Some Highlights of CNAV *Sackville*

As an oceanographic ship for

The Atlantic Oceanographic Group

St Andrews, NB and Halifax, NS

CNAV Sackville was used as an oceanographic research vessel by the Atlantic Oceanographic Group (AOG) in the early 50's and many years after when AOG moved to Halifax. In the late fifties She worked principally on Georges Bank, the Scotian Shelf and Gulf of St. Lawrence conducting in some cases seasonal cruises in those days, four times a year..

In 1957 *Sackville* underwent a major refit in Montreal and on her return to the East coast she was readied to take part in the 1958 International Geophysical Year (IGY) which involved her in running a series of deep sea oceanographic stations from Bermuda to Baffin Bay. These deep ocean stations were a first for the ship and took as long as 5-6 hours to complete using two winches, A Bergen Norway winch on the starboard side for shallow depths and a Clarkson (?) steam winch over the stern for deep casts. The cruise took almost four weeks to complete with refueling stops in Halifax, NS, St. John's, and NL and by tanker in Frobisher Bay.

Her deep sea cruises were far from over as the next major undertaking found her serving the International Commission for the Northwest Atlantic Fisheries (ICNAF) in a multi-national oceanographic survey of the North Atlantic. *Sackville* was one of three Canadian vessels involved, the others being the *CSS Baffin* and a Coastguard vessel. *Sackville* surveyed the Grand Banks eastwards and off the Scotian Shelf.

After the ICNAF surveys *Sackville* worked with the *Vema*, a Columbia University research vessel for two summers. The two ships conducted Seismic surveys in the Gulf of St. Lawrence and off the east coast. Both *Sackville and* the *Vema* had to visit Argentia Newfoundland, the US naval base to take on board additional explosives. *Sackville*, being an RCN naval auxiliary vessel was welcomed, but the *Vema* flying a Panamanian

flag was shunned and cordoned off as out of bounds. Exchanging scientists between the two ships was not a simple task

In the early 60's the ship underwent a major scientific refit. New wet and dry laboratories were built, aft on the upper deck. The wet laboratory housed a New England Trawl winch, Knudsen bottles and other over-the-side gear. The dry lab was set up with a new deep-sea echo sounder . When it was time to fit the echo sounders to the ship she sailed to Lunenburg, NS to have them installed. The ship was hauled up on the slip close to midnight because of the tide but the blocks were not secured due to the lateness of the hour. Shortly after the crew and scientists had turned in, the cable or chain which had hauled the ship up on the slip, broke and *Sackville* came sliding down off the slip and ended up in shallow water with a 30 degree list to port, firmly stuck in the mud.

I was called early in the morning by the Queen's Harbour Master and was told the bad news. Fortunately, no one was hurt but all were badly shaken up. When I arrived on scene it looked like the end of *Sackville* and there was talk of cutting her up. Two naval tugs were dispatched from Halifax and she was pulled out of the mud and righted herself. She was towed to the Dartmouth shipyards and put up on blocks once again for inspection. Miraculously, only one stern bottom plate was dented – no breaks or fractures to the hull. A new plate was simply welded over the dented plate and the echo sounders were installed. The whole nightmare was over in less then two weeks and she was back in the water ready to carry on.

The new echo sounder was put to good use by Doug Loring on bottom surveys of the Gulf of St. Lawrence. These Surveys found that several echo sounder returns recorded on the graph paper reflected the morpholgy and the general composition of the sea floor. Bottom sampling and coring were used to identify the sediments and Doug was able to map the sediments and morphology of the Gulf. He identified a large deposit of optical quality sands and sediments that were home to shrimp and snow crab. This latter association was a very important find for this fishery. A mining company from Montreal made an application to the Quebec government for rights to extract the optical sands. The application was turned down in fear of the sands being non-renewable and impacting on the Magdellan Island lobster fishery.

One of the well-planned cruises to the Gulf of St. Lawrence went awry for no fault of the Chief Scientist, Dr. Ron Trites. The purpose of the cruise was to measure the flow of water through Belle Isle Strait. Ron prepared lighted drift floats, colour coded for depth of water of the attached vane and of course when released the direction and speed of drift. In addition to this technique Ron purchased enough electrical cable to stretch across Belle Isle Strait, thus establishing a geoelectromagnetic kinetograph or (GEEK). It measured the flow of water across the cable using the principle of an electrical conductor (seawater) moving through a magnetic field (earth). The challenge of the crew of the ship was to lay the cable across Belle Isle Strait without breaking the cable. It was successfully laid and all appeared well.. The float project was undertaken in an evening under calm conditions. Spotters were assigned to the starboard and port sides of the bridge and reported on the location of the floats at regular intervals. When things got underway, Ron noticed that the pattern of drift of the floats was incoherent, in fact quite erratic, Ron puzzled over this situation for quite a while and finally came up on deck to see for himself what was going on. He discovered that the red floats were often called green and green floats called red. He queried the one observer and much to the surprise of both of them they discovered he was colour blind and the observer did not know it himself, so much for the night's work. They all got quite a laugh out of it. The GEEK experiment was also fraught with problems; the noise level was such that it masked the current signals. Ron fretted over this for weeks later until he found out the sun spot activity was at its peak - thus the noise level. Ron was quite disgusted over the whole venture and swore he would never come back to Belle Isle Strait again.

Most of the crew on *Sackville* were Newfoundlanders and at their request we always dedicated one oceanographic station as a fishing station. It was always well-located for jigging cod. Scientists and crew alike would spend most of the day jigging for cod which were immediately salted down in barrels of brine. During the day we were well-treated and rewarded with freshly fried cod cheeks. It sounds - delicious to say the least.