RESEARCH SHIP ELLEN KHUZWAYO

BACKGROUND:

Ellen Khuzwayo, was built according to a Norwegian design by FAROCEAN Marine in Cape Town and commissioned in 2007, she is the newest addition to the Department Agriculture, Forestry and Fisheries fleet of vessels.

The ***Ellen Khuzwayo's*** main activities are rock lobster research, line fish, shark research, pelagic long lining (a unique new activity for Branch: Fisheries), marine mammal research and scientific diving.

She is equipped for environmental research to depths of 1 000 meters and she is used as part of the South African governments commitment to the Benguela Current Large Marine Ecosystem (BCLME), but operated mainly within South Africa's EEZ.
Ellen Khuzwayo was designed to withstand the higher temperatures of the SADC Region.

VESSEL PARTICULARS:

Type: Steel Hulled Fisheries Research Ship
Class: Lloyds Register +100 A1 Fisheries Research Vessel {+} LMC
UMS
Keel laid: 2005 (Commissioned in September 2007)
Builders: Farocean Marine, Cape Town
Gross tonnage: 604.83
Nett tonnage: 181.45
Displacement: 883.62 t
Length: 43.20 m
Breadth: 10.20 m
Moulded draft: 3.50 m
Horsepower: 2 x 700 kW (1750 BHP)
Cruising speed: 12 knots
Maximum speed: 13.1 knots
Minimum speed: 1 knot
Range: 2 500 nautical miles (With 15% reserve)
Endurance: 14 Days (Stores and water capability)
Call sign: ZR 7358
Official Number. : 10706
Complement: Local Voyages: 13 Officers and Crew + 8 Scientists
Foreign Voyages: 15 Officers and Crew + 6 Scientists
Total Compliment 21
Affiliation Department of Agriculture, Forestry and Fisheries

PROPULSION:
Twin screw, Variable Pitch, Outward Turning
2 x MTU 4000 Series Diesel Engines each developing 700 kW at 1600 rpm
Bunker capacity 131.16 m3
ELECTRICAL POWER:
3 x 220 kW MTU S60 Generators

NAVIGATIONAL EQUIPMENT:
Radar: 2 x Furuno FAR-21272, X band, ARPA
ECDIS : Furuno FEA-2107
Gyro Compass: iXSEA Oceana
Magnetic Compass: Raytheon Reflecta
Echo Sounder: Furuno FE 700
AIS: Furuno FA 150
Doppler Speed Log: Furuno DS 80
Autopilot: Anschutz Pilotstar D
GMDSS Station: Sailor, A3 compliant

METEOROLOGICAL EQUIPMENT:
AirMar Weather Caster - Wind Speed and Direction, Air Temperature, Atmospheric

Pressure, Heat Index and Atmospheric Relative Humidity
Sea Surface Temperature and Salinity - Seacat Thermosalinograph
Weatherfax – Furuno FAX-208 Mk. 2
Weather Satellite Receiver – Internet via Satellite MPDS, PC Based

COMMUNICATIONS:
Satellite Communications:
Sailor Fleet 77 Inmarsat Communications Terminal
ANDRapido Communications Software Suite

Bridge:
Full international GMDSS Station consisting of:
2 x Sailor RT5022 VHF/DSC
1 x Sailor HF SSB HC4500
1 x Sailor HF SSB Telex
1 x Sailor Inmarsat-C TT-3020
Furuno NX-500 Navtex Receiver

Internal Communications:
Broadcast System
Ring Call System
Telephone System

ECHO SOUNDING EQUIPMENT:
Simrad EK 60 Scientific echo sounder Simrad EK 500: 38 kHz and 120 kHz Split Beam and 300 kHz Single Beam
Echo Sounder: Furuno FE 700

DECK MACHINERY:
Anchors: 2 x SPEK 900kg
Chain: 26mm, 6 shackles either side
Crane: 2 x Palfinger SWL 8 to 2 T
Davit: Vestdavit with self tensioning winch SWL 2 t

LABORATORIES:
Bridge Deck: Acoustics
Main Deck Starboard Aft: Hydrology, wet and dry
Main Deck Amidships: Operations Room / Dry Lab
Main Deck Starboard Fwd: CTD Wet Lab
Main Deck Port: Wet Fish

ALL LABORATORIES ARE PROVIDED WITH THE FOLLOWING FACILITIES:-
Air conditioning.

Positive pressure maintained in Acoustic and Operations Rooms
Hot and cold fresh water, sea water (Acoustics and Operations Rooms excluded)
Ship's 220v/AC power as well an independent 220v/AC Laboratory dedicated stabilized supply
2 Telephone systems
Acoustics, Hydro and Biological Laboratories have talk back system to working deck areas
Data links to Operations Room
Fire alarm
Smoke detector

SCIENTIFIC WORKING AREAS:
Lookout on main mast, Upper Bridge Deck and Main Deck

ON BOARD SCIENTIFIC SYSTEMS:
An Ethernet based Networked Data System (NDS) interfaced to a variety of Navigational, Meteorological and Winch Systems, displaying these data on PCs housed in all Scientific Spaces.
There are Ethernet Nodes in all cabins for monitoring the NDS.
Parameters are monitored once per second, but only mean values and standard deviations are logged once per minute.
The NDS facilitates interaction between the various spaces and permits the storing and processing of real time and historical data at each work station.
In addition a Marine & Coastal Management Underway Mapping System has been developed to produce horizontal sections, Track Charts, etc.
Seabird 911 CTD unit and Rosette water sampling system (12 x 5 litre)
Seabird SBE 45 Thermosalinograph
Seabird S38 Remote Temperature Probe is fitted into the main cooling water inlet
RDI Instruments Ocean Surveyor II ADCP system
3 x Simrad EK 60 Scientific echo sounder systems: 38 kHz, 120 kHz, 300 kHz
Marine & Coastal Management Universal Underwater Unit
Par Light Sensor and Altimeter

SCIENTIFIC ACCOMMODATION:
A Chief Scientist's cabin on the Officer’s Deck
3 x Double Berth Scientist Cabins with Bathrooms are situated on Lower Accommodation Deck

HABITABILITY:
All Accommodation, Public Rooms and Laboratories are air conditioned
Dining Saloon with adjoining Lounge provided with Television, Video Recorder and Sound Systems
No Bar facilities available.

OTHER FEATURES:
Passive Stabilizer Tanks 1 x 30 ton
Dispensary

REPLACEMENT PROGRAM:
Not scheduled.