping to improve knowledge and achieve date for map production: as well as an



compounds and fisheries survey in the JDZ between Nigeria and São Tomé & Principe				assessment of fish biodiversity in the JDZ
2011406 **CCLME Ecosystem Survey**	4 – 18 June (16)	Cape Verde	Instituto Nacional De Desenvolvimento Das Pescas, Cape Verde Instituto Español de Oceanografía, Spain Old Dominion University, USA National Institute of Fisheries Research, Morocco Universidade de Cabo Verde IMR, Norway CCLME	• To determine the distribution and abundance of small pelagic fish resources along the coast of Cape Verde using acoustics methods and a systematic grid survey strategy. • Obtain information on demersal fish abundance and biodiversity by demersal trawling where bottom-trawlable conditions exist. • To use regular midwater and bottom trawls on target fish aggregations for species composition, biological information and genetic material of selected small pelagic fishes for fisheries resource assessment purposes. • To establish as far as possible the distribution, abundance and composition of other organisms at a number of trophic levels along the shelf. (Phytoplankton, zooplankton, cetaceans and sea birds, and benthos biodiversity). • Capacity building of CCLME and Cape Verdean trainees and young scientists.
2011407 **Survey of the pelagic fish resources off North West Africa.**	22 June – 7 July (17)	Senegal The Gambia Guinea Bissau Guinea	Centre de Recherches Océanographiques de Dakar-Thiaroye (CRODT), Senegal	• To map the distribution and estimate the biomass for the main small pelagic fish using hydro-acoustic methods. The species of interest were: sardinellas (*Sardinella aurita*) and (*Sardinella maderensis*), horse mackerel (*T. trecae*), false scad (*Decapterus rhonchus*), and anchovy (*Engraulis encrasicolus*).



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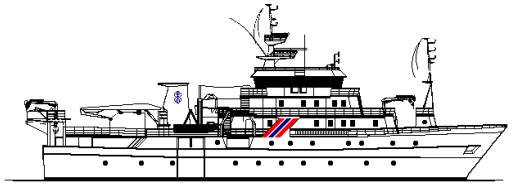
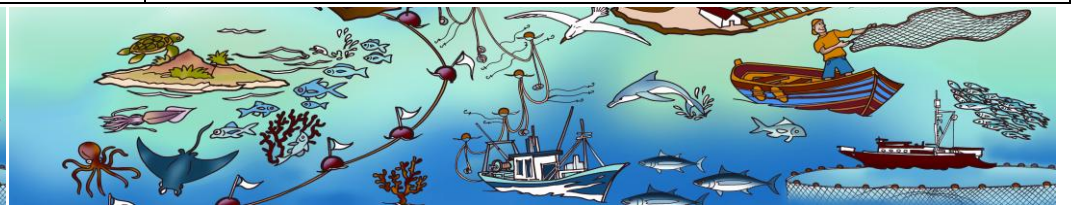


Senegal – The Gambia – Guinea Bissau – Guinea			Department of Fisheries (FD), The Gambia Centro de Investigacao Pesqueira Aplicada (CIPA), Guinea Bissau Centre National des Sciences Halieutique de Boussoura (CNSHB), Guinea Institute of Marine Research (IMR), Norway	• To identify and describe the size distribution of the target fish populations by midwater and bottom trawl sampling and process the catches by recording weight and number by species. • Collect biological data of the main target species, especially *Sardinella aurita, S. maderensis* and *T. trecae*. • To sample standard hydrographical transects for temperature, salinity and oxygen. • To train local participants in acoustic survey methodology including fish identification and sampling, scrutinizing of echograms, hydrographic sampling and abundance estimation.
2011408 **Survey of the small pelagic resources of Angola and Namibia**	18 July – 28 August (30+12)	Angola Namibia		• Report in Luanda for Revision
2011409 **2011 BCC Survey, Survey to determine spawning of the deep water hake M. paradoxus in the**	26 September – 8 October (13)	Namibia	BCRE, South Africa NatMIRC, Namibia IMR, Norway ZMT Bremen, Germany	• to conduct bottom trawling between 400 and 1000 m depth, largely based on positions trawled on during the annual hake survey • to sample the adult population of *M. paradoxus* and inspect maturity stages in order to identify spawning fish and locate potential spawning locations geographically



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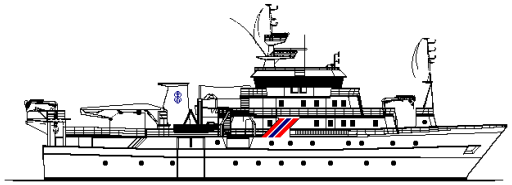

Northern Benguela Region off Namibia				• to conduct multisampler stations at < 500 m bottom depth in order to collect hake eggs and • larvae and identify potential spawning areas geographically • to collect gonad samples of *M. paradoxus* for later histological analysis • to collect environmental and hydroacoustic data to improve our understanding of the link between the environment and the distribution of the hakes, and the fish community structure in the distribution areas of the hake.
2011410 **Regional Ecosystem baseline survey from Guinea to Morocco**	20 October – 21 December (63 days)	Guinea Guinea Bissau Senegal The Gambia Mauritania Morocco		• Report in preparation