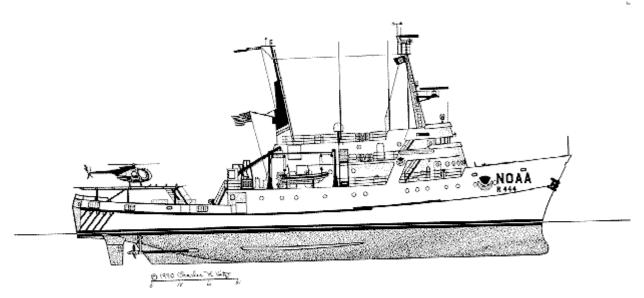
## DAVID STARR JORDAN

**DAVID STARR JORDAN** was built in Sturgeon Bay, Wisconsin in 1964 and commissioned in San Diego, CA, in 1966. The ship was designed and built for the U.S. Bureau of Commercial Fisheries, which later became part of the National Oceanic and Atmospheric Administration, for the purpose of fisheries research in the tropical Pacific. Since commissioning, **DAVID STARR JORDAN** has logged over a million miles while studying the biological and physical oceanography of the southwestern U.S. coast and the eastern tropical Pacific. **DAVID STARR JORDAN** is an integral part of the marine mammal surveys conducted by the Protected Resources Division of NMFS Southwest Fisheries Science Center. Marine and Aviation Operations operate the vessel.



Line Drawing by Bob Hitz

## Design

• Designer: Harco Engineering

• Builder: Christy Corporation, Sturgeon Bay, WI

• Launched: December 19, 1964

• Delivered: November 5, 1965

• Commissioned: January 8, 1966

Hull Number: R444

• Call Letters: WTDK

• Home Port: San Diego, CA

• Length (LOA): 52.1 m (171 ft)

• Breadth (moulded): 11.2 m (36.6 ft.)

• Draft, Maximum: 3.8 m (12.5 ft.)

• Maximum Height Above Water: 22.9m (75 ft.)

• Hull: Welded steel

• Displacement: 993 tons

Gross Tonnage: 873

Net Tonnage: 262

## **Speed & Endurance**

• Cruising Speed: 10 knots

• Range: 7,500 nmi

Endurance: 30 days

• Endurance Constraint: Stability

#### David Starr Jorden

# **Complement**

Commissioned Officers: 4

• Licensed Engineers: 3

• Crew: 11

• Scientists: 15 (Max)

## **Food Service Seating Capacity**

• Mess Seating: 25

# **Berthing Capacity**

• Single Staterooms: 5

• Double Staterooms: 14

• Total Bunks: 33

#### **Medical Facilities**

 Emergency and first aid services are administered aboard the vessel by the Medical Officer, a certified Emergency Medical Technician (EMT), and assisted by two certified EMT crew members. On cruises of long duration in remote locations, a U.S. Public Health Service medical officer may be carried. Limited quantities of emergency medical supplies are carried aboard.

## **Special Features**

• Bow Observation Chamber

Helicopter Flight Deck
 By request only. Requires removal of Gantry
 and Net Reel

- Flying Bridge Observation Station Station includes canopy, GPS and bridge communications
- Deck space for two portable lab containers

### **Cranes and Booms**

• Telescoping Boom Crane

o Quantity: 1

Manufacturer: Alaska Marine

o Lifting Capacity: 11,838 lbs.

o Lifting Capacity (with boom extended): 3,750 lbs.

o Boom Length: 50 ft.

o Location: 01 Level, Frame 54, Centerline • Articulated Boom Crane

o Quantity: 1

o Manufacturer: Husky Marine

o Boom Length: 18 ft.

o Lifting Capacity: 4,650 lbs.

o Lifting Capacity (with boom extended): 1,800 lbs.

o Location: 01 Level, Frame 10, Port

#### Winches

- CTD Winch
  - o Manufacturer: Markey
  - o Model: DESH-5
  - o Drive: Electric AC-SCR/DC Motor, 75
  - O Line Speed: 100m/min. (max); 60m/min.
  - o Maximum Pull: 7,000 lbs mid-scope
  - o Drum Capacity: 6000m of .322 conductive cable
  - o Location: 01 Level, Frame 44, Port
- Hydrographic Winch
  - Manufacturer: Marco
  - o Model: W-1920
  - o Drive: Hydraulic
  - o Line Speed: 780 fpm
  - o Maximum Pull: 1,600 lbs.
  - O Drum Capacity: 2000m of ¼" 3-strand wire (non-conductive)
  - o Location: 01 Level, Frame 52, Starboard

- Combination Winch
  - o Manufacturer: Marco
  - o Model: W-1816
  - o Drive: Hydraulic
  - Trawl Drums
    - Quantity: 2 (1-Port & 1-Stbd)
    - Line Speed: 200 fpm
    - Maximum Pull: 12,000 lbs.
    - Drum Capacity: 3000m of 5/8" wire (non-conductive)
  - Center Drum
    - Line Speed: 160 fpm
    - Maximum Pull: 6,500 lbs.
    - Drum Capacity: 1000m of .322 conductive cable
    - Location: Winch Room
- Net Reel Winch
  - o Drive: Hydraulic
  - O Drum Width: 2.44m (96 in.) between flanges
  - o Drum Diameter: 1.25m (49.5 in.) at flange; 0.41m (16 in.) at hub
  - Location: Main Deck, Frame 70, Centerline (Removable)
- Choker Winch
  - o Maximum Pull: 6,000 lbs.
  - o Drum Capacity: 25 fm of 5/8" wire
  - Location: 01 Level, Frame 55, Centerline

#### A and J Frames

- Gantry (A-Frame)
  - o Quantity: 1
  - o Safe working load: 11,750 lbs
  - o Clearance over the side: 3.3m (11 ft.) outboard of the transom
  - O Horizontal Clearance: 4.1m (13.5 ft.) inside of the gantry
  - Vertical Clearance: 6.6m (21.5 ft.) in the vertical position; 5.9m (19.3 ft.) in the full back position
  - o Location: Main Deck, Aft, Centerline (Removable)

- J-Frame
  - o Quantity: 1
  - o Safe working load: 8,000 lbs
  - Clearance over the side: 3m (10 ft.) outboard of deck edge
  - o Location: Main Deck, Frame 50, Port
- Port Davit
  - o Quantity: 1
  - o Capacity: Light weight towed devices (less than 100 lbs.)
  - o Clearance over the side: 3.5m (11.5 ft.) outboard of deck edge
  - o Location: 01 Level, Frame 43, Port

### **Ground Tackle**

- Bower Anchor
  - Quantity: 2
  - o Type: Stockless
  - o Weight (each): 1,940 lbs

- Anchor Chain
  - o Quantity: 2
  - o Size and Type: 1 3/16 in. stud link
  - o Length (each): 105 fathoms

#### **Boats**

- Type: Sea Force 540 Solas O/B Rigid Hull Inflatable
  - o Size: 18 Feet
  - o Capacity: 6 person
  - o Manufacturer: Willard Marine, Inc. Anaheim, CA
  - o Engine: Mercury 75hp outboard

- Type: Zodiac Hurricane 590 Rigid Hull Inflatable
  - o Size: 18 Feet
  - Capacity: 11 person
  - o Manufacturer: Zodiac, Canada
  - Engines (2): Honda 50hp, 4 stroke outboards

# **Engineering**

#### General

- Cruising Speed: 10 knots
- Range: 7,500 nmi
- Power: 1,068 SHP
- Fuel Capacity: 50,000 gals

- Fuel Consumption: 50 gal/hr
- Fuel Type: #2 diesel
- Endurance: 30 days
- Endurance Constraint: Stability

## **Propulsion Plant**

• Type: Geared Diesel

• Main Engines

o Quantity: 2

o Type: Diesel

o Manufacturer: White-Superior

o Rated Power (each): 534 HP

Propellers

o Quantity: 2

o Size: 5.7 ft. diameter

o Blades: 3, controllable pitch

Manufacturer: Bird Johnson

Bow Thruster

o Type: Tunnel Thruster

o Manufacturer: Hundested

o Drive: Electric Motor

o Rated Power: 200 HP

# **Freshwater System**

Storage Capacity: 8,000 gal.

• Normal Consumption: 1,000 gal./day

Evaporator

o Quantity: 2

o Type: Jacket water heat generated

o Manufacturer: Riley-Beard Inc.

o Rated Capacity (each): 1,000 gal./day

## **Pollution Control**

• Sewage Waste Control

o Type: Electromechancial

Manufacturer: Ominpure

o Holding Capacity: 320 Gallons

• Oily Waste Control

o Type: Oily Water Separator

o Manufacturer: World Water System

o Holding Capacity: 30 days

## **Electrical System**

- Ship Service Generators
  - o Quantity: 2
  - o Type: Diesel
  - o Manufacturer: General Motors/Delco
  - o Rated Power (each): 200 kW
  - o Output Voltage: 450 VAC, 60 Hz, 3Ø
- Emergency Generator
  - Manufacturer: General Motors/Delco
  - o Rated Power: 30 kW
  - Output Voltage: 450 VAC, 60 Hz, 3Ø

- Electrical Service
  - o Ship Service
    - 450 VAC, 60 Hz, 3Ø
      - 220 VAC, 60 Hz, 1Ø
      - 120 VAC, 60 Hz, 1Ø
  - o Uninterruptible Power for Computer and Scientific Equipment
    - 120 VAC, 60 Hz, 1Ø

### **Communications**

- High Frequency SSB (SEA 330)
- Global Maritime Distress and Safety System (GMDSS)
- VHF Radios
- Cell phone

- INMARSAT-B
- INMARSAT Standard C
- INMARSAT Mini M
- E-mail (E-mail Address: Noaa.Ship.Jordan@noaa.gov)

#### Acoustics

- Echosounders
  - o Simrad EK500
  - Simrad ES 60
  - Simrad WQ 50
  - o Knudsen 320BR
  - o Skipper GDS 101

- ADCP
- ITI Trawl Monitoring System
- Wesmar HD Series E Sonar

# **Navigation**

- Trimble Echo XL
- Northstar 952X
- Radars
  - o Raytheon M34 ARPA 3cm X-band
  - o Raytheon Pathfinder 10cm S-band

- Gyro Compass
  - Sperry MK37 MOD-D
  - Yokogawa MKMO22