

WARRIOR

WINTER 2023





A member of HMCS Montréal's air Détachement conducts a vertical hoist with the ship's embarked CH-148 Cyclone "Strider" as part of deck evolutions during Operation PROJECTION.

Photo was taken by Corporal Connor Bennett

Presidents Message.....Page 4
 Barker Bar Story.....Page 5-7
 Into the Delta..... Page 8
 Museum Curator’s Message.....Page 9
 A Near DisasterPage 10
 MembershipPage 11
 Wall Tile / Membership.....Page 12-13
 A Night a ShorePage 14-15
 Letter to the Editor.....Page 16
 Seagull Brothers PepperoniPage 17-19
 Sea King Interactive Display.....Page 20-25
 Battle For Very Long Range Aircraft.....Page 26-38
 Seak on the water.....Page 39

Submissions: Text submissions can be either paper, email or electronically produced in Word.

We will format the text for you. No need to centre headings, indent paragraphs etc. Graphics are best submitted electronically; they should be 300 dpi and a .tif file. A jpg file at 300 dpi is acceptable if no compression is used.

We will attempt to use any pictures, whatever the format. NOTE WELL: When sending mail of any kind, newsletter articles, letters, membership renewals, donations etc., please ensure the envelope is addressed correctly to:

**Shearwater Aviation Museum
 Foundation or SAM Foundation 12
 WING PO BOX 99000 STATION
 FORCES HALIFAX, NS B3K 5X5**

Deadlines for receiving submissions are: Spring
 March 15th
 Summer July 15th
 Winter Oct 15th

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COVER PHOTO: Credit

Operation Unifier members participate in a Remembrance Day Parade at the International Peacekeeping and Security Centre in Starychi, Ukraine on November 11, 2019. Photo: Cpl Jeffrey Clement, Joint Task Force-Ukraine

Inside Front Cover: Credit

Corporal Connor Bennett photo,
HMCS Montréal / NCSM Montréal

Back Cover: Remembrance Display

Chantal Beaulieu of Oakwood Terrace Nursing home Dartmouth, Recreation Department had the idea, planned and coordinated the project. She got lots of help from volunteers and her colleagues in Recreation.

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WE NEED YOUR SUBMISSIONS. Please send us your stories, pictures etc. We look forward to hearing from you. Any opinions expressed herein are deemed to be those of the author(s) and do not necessarily reflect the opinions of the Shearwater Aviation Museum Foundation, its members, the Shearwater Aviation Museum and/or 12 Wing Shearwater.

Hello, and welcome all.

First off, I wish to thank the outgoing President, John Cody, for the steady hand on the yoke. He navigated the SAMF through a global pandemic and all the associated challenges, with calm expertise and professionalism. The last 5 years of his tenure have been extraordinary, and he still managed to keep the organization aloft and guide us in the right direction – Thank you.

Moving forward, I aspire to use John’s momentum and launch us in bold new directions.

I will work to the best of my ability to ensure that as an organization, we can embrace the future while honoring our legacy. We have such a vibrant and storied past to draw on, especially being linked to over 100 years of aviation - be it land, sea or air.

It is through our partnership with the Shearwater Aviation Museum and its board that we align their goals and our capacity to best support their stewardship of this unique collection and history.

So, what does this all mean to me?

I have ideas. I have thoughts. I have a bold vision.

However.

I do not have all the answers. I do not have all the expertise, nor can I do any of it alone.

So, this is where I challenge you – Do you have a crazy idea for increasing our membership? Do you have Creative ideas to raise funds for the SAMF? Rebranding or marketing ideas of the SAMF? Articles or pictures for the *Warrior*? Thoughts on the direction of the SAMF? BRING IT ON—the more outlandish the better.

My hope is that, with your help, we can support and expand the support of our incredible museum. We can only do this by expanding our capacity and increasing our fundraising efforts. The reality is that we must evolve as an organization, or we will cease to exist.

My short-term goal is a complete overhaul of ALL of our working documents and have a completed formal business plan. This living document will aid the foundation in setting goals for the future and set a clear path forward – wherever that path takes us.

My long-term goal will be to build a robust and vibrant organization, that is able to take on any opportunities or challenges with relative ease.

Lastly, on a personal note, I have taken on this role as President because, like you, I am proud to be part of this amazing Maritime Aviation community. I want to see the telling of our shared history and heritage carried on for many generations. If I can have a small part to play in ensuring the legacy of this community, then I will work as hard as I can, to help.

Let’s begin.

Jason Miller

President

SAMF



THE BARKER BAR STORY – HOW I LEARNED ABOUT FLYING FROM THAT

It was Friday the 12th of June 1970. A lazy hot afternoon was unfolding on the flight line at HU 21. No students for the rest of the day and we were playing 'ukkers, when in came a distress call from RCC in Halifax. A Canadian fishing trawler out of the south shore had been cut in two by a Russian Fishing Trawler the night before. We had all heard about this in the morning on the news on the way to work and we were wondering how the search out of Greenwood had gone.

It turned out that in his haste to push out their coordinates, the radio basher on the Canadian Trawler had reversed his coordinates. The Greenwood SAR crowd was down off Yarmouth doing a search which had turned up nothing, when one of the lads in RCC took the figures he had, reversed a couple of them and lo and behold they came up with a position 150 Km due south of Halifax. They had dispatched a USAF Rescue C-130 out of Pease Air Force Base New Hampshire to this new position, and there they were: four Canadian fishermen who by this time had been in the water in life rafts for over 12 hours, surrounded by the debris of an obviously rather violent collision.

The call from RCC launched me in one aircraft with Captain Edmonds as my co-pilot and Leading Seaman Gord Rowe and Able Seaman Barker as our crewmen. (You may recall that in those days it was commonplace to fly with a mixed crew on board. Rowe was a Safety Systems Tech and Barker was an Air Bos'n). The

second aircraft had Major Jav Stephenson in command.

The two of us skedaddled as fast as we could go (and then some) to the site and as we approached, we could see a USAF Hercules circling overhead, a complete MA 1 life raft kit in the water with the fishermen on board, along with a USAF PJ (Para Jumper) by the name of Sgt. Beyerle. Jav was first in and he had picked up the four survivors when the Hercules radioed down: "can you pick up any of the expensive kit that's in the water there". By this time Jav, who had been in the hover for 20 minutes or so was beginning to get low on fuel. He went into a hold and sent me in to pick up as much of the fancy kit as we could consisting of radios, medical kits and survival gear of all manner). It turned out the hoist hydraulics went US and so Rowe and Barker took turns doing alternate hydraulic hoists with the Billy Pugh net. After we had the back of the aircraft absolutely chock-a-block with the MA 1 kit that we were able to bring on board, we picked up the USAF PJ, after he sunk the rafts, and off we went on our way to Shearwater. It was routine stuff to us experts from HU 21 up to this point in time.

Then things started to deteriorate. About 100 Km south of Halifax on the way home, me flying number two on Jav in echelon port, his GHARS went us. He turned the lead over to me, slid back and took up an echelon port position. We were at 300 feet doing the max allowed 144 knots, beating feet for Shearwater and the warmth of waiting blankets for our survivors. What followed next happened in the wink of an

eye, but I can still see it all unfolding in exquisite slow motion every time I think of it.

As there was no place to stand or sit in the back as were stuffed with the MA 1 kit contents that Barker, Rowe and Sgt Beyerle had purloined from the sea, all three of them were up between the pilot seats taking a few rays of afternoon sun through the windows. The PJ had been in the water for about 2 hours and Barker and Rowe had been in the back door of the cab for approx 1 hour. The PJ was between the 2 seats, and Barker was standing to the left of him, nestled up against the personnel door, while Rowe was behind me in the starboard seat. Barker was about to prove that those of us who had been trying to convince the Engineers for some time to change the personnel door handle from a “push down on it and it will open”, to a “pull up on it and it will open”, were right.

Barker leaned on the door handle: the door flew open and there he was out in the thin air. Jav who was still flying echelon port on me started yelling into the radios that someone had just left my cab in an unauthorised manner, so the first thing I did almost instinctively was to reach down and turn off the radio mixer switch. My co-pilot was also coincidentally yelling at me that somebody had departed the aircraft in an unusual manner (or words to that effect) and was hanging onto the stub wing for dear life. My instincts took over and I immediately rolled the aircraft hard right, hit bottom rudder and headed for the water. It would have taken me approx 3 turns to reach the water where I planned to flare, let him drop off and then Mr. PJ would go for his second

swim of the afternoon. If he fell it was curtains for Mr. Barker as we were at 300 feet doing the max allowed 144 knots.

The effects of this uncoordinated flight were as follows: Barker was more or less hanging in mid-air, twisting counter clockwise, about to commence his descent to the ocean 300 feet below. The aircraft flew into him as he was twisting and the port stub wing impacted him in his stomach, not his back or his side which would have knocked him out. The combination of his twist in the air and being impaled on the stub wing, caused his feet to fly up into the wheel well while his outstretched arms grabbed hold of the stub wing. The turn and the bottom rudder and the rapid bleeding off of speed caused him to fall towards the aircraft, actually sucking him up against the side of the cab.

Simultaneously, and I mean not even a split second later, the USAF PJ grabbed LS Rowe’s free hand while Rowe grabbed onto the back of the co-pilots seat. He stepped partway out of the cab, reached out and caught Barker as he was about to let go. LS Rowe pulled Beyerle while Barker hung on for dear life. Edmonds was up in his chair at this point hanging onto the PJ as well and all I could see before I even completed one turn was a pair of eyes coming through the doorway, followed by the rest of Barker. They got him into the aircraft, and the PJ immediately disappeared back aft with him and started digging through the absolute mound of medical supplies that Barker and Rowe had hauled out of the water. When I looked back after my heart rate came back to normal there was Barker laid out in the back of the aircraft. He was splinted up like a medical

dummy, and we eventually got the report that he had a suspected broken leg, severe bruising all over, etc, etc. LS Rowe was by this time hanging onto the broken personnel door to avoid it from flying off in the slipstream as we headed for home.

Fast forward to an uneventful flight in silence back to Shearwater (I conveniently forgot to turn the radio switch back on so I could gather my thoughts) where we were met by ambulances to take Barker and the other survivors who were going for a very fast ride to the MIR. I was still gathering my thoughts on the entire affair, (I was the Squadron Flight Safety Officer) while writing my reports of the incident, when an apparition hove to out of the blue. It was by now approx 6 PM in the evening. It was Barker. They had checked him out in the MIR, found absolutely nothing wrong with him with the exception of a few bruises, burns on his hands from the alternate hydraulic buttons in the cab and a shredded flying suit where the PJ had cut it open with his knife to check him out.

The rest is a bit fuzzy. As there was a monster TGIF going on that day I took ABAB (Able Seaman Air Bos'n) Barker up to the mess, plied him with liquor and mix until he couldn't see straight (and neither could I by the way), and where of course he was the hero of the day when the story about this little escapade of ours made its way to the assembled multitudes.

I haven't seen much of Barker in the ensuing years. Caught the occasional glimpse of him when I was bouncing on and off various ships where he was a Fire Fighter for the rest of an

almost very prematurely shortened career and life, and I believe he retired from the Navy several years ago as a Chief Petty Officer Second Class Fire Fighter.

Subsequent to all of this activity, after we had filed all the reports and genuflected to the east several times for our sins, the engineering world finally did two things: they changed the door handle so it was now a "pull up to open me" affair, and they installed the Barker Bar across the door. It is a rudimentary affair but has served since the fall of 1970 to keep all wayward persons from exiting an aircraft in this unauthorised manner again.

And now you know where the Barker Bar comes from. And my friend Able Seaman Barker will never know how many times that one has been told and retold as various evenings wore on.

Good luck to you Mr. Barker, wherever you are!

John M. Cody



Into the Delta



BANNISTER Henry (Hank) Lyle	Jun 2023
BEY Peter	Sep 2023
BUCHANAN Kenneth Russell	Sep 2023
EDDY Lloyd James	Aug 2023
ESTEY James (Jim)	Sep 2023
FRALIC Robert (Bob)	Sep 2023
KNIGHT Charles	Sep 2023
PAQUETTE Joseh Gilmore (Joe)	Sep 2023
PARKER Ronald James	May 2023
ROWE Gordon "Gordie"	Sep 2023

From the Curator's Desk

By Christine Hines

I am thrilled to report that our first full season open after Covid was a success! We had a very busy visit season, met some lovely people, and enjoyed showing the museum to many first-time visitors to SAM.

We were very proud to have been the recipient of a grant from the Directory of History and Heritage this summer. DHH sponsored a contract archivist, our wonderful friend Heidi Schiller, who was working on an arrangement and description project for our collection of documents relating to Shearwater's early history in and around 1918, and the early work of the United States Naval Air Station Halifax. Heidi has produced a wonderful finding aid for the collection of documents, and also ensured that the collection was listed on MemoryNS, an online tool that lists descriptions of holdings by archives located in Nova Scotia. If you were conducting historical research of any kind in Nova Scotia, I would highly recommend a visit to www.memoryns.ca.

We were also excited to participate in a student internship program offered by St. Mary's University this summer. Stephen MacMillan was working on Second World War history, digitizing archival materials, and working on a digital exhibit project as one of our several projects to help mark the RCAF Centennial celebrations in 2024. Stay tuned for the rollout of Stephen's great project! We are grateful for the support of the Government of Canada's innovative work-integrated learning (IWIL) program and Co-operative Education and Work-integrated Learning (CEWIL) Canada's iHub for the opportunity to participate in this great student subsidy program.

While our weather did change the order of the event, we took our gift store to Debert, Nova Scotia, to attend Air Show Atlantic in August. A fantastic fundraising opportunity, the show was altered a bit to accommodate some truly miserable weather, but the show must go on! Special thanks to Colin Stephenson and his entire team who allow us to be part of the Runway Market exhibits and vendors.

The SAM will be experiencing some essential building works over the late fall and winter. We will experience interruptions and closures, but the final result will freshen the museum and will give the facility a new lease on life. Details on the timeline for the work is not yet finalized, but updates will be forthcoming on the website and social media platforms as they become available.

For those of you out there of the RCAF persuasion, we are gearing up to help celebrate the Centennial of the RCAF in 2024. Commemorative merchandise lines have already been released, and we will be assisting 12 Wing with their commemorative events, as well as projects of our own. The SAM contributed to a publication currently in production that highlights 100 objects for 100 Years of the RCAF, most of the items highlighted were sought out from the RCAF museums within the Canadian Armed Forces Museum system and other colleague institutions. More information on National commemorative initiatives such as the book and other Centennial event news, please visit <https://rcaf2024arc.ca/> for more details.

Until the next time, thank you for your support of SAM and SAMF! We appreciate you!

A NEAR DISASTER

In April 1985 I sailed single ship to Portsmouth to relieve HMCS Iroquois in STANAVFORLANT. With a fuel stop in the Azores my SOA was a fast sixteen knots with the course shaped just south enough to be ahead of the annual iceberg migration line for that time of year.

The pre-sail weather brief revealed that a strong westerly wind has been blowing for about a week hence I expected following seas all the way across the pond. Upon rounding Sable Island, I estimated the sea running at close to fifteen knots. Having briefed all concerned that we can expect sloppy steering and an uncomfortable ride, the ship settled down to a light routine. My one fear was that should this wind persist, sea speed will increase to match our SOA resulting in the rudders in still water, hence loss of steering. As will be seen later, this is exactly what happened.

I was a firm believer in the practice of flying the embarked Sea King as near daily as possible, lest things will start going wrong. Now to what happened next. (Three months later the bird flew off to Shearwater still CAT ONE)

The bird was approaching Charlie time when the weather took a drastic turn for the worst. The wind veered to the South at 70 knots gusting to 80; sea state increased to five and visibility dropped to zero.

With the need for a flying course on the nose, recovery would be in a high beam sea with rolls of 30 degrees or more. I spoke directly to the pilot, a young Captain whose name sadly escapes me, offering him HIFR while I ran South seeking warmer air and better visibility. He said: "Sir if I can HIFR I can land". I wound the ship up to full power approaching 30 knots to give him a wide wake to find the ship and a green light to land. At this speed landing conditions were 30 plus degrees of roll and a relative wind speed of 100 knots and gusting. With his superb flying skills and great work by the LSO, the landing was quick and uneventful.

Once the bird was folded, fuelled and tucked in the barn I resumed our easterly course at 16 knots. This is when the expected happened. Sea speed increased to 16 knots, I took a greenie on the starboard quarter and rolled good old Skeena 57 degrees to port. I believe this record still stands. Fortunately, by this time there was no one on the upper decks.

To get out of the roll full speed astern was ordered to get immediate wash across the rudders. This worked and the ship returned to even keel like the good girl she was.

At full heel the motor cutter on the port side davits was under water. Damage was limited to the loss of a few guardrail stanchions, the fuelling hoses secured under the overhang and one lifeboat cannister.

Steve Foldesi



SAMF MEMBERSHIP DONATION FORM

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WALL OF HONOUR

Guidelines for designing your “Wall of Honour” Tile.

The tile used is made from high quality marble which is 12 inches square. The tile can be sand blasted in various ways to suit your wishes. All lettering will be in upper case and the tile will be mounted in the diamond orientation as opposed to a square orientation. All Text will run horizontally across the tile.

The options are:

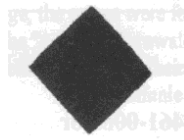
- Option A:** One half tile 12" X 12" x 17" and triangular in shape with up to 5 rows of 3/4" letters for a maximum of 60 letters and spaces. The longest row can accommodate up to 20 letters and spaces. The remaining 4 rows will decrease in length as the border/edge of the tile dictates. It should be noted that the upper half of the tile will start with a short row and the bottom half will start with a long row.
- Option B:** The full tile with up to 6 rows of 1" letters for a maximum of 55 letters and spaces. The two centre rows can accommodate up to 16 letters and spaces. The remaining rows will decrease as the edge of the tile dictates.
- Option C:** The full tile with up to 10 rows of 3/4" letters for a maximum of 120 letters and spaces. The two centre rows can accommodate 20 letters and spaces. The remaining rows will decrease as the edge of the tile dictates.
- Option D:** The “Buddy” Tile - sold only as a full tile. This tile is divided into 4 quarters - each 6" X 6". Each quarter can accommodate up to 6 rows of 1/2" letters for a maximum of 48 letters and spaces. The two centre rows can accommodate up to 12 letters and spaces with the remaining rows decreasing as the tile edge dictates.

Option A



\$300

Option B & C



\$600

Option D



\$600

Wall Tiles may be purchased through monthly installments.

Half Tiles - \$100 day of purchase - \$100 per month for the following two months.

Full Tiles - \$200 day of purchase - \$ 100 per month for the following four months.



(Wall Tiles (continued))

ENGRAVING REQUEST

The colour of the tile will be 'Belmont Rose'. If the submission requires any alteration, the subscriber will be contacted by phone or email by the coordinator for further discussion. REMEMBER TO COUNT THE SPACES!

From:

NAME: _____

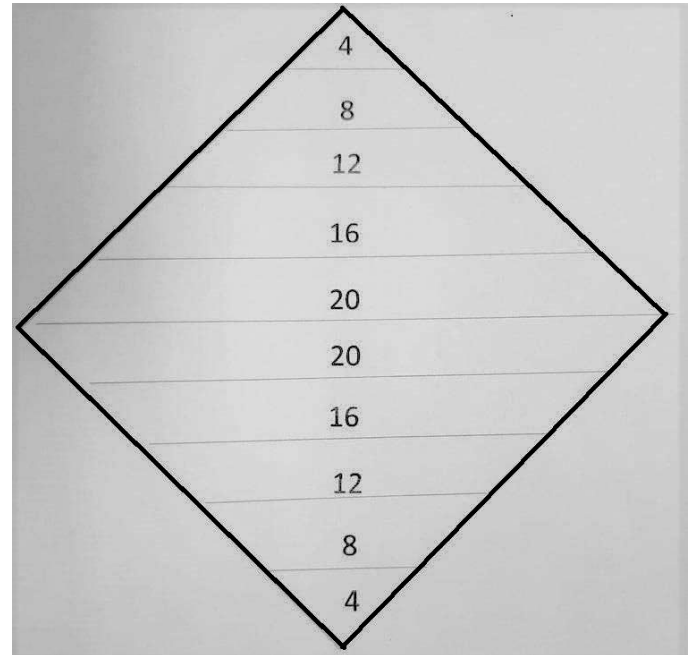
ADDRESS: _____

CITY: _____

PROV: _____ POSTAL CODE: _____

TELEPHONE: _____

EMAIL: _____



Number of spaces per line

TYPICAL OPTION 'C' above

CIRCLE CHOICE: OPTION 'A' OPTION 'B' OPTION 'C' OPTION 'D'

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Email: samf@samfoundation.ca

Please check engraving details for accuracy before sending. We cannot be responsible for misspelled words on your order form.



A NIGHT ASHORE

Gord Soutter St. Mary's, Ont.
(Re-edited) 13DEC '22

"Away Number One Jeep!".
That's how the evening started. I was duty driver, so that was me being 'piped' on the ship's loud-hailer system. Mid-winter Halifax - and a cold Jeep - called for appropriate clothing and in this case, our winter flight-deck gear fulfilled the need. As I see it now it was the forerunner of today's two-piece snowmobile suits. It was, big, warm and baggy and this third attribute was the operative word for this particular run.

At the port after bow, I was informed who my passenger was to be so, I made my way down to the jetty and warmed up the Jeep, as best I could. As the officer concerned came down the gangway, I offered a salute 'in the proper seaman-like manner' (thought to be quite an achievement for an Aircraft Controlman) and we exchanged greetings. I offered to put his rather large duffel-bag in the rear, he declined and handled it himself, carefully. That is when I detected the faint clink of what one could only guess to be matter of a glass nature. And immediately I breathed a bit easier, although somewhat prematurely as I discovered later.

Perhaps we should back up a bit and note we are talking here about the "Maggie" --HMCS Magnificent, Canada's aircraft carrier, (at that time) tied up alongside Slackers (Halifax) Dockyard shortly after a cruise to pre-Castro Cuba and other selected ports.

Because I was the Captain's Cox'n (staff car driver) and driver of the Jeeps and the duty truck at times, I had been approached by an 'acquaintance' who wanted my help in getting some bottles of rum ashore. With visions deeply etched in my mind of horror stories told by some unfortunate enough to have been caught in similar and/or other nefarious activities, I demurred. As well as being a craven coward and certainly not a gambler - - I had no desire to spend any time at "The Ranch" at Eastern Passage, the Army Provost detention barracks.

My friend then pointed out he had bought the rum in Cuba, had it brought aboard along with the ship's supplies and had the receipts to prove it. I softened a bit. The turning point came when he said I would get one out of every three bottles I took ashore. And that was how I came to have a 26er of Bacardi Cubana tucked inside my baggy flight-deck winter gear.

So off we went. "This will work out fine", I told myself. I'll drop him off with his 'cargo' and I will deliver my jug to its new home ashore and scoot right back to the ship. All nice and tiddley and Robert's your mother's brother!

However, at the 'first stop my 'passenger' rummaged through his supplies in the rear, withdrew some of the contents and suggested I 'stand by' as he would be only a few minutes. After the same thing occurred at the second and third stops, I began to get inwardly panicky. And

sure, enough after the fourth stophe returned to the Jeep and said: "Fine. Let's go back to the ship".

Needless to say, my stomach started to churn with visions of me now in the position of carrying booze on board. If discovered, what kind of a story couldl concoct?

How would I be able to explain it without implicating my 'friend'?


Close inspection of the bottle would reveal Cuban seals and no Canadianidentity.

In the end I dropped my passenger off at the gangway, parked the Jeep, took a deep breath and made my way on board. After doing the salute thing with the Officer of the Watch I quickly made my way back to my home-away-from-home, G3 Mess, and discreetly hid the bottle where it would be safe until thenext time. And that was the way the evening ended And yes, there was a next time and a few after that. But that was it, in all I wound up with two bottles. I didn't even ask if there were more, I just packed in my smuggling activities It wasn't any matter of conscience; it was a matter of cowardice and nerves. I never did open any of it on board as I was afraid of what may ensuebeing surrounded by a bunch of unruly aircraft controlmen.

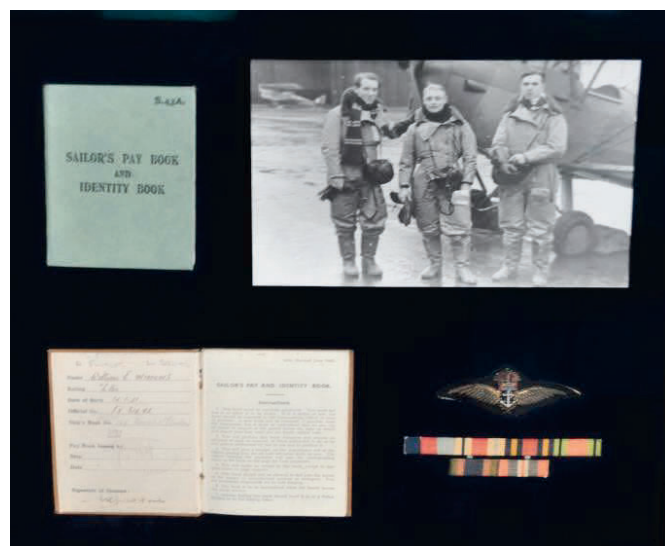
Basically, I had come to the conclusion one didn't need to take any furthersuch chances for rum, when a hand could get good rum free every day on board ship at 'Up Spirits' - - and if there was ever any better rum than Bacardi Cuban it had

to be Pusser Rum.
Remembering

332 Canada's Naval Aviators



Widdows, William Ernest "Bill" "Spider" - He was born at Charlbury Oxfordshire UK 14/01/1921. Naval Airman 2/c RNVR 01/01/1941, HMS Lee-on-Solent for Pilot Training Course 1941, RAF Elmdon for #14 Elementary Flying Training School 1941, RAF Netheravon for #1 Service Flying Training School 1941, RAF Kingston for #31 Service Flying Training School 1941, RN College Greenwich for Training 1941, (CFR), A/SLT (A) (Temp.) RNVR, RNAS Crail for 785 RN Squadron 1941, RNAS Arbroath for 769 RN Squadron for Deck Landing Training 1941, HMS Hermes for 814 Squadron (Swordfish) 1941, SLT (A) (Temp.) RNVR, RNAS Katukurundra for 814 RN Squadron 1942, RNAS Katukurundra for 797 RN Squadron 1943, RNAS Katukurundra for 756 RN Squadron 1943 LT (A) (Temp.) RNVR 01/12/1943, RNAS Katukurundra for 756 RN Squadron as Commanding Officer 1944, RNAS China Bay (Ceylon) for 733 RN Squadron for Course 1944, RNAS Ulunderpet (S. India) for 722 RN Squadron as Commanding officer 1944, USNAS Lewiston ME for 738 RN Squadron as Flying Instructor 1944, USNAS Brunswick ME for 738 RN Squadron as Instructor 1945, (Transferred to RCNVR), LT (P) (Temp.) RCNVR 18/03/1946 (With seniority dated 01/12/1943), Carleton 1946, NHQ on Staff of Director of Naval Air Department 1946, NHQ for Special Duty as Naval Observer With USN on Arctic Expedition Operation Nanook with USN Task Force 88 in USS Norton Sound 1946, NHQ on Staff of Director Naval Air Department 1946, New Liskeard 1946, (Transferred to RCN 16/01/1947), LT (P) RCN 16/01/1947 (With seniority of 01/12/1943), Bytown 1947, Stadacona for Instrument Rating Course at RCAF Station Centralia ON 1947, Niobe 1947, A/LCDR (P) RCN 30/08/1947, Shearwater as Commanding Officer 743 Fleet Reconnaissance Unit 1947, NHQ on Staff of Directorate of Naval Aviation as Staff Officer (Organization) 1948, Bytown for Special Duty on Staff of Naval Member Canadian Joint Staff Washington as Staff Officer (Air) 1948, LCDR (P) RCN (With seniority dated 01/12/1951), Niagara on Staff of Naval Member Canadian Joint Staff Washington 1951, Stadacona for Junior Officers Technical and Leadership Course 1952, Québec 1953, Cornwallis 1953, Québec 1954, Donnacona as Staff Officer Administration 1955, Hochelaga 1955, Donnacona as Staff Officer Administration 1957, Stadacona as First Lieutenant Commander 1957, Patriot on Staff of Commanding Officer Naval Divisions 1960, Patriot on Staff of Commanding Officer Naval Divisions and as Staff Officer Enrollment and Release 1961, Nonsuch as Staff Officer Administration 1963, Nonsuch as Staff Officer Administration and as Supply Officer 1963, Nonsuch as Staff Officer Administration and as Supply Officer and on Staff of Area Recruiting Officer Alberta as Recruiting Officer Edmonton 1964, Tecumseh on Staff of Area Recruiting Officer Alberta as Recruiting Officer Edmonton 1964, Retired 14/01/1966. Died 16/03/1991. (Service Aircraft Flown: Tiger Moth, Battle, Albacore, Gladiator, Walrus, Swordfish, TBR, Avenger, Fulmar, Martinet, Widgeon, Harvard, PBM, Anson, *Dallant*)





Karen Collacutt- McHarg Editor Warrior / Office Manager

I can't believe it's been 4 years here in the office. Everyday is a learning experience for me as I learn as much as I can about Naval Air and its rich history. Shearwater has become more than just the rink and sports to me hearing the stories from members and their families.

My Christmas wish for the new year is for all members to remind their family members to hear the stories and keep them alive as we must never forget our members or their work and sacrifice to our Canadian Military, and as mom would say get them to join our SAM foundation is one way, they can do this.

letter to the editor

The passing of a loved one is an extremely stressful time. If you are serving in the Canadian military or a retired pensioner, I urge you to consider the steps, which need to be taken to ensure the surviving spouse continues to receive that well-earned pension.

When my husband passed away in early 2022, I assumed that his CAF Pension monthly payments would be automatically adjusted and continue to be deposited (uninterrupted) each month into our joint bank account. I also thought that I'd still be entitled to the PSHCP as the surviving spouse. Unfortunately, this is not how the system works!

When I notified the pension office of my husband's death, they told me

the monthly payment would be STOPPED. The pension office would send a letter with an application for the surviving spouse to complete and APPLY for the survivor's pension. Once approved, I'd then be in the receipt of an adjusted pension amount but you should know that the whole process can take upwards of three months or possibly more even if you're quick in taking the necessary steps!

The survivor's PSHCP also must be applied for, and I've been told that this application needs to be done within three months. If not approved and positive enrolment is not granted within three months, the offer lapses and is no longer available to the surviving spouse.

The only bright spot (if you can call it that!) is that if the retired member was in receipt of a VA pension for a disability, the payment will continue in full for 1 year and then be reduced to 50 percent thereafter and the surviving spouse continues to be entitled to this payment.

Please feel free to share and discuss with your spouse (and other CAF members) so that they are aware and plan accordingly. Three months without a pension check can be a long time when you are facing funeral as well as daily living expenses!

Patricia Beck



Here's the full original pepperoni seagull hotel ban apology letter, and it's the funniest thing you'll read today

In case you hadn't read that whole "pepperoni seagull hotel ban apology" letter in full, we've got it here. Get ready to laugh. A lot.

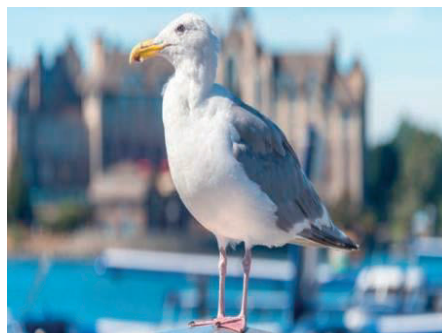
[Lindsay William-Ross](#)

<https://www.vancouverisawesome.com/>

Apr 6, 2018

Until last week, you probably hadn't heard of Nick Burchill of Dartmouth, Nova Scotia. Heck, you may still not even know him by name, despite all the articles written about his unusual plight, but rather as "that pepperoni and seagulls guy banned from the Fairmont Empress."

In fact, until this week, Burchill had been persona non grata at the historic Victoria hotel for 17 years and counting, all because of an incident he hilariously recounted [in an apology letter shared to Facebook](#) that finally brought an end to his being banned.



Seagull in Victoria/Shutterstock

Nick Burchill explaining to Fairmont Empress staff how things went horribly wrong 17 years ago (Photograph via Facebook)

Outlets like the Times-Colonist (our sibling publication in Victoria) picked up the story, and others around the globe followed suit, but many have just shared the letter piecemeal, or offered a link.

So in case you hadn't read Burchill's letter in full, we've got it here. It's the perfect way to end your week laughing, as the well-meaning man and his pretty gross mishap is quite the tale--and probably the funniest thing you'll read all day. Enjoy, and take note: the moral of Burchill's story is it's never too late to say you're sorry.

Oh, and don't leave your window open in a waterfront hotel when you've got heaps of pepperoni sitting around.

28 March 2018

Dear Empress Hotel

This may seem like an unusual request, but I write to you today, seeking a "pardon".

17 Years ago, a string of unfortunate events led to my being banned from your hotel. I would like to explain the incident.....

In 2001, I had recently joined my current employer, xxxxxxxxx and I was also in the Canadian Naval Reserve. xxxxxxxxx was hosting a customer conference at the Empress and it was my first event with the company.

I told my Navy buddies that I was coming out West and I was asked to bring “Brother’s Pepperoni” from Halifax. It is a local delicacy. Because this was the Navy we were talking about, I brought enough for a ship. In a hurry, I had completely filled a suitcase with pepperoni for my friends. Some of it was wrapped in plastic, some in brown paper. I took whatever Brothers would sell me.

This is the bag that the airline misplaced. The bag reappeared the next day. I knew that the pepperoni would still be “good”. It had only been at room temperature for a short time. It would, however, be quite some time before I could turn it over to my friends.

Just to be safe, I decided that I should keep it cool.

My room was a nice, big, front-facing room on the fourth floor. It was well appointed, but it did not have a refrigerator. It was April, the air was chilly. An easy way to keep all of this food cool would be just to keep it next to an open window. I lifted one of the sashes and spread the packages of pepperoni out on the table and window sill. Then, I went for a walk.....for about 4 or 5 hours.

When I had covered enough ground, I returned to the hotel. I remember walking down the long hall and opening the door to my room to find an entire flock of seagulls in my room. I didn’t have time to count, but there must have been 40 of them and they had been in my room, eating pepperoni for a long time.

In case you were wondering, Brothers’ TNT Pepperoni does NASTY things to a seagull’s digestive system. As you would expect, the room was covered in seagull crap. What I did not realize until then was that Seagulls also drool. Especially when they eat pepperoni.

I’m sure you have an image in your head. Now remember that I have just walked into the room and startled all of these birds. They immediately started flying around and crashing into things as they desperately tried to leave the room through the small opening by which they had entered.

Less composed seagulls are attempting to leave through the other CLOSED windows. The result was a tornado of seagull excrement, feathers, pepperoni chunks and fairly large birds whipping around the room. The lamps were falling. The curtains were trashed. The coffee tray was just disgusting.

I waded through the birds and opened the remaining windows. Most of the gulls left immediately. One tried to re-enter the room to grab another piece of pepperoni and in my agitated state, I took off one of my shoes and threw it at him.

Both the gull and the shoe went out the window.

By this time, I was down to one gull left in the room, but it was a big one, and it didn’t want to leave.

As I chased it, it ran around the room with a big hunk of pepperoni in its gob.

In a moment of clarity, I grabbed a bath-towel and jumped it. It started to freak-out so I wrapped it in the towel and threw it out of the window.

I had forgotten that Seagulls cannot fly when they are wrapped in a towel.

This is all happening fairly quickly and this is mid-afternoon. The Empress hosts a very famous and very popular “High Tea”. I suspect this is where the large group of tourists was heading when they were struck by first my shoe, then a bound-up seagull (the seagull was unharmed, by the way).

Let’s go back to my little housekeeping issue. The room was BAD. There was a lot of damage.

I was new to my company and I was really trying to make a good impression at this important event. I decided that I would carry on for now and handle this whole thing later. I then realized that I had only a few minutes before an important dinner and that I only had one shoe.

I made my way to one of the side doors and recovered both the shoe and the towel that were laying in some wet soil bear the walking path. The shoe was a mess. I took it back to the room. By this time, I had closed the windows and the air was becoming quite ripe with the smell of digested pepperoni and fish.

I went into the washroom and rinsed the mud off of my shoe. It cleaned-up nicely, but now I had one wet, dark shoe, and one dry, light-coloured shoe.

In retrospect, I should have just wet the dry shoe. Instead, I choose to dry the wet shoe using the little hairdryer. It was actually doing quite well. I had the hairdryer jammed in there and the shoe was drying quite nicely. Then, the phone rang.

I walked into the next room to answer it and the power goes off. It turns-out that the hairdryer had vibrated free of the shoe and fallen into the sink full of water and the GFI didn’t seem be 100% functional. I don’t know how much of the hotel’s power I knocked-out, but at that point I decided I needed help.

I called the front desk and asked for someone to come help me clean-up a mess. I can still remember the look on the lady’s face when she opened the door. I had absolutely no Idea what to tell her, so I just said “I’m sorry” and I went to dinner. When I came back, my things had been moved to a much smaller room.

I thought that was the end of it all until I was told that my company had received a letter banning me from the Empress. A ban that I have respected for almost 18 years.

I have matured and I admit responsibility for my actions. I come to you, hat-in-hand to apologise for the damage I had indirectly come to cause and to ask you reconsider my lifetime ban from the property.

I hope that you will see fit to either grant me a pardon, or consider my 18 year away from the empress as “time served”.

Thank you very much for your consideration.

Sincerely,

Nick Burchill

***Update 31 March** After reviewing my application for a pardon with the Empress staff; Ryan, the manager has notified me verbally that I will once again be welcome as a guest. I bet it was the pound of Brothers Pepperoni that I gave them as a peace offering that did the trick. — at Fairmont Empress*

Sea King Interactive Display Project

Introduction

Two things differentiate Canadian Naval Air from either other maritime operations or the air force. One is conducting day-night-all weather embarked flight operations in challenging conditions, using fixed and rotary Wing. The other is a specific aspect of naval warfare to enable surface operations in hostile environments, historically focused on Anti-Submarine Warfare (ASW), but becoming more focused on Above Water Warfare (AWW) and supporting air operations over time.

To highlight these two things, Shearwater Aviation Museum is embarking on a Sea King Interactive Display Project, which will allow visitors to experience some aspects of all eras of Sea King operations.

Historical Context

In order to describe how the Interactive Displays are being conceived and implemented, it is important to highlight the project team's understanding of the historical configurations of the CH-124 Sea King. The following should not be considered a definitive history of these configurations; indeed, understanding this is core to the project's success. In that vein, we welcome additions, omissions, and corrections.

The original Sea King was purchased during the period of HMCS Bonaventure. It was originally fitted with a sonar with an

Aircrewman facing forward. No TACCO (Tactical Coordinator or Flight Observer) was provided as the primary method of control was via the carrier. The Sea King began a long tradition of providing a two-helo dipping screen in front of the force, to sanitize the water of submarines. If located in the screen or by other means two Sea Kings prosecuting a submarine provided little chance of escape.



Figure 1: CH-124B 12401, the first Sea King delivered, which has been restored to its original appearance at the Shearwater Aviation Museum.

After the retirement of Bonaventure, the Canadian Task Group had to rely on the Sea Kings, which were embarked on the destroyers and replenishment tankers. As there was no central focus for air control, the ASN-501 tactical computer was available in the inventory, and Navigators were available from the RCAF, the Sea King was given an ability to function independently. This comprised installing a forward-facing console in the aircraft, with the ASN-501 for a TACCO and the AQS-10 sonar for an AESOP (Airborne Electronic Sensor Operator, the follow-on to Aircrewman).

By the mid 1970's, it was realized that a radar would be required, which would allow better positioning in the screen and two-helo coordination. The radar chosen was the APS-503 I-Band radar manufactured by Litton

Systems Canada. To effectively install it a new side Facing Console (SFC) was used, with the sonar being upgraded to the AQS-502 (a modified version of the AQS-13B), and the ASN-501 was retained (see Figure 2).



Figure 2: A period mock-up of the new Side Facing Console for installation of the APS-503. The radar can be seen in the middle, with the ASN-501 in front of the TACCO on the left. The mock-up still includes the AQS-10 sonar, which was changed to the AQS-503 before the fleet modification was performed. Photo from the Shearwater Aviation Museum archives.

The mid 1980's saw the beginning of the introduction of towed array sonars on Canadian destroyers. In order to maximize the effectiveness of this ship's sensor it was determined that the Sea King would benefit from a passive acoustic capability. The first experiments were conducted with 12410, using the Calypso acoustic system.

Although 12410 was lost at sea, it's success led to the modification of 6 airframes (12401, 12424, 12430, 12434, 12437, and 12441) to the CH-124B HELTAS (Helicopter Towed Array Support). These aircraft retained the side facing console, but in place of the ASN-501 the ASN-123 tactical computer was installed. This computer was developed by

the United States Navy (USN) in the 1970's specifically for Sea King operations.

However, in USN service it was operated by the left seat pilot, whereas the Canadian Sea Kings retained the TACCO to operate it. Instead of Calypso, HELTAS was equipped with the Computing Devices Canada US-503 processor. Complementing this was the AIMS 504 MAD (Magnetic Anomaly Detection) system, with the sonar in the tail.

In order to continue the acoustic experiments with the loss of 12410, aircraft 12421 was modified to HAPS (Helicopter Acoustic Processing system). This was a version of the UYS-503 with two processors and screens, which was also able to process a dipping sonar. The aircraft demonstrated a capability similar to the eventual acoustic fit of the Sea King replacement.

The 1991 Gulf War saw updates to meet the threat environment present. In addition to self-defence aids, of particular interest to this project was the installation of the Trimpack GPS and FLIR-2000. The GPS, in addition to better navigation, which was required in the confined waters of the Persian Gulf, began the process of optimizing the aircraft for surface plot compilation.

The addition of the GPS did not completely address the evolving mission of the Sea King after the end of the Cold War. Increasingly, instead of a focus on Task Group ASW, it was being called on to conduct low intensity surface surveillance, to support embargo ops in places like the Adriatic off Yugoslavia and the Persian Gulf. With the advancing age of the ASN-501, and the availability of surplus ASN-123s from the USN, the decision was taken to conduct a fleet wide fit of the ASN-123. Appropriate procedures for dipping ASW were developed and taught at 406

Squadron. In the early 2000's a software upgrade to Revision H-2(C), with the (C) standing for Canadian, was completed. This allowed an interface to the radar and sonar, and included appropriate software to assist with the dipping procedures, in addition to other improvements.



Figure 3: A period photo of 12431 showing the ASX-123 CH-124A installation and ASP installed for both the TACCO and AESOP. From a briefing given in May 2011.

Beginning around 2010, the Augmented Surface Plot (ASP) project was conceived in order to use the Sea King to facilitate the conversion to the Cyclone, specifically with respect to adopting new tactical system's technologies and the management of those. Given that very few resources were available outside of current operations, the intent was to utilize the aircraft and optimize it for the current operational environment, and by doing so engage the processes that would be critical for success in the Cyclone. In order to achieve these goals, Command recognized the need to accept operational risk (the aircraft may not be able to as effectively achieve the mission), but not flight safety risk (the aircraft would not be endangered by ASP itself).

The realization was made that a "normal" requirements, contracting, and development process would not only probably fail in

implementation, but would also not provide the most benefit to the Wing, an in-house development process was selected instead. This in-house process depended heavily on crew feedback in an "agile" process. At its critical phases, the crews were heavily involved; at times, feedback from simulator sessions was being implemented the evening after the event, and re-evaluated by crews the next day.

The mission objective was low to medium intensity surface warfare, particularly surface plot compilation. This had been the core deployed mission of the Sea King since the early 1990's. In order to meet that objective and exercise the processes, the original ASP system included the following capabilities:

- a core tactical plot that included track management and under laid mapping;
- a digitized radar overlaid with the tactical plot;
- integrated Automatic Identification System (AIS), a system merchant ships use for collision avoidance, to provide an extra sensor to fuse;
- integrated camera for enhanced visual identification;
- a SENSO, or Sensor Operator, computer which could be installed with the sonar removed; and
- the eventual installation of TCDL (Tactical Common Datalink) which could relay plot and imagery to the ship.

Although resource constraints limited ASP's ability to completely prepare the Wing for weapon system management processes, it proved more effective than anticipated at optimize for the mission. Not only did the

operational risks not transpire, but ASP was heavily in demand for deployments, leading to an eventual fleet fit.

Later it was decided that with the high cost of maintaining the ASN-123 that the remaining missions would be added to ASP, in particular ASW and SAR. In doing so, the ASN-123 was removed from the aircraft. This resulted in the configuration of the aircraft as retired.

The final version before retirement was 12419 with the installation of RCAF Project 91 (P91), which was a follow-on to ASP. This saw a complete remake of the SFC with two 23" widescreen monitors and keyboards for both the TACCO and AESOP. A Wescam MX-15HDi EO/IR turret was loaned from the Griffin fleet. The computers were capable of display under laid radar and EO/IR (Electro-Optic/Infra-Red feeds for both operators, and the sonar capability was retained continuous, digitized, and processed on the SENSO's computer.

Genesis of the Interactive Display Project

The team that developed ASP had the requisite knowledge to develop an interactive display for the Shearwater Aviation Museum. ASP included the required training systems, whose simulations are easily converted to a demonstration type system. As well, the original code for ASP is still available.

In particular, some personal experimentation with ideas concerning what was in the realm of the possible for ASP led to thinking about what could have been done for earlier systems. This experimentation led to basic working versions of a Mk-6 plotting board, the ASN-501, and the ASN-123. When presented to the museum, it was seen how this

could be made into an appropriate tool for visitors to learn "how it was done."



Figure 4: 12431 as it appeared when retired, currently on display at the Shearwater Aviation Museum.

Purpose

In order to display how a crew functioned in an interactive manner, the intention is have three modes:

- Present how a crew operated tactically, by a combination of scripted scenarios and full intelligence for the crew. This will allow the display to run autonomously, including crew voice procedures, and the visitor will interact with it by tapping which will provide pop-ups of descriptions of the equipment.
- Allow limited participation, by giving the visitor a choice of tactics for any given situation. When a given tactic is chosen the display will have the crew perform the appropriate procedures for that tactic, including the verbal calls.
- Allow full participation of an experienced visitor, such as an ex-operator. The display will have the individual systems operate in a

realistic representation of the originals.

In all cases the other platforms involved in the scenario will be represented either by scripting or by tactical intelligence.

Components Of First Phase

There are four components of the Interactive Display Project that are currently being worked on.

The first element is a SFC made up of four 32" touch screen monitors (see Figure **Error! Reference source not found.**). This will be configurable to any of nine different versions representing different eras of the Sea King's evolution:

- Original Side Facing Console (containing ASN-501, AQS-502 sonar, radar);
- 12410 (Calypso, ASN-501, radar);
- HELTAS (UYS-503, ASN-123, radar);
- HAPS (UYS-503 X 2, ASN-123, radar);
- Gulf War (ASN-501, Trimpack GPS, FLIR);
- ASN-123 CH-124A;
- ASP with ASN-123;
- ASP alone; and
- P91 (dual 23" integrated systems with radar and sonar)

The second component will be created using the SFC from 12401, which in it's final configuration was a CH-124B. To that will be added a reproduction ASN-123, UYS-503 acoustic processor, APS-503 radar, and other

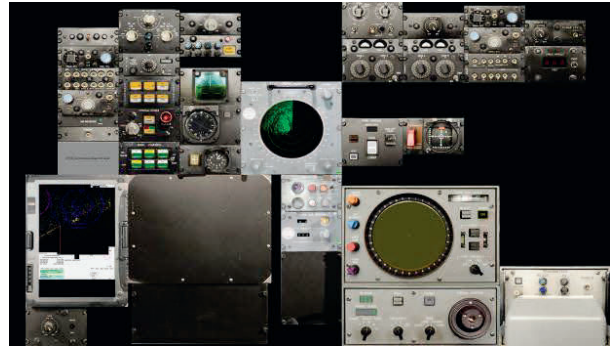


Figure 5: The current version of the Interactive Display SFC, as 12431's SFC would have looked on retirement. This will be displayed on four 32" touch screens.

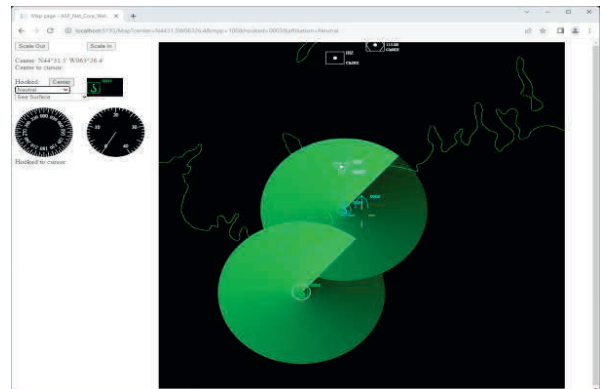


Figure 6: The current version of the Interactive Display scenario page, which will be displayed on any connected browser

panels, in order to create a higher fidelity than the touch screen version, but without the capability to choose the version / era.

Additionally, the intention is to build a representative cockpit. The primary elements will be the instrument panel, center console, and the two chairs. The instruments will be

displayed using touchscreens of various sizes to match the panel sizes. Additionally, controls (cyclic, collective, and pedals) will be constructed, and then “torque” motors will be used to provide feedback, either as a proper representation of how the controls feel, or to move the controls when the automated crewmember is functioning.

The final element will be a scenario viewer and controller. This will be web based so it can be displayed on any browser. It will be able to view the entire situation and control the environment and other platforms.

Possibilities For The Future

The intention is that when space is made available, the Operational Flight and Tactics Trainer (OFTT), which is currently stored, will be used to create a high-fidelity interactive display, for use with facilitators only.

As the display is interconnected by internet technology, it would be quite easy to have other platforms represented at different museums which interact with each other: for instance, there could be platforms at other local military museums, should they be interested in collaborating on this type of project.

As well, other aircraft could also be modelled. Given the history of HMCS

Bonaventure, the first obvious one would be the CS2F Tracker. Others could include the CP-107 Argus, CP-140 Aurora, or CH-148 Cyclone. Additionally, parts of a ship’s operations room could also be modelled, especially considering how integral the Shipborne Air Controller is to Sea King operations.

Conclusion

It is hoped that by continuing the research into the different versions of the Sea King and creating an Interactive Display, that future visitors to Shearwater Aviation Museum will be provided with an enhanced experience of what the crew of the CH-124 actually did during operations during the lifetime of this venerable aircraft.

The Sea King Interactive Displays Project team currently consists of Dwight Bazinet, Kirk Binns, Mark Chapman, Kel Jeffries, Kevin McKay, and Wayne White, with guidance and program management being provided by Christine Hines, the curator of the museum.

Battle for Very Long-Range Aircraft During The Battle of The Atlantic

Ernest Cable
Sam Historian

The Battle of the Atlantic was the longest and one of the most important campaigns of the Second World War. Following the fall of the Low Countries and France in 1940 Germany attempted to defeat Britain by sinking merchant ships carrying goods and supplies from North America with its “Unterseebootwaffe” fleet of U-boats or submarines. Indeed, the loss of over 3,000 cargo ships and 30,000 merchant seamen carrying food and war materials threatened Britain’s very survival and the production of war fighting equipment to counter the German invasion of continental Europe. Aircraft played a crucial role in the Battle of the Atlantic by turning the tide from what appeared to be certain victory for the U-boats in 1942 into their defeat marked by the loss of 27,000 officers and crew accounting for 75 percent of the “Unterseebootwaffe” strength, a higher death rate than all branches of all the armed forces between 1939 and 1945. Although, maritime aircraft shaped the pattern of the U-boat war their major contribution to what was principally a naval campaign is often understated. Naval historians mention maritime aircraft only in passing, while air force historians concentrate on fighters and bombers with little regard for maritime aircraft.



The Very Long-Range B-24 Liberator was crucial to turning the tide against the U-boats.

The U-boat Battle

During the First World War the British learned that merchant ships’ ability to survive German submarine attacks was much greater when sailing in convoys than when proceeding independently. During the same period the British developed ASDIC, a ship mounted sonar, that gave the British the advantage of locating and attacking submerged German submarines. Believing that sailing in convoys and ASDIC solved the submarine threat the British made very little progress in the development of anti-submarine warfare between the two world wars. However, Admiral Donitz, the Commander-in-Chief of the Unterseebootwaffe in the Second World War was more forward thinking and developed tactics to counter the perceived British advantage. He formed his U-boats into “Wolf Packs”, groups of up to 20 U-boats spaced at 10-to-15-mile intervals in a line across likely convoy routes. When one the U-boats sighted a convoy, the other U-boats were called in for a mass night attack. To counter ASDIC Donitz had his U-boats surface when attacking convoys where ASDIC was ineffective.

Donitz’s overriding priority was to strangle Britain’s sea lines of communication by sinking as much enemy shipping as quickly as possible. Donitz believed this could be achieved with a large fleet of more than 300 U-boats and established quotas for the number of tons of enemy shipping sunk per day for each U-boat.

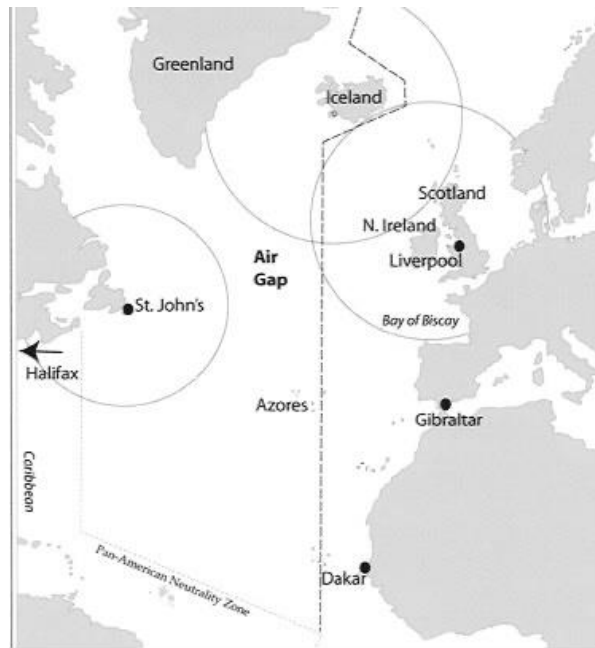
Donitz's belief in the effectiveness of U-boats ran counter to the strategy of his boss, Grand Admiral Raeder, the Commander-in-Chief of the Kriegsmarine (German Navy) who believed that capital ships (battleships and cruisers) could best defeat the convoys. Donitz demonstrated the strength of his argument in October 1940 when two convoys HX 79 and SC 7 sailed from Halifax to Liverpool, England. Out of a total of 83 ships 25 percent from HX 79 and 57 percent from SC 7 were sunk before they reached their destination. The 12 ships that went down in HX 79 took with them 37,480 tons of oil and petroleum products, 11,400 tons of steel, 3,000 tons of iron, 1,700 tons of lead and zinc, 8,000 tons of grain, 19,400 tons of timber, and 6,333 tons of sugar. Of the 35 SC 7 vessels that set off from Nova Scotia only 15 arrived in Liverpool, the other 20 had been sunk with the loss of more than 140 lives. This was an unsustainable rate of destruction that was made even more alarming by the fact that it was achieved by no more than eight U-boats, none of which was lost in the process.

Early in the war the U-boat fleet was hampered by its small size and being limited to operating from German ports on the Baltic Sea requiring a long transit across the North Sea and around the northern tip of Scotland into their Atlantic hunting areas. However, after the defeat of France the Germans gained access to the Bay of Biscay and established U-boat bases at Lorient, Brest, Saint-Nazaire and La Pallice (La Rochelle) which not only provided direct access to the North Atlantic but saved time and fuel in the much shorter transit to the convoy operating areas. Donitz lost no time in building submarine pens for his U-boats at the French bases and sheltering them with impenetrable shields of concrete three meters thick. Donitz was puzzled by the fact that Royal Air Force (RAF) bombers did not attack the pens while they were most vulnerable during construction. The construction of the bases was, in fact, observed by RAF Coastal Command aircraft leading Coastal Command's Commander-in-Chief, Air Chief Marshal Philip Joubert de la Ferte', to write to the Air Ministry urging that the bases be bombed frequently to frustrate their completion. He was rebuffed by Air Chief Marshal Portal, Chief of the Air Staff (RAF), because it would be an unwarranted diversion of Bomber Command's offensive against Germany. The British War Cabinet failed to recognise the dangerous development that required an urgent response, believing that the war would be won by bombing German cities, not U-boat bases. This strategy was reinforced by British Prime Minister Churchill's explicit decree that the RAF's bombing campaign against the German homeland must "claim first place over the Navy or the Army". Air Chief Marshal Arthur Harris, Commander-in-Chief of the RAF's Bomber Command, an outspoken proponent of this strategy, scrupulously followed instructions not to divert a substantial number of its long-range aircraft from the strategic bombing of German cities to attack the Bay of Biscay bases. Churchill's unequivocal direction had a devastating impact on the Royal Navy's faltering efforts to combat the U-boats in the Atlantic and pitted the Air Ministry and Bomber Command in a prolonged conflict against the Admiralty (Royal Navy) and Coastal Command which adversely affected the struggle against the U-boats in the Battle of the Atlantic.

Admiralty vs Air Ministry

The conflict between the Admiralty and the Air Ministry centred around the urgent need to divert long-range aircraft from Bomber Command to Coastal Command to close the "Atlantic Gap" or "Air Gap" as it was known. The Atlantic Gap was the most vulnerable part of the lifeline between North America and Britain, an area south of Iceland ranging 300 miles (480 km) east to west and 600 miles (960 km) north to south, 180,000 square miles (466,000 sq km) of ocean, which were beyond the range of any Coastal Command aircraft. Without aerial protection in this vast region convoys were more vulnerable to the wolf packs which began to hunt in these waters in surging numbers, knowing they were safe from any aircraft threat. In the summer of 1941, the first batch of American-built B-24 Liberator bombers, with a range of 2,700 miles (4,300 km), was delivered to the Air Ministry, but these were appropriated by the RAF for the bombing campaign against Germany. Consequently, they did not play any role in the Battle of the Atlantic.

When official analysis of 600 photographs taken during a hundred bombing raids over Germany between June and July 1941 revealed that only one-fifth of the 6,103 RAF bombers



Air Gap, Circles Centred on N. Ireland, Iceland, and St. John's Indicate Range of Coastal Command Aircraft in 1942

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even reached the target area, the Air Ministry claimed the result confirmed the need to build up an even larger force of bombers to achieve decisive results with the current rudimentary bombing techniques. The Chief of the Air Staff, Sir Charles Portal claimed that the Butt Report, an operational analysis ordered by Lord Cherwell, Churchill's chief scientific advisor, had shown that 4,000 front-line bombers would be required to destroy German morale. The number of aircraft forecast in the Butt report gave Churchill cause to doubt the efficacy of the bombing campaign. However, Lord Cherwell, presented his own scientific justification for area bombing, claiming that it would so damage morale and break the spirit of the German people. Not surprisingly, Portal seized on Cherwell's report and reminded Churchill that bombers were a "war-winning weapon", a strategy that had been agreed by the chiefs of staff. It was against this background that the "Battle of the Air", as the First Sea Lord of the Admiralty Admiral Pound called it, erupted between the Air Ministry and the Admiralty. The Prime Minister's stance exacerbated the struggle between the two ministries by persistently regarding the U-boat as Britain's greatest threat but continually taking the Air Ministry's side over the Admiralty.

Losing The Tonnage Battle

In August 1942, the size of the U-boat fleet finally reached 300, the magic number that Donitz had promised German Fuhrer Hitler was needed to deliver the "mortal blow" against Britain. Between August and November 380 freighters were sunk, 119 in one month was a record. Allied shipping losses for November alone totalled 720,000 tons, representing a 44 percent increase from the 500,000 tons that had been sunk in August. The magnitude of the losses prompted Churchill to warn American President Roosevelt that, "The U-boat menace is our worse danger. Three or four merchant ships crammed with priceless food and munitions are being sunk every day which cripples our ability to wage war and the dangerous depletion of food stocks threatens Briton's lives." Churchill urged the President to accelerate the building of new merchant ships and convoy escorts to meet the need to import a projected 27 million tons of food and war materials for 1943. To reinforce Britain's dire situation to the Americans Churchill sent an envoy to the United States. He explained that by the end of 1942, Allied shipping losses would amount to 1,664 vessels, 60 percent of them sunk by Donitz's U-boats. Britain and the United States were building merchant ships at the rate of seven million tons per year, but

at the current loss rate eight million tons would be on the bottom by December. The Allies were losing merchant ships faster than they could build them. Meanwhile, Donitz's fleet had grown to a total of 365 U-boats upwards of 200 were operational at any one time, of which no fewer than 164 were prowling the Atlantic Ocean. As a result of the British envoy's visit Roosevelt committed to providing the shipping tonnage necessary to meet Britain's import program.

The compelling case for deploying long-range bombers to protect the North Atlantic convoys had been clearly identified earlier in the spring of 1941. In November 1942, Churchill formed the Cabinet Anti-U-boat Warfare Committee, a sub-group of the Cabinet Battle of the Atlantic Committee, chaired by himself and included Joubert, Pound, Portal, Alexander (First Lord of the Admiralty), and Sinclair (Secretary of State for Air) who were responsible for all policy matters concerning the war against the U-boats. At the committee's first meeting Alexander stressed that there was a blind spot in the centre of the North Atlantic where no air cover was provided and that this was the area where the heaviest losses occurred. Aircraft with a range of 2,500 miles (4,000 km) was needed to cover the area. Joubert immediately briefed that he could close the Air Gap with 40 VLR Liberators. Noting that with long-range aircraft providing adequate air support a U-boat should find it impossible to shadow one of our convoys." This point was clearly illustrated in December 1942 in the defence of convoy HG76 off the coast of Gibraltar when a single aircraft from the escort aircraft carrier *HMS Audacity* forced the pursuing wolf pack to lose contact with the convoy (*Audacity* was sunk during a later encounter with a U-boat). Two experienced naval escort commanders, Royal Navy Captains Walker, and Macintyre renowned for their innovative and aggressive convoy defense tactics, endorsed the fact that aircraft were "absolutely invaluable" to the protection of convoys and that ships and aircraft working together posed a formidable threat to the U-boats. Despite the credence of this testimony, the War Cabinet failed to act, and the Admiralty continued to lose the battle for long-range aircraft.

First Liberators Arrive

The ranges of Coastal Command's inventory of operational aircraft: Catalina (600 miles, 960 km), Sunderland (440 miles, 700 km), Wellington (340 miles, 544 km), Whitley (340 miles, 544 km), and Hudson (250 miles, 400 km), were simply not near the range required to close the Air Gap. The only aircraft capable of covering the entire convoy route across the North Atlantic was the American four-engine B-24 Mark 1, Liberator which had a range of up to 2,700 miles (4,300 km). The United States began delivery of the Mark 1 version of the Liberator to the RAF in the summer of 1941, but because of the "Battle of the Air", Coastal Command was allocated only nine of the Liberators. However, they had to be modified to extend their range to cover the convoys in the middle of the Air Gap. The modifications consisted of removing equipment not strictly necessary for anti-submarine work and installing addition fuel tanks; the modifications delayed delivery to 120 Squadron at Nutts Corner, Northern Ireland until September 1941. Squadron Leader Terrance Bullock who became a legendary decorated pilot (DSO & Bar, DFC & Bar) in Coastal Command led 120 Squadron in pioneering ways of making the most of their long endurance. Armed with eight depth charges, these aircraft could provide protection from 700 to 1,000 miles (1,100 to 1,600 km) from base and still spend one-third of the time patrolling around a convoy in mid-Atlantic. These first VLR aircraft in the Battle of the Atlantic attacked their first U-boat in October during their first month of operations.



Armours loading depth charges in B-24 bomb bay.

By February 1942, many of the Liberators were grounded for the lack of spare parts to keep the Liberators serviceable after flying long arduous hours over the Atlantic often in atrocious weather. By the spring of 1942, 120 Squadron was withering away. A.V. Alexander, who followed Churchill as the First Lord of the Admiralty, exasperatedly warned if the rate at which merchant ships were being sunk without the support of long-range bombers was sustained, the number of warships available to protect the convoys in mid-Atlantic by the end of the year would be totally inadequate against the anticipated wolf-pack tactics. The next month he sent a memo to the Battle of the Atlantic Committee urging the shortage of long-range aircraft should give Coastal Command priority over Bomber Command's demand for the same aircraft; a few days later he followed up by demanding that nine squadrons of B-24 aircraft be transferred from Bomber Command to Coastal Command to close the Air Gap in the Atlantic. As a member of the Chiefs of Staff, the First Sea Lord presumed that he had to merely make a valid case to have it acknowledged and bluntly warned the War Cabinet, **"If we lose the war at sea, we lose the war."** He further stated the loss of merchant shipping and tankers threatened to paralyse Allied operations on the battlefield and demanded that Coastal Command's allocation of medium and long-range aircraft be increased to just under 2,000 aircraft.

The Air Ministry was aghast, Air Chief Marshal Portal retaliated five days later brashly reaffirming the RAF's steadfast ideology, "Bomber Command could best contribute to weakening of the U-boat offensive by offensive action against the principal industrial areas of Germany... To divert the RAF's bombers to an uneconomical defensive role would be unsound at any time." In early May 1942, Pound became so alarmed he again went on the offensive, enlisting his three most senior Admirals to endorse his demand for an urgent increase in the number of long-range aircraft. Admirals Forbes, Cunningham and Tovey, the Royal Navy's three most senior commanders-in-chief, formed a formidable trio who were incensed by the War Cabinet's persistent failure to heed the Navy's need for long-range bombers at sea. Notwithstanding the indisputable distinction of its most senior commanders, the Admiralty could not muster any advocate as powerful as Harris, eminent as Portal, or as influential as Cherwell. Pound could never beat this forceful threesome because he did not challenge the underlying assumptions and dubious statistics the Air Ministry used against him in the Battle of the Air.

By late 1941, the gradual build-up of Coastal Command's short and medium-range aircraft around the coast of Britain forced Donitz's U-boats to make a tactical withdrawal into deeper waters. By late spring 1942, as the Admiralty predicted, the wolf packs started to congregate in the Atlantic Gap, where because of Bomber Command's intransigence, the U-boats could operate with impunity. Even on those rare occasions when a U-boat found itself on the surface within range of one of Coastal Command's aircraft, the consequences were invariably alarming if not fatal. When detected by an aircraft U-boats were forced to dive, making them lose

contact with the convoy they were stalking and spoiling their best chances of attacking during a moonless night, allowing the convoys to escape unmolested. Once forced to dive, submarines which relied on battery powered electric motors for underwater propulsion could travel only at seven knots: no faster and often more slowly than their quarry. At daylight, even with a good fix on the convoy's position from B-Dienst (Beobachtungsdienst a German organization to decipher encrypted British messages), U-boats travelling on the surface at a full speed of seventeen knots using their diesel engines would take many hours to catch up again. While on the surface the U-boats were vulnerable to air-launched depth charge attacks, but during the latter part of 1942 air threat mattered little because there were very few VLR bomber in the Atlantic.

Following Japan's attack on Pearl Harbor on 7 December 1941, the Americans re-evaluated the priorities of aircraft destined for Britain, including British-funded contracts. The United States Army Air Force (USAAF) retained 50 of the 139 Liberator IIs already purchased and 71 of the remainder were transferred to Britain, but only a small number of these were allocated to Coastal Command. In January 1942, there was a gradual increase in the number of lend-lease long-range aircraft in Coastal Command, notably the American four-engine B-17 Fortress, provided air cover for the convoys out to 800 miles (1,300 km) from their bases in Greenland, Iceland, and Northern Ireland. This still left an area of ocean 300 by 300 miles (480 by 480 km) where convoys were still vulnerable with no air cover at all. The Air Ministry still refused to make VLR Liberators available in sufficient numbers to make an impact. During the last quarter of 1942, Donitz's U-boats appeared to be on the verge of winning the tonnage war in the Atlantic. The horrific loss of merchant ships in convoy threatened the United Kingdom's sustainability, causing foodstuffs such as milk, meat, tea, margarine, cheese, jam, marmalade, syrup, and eggs to be rationed and proportioned to ensure that every citizen had the minimum intake for a healthy diet. Pound again warned the politicians that Britain's very survival was at stake and advised the Defence Committee that, "Loss of control over the sea lines of communications was having a far-reaching effect on sustaining the United Kingdom and our ability to take the offensive". However, Churchill still supported Cherwell's and Harris' claim that bombing was Britain's only offensive means to strike Germany and instructed the War Cabinet that, "In spite of the U-boat losses, the bomber offensive should have first place in our air effort."

When Portal announced that Bomber Command would need up to 6,000 bombers to shatter German morale and infrastructure, Pound reminded him that the RAF already consumed a million tons of fuel each year and that to keep 6,000 bombers in the air would require five times as much fuel, which could only reach Britain by convoys of tankers. These tankers would arrive safely only if they were protected from the wolf packs by very-long-range bombers in the 90,000 square mile (230,000 square km) Atlantic Gap where the terrible convoy losses occurred. Unless Bomber Command could be persuaded to relinquish more of its growing fleet of VLR bombers the Atlantic Gap would be impossible to close.

The Admiralty's predicament was further aggravated by the USAAF which strongly supported Portal's stance that American lend-lease long range bombers should be used directly on "offensive" action against Germany and not wasted on "defensive" operations in the Atlantic. Although, U.S. Navy Admiral King recognized the unfolding horror of shipping losses in the Atlantic, he nonetheless chose to allocate his long-range bombers to other theatres. Air Marshal Slessor, who succeeded Joubert at Coastal Command, pointed out that the submarine threat was virtually non-existent in these areas and the chances of finding a U-boat were negligible, meanwhile every long-range bomber was desperately needed to confront the urgent threat in the North Atlantic.

Small Victories

In the spring of 1942, as a concession to the Admiralty, Air Chief Marshal Portal offered to transfer a squadron of Whitley twin-engine bombers to Coastal Command, however the Admiralty balked at the idea, stressing that the Whitley lacked sufficient range. As a compromise on 1 April the British Defence Committee authorized the transfer of one Whitley squadron from Bomber Command, but more importantly, eight of the 22 Liberators earmarked for the RAF would go to Coastal Command. This was only a small victory for Coastal Command as the small number of Mark II Liberators were not sufficient to form a new VLR squadron and were allotted to 120 Squadron whose Mark I Liberators were rapidly wearing out. Coastal Command still lacked the number of VLR aircraft to close the Air Gap.



B-24 Liberator Showing North Atlantic Wear.

In the autumn of 1942, the case for VLR Liberators, which the Admiralty had made with little effect in the preceding months, was undisputedly reinforced by the Admiralty's chief of operational research, Professor Patrick Blackett. An eminent scientist (later awarded the Nobel Prize for physics), Blackett presented facts based on statistics to counter the zealous and inventive projections for bombing Germany presented by Lord Cherwell to the War Cabinet. Blackett presented a mathematically indisputable argument against Cherwell and his followers in the Air Ministry. Using detailed calculations from all the available evidence, he demonstrated beyond doubt that a force of 200 long-range and very-long-range bombers would make a decisive contribution to the Battle of the Atlantic during 1943 and be far more effective protecting convoys than bombing Germany. Blackett calculated that a single Liberator flying 30 sorties from Iceland could save a half dozen merchant ships in the Air Gap. Whereas the same bomber flying 30 sorties to bomb Berlin would drop less than 100 tons of bombs and kill not more than a couple of dozens of men women and children. He argued that saving six merchant ships and their crews and cargo was far more effective for the war effort than killing two dozen civilians with only a small effect on German war production. Unfortunately, the figures were greeted with skepticism, the problem being Cherwell was a member of the Battle of Atlantic Committee and had the Prime Minister's ear. Blackett did not. By January 1943, Coastal Command had only one VLR squadron, the 12 Liberators were not nearly enough to defeat the U-boat campaign.

By the summer of 1942, Coastal Command began receiving the first of 32 Liberators, however, these Mark III Liberators produced in the United States lacked the range of the modified Mark I Liberators in 120

Squadron. Coastal Command could have modified these to VLR standards with a 2,400-mile (3,800 km) range for employment in the Air Gap but chose instead to modify the Liberators as General Reconnaissance aircraft with only a 1,700-mile (2,700 km) range for use in the Bay of Biscay Offensive.

Beginning in 1942 Coastal Command dedicated a large number of aircraft to the Bay of Biscay Offensive, a campaign to strike the concentration of U-boats in the 300 by 120-mile (480 by 190 km) area in the Bay of Biscay as they transited from their French ports to their operating areas in the Atlantic. The aim of the Bay of Biscay Offensive was to destroy or seriously weaken the U-boat fleet, in the belief that the morale of the U-boat crews would collapse under the strain of unrelenting attacks. During the first half of 1942, the Bay of Biscay Offensive did not detract from Coastal Command's efforts to protect the Atlantic convoys because the medium-range aircraft employed in the Biscay operations lacked the range to reach the convoys in mid-Atlantic. However, when Coastal Command, supported by the Admiralty, decided in the summer of 1942 to employ the newly acquired Liberators in the Bay Offensive, they made a crucial mistake. These aircraft were more urgently needed to close the Air Gap to achieve the main aim of safe passage for the convoys. Therefore, it was not only the offensive mindset of the Air Ministry and Bomber Command that deprived Coastal Command of their VLR aircraft, but also the Admiralty and Coastal Command's faith in the effectiveness of the Bay Offensive.

Had the VLR aircraft been assigned to the Air Gap they could have contributed to the protection of the convoys demonstrated earlier in the summer of 1942 by 120 Squadron's Liberators. In August, the squadron's VLR aircraft sighted seven U-boats and conducted three attacks, although the attacks were not lethal, they forced the U-boats to dive and lose contact with the convoy. In September, a 120 Squadron Liberator was able to force no fewer than eight U-boats concentrated against a convoy to dive, resulting in not a single ship being sunk while the aircraft was present.

Low Tide

At the Casablanca Conference in January 1943, Prime Minister Churchill and President Roosevelt and their highest senior military commanders declared that resources to defeat the U-boat must be the Allies first priority. This resulted in the immediate direction to the War Cabinet to order Air Chief Marshal Harris to reinstate a maximum scale bombing campaign against the U-boat bases on the Bay of Biscay. The concrete shelters proved to be impenetrable and apart from killing French and German dockyard workers the U-boat pens had not been damaged at all. Harris' scorn for the Bay of Biscay bombing campaign was fully justified, especially since American bombers had failed to destroy the Biscay bases in ten raids mounted between 21 October 1942 and 3 January 1943. The failure bolstered Harris' unreserved ideological argument that the Battle of the Atlantic was a "defensive" sideshow in which Bomber Command should play no part.

The greatest fear of Allied leaders at the Casablanca Conference was that the U-boats' success in the Atlantic threatened the Allies ability: to build up armies in Britain for Operation Overlord, the D-Day invasion of the Normandy beaches in France; to protect the Operation Torch convoys enroute to the Mediterranean to supply Allied forces in North Africa in their drive to oust the German and Italian armies; and to provide safe passage for arctic convoys to Murmansk supplying Russia with armaments to repel the German invaders on the Eastern Front. To have any chance of victory in these theatres of war the U-boats had to be defeated. The U-boats' long standing supremacy was clearly demonstrated in early 1943. In January they sank 38 merchantmen. February was shocking with 57 ships torpedoed in convoy HX 224. March was to prove even more horrific; on 14 March, a fleet of 23 U-boats torpedoed 12 of 69 merchant ships in convoy SC 121. On 16 March, Donitz ordered all U-boats to intercept over 60 ships proceeding northeast at nine knots. It was the start of a sea battle between three wolf packs and two Allied convoys, SC 122 and HX 229, that created panic in the Admiralty. In mid-March U-boat headquarters boasted that 32 vessels carrying 136,000 tons plus one destroyer had been sunk; this was the greatest success ever achieved against a convoy. In fact, only 21 freighters of the 110 in

convoy had been sunk carrying a total of 141,000 tons, which was even a heavier loss than Donitz had claimed. The destruction of HX 229 and SC 122 was the climax of a U-boat slaughter in which more than a half million tons of shipping had been sent to the bottom in twenty days. The Germans never came so near to disrupting the sea communications between the New World and the Old as in the first twenty days of March 1943.

Gaining The Initiative

In London and Washington, the March losses created acute apprehension. However, Admiral Sir Max Horton, who had recently been appointed Commander-in-Chief of the Western Approaches (Atlantic approaches to the western UK) did not share the same degree of distraught as the Admiralty. Horton had ruthless energy with an infectious work ethic. He was intolerant of failure and those who failed to meet his exacting standards and were removed from his staff at Derby House, the Battle of the Atlantic operational headquarters, in Liverpool, England. He was fanatical about training emphatically insisting, “Buy your experience in training and not when fighting the enemy”. In addition to training, he believed that the Allies had to win the technical battle as well. He expedited the installation of new equipment in convoy escort vessels that scientists had recently devised to improve the hunt for submarines. High frequency direction finders (HF/DF) intercepted radio signals between U-boats and U-boat headquarters and converted them into bearings escorts could follow to hunt down the transmitting submarine and force it to dive before attacking the convoy. Of greater significance 10-cm radars installed in ships and aircraft revolutionized war at sea.

Horton’s most telling initiative was the formation of “support groups” equipped with long-endurance destroyers trained for the specific task of hunting down any U-boat threatening the convoys. Horton was adamant that the support groups had to operate in a coordinated manner not only with the convoy escorts but also with the VLR bombers. The Admiralty agreed to establish five such groups in the North Atlantic, but by March none of the groups had completed the intensive training that Horton insisted upon before unleashing them against the U-boats, moreover the VLR bombers were conspicuous by their absence.

Horton realized that he did not have the authority to commandeer VLR bombers from the Air Ministry, but it did not deter him from pressing the issue vehemently with Sir Stafford Cripps, the recently appointed Minister of Aircraft Production. Cripps agreed that VLR aircraft were the true solution to the U-boat menace. He declared that the Admiralty had simply asked for more aircraft for Coastal Command without giving detailed reasons and making a clear and definitive case. He claimed that VLR aircraft had never been asked for before he suggested it.

Horton wondered if the minister genuinely believed his disparaging remarks about the Admiralty, if not his assertion was an egregious distortion. Horton was wise enough not to look a gift horse in the mouth, even when the self-serving minister boasted that only when he promoted the Admiralty’s case to the recently established Anti-U-boat Warfare Committee that the Committee ordered the 33 Coastal Command Liberators currently assigned to the Bay of Biscay Offensive be modified at the rate of three per week to the VLR configuration by the Scottish Aviation Company at Prestwick, Scotland. The delivery schedule for the modified Liberators called for one in November, nine in December, seven in January, seven in February, seven in March, and two in April. The modification to VLR standards required the installation of two 335-gallon (1,270 litre) tanks in the bomb bay, the removal of 2,000 pounds (900 kg) of equipment not required for the VLR role, including removal of the upper turret, the ventral tunnel gun, the waist guns and their ammunition, and the installation of long-range radar. The modifications were a complex process that slowed delivery of the Liberators to Coastal Command. By the end of February Coastal Command had only two of the promised 33 Liberators in operation. These two aircraft had required 53 and 25 days respectively due to problems with the rear turret installation at the manufacturing plant in the United States and Scottish Aviation’s overburdened workload. Coastal Command would have to make do with the delay of VLR Liberators while the

Kriegsmarine's submarine fleet continued to expand. The 87 U-boats destroyed in 1942 were more than compensated by the 240 U-boats that entered service in the same year. The bombing campaign had not significantly slowed U-boat production.

There was very little action to acquire VLR bombers until the Casablanca Conference in January 1943 when the Combined Chiefs agreed that the U-boat threat should have "first call" on the Allies' resources. This ruling initiated a study by allied staff planners which determined that 80 VLR bombers, 60 based in Britain and Iceland and 20 in North America, would be required to cover the Atlantic Gap. The Combined Chiefs directed that half of these VLR Liberator bombers, suitably modified, be delivered to Coastal Command by the beginning of April. To expedite their delivery the Combined Chiefs of Staff advanced the Liberator deliveries from the previous four per month to 15 in January 20 in February, and 25 in March. Furthermore, the Combined Chiefs decided that 20 Liberators per month would be modified to the General Reconnaissance version and fitted with long range radar in the United States before being ferried to the Scottish Aviation Company in Prestwick to complete the VLR modifications. Predicting that the modifications in the United States would take two months and those at Scottish Aviation would take an additional month, the Combined Chiefs anticipated that 40 Liberators would be delivered to Coastal Command by April 1943. Because of numerous delays Coastal Command had no more than 20 operational aircraft capable of operating in the Atlantic Gap by this promised date, too late to divert the disasters in March.

Building on the Casablanca Conference, senior naval and air force officers from Britain, Canada and the United States participated in the Atlantic Convoy Conference in Washington, DC in May 1943 to discuss the horrendous loss of shipping. One of several recommendations was to allocate more VLR Liberators on both sides of the Atlantic. Although Allied representatives at the Atlantic Convoy Conference agreed to allocate more VLR aircraft to close the Air Gap, the USAAF was not convinced that it was the best use of heavy bombers. When the President Roosevelt heard of the massive number of sinkings for March, he feared the loss of shipping would delay *Operation Bolero*, the build-up of American forces in Britain. As previously stated, Roosevelt promised Churchill to increase the amount of American shipping to ease Britain's import crisis and when he learned of the low numbers of VLR aircraft operating in the Air Gap and the USAAF's reticence to surrender some of its Liberators he threatened to intervene. Deliveries of the Liberators to Britain quickened, allowing the RCAF to be allocated 15 of the newly modified VLR Liberators to patrol the Atlantic Gap and western Atlantic as recommended by the Atlantic Convoy Conference. The RCAF's 10 (BR) Squadron received the first of 15 Liberators in April 1943 and immediately started training at Dorval, QC. However, Dorval proved to be too congested, and the squadron moved to its home at RCAF Station Dartmouth, NS. to complete its training. The Liberators were scheduled to be delivered in three monthly groups of five, but the RAF exceeded expectations and eleven Liberators arrived before the end of April. The Squadron started to move from Dartmouth to Gander, NL on 29 April and by 8 May the entire squadron had moved. On 10 May, 10 (BR) Squadron began operating Liberators in the Air Gap from Gander, Newfoundland and Iceland.



10 (BR) Liberator At Gander NL

It took the shock of the March sinkings to convince those who had for so long refused to acknowledge the need for VLR bombers. A few days after the loss of SC 122 and HX 229 the First Sea Lord warned the Anti-U-boat Warfare Committee that the Atlantic was now so saturated with U-boats that it was no longer possible to evade them and therefore, “We shall have to fight the convoys through them”. This catastrophic prospect caused Air Chief Marshal Portal to rescind his opposition to diverting VLR Liberators to Coastal Command and acknowledge that the crisis in the Atlantic had to be addressed by the Air Ministry. Reacting to Pound’s insistence that more VLR bombers were urgently required Portal agreed, on 22 March, to provide Coastal Command no fewer than 150 Liberators by August at the latest. He was so convinced that attacking the U-boats around threatened convoys was the right policy, he promised that every Liberator earmarked for early delivery to Coastal Command would also be converted for VLR duties. Lord Cherwell and “Bomber” Harris vociferously objected to the diversion of Liberators from the German bombing offensive, but this time it was their turn to be ignored. Thanks to Portal’s change of heart a decision had been reached that would transform British fortunes in the Atlantic.

Coastal Command’s initial patrols over the Bay of Biscay were disappointing. In the first two months of 1943 Coastal Command crews occasionally sighted a U-boat on the surface, but only one was sunk in this entire period. However, when the Allies started to fit ASV III 10-cm radar systems to Coastal Command’s bombers the Bay of Biscay suddenly became very hazardous, forcing U-boats leaving for the Atlantic Gap to play a life and death game of hide and seek. The 10-cm radar in combination with the powerful Leigh Light (searchlight) mounted under the starboard wing proved devastating, aircraft could now illuminate a U-boat detected by radar at night and deliver an attack with precision. During June and July Coastal Command aircraft patrolling the Bay of Biscay sank 26 U-boats and damaged 17 more which were unlikely to return to service. The delivery of the radar sets, which were in short supply, was a tactical victory for Coastal Command as Portal was reluctant to divert this new technology from Bomber Command. However, Air Marshal Slessor, Coastal Command’s new Commander-in-Chief, persuaded Portal that the desperate urgency in arresting the U-boat onslaught should be given priority. Not only did Portal agree to release 40 of the 10-cm radar sets but he was also persuaded to double the number of aircraft allocated to the Bay of Biscay. This raised the total number of aircraft available to patrol the 300 by 100-mile (480 by 160 km) corridor to 150. This revolutionized the situation in the Bay and tipped the balance of the struggle decisively in favour of the Allies. U-boat captains were instructed to stay under water at night and surface only during daylight hours to recharge their batteries. When this failed to

reduce the losses the U-boats were armed with heavy anti-aircraft guns and instructed to stay on the surface and fight it out. Slessor reassured his aircrews that the fighting back may lose us a few aircraft but will undoubtedly mean more U-boats killed. He was correct.

The Tide Turns

May was the pivotal month in the Battle of the Atlantic. The 235,478 tons of merchant ships sunk in April dropped to 163,507 tons in May, and the 12 U-boats sunk in April increased to 33 in May. The long-awaited VLR Liberators, fitted with 10-cm radar, had effectively closed the Atlantic Gap. Air Marshal Slessor claimed this had an instantaneous and dramatic effect on the safety of the Allied convoys. But it was not only the Liberators that made the difference. Admiral Horton was buoyed by the fact that not only had his escorts sunk a great number of U-boats but also that the Allied shipping losses for April had fallen by 50 percent from the alarming total in March. In addition to the latest 10-cm radar and HF/DF technologies and advanced weapons fitted to his growing number of escorts, the War Cabinet shocked by the March calamity, provided enough ships and VLR aircraft to ensure the Atlantic lifeline could not be severed. Between the additional escorts from the Arctic Murmansk convoys, escort carriers from the Mediterranean theatre and Liberators from Bomber Command the wolf packs found it harder by the week to operate against the convoys.

On 14 May, Donitz briefed Hitler that, “the enemy’s new location devices are for the first-time making U-boat warfare impossible and causing heavy losses – 15 to 17 U-boats a month.” On hearing this the Fuhrer exclaimed, “These are too high. It cannot go on”. But Donitz could not reverse the trend. In early May three convoys were approaching the Atlantic Gap. The first of these, HX 238, departed Halifax with 46 vessels protected by five Canadian escorts, was diverted around a lurking wolf pack by a combination of Enigma decrypts and HF/DF intercepts. The convoy arrived in Liverpool 11 days later without being detected. The second convoy, HX 239, an especially valuable convoy with 11 oil tankers among its 42 ships, escorted by eight warships, the escort carrier *HMS Archer*, and Coastal Command Liberators, also reached Liverpool without a single loss. The third convoy was a little less fortunate but of the utmost significance as it demonstrated

conclusively that Donitz had lost the tonnage war. Convoy SC 130 left Halifax for Liverpool on 11 May accompanied by Royal Navy Captain Gretton’s escort group, reinforced on the first leg by USAAF B-17 Flying Fortress VLR bombers based in Newfoundland. On 18 May, 25 U-boats were lying in wait on the edge of what was still called the Atlantic Gap, although by virtue of the VLR Liberators it had shrunk to the point where it could hardly be called a gap. In the early morning hours, the Liberator’s 10-cm radar combined with a destroyer’s HF/DF intercept alerted Gretton to the wolf pack’s patrol line, cueing Gretton to veer the convoy off course to avoid the wolf pack. Later that night two destroyers in the escort group sank U-954 with the loss of all lives, including Donitz’s son.

Supported by VLR Liberators from 120 Squadron, destroyers from Gretton’s support group harried the wolf pack with venom. At one point a destroyer using its new Hedgehog projectile anti-submarine weapon for the first time sank U-381, all 47 crewmembers perished. Later that evening one of the Liberators detected three U-boats simultaneously. In the course of the radio-telephone discussion with Gretton about which of them to attack first, they agreed to abide by film star Mae West’s sexy entreaty, “One at a time, gentlemen please.” All three U-boats were forced to dive. (Airmen commonly called their life vests Mae Wests because when inflated the vests resembled the star’s buxom figure.) This was the pattern for the rest of the voyage, although Gretton believed that the convoy was still being shadowed by up to 30 U-boats, not one appeared able or willing to get close

enough to launch a torpedo as long as there was air cover. Under constant threat from warships and Liberators the U-boats hung back. Five of their number had already been incapacitated, three by Coastal Command Liberators. SC 130 was proof that the combination of aircraft and escorts working in close cooperation could make convoys virtually inviolable. It is a pity that it had taken so long for this to be appreciated. In this respect Bomber Command's bombast had a great deal to answer for.

After the defeat of the U-boats in May 1943 the acrimony over the "Battle of the Air" subsided. The belated provision of a mere 50 VLR bombers from Bomber Command to the Atlantic offensive against the U-boat had proved the Admiralty's point beyond any doubt. It is interesting to compare Air Marshal Joubert's claim in 1942 as the Commander-in-Chief of Coastal Command that he could close the Air Gap with 40 VLR bombers. Indeed, the 235 VLR aircraft which had been earlier promised for the protection of the convoy routes by July 1943 were never delivered, largely because they were not needed in such numbers. Of the 249 U-boats destroyed by aircraft alone Coastal Command Liberators accounted for 70. The combination of aircraft and escorts, armed with the latest weapons and technology, were quite capable of dealing with the U-boat challenge. Working together they sank a further 37 U-boats.

If Churchill had acceded earlier to the Admiralty's clamour for a significant number of VLR bombers to be diverted from Bomber Command, and modified for war against the U-boats, there is little doubt that the tide in the Battle of the Atlantic could have been turned many months earlier. Moreover, it could have avoided the horrendous loss of lives and shipping which prompted Churchill's plea to Roosevelt in October 1942.

Losses In The North Atlantic, 1939-1945

Year	Merchant Ships Sunk	Tonnage Lost	U-boats Sunk
1939	47	249,195	6
1940	375	1,804,494	18
1941	496	2,421,700	19
1942	1,006	5,471,222	35
1943	285	1,659,601	150
1944	31	175,013	111
1945	19	122,729	71

White D.F., *Bitter Ocean – Battle of the Atlantic 1939-1945*, Simon & Schuster, 2006, pages 297-301

Sea Kings on the Water

Herbert Harzan

When the HSS-2 was initially built by Sikorsky, it was the first of their production units that had two turbine engines. Unlike earlier Sikorsky aircraft that were single-engine, there now was merit in doing something if one ended up in the drink because of one engine failing.

At that time, with the very limited power of the early T-58 engine, about the only way you were going to salvage the aircraft was to do a single-engine water taxi, trying to get sufficient speed through the rotors to attain single-engine speed or close enough to it to pull it off the water. Indeed, when I took the Waterbird Course with the USN in '65, that was what they taught. And in the right circumstances, that made sense. In fact, when I had to ditch 4039 in Oct '80, we made a very successful single-engine take-off in zero wind conditions, using the water-taxi method, thus saving an aircraft. Our technique would not have been possible without the boat hull.

However, as engines were upgraded and became more powerful, putting the good engine to a short-term overspeed/overtempt and the rotor head to short-term overspeed situation allowed jump take-offs to be feasible and they, of course, were not as constrained by sea state. Thus, that option became the preferred one in many cases, and subsequent newer aircraft with more power made the boat hull less essential.

Earlier comments on this topic actually stated that the boat hull was not a success. I beg to differ. The USN salvaged several by towing them great distances. Also, water-taxiing over reasonable distances was an option. The boat hull was never there to provide stability on landing *in* the water, but to move *through* the water.

As for stability on the water, the flotation bags were there to assist in this phase. Unfortunately, these were not always reliable and sometimes only one side deployed, making the beast even more unstable than with none. I recall one ditching in Porto Rico area where the crew shut the aircraft down, deployed the flotation bags and the dinghy, and casually stepped into it. They did not even get wet!

Somebody also stated that with the rotors turning the aircraft was unstable. Not at all! With the rotors turning, one had very good stability and control, and that was indeed one option -- to water-taxi on one engine. The main problem was that the hull (waterbird excepted) was not very watertight and aircraft in the water very rapidly took on enough water to cause the thing to sink -- just like a leaky boat. Also, stability with the rotor stopped was not very good.

Editor's note: This story initially appeared as a 2004 Navairgen message. It has been edited for publication here in Herb's memory; he passed away on 1 August 2009.





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