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U.S. DEPARTMENT OF COMMERCE
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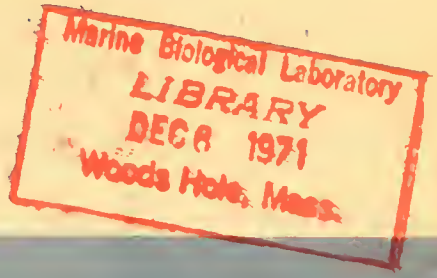
National Marine Fisheries Service



Research Vessels of the National Marine Fisheries Service

ROBERT S. WOLF

SEATTLE, WA.
August 1971

National Marine Fisheries Service, Circulars

The major responsibilities of the National Marine Fisheries Service (NMFS) are to monitor and assess the abundance and geographic distribution of fishery resources, to understand and predict fluctuations in the quantity and distribution of these resources, and to establish levels for optimum use of the resources. NMFS is also charged with the development and implementation of policies for managing national fishing grounds, development and enforcement of domestic fisheries regulations, surveillance of foreign fishing off United States coastal waters, and the development and enforcement of international fishery agreements and policies. NMFS also assists the fishing industry through marketing service and economic analysis programs, and mortgage insurance and vessel construction subsidies. It collects, analyses, and publishes statistics on various phases of the industry.

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315. Synopsis of biological data on the chum salmon, *Oncorhynchus keta* (Walbaum) 1792. By Richard G. Bakkala. March 1970, iii + 89 pp., 15 figs., 51 tables.

319. Bureau of Commercial Fisheries Great Lakes Fishery Laboratory, Ann Arbor, Michigan. By Bureau of Commercial Fisheries. March 1970, 8 pp., 7 figs.

330. EASTROPAC Atlas: Vols. 4, 2. Catalog No. I 49.4:330/(vol.) 11 vols. ($4.75 each). Available from the Superintendent of Documents, Washington, D.C. 20402.

331. Guidelines for the processing of hot-smoked chub. By H. L. Seagran, J. T. Graikoski, and J. A. Emerson. January 1970, iv + 23 pp., 8 figs., 2 tables.

332. Pacific hake. (12 articles by 20 authors.) March 1970, iii + 152 pp., 72 figs., 47 tables.

333. Recommended practices for vessel sanitation and fish handling. By Edgar W. Bowman and Alfred Larsen. March 1970, iv + 27 pp., 6 figs.

335. Progress report of the Bureau of Commercial Fisheries Center for Estuarine and Menhaden Research, Pesticide Field Station, Gulf Breeze, Fla., fiscal year 1969. By the Laboratory staff. August 1970, iii + 33 pp., 29 figs., 12 tables.

336. The northern fur seal. By Ralph C. Baker, Ford Wilke, and C. Howard Baltzo. April 1970, iii + 19 pp., 13 figs.

337. Program of Division of Economic Research, Bureau of Commerecial Fisheries, fiscal year 1969. By Division of Economic Research. April 1970, iii + 29 pp., 12 figs., 7 tables.

338. Bureau of Commercial Fisheries Biological Laboratory, Auke Bay, Alaska. By Bureau of Commercial Fisheries. June 1970, 8 pp., 6 figs.

339. Salmon research at Ice Harbor Dam. By Wesley J. Ebel. April 1970, 6 pp., 4 figs.

340. Bureau of Commercial Fisheries Technological Laboratory, Gloucester, Massachusetts. By Bureau of Commercial Fisheries. June 1970, 8 pp., 8 figs.

341. Report of the Bureau of Commercial Fisheries Biological Laboratory, Beaufort, N.C., for the fiscal year ending June 30, 1968. By the Laboratory staff. August 1970, iii + 24 pp., 11 figs., 16 tables.

342. Report of the Bureau of Commercial Fisheries Biological Laboratory, St. Petersburg Beach, Florida, fiscal year 1969. By the Laboratory staff. August 1970, iii + 22 pp., 20 figs., 8 tables.

343. Report of the Bureau of Commercial Fisheries Biological Laboratory, Galveston, Texas, fiscal year 1969. By the Laboratory staff. August 1970, iii + 39 pp., 28 figs., 9 tables.

344. Bureau of Commercial Fisheries Tropical Atlantic Biological Laboratory progress in research 1965-69, Miami, Florida. By Ann Weeks. October 1970, iv + 65 pp., 53 figs.

346. Sportsman's guide to handling, smoking, and preserving Great Lakes coho salmon. By Shearon Dudley, J. T. Graikoski, H. L. Seagran, and Paul M. Earl. September 1970, iii + 28 pp., 15 figs.

347. Synopsis of biological data on Pacific ocean perch, *Sebastodes alutus*. By Richard L. Major and Herbert H. Shippen. December 1970, iii + 38 pp., 31 figs., 11 tables.

Continued on inside back cover.

U.S. DEPARTMENT OF COMMERCE
Maurice H. Stans, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Robert M. White, Administrator
NATIONAL MARINE FISHERIES SERVICE
Philip M. Roedel, Director

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Research Vessels of the National Marine Fisheries Service

By

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ABSTRACT

The research fleet of the National Marine Fisheries Service (formerly the Bureau of Commercial Fisheries) of the National Oceanic and Atmospheric Administration, U.S. Department of Commerce, is described in detail by individual ship. The descriptions are accompanied by photographs. A brief text covering fleet activities and modernization precedes the vessel descriptions.

INTRODUCTION

The National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, operates a research fleet to provide its scientists and technicians with mobile platforms on which they may more closely approach, observe, sample, and study commercial and game fishes and associated plants and animals and to test methods for their capture and utilization. As a means to the service's end, these vessels average over half of their useful life in a working capacity, with the total annual fleet effort estimated at 3,500 sea days per year. Including vessel crews and associated administrative shore personnel, but not scientific staff, about 225 people are involved in operating the fleet at an annual cost of approximately $4 million (fiscal year 1969).

While this paper was being put together, the NMFS organization, program emphasis, and funding underwent significant changes. Corresponding modification of vessel management and utilization are not reflected in the paper. The 1969-vintage general account of the fleet and comprehensive descriptions and illustrations of individual vessels remain valid, however.

[1] Robert S. Wolf is serving as Chief, Exploratory Fishing, UNSF/FAO Caribbean Fisheries Development Project, Bridgetown, Barbados, West Indies, on leave from the National Marine Fisheries Service.

FLEET ACTIVITIES

Each vessel is assigned to a parent activity or group which is responsible for nearly all phases of its operation and maintenance. The parent group may be a Center, a Biological Laboratory, an Exploratory Fishing and Gear Research Base, or an associated Field Station.

Operations

The vessels operate primarily to serve the resarch program needs of the parent organization. The ships are generally fitted out in accordance with these needs. A few were actually designed and built specifically for that group. Vessel sea time is usually divided

among the various research programs of the group by its director or by a committee composed of representatives from the various programs. Often there is cooperative effort wherein a group not having control of a vessel may acquire sea time from a group which does; or two or more groups, each operating a vessel, may combine vessel effort on a work program of mutual interest.

Crew

Vessel crews are usually recruited locally from members of the fishing industry that the parent group serves. Where a particular vessel's mission is less of a direct fishing nature, consideration is given to ex-military or other individuals having seagoing experience. The crew size of each vessel is determined generally by the complexity of the vessel and by the work it does. Some small boats do not have a permanent crew but are operated by parent group shore personnel.

Crews, including licensed personnel of all major NMFS vessels and some lesser vessels, are members of and are represented by some kind of labor organization. These organizations include large maritime unions, fishermen's unions, and Federal Government employee unions. Some vessels have as many as three separate unions representing their crews.

Crew wages and some working conditions are negotiated. Wage rates are based on prevailing rates in the applicable portion of the maritime industry. Working hours and other conditions are based again on prevailing practices in the maritime industry. Wage rates and working conditions vary widely in the NMFS fleet, generally depending on locale and precedents in the pertinent maritime industry of that region.

Labor negotiations are conducted between representatives of NMFS management and vessel labor on a periodic basis, usually annually, as provided for in their basic work contract. During these negotiations, the vessel crew representatives may be supplemented or replaced by regular labor organization representatives. Management may be represented by personnel from the parent group, the appropriate Regional Office, and/or the Central Office (Washington, D.C.) staff. There is a current trend toward combined negotiations covering a number of vessels of more than one Region and guided by the Central Office staff.

Vessel Classification

The NMFS has found it convenient to classify its ships for purposes of labor negotiation. This is accomplished by means of a horsepower-tonnage (HPT) rating which is the sum of maximum brake horsepower plus gross tonnage. Classes are as follows:

Large Ship	Class A	1800 HPT and above
Medium Ship	Class B	1100-1799 HPT
Small Ship	Class C	400-1099 HPT
Large Boat	Class D	under 400 HPT

The research vessels and one large ship, *Pribilof*, which is operated as a supply vessel for the Pribilof Islands, are categorized in Table 1.

Shore Facilities

Depending upon its size and the size of its vessel, a parent group may have one or more persons employed in full-time vessel shore support. The vessels are usually berthed in the near vicinity of the operating group and have some warehousing or storage facilities nearby. Operating supplies are obtained through the General Services Administration, other military or civilian agencies of the Federal Government, or private suppliers. Normal maintenance is accomplished at the ship's berth by the ship's force but occasionally by contract labor. Shipyard overhaul is usually accomplished in commercial shipyards located within a reasonable distance of the parent group's location.

FLEET MODERNIZATION

In 1960, funds were appropriated for the design and construction of a vessel to replace *Albatross III* at the Woods Hole Biological Laboratory. This began a period of construction and conversion which, by the end of 1968, resulted in nine major vessels being added to the fleet (Table 2) at a cost of about $14.5 million. Some of these ships were replacements

Table 1.—National Marine Fisheries Service research vessel fleet: breakdown by region, name, home port, parent operating group, length, and class.

NMFS region and vessel name	Home port	Parent group	Length overall		Vessel class	
					HPT[1]	Class[2]
			Feet	*Meters*		
Northeast region						
Rorqual	Boothbay Harbor, Maine	Boothbay Harbor Biological Laboratory	65′	19.9	238	D
Phalarope II	Boothbay Harbor, Maine	Boothbay Harbor Biological Laboratory	40′6″	12.4	241	D
Albatross IV	Woods Hole, Mass.	Woods Hole Biological Laboratory	187′	57.1	1939	A
Blueback	Woods Hole, Mass.	Woods Hole Biological Laboratory	38′	11.6	177	D
Delaware II	Woods Hole, Mass.	Woods Hole Exploratory Fishing and Gear Research Base	155′6″	47.5	1482	B
Shang Wheeler	Milford, Conn.	Milford Biological Laboratory	50′10″	15.6	241	D
Dolphin	Highlands, N.J.	Sandy Hook Sport Fisheries Marine Laboratory	107′	32.6	1590	B
Challenger	Highlands, N.J.	Sandy Hook Sport Fisheries Marine Laboratory	65′	19.8	—	D
Martha E II	Highlands, N.J.	Sandy Hook Sport Fisheries Marine Laboratory	42′10½″	13.1	272	D
Alosa	Oxford, Md.	Oxford Biological Laboratory	48′6″	14.8	95	D
Southeast region						
Kingfish	St. Petersburg, Fla.	St. Petersburg Beach Biological Laboratory	43′	13.1	369	D
Point of Marsh - J-3486	Beaufort, N.C.	Center for Estuarine and Menhaden Research	42′4″	12.9	600	C
Rachel Carson	Panama City, Fla.	Eastern Gulf Sport Fisheries Marine Laboratory	43′	13.1	440	C
Oregon II	Pascagoula, Miss.	Pascagoula Exploratory Fishing and Gear Research Base	170′	51.9	2304	A
George M. Bowers	Pascagoula, Miss.	Pascagoula Exploratory Fishing and Gear Research Base	73′11″	22.7	321	D
Alaska						
Oregon	Kodiak, Alaska	Kodiak Marine Fisheries Center	100′	30.6	819	C
Murre II	Juneau, Alaska	Auke Bay Biological Laboratory	86′	26.3	293	D
Sablefish	Homer, Alaska	Auke Bay Biological Laboratory	38′	11.6	181	D
Northwest region						
John N. Cobb	Seattle, Wash.	Seattle Exploratory Fishing and Gear Research Base	93′5″	30.1	685	C
George B. Kelez	Seattle, Wash.	Seattle Biological Laboratory	177′6″	54.1	1450	B
Miller Freeman	Seattle, Wash.	Seattle Biological Laboratory	214′10″	65.7	3666	A

NMFS region and vessel name	Home port	Parent group	Length overall		Vessel class	
					HPT[1]	Class[2]
Northwest region—Cont.						
Pribilof	Seattle, Wash.	Marine Mammal Resources	222'10"	68.0	2587	A
Southwest region						
David Starr Jordan	San Diego, Calif.	Fishery-Oceanography Center, La Jolla	171'	52.2	1883	A
Charles H. Gilbert	Honolulu, Hawaii	Hawaii Area Fishery Research Center	122'11"	37.6	855	C
Townsend Cromwell	Honolulu, Hawaii	Hawaii Area Fishery Research Center	158'6"	48.4	1365	B

[1] HPT (horsepower-tonnage) are official NMFS figures.
[2] Class A — Large ship
Class B — Medium ship
Class C — Small ship
Class D — Large boat

Table 2.—Summary of National Marine Fisheries Service research fleet modernization since 1962.

Vessel	Year acquired	Vessel replaced
Albatross IV	1962	*Albatross III*[1]
Geronimo[2]	1963	----
George B. Kelez[3]	1963	----
Townsend Cromwell	1963	*Hugh M. Smith*[4]
Pribilof[5]	1964	*Penguin*
David Starr Jordan	1965	*Black Douglas*
Undaunted[6]	1965	----
Miller Freeman	1967	----
Oregon II	1967	----
Delaware II	1968	*Delaware*[7]

[1] Decommissioned and sold 1958.
[2] Converted from loaned Navy ATA. Returned to Navy 1968.
[3] Converted from surplus Navy AKL.
[4] Transferred to American Samoa 1963.
[5] On loan from Navy.
[6] Converted from loaned Navy ATA. Returned to Navy 1970.
[7] Decommissioned and sold 1969.

for overage and obsolete vessels, while others have provided entirely new seagoing capability for their parent groups. *Geronimo* and *Undaunted* were acquired on loan from the Navy, converted, and returned after NMFS no longer required them because of changes in program direction.

VESSEL DESCRIPTION

A questionnaire was prepared and sent to all parent groups operating a vessel or vessels. Descriptions based on the responses, as well as a photograph of each NMFS vessel, are presented in the following pages.

Table 3 gives additional technical data on the newer vessel hull forms.

Table 3.—Additional technical data on newer National Marine Fisheries Service vessel hull forms.

Data	*Albatross IV*	*Delaware II*	*Townsend Cromwell*	*David Starr Jordan*	*Miller Freeman*	*Oregon II*
Immersed volume (cu ft)	37,100	23,900	22,295	30,860	62,475	31,500
Immersed area amidships (sq ft)	383	292	--	351	550	330
Waterplane area (sq ft)	4,300	3,240	--	4,090	6,400	3,961
Wetted surface (sq ft)	6,635	4,800	4,860	5,780	9,500	5,750
Longitudinal prismatic coefficient	.58	.585	.566	.562	.565	.605
Midship section coefficient	.84	.835	--	.878	.805	.778
Waterline coefficient	.787	.771	--	.715	.762	.737
Vertical prismatic coefficient	.625	.633	--	--	.597	.639
Block coefficient	.488	.488	.496	.494	.455	.471
Froude number (at max. speed)	.02781	1.057	.36	.00902	.2945	0.192

RORQUAL

GENERAL DESCRIPTION:
- *Capabilities*—No laboratories — best suited for estuarine and coastal work offshore to 20 miles, water transparency, hydrographic casts, plankton and bottom sampling, trawling, scuba diving, dredging, and coring.
- *Hull style*—Round bottom — round stern
- *Number of masts*—1
- *Construction material*—Steel
- *Method of fabrication*—
- *Screw type*:
  - *Number of blades*—3
  - *Fixed pitch or CP*—Fixed
  - *Manufacture*—

STRUCTURAL PARAMETERS:
- *Length*:
  - *Length, overall (LOA)*—65′
  - *Length, waterline (LWL)*—
  - *Length, between perpendiculars (LBP)*—
- *Breadth*:
  - *Beam, molded*—
  - *Beam, extreme (including permanent projections)*—18′
- *Draft*:
  - *Maximum, loaded*—7′
  - *Mean*—
- *Depth (main deck to keel, amidships)*—2′
- *Minimum freeboard (loaded amidships)*—2′6″

TONNAGE:
- *Displacement (full load)*—
- *Gross*—78
- *Net*—

COMPLEMENT:
- *Officers*:
  - *Deck*—1 (Master)
  - *Engineer*—
- *Crew*:
  - *Fishermen*—
  - *Seamen*—
  - *Oilers*—
  - *Wipers*—
  - *Cooks*—1
  - *Messmen*—
  - *Radiomen*—
  - *Others*—
- *Scientific staff*—2 to 4
- *Other*—

OPERATING PARAMETERS:
- *Range (lineal miles of steaming)*—1,600
- *Calculated endurance (days)*—16
- *Performance (avg # days worked/year)*—220
- *Speed*:
  - *Cruising*—8 knots
  - *Flank*—9 knots
  - *Minimum possible (under steerageway)*—3 knots
- *Power*:
  - *Main engine rating*:
    - *Maximum BHP*—160
    - *Continuous BHP*—
    - *Manufacturer*—Superior
  - *Auxiliaries (number)*: 1
    - *Continuous BHP (each)*—165
    - *Power supplied (each, max kw)*—20
    - *Manufacturer*—Gray Marine
  - *Boiler (capacity and manufacturer)*—
- *Capacities*:
  - *Liquid (gal)*:
    - *Fresh water*—800
    - *Fuel*—2,400
    - *Lube oil*—45
    - *Ballast*—
    - *Other*—
  - *Space (ft^3)*:
    - *Hold*—
    - *Galley stores*:
      - *Dry*—500 lb.
      - *Chilled*—150 lb.
      - *Frozen*—100 lb.
    - *Laboratories*:
      - *Physical*—
      - *Chemical*—
      - *Biological*—
      - *Other*—
    - *Accommodations*—

PHALAROPE II

GENERAL DESCRIPTION:
Capabilities—No laboratories — best suited for bay and estuarine work, water transparency measurements, hydrographic casts, plankton and bottom sampling, trawling, scuba diving, dredging, and coring
Hull style—Stock model fishing hull
Number of masts—1
Construction material—Wood
Method of fabrication—
Screw type:
Number of blades—3
Fixed pitch or CP—Fixed
Manufacture—Columbian

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—40′6″
Length, waterline (LWL)—38′
Length, between perpendiculars (LBP)—40′6″
Breadth:
Beam, molded—12′6″
Beam, extreme (including permanent projections)—12′6″
Draft:
Maximum, loaded—
Mean—4′6″
Depth (main deck to keel, amidships)—2′
Minimum freeboard (loaded amidships)—3′

TONNAGE:
Displacement (full load)—
Gross—16
Net—15

ELECTRONICS:
Communications—
Underwater sounders:
Echo sounding—Bendix, 200 fm
Elac LAZ 17, 336 fm
Echo ranging—
Radar—RCA CR103
Radio direction finders—
Position indicators—Mackay loran
Other—

LIFESAVING EQUIPMENT:
Boats—1
Inflatable rafts—1 - 6-man
Other—

DECK MACHINERY:
Winches—2
Anchor windlass—
Booms—4
Cranes—
Reels—
Other—

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—
Cathodic protection—
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA: Biological Laboratory, Boothbay Harbor, Maine

HISTORY:
Design:
Name of designer—Luders
Year designed—1942
Construction:
Name of builder—Luders
Year completed—
Conversion:
Year converted (if applicable)—1961
Name of facility doing conversion—Rocky Neck Railways

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—
Roll period—
Comfort:
Decks wet—No
Hull pound—No
Motion easy—Yes

SPECIAL REMARKS:—

COMPLEMENT:
Officers:
Deck—1 (Master)
Engineer—
Crew:
Fishermen—
Seamen—
Oilers—
Wipers—
Cooks—
Messmen—
Radiomen—
Others—
Scientific staff—2 to 4
Other—
OPERATING PARAMETERS:
Range (lineal miles of steaming)—100
Calculated endurance (days)—1
Performance (avg # days worked/year)—154
Speed:
Cruising—8
Flank—9
Minimum possible (under steerageway)—2
Power:
Main engine rating:
Maximum BHP—225
Continuous BHP—165
Manufacturer—GM
Auxiliaries (number): 1
Continuous BHP (each)—2.5
Power supplied (each, max kw)—¾
Manufacturer—Onan
Boiler (capacity and manufacturer)—
Capacities:
Liquid (gal):
Fresh water—
Fuel—200
Lube oil—10
Ballast—
Other—
Spaee (ft^3):
Hold—96 ft^3
Galley stores:
Dry—
Chilled—
Frozen—
Laboratories:
Physical—
Chemical—
Biological—
Other—
Accommodations—
ELECTRONICS:
Communications—Apelco Model AE-56A radiotelephone
Underwater sounders:
Echo sounding—
Kelvin Hughes MS-29F-MK.9-Model 1, 480 fm.
Fathometer Cadet Model DE 112, 300 ft
Echo ranging—
Radar—Raytheon 1900
Radio direction finders—
Position indicators—
Other—
LIFESAVING EQUIPMENT:
Boats—1
Inflatable rafts—
Other—Life jackets
DECK MACHINERY:
Winches—2 - trawling and BT
Anchor windlass—
Booms—1
Cranes—
Reels—
Other—
SPECIAL FEATURES:
Bow positioner—
Freshwater makers—
Cathodic protection—
Underwater viewing ports or lighting—
Other—
OPERATING LABORATORY BASE, REGION, OR AREA: Biological Laboratory, Boothbay Harbor, Maine
HISTORY:
Design:
Name of designer—
Year designed—
Construction:
Name of builder—Newport Shipyard, Newport, R.I.
Year completed—1932
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—
SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—
Roll period—

Comfort:
Decks wet—No
Hull pound—No
Motion easy—Yes
SPECIAL REMARKS:—

ALBATROSS IV

GENERAL DESCRIPTION:
Capabilities—Fishing, oceanographic, biological research
Hull style—
Number of masts—1 foremast - tandem kingpost aft
Construction material—Steel
Method of fabrication—Welded plate
Screw type:
Number of blades—3
Fixed pitch or CP—CP
Manufacture—Lianen
STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—187′
Length, waterline (LWL)—173.75′
Length, between perpendiculars (LBP)—165′
Breadth:
Beam, molded—33′
Beam, extreme (including permanent projections)—
Draft:
Maximum, loaded—16′4″
Mean—13′9″
Depth (main deck to keel, amidships)—19′2½″ - molded
Minimum freeboard (loaded amidships)—4′10¾″ - "tropical"

TONNAGE:
Displacement (full load)—1,088.50 (summer freeboard)
Gross—939
Net—300-260.76 deadweight
COMPLEMENT:
Officers:
Deck—3
Engineer—3
Crew:
Fishermen—8
Seamen—
Oilers—1 oiler-wiper
Wipers—
Cooks—1
Messmen—
Radiomen—
Others—2 (1 steward, 1 electronic technician)
Scientific staff—10 to 13
Other—
OPERATING PARAMETERS:
Range (lineal miles of steaming)—9,000
Calculated endurance (days)—14
Performance (avg = days worked/year)—210+
Speed:
Cruising—11.5 knots
Flank—12 knots
Minimum possible (under steerageway)—3 knots
Power:
Main engine rating:
Maximum BHP—1,000
Continuous BHP—
Manufacturer—Caterpillar
Auxiliaries (number): 3
Continuous BHP (each)—211
Power supplied (each, max kw)—150 kw
Manufacturer—Caterpillar
Boiler (capacity and manufacturer)—2 boilers
Capacities:
Liquid (gal):
Fresh water—80.92 tons
Fuel—166.30 tons
Lube oil—4.04 tons
Ballast—32 tons - permanent
Other—
Space (ft^3):
Hold—None
Galley stores:

Dry—
Chilled—
Frozen—
Laboratories: 10,855 cu ft (6 laboratories)
Physical—
Chemical—1
Biological—
Other—1 each rough, dry, wet, hydro, darkroom
Accommodations—

ELECTRONICS:
Communications—
RCA Model P7A transceiver
Westrex SSB transceiver
RCA Model AR-8516 receiver
Underwater sounders:
Echo sounding—2 Edo UQNIC, Elac LAZ 22 BT, Elac flasher
Echo ranging—Simrad Model 480-10
Radar—RCA Model CR 103 (3 c.m.), RCA Model CRM (10 c.m.)
Radio direction finders—RCA AR-8714A RDF
Position indicators—RCA Model LR 8803 loran
Other—Alden P.G.R. recorder, RCA closed circuit TV network, Sperry gyrocompass, magnetic compass, 12 repeaters, 4 Bendix barometers, Aerovane anemometer

LIFESAVING EQUIPMENT:
Boats—20-ft standard lifeboat
Inflatable rafts—3 Elliott, 3 U.S. Rubber
Other—

DECK MACHINERY:
Winches—2 trawl winches, 2 hydrographic winches, 2 BT winches, 1 dredge winch
Anchor windlass—Hyde windlass
Booms—1 - 5-ton, 2 - 1-ton
Cranes—None
Reels—None
Other—

SPECIAL FEATURES:
Bow positioner—1 - 150 hp
Freshwater makers—2 maxim evaps
Cathodic protection—Anodes (bow, rolling chocks, sea chests, wheel aperture, stern)
Underwater viewing ports or lighting—None
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA: Biological Laboratory, Woods Hole, Mass.

HISTORY:
Design:
Name of designer—Dwight S. Simpson Associates
Year designed—1960
Construction:
Name of builder—Southern Shipbuilding Corp., Slidell, La.
Year completed—1962
Conversion:
Year converted (if applicable)—N/A
Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—Depends on type sea
Roll period—13 to 15 sec
Comfort:
Decks wet—Aft - moderate heavy sea
Hull pound—In heavy seas (have to reduce speed to eliminate)
Motion easy—No - rolls heavily, very uncomfortable

SPECIAL REMARKS:—Stability requirements USCG: (1) water tanks must be pressed up at all times (using evaporators) and (2) anti-roll tanks #1 and #2 blocked off USCG req.

BLUEBACK

GENERAL DESCRIPTION:
Capabilities—Limited inshore operations
Hull style—Displacement
Number of masts—1

Construction material—Wood
Method of fabrication—Conventional carvel planked over oak frames
Screw type:
Number of blades—3
Fixed pitch or CP—Fixed
Manufacture—

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—38′
Length, waterline (LWL)—36′10″
Length, between perpendiculars (LBP)—36′8″
Breadth:
Beam, molded—9′6″
Beam, extreme (including permanent projections)—10′3″
Draft:
Maximum, loaded—5′
Mean—4′4″
Depth (main deck to keel, amidships)—2′
Minimum freeboard (loaded amidships)—2′9″

TONNAGE:
Displacement (full load)—19 (approx)
Gross—Thames rule tonnage - 12½
Net—

COMPLEMENT: Vessel operated by aquarium personnel
Officers:
Deck—
Engineer—
Crew:
Fishermen—
Seamen—
Oilers—
Wipers—
Cooks—
Messmen—
Radiomen—
Others—
Scientific staff—
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)—200 nautical miles
Calculated endurance (days)—1
Performance (avg # days worked/year)—50
Speed:
Cruising—9½ knots
Flank—13 knots
Minimum possible (under steerageway)—3 knots
Power:
Main engine rating:
Maximum BHP—165
Continuous BHP—130
Manufacturer—General Motors
Auxiliaries (number): None
Continuous BHP (each)—
Power supplied (each, max kw)—
Manufacturer—
Boiler (capacity and manufacturer)—
Capacities:
Liquid (gal):
Fresh water—100
Fuel—160
Lube oil—
Ballast—
Other—
Space (ft³): Not applicable
Hold—
Galley stores:
Dry—
Chilled—
Frozen—
Laboratories:
Physical—
Chemical—
Biological—
Other—
Accommodations—

ELECTRONICS:
Communications—Apelco AE 42A radiotelephone transceiver, 2000-6000 kc
Underwater sounders:
Echo sounding—Elac LAZ 13A/13
Echo ranging—
Radar—None
Radio direction finders—None
Position indicators—None
Other—

LIFESAVING EQUIPMENT:
Boats—
Inflatable rafts—
Other—Life vests, USCG approved

DECK MACHINERY:
Winches—Hancock double-drum trawl winch, 100-fm (each drum) 5/16″ wire
Anchor windlass—
Booms—1
Cranes—

Reels—
Other—

SPECIAL FEATURES:—None
Bow positioner—
Freshwater makers—
Cathodic protection—
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA: Biological Laboratory, Woods Hole, Mass.

HISTORY:
Design—Standard Coast Guard 38′ picket boat
Name of designer—
Year designed—
Construction:
Name of builder—
Year completed—
Conversion:
Year converted (if applicable)—1959
Name of facility doing conversion—Stonington-Deer Island Yacht Basin, Stonington, Maine

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—
Roll period—
Comfort:
Decks wet—Yes
Hull pound—No
Motion easy—No

SPECIAL REMARKS:—None

DELAWARE II

GENERAL DESCRIPTION:
Capabilities—Trawling, dredging, longlining, gillnetting, purse seining
Hull style—Stern trawler
Number of masts—2 sets kingposts
Construction material—Steel
Method of fabrication—Welded
Screw type:
Number of blades—4
Fixed pitch or CP—Fixed
Manufacture—Columbian, 96×50

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—155′6″
Length, waterline (LWL)—140′
Length, between perpendiculars (LBP)—132′
Breadth:
Beam, molded—30′
Beam, extreme (including permanent projections)—30′5″
Draft:
Maximum, loaded—14′6″
Mean—11′
Depth (main deck to keel, amidships)—19′6″
Minimum freeboard (loaded amidships)—8′

TONNAGE:
Displacement (full load)—720
Gross—483
Net—231

COMPLEMENT:
Officers:
Deck—2
Engineer—3
Crew:
Fishermen—6
Seamen—
Oilers—
Wipers—
Cooks—1
Messmen—1
Radiomen—
Others—
Scientific staff—8
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)—8,000
Calculated endurance (days)—30
Performance (avg # days worked/year)—220 (est)
Speed:
Cruising—12.2

Flank—12.5
Minimum possible (under steerageway)—1

Power:
Main engine rating:
Maximum BHP—1,025
Continuous BHP—1,000
Manufacturer—General Motors
Auxiliaries (number): 2 S.S. generators (also trawl winch engine and emergency generator unit)
Continuous BHP (each)—280
Power supplied (each, max kw)—150
Manufacturer—General Motors - Delco
Boiler (capacity and manufacturer)—200 gal, Way-Wolff

Capacities:
Liquid (gal):
fresh water—7,000
fuel—42,000
lube oil—600
ballast—34,000+
other—
Space (ft^3):
hold—1,800 ft^3 (fish hold)
galley stores:
Dry—500 ft^3
Chilled—140
Frozen—75
Laboratories:
Physical—Not applicable
Chemical—Not applicable
Biological—1,500
Other—400 (electronics)
Accommodations—4,800

ELECTRONICS:
Communications—
SSB transceiver, RF Communications, SB 6FC
AM transceiver, Apelco, AE 160M, "High Seas"
Underwater sounders:
Echo sounding:
Simrad ES2C "Skipper" whiteline, 0-300 fm
Simrad EA3A whiteline, 0-860 fm
Echo ranging—
Simrad Sonar, SK3
Simrad Sonar Scope, SK2
Simrad Scientific Sounder, EK30B
Radar—Kelvin-Hughes 14/12 & Decca RM326
Radio direction finders—Bendix Model ADF100
Position indicators—2 RCA 8803 loran receivers
Other—Sperry autopilot with magnetic compass

LIFESAVING EQUIPMENT:
Boats—12′ Coast Guard approved rescue boat
Inflatable rafts—2 U.S. Rubber 20-man and 2 Elliott 15-man
Other—Normal USCG requirements

DECK MACHINERY:
Winches—Trawl winch hydraulic driven from separate engine, capacity 2,000 fm 3/4″ wire
Anchor windlass—
Booms—5-ton power operated remote control net handling, 2 each 1-ton stores handling, boat handling
Cranes—
Reels—
Other—Hydraulic powered deck capstans and gypsy heads

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—AMF Aquafresh HJ-50, 200 gal/hr capacity
Cathodic protection—No
Underwater viewing ports or lighting—16″×16″ underwater port, starboard-side forward
Other—Stern trawler retrieves trawl along complete length of main deck

OPERATING LABORATORY, BASE, REGION, OR AREA: Exploratory Fishing and Gear Research Base, Woods Hole, Mass.

HISTORY:
Design:
Name of designer—George G. Sharp, Inc., New York
Year designed—1963
Construction:
Name of builder—South Portland Engineering Company
Year completed—1968
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:
Performance:

Pitch period—
Roll period—11 sec
Comfort:
Decks wet—No
Hull pound—Some
Motion easy—Yes

SPECIAL REMARKS:—Vessel designed and built as stern trawler. Net is drawn up inclined stern ramp along main deck through deckhouse penetration to forward located trawl winch.

SHANG WHEELER

GENERAL DESCRIPTION:
Capabilities—Fishing, oceanographic, biological research
Hull style—Dragger type
Number of masts—1
Construction material—Wood
Method of fabrication—Normal construction (wood)
Screw type:
Number of blades—3
Fixed pitch or CP—Fixed pitch, 34″×34″
Manufacture—Columbia Propeller Company

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—50′10″
Length, waterline (LWL)—47′6″
Length, between perpendiculars (LBP)—50′10″
Breadth:
Beam, molded—Unknown
Beam, extreme (including permanent projections)—14′9″
Draft:
Maximum, loaded—5′3″
Mean—4′9″
Depth (main deck to keel, amidships)—7′
Minimum freeboard (loaded amidships)—2′

TONNAGE:
Displacement (full load)—Unknown
Gross—40.61 tons
Net—33 tons

COMPLEMENT:
Officers:
Deck—
Engineer—1
Crew:
Fishermen—
Seamen—
Oilers—
Wipers—
Cooks—
Messmen—
Radiomen—
Others—1 (summer deckhand)
Scientific staff—As required for each trip
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)— 700
Calculated endurance (days)—8
Performance (avg # days worked/year)—75
Speed:
Cruising—9 knots
Flank—10½ knots
Minimum possible (under steerageway)—2 knots
Power:
Main engine rating—
Maximum BHP—200 hp at 2,000 rpm
Continuous BHP—200 hp at 2,000 rpm
Manufacturer—General Motors diesel
Auxiliaries (number): None
Continuous BHP (each)—
Power supplied (each, max kw)—
Manufacturer—
Boiler (capacity and manufacturer)—None
Capacities:
Liquid (gal):
Fresh water—150
Fuel—450
Lube oil—20
Ballast—None
Other—None
Space (ft³):

Hold—None
Galley stores: None
Dry—
Chilled—
Frozen—
Laboratories:
Physical—
Chemical—
Biological—10′×15′
Other—
Accommodations—Sleeps 6

ELECTRONICS:
Communications—Pierce-Simpson 150-Watt ship-to-shore radio
Underwater sounders:
Echo sounding—Raytheon DE-119A, 240 ft
Echo ranging—None
Radar—None
Radio direction finders—None
Position indicators—None
Other—None

LIFESAVING EQUIPMENT:
Boats—1 - 14′
Inflatable rafts—None
Other—1 raft, 20-person capacity

DECK MACHINERY:
Winches—2 - 300′ of ⅜″ wire capacity
Anchor windlass—None
Booms—1
Cranes—None
Reels—None
Other—None

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—
Cathodic protection—
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Biological Laboratory, Milford, Conn.

HISTORY:
Design: Dragger Type Hull
Name of designer—Winthrop L. Warner, Middletown, Conn.
Year designed—1950
Construction—Wood
Name of builder—West Haven Shipyard, Inc.
Year completed—1951
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:
Performance: N/A (operated on Long Island Sound only)
Pitch period—
Roll period—
Comfort:
Decks wet—Yes (when rough)
Hull pound—No
Motion easy—Fair

SPECIAL REMARKS:—

DOLPHIN

GENERAL DESCRIPTION:
Capabilities—
Hull style—Army tug (L.T. 1959)
Number of masts—2
Construction material—steel
Method of fabrication—welded
Screw type:
Number of blades—4
Fixed pitch or CP—Fixed
Manufacture—

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—107′
Length, waterline (LWL)—96′3″
Length, between perpendiculars (LBP)—100′3″
Breadth:
Beam, molded—26′6″
Beam, extreme (including permanent projections)—27′10″
Draft:
Maximum, loaded—14′10″

Mean—D.W.L. - 10′9″
Depth (main deck to keel, amidships)—Molded base line to top of sheer strake 14′10″
Minimum freeboard (loaded amidships)—4′1″

TONNAGE:
Displacement (full load)—390 tons
Gross—
Net—

COMPLEMENT:
Officers:
Deck—2
Engineer—2
Crew:
Fishermen—4
Seamen—
Oilers—
Wipers—
Cooks—1
Messmen—
Radiomen—
Others—
Scientific staff—7 (max)
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)—6,000 n.m.
Calculated endurance (days)—15
Performance (avg # days worked/year)—120
Speed:
Cruising—11 nm/hr
Flank—12 nm/hr
Minimum possible (under steerageway)—5
Power:
Main engine rating:
Maximum BHP—1,200
Continuous BHP—1,200
Manufacturer—Fairbanks Morse
Auxiliaries (number): 2 (371 G.M.)
Continuous BHP (each)—61 hp
Power supplied (each, max kw)—40 kw 120 v DC
Manufacturer—Delco
Boiler (capacity and manufacturer)—Crane 15 lb. steam side
30 lb. water side
Capacities:
Liquid (gal):
Fresh water—5,800
Fuel—19,808
Lube oil—427
Ballast—3,061 forward peak tank; 5,860 after peak tank
Other—
Space (ft^3):
Hold—None
Galley stores:
Dry—3 lockers (72, 46.5, 56)
Chilled—2 chillers (17, 14)
Frozen—2 freezers (18, 4.5)
Laboratories: 67 ft^2
Physical—
Chemical—
Biological—
Other—
Accommodations—

ELECTRONICS:
Communications—1 - 150 W Apelco
Underwater sounders:
Echo sounding—1 - Simrad
Echo ranging—
Radar—1 - R.C.A. (1 to 40 mile range)
Radio direction finders—
Position indicators—2 - Loran A (DX Navigator)
Other—2 station intercom

LIFESAVING EQUIPMENT:
Boats—1 - (16 man) steel lifeboat
Inflatable rafts—1 - (16 man) survival type
Other—2 - (8 man) cork life rafts
8 - cork life rings

DECK MACHINERY:
Winches—1 New England trawl winch with 2 independent reels, 2 BT winches, 1 hydraulic winch, 1 boom winch, power block (gill net or purse seine)
Anchor windlass—1
Booms—1
Cranes—
Reels—
Other—1 longline winch

SPECIAL FEATURES:
Bow positioner—
Fresh water makers—
Cathodic protection—
Underwater viewing ports or lighting—
Other—Active rudder (electric)

OPERATING LABORATORY, BASE, REGION, OR AREA:—Sandy Hook Sport Fisheries Marine Laboratory, Highlands, N.J.

HISTORY:
Design: No. 3006, Hull 418, Boat 1959

Name of designer—(Design agent) M. Rosenblatt & Son
Year designed—Approved 6/9/52, New York City
Construction:
Name of builder—Avondale Marine Ways, Westwego, La.
Year completed—June 1953
Conversion:
Year converted (if applicable)—August 1964
Name of facility doing conversion—Wilmington Shipyard, Wilmington, N.C., Norlantic Shipyard, Fairhaven, Mass. (1967 - addition of raised bow).

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—1
Roll period—1
Comfort:
Decks wet—
Hull pound—
Motion easy—

SPECIAL REMARKS:—

CHALLENGER

GENERAL DESCRIPTION:
Capabilities:
Hull style—Displacement
Number of masts—2
Construction material—Wood
Method of fabrication—Bolted beams, nailed sheathing
Screw type:
Number of blades—3
Fixed pitch or CP—35″
Manufacture—

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—65′
Length, waterline (LWL)—
Length, between perpendiculars (LBP)—
Breadth:
Beam, molded—
Beam, extreme (including permanent projections)—16′
Draft:
Maximum, loaded—7½′
Mean—
Depth (main deck to keel, amidships)—2′
Minimum freeboard (loaded amidships)—4′

TONNAGE:
Displacement (full load)—
Gross—
Net—

COMPLEMENT:
Officers:
Deck—1 (Master)
Engineer—
Crew:
Fishermen—
Seamen—
Oilers—
Wipers—
Cooks—1 (deckhand)
Messmen—
Radiomen—
Others—
Scientific staff—5
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)—500
Calculated endurance (days)—3
Performance (avg # days worked/year)—158
Speed:
Cruising—9
Flank—9
Minimum possible (under steerageway)—2
Power:
Main engine rating:
Maximum BHP—225 hp
Continuous BHP—180 hp
Manufacturer—GM 671
Auxiliaries (number): 1
Continuous BHP (each)—150
Power supplied (each, max kw)—30

Manufacturer—Continental
Boiler (capacity and manufacturer)—
Capacities:
Liquid (gal):
Fresh water—320
Fuel—950
Lube oil—
Ballast—
Other—
Space (ft^3):
Hold—1,056
Galley stores:
Dry—
Chilled—22
Frozen—6
Laboratories:
Physical—
Chemical—
Biological—1
Other—7 bunks
Accommodations—

ELECTRONICS:
Communications—Simpson 85W
Underwater sounders:
Echo sounding—Simrad
Echo ranging—
Radar—Decca 101
Radio direction finders—
Position indicators—Nelco Autofix 500 loran A&C direct readout
Other—

LIFESAVING EQUIPMENT:
Boats—
Inflatable rafts—
Other— 1 - 8-man life raft
15 - life jackets

DECK MACHINERY:
Winches—
Anchor windlass—Electric
Booms—1 boom fwd.
Cranes—
Reels—
Other—1 - A frame aft with hydraulic winch

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—
Cathodic protection—
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Sandy Hook Sport Fisheries Marine Laboratory, Highlands, N.J.

HISTORY:
Design:
Name of designer—
Year designed—
Construction—wood
Name of builder—
Year completed—
Conversion:
Year converted (if applicable)—1961
Name of facility doing conversion—Sandy Hook Marine Laboratory

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—
Roll period—
Comfort:
Decks wet—No
Hull pound—No
Motion easy—Yes - 28′ rolling chocks

SPECIAL REMARKS:—This vessel is very seaworthy, handles very well, is very versatile — can go to sea and also work all inlets, is a very good diving boat being equipped with electric compressor and cascade air filling for scuba tanks, also has flying bridge with controls for handling when men are in water, and has hot and cold showers for divers.

MARTHA E II

GENERAL DESCRIPTION:
Capabilities—
Hull style—Round bottom, ditch keel
Number of masts—1
Construction material—White cedar tongue

and groove strips
Method of fabrication—Everdur fasteners and glue
Screw type:
Number of blades—4
Fixed pitch or CP—Fixed, 21×20
Manufacture—

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—42′ 10½″
Length, waterline (LWL)—36′10½″
Length, between perpendiculars (LBP)—
Breadth:
Beam, molded—11′
Beam, extreme (including permanent projections)—11′
Draft:
Maximum, loaded—3′
Mean—
Depth (main deck to keel, amidships)—
Minimum freeboard (loaded amidships)—

TONNAGE:
Displacement (full load)—
Gross—12
Net—8

COMPLEMENT:
Officers:
Deck—1 (Master)
Engineer—
Crew:
Fishermen—
Seamen—
Oilers—
Wipers—
Cooks—
Messmen—
Radiomen—
Other—
Scientific staff—Up to 4
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)—200
Calculated endurance (days)—
Performance (avg # days worked/year)—140
Speed:
Cruising—16 knots
Flank—18 knots
Minimum possible (under steerageway)—
Power:
Main engine rating—2 - 130 hp diesels
Maximum BHP—125
Continuous BHP—100
Manufacturer—GM 453
Auxiliaries (number):
Continuous BHP (each)—
Power supplied (each, max kw)—
Manufacturer—
Boiler (capacity and manufacturer)—
Capacities:
Liquid (gal):
Fresh water—35
Fuel—130 (2 - 65 gal each)
Lube oil—30 qt
Ballast—
Other—
Space (ft³):
Hold—
Galley stores:
Dry—10
Chilled—3
Frozen—
Laboratories:
Physical—
Chemical—
Biological—
Other—
Accommodations—2 bunks

ELECTRONICS:
Communications—Apelco radio - ship-to-shore
Underwater sounders:
Echo sounding—Bendix depth recorder, Simrad whiteline
Echo ranging—
Radar—
Radio direction finders—
Position indicators—Loran A ENA6 Uniton Com 100
Other—

LIFESAVING EQUIPMENT:
Boats—
Inflatable rafts—1
Other—8 life preservers

DECK MACHINERY:
Winches—1 - hydraulic boom
Anchor windlass—1
Booms—1
Cranes—
Reels—1
Other—

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—

Cathodic protection—
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Sandy Hook Sport Fisheries Marine Laboratory, Highlands, N.J.

HISTORY:
Design:
Name of designer—
Year designed—
Construction:
Name of builder—Bay Shore Marine
Year completed—
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—
Roll period—
Comfort:
Decks wet—
Hull pound—
Motion easy—

SPECIAL REMARKS:—Stability markedly improved under power.

ALOSA

GENERAL DESCRIPTION:
Capabilities—
Hull style—Trawler
Number of masts—1
Construction material—Wood
Method of fabrication—
Screw type:
Number of blades—3
Fixed pitch or CP—Fixed
Manufacture—Michigan

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—48′6″
Length, waterline (LWL)—44′4″
Length, between perpendiculars (LBP)—47′6″
Breadth:
Beam, molded—15′10″
Beam, extreme (including permanent projections)—16′3″
Draft:
Maximum, loaded—
Mean—5′4″
Depth (main deck to keel, amidships)—5′8″
Minimum freeboard (loaded amidships)—3′8″

TONNAGE:
Displacement (full load)—20
Gross—19.75
Net—15.5

COMPLEMENT:
Officers:
Deck—1 (Master)
Engineer—
Crew:
Fishermen—
Seamen—
Oilers—
Wipers—
Cooks—
Messmen—
Radiomen—
Others—
Scientific staff—2 to 4
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)—2,240
Calculated endurance (days)—12
Performance (avg # days worked/year)—24
Speed:
Cruising—8
Flank—9
Minimum possible (under steerageway)—4
Power:
Main engine rating:
Maximum BHP—75
Continuous BHP—
Manufacturer—Caterpillar
Auxiliaries (number):

Continuous BHP (each)—
Power supplied (each, max kw)—
Manufacturer—
Boiler (capacity and manufacturer)—
Capacities:
Liquid (gal):
Fresh water—120
Fuel—560
Lube oil—10
Ballast—3,000 lb.
Other—
Spact (ft^3):
Hold—800
Galley stores:
Dry—20
Chilled—5
Frozen—
Laboratories:
Physical—
Chemical—
Biological—
Other—
Accommodations—355

ELECTRONICS:
Communications—Raytheon Ray 41
Underwater sounders:
Echo sounding—Raytheon, 120 ft
Echo ranging—
Radar—
Radio direction finders—
Position indicators—
Other—

LIFESAVING EQUIPMENT:
Boats—1
Inflatable rafts—
Other—12 life jackets

DECK MACHINERY:
Winches—1
Anchor windlass—
Booms—
Cranes—
Reels—
Other—

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—
Cathodic protection—
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Biological Laboratory, Oxford, Md.

HISTORY:
Design: Shrimp trawler
Name of designer—Sarris
Year designed—
Construction:
Name of builder—Sarris Bros.
Year completed—1939
Conversion:
Year converted (if applicable)—1957
Name of facility doing conversion—Rogers Boat Yard

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—
Roll period—
Comfort:
Decks wet—No
Hull pound—No
Motion easy—Yes

SPECIAL REMARKS:—

KINGFISH

GENERAL DESCRIPTION:
Capabilities—General coastal oceanographic sampling, benthic dredging, gill net fishing, 2nd limited trawling
Hull style—VEE, planning cruiser
Number of masts—1, for navigation lights only
Construction material—Mahogany
Method of fabrication—Bottom double, sides batten
Screw type:
Number of blades—3
Fixed pitch or CP—Fixed, 21″×21″ RH + LH

Manufacture—General Propeller Company

STRUCTURAL PARAMETERS:

Length:

Length, overall (LOA)—43′

Length, waterline (LWL)—40′

Length, between perpendiculars (LBP)—10′

Breadth:

Beam, molded—13′

Beam, extreme (including permanent projections)—12′4″

Draft:

Maximum, loaded—4′

Mean—3′6″

Depth (main deck to keel, amidships)—2′

Minimum freeboard (loaded amidships)—40″

TONNAGE:

Displacement (full load)—Unknown

Gross—19 tons

Net—10 tons

COMPLEMENT:

Officers:

Deck—1 (Master)

Engineer—

Crew:

Fishermen—

Seamen—

Oilers—

Wipers—

Cooks—

Messmen—

Radiomen—

Others—

Scientific staff—Up to 4

Other—

OPERATING PARAMETERS:

Range (lineal miles of steaming)—300 miles

Calculated endurance (Days)—1½ days constant running; 5 days provisions and water

Performance (avg. # days worked/year)—100 days

Speed:

Cruising—18 knots

Flank—23 knots

Minimum possible (under steerageway)—3 knots

Power—Twin 4.71 Diesel (GM)

Main engine rating:

Maximum BHP—175 each

Continuous BHP—175 each

Manufacturer—General Motors

Auxiliaries (number): 1 Lister, 3 kw

Continuous BHP (each)—10 hp

Power supplied (each, max kw)—3 kw

Manufacturer—Lister, England

Boiler (capacity and manufacturer)—None

Capacities:

Liquid (gal): 440 gal

Fresh water—35 gal

Fuel—392 gal

Lube oil—13 gal

Ballast—None

Other—None

Space (ft^3):

Hold—None

Galley stores: 12 ft^3 - 2×3×2 ft

Dry—None

Chilled—4 ft^3 - 2×2×1 ft

Frozen—4 ft^3 - 2×2×1 ft

Laboratories: No fixed laboratory spaces. Approximately 100 cubic feet of interior space available for limited laboratory work

Physical—

Chemical—

Biological—

Other—

Accommodations—1 crew; 4 scientific

ELECTRONICS:

Communications—Raytheon Marine radio telephone Model No. 1130

Underwater sounders—Benmar echo sounder Model No. DR 28

Echo sounding—0-360 fm

Echo ranging—None

Radar—1 Deca-Mar radar Model No. 101

Radio direction finders—None

Position indicators—None

Other—

LIFESAVING EQUIPMENT:

Boats—None

Inflatable rafts—None

Other—Styrofoam 6 capacity

DECK MACHINERY:

Winches—None

Anchor windlass—Electric

Booms—Davit only

Cranes—None

Reels—Davit reel—manual

Other—Hydraulic power block (gill net), davit mounted

SPECIAL FEATURES:
Bow positioner—None
Freshwater makers—None
Cathodic protection—None
Underwater viewing ports or lighting—None
Other—None

OPERATING LABORATORY, BASE, REGION, OR AREA:—NMFS Biological Laboratory St. Petersburg Beach, Florida Southeast Region

HISTORY:
Design:
Name of designer—Cris-Craft
Year designed—1953
Construction:
Name of builder—Cris-Craft
Year completed—1953
Conversion:
Year converted (if applicable)—Not applicable
Name of facility doing conversion—Not applicable

SEAKEEPING CHARACTERISTICS:
Performance: Limited seakeeping characteristics
Pitch period—Unknown
Roll period—Unknown
Comfort:
Decks wet—No
Hull pound—Yes
Motion easy—Fair

SPECIAL REMARKS:—Limited to coastal and estuarine operations, restricted accommodations

POINT OF MARSH - J-3486

GENERAL DESCRIPTION:
Capabilities—Trawling, sampling, etc.
Hull style—Patrol
Number of masts—1
Construction material—Wood
Method of fabrication—
Screw type:
Number of blades—3
Fixed pitch or CP—Fixed
Manufacture—Unknown

STRUCTURAL PARAMETERS:
Length: 42′4″
Length, overall (LOA)—
Length, waterline (LWL)—
Length, between perpendiculars (LBP)—
Breadth: 11′8½″
Beam, molded—
Beam, extreme (including permanent projections)—
Draft: 2′9″
Maximum, loaded—
Mean—
Depth (main deck to keel, amidships)—
Minimum freeboard (loaded amidships)—

TONNAGE:
Displacement (full load)—Unknown
Gross—
Net—

COMPLEMENT: N/A
Officers:
Deck—
Engineer—
Crew:
Fishermen—
Seamen—
Oilers—
Wipers—
Cooks—
Messmen—
Radiomen—
Others—
Scientific staff—
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)—11 hr
Calculated endurance (days)—
Performance (avg ≠ days worked/year)—
Speed:
Cruising—16 knots
Flank—
Minimum possible (under steerageway)—

Power:
Main engine rating (Dual): 300 hp each
Maximum BHP—
Continuous BHP—
Manufacturer—Cummins
Auxiliaries (number):
Continuous BHP (each)—
Power supplied (each, max kw)—
Manufacturer—
Boiler (capacity and manufacturer)—
Capacities:
Liquid (gal)—
Fresh water—
Fuel—210 gal
Lube oil—
Ballast—
Other—
Space (ft^3):
Hold—
Galley stores—
Dry—
Chilled—
Frozen—
Laboratories:
Physical—
Chemical—
Biological—
Other—
Accommodations—

ELECTRONICS:
Communications—Marine and CB
Underwater sounders:
Echo sounding—
Echo ranging—
Radar—
Radio direction finders—
Position indicators—
Other—

LIFESAVING EQUIPMENT:
Boats—
Inflatable rafts—1 - 4-man
Other—

DECK MACHINERY:
Winches—
Anchor windlass—
Booms—
Cranes—
Reels—
Other—

SPECIAL FEATURES:
Bow positioner—
Fresh water makers—
Cathodic protection—
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Center for Estuarine and Menhaden Research, Beaufort, N.C.

HISTORY:
Design:
Name of designer—
Year designed—
Construction:
Name of builder—
Year completed—
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—
Roll period—
Comfort:
Decks wet—
Hull pound—
Motion easy—

SPECIAL REMARKS:—

RACHEL CARSON

GENERAL DESCRIPTION:
Capabilities—Sports fishing, trolling, hand lines, hand trawling, scuba diving, plankton net towing.
Hull style—Curved stem, rectangular transom
Number of masts—
Construction material—Wood
Method of fabrication—Carvel planked

Screw type:
Number of blades—4
Fixed pitch or CP—Single fixed
Manufacture—Columbian

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—43′
Length, waterline (LWL)—
Length, between perpendiculars (LBP)—
Breadth:
Beam, molded—
Beam, extreme (including permanent projections)—15′5″
Draft:
Maximum, loaded—42″
Mean—
Depth (main deck to keel, amidships)—4′
Minimum freeboard (loaded amidships)—

TONNAGE:
Displacement (full load)—
Gross—
Net—16

COMPLEMENT:
Offieers:
Deck—1 (Master)
Engineer—
Crew:
Fishermen—
Seamen—
Oilers—
Wipers—
Cooks—
Messmen—
Radiomen—
Others—
Scientific staff—
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)—200 maximum
Calculated endurance (days)—
Performanee (avg # days worked/year)—
Speed:
Cruising—12 knots
Flank—16 knots
Minimum possible (under steerageway)—1 knot
Power—2 - 6V53N (210 hp each)
Main engine rating—2:1 rpm
Maximum BHP—
Continuous BHP—
Manufacturer—
Auxiliaries (number):
Continuous BHP (each)—
Power supplied (each, max kw)—
Manufacturer—
Boiler (capacity and manufacturer)—

Capacities:
Liquid (gal):
Fresh water—80
Fuel—300
Lube oil—
Ballast—
Other—
Space—Deck house 9′×10′, self bailing cockpit, deck 10′×14′
Hold—
Galley stores:
Dry—
Chilled—
Frozen—
Laboratories:
Physical—
Chemical—
Biological—
Other—
Accommodations—

ELECTRONICS:
Communications—130 Watt Konel radio telephone, 2-3 mHz
Underwater sounders:
Echo sounding—Simrad recorder 420 ft
Echo ranging—
Radar—
Radio direction finders—
Position indicators—Konel Loran "A"
Other—Metal Marine autopilot

LIFESAVING EQUIPMENT:
Boats—
Inflatable rafts—
Other—As per USCG regulations

DECK MACHINERY:
Winches—
Anchor windlass—
Booms—
Cranes—
Reels—
Other—

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—
Cathodic protection—
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Eastern Gulf Sport Fisheries Marine Laboratory, Panama City, Fla.

HISTORY:

Design:

Name of designer—Julian Guthrie, Davis, N.C.

Year designed—? (prior to 1967)

Construction:

Name of builder—Julian Guthrie, Davis, N.C.

Year completed:

Conversion:

Year converted (if applicable)—

Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:

Performance:

Pitch period—

Roll period—

Comfort:

Decks wet—No

Hull pound—No

Motion easy—Yes - rather quick in short chop

SPECIAL REMARKS:—This vessel was constructed as a "Day Boat" to be used for a day-long sports fishing boat and to return to dock each night. She has two berths and a good deal of open deck space. Under extreme conditions she could make a 4- or 5-day cruise.

OREGON II

GENERAL DESCRIPTION:

Capabilities—Fishing, oceanographic, biological research, etc.

Hull style—North Atlantic trawler

Number of masts—1 forward - 2 kingposts aft

Construction material—Steel hull - aluminum house

Method of fabrication—Welded - short arc

Screw type:

Number of blades—4

Fixed pitch or CP—CP

Manufacture—KA ME WA

STRUCTURAL PARAMETERS:

Length:

Length, overall (LOA)—170′

Length, waterline (LWL)—158′

Length, between perpendiculars (LBP)—152′

Breadth:

Beam, molded—34′

Beam, extreme (including permanent projections)—

Draft:

Maximum, loaded—14.95′ mean (moulded)

Mean—12½′ (designed)

Depth (main deck to keel, amidships)—18′3″

Minimum freeboard (loaded amidships)—5′6″

TONNAGE:

Displacement (full load)—1,013 (long tons)

Gross—703.70

Net—228

COMPLEMENT:

Officers:

Deck—3

Engineer—3

Crew:

Fishermen—6

Seamen—

Oilers—

Wipers—

Cooks—1

Messmen—1

Radiomen—

Others—

Scientific staff—11

Other—

OPERATING PARAMETERS:

Range (lineal miles of steaming)—10,700

Calculated endurance (days)—60

Performance (avg # days worked/year)—250 (est)

Speed:

Cruising—13.5

Flank—14.5
Minimum possible (under steerageway)—0.5 to 1.0

Power:
Main engine rating:
Maximum BHP—1,600
Continuous BHP—1,440 (90%)
Manufacturer—Fairbanks-Morse
Auxiliaries (number): 2
Continuous BHP (each)—320
Power supplied (each, max kw)—220
Manufacturer—Fairbanks-Morse
Boiler (capacity and manufacturer)—Way Wolf - 400,000 BTU's

Capacities:
Liquid (gal):
Fresh water—8,000
Fuel—80,900
Lube oil—1,500
Ballast—79.2 LT
Other—
Space (ft^3):
Hold—4 (freezer) - 3,500 total
Galley stores:
Dry—1,078
Chilled—187
Frozen—374
Laboratories:
Physical—1,925 (wet)
Chemical—1,470 (hydro and chemical)
Biological—2,135
Other—
Accommodations—25 men (11 double cabins, 3 single cabins)

ELECTRONICS:
Communications—RCA, SSB, P23A, 1,000 W PEP
Underwater sounders:
Echo sounding—Simrad, Skipper, 600 fm
Echo ranging—Elac LAZ 17 Atair, 560 fm
Radar—Decca RM, RM-326
Radio direction finders—Bendix ADF 100G
Position indicators—Sperry Model 2, Mark I, ENAC-AC with cycle matching
Other—Elac Super Lodar-0-2200 fm

LIFESAVING EQUIPMENT:
Boats—1 - 12-man
Inflatable rafts—4 - 15-man Switlik
Other—

DECK MACHINERY:
Winches—MARCO - all-hydraulic
Anchor windlass—Ideal
Booms—2 swinging, hydraulic
Cranes—
Reels—
Other—

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—2 AMF (maxim)
Cathodic protection—Sacrificial zinc anodes
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Exploratory Fishing and Gear Research Base, Pascagoula, Miss.

HISTORY:
Design:
Name of designer—Robert H. Macy
Year designed—1965
Construction:
Name of builder—Ingalls Shipbuilding Corp.
Year completed—1967
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—4 -6 sec
Roll period—8 - 10 sec
Comfort:
Decks wet—No
Hull pound—No
Motion easy—Extremely so

SPECIAL REMARKS:—

GEORGE M. BOWERS

GENERAL DESCRIPTION:
Capabilities—Fishing, oceanographic, biological research, etc.
Hull style—Shrimp trawler
Number of masts—1
Construction material—Wood
Method of fabrication—Transverse framing, carvel planked
Screw type:
Number of blades—3
Fixed pitch or CP—CP
Manufacture—Hunested
STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—73′10½″
Length, waterline (LWL)—66′6″
Length, between perpendiculars (LBP)—64′2″
Breadth:
Beam, molded—20′
Beam, extreme (including permanent projections)—
Draft:
Maximum, loaded—8′
Mean—6′6″
Depth (main deck to keel, amidships)—9′4″
Minimum freeboard (loaded amidships)—2′
TONNAGE:
Displacement (full load)—125 LT (est)
Gross—91.3
Net—76
COMPLEMENT:
Officers:
Deck—1
Engineer—1
Crew:
Fishermen—1
Seamen—
Oilers—
Wipers—
Cooks—1
Messmen—
Radiomen—
Others—
Scientific staff—6
Other—
OPERATING PARAMETERS:
Range (lineal miles of steaming)—2,000
Calculated endurance (days)—10
Performance (avg # days worked/year)—160
Speed:
Cruising—9
Flank—10
Minimum possible (under steerageway)—1 to 2
Power:
Main engine rating:
Maximum BHP—230
Continuous BHP—200
Manufacturer—GM
Auxiliaries (number): 2
Continuous BHP (each)—
Power supplied (each, max kw)—20 to 30 kw
Manufacturer—GM
Boiler (capacity and manufacturer)—
Capacities:
Liquid (gal):
Fresh water—2,000
Fuel—2,400
Lube oil—125
Ballast—
Other—
Space (ft³):
Hold—
Galley stores:
Dry—
Chilled—30
Frozen—20
Laboratories:
Physical—
Chemical—
Biological—
Other—General utility lab - 637
Accommodations—
ELECTRONICS:
Communications—RCA, SSB-5-125W
RCA, AM-8012-75W
Underwater sounders:
Echo sounding—Elac, 6B-0-560 fm
Echo ranging—Elac LAZ 17 Atair, 0-560 fm
Radar—RCA
Radio direction finders—
Position indicators—RCA, 8803
Other—
LIFESAVING EQUIPMENT:
Boats—1
Inflatable rafts—2 - 10-man Aircruisers
Other—
DECK MACHINERY:
Winches—Northern Line, parallel shaft
Anchor windlass—Northern Line

Booms—1
Cranes—
Reels—
Other—

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—
Cathodic protection—Sacrificial zincs
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Exploratory Fishing and Gear Research Base, Pascagoula, Miss.

HISTORY:
Design:
Name of designer—Unknown
Year designed—Unknown
Construction:
Name of builder—Steamway Corp.
Year completed—1955
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—

SEAKEEPING CHARACTERS:
Performance:
Pitch period—3 to 4 sec (est)
Roll period—6 sec (est)
Comfort:
Decks wet—Yes
Hull pound—Yes
Motion easy—No

SPECIAL REMARKS:—

OREGON

GENERAL DESCRIPTION:
Capabilities—Exploratory fishing, shrimp, swordfish, tuna, scallops, clams, etc., gillnetting, trolling, longlining, trawling, including midwater
Hull style—Raised deck tuna clipper, full molded hull design, round bottom with bilgekeels
Number of masts—1
Construction material—Steel plate on 4″×3″×5/16″ angle frames, 22″ centers
Method of fabrication—Welded on transverse frames
Screw type:—Right hand
Number of blades—3
Fixed pitch or CP—68″ diameter 38″ pitch
Manufacture—Columbian

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—100′
Length, waterline (LWL)—95′6″
Length, between perpendiculars (LBP)—91′8″
Breadth:
Beam, molded—26′
Beam, extreme (including permanent projections)—26′8″
Draft:
Maximum, loaded—14′
Mean—10′
Depth (main deck to keel, amidships)—13′6″
Minimum freeboard (loaded amidships)—3′

TONNAGE:
Displacement (full load)—410 long tons
Gross—219 tons
Net—158 tons

COMPLEMENT:
Officers:
Deck—2
Engineer—3
Crew:
Fishermen—4
Seamen—
Oilers—
Wipers—
Cooks—1
Messmen—
Radiomen—
Others—
Scientific staff—4
Other—5

OPERATING PARAMETERS:

Range (lineal miles of steaming)—4,800
Calculated endurance (days)—30
Performance (avg=days worked year)—200
Speed:
Cruising—9 knots
Flank—10 knots
Minimum possible (under steerageway)—2 knots
Power:
Main engine rating—600 SHP at 400 rpm
Maximum BHP—
Continuous BHP—
Manufacturer—Enterprise Engine Company DMG-36
Auxiliaries (number)—2
Continuous BHP (each)—148 HSP
Power supplied (each, max kw)—85 kw
Manufacturer—Caterpillar D-32b
Boiler (capacity and manufacturer)—None
Capacities:
Liquid (gal): 29,200 total
Fresh water—12,000
Fuel—16,000
Lube oil—1,200
Ballast—
Other—
Space (ft³):
Hold—
Galley stores:
Dry—
Chilled—
Frozen—
Laboratories:
Physical—1
Chemical—
Biological—
Other—
Accommodations—

ELECTRONICS:
Communications—RMCA 8050 HF, 85 watt - RMCA SSB - Johnson Messenger - CB 7-11-22 - Halicraft receiver, SX43, 0-30 MG
Underwater sounders:
Echo sounding—Ross Fineline 200A, 0-200 fm - Atlas Fishfinder, 0-500 fm - Electroacoustic LAZ-17, 0-560 fm - EDO #185, 0-6000 fm
Echo ranging—
Radar—Decca D202, 0-24 miles
Radio direction finders—DX Navigator, A/C
Position indicators—RCA LR-8803, direct reading
Other—

LIFESAVING EQUIPMENT:
Boats—16' Boston Whaler and 13' Boston Whaler
Inflatable rafts—Air cruiser - 15-man and Elliott - 10-man
Other—4 life rings with lights, 30 life jackets

DECK MACHINERY:
Winches—Rowe Model 16-C
Anchor windlass—Northern Anchor, Model 2030, type 1W
Booms—1 main boom
Cranes—None
Reels—None
Other—Small boom starboardside amidships

SPECIAL FEATURES:
Bow positioner—None
Freshwater makers—None
Cathodic protection—Sacrificial zinc anodes
Underwater viewing ports or lighting—None
Other—None

OPERATING LABORATORY, BASE, REGION, OR AREA:—Marine Fisheries Center, Kodiak, Alaska

HISTORY:
Design:
Name of designer—H. C. Hanson
Year designed—1946
Construction:
Name of builder—Astoria Marine Construction Company
Year completed—1946
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—Depending on sea conditions, usually 0 to 5 sec
Roll period—
Comfort:
Decks wet—Yes
Hull pound—Depending on height of sea
Motion easy—Somewhat

SPECIAL REMARKS:—One of a class of 100' steel seiners built after the war by the Federal Government. Group included vessels *California*, *Oregon*, *Washington*, and *Alaska*. *Alaska* is presently

owned and operated as a fishery research vessel by the California Department of Fish and Game.

MURRE II

GENERAL DESCRIPTION:
- *Capabilities*—Fishing, oceanographic, biological research, freight hauling
- *Hull style*—Power barge
- *Number of masts*—1
- *Construction material*—Wood
- *Method of fabrication*—Timbered construction
- *Screw type*:
  - *Number of blades*—3
  - *Fixed pitch or CP*—No
  - *Manufacture*—Coolidge

STRUCTURAL PARAMETERS:
- *Length*:
  - *Length, overall (LOA)*—86′
  - *Length, waterline (LWL)*—77′
  - *Length, between perpendiculars (LBP)*—73′
- *Breadth*:
  - *Beam, molded*—26′8″
  - *Beam, extreme (including permanent projections)*—27′2″
- *Draft*:
  - *Maximum, loaded*—7′6″
  - *Mean*—6′6″, 7′6″ aft, 3′6″ forward
- *Depth* (main deck to keel, amidships)—9′
- *Minimum freeboard (loaded amidships)*—30″

TONNAGE:
- *Displacement (full load)*—295
- *Gross*—189
- *Net*—95

COMPLEMENT:
- *Officers*:
  - *Deck*—1
  - *Engineer*—1
- *Crew*:
  - *Fishermen*—
  - *Seamen*—
  - *Oilers*—
  - *Wipers*—
  - *Cooks*—1 (temporary basis)
  - *Messmen*—
  - *Radiomen*—
  - *Others*—
- *Scientific staff*—2 to 6
- *Other*—

OPERATING PARAMETERS:
- *Range (lineal miles of steaming)*—2,500 (nautical miles)
- *Calculated endurance (days)*—15 to 25
- *Performance (avg # days worked/year)*—200
- *Speed*:
  - *Cruising*—8 knots
  - *Flank*—8.2 knots
  - *Minimum possible (under steerageway)*—2 knots
- *Power*:
  - *Main engine rating*: Twin D 13,000
    - *Maximum BHP*—115
    - *Continuous BHP*—104
    - *Manufacturer*—Caterpillar
  - *Auxiliaries (number)*: 2
    - *Continuous BHP (each)*—45 hp and 63 hp
    - *Power supplied (each, max kw)*—20 kw and 30 kw
    - *Manufacturer*—GM
  - *Boiler (capacity and manufacturer)*—
- *Capacities*:
  - *Liquid (gal)*:
    - *Fresh water*—2,000
    - *Fuel*—5,000
    - *Lube oil*—500
    - *Ballast*—
    - *Other*—100 (gasoline)
  - *Space (ft^3)*:
    - *Hold*—2,600
    - *Galley stores*:
      - *Dry*—380
      - *Chilled*—
      - *Frozen*—13

Laboratories:
Physical—
Chemical—600
Biological—1,400
Other—
Accommodations—1,930

ELECTRONICS:
Communications—Northern transmitter-receiver (WZ 2003), 250 watt
Underwater sounders:
Echo sounding—Kelvin Hughes MS 29F, MK 3, wet paper, 480 fm
Raytheon flasher type, DE 116, 110 fm
Echo ranging—
Radar—2 Raytheon Pathfinder, Model 1500
Radio direction finders—Heathkit MR-21A
Position indicators—
Other—

LIFESAVING EQUIPMENT:
Boats—14′ Boston Whaler outboard
Inflatable rafts—2 Switlik 4-man self-inflated
Other—Lighted ring buoys, life jackets, etc.

DECK MACHINERY:
Winches—Marco Co. hydraulic trawl & cargo, 550 m, 3/8″ galvanized - New England Trawler Co. electric hydrographic, 1,000 m, 5/32″ stainless - Markey hydraulic deck winch, 800 m, 1/32″ stainless
Anchor windlass—Rowe Machine, 7/8″ cable, 100 fm
Booms—Cargo and trawling, hydraulic topping gear by Braden and Apex boom cargo winch
Cranes—
Reels—
Other—Braden hydraulic boom vanging winches

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—
Cathodic protection—Zinc plates on rudders
Underwater viewing ports or lighting—
Other—Large open deck for carrying quantities of scientific gear or freight

OPERATING LABORATORY, BASE, REGION, OR AREA:—Biological Laboratory, Auke Bay, Alaska

HISTORY:
Design: Built for U.S. Army to carry supplies to Aleutian Islands in WW II. Military designation (BPS)
Name of designer—
Year designed—
Construction:
Name of builder—Maritime Shipyards, Seattle, Wash.
Year completed—1943
Conversion:
Year converted (if applicable) —
Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—Unavailable
Roll period—Unavailable
Comfort:
Decks wet—Cargo deck wet in light sea
Hull pound—In moderate sea
Motion easy—Snap roll

SPECIAL REMARKS:—Vessel is used only in relatively calm inside waters of southeastern Alaska.

SABLEFISH

GENERAL DESCRIPTION:
Capabilities—
Hull style—Seine type
Number of masts—1
Construction material—Wood
Method of fabrication—
Screw type:
Number of blades—3
Fixed pitch or CP—Fixed
Manufacture—Coolidge

STRUCTURAL PARAMETERS:
Length:

Length, overall (LOA)—38′
Length, waterline (LWL)—
Length, between perpendiculars (LBP)—
Breadth:
Beam, molded—12′
Beam, extreme (including permanent projections)—
Draft:
Maximum, loaded—
Mean—4.5′
Depth (main deck to keel, amidships)—
Minimum freeboard (loaded amidships)—

TONNAGE:
Displacement (full load)—
Gross—16
Net—

COMPLEMENT:
Officers:
Deck—1 (Master)
Engineer—
Crew:
Fishermen—
Seamen—
Oilers—
Wipers—
Cooks—
Messmen—
Radiomen—
Others—
Scientific staff—2
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)—600
Calculated endurance (days)—
Performance (avg = days worked/year)—
Speed:
Cruising—8 knots
Flank—9 knots
Minimum possible (under steerageway)—
Power:
Main engine rating:
Maximum BHP—165
Continuous BHP—
Manufacturer—GM
Auxiliaries (number):
Continuous BHP (each)—
Power supplied (each, max kw)—
Manufacturer—
Boiler (capacity and manufacturer)—
Capacities:
Liquid (gal):
Fresh water—150
Fuel—600
Lube oil—
Ballast—1,600 lb. cement, aft
Other—
Space (ft^3):
Hold—
Galley stores:
Dry—
Chilled—
Frozen—
Laboratories:
Physical—
Chemical—
Biological—
Other—
Accommodations—

ELECTRONICS:
Communications—Northern Radio, 50 watts
Underwater sounders—
Echo sounding:
Bendix depth recorder, Model Dr 7A, 100 fm, 32v, DC, SN 039
Ross depth recorder, Model 100 100 fm, 12 v, DC, SN 2080
Echo ranging—
Radar—
Radio direction finders—
Position indicators—
Other—

LIFESAVING EQUIPMENT:
Boats—
Inflatable rafts—Elliott 6-man liferaft
Other—

DECK MACHINERY:
Winches—1
Anchor windlass—1
Booms—1
Cranes—
Reels—
Other—

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—
Cathodic protection—
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Biological Laboratory, Auke Bay, Alaska. Vessel operates in the Kenai Peninsula area. Home port: Homer, Alaska.

HISTORY:

Design:
Name of designer—
Year designed—
Construction:
Name of builder—Grandy Boat Co., Seattle, Wash.
Year completed—1949
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—
SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—
Roll period—
Comfort:
Decks wet—
Hull pound—
Motion easy—
SPECIAL REMARKS:—

JOHN N. COBB

GENERAL DESCRIPTION:
Capabilities—Exploratory fishing and gear research
Hull style—West coast purse-seiner type
Number of masts—1
Construction material—Wood
Method of fabrication—Sawed frames
Screw type:
Number of blades—3
Fixed pitch or CP—Fixed pitch
Manufacture—Contractor furnished
STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—93′5¼″
Length, waterline (LWL)—85′0″
Length, between perpendiculars (LBP)—82′6″
Breadth:
Beam, molded—24′6″
Beam, extreme (including permanent projections)—25′6¾″
Draft:
Maximum, loaded—12′ (approx)
Mean—8′6″
Depth (main deck to keel, amidships)—12′7″
Minimum freeboard (loaded amidships)—32″
TONNAGE:
Displacement (full load)—250 tons
Gross—185 tons
Net—78 tons
COMPLEMENT:
Officers:
Deck—2
Engineer—2
Crew:
Fishermen—2
Seamen—
Oilers—
Wipers—
Cooks—1
Messmen—
Radiomen—
Others—
Scientific staff—1 to 4
Other—Space for 2 extra
OPERATING PARAMETERS:
Range (lineal miles of steaming)—4,800
Calculated endurance (days)—21 days (fuel consumption: 20 gal/hr + 20 gal/day)
Performance (avg # days worked/year)—210
Speed:
Cruising—9 knots
Flank—10½ knots
Minimum possible (under steerageway)—5 knots
Power:
Main engine rating—Diesel, 8 cylinder, 2 cycle
Maximum BHP—500 BHP at 540 rpm
Continuous BHP—345 BHP at 375 rpm
Manufacturer—Fairbanks Morse
Auxiliaries (number)—2 diesel, 3 cylinder, 4 cycle
Continuous BHP (each)—45 BHP at

1,200 rpm
Power supplied (each, max kw)—30 kw
Manufacturer—GMC
Boiler (capacity and manufacturer)—85 gal - American Arcoliner
Capacities:
Liquid (gal):
Fresh water—6,000 gal
Fuel—11,200 gal
Lube oil—150 gal
Ballast—None
Other—None
Space (ft^3):
Hold—3,400 ft^3 (incl. two 0° F freezers of 160 ft^3 each)
Galley stores:
Dry—80 ft^3 (approx)
Chilled—20 ft^3, 34° F locker
Frozen—20 ft^3, 10° F locker + one or both freezers in hold
Laboratories: Laboratory space in corner of hold, approximately 850 ft^3
Physical—
Chemical—
Biological—
Other—
Accommodations—Not available

ELECTRONICS:
Communications—
Northern transmitter, Model A, 150 watt, type N388
Northern transmitter, Model C, 250 watt, type N507-E
National receiver NC, Model HRO-50T and NC-2-40D
Underwater sounders:
Echo sounding—
2 Bendix D.R. 6A, SN001, 400-fm range
Simrad Special 510-5, 1-100-fm range
Echo ranging—Simrad, Model 510-5, 1-650-yard range
Radar—1 Sperry-Mark O, ranges 1, 2, 6, 15, or 30 miles
Radio direction finders—Loran: Sperry-Mark II, Model 1
Other—Net telemetry system, warp load indicator, Triton fish counting echo sounder

LIFESAVING EQUIPMENT:
Boats—14' B+B utility outboard (10 hp) 16' Western Fairliner inboard (115 hp gas)
Inflatable rafts—15-man Navships, 15-man U.S. Rubber
Other—Coast Guard approved life preservers and 3 life rings with lights

DECK MACHINERY:
Winches—Trawl, West Coast type, hydraulic, 2 drum, capacity 1,000 fm of ½" cable drum
Anchor windlass—Dual (chain and cable), hydraulic, cap.: chain side 105 fm ¾" chain, cable side 125 fm ⅞" cable
Booms—Electric 1½ ton and hydraulic 3 ton boom winches
Cranes—None
Reels—Net reel for trawls
Other—Electric BT winch, Cap. 600 fm 3/32" wire, hydraulic oceanographic winch, cap. 2,000 m 3/16" wire

SPECIAL FEATURES:
Bow positioner—None
Fresh water makers—None
Cathodic protection—Zincs
Underwater viewing ports or lighting—None
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Exploratory Fishing and Gear Research Base, Seattle, Wash.

HISTORY:
Design:
Name of designer—W. C. Nickum and Sons, Seattle, Wash.
Year designed—1949
Construction:
Name of builder—Western Boat Building Co., Tacoma, Wash.
Year completed—1950
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—Not available
Roll period—6 sec
Comfort:
Decks wet—Entirely
Hull pound—Yes
Motion easy—No, fast

SPECIAL REMARKS:—The vessel bears the name of a distinguished leader in the field of fisheries research and knowledge — John N. Cobb. He was the

founder and first dean of the School of Fisheries at the University of Washington, as well as having had an outstanding record in the fisheries industry and with the Bureau of Fisheries.

Approximately 270 miles off the coast of Washington there is a sea mount that was discovered by this vessel in August 1950. This subsurface peak now bears the name Cobb Seamount on U.S. Coast and Geodetic Survey navigation charts.

GEORGE B. KELEZ

GENERAL DESCRIPTION:
- *Capabilities*—
- *Hull style*—Converted Navy AKL (Army FS)
- *Number of masts*—2
- *Construction material*—Steel
- *Method of fabrication*—Welded
- *Screw type*:
  - *Number of blades*—4 bronze
  - *Fixed pitch or CP*—Fixed, diameter 6′0″, pitch 6.531′
  - *Manufacture*—Sturgeon Bay Shipbuilding & Drydock Co.

STRUCTURAL PARAMETERS:
- *Length*:
  - *Length, overall (LOA)*—176′6″
  - *Length, waterline (LWL)*—
  - *Length, between perpendiculars (LBP)*—164′11″
- *Breadth*:
  - *Beam, molded*—32′0″
  - *Beam, extreme (including permanent projections)*—32′
- *Draft*:
  - *Maximum, loaded*—8′2″ forward, 11′8″ aft
  - *Mean*—9′11″
- *Depth (main deck to keel, amidships)*—14′3″ molded at
- *Minimum freeboard (loaded amidships)*—4′3⅞″

TONNAGE:
- *Displacement (full load)*—936
- *Gross*—550
- *Net*—262

COMPLEMENT:
- *Officers*:
  - *Deck*—3
  - *Engineer*—3
- *Crew*:
  - *Fishermen*—5
  - *Seamen*—
  - *Oilers*—
  - *Wipers*—
  - *Cooks*—1
  - *Messmen*—1
  - *Radiomen*—
  - *Others*—1 (electrician)
- *Scientific staff*—6
- *Other*—

OPERATING PARAMETERS:
- *Range (lineal miles of steaming)*—7,300
- *Calculated endurance (days)*—30
- *Performance (avg # days worked/year)*—270
- *Speed*:
  - *Cruising*—10.5 knots
  - *Flank*—13.25 knots
  - *Minimum possible (under steerageway)*—
- *Power*:
  - *Main engine rating*:
    - *Maximum BHP*—900
    - *Continuous BHP*—900
    - *Manufacturer*—GM 6-278A
  - *Auxiliaries (number)*: 2 (1 GMC 4-71, 50 kw, AC - new, being installed)
    - *Continuous BHP (each)*—147
    - *Power supplied (each, max kw)*—100 kw
    - *Manufacturer*—GM 3-268A
  - *Boiler (capacity and manufacturer)*—25 lb. - unknown
- *Capacities*:
  - *Liquid (gal)*:

Fresh water—24,220
Fuel—28,333
Lube oil—1,000
Ballast—4,875
Other—

Space (ft³):
Hold—#1 dry, 4,000 ft³ - #1 reefer, 6,000 ft³
Galley stores:
Dry—Relocating and remodeling
Chilled—1,275 ft³
Frozen—1,019 ft³
Laboratories:
Physical—
Chemical—
Biological—
Other—
Accommodations—

ELECTRONICS:
Communications—
1 NW3 radiotelephone
1 Northern Model D
1 Apelco AE-50M radiotelephone
Underwater sounders:
Echo sounding—Edo/UGN Model 185
Echo ranging—Kelvin Hughes Ceres Fishmaster MS29
Radar—Decca Model 326 - Bendix MR4
Radio direction finders—2 Raytheon Model 358 ADF
Position indicators—
2 Sperry direct-reading loran
1 D-X Navigator Loran C
Other—

LIFESAVING EQUIPMENT:
Boats—
Inflatable rafts—2 Switlik, 15-person each
Other—1 inboard powered "bartender" utility boat (24′)
Other—

DECK MACHINERY:
Winches—Bissett-Berman (Howard Turner Mfg.), Pacific Fisherman, Inc., Spencer Aircraft (Seattle)
Anchor windlass—Superior Iron Works, Superior, Wis.
Booms—None
Cranes—1 hydraulic, 5-ton (est.), custom fabricated
Reels—
Other—Hydraulic net block

SPECIAL FEATURES:
Bow positioner—None
Freshwater makers—None
Cathodic protection—
Underwater viewing ports or lighting—None
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Biological Laboratory, Seattle, Wash.

HISTORY:
Design:
Name of designer—Sturgeon Bay Shipbuilding & Drydock Co. with Nickum & Sons, Seattle, Consultants
Year designed—1944
Construction:
Name of builder—
Year completed—1944
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—No records available
Roll period—No records available
Comfort:
Decks wet—Minimum
Hull pound—Minimum
Motion easy—Excellent

SPECIAL REMARKS:—Excellent seagoing characteristics

MILLER FREEMAN

GENERAL DESCRIPTION:
Capabilities—Fishing (incl. midwater trawling, bottom trawling, plankton trawling, gill net fishing, longline for salm-

on); also oceanography
Hull style—Stern trawler
Number of masts—2 signal masts
Construction material—Steel
Method of fabrication—Welded
Screw type: Bronze
Number of blades: 3
Fixed pitch or CP—Variable pitch
Manufacture—Bird Johnson Co., Walpole, Mass. (KA-ME-WA)

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—214′10⅜″
Length, waterline (LWL)—200′
Length, between perpendiculars (LBP)—192′
Breadth:
Beam, molded—42′
Beam, extreme (including permanent projections)—42′7″
Draft:
Maximum, loaded—18′3″
Mean—16′2″
Depth (main deck to keel, amidships)—25′11¾″
Minimum freeboard (loaded amidships)—8′9¾″

TONNAGE:
Displacement (full load)—1,782 tons
Gross—1,515.78 tons
Net—680 tons

COMPLEMENT:
Officers:
Deck—4
Engineer—4
Crew:
Fishermen—7
Seamen—
Oilers—1
Wipers—2
Cooks—1 steward, 1 cook
Messmen—2
Radiomen—1
Others—1 (electrician)
Scientific staff—9
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)—16,000
Calculated endurance (days)—46
Performance (avg # days worked/year)—240 (avg # days scheduled/year)
Speed:
Cruising—14.5 knots
Flank—16.0 knots
Minimum possible (under steerageway)—1.5 knots
Power:
Main engine rating:
Maximum BHP—2,200
Continuous BHP—2,150 (shaft hp)
Manufacturer—General Motors Electromotive Division
Auxiliaries (number): 3
Continuous BHP (each)—2 - 510 hp, 1 - 240 hp
Power supplied (each, max kw)—2 - 350 kw, 1 - 125 kw
Manufacturer—Caterpillar
Boiler (capacity and manufacturer)—100 hp, 3,156 lb/hr, Seattle Boiler Works, Inc.
Capacities:
Liquid (gal):
Fresh water—7,350
Fuel—150,155
Lube oil—5,557
Ballast—47,651
Other—None
Space (ft^3):
Hold—
Galley stores:
Dry—1,830
Chilled—1,050
Frozen—1,380
Laboratories:
Physical—925
Chemical—1,080
Biological—3,300, ocean biology 1,720
Other—
Accommodations—Officers: 6 1-man and 2 2-man rooms; crew: 8 2-man rooms; scientists: 1 1-man (chief) and 4 2-man rooms

ELECTRONICS:
Communications—
Northwest Instrument Co. radio transmitter-receiver NW3B with high seas adaption
Kaar CH25 single-sideband trans-receiver radio
Apelco emergency trans-receiver radio
Underwater sounders:

Echo sounding—Edo fathometer, 6000 fm, Model 181
Echo ranging—Ross fathometer, 200 fm, Model 200A
Radar—Decca Model RM 429, range 48 miles
Radio direction finders—Apelco Automatic, Model D.F.R. 200
Position indicators—2 AC Loran ITT World Communications, Inc., Mackay Marine Division
Other—

LIFESAVING EQUIPMENT:
Boats—35-man lifeboat
Inflatable rafts—4 inflatable 25-man liferafts
Other—8 life rings

DECK MACHINERY:
Winches—2 trawl and accessory winches (Northern Line), 1 plankton trawl winch (Marco), 1 STD winch, 1 BT winch
Anchor windlass—1 - 2 capstans on after deck
Booms—
Cranes—1 crane on forecastle head port side
Reels—None
Other—None

SPECIAL FEATURES:
Bow positioner—(Future installation)
Freshwater makers—2
Cathodic protection—None
Underwater viewing ports or lighting—None
Other—None

OPERATING LABORATORY, BASE, REGION, OR AREA:—Biological Laboratory, Seattle, Wash.

HISTORY:
Design:
Name of designer—Philip F. Spaulding, Naval Architect
Year designed—1965
Construction:
Name of builder—American Ship Building Co., Lorain, Ohio
Year completed—1967
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—

SEAKEEPING CHARACTERS:
Performance:
Pitch period—7 to 9 sec
Roll period—Not counted
Comfort:
Decks wet—Fairly dry
Hull pound—Some when excess speed is used
Motion easy—A little too stiff

SPECIAL REMARKS:—A Triton fish counting echo sounder—100 kc, 1 kw peak power, optimum depth 15-180 fm, 10° beam width, pulse lengths of 120, 600, 1000 microseconds, with recorder, electronic fish echo counter, and digital counter—will be installed when funds become available.

A second radar with automatic plot will be procured and installed when funds become available. (Name, type, manufacturer not known.)

An articulated crane with 13′ horizontal reach, with a lift capability of 2 tons, is currently installed on forecastle port side; a second and similar crane is contemplated for future installation. Since no lift capability is currently existent on the after deck, future planning contemplates the procurement of a crawler crane with a 5-ton lift capability when funds become available.

The vessel deactivated July 1, 1970.

PRIBILOF

GENERAL DESCRIPTION:
Capabilities—Freight and supply, refrigerated
Hull style—2 island - house aft, raised forecastle head

Number of masts—2 - tripod type
Construction material—Steel
Method of fabrication—Welded
Screw type:
Number of blades—3 bronze, dia. 82″, 1 right hand, 1 left hand
Fixed pitch or CP—65″
Manufacture—Ferguson Propeller & Reconditioning Co. (also 2 spares)

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—222′9¾″
Length, waterline (LWL)—210′
Length, between perpendiculars (LBP)—
Breadth:
Beam, molded—38′8″
Beam, extreme (including permanent projections)—
Draft:
Maximum, loaded—15′7″ forward, 16′1″ aft
Mean—15′10″
Depth (main deck to keel, amidships)—19′0″
Minimum freeboard (loaded amidships)—3′2⅜″ (summer draft)

TONNAGE:
Displacement (full load)—1,640
Gross—1,187
Net—924

COMPLEMENT:
Officers:
Deck—3
Engineer—3
Crew:
Fishermen—
Seamen—6
Oilers—1
Wipers—2
Cooks—1
Messmen—2
Radiomen—1
Others—
Scientific staff—
Other—

OPERATING PARAMETERS:
Range (lineal miles of steaming)—8,400
Calculated endurance (days)—35
Performance (avg # days worked/year)—
Speed:
Cruising—11 knots
Flank—12+
Minimum possible (under steerageway)—3-4
Power:
Main engine rating: Twin diesel, Superior Model 40-M-SX8
Maximum BHP—1,400
Continuous BHP—700 hp at 900 rpm each × 2 = 1,400
Manufacturer—National Supply Co. (White-Superior)
Auxiliaries (number): 3
Continuous BHP (each)—240
Power supplied (each, max kw)—120 kw
Manufacturer—GM, Westinghouse
Boiler (capacity and manufacturer)—Heating only
Capacities:
Liquid (gal):
Fresh water—25,000
Fuel—54,000
Lube oil—650
Ballast—180 tons
Other—
Space (ft³): Total: 40,920 ft³, hatches 15′×18′
Hold—#1 - 11,220 ft³, #2 - 15,700 ft³, #3 - 14,000 ft³
Galley stores: Special cargo hold, 3,382 ft³
Dry—940 ft³
Chilled—250 ft³
Frozen—400 ft³
Laboratories: None
Physical—
Chemical—
Biological—
Other—
Accommodations—

ELECTRONICS:
Communications—
Radio Marine Console 5 U
Northern radiotelephone
Underwater sounders:
Echo sounding—Simrad, 600-fm range
Echo ranging—

Radar—RCA 104A and RCA CR101A, 40 miles
Radio direction finders—None
Position indicators—
Sperry Loran A Mark 2 Model 2
Raytheon A-C Model 400
Other—

LIFESAVING EQUIPMENT:
Boats—2 - 40-person each
Inflatable rafts—
Other—

DECK MACHINERY:
Winches—
Anchor windlass—Markey, electric, 440 v AC
Booms—None
Cranes—2 5-ton cargo
Reels—
Other—Warping capstan, electric, 440 v AC

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—
Cathodic protection—
Underwater viewing ports or lighting—
Other—

OPERATING LABORATORY, BASE, REGION, OR AREA:—Marine Mammal Resources Program, Seattle, Wash.

HISTORY:
Design:
Name of designer—Alden
Year designed—
Construction:
Name of builder—Higgins, Inc., New Orleans, La.
Year completed—1953
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—
Roll period—
Comfort:
Decks wet—
Hull pound—
Motion easy—

SPECIAL REMARKS:—

DAVID STARR JORDAN

GENERAL DESCRIPTION:
Capabilities—Fishing, oceanographic, biological research, acoustical surveys, hydrographic, meteorological, bottom sampling, and coring
Hull style—Specifically designed for type of oceanic work needed
Number of masts—2
Construction material—Steel
Method of fabrication—Welded
Screw type:
Number of blades—3
Fixed pitch or CP—Controllable pitch
Manufacture—Ka Me Wa (Bird-Johnson Co.)

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—171′
Length, waterline (LWL)—158′
Length, between perpendiculars (LBP)—158′
Breadth:
Beam, molded—36′8″
Beam, extreme (including permanent projections)—36′8″
Draft:
Maximum, loaded—11′9″
Mean—11′4″
Depth (main deck to keel, amidships)—17′3″
Minimum freeboard (loaded amidships)—5′9″

TONNAGE:
Displacement (full load)—890
Gross—873
Net—714

COMPLEMENT:
Officers:
Deck—3
Engineer—3
Crew:
Fishermen—
Seamen—3
Oilers—3
Wipers—
Cooks—2
Messmen—1
Radiomen—1
Others—1 (boatswain)
Scientific staff—16
Other—
OPERATING PARAMETERS:
Range (lineal miles of steaming)—9,000
Calculated endurance (days)—33
Performance (avg = days worked/year)—230
Speed:
Cruising—11
Flank—12
Minimum (possible under steerageway)—1
Power—2 White Superior diesel engines
Main engine rating:
Maximum BHP—1,010
Continuous BHP—918
Manufacturer—White Diesel Engine Div., General Motors Corp.
Boiler (capacity and manufacturer)—Continuous circulating water circuit, Clayton Mfg. Co.
Capacities:
Liquid (gal): 80,102
Fresh water—15,380 (6,890 in antiroll tank for emergency)
Fuel—49,864
Lube oil—786
Ballast—9,320
Other—4,136 biological specimen tanks, 616 miscellaneous tanks
Space (ft³):
Hold—1,300
Galley stores:
Dry—2,200
Chilled—874
Frozen—774
Laboratories:
Physical—210 ft²
Chemical—370 ft²
Biological—531 ft²
Other—5,150 ft² scientific storeroom, 271 ft² photo darkroom and sonar rooms
Accommodations—19 rooms, 1,710 ft²
ELECTRONICS:
Communications—
MacKay MRU-19B/20BP
Raytheon Model Ray-1130
2 - Hallicrafter SX62A
Apelco AE-125 SB, radio teletype Model 28
MacKay 401.A (Emergency)
Johnson CB radios 5 watt and 1 watt
Underwater sounders—
Echo sounding—
Simrad 580-10, 30 kHz & 11 kHz, 0-deepest trench
Simrad EH3a, 0-600
Alpine PESR, 0-deepest ocean w/ Gifft EsRTR transceivers
Raytheon Model DE721, 0-200 fm, 40 KC
Edo 14 KC, 0-deepest
Echo ranging—Simrad 580-10, 30 kHz, 0-1300 m, 11 kHz, 0-2500 m
Radar—Decca 404 and Decca 838
Radio direction finders—None
Position indicators—Loran A&C (D-X Navigator), Electro-Nuclear Apparatus Co.
Other—Electro magnetic log, Simplex electronic monitoring system & time system, Executone intercom
LIFESAVING EQUIPMENT:
Boats—16′ and 12′ Boston Whalers w/90 and 35 hp motors
Inflatable rafts—2 - 15-man Elliot and 2 - 20-man Elliot
1 - 15-man Switlik and 1 - 20-man Switlik
Other—None
DECK MACHINERY:
Winches—2 hydraulic hydrographic winches to 25,000 ft, triple drum combination trawl seine winch to 1,000 fm, Marine Construction & Design Co. E6S BT winch (Navy)
Anchor windlass—Marine Construction & Design Co. hydraulic
Booms—None
Cranes—Bucyrus Erie articulated crane to

12 tons, Tico Stores loading to 1½ tons hydraulically operated

Reels—hydraulic net winding

Other—Puretic power block

SPECIAL FEATURES:

Bow positioner—Schottel bow thruster

Freshwater makers—2 aqua-fresh water makers good to 1,500 gal/day, Maxim HJ-50 and HJ-10

Cathodic protection—Lockheed impressed current cathodic protection

Underwater viewing ports or lighting—Underwater viewing ports in bulbous bow chamber and amidships port, mercury vapor underwater lights aft under hydrographic winches

Other—Stern ramp and stern gantry

OPERATING LABORATORY, BASE, REGION, OR AREA:—Fishery-Oceanography Center, La Jolla, Calif.

HISTORY:

Design:

Name of designer—Harco Engineering, Div. Harbor Boat Building Co., Terminal Island, Calif.

Year designed—1963

Construction:

Year converted (if applicable)—

Name of facility doing conversion—

SEAKEEPING CHARACTERISTICS:

Performance:

Pitch period—9 sec

Roll period—11 sec

Comfort:

Decks wet—Decks dry

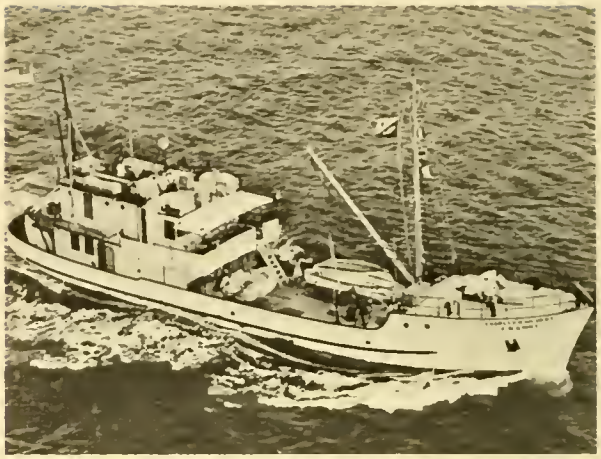
Hull pound—Hull pounds when heading into 6′ seas

Motion easy—Motion is sharp

SPECIAL REMARKS:—The vessel has the following power for scientific use: 450 v 3 ph 60 cycle AC, 230 v single ph 60 cycle AC, 120 v single ph 60 cycle AC.

The vessel has the following features for use in temperate and tropical waters: revolving Nansen bottle rack located adjacent to the hydrographic bucket, internal monorail system for moving laboratory equipment, monitored aquaria sea water system, constant temperature room, tie down pegs throughout the ship.

CHARLES H. GILBERT



GENERAL DESCRIPTION:

Capabilities—Trawling, seining, gillnetting, handlining, trolling, longlining, fish transportation (live), oceanography, biological research

Hull style—Raked stem and elliptical stern

Number of masts—1

Construction material—Steel

Method of fabrication—All welded, new construction

Screw type:

Number of blades—3

Fixed pitch or CP—Single fixed

Manufacture—Columbian

STRUCTURAL PARAMETERS:

Length:

Length, overall (LOA)—122′11″

Length, waterline (LWL)—110′3¾″

Length, between perpendiculars (LBP)—102′8″

Breadth:

Beam, molded—21′

Beam, extreme (including permanent projections)—21½′

Draft:

Maximum, loaded—10′8½″

Mean—8′8¼″

Depth (main deck to keel, amidships)—10′6″

Minimum freeboard (loaded amidships)—1.24′

TONNAGE:

Displacement (full load)—383.4

Gross—205

Net—97

COMPLEMENT:
Officers:
Deck—2
Engineer—3
Crew:
Fishermen—6
Seamen—
Oilers—
Wipers—
Cooks—1
Messmen—
Radiomen—
Others—
Scientific staff—4
Other—
OPERATING PARAMETERS:
Range (lineal miles of steaming)—8,500 normal - 10,000 extreme
Calculated endurance (days)—45-80 extreme
Performance (avg # days worked/year)—220
Speed:
Cruising—9.0 knots
Flank—11.0 knots
Minimum possible (under steerageway)—3.5 knots
Power: Caterpillar D397, turbocharged, 500 hp
Main engine rating: Reduction: 3.68:1, 1225 rpm
Maximum BHP—650 hp @ 1300 rpm
Continuous BHP—500 hp @ 1225 rpm
Manufacturer—Caterpillar Tractor Company
Auxiliaries (number): 2 GM 4-71, RC56 generators, 110 hp, 1200 rpm, 40 kw
Continuous BHP (each)—95 hp @ 1800 rpm
Power supplied (each, max kw)—115 v, DC, 40 kw
Manufacturer—General Motors Corporation
Boiler (capacity and manufacturer)—None
Capacities:
Liquid (gal)—57,000
Fresh water—15,000
Fuel—26,000
Lube oil—500
Ballast—6,000
Other—Portable stern bait tank 3,500
Space (ft^3)—Midship bait tanks p/s 3,000 (each)
Hold—600 ft^3
Galley stores:
Dry—250 ft^3
Chilled—264 ft^3
Frozen—264 ft^3
Laboratories:
Physical—None
Chemical—None
Biological—100 ft^2
Other—Open deck 525 ft^2
Accommodations—
ELECTRONICS:
Communications—
RCA TCP-2 Navy 75 W. Serial 458 (voice)
Northern Model C Type N
Collins ART-13
National & Collins receivers
Underwater sounders:
Echo sounding—
Bendix Model DR-6A 400F/0-400 fm (recording)
Edo AN/UQN-1B 0-600F/0-6000 fm (recording)
Echo ranging—
Radar—Raytheon Mariner's Pathfinder Mod. 1500B Serial 2048 0-32 miles
Radio direction finders—Bendix ADF-100
Position indicators—Sperry Mark-2 Mod. 2A Loran A
Other—
Hose-McCann Telephone Co. Type A Model W., intercom system
Sperry Mark 22 Model 1 gyrocompass
Sperry Mod. Controller Serial 223 steering control.
Bendix Aerovane Model 510083-1 Serial 218 (nonrecording) wind speed and direction indicator
LIFESAVING EQUIPMENT:
Boats—6-man utility
Inflatable rafts—4 Switlik 8-man rigid container ocean service
Other—As per USCG regulations for oceanographic vessels
DECK MACHINERY:
Winches—Rowe Model 9-HH hydraulic, Navy Hoist Model E6S modified electric BT winch, Northern 2-drum electric plankton winch, Izui Model 4 longline hauler, Puretic power block, and

double-drum trawl winch
Anchor windlass—Nameplate data unavailable
Booms—1
Cranes—None
Reels—None
Other—None

SPECIAL FEATURES:
Bow positioner—
Freshwater makers—
Cathodic protection—
Underwater viewing ports or lighting—Bow and stern viewing chambers
Other—½″×8′×28′ bilge keels
Bulbous bow

OPERATING LABORATORY, BASE, REGION, OR AREA:—Hawaii Area Fishery Research Center, Honolulu, Hawaii.

HISTORY:
Design:
Name of designer—Pillsbury & Martignoni, San Francisco, Calif.
Year designed—1952
Construction:
Name of builder—Tacoma Boatbuilding Co., Inc., Tacoma, Wash.
Year completed—1952
Conversion:
Year converted (if applicable)—1954 and June 1959
Name of facility doing conversion—
Colbert Boat Works, Stockton, Calif. (1954)
Gunderson Bros., Portland, Oreg. (1959)

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—None available
Roll period—
6.25 sec (light condition)
8.0 sec (loaded condition)
Comfort:
Decks wet—No
Hull pound—No
Motion easy—Yes

SPECIAL REMARKS:—Good seaworthiness both drifting and underway. Vessel has excellent initial and final stability. No special instructions for her loading and handling. Vessel is U.S. Coast Guard inspected.

TOWNSEND CROMWELL

GENERAL DESCRIPTION:
Capabilities—Trawling, trolling, longlining, gillnetting, oceanography, biological research
Hull style—Curved stem and elliptical stern
Number of masts—2
Construction material—Steel
Method of fabrication—All welded, new construction
Screw type:
Number of blades—3
Fixed pitch or CP—Twin, variable pitch, "Liaaen" type G-40
Manufacture—A. M. Liaaen, Aalesund, Norway

STRUCTURAL PARAMETERS:
Length:
Length, overall (LOA)—158′6″
Length, waterline (LWL)—147′
Length, between perpendiculars (LBP)—142′8″
Breadth:
Beam, molded—33′
Beam, extreme (including permanent projections)—33′1½″
Draft:
Maximum, loaded—11′6″
Mean—9′6″
Depth (main deck to keel, amidships)—14′6″
Minimum freeboard (loaded amidships)—5′3″

TONNAGE:
Displacement (full load)—652.5 (LWL, salt water)

Gross—564.85
Net—384.0

COMPLEMENT:
Officers:
Deck—3
Engineer—4
Crew:
Fishermen—5
Seamen—
Oilers—
Wipers—
Cooks—1
Messmen—1
Radiomen—1
Others—
Scientific staff—7
Other—3 additional accommodations

OPERATING PARAMETERS:
Range (lineal miles of steaming)—12,000
Calculated endurance (days)—60 (80 days extreme)
Performance (avg # days worked year)—220
Speed:
Cruising—12.0 knots
Flank—13.5 knots
Minimum possible (under steerageway)—1.0 knots
Power: Superior Model 10S-2X-6 twin turbocharged diesels
Main engine rating:
Maximum BHP—550 hp @ 820 rpm × 2 = 1100
Continuous BHP—400 hp @ 714 rpm × 2 = 800
Manufacturer—White Superior Division, White Motor Corp.
Auxiliaries (number): 3 (4-71 GM Model #4061-A); Generator "Delco" Model Y-1-4627, 60 kw, 75 KVH
Continuous BHP (each)—115 hp @ 1800 rpm
Power supplied (each, max kw)—440 v., 60 cycle, 3 phase, AC, 60 kw
Manufacturer—General Motors Corporation
Boiler (capacity and manufacturer)—None
Capacities:
Liquid (gal): 74,209
Fresh water—8,900
Fuel—13,212
Lube oil—500
Ballast—7,812
Other—13,785 - flume stabilizer tank
Space (ft³):
Hold—1,650 ft³
Galley stores:
Dry—880 ft³
Chilled—945 ft³
Frozen—1,275 ft³
Laboratories—
Physical—180 ft² (hydro lab)
Chemical—127.5 ft²
Biological—95 ft²
Other—96 ft² (sick room), 100 ft² (electronic room)
Accommodations—80 ft² (sick bay - 2 bunks)

ELECTRONICS:
Communications—
Northern Marine radiotelephone, transmitter N-529-E, receiver N-620-VEQ
Northwest Marine radiotelephones, NW-3-HST & NW-3-HST CW (companion unit)
National receivers, NC-190 & HRO-50T1
Eldico single-sideband transceiver S-100
Underwater sounders—
Echo sounding—
Furuno Model FNZ2500, 2-2500 fm
Edo Model 185, 0-600 FT, 0-6000 fm
Simrad Model 513-2, 0-260 fm, 0-650 fm
Echo ranging—
CTFM Sonar Model 505, range 1600 m
Straza Industries
Radar—Sperry Mark 3 Model 1, 40-mile range
Radio direction finders—Bendix Model ADF-100
Position indicators—Sperry Mark 2 Model 1 Loran A
Other—Marine Magnetic Log, thermograph "Foxboro" Model 49; anemometer "Bendix Friez" Type B; Sperry Mark 14 gyrocompass; Bissett-Berman Model 6600-T salinograph thermograph; STD Model 9006

LIFESAVING EQUIPMENT:
Boats—10-man Whelan life and utility
Inflatable rafts—2 Elliot 15-man Mark 3A ocean service
Other—As per USCG regulations

DECK MACHINERY:
Winches—New England WJ80S Model X-1077 trawl winch; Markey DYSH-3 electric; Markey DYSH-3 hydro; USN BT E6/S (starboard); USN BT E6/S (port); Marco Model W-0800 topping lift; Izui Type 6 longline; Type NHB-224 electronic steering winch
Anchor windlass—Markey type WF-WD-18
Booms—None
Cranes—None
Reels—None
Other—None

SPECIAL FEATURES:
Bow positioner—Inui bulb 7′×20′
Freshwater makers—Evaporator system - utilizes heat from propulsion units to distill fresh water, 700-1000 gal/day
Cathodic protection—Piping
Underwater viewing ports or lighting—5 - 10″ diameter ports on Inui bulb
Other—McMullen flume tank stabilization system

OPERATING LABORATORY, BASE, REGION, OR AREA:—Hawaii Area Fishery Research Center, Honolulu, Hawaii.

HISTORY:
Design:
Name of designer—W. C. Nickum & Sons, Seattle, Wash.
Year designed—1963
Construction:
Name of builder—J. Ray McDermott Co., Amelia, La.
Year completed—1963
Conversion:
Year converted (if applicable)—
Name of facility doing conversion—N/A

SEAKEEPING CHARACTERISTICS:
Performance:
Pitch period—None available
Roll period—7.16 sec
Comfort:
Decks wet—No
Hull pound—Slightly in short swell periods and in sea state number 5 plus
Motion easy—Yes

SPECIAL REMARKS:—The vessel, together with its machinery and equipment, was built to the classification +A1 and +AMS and under the special survey of the American Bureau of Shipping. To date the vessel remains in class. The vessel was also built to the inspection and to the requirements of the U.S. Coast Guard for oceanographic service.

GPO 998-842

349. Use of abstracts and summaries as communication devices in technical articles. By F. Bruce Sanford. February 1971, iii + 11 pp., 1 fig.

350. Research in fiscal year 1969 at the Bureau of Commercial Fisheries Biological Laboratory, Beaufort, N.C. By the Laboratory staff. November 1970, ii + 49 pp., 21 figs., 17 tables.

351. Bureau of Commercial Fisheries Exploratory Fishing and Gear Research Base, Pascagoula, Mississippi, July 1, 1967 to June 30, 1969. By Harvey R. Bullis, Jr., and John R. Thompson. November 1970, iv + 29 pp., 29 figs., 1 table.

352. Upstream passage of anadromous fish through navigation locks and use of the stream for spawning and nursery habitat, Cape Fear River, N.C., 1962-66. By Paul R. Nichols and Darrell E. Louder. October 1970, iv + 12 pp., 9 figs., 4 tables.

356. Floating laboratory for study of aquatic organisms and their environment. By George R. Snyder, Theodore H. Blahm, and Robert J. McConnell. May 1971, iii + 16 pp., 11 figs.

361. Regional and other related aspects of shellfish consumption — some preliminary findings from the 1969 Consumer Panel Survey. By Morton M. Miller and Darrel A. Nash. June 1971, iv + 18 pp., 19 figs., 3 tables, 10 apps.

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