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Shipwright's Structural Condition Report

Vessel: 1932 55' Stevens Motor Vessel

Provided for the Gunther Family

Exterior Observations

Keel and Keel Bolts

- On August 5th, 2014 Michael Gifford of Michael's Marine solutions witnessed the haul out and chalking of the M/V Sea Dog. Upon resting the boat down on the keel blocks, I noticed some boat-to-keel movement. After tapping out the entire keel and garboard planking, I found no bad wood; all exterior wood appeared sound. The worm shoe was also found to be in good condition. However, upon tapping the keel along the mid-section of the boat (where I witnessed the movement), I heard a slight sounding difference for about 8 feet. I made two 1-1/2" diameter by 3" deep holes in the suspect area and found the wood was in seasoned shape and no major soft wood was found. Upon further investigation inside the bilge, I found 18 keel bolts were completely compromised. The original bolts were 1/2" diameter by 18" long galvanized steel; there was only 4" left of each of the 18 keel bolts extracted thus far; accounting for the movement in the keel.

Planking, Fastening and Seaming

- Continuing the sounding of wood and structural integrity inside the boat, a very small amount of soft wood was found at rib-ends to floor-frame connection. All floor-frames and ribs were found to be structurally adequate for the age of the vessel.
- 30 plank fasteners were pulled. Half of the fasteners had some degree of electrolysis damage.
- At some point in the vessel's history, there was some sistering done to 1/4 of the original ribs, and additional fastening to the planking done to reinforce existing fasteners.
- All planking under the water appears secure and conforms uniformly to the ribs. The additional refastening appears to be mostly around the new additional ribs that were sistered next to original ribs. Additional fastening may be required in the future.

- All seaming is in good order, with very little water seeping out from the bilge.

Stem

- There is apparent impact damage at the stem, at the waterline, where there has been a previous repair. Minimal damage has occurred. The previous repair is adequate and I subsequently have repaired the recent damage.

Interior Observations

Bulkheads and Stringers

- Bulkhead to hull mating are all in good condition.
- All longitudinal stringers and liners were found to be in good condition.

General Interior

- Interior is in excellent condition. All new cabinetry, floors, bunk tops and bunk faces are like new.

Bilge

- All water movement in the bilge is running smoothly through all limber holes and ending up in appropriate low spots in the boat. All bilge pumps are operational.

Mechanical Observations

Engine and running gear

- The shafting, packing glands and cutlass bearings were found to be in good condition. No apparent wear or imbalance. Shafts spun freely by hand.
- Engines are like new. Replaced in 2008.
- All engine mounts and support structure are sound.
- Rudder, shaft logs and steering assembly are in good shape.

Superstructure

- The vessel appears to have no water leaking damage from the decks or cabin tops.
- Superstructure is in excellent structural shape with no apparent soft wood or rot. However, needs paint and varnish touch-up.

Recommendations

- Continue checking and tightening all keel bolts. Replace all bad keel bolts with appropriate material. Reinstall new worm shoe.
Approximate cost = \$4500
- Make appropriate repairs to stem damage.
Approximate cost = \$300
- Replace all extracted plank fasteners and re-plug holes.
Approximate cost = \$400
- Exercise packing glands for shaft logs. Clean, lubricate and repack if necessary. Grease all pillow bearings and check all engine-mounting hardware.
Approximate cost = \$300

Summary

The Sea Dog has been sounded to my satisfaction and the findings are quite conclusive. The keel bolts are being replaced with new bolts and proper hardware, the extracted fasteners are being replaced with new screws, and when the stem repair is complete the Sea Dog will be considered seaworthy. All wooden parts of the vessel that are considered to be instrumental in the structure are sound. All the planking is in good condition with good cohesion to hull shape and uniformity. The overall health of the vessel's hull is very good.

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Michael Gifford