APL-UW Research Vessels

APL-UW has pier facilities on nearby Lake Union equipped with davits/hoists for loading the R/V Robertson and R/V Henderson; there are vehicles and forklifts available to transport heavy equipment. There are also various small boats available to support marine operations. Access to Puget Sound and deep water is available through a nearby system of locks.

The R/V Robertson was added to the APL-UW fleet in September 2008. The vessel features generous lab space on the main level, ample deck space, and operator’s locator for good view of the deck and over-the-side operations, and bunk, galley, and head facilities. The A-frame, utility hoist, 12-ft wide folding swim step, and two hull wells allow multiple, flexible instrumentation deployment.

Specifications:
- Length: 56′-8″
- Breadth: 19′-0″
- Draft: 5′-0″
- Freeboard (aft): 4′-0″
- Construction: Fiberglass w/ aluminum work deck
- Speed: 0.5–10 kts
- Operating area: Puget Sound, Strait of Juan De Fuca and the coastal waters of Washington, Oregon, and Vancouver Island
- Range: 740 n mi
- Fuel: 1200 gal
- Water: 500 gal
- Main Engine: 455 HP - John Deere 6125AFM
- Bowthruster: 40 HP - 12′ tunnel
- Electrical System: 240 VAC, 3 PH., 60 Hz, 24 VDC
- Generators: 55 KW and 20 KW - Northern Lights
- UPS: 4000 Watt - Xantrex SW4024
- Work deck: 418 sq. ft.
- Swim step: 12′W x 3′D x 1′ above WL (folding)
- Bolt Pattern: 3/4″-10 deck bolt sockets on aft deck (2′x 2′ pattern)
- Deck Load: 6 LT (4 CG above work deck)
- A-Frame: 6,000 lb. (12′H x 12′W)
- A-Frame Winch: 6,000 lb with 50 ft. of 1/2″ Spectra line
- Crane: Morgan 40-3L with 23 ft. reach and 30,000 ft.lb. capacity
- Utility Winch: Nordic 32 Series - 1000′ of 1″ line, 3,950 lb. full line pull
- Anchor Winch: 1000′ of 1/2″ wire, 90′ of 5/8″ chain plus 145# Forfjord
- Stern Winches: (2) 1000′ of 3/8″ wire, 90′ of 3/8″ chain plus 90# Forfjord
- Hydraulic System: 21 GPM @ 2900 PSI
- Air Compressor: 8.5 CFM @ 135 PSI (30 gal. tank)
- Lab: 286 sq. ft.
- Wet Wells: 19′ and 10″
- Berthing: 6 persons
- Galley: Stove, refrigerator, and microwave/convection oven
- Head: (1) marine head with sink and shower
- Holding Tank: 200 gal. capacity
- Fire Extinguishing: Fixed engine room and (8) hand held extinguisers
- ADCP: RD Instruments WHVM-300
- CTD: SBE 911 with SBE 32SC Carousel—(12) 2.5-liter bottles
- Compass: JRC JLR-20 GPS compass
- DGPS: Northstar 952XD
- Electronic Chart: Nobeltec
- AIS: Furuno FA-150
- Radar: Furuno FR8062 (72nm range) Furuno 1832 (36nm range)
- Autopilot: Simrad AP50
- Depth: Furuno FCV-1100L (50/200 KHZ)
- VHF: (2) Standard-Horizon GX1500S
- Phone: Cellular base station w/ fax - 3 watt amp and ext. antenna
- Data/Internet: 3G/4G Mobile wireless router - Top Global MB6800
- Wind: R.M. Young (05106MA)
- Hailer/Intercom: Furuno LH3000
- Liferaft: DBC 12 person (SOLAS B)
- EPIRB: ACR Globalfix 406MHZ CAT. 1
- Lifejackets: 18 type 1, 8 work vest, 12 survival suit, 4 exp. suit

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The R/V Henderson is a 70-foot steel-hulled catamaran vessel with a large interior lab space, a traveling overhead hoist, and a large wet well between the hulls. It is equipped with full instrumentation for calibration of underwater acoustic equipment. Accurate measurements can be made of transmit and receive responses, radiation patterns, and all transducer parameters. The vessel is only operated on the inland waters of Puget Sound and Lake Washington.

Specifications
Length: 70 ft.
Draft: 4 ft.
Beam: 25 ft.
Displacement: 64 tons
Hull: Steel (catamaran)
Lab Space: 40 ft. long by 18 ft. wide with 8 ft. overhead; wet well opening 7 ft. by 24 ft.; space is heated with an oil furnace
Engine: (1) GM 4-71
Speed: 6 kts
Horsepower: 110
Fuel Consumption: 8 gal/hr.
Generator: (1) John Deere diesel generator 60 KW; 240 VAC 3Ph; 120 VAC 1 Ph
Fuel Tank: 2500 gal.
Water Tank: 500 gal.
Overhead Hoist: 2 ton capacity; travels length of wet well
Utility Winch: 1/2 ton, located in lab; 2250 ft. of 1/4 in. wire rope
Anchor Windlass: (3) winches, each with 1000 ft. of wire and gypsy-head; (2) 210# stockless anchors and (1) 150# Danforth anchor
Air Compressor: 125 psi; 5.3 cfm
Hydraulics: 220 HP electrohydraulic power unit; operates bowthruster and anchor winches
Ram: Mounted over wet well; capable of rotating/lowering equipment into well down to 50 ft.
Radar: Furuno 2400 (24 nm range)
Fathometer: Furuno FE6200 (50 kHz)
VHF Radio: ICOM IC-M120 (25 W); GE MVS special purpose transceiver (40 W)
DGPS: Northstar 941XD
Berthing: 4 bunks
Galley: Stove, oven, refrigerator, microwave
Head: (1) marine head with approved MSD; shower
Liferaft: (2) Elliot 6-person rafts
Firefighting: (8) handheld extinguishers
Lifejackets: (12) type 1 offshore vests, (6) work type vests, (2) floatsuits