



NOAA Ship NANCY FOSTER

All Ship Specifications

GENERAL SPECIFICATIONS

- Transferred from the Navy in 2001
- Commissioned on May 10, 2004
- Hull Number: R 352
- Call Letters: WTER
- Home Port: Charleston, SC
- Operation Area: East and Gulf Coasts, Caribbean Sea
- Length: 187 ft (56.7m)
- Beam: 40 ft (12.1 m)
- Draft Max: 11'0", Projected Draft 12'10"
- Work Area: 1,600 sq ft
- Displacement (Full Load): 1,190 tons
- Designer: McDermott, Inc
- Builder: McDermott, Inc., Amelia, Louisiana

Compliment

- Commissioned Officers: 5
- Licensed Engineers: 3
- Electronic Technician: 1
- Survey Technician: 1
- Crew: 10
- Scientists: 15

Berthing

- Single Staterooms: 5
- Double Staterooms: 10
- Quadruple Staterooms: 3
- Total Bunks: 37

DECK EQUIPMENT

- Main Deck Crane
 - Manufacturer: Goodcrane
 - Type: Knuckle Boom
 - Boom Length: 40ft
 - Lifting Capacity: 10,000 lbs at maximum reach
- A-Frame
 - Type: Appleton Marine, Inc., Moveable
 - Clearance over the stern: 12.3ft
 - Horizontal Clearance: 14ft
 - Clear width at deck: 13ft
 - Max Load at low sea state: 25,000 lbs
 - Max Load at high sea state: 18,750 lbs

- Aft 01 Deck Crane
 - Type: North American Crane
 - Max Length: 35ft
 - Lifting Capacity: 2,325 lbs
- EM Winch: 01 Deck
 - Type: Markey COM 15
 - Cable: 10,000 m of .322
- J-Frame
 - Type: Electrohydraulic
 - Clearance over the side: 6ft
 - Vertical Clearance: 13.9ft
 - Lifting Capacity: 5,000 lbs

Ground Tackle

- Bow Anchor
 - Quantity: 2
 - Type: Stockless, snug fitting
 - Weight (each): 2,000 lbs
 - Anchor chain: 6" links, port side 6 shots, starboard side 7 shots
- Windlass
 - Type: Fritz Culver FCWH-6
 - Wildcat line pull: 24,000 lbs
 - Gypsy line pull: 21,000 lbs

ENGINEERING

General

- Cruising Speed: 10.5 Knots
- Range: 3,500 nm
- Total Power: 1850 Shaft HP
- Fuel Capacity: 56,757 gallons Fuel
Consumption: 83.3 gal/hr at full ahead
- Fuel Type: #2 Diesel
- Endurance: 15 days
- Endurance Constraint: Food

Pollution Control

- Dry type: electrochemical
 - MSD Unit: Omnipure
 - MSD System holding tank: 8177 gal
- Oily Water Control
 - Manufacturer: Village Marine Tec
 - OWS flow rate: 4.2 gal/min
 - Tank capacity: 1195 gal

Note: Nancy Foster is a zero discharge ship, both gray and black water are treated through the system

Freshwater System

- ALFA Laval Freshwater generator
JWP-16-C40/50
- Everpure Bromine Feeder
- Daily output: 75 gal/hr at full ahead,
Approx 1800 gal/day
- Holding capacity of potable H₂O: 15,016 gal
- Consumption: ~1,000 gal/day

ELECTRONICS

Wet Oceanographic Lab

- Dimensions: 26' X 16', 416 sq ft
- Uncontaminated Seawater System: draws water from under bow, uses SeaBird 45, 38 and Fluorometer
- Software: Hypack for navigating line plans, Velocwin for sound speed conversion, Caris for MB data processing
- SeaBird SBE 38: sea surface temperature

Propulsion Plant

- Main Propulsion
 - Model: Cummins KTA 50M
 - Cylinders: 16
 - Shaft Horsepower: 1250
- Bowthruster
 - Type: Omnithruster
 - Power: 400 HP
- Propeller
 - Type: fixed pitch
 - Manufacturer: Nakashima
 - Diameter: 90 in
 - Blades: 4
- Z-Drives
 - Model: Ulstein Marine Ltd 260/370-H
 - Power: 300 HP at 180 RPM
 - Propeller: Four 42" fixed blades

Electrical System

- Generator
 - Quantity: 3
 - Model: Cummins VTA28GS/GC
 - Cylinders: 12
 - Design: V-type turbo charged
 - Power: (3 phase) 416-480 volts, 200 amps at 60hz
- Emergency Generator
 - Model: Cummins NT855
 - Cylinders: 6
 - Design: In-line turbo charged, 4-stroke
 - Power: 355 bhp at 1800 RPM
 - Output: 125Kw

Communication

- INMARSAT-B and C
- HF SSB/DSC Transceiver
- Cellular telephone
- Land lines in port
 - Iridium
 - VHF radios
 - Hand-held radios for ship to launch and deck communications

Bridge

- Navigation
 - 200kHz and 50kHz single beam transducer with Furuno FE-700 echo sounder
 - Transas ES2 for ECDIS (electronic chart display integration system), software Navi-Sailor 2400
 - Transas ES2 for transiting, operations, and video feed from lab
 - RADAR: S-band/X-band w/ ARPA
 - Dynamic Positioning Displays: forward and aft console
 - Furuno Universal AIS (automatic identification system) FA-100
 - Gyrocompass: 2 Meridian Surveyors and 9 repeaters
 - NAVTEX: transmits weather and safety information
 - Young Wind Tracker
 - SCS digital reader
 - MACS(machine control system): 2
 - GMDSS suite: hooked with weather fax to receive distress signals and marine safety information
 - Close caption TV
 - SACS(steering and control system): 2 on forward console and on , aft, port, and starboard

Dry Oceanographic Lab

- Dimensions: 17' X 16', 272 sq ft
- 200kHz single beam transducer with Abyss echo sounder for shallow water surveying
- 150kHz (Ocean Surveyor) Acoustic Doppler Current Profiler (ADCP): uses Doppler effect to measure speed and current
- 12kHz single beam transducer with Abyss echo sounder for deep water surveying
- Multibeam transducer: Kongsburg-Simrad EM 1002 for chart grade survey data
- Applanix POS M/V for positioning
- SeaBird SBE 45: real time surface sound speed which interfaces with multibeam
- SeaBird 19: Archivable CTD for water column sound speed profiling
- SeaBird 19: Real time CTD sound speed Profiling
- SeaBird 911: mounted to Niskin bottles for real-time sound speed profiling and water sampling
- SCS: Scientific Computer System

SMALL BOATS

- NF1: Rescue Boat
 - AMBAR 550 SOLAS approved
 - Length: 17.5 ft (5.5m)
 - Weight: 2,900 lbs.
 - Motor: Twin 60hp Outboards
 - Capacity: 7 Persons
- NF2: RHIB Hurricane 533
 - Length: 17.5 ft.
 - Weight: 1,210 lbs.
 - Motor: 50 hp Outboard.
 - Capacity: 7 Persons
- NF3: RHIB AMBAR 550
 - Length: 17.5 feet (5.5m)
 - Weight: 3,500 lbs
 - Motor: Diesel 100hp inboard, Jet Drive
 - Capacity: 6 Persons
- NF4: SeaArk
 - Length: 23 feet (7.0m)
 - Weight: 7,000 lbs.
 - Motor: Twin 150hp HPDI Outboard
 - Capacity: 10 Persons