

December 2019

Volume 41 Issue 12



# *The Binnacle*

Victoria Model Boats  
Victoria, B.C.



Happy Christmas!

Pender Harbour Boat  
Parade

Ken Lockley on  
Good Wood and Stocking  
Stuffers.

Vivian Marine Engines  
Mike Creasy



Edward White  
Battle of the Atlantic Pt. 3

<http://www.vmss.ca>



**From  
The Bridge**

I want to start this year by thanking Mike Bush and Jim Cox for their leadership last year. The work of the previous year's executive is appreciated even if it is not always spoken.

The current year executive has not met yet, but I expect we will name the non elected directors at the next meeting in January. One immediate change is that the show coordinator will be replaced by some groups led by executive. It is a heavy job for one person, but I think you will find it interesting and exciting if you are invited to participate in planning and running an event.

I am expecting better access to Harrison Pond this coming year. The heavy construction has ended and the bike lanes should be finished by early summer. I hope we will have a Sunday float as well as a weekly evening float during summer at Harrison. We will also be looking for more regatta style events and fun competitions.

One event I want to announce now is that we will have a swap and shop at our February meeting. I am telling you now so you can think about it when you are cleaning up your shops over Christmas break. That is two months notice of an opportunity to turn your trash into cash!

Finally, Merry Christmas, or Seasons Greetings, and Best Wishes for a Happy New Year.

Ron.

**2020 Executive Committee**

<i>President: Ron Hillsden</i>	<b>479-5760</b>
<i>Vice-Pres: Ken Lockley</i>	<b>477-5830</b>
<i>Secretary: Elgin Smith</i>	<b>384-0574</b>
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<i>Parks Liaison: Mike Claxton</i>	<b>479-6367</b>
<i>Sailing Director: Peter Stevens</i>	<b>656-8999</b>
<i>Membership: Bev Andrews</i>	<b>479-2761</b>
<i>All above area code (250)</i>	



**ON THE RADAR**

Upcoming Events

**Awards Dinner this Thursday.**

**Light-up parade, Saturday 14th, 4 pm.  
Harrison Pond.**



**Meetings: Second Thursday 7:30-9:30  
St. Peter's Anglican Church, Lakehill  
3939 St. Peter's Road  
Upcoming meeting: December 12th.**



**POWER: Sundays 10-12  
Harrison Model Yacht Pond (HMYP)  
Dallas Road at Government Street**



**SAILING: 1st. and 3rd. Sundays  
Beaver Lake**



**LANGFORD LAKE  
Wednesdays 9:30  
Langford Lake, Leigh Rd. at Trillium**

## VIVIAN - THE LITTLE ENGINE THAT COULD

*by Mike Creasy*

You seldom see or hear of Vivian engines anymore. Out of production for years and known only to a small number of aficionados, Vancouver's Vivian Diesel Company was once known worldwide.

Will Vivian was typical of many entrepreneurs of the day; self-taught, curious and poor! Born in Vancouver in 1890, he went to sea as a cabin boy on the **EMPRESS OF CHINA**, then worked as a fisherman on the BC coast. Then, a job in the Easthope Engine Works in Coal Harbour, followed by a stint in the Hall-Scott engine shop in San Francisco.

He designed a single cylinder gas engine, and in 1909 he started his own shop in Vancouver - the Vivian Gas Engine Works. Vivian was a stickler for quality, believing that an engine must not only perform; it must be reliable. And because of his experience on the shop floor, he could pick out a sub-standard part or a bad assembly job. This quality ethic became the norm at Vivian.

The plant went on to produce a number of small to medium size gas engines, primarily for the west coast fishing fleet. During the 1920s, it was becoming clear to Will Vivian that high speed gas engines were not up to the task of moving larger boats and ships, which needed large propellers at relatively low speed.

This is where the distinction between horsepower and torque comes into play, whereby torque is what gets you moving and horsepower makes you go fast! Big ships and tugboats with high drag displacement hulls didn't need speed as much as they needed low speed "oomph". Coupled with the relatively low cost of diesel fuel compared to gasoline, this meant that diesel was the thing for any serious working boat.

In 1930, Vivian produced its first diesel, a 90 hp. three cylinder model installed in the fishing vessel **TOTEM**. The company's range of diesel engines expanded to include propulsion engines, generators and stationary engines, and the brand became known world-wide. In fact, Vivian's plant expanded twice during the 1930s, despite a world-wide economic recession known as the "dirty 30s".

Vivian focused on a range of low speed engines, suited to almost any requirement. As his plant was expanding during the late 1930s, Will Vivian became involved in a group of industrial manufacturers called West Coast Industries. Their purpose was to lobby Ottawa for a share of the military contracts being companies with "close connections" to politicians and bureaucrats. Some things never change!

Vivian was a frequent traveler to Ottawa and Halifax, landing contracts from the British Admiralty as well as Canadian Government. All the plants and small shops on the west coast saw great benefits from his efforts, leading to



the decision to build over 200 large steel freighters at several west coast yards during World War 2.

These ships, known as Park or Fort class, were steam powered, but some were fitted with Vivian diesel generators.

Several of the RCN's 80ft. steel Glen class tugs, built in 1942-45 in Kingston Ont., were fitted with 400hp 8 cyl. Vivians. These were **GLENADA**, **GLENDOWER**, **GLENORA**, **GLENMONT** and **GLENLEA**. In addition, Vancouver's Mackenzie yard built three Glens in wood, all fitted with 320hp 6cyl Vivians. These were **GLENDEVON**, **GLENDON** and **GLENHOLME**.



The company seems to have reached its pinnacle during the war, with over 1,000 employees and a network of suppliers and product support facilities throughout the world. The Vivian works could have become a major player in the post-war era, but Will Vivian seems to have run out of the drive and ambition that had made his engines such a success. Now in his 60's, he was reluctant to use new technologies in metallurgy and manufacturing to compete with General Motors and others in the production of larger and more powerful diesels.

In 1949 he sold the business to the Brush-Able Group from England, who decided to switch production to their own National diesel engines. This was a difficult transition, and Brush soon sold out to Hawker Siddely, which assigned the old Vivian works to its Canadian subsidiary A.V. Roe sometime in the early 1950s. Work on National diesel production ceased and with that, the Vivian name disappeared from view.

Will Vivian died in Vancouver in 1965, no doubt proud of his achievements - as he should have been. Still, one wonders what might have been for this little engine that could.

#### Bibliography

The Vivian Works, Ehud Yaniv, BC Historical News, Volume 29, No. 1, 1987  
 Will Vivian, David Conn, Raincoast Chronicles 6/10, Harbour Publishing, 1983  
[www.russelbros.ca/navytugsglen.html](http://www.russelbros.ca/navytugsglen.html)  
[nauticapedia.ca](http://nauticapedia.ca)

**NEXT BUILD: #27**

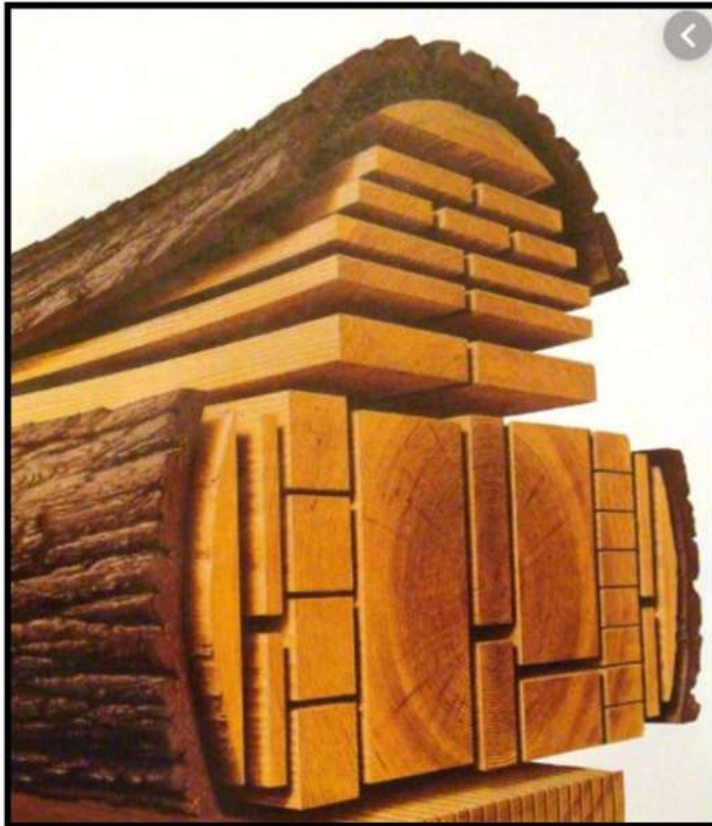
by Ken Lockley

DECEMBER 2019

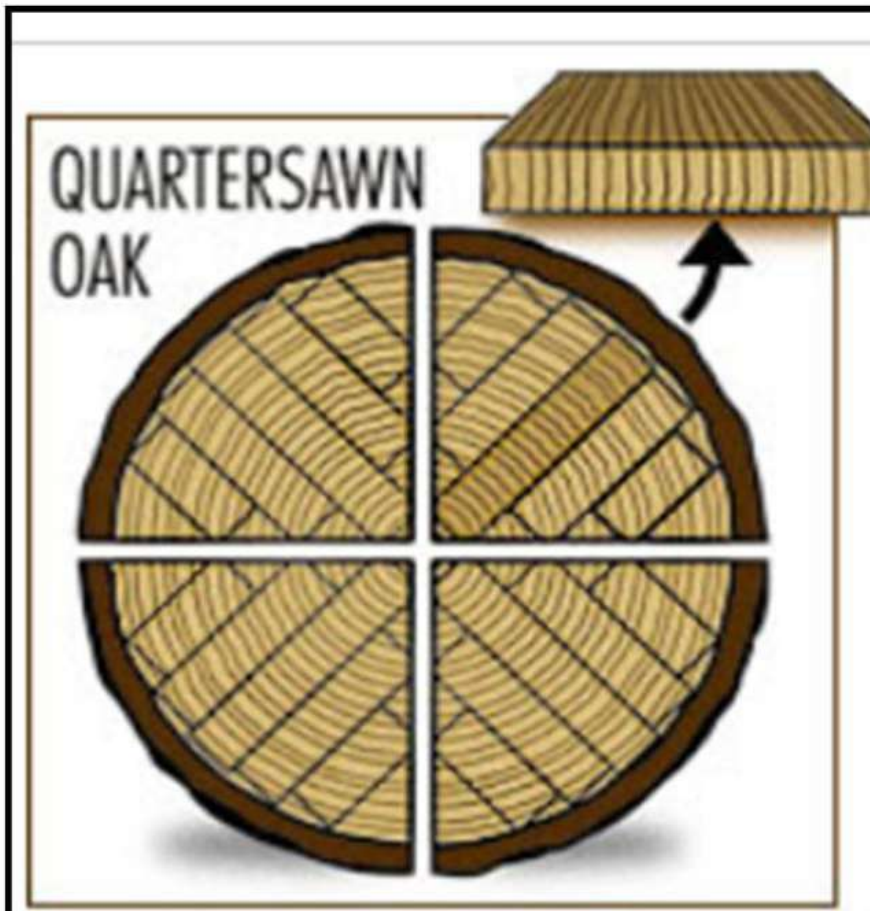


This month my discussion is about wood available locally. During the commercial fishing boom from the 1900's to the 1980's, all sorts of wooden fish boats were built from Prince Rupert to the Fraser River, small ship construction was very evident. The builders in many cases used softwood timber from Vancouver Island. The picture above is one of the "Warburton Millwork" employees cutting through an old growth Douglas fir log, not really very much different than a 100 years ago.

There was plenty of red and yellow cedar for hulls, several species of fir and Sitka spruce for trolling poles. Our island could provide all that was needed to build a vessel that would fish for salmon during the summer months and with care would last 50-60 years. Add copper, brass and hot dipped galvanize fastenings with red lead, glues and paint. Shipwrights would have another 40 footer under construction. Lots of young men made a start to their work life in the forests or apprentices in local shipyards. The fish and the trees were part of the BC Coast life.



These two pictures really show how a log is processed at the mill. The upper picture is the common approach used to produce lumber for house construction etc. The lower picture shows how marine lumber is cut "Quarter Sawn". This cutting process gives edge grain timber which is more suitable for marine use. There is more waste which results in a higher cost per board foot to the consumer. For the woodworker, it's far more pleasant to work with, especially planing and sanding. Also if the finish is clear than the edge grain, I believe, is preferred. We hear all the time about old growth, from a wood working point of view, old growth provides closer grained wood which usually makes for a better product in the end.



I have recently needed to replenish my lumber supplies, as in the last few years I have used most of my aged dried wood in my workshop. We are fortunate in Victoria as there are several firms that can provide our modeling needs. My recent purchases have included the following: Windsor Plywood Langford for Baltic Birch plywood 3 & 6 mil., Westwind in Sidney for 1.5 mil aircraft ply and Sitka Spruce for gunwales, spray rails etc.

I also made a trip to Warburton Millwork in Sooke for some edge grain old Douglas Fir. There are many other places to purchase what you need.

## TIPS AND HINTS

Hi Members: Here are some gift cards ideas for after Christmas purchases. We all get some gift cards these days, here's a few tools that I own and really use that sell for under \$25.00.



The above is a new item to me. It caught my attention because of the retractable feature of the saw blade. Often working inside the hull installing radio gear, a saw that can have a blade 1 – 2.5" in length might be very handy. Replacement blades are also available. This is a Lee Valley purchase under \$25.00. I haven't seen them anywhere else but haven't looked very hard. BC Shaver might have this or Canadian Tire.

The picture on the left shows a hand held vice, another item from Lee Valley that appealed to me. My fingers are not as strong as they were and I am hoping this little device will be handy. It of course could be used in conjunction with a large shop vice. It's on my Boxing Day shopping list.



These two items have been in my tool box for some time and have really been an asset in building . The Strip Cutter above, cuts wood or plastic up too 1/4" x 1/4" or 1/8" x 1/2 ". Really handy on hull construction. I purchased mine at Michael's. The sliding bevel square is only 3" in length and I have found it a really handy tool for building superstructures or cabins on my models. It's another low priced item from Lee Valley.

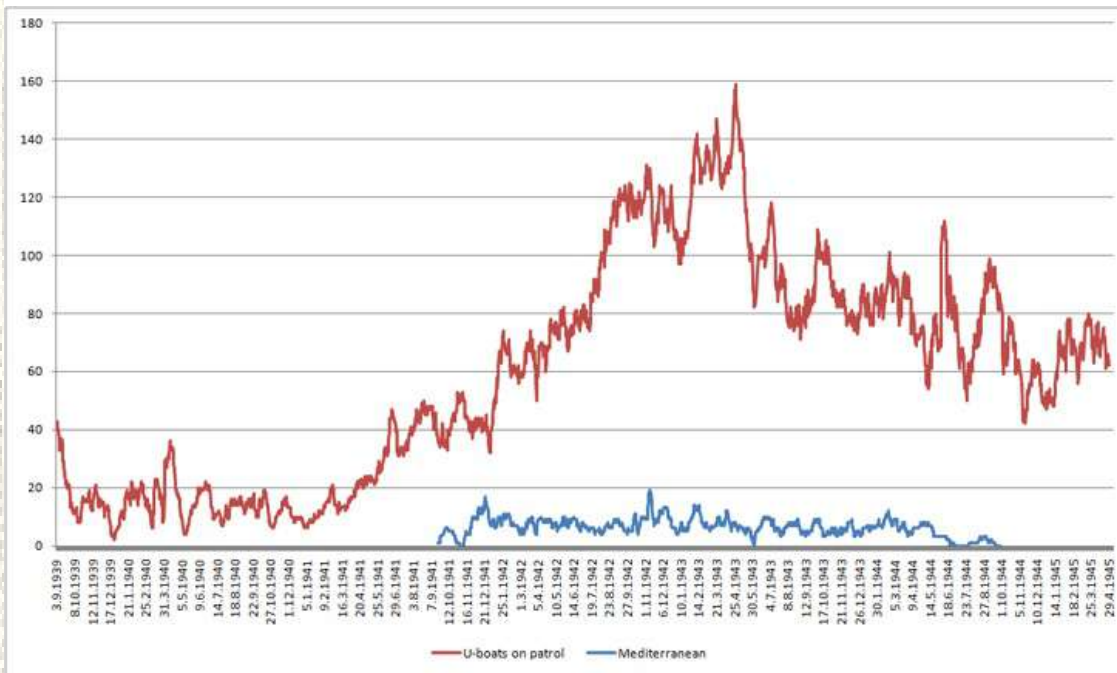
**The CNAV Clifton** is slowly taking shape, with some motor adjustments. Each little problem you learn something. I have also really been amazed at the amount of weight it's taken to get the hull near it's waterline. As you can see by the pictures, lots of deck details needs to get completed once I have the running operation really in hand. There are another 4 cowl vents to install. More bollards on the deck as well as seven tires each side as bumpers. Looking at these pictures and seeing no mast makes me realize next on the list is building the mast and installing it. Another month or so needed to be about 95% complete.



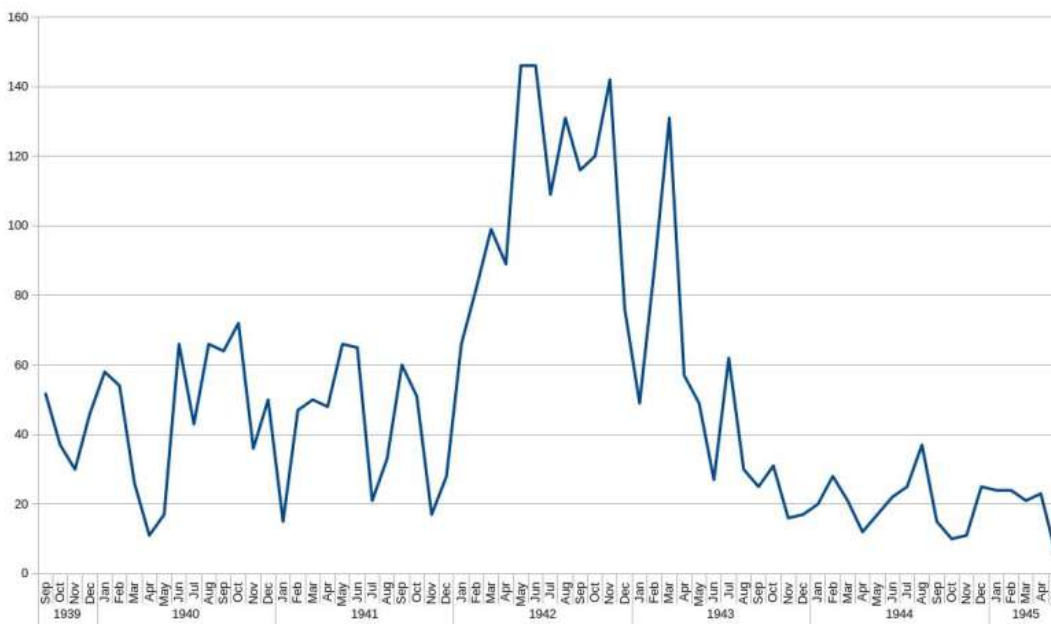


### The Battle of the Atlantic Part 3

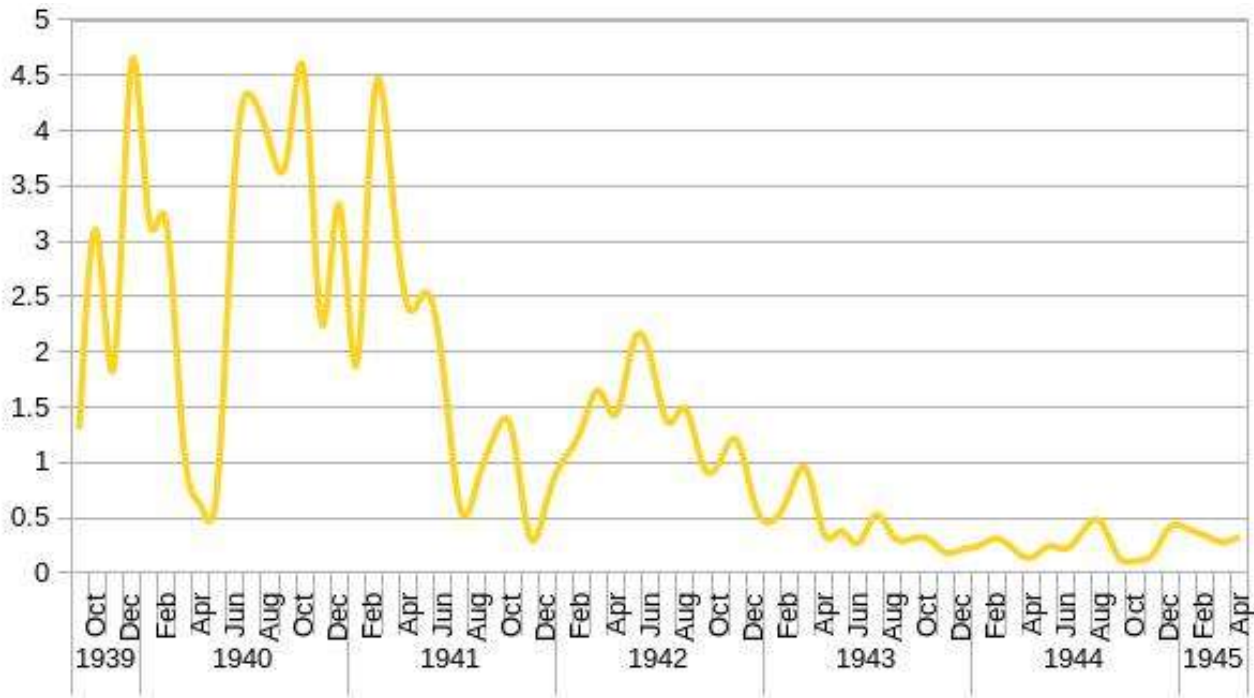
I'll open this part three with repeating the graph I showed at the end of part two. This shows the number of U-boats on patrol each month throughout the second world war. Through 1940 the number rarely exceeded 20, although their time in the combat area increased after the conquest of France in June gave them access to the French Atlantic bases. Then from April 1941, the numbers begin a steady climb to a peak of 159 in April 1943.



Compare this to the second graph, showing the number of ships sunk by U-boats in each month. The peak in this is May/June 1942, then a sharp decline after March 1943.



In a way, these two show the whole strategic story of the Battle of the Atlantic. Here's a third graph which divides the number of ships sunk in a given month by the number of active U-boats. It's a measure of the effectiveness of the U-boats. You can see the initial success of the 1939 campaign, the gap when the U-boats were covering the invasion of Norway in early 1940, the "Happy Time" at the end of 1940 and the success of the new bases in France and the beginnings of the "wolf pack" tactics.



But from the spring of 1941 the effectiveness declines, even as the number of U-boats available climbs and the total number of sinkings rises, showing the allied success of the convoy system and their escorts. By mid 1942, Doenitz had achieved his ambition of 100 active submarines in the Atlantic, and the number of sinkings had more than doubled. But the effectiveness, the success of the attack compared to the resources used, was halved and continued to drop.

Okay, that's the big picture with the benefit of hindsight, now we should get back to the stories behind it.

In March 1941, the Germans finally had accurate torpedoes, a submarine building programme that was beginning to deliver, and a method of attack, the wolf pack, that promised to be deadly.

The British were desperate for an effective response, and poured resources into finding answers.

The answers came piece by piece.

The first was to form strong escort groups for large convoys. In February 1941, they shifted control of the Western Approaches to Liverpool, and set up a new base at Tobermory in the Hebrides

for the escorts. They were now starting to receive the newly built Flower class corvettes and the refurbished destroyers from the "ships for bases" deal. Now they had the ability to cover convoys to and from the latitude of Iceland. The destroyers were being equipped with the first short-wave radar sets.

As early as March these things paid off. Convoy OB 293, 37 ships, sailed from Liverpool on the 2nd. March, escorted by two destroyers and two corvettes. It was sighted by Gunther Prien on the 6th. of March and he called in U-99, U-70, and UA. The four of them attacked late that night. They sank three ships and damaged two others, but the escorts sank U-70 and damaged UA. Prien, in U-47, stayed in contact with the convoy through the 7th., and then in the early hours of the 8th. the two destroyers sighted another U-boat and depth-charged it. They recorded an underwater explosion and believed that they had sunk U-47. There is now some dispute about whether this sub was U-47, but in any case Prien and U-47 never returned from that patrol.

Then convoy HX 112, 41 merchant ships carrying war supplies, many of them tankers, had been met by the 5th. Escort Group, four destroyers and two corvettes, and was inbound for Liverpool. They were sighted by U-110 on the 15th. of March, who called in the contact and was joined during the day by four other U-boats. They attacked that night, and U-100 torpedoed one tanker, but the others were frustrated by the escorts. They continued the attack the following night, and U-99 penetrated the convoy and managed to sink six ships. But the other subs were unable to attack the merchantmen, U-100 was spotted on radar, rammed, and sunk by the destroyer Vanoc, and U-99 was also attacked and sunk after her crew was taken prisoner.

Doenitz had lost his three "aces", Prien, Kretschmer, and Schepke, in a single month. His response was to move his wolfpacks further west, into the "gap" between Newfoundland and Iceland.

As the supply of escorts increased, the Admiralty called on Canada to assume the responsibility for convoy protection in the western Atlantic, and in June 1941, Commodore Leonard Murray, RCN. set up the Newfoundland Escort Force at St. John's. He had 6 destroyers and 17 corvettes from the RCN, and 7 destroyers, 3 sloops, and five corvettes from the RN. These were to cover the convoys from the Canadian ports to a meeting point with the British based escort groups south of Iceland. By the end of the war, this little force was to grow to over 270 escort vessels!



So by the end of June 1941, the "gap" was covered, albeit by inexperienced, newly recruited, Canadians in untried ships. The discipline of the convoy system was well established, and the ability of the escort groups to frustrate the wolf packs and thereby protect the merchantmen was growing. It's time to tell a Canadian story.



Max Bernays was born in Vancouver and had got some sea experience with the Royal Canadian Volunteer Reserve from 1929, and served with Canadian National Steamships in the 1930s. He was 32 on the 6th. August 1942 and was Acting Chief Petty Officer and the Coxswain aboard the River class destroyer HMCS Assiniboine. Assiniboine, with six Flower Class corvettes, Primrose, Orillia, Nasturtium, Dianthus, Chilliwack, and Battleford, was escorting convoy SC 94. They sighted a conning tower, at a range of



about 6 miles at 11.30 gmt. Assiniboine, commanded by John Stubbs, along with Dianthus, went after it, first with gunfire and then, after the sub submerged, with depth charges. There was no conclusive result and by 1700 gmt fog had set in. Then at 1836, a radar contact was regained and then a U-boat was sighted on the same bearing, but again disappeared into the fog. A further radar fix, only 1200 yards out, put them back on track and the Assiniboine closed on the U-boat, prepared both to ram and to depth-charge.

For some reason, U-210 chose to stay surfaced, and opened fire on the Assiniboine with its anti-aircraft guns. By this time the range was too close for the destroyer's 4.7 inch guns, they couldn't be depressed enough, and the U-boat had a much tighter turning circle than the destroyer, which had to reverse the inside engine to stay on target. Here's a photo taken from Assiniboine in the middle of the fight.

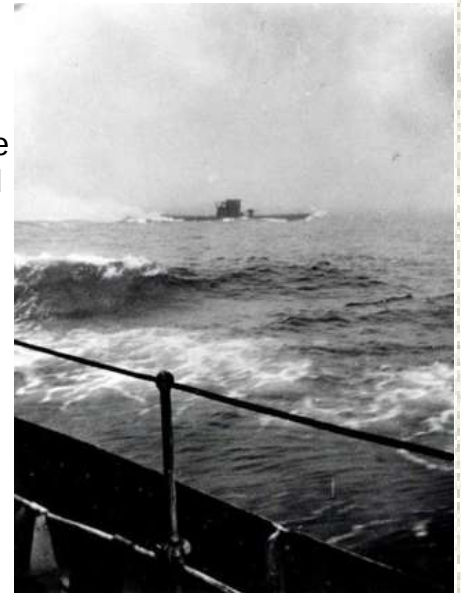
The fight became a gunnery duel between the U-boat's anti-aircraft gun on the conning tower and the destroyer's 50 calibre machine guns. The destroyer's 50 calibre fire prevented the U-boat crew from reaching their main deck gun. The U-boat's gunnery caused a petrol tank fire on the destroyer's starboard side which spread almost to the bridge and closed off access to the wheelhouse.

As the fire closed in, Max Bernays ordered his two telegraph operators out of the wheelhouse and took over their duties as well as his own at the wheel. With gunfire coming into the wheelhouse and with a fire right outside, Max Bernays relayed some 130 telegraph orders as well as executing



innumerable wheel orders as the captain manoeuvred the ship to try to ram the U-boat. After missing ramming him three or four times, finally, a shot from the rear 4.7 inch gun hit the conning tower, killing the entire bridge crew. The U-boat straightened course to attempt to dive, and the Assiniboine succeeded in ramming him as he did so. The U-boat was forced to resurface and Assiniboine rammed again as well as firing a shallow pattern of depth charges. Thirty-eight survivors were picked up between Assiniboine and Dianthus and taken prisoner. Assiniboine was sufficiently damaged by the ramming and the U-boat's gunfire that she had to return to St. John's immediately.

There can be no doubt that Max Bernay's cool and accurate actions under fire, kept the Assiniboine fighting and enabled the destruction of U-210. His medals are on display at the CFB Esquimalt Museum. Rear Admiral Murray recommended him for the V.C. but this was refused due to disputes with the British Admiralty. He did receive the Conspicuous Gallantry medal. He went on to serve in the Korean war and survived until March 1974. His medals are on display at the CFB Esquimalt Museum.





There are a number of other points to be made about this story.

It was the first taste of action for Assiniboine's crew.

The convoy, now located by the German forces, had to fight its way through a total of 19 U-boats, and lost another ten merchantmen on the way to Liverpool.

It is a classic example of how reality is much more messy than we expect. If you read the account of Assiniboine's captain in his report, ([junobeach.org](http://junobeach.org)), you can experience the frustration of the escorts trying to locate submarines with their primitive radar and sonar. You would think that between Assiniboine and Dianthus the destruction of a surfaced submarine should have been easy, but fog and the submarine captain's understanding of the destroyer's limitations made it a very tough fight. And if you compare the accounts of the battle from various sources, you can see how very difficult it is, even for eye witnesses, to identify the real facts.

The effectiveness of the escorts in protecting the convoy is not so much in the damage that they inflict on the submarines, as it is in keeping the submarines away from the convoy for long enough that the merchantmen outrun the fight.

I'm going to finish this by going back to the chart of U-boat effectiveness at the beginning. The big story of 1941 is that while the number of U-boats at sea went up from around ten to more than forty, the number of ships sunk stayed about the same. The system of large convoys with multiple escorts steadily eroded the effectiveness of the whole U-boat campaign.

But there's a bump in 1942, why was that? The answer is Pearl Harbour. After the United States officially entered the war, Doenitz switched some of his attention to U.S. coastal waters. There, in what the U-boat forces experienced as the second "Happy Time", they found merchant ships moving outside convoys, unescorted, alone and vulnerable. Good Hunting! The web site [uboat.net](http://uboat.net) has maps showing where the sinkings occurred during each month, and you can see that for the peak of the effectiveness chart in June 1942, the majority of sinkings were up and down the U.S. east coast and the Caribbean Islands. Of course, the area is a hell of a long way away from the sub bases in France, and so the subs were only effective combat units for a small proportion of each patrol. So the peak could never be as high as the first "Happy Time". After June, as the U.S. started to organize convoys and its coastal defences, the job of the U-boats got tougher once again.

That's where I'll leave the story until next month. Your modelling ambition should now include a River class Canadian destroyer, a Flower Class Corvette, and a type 7 U-boat. That's Assiniboine below. Pretty Eh!





## For Sale



Trumpeter 1/200 scale model HMS Hood  
dimensions: Length 5 feet breadth 7 ins approx.  
Comes with all electronics excluding receiver, transmitter, batteries.  
May require some additional ballast.  
Contact Ernie Reid 778-351-1342  
Price \$600.00



The Victoria Model Shipbuilding Society is a non-profit club, open to all, established in 1978 under the Societies Act of B.C.

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