

*George Sperry
Marine Surveys*

REPORT OF MARINE SURVEY
OF THE VESSEL
Lotus



1997 photo by Helen Demis

May 11, 2018

1918 60ft. LOA, 48ft LOD Schooner

PREPARED EXCLUSIVELY FOR:

SSS #303
Rochester, NY

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I. INTRODUCTION

This survey was conducted on May 11, 2018 at Katlynn Marina, Sodus Point, NY. The survey was attended by the surveyor, George Sperry and skipper Wayne Foster . David Pennington and Dorothy Drahyal were on site part of the time as well. Ken Anderson from Cayuga Wooden Boatworks was on hand at the end of the survey for discussion of the results. The subject vessel was out of the water at the time of survey. The vessel was surveyed without removal of any fixed parts. Locked compartments or otherwise inaccessible areas would also preclude inspection. DC and AC power were not available and no accessories were powered-up The reason for the survey was to ascertain the physical condition of the vessel for feasibility of restoration purposes. The standing rigging was down and was briefly inspected.

Historic Points:

- *Lotus*, reportedly was designed by William Hand, Jr. in 1914. The schooner was launched in 1918 in Rocky River, Ohio for the Van Dorn family as *Miss Gloucester*, and sailed on Lake Erie.
- In 1922, she was renamed *Lotus*, and moved to Sodus Bay on Lake Ontario, where she was owned by Steven E. Comstock.
- In 1938, *Lotus* was sold to Richard Todd and Kenneth Cooley, who renamed her *DICKENS* and moved her to Rochester, NY.
- In 1943, *DICKENS* was acquired by Ezra Hale and partners, who renamed her *Lotus*.
- In 1971, Ezra Hale and John Trahey donated *Lotus* to the Otetiana Council of BSA.
- In 1990, *Lotus* was named to the National Register of Historic Places.
- Restoration was started in 1991 and completed in 1993.

THE MANDATORY STANDARDS PROMULGATED BY THE UNITED STATES COAST GUARD (USCG), UNDER THE AUTHORITY OF TITLE 46 UNITED STATES CODE (USC); TITLE 33 AND TITLE 46, CODE OF FEDERAL REGULATIONS (CFR), AND THE VOLUNTARY STANDARDS AND RECOMMENDED PRACTICES DEVELOPED BY THE AMERICAN BOAT AND YACHT COUNCIL (ABYC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAVE BEEN USE AS GUIDELINES IN THE CONDUCT OF THIS SURVEY.

FINDINGS REFLECT CONDITION OBSERVED AT TIME OF SURVEY.

II. DEFINITION OF TERMS

THE FOLLOWING TERMS AND WORDS HAVE THE FOLLOWING MEANINGS AS USED IN THIS REPORT OF SURVEY:

-APPEARS:

Indicates that a very close inspection of the particular system, component or item was not possible due to constraints imposed upon the surveyor (e.g. no power available, inability to remove panels or required not to conduct destructive test).

-FIT FOR INTENDED SERVICE:

Service for which it was designed by the naval architect and manufactured by the builder.

-FIT FOR INTENDED USE:

Use which is intended by survey purchaser (present or prospective owner).

-ADEQUATE:

Sufficient for specific requirement.

-POWERS UP:

Power was applied only. This does not refer to the operation of any system or component unless specifically indicated.

-EXCELLENT CONDITION:

New or like new.

-GOOD CONDITION:

Nearly new, with only minor cosmetic or structural discrepancies noted.

-FAIR CONDITION:

Denotes that the system, component or item is functional as with minor repair.

-POOR CONDITION:

Unusable as is. Requires repairs or replacement of system, component or item to be considered functional.

III. GENERAL INFORMATION

NAME OF VESSEL.....	<i>Lotus</i>
TYPE OF SURVEY.....	Condition & Value
HULL IDENTIFICATION NUMBER.....	Not seen
STATE REGISTRATION.....	Not seen
YEAR / MAKE / MODEL OF VESSEL.....	1918 60ft. LOA Schooner
OWNER'S NAME.....	Boy Scouts of America Troop 303
PLACE OF SURVEY.....	Sodus Point, NY
DATES / TIME OF SURVEY.....	May 10, 2018 0930 Hours
OUT OF WATER INSPECTION PERFORMED AT....	Katlynn Marina
BUILDER.....	Unknown
DESIGNER.....	William Hand, Jr.
YEAR BUILT.....	1918 (launched)
HULL MATERIAL.....	Wood (Yellow Pine & Mahogany over Oak)
HULL TYPE.....	Partial-Keeled Schooner (center board removed)
L.O.A.....*	60 ft.
L.O.D.....*	48 ft.
BEAM.....*	13ft.
DRAFT.....*	4ft. 9in.
BALLAST.....	Not known
DISPLACEMENT.....*	16 tons
SAIL AREA.....*	950 sq. ft.
BRIDGE CLEARANCE.....	Not known
PROPULSION SYSTEM.....	Diesel inboard – 80HP
AC SHORE POWER SYSTEM.....	None
DC POWER.....	12 V
FUEL CAPACITY.....	40 gal.
FRESH WATER CAPACITY.....	44 gal.
OWNER'S EXPERIENCE.....	Training vessel with experienced capt.
INTENDED CRUISING WATERS.....	Great Lakes and Tributaries
CONDITION.....	Restorable
CURRENT MARKET VALUE.....	\$5,000
ESTIMATED REPLACEMENT VALUE WITH NEW	\$700,000

Asterisks * in this General Information section refers to the source of such information as follows:

* Per older Lotus Brochure

IV. SYSTEMS

A: HULL, DECK AND SUPERSTRUCTURE

HULL CONSTRUCTION:

TYPE	Carvel-planked over steamed and sawn frames
MATERIAL	5/4 in, (I think) Long Leaf Yellow Pine over 2 1/8 in. x 2 in. White Oak. White Oak frames are 9 in. on center. Many have been sistered or replaced. *C1, *C2
BULKHEADS	4
STRINGERS	4 White Oak (original), other partials added
STERN	Yellow Pine over Oak Bow frames *C3 Horn Timber *C4
STEM	White Oak *C5
KEEL	White Oak *C6 -Reinforced with steel. Note that the slot for the centerboard has been plugged – Keel bolts wasted *B1
HULL TO DECK JOINT TYPE	White Oak Clamp and Shelf *C7
FASTENERS	Bronze screws and bolts (primarily) None pulled
REINFORCEMENT	Toe-rail/Bulwark – Yellow Pine *C8

DECK CONSTRUCTION:

MATERIAL	Swept Deck - Fir with Covering Board edge plank *C9 over White Oak deck frames *C10
STANCHIONS	Bronze & wood (removed)
VENTILATION	Dorade vents, hatch, skylight
BULWARK/TOERAIL	Yellow Pine
GRAB RAILS	Not noted
SCUPPERS	Along Toe-Rail & cockpit
DECK SURFACE	Oiled
DECK HOUSES	2 Yellow Pine *C11 with fir/plywood/canvas roof *C12

COCKPIT:

MATERIAL	Yellow Pine *C13
DODGER	None
COCKPIT CUSHIONS	None seen
STORAGE	Under aft deck
COCKPIT SOLE	Fir

B. CABIN INTERIOR

INTERIOR APPOINTMENTS:

JOINERY & FINISH	Painted
STORAGE AREAS	Under berths, lockers, drawers
HEADLINERS	None
FABRIC & CUSHIONS	Upholstered – some removed
SALON FURNISHINGS	
CABIN SOLE	Some plywood *C14
ACCOMODATIONS	10 in bunks – 3 cabins

GALLEY:

REFRIGERATION	Ice box
STOVE/OVEN	Origo 3000 – 2-burner, non-pressurized alcohol
SINK	Single – Stainless
TRASH PLACARD	Yes

C. ELECTRICAL SYSTEM

DC SYSTEM:

BATTERIES	Removed – Appears to have provisions to secure and cover in trays
BATTERY SWITCHES	1 – Near panel in cabin - port
WIRING	Appears serviceable
BATTERY CHARGER	None

AC SYSTEM:

SHORE POWER CONNECION	30 A Weather-Protected
PANEL	Main cabin
OUTLETS	GFCI
REVERSE POLARITY	On panel

D. STEERING SYSTEM

NUMBER OF STATIONS	1
LOCATION	Aft
TYPE	Wheel with worm/screw gear
RUDDER	Steel

E. PROPULSION SYSTEM

MOTOR:

MANUFACTURER	<i>Yanmar</i>
MODEL NUMBER	4JH2-DTE – Motor believed to be 1983 vintage
SERIAL NUMBER	34315
HORSEPOWER	80 @ 3400 RPM
NUMBER OF CYLINDERS	4
LUBRICATION	Old oil *C15
HOURS	3104 on hour meter

TRANSMISSION:

MODEL	<i>Kanzaki/Hurth</i>
SERIAL NUMBER	KBW20
GEAR RATIO	6954
COUPLER WIRE	3.28 : 1
	Not checked

COOLING SYSTEM:

ANTIFREEZE	Fresh Water Cooled
HOSES	Level OK
SEA COCK	Cracked *B2
BELTS & PULLIES	Yes Belts old *C16, Pullies rusted *C17

F. FUEL SYSTEMS

DIESEL FUEL:

LOCATION	Starboard – Aft
MATERIAL	Aluminum
CAPACITY	40 gal.
FUEL LINES	USCG-Approved rubber
VENT	Yes
FILTER	Yes – Old *C18

G. GROUND TACKLE

ANCHORS: 50 lb. Navy anchor, spare Danforth-type + smaller picnic anchor
CHAIN RODE 120 ft.
LINE RODE None
WINDLASS Older manual

H. FRESH WATER SYSTEM

STORAGE TANKS 1 – 40 gal. plastic tank
LOCATION Starboard
PUMPS 1 manual at galley sink
FILTERS None

I. SANITATION SYSTEM

MSD TYPE Holding with no overboard discharge capability
HEAD 1 manual
CAPACITY 25 gal. - estimated
TANK MATERIAL FRP - Forward
GRAY WATER Overboard
SHOWER None

J. ELECTRONICS / NAVIGATION

COMPASS Removed
VHF *Si-Tex* - model – Compact 55
DEPTH None seen
GPS None seen

K. SAFETY / FEDERAL REQUIRED EQUIPMENT

- COAST GUARD REQUIRED	
PERSONAL FLOTATION DEVICES (LIFE JACKETS)	12 Type II, 2 Type IV throwables
FIRE EXTINGUISHERS	2 with gauges - charged
VISUAL DISTRESS SIGNALS	Expired * B3
SOUND PRODUCING DEVICE	Canned horn + manual horn
NAVIGATION LIGHTS	Yes
NO-OIL DISCHARGE PLACARD	Yes
TRASH DISPOSAL PLACARD	Yes
OTHER SAFETY EQUIPMENT	
BILGE PUMPS	1 <i>Rule</i> 2000 automatic
CARBONMONOXIDE DETECTOR	None * C19

L. SAILING VESSEL DATA

STANDING RIGGING: **NOTE: Mast down – inspected separately**

MASTS	2 Sitka Spruce – Appear serviceable
BOOMS	Sitka Spruce – Appear serviceable
GAFFS	Spruce – Appear serviceable
DEAD-EYES	Appear serviceable
CHAIN PLATES	Steel – Attached to outside of hull and through-bolted into internal framework
SPREADERS	1 set each mast - Spruce
MAST STEPS	Keel-stepped
SHROUDS + STAYS	7/19 Stainless – Appear serviceable
BOW SPRIT	Wood – Appears serviceable
BOB STAYS	Bronze chain – Appear serviceable
GOOSENECKS	Appear serviceable
RUNNING RIGGING:	Not inspected
SAIL INVENTORY:	Not inspected
	Main, Fore, Jib, and Staysail are Dacron.

M. OUT-OF WATER SURVEY LIST / REPORT

RUDDER MATERIAL	Steel and FRP – Appears sound
THROUGH HULL FITTINGS	Bronze – Appear serviceable
ZINCS	None seen
CONDITION OF BOTTOM PAINT	Blistered
KEEL	External partial – Keel Bolts wasted
PROP SHAFT	1 ¾ in. Bronze
CUTLASS BEARING	Excessive play *C20
PROP	26 RH 16 3-bladed Bronze

V. FINDINGS AND RECOMMENDATIONS

Deficiencies noted under ‘‘SAFETY’’ should be addressed before vessel is next underway. These findings represent an endangerment to personal and / or vessel’s safe and proper operating condition. Finding may also be in violation of U.S.C.G. regulations.

Deficiencies noted under ‘‘IMMEDIATE ATTENTION’’ should be corrected in the near future so as to maintain standards and to help the vessel to retain its value.

A: SAFETY DEFICIENCIES

None.

B: DEFICIENCIES NEEDING IMMEDIATE ATTENTION

B1 The Keel Bolts were wasted.

I recommend replacing.

B2 The cooling hoses for the motor are cracked.

I recommend replacement.

B3 The Visual Distress Signals were expired. 33 CFR 175.110

I recommend keeping current flares on board.

C: OTHER DEFICIENCIES NOTED

C1 Much of the hull planking is rotting. I found 75 areas of approximately 3 feet, or about 225 ft. of planking.

I recommend new planking.

C2 Some of the steamed frames were rotted.

I recommend replacing as needed while re-planking. Note that accessibility is an issue during survey.

C3 The stern bow frames are rotted.

I recommend replacing.

C4 The horn timber in the stern is rotted.

I recommend replacement.

C5 The lower stem has separated from the stem knee, indicating a rotted stem knee or failed fasteners.

I recommend repair.

C6 The keel has rot in the bilge.

I recommend repair or replacement.

C7 The shelf, the outboard deck framing, has rot in places – 10%.

I recommend repair or replacement.

- C8 The Bulwark has rot in a few places – 10%**
I recommend repair or replacement.
- C9 The Covering Board (wide edge white plank outside of deck) has rot.**
I recommend replacement.
- C10 The framing below the Windlass is rotted.**
I recommend replacement.
- C11 All sides of the two Deck Houses are rotted.**
I recommend replacement.
- C12 The two Deck House Roofs are rotted.**
I recommend replacement.
- C13 The vertical woodwork in the cockpit is rotted.**
I recommend replacement.
- C14 The plywood in the Cabin Sole is rotted in places.**
I recommend replacing where needed.
- C15 The motor oil in the motor is old and dirty.**
I recommend changing.
- C16 The engine belts are old.**
I recommend changing.
- C17 The pullies on the engine are rusted.**
I recommend cleaning.
- C18 The fuel filter is old.**
I recommend changing the filter and polishing the fuel.
- C19 There were no CO Detectors on board.**
I recommend installing CO Detectors in all the cabins.
- C20 The Cutlass Bearing has excessive play.**
I recommend replacement.

IMPORTANT:

Consider the above findings to be a partial list. When the restoration yard work gets underway, they will undoubtedly find more.

VI. SUMMARY AND VALUATION

A. STATEMENT OF OVERALL VESSEL RATING OF CONDITION

It is the surveyor's experience that develops an opinion as to a vessel OVERALL VESSEL RATING OF CONDITION immediately after a complete survey has been performed and the findings organized in a logical manner.

The grading system, as developed by the surveyor's experience, determines the adjustment to the range of selling values in the used boat market and determine the **Market Value**

The following is the accepted marine grading system of condition:

"EXCELLENT (BRISTOL) CONDITION", is a vessel that is maintained in mint or Bristol fashion- usually better than new - load with extras - a rarity.

"ABOVE AVERAGE CONDITION", has had above average care and is equipped with extra electrical and electronic gear.

"AVERAGE CONDITION", ready for sale requiring no additional work and normally equipped for her size.

"FAIR CONDITION", requires usual maintenance to prepare for sale.

"POOR CONDITION", substantial yard work required and devoid of extra.

"RESTORABLE CONDITION", enough of the hull and the engine exists to restore the boat to usable condition.

As a result of my investigation, as stated in the **SYSTEM AND FINDINGS AND RECOMMENDATION**, section of this **REPORT OF SURVEY**, and by virtue of my experience, my opinion is:

OVERALL VESSEL RATING:

RESTORABLE

B: STATEMENT OF VALUATION

1. The “**FAIR MARKET VALUE**” is the most probable price in terms of money which a vessel should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently, knowledgeably assuming the price is not affected by undue stimulus.

- a. Buyer and seller are typically motivated
- b. Both parties are well informed or well advised, each acting in what they consider their own best interest.
- c. A reasonable time is allowed for exposure in the open market.
- d. payment is made in terms of U.S. dollars or in terms of financial arrangement comparable thereto; and
- e. The price represents a normal consideration for the vessel sold unaffected by special or creative financing or sale concession granted by anyone associated with the sale

Therefore, after consideration of the reliability of the date, the extent of the necessary adjustment and condition of the vessel, it is your surveyor’s opinion that the “**FAIR MARKET VALUE**” of the subject vessel is:

\$5,000.

Five Thousand Dollars

2. The “**ESTIMATED REPLACEMENT COST**” indicates the retail cost of a new vessel of the same make/ model with similar equipment offered by the same manufacturer. “**ESTIMATED REPLACEMENT COST**” of the subject vessel is:

\$700,000.

Seven Hundred Thousand Dollars

C. SUMMARY

In accordance with the request for a marine survey of the *Lotus* for the purpose of evaluating its present condition and estimating its “FAIR MARKET VALUE” and “REPLACEMENT COST”, I herewith submit my conclusion based on the preceding report. The subject vessel was personally inspected by the undersigned on 5/11/18 and was found fit for intended use.

D. SURVEYOR’S CERTIFICATION

I certify that, to the best of my knowledge and belief:

The statements of fact contained in this report are true and correct.

The reported analyses, opinion, and conclusion are limited only by the reported assumptions and limiting conditions and are my personal unbiased professional analysis, opinion and conclusion.

I have no present or prospective interest in the vessel that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.

My compensation is not contingent upon the reporting of a predetermined value or direction in value or direction in value that favors the cause of the client, the amount of the value estimated, the attainment of a stipulate result, or the occurrence of a subsequent event.

I have made a personal inspection of the vessel that is the subject of this report.

This report is submitted without prejudice.

ATTENDING SURVEYOR:

George Sperry AMS

George Sperry AMS® 775

PICTURES



