Conservation Management Plan
MTB 331

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1.1 MTB 331: Sources of Information

1.2 Construction of the vessel: Sources

1.2.1 A number of sources which relate to the construction of the vessel are in existence. These include primary archive and secondary published sources.

1.2.2 The National Maritime Museum (NMM) holds a small number of the Thornycroft plans of the vessel in its stores, including profiles, along with deck plans and sections.

1.2.3 Some information is also available at the Nation Archives, Kew. In particular this information is related to the Royal Navy's requisitioning of MTB 331 from the Philippine Government (Reference ADM 116/4790).

1.2.4 In terms of secondary sources, John Lambert's book, *Allied Torpedo Boats*, provides some of the most detailed construction information, with detailed plans and sections. Information about the construction and specification of the vessel are also found in a number of other published sources (e.g. Konstam 2010 and North 1972), though details are more limited.

1.3 Use and Life of the vessel: Sources

1.3.1 Sources which give detail relating to the use of the vessel both during the war and afterward are relatively sparse. Wartime documents include the ships register for the MTB 331 (during its time as the *Jonrey*) held by the Devon Heritage Centre (MTB 331) (DSR/TEI/4/6). Some information can also be found in various published sources and websites (e.g. Konstam 2010; North 1972; bmpt.org.uk).

1.4 Survival and Condition of the vessel: Sources

1.4.1 Sources which concern the survival of the vessel and the repairs and refits are also relatively limited. However, shipwright's survey and rapid condition assessments have both been undertaken on the MTB and provide valuable information. Both were completed since MTB 331 was moved to the Fleet Air Arm Museum (FAAM). These assessments are reported on in the following:

- Diana McCormack, Rapid Condition Assessment, 2017
- Bryan Matthews, Shipwrights Survey, 2018

1.4.2 The rapid condition assessment was conducted by Diana McCormack in August 2017. The vessel was stored at Cobham Hall storage building at FAAM at the time. This was a short report detailing obvious conservation issues in the vessel. The conclusion of the assessment includes initial and immediate recommendations for the stabilisation and conservation.

1.4.3 Bryan Matthews completed a shipwright's survey in October 2018 on behalf of the NMRN. The report includes current stability, recommendations for stabilisation and immediate recommendations. The survey was conducted on MTB 71 and MTB 331 at the same time, though the final report concentrates on MTB 331.

1.4.4 The Maritime Workshop, Gosport, also undertook conservation work on the vessel in 1992. Contact has been made with Alistair Dilley (Trustee). The former MD is now retired and Mr Dilley is attempting to make contact which may provide information at a later date (per comm.).

1.4.5 Basic information on the vessel's survival can be found in published sources (e.g. Konstam 2010; North 1972) and through the BMPT who were involved with the vessel form 2000, (http://www.bmpt.org.uk/other_boats_history/MTB-331/index2.htm).

1.5 Construction of the vessel

1.5.1 MTB 331 is a 55ft Thornycroft Coastal Motor Boat. Originally designed and used during the First World War, production resumed in 1939. In total 14 boats of this specification were produced during WWII for foreign navies. MTB 213-217 were originally ordered by the Philippine Government, however, they were requisitioned by the Royal Navy and five replacement boats were ordered for export on the 12th June 1940. These included MTB 327-331. The five vessels replacement vessels (MTB 327-331) were also requisitioned, on the 7th August 1941. The MTBs were completed between June and October 1941 and commissioned into the Royal Navy on the 3rd November. MTB 331 was the last 55ft Thornycroft CMB to be built.

1.5.2 With a length of 55', a beam of 11' and a mean draught of 3'6", the round-bottomed hull was constructed using double diagonal mahogany. The top deck planking measured 3/16" in thickness on both layers, and was covered with calico. The sides of the vessel used 3/16" inner and 5/16" outer planking with oiled calico in-between. The underside of the vessel was constructed with 3/16" inner and a 3/8" outer planking, with oiled calico in-between and a varnish finish.

1.5.3 The underside of the hull was constructed of a third layer of 3/8" teak, supported with 1" mahogany battens and a 3" sided pine chine to create an outer skin and to reform the hull to be more representative of a reverse or hard chine hull form, creating a stepped hydroplane. While the aft underside is a round bilge form.

1.5.4 Stringers were made of pine and varied in size dependant on location, those at the chine being the largest measuring 3"x2" tapering to 2"x1 ½". While the bottom stringers are 2 ¼"x1 ½", the side stringers are a maximum of 2 ¼"x1 ½" and the top deck and hatch stringers are 2 ½"x1 ½". With a deck stiffener of elm measuring 2"x ¾".

1.5.5 The keel of the MTB was made of teak and the stem of European oak. The frames were made from American elm measuring 3" x 1" with 1 ½" x 1" timber frames between.

1.5.6 Fastenings used throughout the vessel were copper alloy.

1.5.7 Deck knees were made of elm and measured 2"x1". Around the area of the chine, double bent knees made from elm measured 1 ½" x ½".

1.5.8 The vessel had twin screws with two transom-hung rudders, driven by two Thornycroft RY12 petrol engines. The power of each engine is variously quoted as 375bhp (North 1972), 650bhp (BMPT) or 1000bhp (in total) (Lambert). However, the top speed of the vessel is thought to have been around 40 knots (North 1972).

1.5.9 Two fuel tanks were fitted port and starboard below the wheelhouse. As with the engine power there is some discrepancy about the size of the tanks. North (1972) indicates that the fuel tanks each had a capacity of 200 gallons, while Lambert indicates that the capacity was 135 gallons, and suggests that the 55ft MTBs had a range of around 200 miles (Lambert).

1.5.10 In terms of their armament, the 55ft MTBs were fitted with stern firing torpedoes and carried two 18" torpedoes in a steel trough. During action the vessels were designed to turn tail first, and the torpedo would be fired backwards using a cordite cartridge. Two depth charges and two 0.303" machine guns completed the armament.

1.6 Use and Life of the vessel

Wartime Action

1.6.1 MTB 331 was originally ordered by the Royal Navy (along with 327-330) on behalf of the Philippine Government following requisition by the Royal Navy of the earlier order of MTBs (numbers 213-217). Ordered on the 12th June 1940, MTB 327-331 were also requisitioned by the Royal Navy on the 7th August 1941.

1.6.2 Little information could be located on the war time service of MTB 331. However, MTB 331 and the sister ships (327-330) were commissioned on the 3rd November 1941 and formed the 12th MTB Flotilla along with MTB 345. The flotilla was stationed at HMS Hornet, Portsmouth on the 11th November 1941 (BMPT).

1.6.3 Reportedly, the flotilla relocated to Dartmouth by the 4th December where they remained until the 10th January 1942 when they were paid off and ordered to be laid up in Gunboat Yard, Haslar (BMPT).

1.6.4 In August 1944, both MTB 330 and 331 were recommissioned at HMS Hornet possibly to replace the recently paid-off CMB 103 and MTB 344 which had been operating off the Normandy beaches.

1.6.5 Other than this short period, MTB 331 remained in reserve until May 1945 when, along with her sister ships, she was placed on the disposal list.

Post-War History

1.6.6 Following the war MTB 331 was sold by the director of Small Craft Disposals to J.E. Cartwright of 692 Pershore Road, Birmingham on the 27th August 1946. She was re-named *Audrey II.*

1.6.7 In a letter from the Registrar of Shipping at Teignmouth dated 20th August 1951, Mr Cartwright was informed that the name *Audrey* was already and he was instructed to rename the vessel. This would suggest that the vessel was unofficially named and likely unregistered between 1946 and 1951.

1.6.8 Following this, Mr Cartwright renamed MTB 331 *Jonrey* on the 24th August 1951. Another named he considered was "Cardua" (DSR/TEI/). *Jonrey* (Official No. 183954) was registered at Teignmouth on the 14th November 1951 to John Ezekiel Cartwright (Motor Engineer) suggesting a change of hands.

1.6.9 The vessel passed between numerous owners in following decades, though she appears to have stayed in the south-west of England. On the 15th October 1952 she was sold to Arthur John Beal (Company Director), Peamore Hotel, Exeter and was registered on the 10th September 1953. She was sold again on the 7th June 1956 to William John Clarke (Manager), 9 Eagle Road, Bristol, and registered on the 9th June 1956. On the 10th August 1958, the *Jonrey* was once again sold, this time to a William Albert Bowden (café proprietor), 648 Fishponds Road, Bristol and registered on the 23rd April 1959. *Jonrey* was sold again on the 12th October 1972, this time to Maurice Stanley James (Construction worker), 381 Soundwell Road, Bristol and was registered on the 8th Jan 1974. During this time *Jonrey* was likely on the Cumberland Basin, Bristol, and during this time may have been partially restored to her wartime appearance (BMPT).

1.6.10 By 1980, *Jonrey* had another new owner, Mr Robert G Morley from Bristol. Following this the vessel was moved to Shepard Wharf, East Cowes, Isle of Wight where all additional equipment from her post-war life was removed, along with the superstructure of the vessel. All of her paint was also stripped at the time, to expose the bare hull planking. This work may have been partially undertaken by Harmo Thornycroft, Commander Thornycroft's son (BMPT).

1.6.11 Hampshire County Council took possession of the vessel sometime around the late 1980's or early 90's.

1.6.12 Following the work at Cowes, MTB 331 was relocated to Priddy's Hard to be lifted from the water and moved to Winchester to be house in Hampshire County Council museum services Thornycroft collection at Chilcomb house.

1.6.13 In April 1992, MTB 331 was moved to Maritime Workshops Ltd in Gosport for conservation work.

1.6.14 Following restoration MTB 331 was put on display at the "Dockyard 5000" exhibition at Portsmouth Naval base in June 1995. After the exhibition she was moved back to Priddy's Hard and stored until 2000.

1.6.15 In March 2000, MTB 331 was transferred to BMPT Marchwood where she was cleaned, face filled and repainted.

1.6.16 MTB 331 was put on display again at Portsmouth in 2001, and in 2017 MTB 331 was relocated to the Fleet Air Arm Museum.

1.7 Survival and Condition of the vessel

1.7.1 MTB 331 is one of 14 55ft Thornycroft MTB's built during the Second World War. Originally only built for foreign navies, the vessels were all requisitioned due to the Royal Navy's need for MTB's. The first nine of these vessels were lost during the war, the remaining five (MTB 327-331) were in reserve for most of the war.

1.7.2 The vessel has undergone major alterations to a large proportion of its fabric, the majority of which appear to have occurred in the post-war period.

1.7.3 Following the war, MTB 331 was sold to Mr Cartwright in 1946. The vessel was not officially registered until 1951 when it had been renamed *Jonrey.* The *Jonrey* is registered as having different engines. Originally fitted with powerful Thornycroft engines, in 1951 it is recorded as being fitted with two Chrysler engines, producing 58bhp and built in 1946.

1.7.4 MTB 331 was under the ownership of MR Morey in the early 1980's and underwent some restoration work with the help of Commander Thornycroft's son, Harmo Thornycroft. All of the equipment added to adapt her to a motor cruiser was removed, the old superstructure removed and the paint was stripped down to the hull planking.

1.7.5 In April 1992, now under ownership of Hampshire County Council, MTB 331 was moved to Maritime Workshop Ltd, Gosport for conservation. This is rumoured to have cost around £75000. Contact was made with the Maritime workshop and while they can confirm work, the exact work undertaken cannot be confirmed as yet.

1.7.6 In 2000, with MTB 331 now located at Marchwood, twelve staff from Ernst & Young cleaned the decks and removed loose paint from above the water line. Once the paint was removed the hull was face filled and repainted. It is mentioned that work continued, but the work undertaken is not known.

1.7.7 In 2017 a Rapid Condition Assessment was undertaken by Diana McCormack and in 2018 a shipwright survey was undertaken by Brian Matthew's on behalf on the NMRN.

1.7.8 The survey findings showed that more than 75% of the upper deck had been replaced with plywood. Forward of the hatch, parts of the hull above the water-line, the hatchway and aft decking are all replacements. The plywood and remaining double diagonal planking on the top deck is stable and sound (Matthew 2018, McCormack 2017).

1.7.9 The planking above the waterline is again mostly plywood and both the plywood repairs and the original planking is in a stable condition. Some minor crack and splits are visible in the timbers, although these were declared to be superficial (Matthew 2018; McCormack 2017).

1.7.10 Much of the original double diagonal planking still remains below the water-line, and is in a good and stable condition (McCormack 2017).

1.7.11 A large number of the forward ribs have been replaced, four original wooden ribs are loose inside the vessel. A modern pine prop has been added in the bow to support the top deck and a small area of inner planking has been replaced with plywood (Matthew 2018; McCormack 2017).

1.7.12 The bulkhead is not connected to the upper deck of the sides of the vessel and a new beam has been fixed to the keel but this is not connected to the sides either (Matthew 2018).

1.7.13 In the midship section, all of the remaining bottom planks, ribs and beams are in a good stable condition. Some of the ribs have been traditionally replaced, and over a third have been replaced with 3/8" plywood with minimal stiffeners in place (Matthew 2018).

1.7.14 There are no head beams left attached to the deck or side in this area. This removes much of the support for the top deck in this area (Matthew 2018).

1.7.15 All of the bottom beams, ribs and planking are in a good and stable condition towards the aft end of the vessel (Matthew 2018).

1.7.16 Small areas under the deck have had replacement planks and ribs made of 3/8" plywood. Some original ribs remain but not in a good condition (Matthew 2018).

1.7.17 New support beams and props under the plywood superstructure are not secured properly to the sides of bottom and consequently are not strong enough (Matthew 2018).

1.7.18 Additionally, the supports beams under the step-down section are not secured to the bottom or sides correctly (Matthew 2018).

1.7.19 In at least two areas in the aft end of the vessel have been affected by dry-rot fungus and mould is present in most internal surfaces. Additionally, animal and insect remains, faeces and nesting materials are found throughout the hull (McCormack 2017).

1.7.20 Overall the strength of MTB 331's hull has been severely weakened by the lack of bracing under the plywood after the removal of side planking, and due to the amount of beams which are not connected properly to the sides and bottom of the vessel (Matthew 2018).

1.7.21 Both of the propeller shafts are broken at the same point, and the blades have some edge damage. The internal steering gear remains although it is heavily corroded in areas. Metal work is generally in a better condition towards midships, although less complete and showing signs of residues and copper corrosion on the inside of pipe work (Matthew 2018, McCormack 2017).

1.7.22 The bulk of the internal equipment is missing from the vessel (McCormack 2017).