Sea King Helicopter Recovery

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The group responsible for the preservation of *HMCS Sackville* is currently creating a web site documenting the vessel's history. In support of that effort, Ted Smith, the Marine Superintendent at BIO before his retirement, is collecting information on *Sackville's* role as an oceanographic research vessel. This triggered a memory of my first trip on that ship 35 years ago. On April 26, 1973 a Canadian Navy Sea King helicopter went down about 20 miles south of Chebucto Head in 180m of water. The four crew members escaped uninjured. In those days we did not have pinpoint navigation as we do today so its position was only known to within two or three miles based on range and bearing information to a Tacan radio beacon ashore.

The next day, in response to a request from the Navy, Clive Mason and Keith Manchester asked me to coordinate a search for the helicopter. The *CFAV Sackville* (as it was known then) was assigned to the task and I put together a team of BIO staff including Paul Jollymore, Paul D'Entremont and Don Eisener from Metrology and three hydrographers, Mike Eaton, J.S.Warren and R.L.Tracy. After some initial scurrying around and a flurry of phone calls to the customs broker, we were able to borrow a Klien sidescan that was in the process of being delivered to the Canadian Hydrographic Service. We also borrowed an underwater video system from Charlie Godden, Marine Geology.

The sidescan cable was put on the massive steam powered winch on the ship's afterdeck then we sailed for Basin trials on April 30. As was so common in those days, there ensued a series of catastrophes that left us working late into the night to dry out underwater electronic units and locate leaks. After successful Basin trials the following day, we departed for the search area. Shortly after we put the sidescan in the water it quit again. Meanwhile, a faint trace on the precision oceanographic echo sounder we had installed indicated that we had steamed over an interesting object on the bottom. Eventually we got the sidescan working and over the next two days did a thorough survey of the search area using Decca for positioning. While we identified two other possible targets, we felt that the one we had seen on the echo sounder at the very beginning of the survey on the first day was most likely the helicopter wreckage. Lt.-Cmdr Bob Coren, the naval person in charge of the operation, asked us to positively confirm our conclusion before DND mounted an expensive recovery operation

After a hearty breakfast of *CFAV Sackville's* specialty, Kentucky Fried eggs, we tried using the video system to do this. Because the ship had only a single screw and no bow thruster, this effort failed. Next, Paul Jollymore rigged the sidescan to tow on its side at a depth of about 15m to create a high-resolution echo sounder with a fan shaped beam. Our thinking was that the high frequency would produce a better reflection from the helicopter structure and the narrow beam would give us a better measure of the target dimensions. Several tows in different directions across the target provided us with a good measure of its length, width and height, which were consistent with Sea King helicopter dimensions. In spite of our certainty, DND officials insisted on a second week of work at the site. First we repeated some of our survey efforts then with two naval tugs made fast to *CFAV Sackville* we again attempted to get video footage to confirm our supposition. This turned out to be a lesson in bad seamanship with lines parting, angry interchanges over the radio, etc. so we gave up and concluded that phase of the operation.

In late May and again in early June Des Dobson and I made two more unsuccessful attempts to obtain still and video footage of the target. Meanwhile, DND was organizing a major salvage operation. They shipped the Pices IV submersible from the west coast and installed it on one of the large HMCS Dockyard crane barges that were used within the harbour in the in those days. This was far from a seagoing craft but that was all they had available with the necessary lifting capacity. The Queen's Harbour Master, Cmdr. Vondette, who was in charge of this phase of the operation requested that we place an acoustic marker as close to the target as possible. We secured the sidecan fish on its side to a pole, attached this to the rail of the naval tug *CFAV St. Charles* and used this system to maneuver the ship directly over the wreck. We then dropped an acoustic pinger to act as a marker for the submersible. After watching the first unsuccessful Pices IV dive, we returned to BIO.

Two weeks later Lt.-Cmdr Coren phoned to give me an update on operations. After some problems with equipment, weather and underwater navigation, they found the helicopter about 8 metres from the pinger we had dropped on day one. They eventually attached a lifting line but this broke and they were forced to abandon the recovery attempt. The real point of Bob's phone call was to ask if there was any way we might be able to provide a means of positioning the submersible underwater as that seemed to be a critical requirement for the next recovery attempt. In those days there were no commercial systems available so over the next few weeks Paul D'Entremont and I were able to jury-rig an acoustic system to do this using various electronic components available at BIO.

A second recovery attempt, again employing Pices IV, was made in mid-summer. Paul spent several days on the crane barge at the site providing positioning information using our jury-rigged system. Eventually, the submersible was able to attach a lifting line to the rotor hub of the helicopter. However, the lugs securing the transmission to the helicopter frame had corroded so badly by this time that all they recovered was the rotor, transmission and port engine. A third attempt was made in the autumn using DND's SDL-1 submersible which had finally completed a lengthy refit. Again Paul provided positioning information throughout the operation. This time the submersible operators were able to attach a line to a strong point on the helicopter frame and it was finally brought to the surface.

At the conclusion of the operation, Cmdr. Vondette sent me a very lengthy letter describing the recovery effort, thanking us for our contributions and highlighting the contribution made by Paul D'Entremont. Also, Rear-Admiral Boyle, Commander Maritime Command sent a very complementary letter to Dr. Ford, Director, AOL, expressing his appreciation of our efforts. I make mention of this as I think that acknowledgements such as this are not done as often as they should be and are greatly appreciated by participants when received.

As a consequence of our success in positioning the submersible during the salvage operations, DND requested that we assist them during submersible dives on the Irving Whale the following year. This led directly to our development of Sea Rover and our efforts to measure the amount of oil remaining in its tanks but that is a story for another time.