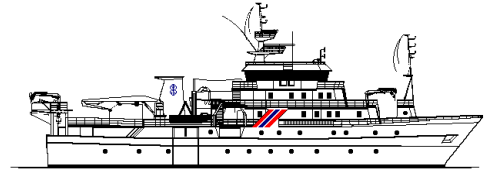


Country: Congo, Angola, Namibia				
Research vessel: R/V DR. FRIDTJOF NANSEN				
Survey number: 2007406				
Number of days: 34				
General objectives: Surveys of the fishing resources of Angola				
	Port	Date	Coverage	Specific objectives
Departure	Pointe Noire, Congo	7 July 2007	Congo, Angola, Namibia	<ul style="list-style-type: none"> To estimate the abundance and to map the distribution of the main commercially important pelagic and semi-pelagic fish species in Angolan waters, including the two sardinella species <i>Sardinella aurita</i> and <i>S. maderensis</i>, the Cunene horse mackerel <i>Trachurus trecae</i>, the Cape horse mackerel <i>Trachurus trachurus capensis</i> and other pelagic species. To collect gonads, stomachs and otoliths from both horse mackerel and sardinella species, and 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 for the local and regional participants on the main survey routines, including using the Nansis and Hydrobase software, scrutinizing acoustical data with the latest Norwegian post-processing system, Large Scale Survey System (LSSS), and producing acoustical biomass estimates. To measure target strength (TS) of Angolan pelagic species.
Arrival	Walvis Bay, Namibia	10 August 2007		
Cruise leader: Jens-Otto Krankstad and Bjoern Erik Axelsen				





NANSEN PROJECT



Participants:

From INIP, Luanda: Nkosi Luyeye, Paulo Celso, João Gouveia Eusèbio Dias dos Santos, Paula Faria, Iris Villar, Domingos Pedro, Filomena Vaz-Velho, António Barradas, Henriette Lutuba Nsilulu and Pedro Panzo.

From CIP, Benguela: Antonio Buco and Enoque Ganganjo.

From CIP, Namibe: Quilanda Fidei, Eridson Saquenía

From, R.D. Congo: Matthieu Mongolu.

From NatMIRC, Namibia: Martha Uumati.

From IMR, Bergen: Jens-Otto Krakstad (Cruise leader), Thor Egil Johansson, Ole Sverre Fosheim, Frank Spetland, Bjoern Erik Axelsen (Cruise leader), Magne OLSEN and Hilka NDJAULA.

Summary of the results:

In the present survey the environmental conditions were characterized by strong wind, especially in the southern region and different temperatures as compared with previous years. The range of temperatures encountered in the central and northern regions was 19° to 22°C, (last year: 21° to 25°C), while in the south and in the main area of horse mackerel distribution temperatures were higher (17° to 19°C) compared with 2006 (15° to 16°C). From the acoustic records it seems that *Sardinella* has a more offshore distribution, which makes the resource more detectable acoustically. The total biomass estimate for sardinellas (726 700 tons) was higher than last year (630 000 tons). During this survey the *S. aurita* has distributed throughout the Angolan coast.

The proportion of biomass of the two species of *Sardinella* showed a different pattern throughout the Angolan coast *S. aurita* dominates the northern, while *S. maderensis* dominates the central region (54 %) The total biomass of horse mackerel was estimated at 232 000 tons. The Cunene horse mackerel stock was estimated at 154 000 tons, which is at the level of the biomass estimated in 2006. Cape horse mackerel was found only in the southern region with an estimate biomass of around 74 900 tons. However, the Cunene horse mackerel stock is still far from the levels of the 90's.

The overall length distribution of Cunene horse mackerel was still dominated by fish <30 cm TL. Comparing with last year's overall length distribution, we can notice a more even size distribution and a slight increase in the proportion of individuals >30 cm TL. This size increment is more evident in the north and central regions.

Report: status: final References:

J. O. Krakstad, B. E. Axelsen, N. Luyeye, F. Vaz-Velho, H. Lutuba, Q. Fidel, A. Barradas (2008) NORAD/FAO PROJECT GCP/INT/730/NOR BCLME, CRUISE REPORTS DR. FRIDTJOF NANSEN **SURVEYS OF THE FISH RESOURCES OF ANGOLA Cruise Report No 2/2007 Survey of the pelagic resources 7 July – 10 August 2007**, Institute of Marine Resources, Bergen Norway, Instituto Nacional de Investigação Pesqueira, Angola.

Constraints/Comments:

