

LEAD AND LINE

NEWSLETTER OF THE NAVAL OFFICERS' ASSOCIATION OF VANCOUVER ISLAND

<i>Sea Orbiter: A completely new type of vessel</i>	<i>Creatures of the Mariana Trench</i>	<i>Wounded Warriors</i>	<i>New supply ship?</i>
Page 3	Page 5	Page 8	Page 11

A tough year for *HMCS Protecteur*

As if it wasn't bad enough that the 44 year old supply vessel's bow was scraped in a close encounter with *Algonquin* last year, the vessel fell victim to a fire on 27 Feb, which left her wallowing in the seas some 600 kms north-east of Hawaii.

Scuttlebutt has it that the fire occurred in the Main Machinery Control Room when a hydraulic line sprang a leak and caught fire.

The vessel retained electric power from one diesel generator but the ship could not steam. The *USS Michael Murphy* arrived the next day with bottled water and some necessary equipment. Tugs would appear to be in order.



Protecteur left Esquimalt Harbour on 6 Jan with *HMCS Regina* for exercises with the US Navy and was on her way home when the accident occurred. *Protecteur* is one of only two supply vessels in our fleet and the only one on this coast. She is scheduled to be removed from the fleet permanently in 2015 which will be considerably in advance of any new supply ships.



24 Mar Luncheon

Guests - spouses, friends, family are most welcome at our luncheons

*Lunch at the Fireside Grill at 1130 for 1215
4509 West Saanich Road, Royal Oak, Saanich.*

Featured speaker: **Geoff Dickson, CEO of the Victoria Airport Authority**

On major changes planned for the airport including updates on the Helicopter Squadron. Victoria's airport is one of the fastest growing in Canada and will soon be adding more direct flights to international destinations

Please contact Bud Rocheleau bnhrocheleau@shaw.ca or 250-386-3209 prior to noon on Thursday 20 March

When making your reservation, please advise Bud of any food allergies or sensitivities.

NOAVI LEAD AND LINE



President's Column March 2014

As I write this, the deadline for the February lunch has come and gone, and Bud reports that we still have only around 40 signed up. As with previous months your Executive will now go into phone mode to drum up some support to make the 50 needed to use the main room at the Fireside Grill. This really should not be necessary. I really do not understand why it takes such an effort to turn out the membership for our monthly lunches. All you have to do is phone Bud or send him an email

when you see the ad in Lead and Line. Some months ago we began sending out reminders by email to the general list, but now it seems that two or even three reminders are needed! Enthusiasm seems to be waning.

I wonder what is the matter here – Is it the format? Is it the time? Is it the location? Is it the speakers? Or is everything just fine and people just forget to call. It would be very nice to get some feedback as to how one can improve the situation. Your Executive's contact numbers and addresses are listed in every issue of this newsletter, not just to fill up space, but to provide the membership with a channel of communications. Let's make it a two way street!

Yours aye

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The soon-to-be saga of *Sea Orbiter*

By Larry Dawe

The famous 19 century French science fiction adventure novelist Jules Verne would be proud to have dreamed up *Sea Orbiter*. This most improbable look-



ing deep sea vessel is basically a huge hollow mast filled with technical spaces and living quarters which stands vertically in the water, stabilized by a huge underwater disc.

This 1000T semi-submersible is 51m (150 feet) high of which 31m is underwater. It is to be built of an Aluminum Magnesium alloy made 5 times thicker than conventional surface ships.

It will have workshops, laboratories, living quarters, sophisticated above water observation and communications as well as a pressurized deck to permit deep water diving and submersible docking. It is designed for slow speed but very long range.

But it is not a full sized reality yet. A 1:15 scale model has been tested in the tank at the Norwegian Marine Technology Research Institute (Marintek) in Trondheim.

There are 2 big questions, which will decide the fate of this daringly innovative project.

First, is it really scalable? The tests on the 1:15 model (about 10 feet high) might not prove workable at full size.

Second, can the principal concept designer, French naval architect Jacques Rougerie, secure the required funding.

If you check this on the internet, you will find that they are looking for crowd funding, basically, donations.

The plan is audacious though. It is very unconventional but seems to offer many unique advantages to research and exploration. They expect to begin construction this spring.

Contributions to The Lead & Line costs gratefully received from Associate Member David Nicholson



David has been providing trusted investment advice for over a quarter of a century!



David S.H. Nicholson

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Anyone remember the Shannon and the Chesapeake?

The Royal Canadian Mint is releasing up to 5 million \$2 coins celebrating the victory of *HMS Shannon* over the *USS Chesapeake*, and its escort of the American war prize into Halifax Harbor.

The multi-ply plated steel ringed-bimetallic coin is the first salvo in a commemorative circulation coin program also honoring four key military figures in the struggle on 25-cent coins.

In June 1813, Captain Philip Broke, Commander of the *HMS Shannon*, was eager to secure a victory for the British Navy, which had suffered a series of defeats at the hands of the United States. As the *Shannon* challenged the *USS Chesapeake* off the New England coast, both ships met with guns at the ready. The battle lasted only 11 minutes, but the decisive victory helped to bolster the confidence of the British Navy, especially at the sight of the captured *Chesapeake* being escorted into Halifax harbour by the triumphant *Shannon*.

The historic naval battle in June 1813 resulted in the death of 23 Shannon crewmen. Graves of fallen crewmen are marked in the Royal Naval Burying Ground and at the Old Burial



Ground, administered by St. Paul's Church in Halifax. *HMS Shannon's* bell is currently on display in Halifax at the Maritime Museum of the Atlantic.

Key historical figures in Canada's successful fight in the War of 1812 will also be honored on four new 25-cent circulation coins to be released later in 2012 and 2013. The coins will honor Gen. Sir Isaac Brock, Shawnee war chief Tecumseh, Charles de Salaberry and Laura Secord.

The reverse of the \$2 shows *HMS Shannon* leaving Halifax Harbor to do battle on the At-

lantic, against a scene of early 19th century Halifax Harbor on the left side, with Citadel Hill visible in the distance. On the far right, a tall ship rests in the well-defended harbor.

The starboard-side, detailed image of *HMS Shannon* dominates the brass-plated center of the coin. Most of its sails are fully unfurled and filled by a steady westerly wind, its jib boom and bowsprit pointed out to sea.

For more information, visit the RCM's website, www.mint.ca. ■



NAC Conference 2014
 Submarines: Past, Present and Future
 at the National Arts Centre 2 October 2014

www.navalassoc.ca

Presented by the Naval Association of Canada
 in recognition of 100 years of Canadian Submarine Service and
 in association with the Royal Canadian Navy



NOAVI FEATURE STORY

Life in the depths...

By Mathew Dawe

The ocean has long been a source of inspiration and wonder to both scholars and artists alike, and many people have devoted their lives to uncovering the mysteries of what lies beneath the waves.

Scores of theories have been put forth as to what the darker recesses of the sea might hold, theories including everything from extremophile microbes to mythical sea monsters. So, any such theorist cannot help but be excited to hear that results have been released from a recent expedition made to the very darkest of the sea's recesses: the Mariana Trench.

As most readers probably know, the Mariana Trench is the deepest known spot in all the world's oceans. Located in the western Pacific, the trench sinks to a staggering depth of 11.03 kilometres below sea level, with pressures at the bottom reaching as much as 15,750 psi (or 8 tons to the square inch), over 1000 times standard atmospheric pressure at sea level.

These figures can perhaps be put in perspective by saying that if Mount Everest were dropped down to the bottom of the trench, its peak would be about 1.6 kilometres below the surface.

So, ever since the first expedition to the bottom in 1960, the question on everybody's lips has been: "What's really down there?" Rather disappointingly, the two men who made that expedition (Jacques Piccard and Navy Lt. Don Walsh) were unable to bring back much from their dive.

The incredible pressure allowed them to stay at the bottom only a scant 20 minutes, and the submersible's floodlights barely penetrated the darkness. Perhaps the zoological high point of the dive occurred just as their craft (the bathyscaphe *Trieste*) reached the bottom, disturbing a lounging flatfish. While not a very exciting find, this flatfish did affirm the question of whether or not life, let alone vertebrates, could exist at the bottom of the trench.

In 2012, National Geographic in association with filmmaker James Cameron, launched a second dive



to the world's lowest point. Cameron himself piloted a small pressure-regulated submersible (named *Deepsea Challenger*) to the bottom, where he recorded video of what he found there. He found one bacterial life form in vast numbers at the bottom. While this breed of bacterium is already known to science, the specimens previously discovered in shallower waters tends to encase itself in layer upon layer of brittle shell.

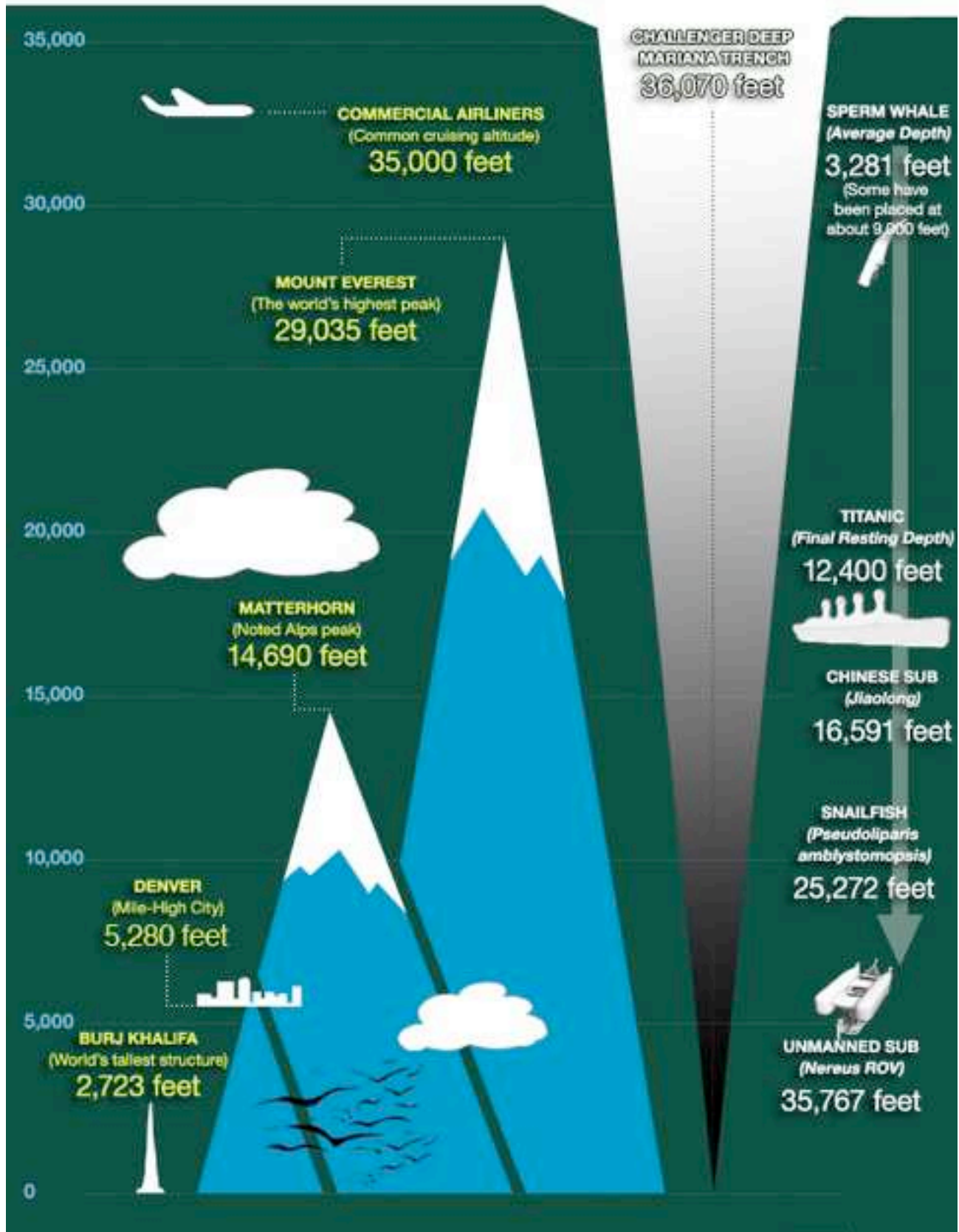
However, the pressure at the bottom of the trench is so great that such a shell would be crushed under the weight of the water, so it adapted by surrounding itself with a much softer, spongier tissue, robust enough to serve as protection, and yet soft enough to absorb the constant pressure of its environment.

Stranger still, it was later discovered in samples taken from the expedition that these microbial structures (called "amphipods") contained a naturally produced molecule almost identical to a drug currently being researched for the treatment of Alzheimer.

Another form of life discovered at the bottom of the trench were large, shrimp-like creatures which were found to survive by eating wood that sunk down from the surface. *Hirondellea gigas*, as they are officially known, are related to the common sand-hopper, but at roughly 2 inches long, they are giants among their kind.

Many people were skeptical about the capacity for life at the bottom of the trench, seeing as its tremendous depth prevents any and all sunlight from reaching it. Seeing as

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Life in the depths...



Hirondellea gigas, as they are officially known, are related to the common sand-hopper

most every form of life on earth depends on the sun in one way or another, it was certainly not intuitive to conceive of a creature that could thrive in an environment totally devoid of sunlight.

Nevertheless, such creatures have been found, finding nourishment from organic particles raining down from

higher layers of the ocean, and are believed to provide some insight into the origins of life on this planet.

Numerous samples of water and sediment were

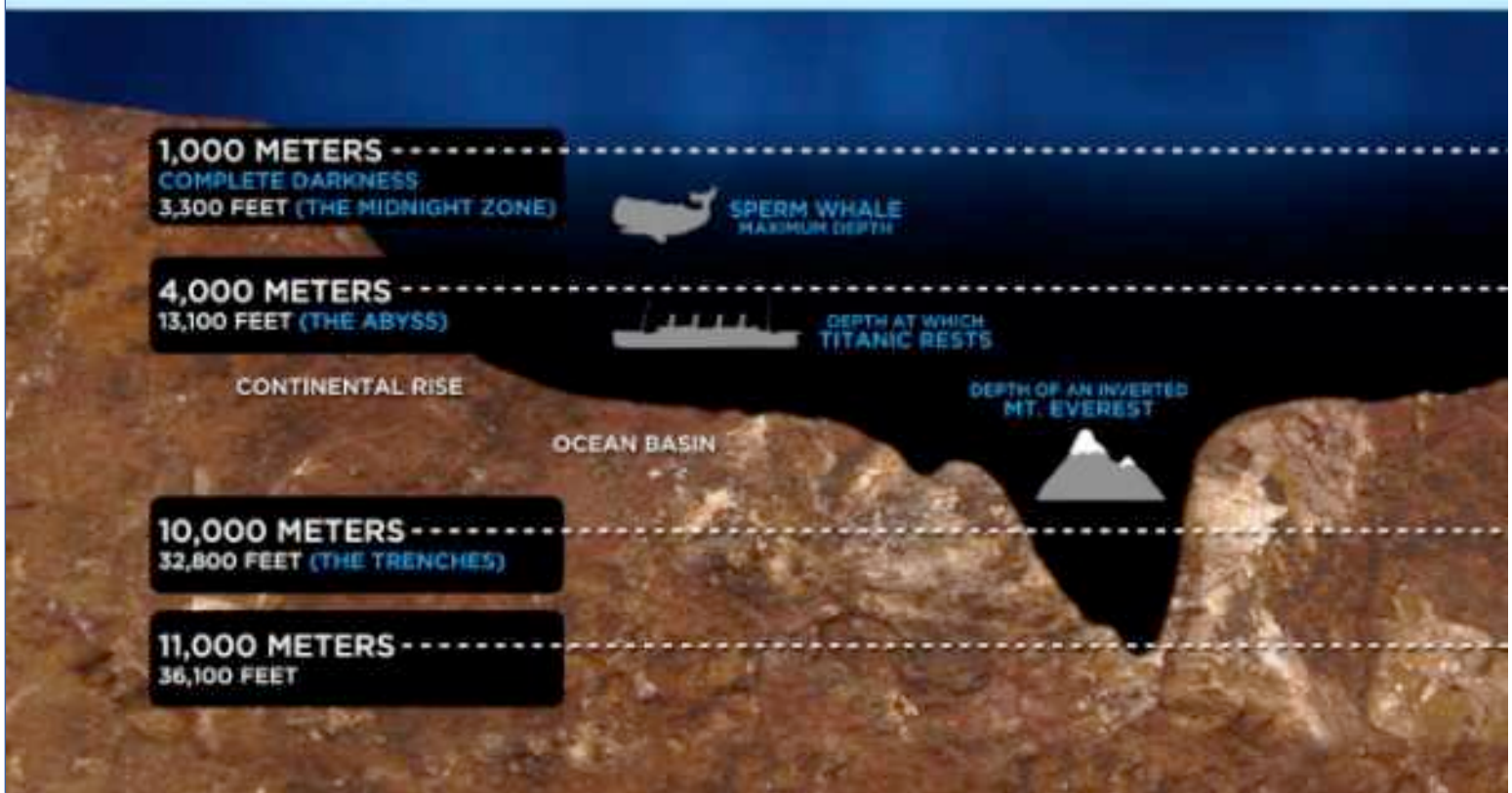


The Trench is full of unusual jellyfish

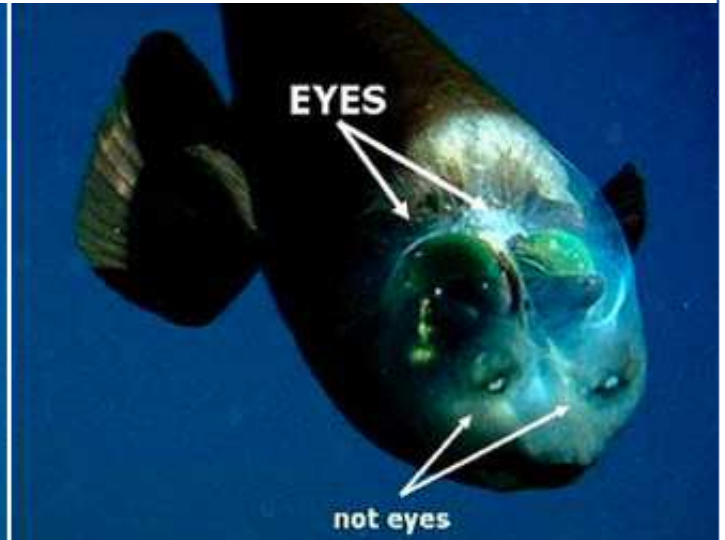
taken in special pressure-controlled steel containers, ranging in volumes of 10 milliliters to half a gallon, and scientists are hard at work isolating the thousands of microbes contained in these specimens.

Perhaps the main difficulty they face is that these microbes cannot be exposed to the standard atmospheric pressure at sea level for any significant period of time, as such a drastic change from the crushing pressures of their natural home could prove fatal to them.

MARIANA TRENCH



NOAVI - THE MARIANA TRENCH



The Barreleye Fish (or Spook Fish) is a long-known yet long-misunderstood member of the chimera species. Living in the mesopeliagic to bathypeliagic zones (about 400 to 2,500m deep), they are one of the peculiar species revisited by Robison and Reisinbichler in their recent foray into the depths of the Marianas trench.

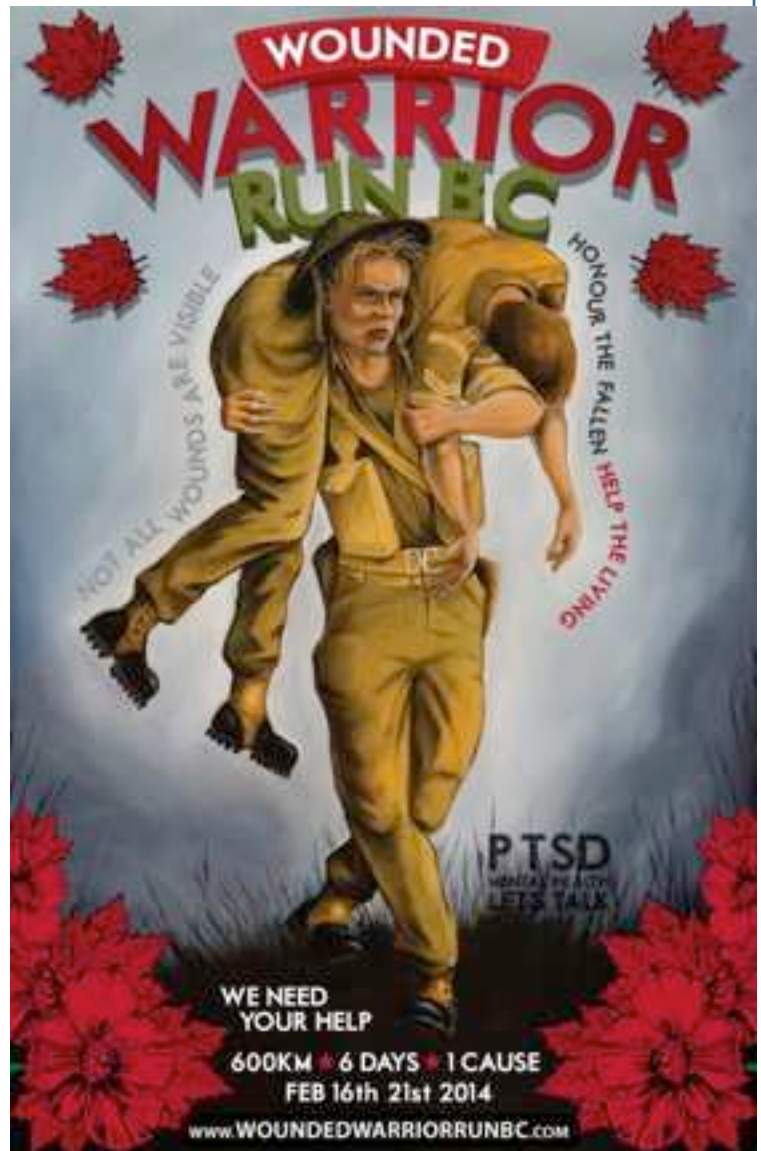
Their tubular eyes, hitherto thought only to be able to point upward, like telescopes, we now know are in fact capable of being adjusted until horizontal allowing the fish to see what it is eating.

The evolutionary reason behind these amazing eyes is that the Barreleye Fish has learned to swim underneath the sometimes 40 foot long, compound-organisms known as siphonophores, its transparent dome immune to the siphonophore's stingers, and to snatch morsels of food away before the siphonophore gets to eat it, its eyes allowing the Barreleye to look upwards at the siphonophore underbelly while continuing to move forward horizontally.

The Wounded Warrior Run BC

Your Executive Committee agreed to support this worthwhile effort with a donation of \$250.00, are also asking you for your personal support.

The necessary information is included at "<http://woundedwarriorruncb.com>"



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Halifax Harbour as it will look with the addition of Atlantic Place. Note *Sackville* inside the building

Battle of the Atlantic Place

The latest undertaking of the Sackville Memorial Trust is not meant to be a museum. The visitor will be immersed in the story using interactive technologies and a multi-purpose theatre to allow the various story themes to be experienced.

The story unfolds with an overview of the years and conditions on both sides of the Atlantic leading up to the war. A comprehensive treatment of Canada's involvement in the Battle of the Atlantic will follow to explore how this national commitment impacted families, business, industry and commerce.

Stories will be told of the individual sailor's point of view, what it was like to serve at sea and how their families coped, and what Canadians did in and out of uniform to support the war at sea. A simulator will allow visitors to experience operations at sea, such as a night action in a ship or a

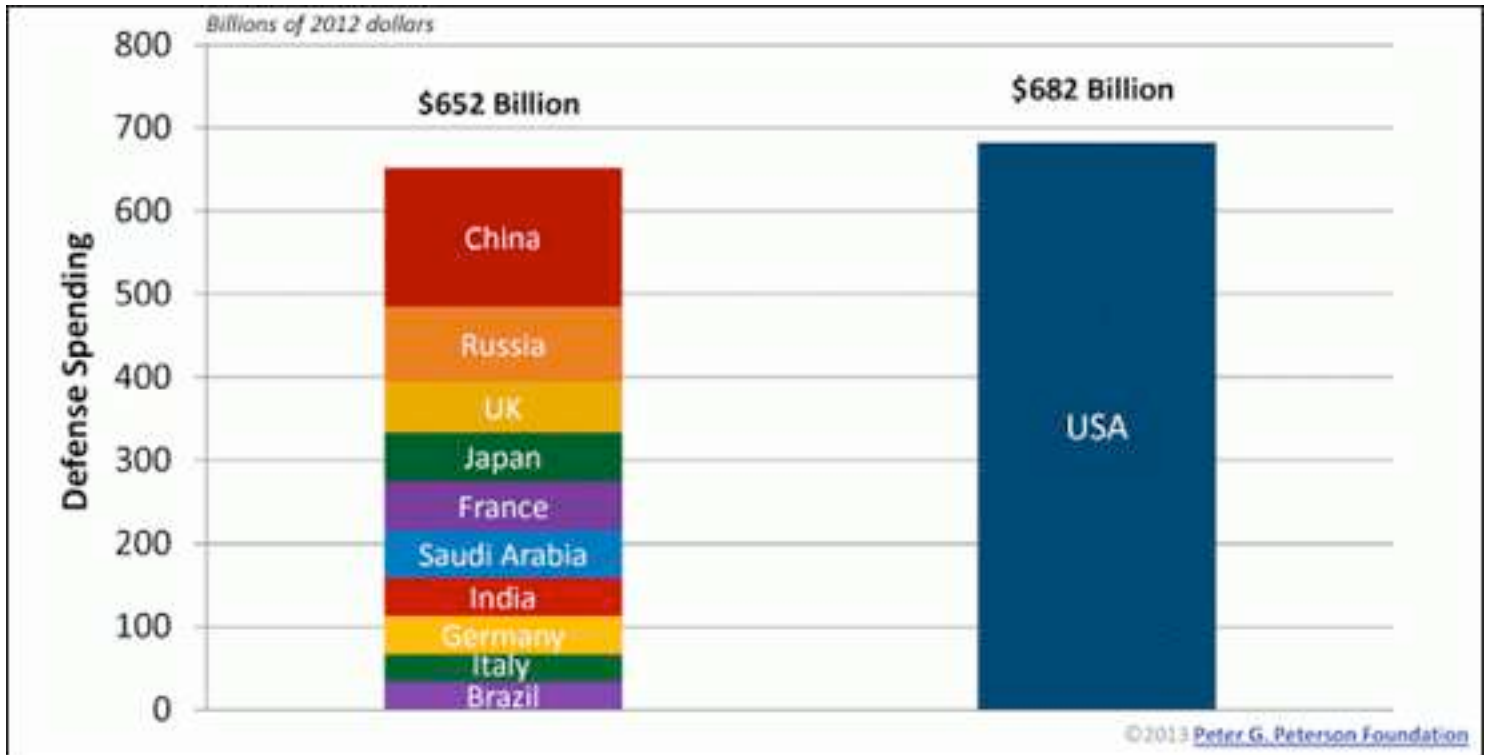
U-Boat. A strategic and operational overview of the Battle of the Atlantic will include introduction to key national and Alliance leaders, the concerns and decisions affecting the war effort, and the political, economic and operational choices available to Canada.

The consequences of the Battle will be explored in terms of how Canada changed from the agrarian based nation she had been to the very different industrialized nation that she became.

The major artifacts, **HMCS Sackville** and an RCAF Canadian-built Canso Flying Boat, will represent all Canadian ships and aircraft, and will allow visitors to 'walk the decks' and be under the 'protective cover' of those who placed themselves in danger to escort the convoys. The adjacent Memorial Hall will honour the over 5,000 members of the RCN, RCAF and Merchant Navy who perished at sea with the loss of 24 Canadian naval ships, 72 merchant ships, and many aircraft; it will be a place of sober reflection of service and sacrifice.

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This graph originally printed in Business Insider pretty much says it all...



The Royal Naval Air Service During the Great War of 1914-18

Although Canada did not have its own air force until after the First World War, almost 1,000 Canadian airmen – many from Vancouver Island - flew in the Royal Naval Air Service not only in France but in other theatres of the conflict.



The Maritime Museum in Bastion Square

Retired RCN & Canadian Forces pilot Allan Snowie has researched the story of these pioneer aviators extensively and will give an illustrated talk at the Maritime Museum Monday March 10 at 12 noon. Admission by donation.

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RCN and RCAF East Coast

Training Exercise

Approximately 900 personnel from the Royal Canadian Navy and Royal Canadian Air Force are participating in a major fleet exercise this month, with USCG Campbell, and the Federal German Ship (FGS) Bonn, a Berlin-class replenishment ship. As many of you know, the Berlin class is a contender for our new supply ships



Quick Facts

- Participating units from Canada are Her Majesty's Canadian (HMC) Ships Iroquois, Preserver, Ville de Quebec and Windsor, as well as a 14 Wing Greenwood CP-140 Aurora aircraft and a 12 Wing Shearwater CH-124 Sea King helicopter.
- Naval exercises are designed and routinely conducted to build and strengthen interoperability and com-

Continued on page 12

Berlin - class characteristics

Displaced 20,240 tonnes
 Length: 173.7 m (569 ft 11 in)
 Beam: 24 m (78 ft 9 in)
 Height: 17.5 m (57 ft 5 in)
 Draft: 7.6 m (24 ft 11 in)
 Propulsion: 2 x MAN Diesel 12V 32/40 diesel engines, 5,340 kW each
 2 x reduction gears, 2 x controllable pitch four-bladed propellers
 1 bow thruster
 4 x 1200 kW diesel generators
 Speed: 20 kn (37 km/h)

The Union Club of British Columbia's Military Appreciation Dinner

Friday, April 25, 2014 - Reception 6:00 pm, Dinner 7:00 pm

This special evening will begin with a Reception in our classic Reading Room. Guests will be "piped" into the Centennial Ballroom where a four-course dinner will be served.

The dress of the evening will be formal or semi-formal for both gentlemen and ladies, including Mess Dress, black tie with miniatures, business suit or equivalent. The cost will be \$80.00 per person or \$150 per couple.

Please make your reservations through the Club's Front Desk at 250-384-1151 (ext 0). Non-member reservations must be accompanied by credit card or debit card payment. There will be a 72 hour cancellation policy in effect. Special dietary considerations should be made at the time of making a reservation, with minimum of 48 hours notice required prior to the event.

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Manning: 139 (+ 94)
 Armament: 4 x **MLG 27 mm autocannons**
Stinger surface to air missile
 Aircraft carried: 2 x **Sea King** or **MH90** helicopters
 Aviation facilities: hangar and flight deck

- This specific exercise also aims to prepare HMCS Ville de Québec to conduct pre-deployment training of a ship's company in preparation for future naval deployments.

bined effectiveness between the RCN, RCAF and principal allies.

- Exercises aim to provide naval and air force personnel with the most realistic training possible under difficult environmental conditions that stress the entirety of ships' teams. This type of training develops the skills that will be utilized when called upon to provide support to the Government of Canada in a wide range of continental and international missions.

- Canada's recent decision to recapitalize our fleet replenishment capability utilizing a design from ThyssenKrupp Marine Sys-



NOAVI Welcomes new members

Captain Hank Schaumburg, RCN (Ret'd)
 LCdr Fred Sherwood, RCN (Ret'd)
 Lt Simon Proctor, RCN (Ret'd)

Service Officer's report

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 Behind Dairy Queen

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In Memoriam



John Irving	7 Oct 2013
Peter Fane	14 Oct 2013
Jim Leamy	1 Feb. 2014
Stuart McGowan	17 Feb. 2014

An overhaul of the Service Officer's Report and Visitation Committee is underway. We would like to welcome Stan Brygadyr to our committee. If you would like to join us, phone Irvine Hare 250-592-2268 or Peter or Elizabeth Campbell at 250-478-7351