



Derek M. Baylis (DMB)

Specifications

1. Design

Designer:	Tom Wylie
Builder:	Wyliecat (Watsonville, Ca)
Launched:	April 2003
USCG certification:	Sub Chapter T
Length (LOA):	64’ 11.5”
Waterline (DWL):	57’ 6”
Beam:	14’ 9”
Draft:	8’ 4”
Displacement:	35,000 lbs (17.5 short tons)
Ballast	11,750 lbs

2. Construction

Hull	strip planked with Durcore balsa core between fiberglass with vinylester resin		
Bulkheads	Marine grade Fir plywood		
Two Watertight bulkheads	Forward collision bulkhead		
	Forward engine room bulkhead		
Deck, pilot house and aft deck	End grain balsa core between carbon fiber with vinylester resin		
Cabin house	Framing:	internally varnished, laminated honduras mahogany beams and knees	
	Over head:	one layer of 6mm Okoume plywood	
	House sides:	internally varnished, vertical grain Douglas Fir	
	Outer skin	carbon fiber with vinylester resin	
Keel	Fin style air foil 105 GAL steel fuel tank with 9500lb bulb on bottom		
Masts and wishbones	Braided carbon fiber with epoxy resin		
Lifelines & Stanchions	39 ½” tall stainless steel tubing stanchions with 8mm & 6mmspectra lifelines		

3. Accommodations & Amenities

The interior of the DMB offers a simple and functional yet warm and luxurious setting. With a perfect mix of varnished mahogany, fir hardwood and painted surfaces. You will not feel like you are on a work boat.

Guests (Max):	(49)
Crew:	(2) min
	(4) max
Cabins:	3
Bunks:	(3) double bunks
	(4) single bunks
Heads “Toilets”	(1) electric
	(2) manual
Waste containment & treatment systems	(1) black water holding tank
	(1) Lectrasan waste treatment system
	(1)Gray water sump
Showers & sinks (H &C)	(3) indoor showers
	(1) deck shower
	(4) sinks
Salt water taps	(1) in galley
	(1) on aft deck
Dining tables	(1) seats 6
	(1) seats 4
stove	(1) four burner electric range with oven
Ice boxes & refrigerators	(1) air cooled top load electric refrigerator in galley
	(4) coolers on aft deck

4. Safety & Emergency systems

Emergency Lighting	4
Fire Extinguishers (Mobile)	5
Fire Extinguishers (Fixed Halon)	1
PTO pump	(1) 68 GPM @ 2500RPM
High water alarms	3
Electric Bilge Pumps	3
Hand bilge pump (Mobile)	(1) 17GPH
Exhaust water alarms	2
Fire/CO alarms (9v)	5
Emergency fuel cutoff	1
Life rafts (removable, based on passenger count)	(2) 30 man
	(1) 16 man all oceans
Life sling	2
Life rings	1
Life Jackets	(52) adult
	(10) child
Eperb	1

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5. Propulsion Systems

A. Mechanical “100hp Yanmar turbo”

Top speed:	11 knots
Fuel consumption:	10 knots @ 2 gal per hour 8 knots @ 1.6 gal per hour Average fuel bill is \$100 per 24hr day
Tankage:	105 gal (keel tank) 138 gal (day tank)
Range:	1,100 miles

B. Sail - AKA “Stealth “

Sail area:	Main 1,500 square feet Mizzen 500 square feet
Main mast height:	77’ above water
Top speed:	22 knots
Range:	unlimited
Capable range per day:	300+ miles

6. Electrical System

A. Alternating Current (AC)

Generator	Permanent 5.5kW 120v Northern Lights For higher Amperage and or voltage requirements an additional generator can and has been mounted on the vessel.
Inverter	1800W (15A)
Shore power	50A 120v
Outlets	(10) 15A 120v duel all throughout interior

B. Direct Current (DC)

House Banks (24v)	522AH 368 AH
Start Banks (Gen & Main engine)	580 CCA 580 CCA
Emergency Bank	38 AH
Alternators (Main engine)	(1) 24V 160A (1) 12v 80A

7. Electronic & Navigation Equipment

Magnetic Compasses	(2) 5”
VHF (Built-in)	1
VHF (Handheld)	(1) with dedicated antenna
SSB	1
Chart Plotter (Built-in)	1
Chart Plotter (Mobile)	(1) I Pad connected to NSS via Gofree Wi-Fi module (1) Garmin Hand held
Autopilot	1
Autopilot wireless remote	1
Gofree Wi-Fi	(1) Enables built-in Chart Plotter to communicate to I Pad wirelessly
Radar	(1) 3G
AIS	(1) with dedicated antenna
AIS Switch	(1) as redundant back up if VHF or AIS antennas fail
Depth sounder	(1) connected to ST60 Tri data
Stereo	1
TV’s	(2) 32” and a 19”
HDMI splitter	(1) 2x1
Wi-Fi Hot spot	(1) 3/4G

8. Domestic Pumps

Potable water capacity	120 GAL
Potable water pump	6.5 GPM - 45 PSI
Potable water Filter	Sediment & Graphite element
Raw water pump	3.2 GPM

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9. Aft work deck

Dimensions	Length	22’
	Width (average)	12’
	Sqft	264
Hatches	Cargo hatch	Opening dimensions 40”x23”
	Engine box hatch	Opening dimensions 40”x23”
Max cargo		10,000lbs (aprox)
Wet lab tables	Two wet lab tables mounted atop of life rafts, dimensions are 4”x17 ½”x46”	
Cockpit lockers	Two cockpit lockers with a total area of 22 sqft	

10. Mizzen mast (when used as a crane)

The Vessel’s Mizzen mast doubles as a crane used to lift, deploy and retrieve equipment on and off the vessel to and from the sea in conjunction with the A – Frame and/or wishbone as well as the electric primary winches.

In conjunction with wishbone	Safe working load (SWL)	600lbs
	Reach (past OB of hull)	11.5ft
In conjunction with A - Frame	Safe working load (SWL)	600 lbs

11. Winches

Two Electric winches on aft deck	Safe working load (SWL)	3700lbs
	Line dia (Max)	11/16”
Two manual winches on aft deck	Safe working load (SWL)	2800lbs
	Line dia (Max)	½”
One Electric Windless on fore deck	Safe working load (SWL)	688lbs
	Line dia (Max)	3/4”
	Chain size (Max)	3/8”

12. Ground Tackle

Bow anchor	Weight /Type	88lb/Plough
	Chain	(120’) 3/8” High test
	Rode	(250’) ¾” Nylon braid
Stern anchor #1	Weight /Type	55lb/Plough
	Chain	(115’) 3/8” High test
	Rode	(175’) ¾” 3 strand
Stern anchor #2	Weight /Type	22lb/Danforth
	Rode	(2)(100’) ¾” Nylon braid

13. Sounding Pole

Depth from surface	8’
Safe operational hull speed	5 knots

14. A - Frame

Material	Titanium tubing
Tubing dimensions	1 7/8” OD x .090 wall
Safe working load (SWL)	600lbs
Reach	30” (past transom)
Reach with extension arm	60” (past transom)
Overall throw (fore & aft)	10’ 4”

15. Tender (M/V Stacey)

The Derek M. Baylis has a tender named Stacy. She is primarily used for Shark tagging off the Farallon islands but is versatile and strong enough to handle almost any job. Adding to this already very stable work boat is her internal water ballast system, making loading people and equipment much safer.

Length overall	18’
Beam (Max)	6’ 8”
Displacement with outboard	1100lbs
Hull construction	fiberglass with vinylester resin
Helm type	Center console with Steering wheel
Ignition type	electric
person capacity (Max)	(5) @ 250lbs
Weight capacity (Max)	1250 lbs
Speed (Max)	25 knots

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Propulsion	40hp Mercury outboard
Fuel type	Gasoline
Fuel capacity (Built-in)	18 gal fuel tank built into console
Bilge pump	1100 GPH bilge pump with internal float switch
VHF (Built-in)	(1) with dedicated antenna
Depth sounder	(1) with transom mounted transducer
Running lights	(1) Red & green on bow, no stern light
Stowage while under way	On aft deck atop custom cradle
Cradle	Aluminum
Freeboard	2’ at highest point