

Chuck Rolfe, Editor
Canadian Naval Divers Assn
RR2
Kinburn, Ont.
KOA 2HO
Phone(613)832-1653 (H)
952-4304 (W)



FOUNDED
DARTMOUTH N.S.
1982
FOUNDING MEMBERS
André Desrochers
Leo Goneau
Terry Havik
Sam Semple
Michael Walsh
First President:
Stanley F. Watts

DIPPERS DIGEST #3

22 Oct 90

Well, another Summer season has come and gone, with all of us still hanging in there. Western Chapter enjoyed a most convivial get together at FDU(P) for a BBQ on Saturday, August 18th, together with a tour of the Unit. Some people from the past who ably showed up were: George Colwill, Barry Corrigan, Stan Stephenson, Don Hope, Tom Gardner, Joe Lodge, Jim Balmforth, Fred Salter, Ed Pahl, Bruce Robinson, Fred Olkovick, Andy Ouellette and Al Woods to name just a few. Salty dips were spun during the afternoon as the weather cleared up, while wives, girl friends, children (even some grandchildren, too!) and even dogs had their part of the fun. With Jim Balmforth's and Joe Lodge's scrapbooks brought out for the occasion, it wasn't hard for all those on hand to enjoy some great memories and chuckles of events occurring in days gone by. Ottawa Chapter also had their annual Fathers Day BBQ rained upon during the latter part of the day when showers moved in. Luckily, HMCS CARLETON had the foresight to have a large volume exhaust fan and smoke collector installed on the inside Drill Deck for just such an event, so everyone repaired inside to complete the festivities. Wally Green, Bob Jenkins, Mike Moquin, et al reminisced about a certain unmanned Zode (in 1974) that had to be run down by the Blue Boa in Esquimalt Harbour to prevent injuries to the driver, playing "beer ball" with the Australia in 1977, and the first Ships Diver Course on the East Coast. All in all, a grand time was had by all. Due to unforeseen circumstances, the Corn Boil and Dance slated for 8 September by the East Coast Divers did not take place. We really hope to hear it will take place next year when they all band together to form a solid, dynamic Chapter.

Membership in CNDA has increased in leaps and bounds, with the Western Chapter leading the way. From their beginning earlier in the year, with a nucleus of 4 members, they have become the fastest growing group ever, with over 62 members coming forward stating they want to be part of the organization - you certainly are to be congratulated - and we believe that it was timely to have a Chapter come into existence for all the Divers out West! We take this opportunity to welcome you aboard, and we fully expect to see all our long time friends at the 1991 Reunion.

Speaking of the 1991 Divers Reunion, Mark Draibye (who will be the Head Honcho, we hear) has informed us that it will be conducted from 23 to 25 August 1991 at FDU(P) and at other places in the Victoria environs. More information concerning costs to attend, schedule of events, recommended accommodations, tours, etc. will be promulgated in the DIGEST immediately it is made known. The three previous Reunions have been held in Dartmouth, N.S. (1982 & 1985) and Toronto (1988); with the 1991 event being the first ever taking place on the West Coast. The 1994 Reunion is projected for Ottawa, Ont. and the 1997 Reunion possibly in Halifax, N.S. We urge everyone to attend the West Coast Reunion as it may be some time to the next one out there. The contact person for further information will be Mark Draibye, 7266 Ella Dr, Sooke, B.C. V0S 1N0 Phone (604) 642-4072. Please be patient however, since the information will be forthcoming from all Chapters as well as being published in the DIPPERS DIGEST in due time.

At the recent National Board of Directors meeting it was resolved that anyone applying for membership in the months of August to December will be authorized free membership until the end of December of the year in which he applies, with his paid membership running from 1 Jan to 31 Dec of the following year. Anyone applying for membership in the months Jan to July inclusive, will be deemed to be a paid up member for the year he applied in. In other words, there is no prorating of months for memberships. The membership year of 1 Jan to 31 Dec will then coincide with the Association's Fiscal Year, with members then renewing each year as of 1 January. It is the Association's intent to forward a Membership Renewal Form to each individual whose membership is expiring, which will be included with the DIPPERS DIGEST commencing with this edition.

Please note that if a Renewal Form is not attached, it means you have previously paid your dues. With all the goings on in the Middle East, and the RCN(Oops, Canadian Navy) taking it's part in things, it is only natural that we provide some information about diving conditions there - see the article printed elsewhere. The Navy has finally returned to a procedure it practiced in bygone days, namely including Clearance Divers on the ships of the fleet participating in the events over there. It might be said that when the gauntlet is thrown down, there will always be Divers required to do their job - how ironic to find the wheel has come a full circle. At least the water will be warm for them.

The Association has settled on the design for the Blazer Jacket Crest, as shown here. It is hoped to have them available for purchase sometime in 1991. A CNDA Lapel Pin showing a hardhat and CNDA will be produced in time for the 1991 Reunion. The Eastern Chapter is to be thanked for authorizing funds(on a cost recovery basis) to produce the former, while the Ottawa Chapter should be thanked for the funds(also on a cost recovery basis) to produce the latter. It is cooperation such as this which certainly highlights the fact that we are really one right across the country. Once the Chapters have recovered their costs, the master die/tape and remaining articles will become the property of the National Headquarters, who will utilize all funds emanating therefrom to further the aims of CNDA and it's members. Both of these items are very attractive and superior to ANY other Divers organization symbols. We may also attempt to have copies made of the old Clearance Diver Trade Badge(hardhat superimposed over a mine, with a Maple Leaf above them) to be made available providing they are not too costly to manufacture.

CNDA NATIONAL HEADQUARTERS

STATEMENT OF REVENUE AND EXPENDITURES

30 Jun 90 to 30 Sep 90

GOLD RIBBON, WORDS
AND TRIM AROUND
HARDHAT

BLACK BACKGROUND
RED MAPLE LEAF
SILVER
HARDHAT



REVENUE

20% Transfer From Eastern Chapter	\$ 196.00	
1990 Dues From Eastern Chapter(12 Members)	\$ 24.00	
1989 Dues From Ottawa Chapter(48 Members)	\$ 96.00	
1990 Dues From Ottawa Chapter(62 Members)	\$ 124.00	
Credit Union Account Interest	\$ 3.56	
1990 Dues From Western Chapter(36 Members)	\$ 72.00	
	\$ 515.56	\$ 515.56

EXPENDITURES

1 Credit Union Share @ \$15.00 ea.	\$ 15.00	
	\$ 15.00	\$ 15.00
Revenue Over Expenditures		\$ 500.56
Account Cash Balance as of 30 Jun 90		\$ 0.00
Account Cash Balance as of 30 Sep 90		\$ 500.56

11 Credit Union shares are fully recoverable to the Association when the Account is closed out.

It is most pleasant to announce that the 1957 HMCS SHEARWATER Flyers Football Team were inducted into the Canadian Forces Sports Hall of Fame on 10 Oct 90 at CFB TRENTON. Two former RCN Divers, LCDR(Ret) Don Loney(now living in Sherbrooke, N.S.) and C2CD(Ret) Ken Whitney were associated with that team.

And finally, we wish to thank all those contributors who checked out their "stash"of goodies such as newspaper articles, scrapbooks, photograph albums, footlockers, etc. to send us some material of interest of their Royal Canadian Navy and Canadian Armed Forces diving exploits. They will all show up in future editions of the DIGEST

LATE NOTE: Larry (Bolter-Farrar) Farr, one of our WWII Divers writes just recently that he got out of the Lion Gate Hospital after having a "Steffee transpedicular Screw Implant, Plate and locking nut" sounds like one of the diving jobs LCDR Baker and his Forty Thieves were involved with. He remembers a game similar to "beer ball" called Blow Football he played when he was at Whale Island, part of HMS EXCELLENT.

LEO GONEAU

Leo Goneau was born and raised in Midland, Ontario where he was educated in Sacred Heart School and the Midland High School. At a young age he went to work in the Midland Shipyards, where Corvettes were being constructed for the Navy. In 1947 he left the Shipyards to become employed at the Midland Foundry and Machine Company for a period of 2 years, at which time he joined the Royal Canadian Navy as an Ordinary Seaman in the Steward Branch. When he found what the Steward trade was, he decided it was not for him and applied for the Seaman trade. It took just 4 hours for Leo to switch from Steward to Seaman! His New Entry training was conducted at HMCS NADEN in Esquimalt, B.C. after which he was drafted to HMCS STADACONA in Halifax, N.S. His Naval career there had it's beginning at the North Drill Shed as a sweeper(*most new recruits, it would appear, started their careers sweeping some part of a Naval establishment - it was probably an excellent grounding for the rest of their time in the Navy!*). Leo had close connections with Ira Johnson, Sam Short, Reg Winters, Fred Stiner and George Cole at that time, which would have ensured that his Naval future would be in the Gunnery Branch. However, in 1950 a dastardly trick was played on him, as he was drafted to the East Coast Diving Unit under LCDR A.H. Baker. It seemed that LCDR Baker required a Seaman/Steward in his crew; a Steward to serve him his breakfast, dinner and supper, and that the same person be available to work Seamans duties from 0900 - 1200 & 1300 - 1600. With Leo's previous trade as a Steward, followed by a quick 4 hour change to a Seaman. it appeared that he definitely fit the billet, therefore for approximately 2 years he was at the Diving Unit at the North end of the Dockyard, right under the Return Stores. In that era, the Diving Unit on the East Coast consisted of:

LCDR A.H. Baker	OIC	LS(DV) Patrick O'Neil	Diver
CPO(DV) John Brown	2OIC	LS(DV) Gordon LeBlanc	Diver
PO 1(DV) Peter Nicholson	Instructor	LS(DV) Raymond Brunelle	Diver
PO 2(DV) Norman Mitts	Instructor & Clerical	LS(DV) Keith Power	Diver
		LS(DV) Tug Wilson	Diver

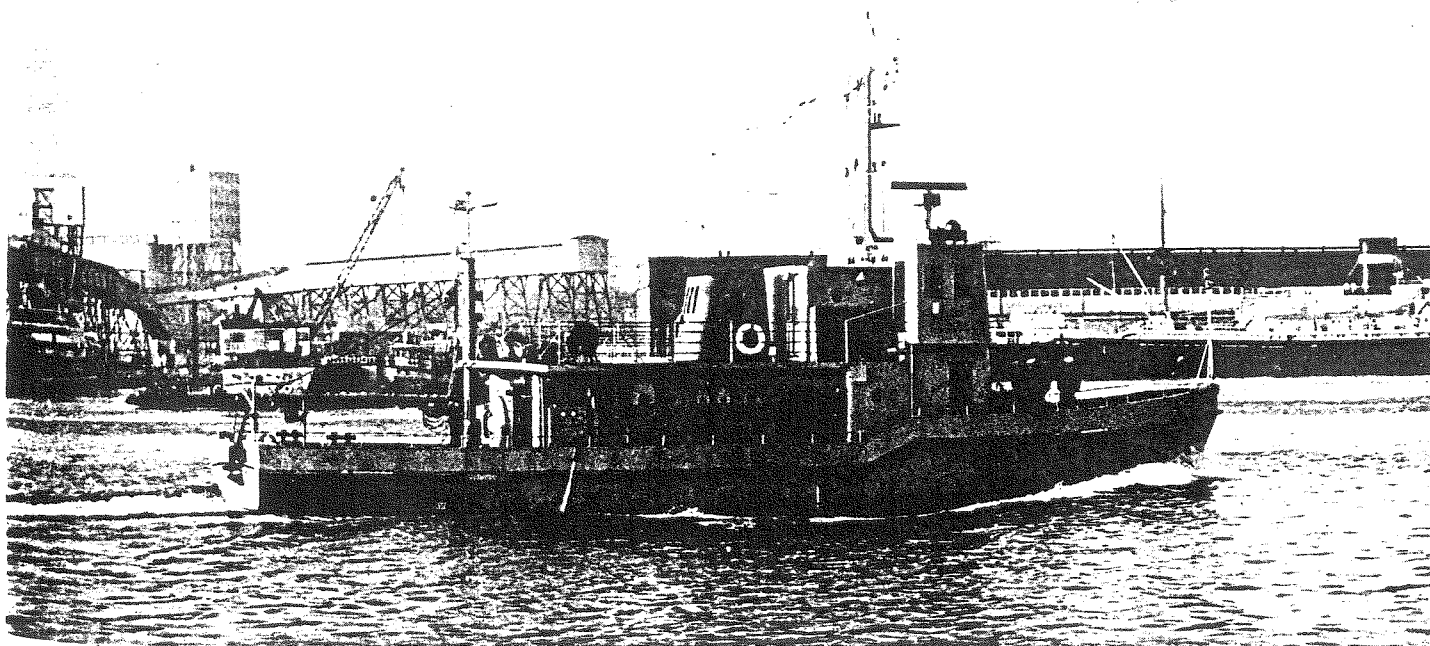
The job of Cook, Electrician and Stoker at the Unit was a rotating draft of two years duration, and rounding it all out was Leo as the Seaman/steward - so the total number of personnel held on strength was a superstitious 13.

Leo applied, and was approved for, a Quarter's Rate(QR) 3's Course, which commenced in January 1952 and was held over a duration of 40 working days. Nearing the end of the course, he went back to the Diving Unit to visit one of his friends, Paul Gauthier, the Cook. As he was about to leave, LCDR Baker hailed Leo into his Office saying, "I hear there was a question you wished to ask me before you left here". Hesitantly, Leo stated "Yes Sir, but--well--I'm in the Fleet now, so-- well, I guess you might as well forget it". LCDR Baker replied, "No, no. You put in a Request Form to take the Divers Course and I'll have you down here next week", which Leo did and, true to his word, was drafted back to the Diving Unit all prepared to take the next course starting in April, 1952. This was only the third Divers Course to take place since the end of WWII and those who took it(besides Leo) were Yvon Gingras, Robert Barclay, Lloyd Burke, John Newton and Bruce Robinson. They trained in the Standard Dress and qualified as DV3's. In 1955, all Divers were consolidated into their own Branch, which required those trained as hardhat Divers to take a conversion course in SCUBA gear, and the SCUBA Divers in the Underwater Training Unit(U.T.U.) to take a conversion course in Standard Dress, in order for all the Divers to qualify as the new Clearance Diver(CD) trade designation. The new RCN Clearance Diver would now be capable of operating with any diving equipment!

Leo has conducted his Naval diving tasks in many varied places in the world, such as Puerto Rico, the Arctic, Newfoundland, Bermuda, Halifax, Vancouver and Victoria to name but a few. The majority of his diving career was at the East Coast Diving Unit, although he also spent some time as a Diver aboard HMCS MAGNIFICENT, HMCS HAIDA, HMCS COLUMBIA and HMCS CAPE SCOTT - there was such a time when single trade Divers were carried on board ships in the Fleet!

Leo Goneau, as President of the Association, states, "As one of the Founders of the Canadian Naval Divers Association, I feel honoured and privileged to serve as your President at this time, although it passed to me due to the great loss of our dear friend and diving buddy, Vernon Mel Melanson. I would like to acknowledge, as well, the timely uniting of our branches in Ottawa, Victoria and Halifax. I expect these Chapters of our Naval Divers Association will prove to have a long and productive association with, and for, all the Naval Divers right across Canada".

In 1974 Leo retired from the Navy and he presently works at the Nova Scotia College of Art & Design in Halifax, N.S. He and his gracious wife live at 122 Rosedale Ave, Halifax, N.S. B3N 2J7 Phone (902)443-7081



FEB 61
A custom-built diving vessel, YMT-11, was completed in January at Ferguson Industries, Pictou, N.S., for the Navy and began trials off Halifax. She is 88' by 20' by 4'9", with a speed of nearly 11 knots, can dive four men at a time to about 250 feet and is fitted with a recompression chamber. (HS-67277)

Army Officer Qualified Diver **NOV 61**

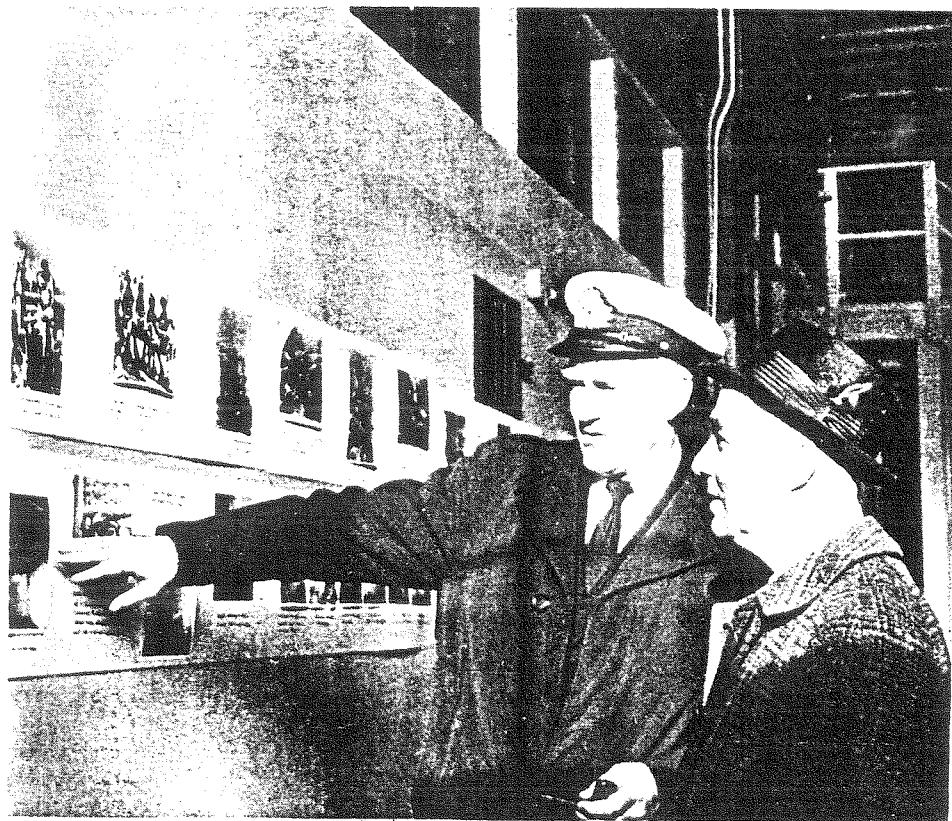
A Canadian Army officer serving on board the *Bonaventure* has attained a unique qualification. He is Capt. W. Donald Creighton, who qualified earlier this year as a naval clearance diving officer (ships) when he took a diving course at the RCN Diving Establishment in Dartmouth, in May of this year. His normal duties are those of Ground Liaison Officer in the carrier.

He is believed to be the only person in the Canadian Army to qualify as a clearance diver since the Second World War.

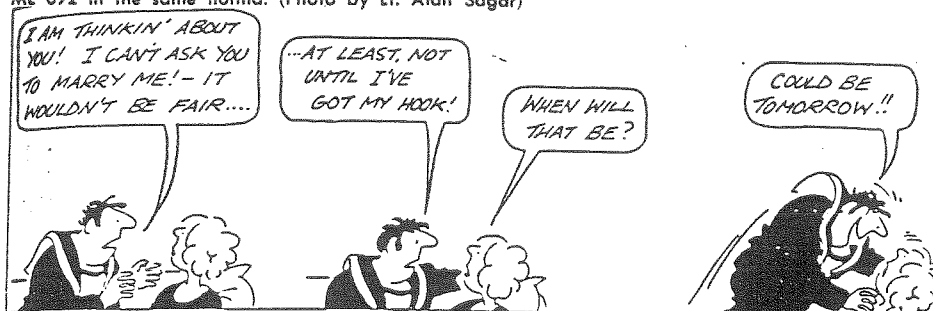
Capt. Creighton was posted to the *Bonaventure* a year ago from the 2RCHA, in Winnipeg, as carrier-borne Ground Liaison Officer. His small organization, plus Dental Corps people, bring to 10 number of personnel in Army uniform braving the briny deep in Canada's biggest warship.

Capt. Creighton, who grew up in Westville, near New Glasgow, N.S., served briefly in the Army as a gunner in the Second World War until plucked off a troopship about to go overseas when it was discovered he was only 17 years old. He later joined the RCAF, training as an air gunner, just before hostilities ended.

He then went to Mount Allison University, N.B., graduating as a bachelor of science and entered the RCA as a 2nd lieutenant in 1951. He is married to the former Shirley Campbell, also of Westville.



MAR 63
Lt.-Cdr. Ross Dickinson, Commander RCN Diving Establishment, Halifax, shows his one-time senior officer some of the things that have been happening since the Second World War. Ewart Leyland, who was in command of ML 074, leader of the 77th Canadian ML Flotilla, as a lieutenant, RCNVR, recently visited the Diving School, and was greeted by Lt.-Cdr. Dickinson, who commanded ML 092 in the same flotilla. (Photo by Lt. Alan Sagar)



THE UNDERWATER SAGA OF COMMANDER CRABB

DEC 56

BOOKS for the
SAILOR

LAST YEAR I was privileged to be asked by Commander Crabb to check over the manuscript of a book to be entitled "The Watch Below" by Marshall Pugh. The book dealt with the underwater activities and careers of Crabb and his immediate associates. It was an excellent and most interesting book. Unfortunately before it could be published Crabb disappeared under exceedingly mysterious circumstances which need no enlarging here. In the light of this situation the author had to revise certain chapters and the book now published under the title "Commander Crabb" is the result.

Very few of the older diving fraternity could help but know and respect "Crabbie", as he was most widely known—he was "Buster" to his intimates—and I can say confidently that he was one of the most beloved characters in the diving world. He was liked and respected by both officers and men and was always a most welcome guest in either company.

"Crabbie" was born in January 1909 and served in the Merchant Navy from 1923 to 1928. He rejoined again in 1939

but transferred to the RNVR in 1940 and joined up with the Bomb and Mine Disposal Organization. He was sent to Gibraltar in 1942 where through his outstanding underwater exploits he saved countless tons of allied shipping. With great ingenuity the Italians managed to establish a human torpedo and limpet mine base in an interned tanker at Algeiras just across the bay from Gibraltar. Access to and from the tanker was achieved under water through doors leading into one of the tank compartments and, such was their ability, that it is extremely doubtful whether the Spanish authorities were aware of what was going on. The Italians met with some initial success in their attacks but had not reckoned with the audacity, daring and ingenuity of "Crabbie" and his underwater team.

"Crabbie" remained in the Mediterranean Station throughout the war and when Italy capitulated he took over his old enemy's establishments and turned their abilities to helping the Allies' cause. This surely was a Gilbertian situation.



This drawing of Cdr. Crabb was dashed off by Lieut. Alan Sagar during a five-minute sitting at the RN diving school, Deepwater. Lieut. Sagar was at that time editor of "The RN Diving Magazine" and now is with the Operational Diving Unit in HMCS Granby at Halifax. "Crabbie was 'one of nature's gentlemen'—a gentle lion," says Lieut. Sagar.

Briefly toying with the thought of transferring to the Royal Canadian Navy, Commander Lionel Crabb jotted down these notes and handed them to an officer who had taken such a step. The ominous words "APRIL 1945 FINIS" were merely intended to indicate that he had reached the end of his service with the Royal Navy. "FINIS" was not written to his diving career until two years later.

CRABB. LIONEL KENNETH. PHILIP.

BORN. JAN. 28th 1909.

COMMANDER (SP) R.N.V.R. SENIORITY. JUNE 1952.

DECORATIONS. O.B.E. G.M.

CADET. H.M.S. CONWAY. 1923-25.

LAMPART & HOLT LIME. CADET 1925-28.

MERCHANT NAVY SEPT. 1939 - JUNE 1940.

ROYAL NAVAL PATROL SERVICE AUG. 1940 - JULY 1941.

SUB-LIEUT. RNVR AUG. 1941.

APPOINTED LT & joined BOMB DISPOSAL NOV. 1941.

"MINE & BOMB DISPOSAL OFFICER GIBRALTAR
NOV. 1942.

LT. CO. MARCH 1944.

Italian underwater attacks on shipping at Gibraltar started diving experience. For the next 5 years remained on the Med. Station, (Italy, South of France, Haifa), counter measures against U.V. attacks & clearing ports. During this time

had 14 months with the leading Italian on the Island of St. ANDREA Venice, where I created the Allied Naval Experimental Station. & carried out many experiments with BRECONI upon Mammalian Breathing Apparatus, & worked with the San Bartolomeo Trencher Towed.

Demobilised APRIL 1945.

Experimental work on Underwater Photography with Admiralty Research Laboratory followed, until MAY 1951 when as division officer for that Establishment introduced T.V. to H.M.S. RECLAIM & served in capacity of LT. CDR. RNVR until Oct. 1951 when appointed on 18 months recalled service to Underwater Centre Museum & Research Establishment to take charge of the Experimental Clearance Diving Team. APRIL 1954 FINIS.

After hostilities ceased "Crabbie" continued on underwater anti-sabotage work and mine clearance in various Middle East parts, principally Haifa. He was demobilized in 1948, with the rank of lieutenant-commander. His exploits had earned him the OBE and George Medal.

Even after demob., "Crabbie" could not leave his beloved underwater work alone and joined up with the Admiralty Research Laboratories for experimental work in underwater photography. He was the first diver to reach the sunken submarine *Truculent* under extremely hazardous conditions and also served in HMS *Reclaim* throughout the operations on the sunken submarine *Affray*. "Crabbie" also worked on the sunken galleon in Tobermory Bay.

"Crabbie" was a great personal friend of mine and many are the stories that could be told of amusing situations that arose from time to time. On one occasion "Crabbie" was asleep on the ward-room settee in HMS *Reclaim*. The ship was moved over the sunken submarine *Affray*, miles from land and the time two o'clock in the morning.

A very tired puffin, a bird with a face only a puffin of the opposite sex could love, had found its way into the ward-room and sought refuge under "Crabbie's" settee. A senior naval officer with a very kind heart was down on his hands and knees trying to feed a sardine to the puffin and calling to it by saying "Puff, Puff, Puff." "Crabbie" woke up rather bleary-eyed and said "Where in the . . . do you think you are? Paddington Station?" He refused to believe there was a bird under the settee and put his hand down the back. There were immediate yells from "Crabbie" as he hastily withdrew a bleeding and well-pecked hand.

The bird was captured but "Crabbie" had to let it loose in the diving flat, much to the concern of the diving watch who, only half awake, had just turned out to start diving on the 3 a.m. slack water. The effect on the drowsy men of a flapping puffin rushing around the flat was extremely amusing—to the onlookers.

Reproduced on these pages are some notes which "Crabbie" jotted down one

memorable evening which came to be known as "The Night of the 'Three-Point Landing'."

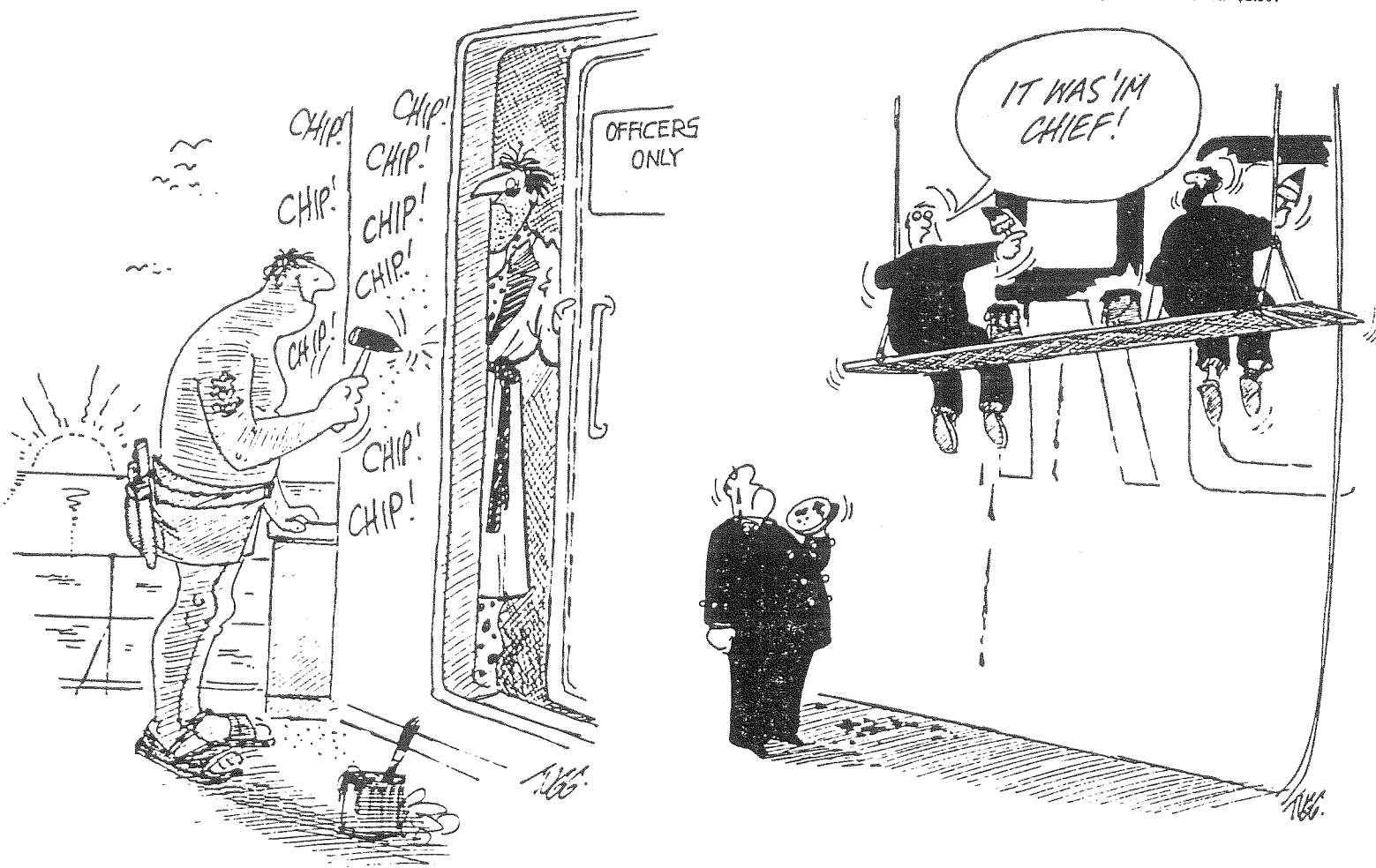
I had thrown in my lot with the Royal Canadian Navy and, as our party in a London flat mellowed, "Crabbie", too, was seized with the thought that he might try his luck in Canada. He handed me the notes of his service career and that was about as far as he got. He was over-age for transfer.

As the party broke up and started homeward "Crabbie" tripped on the top step of a flight of six leading to the street, soared through the air and made a perfect three-point landing—on his rather prominent nose and his elbows.

"Crabbie" embodied everything that goes to make up "an officer and a gentleman"—in its fullest sense. He was a brilliant diver and an extremely brave man. Marshall Pugh's book is a very timely memorial and is excellent reading.—J.N.B.

DEC 56

"Commander Crabb", by Marshall Pugh; The Macmillan Company of Canada, Limited, Toronto: 166 pages, illustrated \$2.50.



Dabtoe

Clear your yardarm

Diving in the Persian Gulf

By Commander Michael S. Baker, Medical Corps, U.S. Naval Reserve; Commander Harold K. Strunk, Medical Service Corps, U.S. Naval Reserve; Master Chief Hospital Corpsman Donald Weighman, U.S. Navy

Scant information on the hazards to diving in the Persian Gulf has been published in the United States although the U.S. Navy has operated in the region for many years.

In an attempt to describe the problems, the authors pooled their experiences, which include deployment with active duty naval assets and extensive civilian sport diving with the local branches of the British Sub-Aqua Club.

The major hazards to divers come from the environment and the dangerous marine life. The region is one of high ambient temperatures, high humidity, and the water is very warm during the summer. Dangerous marine life includes sharks, venomous sea snakes, and sea wasps (jellyfish). Lionfish and moray eels present hazards and even the coral is dangerous.

Overall heat effects: The increased heat load of a hot environment may adversely affect deployed personnel. Combined with physical activity, sleep loss, and change in rations, heat stress may dramatically degrade performance.

Temperatures in the Arabian Peninsula and Persian Gulf may reach 130 Fahrenheit (54.4 Centigrade) in the summer. Combined with the high humidity often experienced in the Gulf, this can lead to heat stress and heat stroke. Sun and heat exposures also result in other disabling conditions, such as sunburn, severe heat rashes, miliaria, and psychiatric stress.

The importance of physical fitness in preparing troops for deployment into high temperatures is recognized, but even fit troops require a period of acclimatization of 10 to 14 days. Regular rest periods, supervised water intake to avoid dehydration, and sufficient rations help to prevent these problems.

The importance of hydration in excess of thirst demand cannot be over-emphasized. The troops must be taught the necessity of maintaining their body water and supervised by officers and senior enlisted personnel in order to prevent injury. Unacclimatized troops can lose 1.5 liters per hour and the acclimatized troops 2.5 liters per hour during bursts of strenuous activity in a very hot environment. An average loss of 1 liter per hour is common. Performance can be degraded as much as 25% by a loss of only 1.5 liters of body water.

Heat injuries during diving: There is very little scientific data published regarding the hazards of warm water diving. The authors, however, have found that dehydration while diving in areas such as the Persian Gulf is accelerated by the very high temperature of the surface waters. Temperatures on the surface as high as 96 F° (35.6 C°) were recorded during August 1988.

The relatively shallow waters of the Gulf, where the bottom is often only 200 feet, respond very quickly to seasonal changes in temperature. Wet or dry suits are needed for the winter months when the waters are uncomfortably cold but these suits are intolerably hot in the summer months. Protective clothing is necessary; coveralls or jeans with long-sleeved shirts are more practical, and gloves are required. The problem becomes evident when one calculates the diving profile for 40 minutes of work performed on an air dive at a depth of 150 feet: the diver would have a minimum decompression time of 57 minutes. The first decompression stop would be at 30 feet for 5 minutes; the second at 20 feet for 19 minutes; and the third would be at 10 feet for 33 minutes (see Figure 1). These decompression stops plus the ascent times in addition to the temperature of the air supplied to the diver means that the diver may have a "cooking time" of almost one hour in hot water. Temperatures of 86 F° (30 C°) at depths of 60 feet have frequently been recorded in the Gulf (see Figure 2).

A diver using closed-circuit, mixed-gas, underwater breathing apparatus faces even greater danger. A dive to 150 feet for 40 minutes will require 92 minutes of decompression starting at 50 feet for 7 minutes, 40 feet for 20 minutes, 30 feet for 21 minutes, and then 22 minutes each at 20 and 10 feet (see Figure 3). The diver using this apparatus at least carries it with him, and thus avoids the even higher temperature of inspired gas—which can reach 127 F° (53 C°) on the surface. The diver's air supply should be shielded from the sun prior to the dive, to reduce heat absorption. An already tired diver, who is probably somewhat dehydrated, will thus be forced to spend a considerable length of time in very hot water for his decompression stops. The Royal Navy has many years of diving experience in the Persian Gulf and has published guidelines reflecting that experience (see Figure 4).

No serious heat injuries are known to have occurred while the authors were in the area. This is probably related to the excellent fitness levels of deployed personnel, the briefing that emphasized overhydration, and rapid acclimatization by personnel to the environment.

Hazardous marine life in the Persian Gulf: There are three major hazards in the Persian Gulf from marine life:

- ▶ Venomous sea snakes
- ▶ Extremely toxic sea wasps (jelly fish)
- ▶ Sharks

No reports of injuries from any of these hazards are known by the authors to have occurred in the Persian Gulf during recent diving operations. Incidents with local inhabitants are well-documented, however, and form the basis for the information reported.

Coral is another hazard to divers in the Gulf worth mentioning. Most of the shoreline of the Gulf is shallow, sandy beaches, and the bottom varies from sand to mud. Numerous reefs are charted, though, and these are usually built upon coral formations. Cuts and scrapes caused by coral are highly infectious due to the bacteria injected under the skin. Without proper cleaning and dressing, these cuts are slow in healing.

It is always wise to wear protective footwear when diving. Thick-soled neoprene booties, or high-top canvas shoes that fit comfortably into fins work best. These will afford protection when walking across reefs. The reefs and islands in the Gulf are low, sandy, treeless, and covered by scrub brush. They are inhabited by birds and are infested with ticks and mites above the high water line. These insects carry a wide variety of infectious diseases of which medical personnel should be aware.

Sea snakes (family Hydrophidae): Sea snakes are found throughout the tropical seas, usually in shallow coastal waters. They are not particularly aggressive, but they do have short grooved fangs near the front of the upper jaw and are venomous. The bite is rarely painful, but the venom is neurotoxic and more potent than that of a Cobra. The snakes have difficulty biting as their jaws are very narrow. The greatest number of snakes are found in Al'Uqair, Tarut Bay, and Muharraq Bay. The *Hydrophis cyanocinctus* is frequently encountered; it has a pebble-grain skin, and a series of dark bands or rings around the body. The snakes are often found resting on underwater pipes and ledges. There are nine types of sea snakes in the Gulf, and all are poisonous.

Treatment of a sea snake bite is similar to that first aid provided for snake bites occurring on land. The victim should be kept quiet. A venous tourniquet above the bite wound (if it is on an extremity) is indicated to slow flow upstream. The

venous tourniquet should not be so tight as to stop arterial inflow, but only tight enough to impede venous and lymphatic return. Be prepared to support ventilation and circulation.

The key to treatment of venomous sea snake bites is the antivenin. It is available from Commonwealth Serum Laboratories in Australia and a single vial costs \$422. Shelf life is 1.5 to 3 years depending on the date of actual harvesting. Commonwealth Serum Laboratories address is 45 Poplar Road, Parkville 3052, Melbourne, Australia, telephone 061-3389-1911.

Sharks: Several species of dangerous sharks inhabit the Persian Gulf. Great whites, hammerheads, and tiger sharks have all been identified in these waters.

Most sharks tend to attack surface swimmers, which they identify as easy prey; they rarely attack submerged divers. Often they will nudge a victim with their snout to see if it is a safe prey, and then will circle back to attack.

No documented injuries due to sharks were known to the authors during the relatively short period of diving operations in the Persian Gulf. Although it is always dangerous to swim in ocean waters where sharks are present, divers can work safely if they remain alert, do not dive alone, avoid murky water, and try to keep the reef at their back.

Sea wasps (jellyfish or Cubomedusan): Stings from jellyfish rarely cause anything other than local swelling of short duration. The sea wasp, however, has been responsible for deaths worldwide because of the venom in the nematocysts. Death from stings of the sea wasps can occur in as little as three minutes.

Sea wasps are dome shaped, and sometimes reach a height of 10 inches, although they are usually much smaller. During the warmer months, they are abundant in coastal waters. Wearing protective clothing when diving is the best protection against jellyfish stings. Minimize the exposed skin surface as much as possible, and always wear gloves.

The following strategy has been developed to treat jellyfish stings, and is probably appropriate in the event of an encounter with a sea wasp. First, and quickly, the nematocyst should be inactivated by rinsing the involved area with a liquid that has a high alcohol content, such as rubbing alcohol. The application of meat tenderizer (papain) at this stage may also be effective. This can be mixed in solution with water and kept ready in a spray bottle.

The residual tentacles then should be removed by coalescing them with a drying agent, such as flour, baking soda, or divers' talc. The paste is then scraped from the skin with a blade. The wounded area should be rinsed with basic solutions, such as baking soda or ammonium hydroxide, to neutralize the toxins, which are often acidic.

Other dangerous marine life is present in the waters of the Persian Gulf. The beautiful cone shell contains a highly toxic barb in its shell. The ornate and delicately colored lion fish (*Scopaeidae pletis*) has 21 venomous spines protruding from its body. Moray eels (family: *Muraenidae*) are antisocial and are usually found in holes in the reef. Sting rays (*Dasyatidae*) are often seen along the bottom and they have a poisonous barb on their long, whip-like tail. As with sea snakes, all of these are best left alone.

Conclusions: Recent geopolitical events involving the countries bordering on the Persian Gulf have brought about a marked increase in diving operations in this area to preserve the sea lanes of communication.

There are numerous hazards to those who are diving. These include the hazards of the environment as well as those of the indigenous marine life. Injuries,

Proceedings / July 1990

however, can be avoided by proper training, indoctrination, and diving gear. Overhydration cannot be overemphasized; maintain good physical fitness and observe regular sleep and rest cycles.

Henry, C. D. "Heat Stress and Its Effects on Illness and Injury Rates," *Military Medicine*, Volume 150, 6326-329, 1985.

Hubbart, R. W., "An Analysis of Current Doctrine (U.S. Army vs. Israeli Defense Forces) and Further Prevention and Treatment of Heat Casualty Resulting from Operations in the Heat," Commanders' Conference in New Orleans, Louisiana, October, 1978.

U.S. Navy Diving Manual, Volume 1, Naval Sea Systems Command (Washington, D.C.: U.S. Government Printing Office List, 1980-83).

Personal Communication, Surgeon Captain J. R. Harrison, Operational Medical Services, Royal Navy.

Salah, S. "Panorama of Saudi Arabia" (Singapore: IPA/Tien Wah Press Limited, 1978).

Strunk, H. K., "Guidebook of Infectious and Communicable Diseases and Other Health Hazards of the Arabian Peninsula," U.S. Naval Forces Central Command, Pearl Harbor, Hawaii, 1984.

The New Science of Skin and Scuba Diving, Chicago: Follett Publishing Company, 1980.

Auerbach, P. S., A Medical Guide to Hazardous Marine Life, Jacksonville, FL: Progressive Printing Company, 1987.

Moore, W. C., "Near Fatal Jelly Fish Sting," *U.S. Navy Medicine*, 72:22, February 1981.

British Sub-Aqua Club Diving Manual, (London: Eyre and Spottiswood Limited, 1979).

Commander Baker is chief of surgery at Contra Costa County/Merrill Memorial Hospital in Martinez, California. Commander Strunk is Regional Manager, Hospital Relations, Blue Shield of California. Master Chief Weighman is the Branch Head, Diving Human Factor Analysis at the Naval Safety Center, Norfolk, Virginia.

Figure 1 U.S. Navy Standard Air Decompression Table*

Depth (feet)	Bottom Time (min)	Time to 1st Stop (min:sec)	Decompression Stops (feet)			Total Ascent (min:sec)
			30	20	10	
150	40	2:00	5	19	33	59:30

*U.S. Navy Diving Manual, P. 7-8.

Figure 2 Temperatures Measured on 29 July 1988

LAT: 26 53.5 N, LON: 50 41.2 E

Depth (m) Temp (C°)

0.99	33.0682
1.99	33.0169
10.94	31.4645
15.91	31.4447
20.88	29.4109
30.83	27.5406

From: U.S. Navy Coastal Systems Command Panama City, Florida

Figure 3 Closed Circuit Mixed-Gas UBA Decompression Tables 0.7 Atmospheres Absolute Constant Partial Pressure O₂ in Helium*

Depth (feet)	Bottom Time (min)	Time to 1st Stop (min:sec)	Decompression Stops Stop Times AT (min)					Total Ascent (min:sec)
			50	40	30	20	10	
150	40	1:40	7	20	21	22	22	94:30

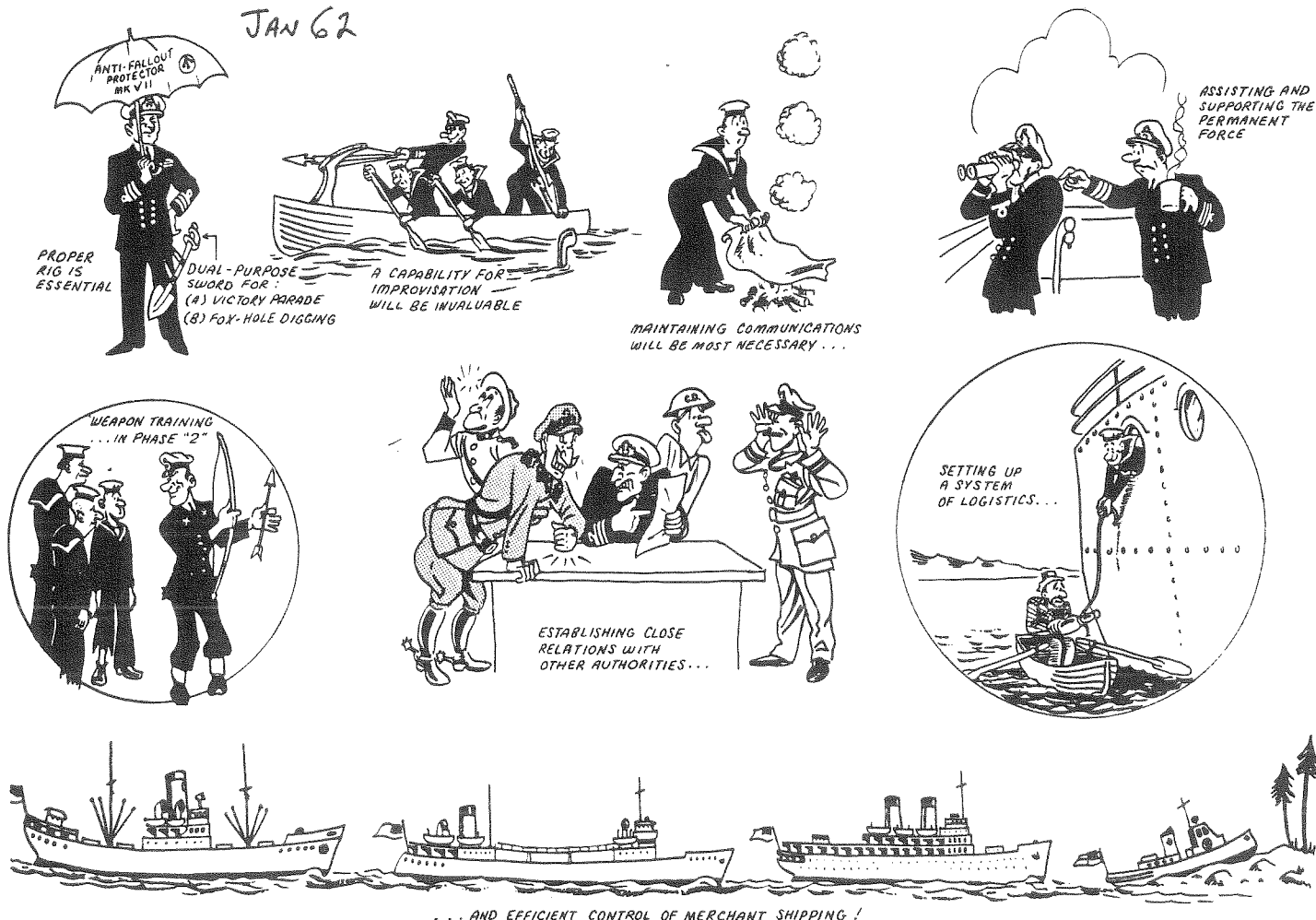
*U.S. Diving Navy Manual, P. 15-33

Figure 4 Guidelines

1. Shelter the standby diver from the sun.
2. Shelter the breathing apparatus from the sun.
3. Dive in light coveralls or other lightweight protection when in shallow waters.
4. Limit dive time when in shallow and hot water (15 minutes for hard work, 20 minutes for moderate work, etc.)
5. Good pre-dive hydration.
6. Shelter and cool recompression chambers to prevent unacceptable temperatures during treatment.

The Role of the RCNR in a Future Conflict

JAN 62



If commanding officers of naval divisions were a little unsure about their role in the event of a spot of bother, their worries must have been allayed by the above illustrated thesis. Lt. Jack Thornton, RCNR, of Discovery, had withdrawn from his Naval Lore Corner long enough to sketch the shape of things to come as a contribution to the COs' conference at COND last fall.

Sailors Swim

Reversing Falls SEP 62

Three crew members of HMCS *Lauron*, in what is believed to be a first performance of its kind, swam through the Reversing Falls at Saint John last June under water, in a friendly competition.

The naval frogmen, Cd. Off. J. C. Wilson, Ldg. Sea. J. J. Bechard and AB R. C. Downey, swam through the waters, at a depth of 15 feet, with AB F. M. Harkness standing by in a surface boat.

The swimming stunt arose when a cadet whaler, scheduled to compete against cadet whalers from the *Buckingham* and *Cap de la Madeleine*, was unavailable and it was decided the three men would swim in the competition while the whalers were pulled by oars.

The swimmers reported that they couldn't see bottom due to turbulent water.

The winning crew from the *Cap de la Madeleine* had as coxswain Lt. Leonard Forrest. Sub-Lt. W. O. Shead was coxswain for the *Buckingham* crew.



Identified as a wolf eel, this five-foot, two-inch denizen of the deep was speared in 60 feet of water off Royal Roads by a diver from HMCS *Cape Breton*. The nine-pound eel is seen being (ugh) admired by naval diver AB Donald R. Moriarty. Cdr. Ben Ackerman, in charge of the diving school, says the wolf eel is one of the few dangerous underwater species in the Esquimalt area. (E-69259) DEC 62

Chief's Son Saves Amateur Diver SEP 62

Darelle Kay, son of CPO Lloyd Kay, one time chief electrician at the RCN Diving Establishment, knew what to do and where to go when a tyro Scuba diver got into trouble in Halifax harbour off Shannon Park naval married quarters.

A summer visitor with a naval family in the Park decided to try out his new Scuba gear, with near-disastrous consequences.

Young Kay fished him out of the water and had him whisked by naval ambulance off to the Diving Unit for possible recompression and other treatment.

The naval doctor and divers discovered "no apparent bends" and a spokesman said the victim's condition was good. "He is suffering from exposure and lack of experience", was the official, tongue-in-cheek observation.

The novice diver was reported at the time of treatment to be offering his Scuba gear for sale, cheap.

The Padre and the Pigs DEC 61

SOMETIMES the padre must wonder sadly whether his message is getting through. Does that look of rapt interest on the face of AB Gasperson—a confirmed and diligent “bird”—spring from attention to the sermon or from the recollection of an outlandish experience in some far-off place? Will his captive audience respond to moral suasion and lead better lives or does it all add up to casting pearls before swine?

It may interest the seagoing clergy to know that one of their number, no longer ago than the Second World War, preached a sermon that brought immediate and confirmable results and the subject was—swine.

Navy people who served at HMCS *Niobe*, the manning establishment near Greenock, Scotland, will recall that it was not only a barracks but also a piggery.

This resulted from the desperate food shortage in Great Britain. Pigs were being raised there before the Royal Canadian Navy acquired the former Poor Law Infirmary and its 87 acres

of ground, and the Ministry of Food continued to send piglets there for rearing after the Canadians moved in.

A certain tension, not always well concealed, existed between the front office and the sailors assigned to piggery duties, who cringed at the thought of the lies they would have to tell in years to come when some shrill voice piped: “What did you do in the war, Daddy?”

Because of this animosity, a former commanding officer of *Niobe*, Captain J. R. Hunter, RCN(R) (Ret), of London, Ontario, recalls that there were rumours of sabotage when one of the pigs died. On the part of British officials there were suspicions that Canadians were pampering a taste for young, fresh pork.

It did nothing to allay either set of suspicions when a second pig died. The captain was worried. This was an international issue. He wasn't quite sure what lay behind the two disasters, but he cleared lower decks and told the sailors it had to stop.

Then a third pig died. The Principal Medical Officer, a little concerned about what the Royal Society of Veterinarians

(if such existed) would do to him, performed a post mortem.

What did he find? Two forks and a knife, and sufficient reason for the CO to jam leave, parade the ship's company and subject them to a beration from both himself and the Executive Officer.

The next morning another porker went to that shining Pigsty in the Sky.

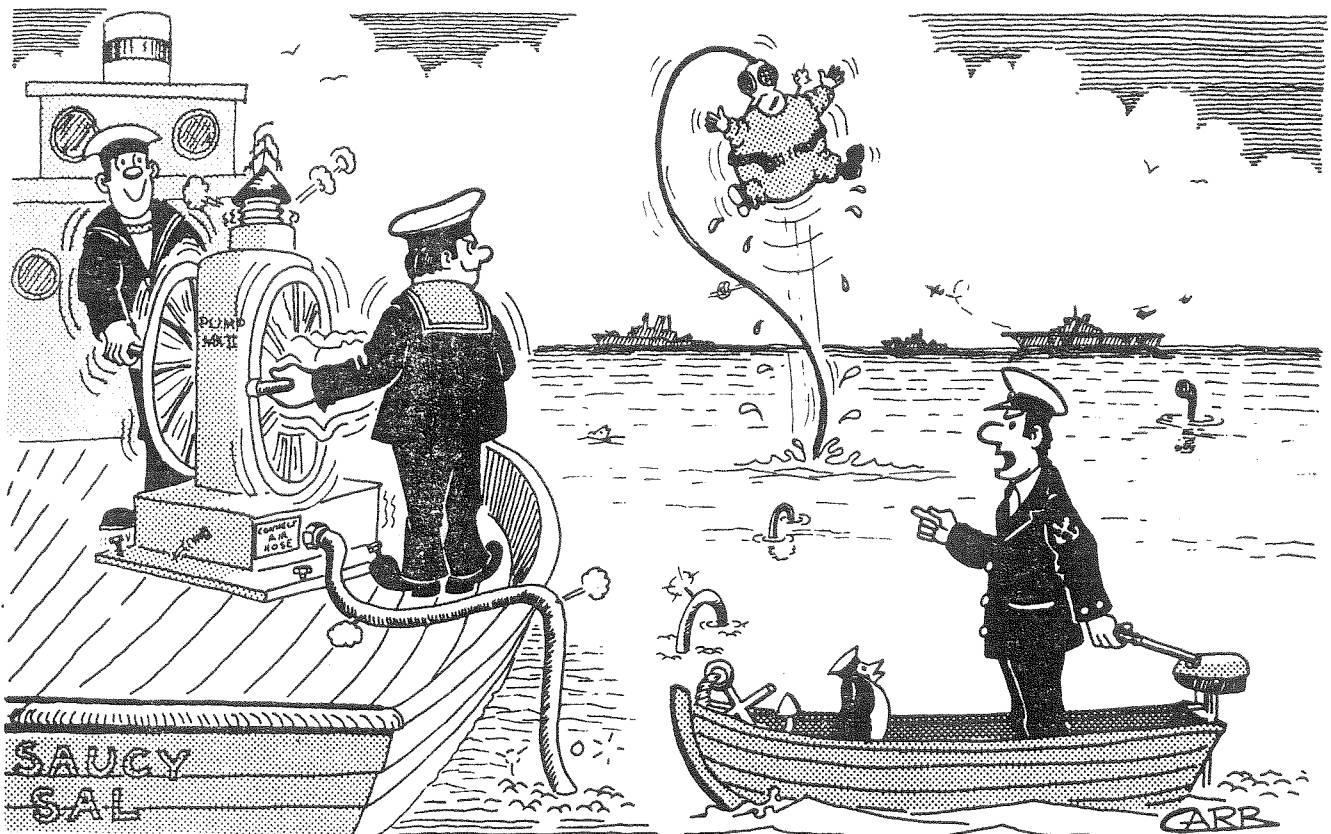
This time—before all the fuses were blown, windows shattered or walls cracked—the padre stepped in.

“Let me handle this,” he said.

At Sunday divisions the next morning, any orthodox sermon the chaplain may have prepared during the week went unpreached. Instead he launched into a lurid and imaginative description of the horrible death agonies of four or five little pigs which had come to an untimely end, all because of the carelessness of a few sailors who had scraped their cutlery into the gash can as they left the cafeteria mess.

So effective was the discourse that four seagoing sailors (including the XO), who had defied the North Atlantic to do its worst, became ill.

No more pigs died before their time.



"I DON'T CARE IF HE DID PINCH YER BIRD LAST NIGHT - PACK IT IN"



(RCN Photo, Roy Leblanc)
Warrant Officer Lawrence Chaney, R.C.N., diving officer of the R.C.N.'s Newfoundland Command, has been awarded an M.B.E. in the King's 1944 Birthday Honors List. His staff has been many times praised for difficult operations. W.O. Chaney's home is in Vernon, British Columbia. In St. John's he lives at 238 Hamilton Avenue.



(RCN Photo, Lieut. G. Moses)
Able Seaman Albert J. Hanley, R.C.N.V.R., a naval diver, has been awarded a British Empire Medal in the King's 1944 Birthday Honors List. He recently recovered two loaded depth charge pistols and a depth charge which were lost from a worship. A. B. Hanley's home is in Saint John, New Brunswick.

Hazardous Job Done By Young Sailor

AN ATLANTIC PORT—One of the most hazardous jobs ever undertaken by divers from this Royal Canadian Navy base has been successfully completed by a courageous young Able Seaman from Saint John, N.B.

His name is Albert "Ab" Hanley. He went down to the ocean bed in ice-cold water to recover a charge laden with high explosive and two armed depth-charge pistols which would have blown him to bits had he stepped on them with his 20-pound diver's boots.

The depth charge and pistols

were accidentally lost off the stern of a destroyer. It was not known whether the charge was primed or set to "safe."

Divers under the command of Warrant Boatswain Lawrence "Lon" Chaney, R.C.N., of Vernon, B.C. and Victoria, were summoned. The crew works in rotation, and it was Able Seaman Hanley's turn to go down.

Although Hanley has been diving only 18 months of his three and a half years in the R.C.N.V.R., he is rated by Chaney as "one of the best in the business." "He was an ideal man for the job," Chaney said, "steady as a rock. He started at 9.30 in the morning and had recovered everything by noon."

Chief danger was that Hanley

might step on one of the pistols in the murky underwater light. They were charged with a highly potent chemical and Warrant Bosun Chaney feared that his man might stub his toe on one with his heavy, brass-capped diving boots.

Although he could see less than ten feet, Hanley worked coolly and carefully and in 15 minutes had recovered the depth charge. It was found primed to explode. Fortunately, the diver was working in only 30 feet of water.

It took Hanley only another 15 minutes to find the first pistol. At the end of an hour of cautious groping he had the pistols. Then he went after a small steel bar, part of the depth charge equipment. It was the most difficult to find, but with the pistols and depth charge safely up, he regarded the mopping-up operation as "a cinch."

A quiet, modest sailor, Hanley refused to consider that there was anything heroic about his action. At the same time, he confessed to a few underwater gurgles of relief

hit the water and also that she had put up a struggle in the water," he said.

The girl might have been struck over the head first on the wharf, then put into the water or the injuries inflicted after she had been drowned, he explained.

A piece of cotton line attached to the sash of her blood-stained red and grey ski suit led police to believe she had been dragged behind a boat or canoe through the water and then dropped to the bottom. A canoe, missing from the boathouse, was later found upturned in the Arm.

Beneath her ski suit the girl was wearing her Halifax Ladies College uniform and on her feet were chocolate-colored rubber boots over a pair of leather shoes.

Axe Was Weapon?

Inspector of Detectives James Baker said the injuries on the top of her skull apparently had been inflicted by a sharp instrument and those on the back by a blunt weapon.

"An axe could easily have inflicted them all," he said. He described the injuries as "the worst I've ever seen on any body and I've seen a lot of dead bodies."

A shovel found on the top of the fresh snow at the Johnson boathouse landing wharf also figured in the continued probe yesterday.

Inspector Baker disclosed he had been informed by other occupants of the Johnson home that it had been seen in the residence basement the night before the disappearance of Commander Johnson and his daughter.

"There is no doubt it was put there after the snowfall ended," he said. The snowfall ceased shortly after dark Tuesday night.

Petty Officer Walter Scoville of Spryfield, a member of the Royal Canadian Navy diving crew, found Nadia Johnson's body yesterday as he searched the Arm bed from a pontoon landing used to prevent stirring up the muddy bottom.

Other divers engaged in the search were Leading Seaman William Racey of London, Ontario, and Petty Officer Drake of Halifax. Lieut.-Comdr. E. Baker is in command of the boat and crew, directing operations from the surface by telephonic communications.

The search would continue by diving equipment today, police said, but grappling irons may also be used.

The Royal Canadian Navy, in a statement issued yesterday, corrected previously published reports that Paymaster Commander Johnson was senior Royal Navy pay officer at Halifax and also that he was senior officer at the Royal Navy establishment. They described him as "accountant officer" at H.M.S. Canada, the Royal Navy establishment in Halifax. The statement follows:

"Paymaster Commander F. M. Johnson, R.N., was not senior Royal Navy officer at Halifax, nor was he senior officer at the Royal Navy establishment. This statement has been made in articles concerning his disappearance. The senior officer at H.M.S. Canada, the Royal Navy establishment in Halifax, is Lieut.-Commander N. M. S. Seeger, R.N., and Paymaster Commander Johnson was the accountant officer."

"Important Clue"

The letter purported to have been left by Commander Johnson in his bedroom and found after his disappearance was still withheld by police, but indication was given that references were made in it to his wife.

Police Chief J. J. Conrod described the message as "scrawled and ungrammatical." He intimated it was one of the most important clues in the investigation.