

# **Royal United Services Institute of Nova Scotia Dispatches**

## **23 November 2018**

Dispatches is a weekly collection of links and news of current interest, included those tweeted and posted by the Institute on social media. Everyone is encouraged to submit links and other content to the Institute's Chief Information Officer (CIO) at <a href="mailto:RUSINovaScotia@gmail.com">RUSINovaScotia@gmail.com</a> to be included in Dispatches. Comments to articles can be from members or non-members of RUSI(NS). If you do not want to receive Dispatches, or wish to receive it at some different frequency, please inform the CIO. Feedback is welcome anytime.

RUSI(NS) also publishes a weekly Defence & Security Newsletter, aimed at opinion leaders and industry. If you are interested in receiving the newsletter, email <a href="mailto:admin@duncom.ca">admin@duncom.ca</a>.

**Events:** To list an event into *Dispatches*, email the CIO by noon Thursday.

7 December, Friday (there was change of date from 5 December, Wednesday) - seasonal meet & greet. Noon-1400. Royal Artillery Park Officers' Mess.

16 January, Wednesday - Distinguished Speaker US Consul General Kevin Skillin, speaking on US-Canada relations. 1130-1330. Royal Artillery Park Officers' Mess.

20 February, Wednesday - Distinguished Speaker JM Blais, Chief of Halifax Regional Police, on his careers in the RCMP and HRP as he approaches retirement. 1130-1330. Royal Artillery Park Officers' Mess.

20 March, Wednesday - Distinguished Speaker CPO1 Craig MacFadgen, on the challenges of introducing new capabilities into the RCN. 1130-1330. Royal Artillery Park Officers' Mess.

20 March, Wednesday - Annual General Meeting. Following Distinguished Speaker. Royal Artillery Park Officers' Mess.

## **Publications:**

Text and slides of the presentation "Growing Together: the Cultural Contribution of Indigenous People in the Canadian Military since the First World War" by John MacFarlane, Directorate of History and Heritage, our Distinguished Speaker 21 November 2018 are posted at: <a href="https://rusi-ns.ca/indigenous-in-the-canadian-military/">https://rusi-ns.ca/indigenous-in-the-canadian-military/</a>. Anyone wanting the book "A Commemorative History of Aboriginal People in the Canadian Military" which John distributed at the event can email John for a paper copy or access at: <a href="http://www.cmp-cpm.forces.gc.ca/dhh-dhp/pub/boo-bro/abo-aut/index-eng.asp">http://www.cmp-cpm.forces.gc.ca/dhh-dhp/pub/boo-bro/abo-aut/index-eng.asp</a>

RUSI(NS) Comments "Army Reservists: A Great Return on Investment," by David Connolly, 12 November 2018, https://rusi-ns.ca/army-reservists/

**Tweeted by @RUSI\_NS**: Original article title in parentheses. RUSI(NS) tweets may be viewed by clicking on the icon at <a href="https://RUSI-NS.ca">https://RUSI-NS.ca</a>. To have something tweeted or retweeted, email the CIO by noon Thursday.

Canadian Global Affairs Institute @CAGlobalAffairs 15 Nov tweeted and RUSI(NS) retweeted: Our @mfisheroverseas was in Norway to observe @NATO's 2018 #TridentJuncture exercise. Here are his impressions:

https://www.cgai.ca/trident juncture 18 natos norwegian exe rcise #cdndef pic.twitter.com/B5TT9Y67QE (Trident Juncture 18: NATO's Norwegian Exercise)

#NATO Exercise #TRIDENTJUNCTURE2018 Information Environment Assessment experiment to analyse information environment ('own', 'hostile' & 'earned' communications) continually as basis of opinion building & decision making <a href="https://www.nato.int/docu/review/2018/Also-in-2018/trident-juncture-and-the-information-environment/EN/index.htm">https://www.nato.int/docu/review/2018/Also-in-2018/trident-juncture-and-the-information-environment/EN/index.htm</a> (Trident Juncture and the information environment)

Lt Gov NS @LtGovNS 16 Nov tweeted: On this day in 1857, Able Seaman William Edward Hall, while serving with the Royal Navy at the Siege of Lucknow won the Victoria Cross. Born in NS in 1927, Hall was the 1st Nova Scotian, the 1st black person, and the 3rd Canadian to win the highest award for valour. @ns\_mma pic.twitter.com/8PmwiBQFfa

RUSI(NS) retweeted: William Hall VC to be commemorated in name of 4th #RCNavy #Arctic&Offshore Patrol Vessel #AOPV to be built by @IrvingShipbuild under Arctic&Offshore Patrol Ship #AOPS project http://www.navy-

marine.forces.gc.ca/en/fleet-units/aops-hall.page http://www.navy-marine.forces.gc.ca/en/navy-life/hall-bio.page







RUSI @RUSI\_org Nov 14 tweeted and RUSI(NS) retweeted: Don't point the finger @Twitter or other social media for problems in society and negative impact on politics says Tom Ascott of @RUSI\_org

(Social Media and Social Problems: A Complex Link <a href="https://rusi.org/commentary/Social\_Media\_and\_Social\_Problems">https://rusi.org/commentary/Social\_Media\_and\_Social\_Problems</a> A Complex Link)



RUSI @RUSI\_org Nov 15 tweeted and RUSI(NS) retweeted: How Can Authorities Use Data Analytics to Better Mitigate Money Laundering Risks? New @CFCS\_RUSI Financial Crime 2.0 paper from Research Fellow Olivier Kraft here: http://ow.ly/wfdi30mCSnj

(Sharpening the Money-Laundering Risk Picture: How Data Analytics Can Support Financial Intelligence, Supervision and Enforcement

https://rusi.org/publication/occasional-papers/sharpening-money-laundering-risk-picture-how-data-analytics-can)

Public Services @PSPC\_SPAC Nov 15 tweeted: #DYK that over 900 companies contributed to the refit of the MV Asterix & approx 1400 workers from @chantierdavie in Lévis QC worked on the project? Check out our map to see how the #NationalShipbuildingStrategy is changing lives! #ShipsforCanada <a href="http://ow.ly/K2Wv30mD5rM">http://ow.ly/K2Wv30mD5rM</a> pic.twitter.com/2B5uRhzkrT

RUSI(NS) retweeted: Ship building, maintenance, repair major strategic industry for CANI. Need

#NationalShipbuildingStrategy to ensure steady flow of work to retain precious workers, skills&knowledge. Getting time to talk about what's next after current tranche of shipbuilds (Shipbuilding contracts awarded by Public Services and Procurement Canada in 2017

https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/mer-sea/sncn-nss/contrats-contracts-2017-eng.html)

Ship traffic getting busier in #Arctic <a href="http://www.rcinet.ca/eye-on-the-arctic/2018/11/16/canada-mining-nunavut-northern-sea-route-shipping-nordic-bulk-carriers-arctic-iron-ore/">http://www.rcinet.ca/eye-on-the-arctic/2018/11/16/canada-mining-nunavut-northern-sea-route-shipping-nordic-bulk-carriers-arctic-iron-ore/</a> Need increasing for robust safety, security & defence capabilities in CAN North by @CoastGuardCAN, @CanadianForces (@JTFN\_FOIN), etc incl infrastructure, research, intelligence, platforms (Ships carry ore from Canadian Arctic through Northern Sea Route)

UN Foundation @unfoundation 17 Nov tweeted: You call it peacekeeping. But it's actually a war." What is the @UN doing in Mali, and is it working? @micahspangler and @chandrimagrdas explain. <a href="https://buff.ly/2RC20yj">https://buff.ly/2RC20yj</a> via @MailandGuardian

RUSI(NS) retweeted: This is the operating environment for @CFOperations #OpPRESENCE-Mali. CAN & Malians need to decide what constitutes a 'win' as time for @CanadianForces to end or extend mission approaches. Parliamentary & public discussion

(The United Nations is winning the war in Mali <a href="https://mg.co.za/article/2018-10-08-00-the-united-nations-is-winning-the-war-in-mali">https://mg.co.za/article/2018-10-08-00-the-united-nations-is-winning-the-war-in-mali</a>)









Hmm, maybe CAN shipbuilding gap could partly be filled by build/conversion of multi-role ship from which @CanadianForces and/or other groups could operate in wide range of missions <a href="http://www.thedrive.com/the-war-zone/24925/marines-riding-on-cargo-ship-to-pacific-exercises-a-sign-of-a-more-flexible-deployment-strategy">http://www.thedrive.com/the-war-zone/24925/marines-riding-on-cargo-ship-to-pacific-exercises-a-sign-of-a-more-flexible-deployment-strategy</a> Not all naval ships need have weapons. Different strategic approach (Marines Riding On Cargo Ship To Pacific Exercises A Sign Of A More Flexible Deployment Strategy)



CDN Naval Review @CdnNavalReview 18 Nov tweeted: In case you're wondering what kind of destroyers India, South Korea and Australia have. See

https://www.defenceconnect.com.au/maritime-antisub/3160-korean-indian-and-australian-destroyers-bringing-up-the-rear

RUSI(NS) retweeted: How #RCNavy Canadian Surface Combatants #CSC are typed (destroyer, frigate, whatever), what capabilities they have & how compare to other nations DD & FF will be interesting indication of CAN perspectives on global affairs & defence, & therefore fleet & ship requirements

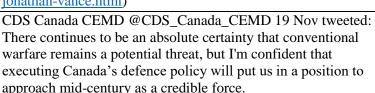


Upgrading now vice replacing #RCNavy #submarines understandable what with costs. Still, should be long-term replacement in #National Shipbuilding Strategy #NSS <a href="https://ottawacitizen.com/news/national/defence-watch/liberals-reject-committee-recommendation-to-replace-victoria-class-subs-no-desire-for-subs-with-under-ice-capability">https://ottawacitizen.com/news/national/defence-watch/liberals-reject-committee-recommendation-to-replace-victoria-class-subs-no-desire-for-subs-with-under-ice-capability</a> Yes, CANII needs under-ice capabilities (#subs, drones, sensors) (Liberals reject committee recommendation to replace Victoria-class subs – no desire for subs with under-ice capability)



CDS Canada CEMD @CDS\_Canada\_CEMD 18 Nov tweeted and RUSI(NS) retweeted: Modern warfare requires that we become diverse so we attract the talent we need. We know that the future of warfare is going to demand different ways of thinking in different domains so that we can prevail. (Canadian military's template for perfect recruits outdated, says Gen. Jonathan Vance

https://www.thestar.com/halifax/2018/11/17/canadian-militarys-template-for-perfect-recruits-outdated-says-gen-jonathan-vance.html)



RUSI(NS) retweeted: "We have to watch technology, those things that at a strategic level could cause potential harm to our countries." "There continues to be an absolute certainty that conventional warfare remains a potential threat, so we must





exercise and be trained to respond to that..."

(General Jonathan Vance on defence dangers facing Canada <a href="https://www.cbc.ca/radio/thehouse/the-house-threat-assessment-at-halifax-international-security-forum-1.4907679/general-jonathan-vance-on-defence-dangers-facing-canada-1.4909862">https://www.cbc.ca/radio/thehouse/the-house-threat-assessment-at-halifax-international-security-forum-1.4907679/general-jonathan-vance-on-defence-dangers-facing-canada-1.4909862</a>)

The Tower of London @TowerOfLondon 5:15 AM - 19 Nov 2018 tweeted: The Ceremony of the #ConstablesDues will take place today at 12.20pm, an offering from HMCS Halifax to the Constable of the Tower, honouring a tradition dating back hundreds of years. Join us today at 12.20 GMT for our #FacebookLive of the event:

http://facebook.com/toweroflondon

HMCS *Halifax* Ceremony:

https://www.facebook.com/toweroflondon/videos/vb.22821274 3876781/2075601792503560/?type=3&theater

RUSI(NS) retweeted: Ceremony of the #ConstablesDues - 14th century tradition that any large navy vessel which traveled up Thames to the Tower must pay a levy to Constable in form of barrel of rum. Hopefully #RCNavy #HMCSHalifax delivered a barrel of #NovaScotia rum! @RCN MRC

see: The Ceremony of the Constable's Dues

https://londonhistorians.wordpress.com/2015/04/27/thecremony-of-the-constables-dues/

Canadian Global Affairs Institute @CAGlobalAffairs 19 Nov tweeted and RUSI(NS) retweeted: JUST RELEASED: #Canada's #Arctic sovereignty may be under threat from the Trump administration. CGAI Fellow Rob Huebert explains how:

https://www.cgai.ca/protecting\_canadian\_arctic\_sovereignty\_fr om\_donald\_trump #NWP #cdnfp

(Protecting Canadian Arctic Sovereignty from Donald Trump)

This is part of the history & environment in which @CanadianForces are operating as part of #NATO Enhanced Forward Presence Battle Group #Latvia, whether like it or not <a href="https://thestrategybridge.org/the-bridge/2018/11/19/reviewing-blood-in-the-forest">https://thestrategybridge.org/the-bridge/2018/11/19/reviewing-blood-in-the-forest</a> Acknowledge it, learn lessons, focus on future, don't let adversaries use history against us (book review - Blood in the Forest: The End of the Second World War in the Courland Pocket)

Some interesting points on end state and post-conflict.

Canadian Forces @CanadianForces 19 Nov tweeted: Today, members of the RCAF begin participation in CRUZEX FLIGHT 18, a key South American multinational exercise hosted by the Brazilian Air Force. http://ow.ly/f2KW30mFEcbpic.twitter.com/sKyuj6YGuE

RUSI(NS) retweeted: "#DefenceDiplomacy in Americas is a key initiative of" SSE (CANi-i defence policy). Demonstrate "capacity building, humanitarian assistance & disaster response, & support for other gov't depts...to counter illegal movement of











drugs, people, weapons, money & other...crime activity" (Members of the RCAF arrive in Brazil for start of multinational exercise

https://www.canada.ca/en/department-national-defence/news/2018/11/members-of-the-rcaf-arrive-in-brazil-for-start-of-multinational-exercise.html)

Report of the Auditor General of CAN•• - Canada's Fighter Force http://www.oag-

bvg.gc.ca/internet/English/att e 43225.html http://www.oag-

<u>bvg.gc.ca/internet/English/parl oag 201811 03 e 43201.html</u> findings: @NationalDefence could not meet new requirement for fighter force

DND had no plan to upgrade combat capability of #CF188 even though expected to fly until 2032

(At a Glance - Report 3—Canada's Fighter Force—National Defence

Report 3—Canada's Fighter Force—National Defence)

Canadian Global Affairs Institute @CAGlobalAffairs 21 Nov tweeted and RUSI(NS) retweeted: In a new Policy Perspective, CGAI President's Fellow David Bercuson outlines how new and modern threats such as IP theft and cyber-attacks pose fundamental threats to Canadian sovereignty:

 $\underline{\text{https://www.cgai.ca/canadas\_sovereignty\_the\_threats\_of\_a\_ne}} \\ \underline{w\_era} \ \# cdnfp \ \# cdndef$ 

(Canada's Sovereignty: The Threats of a New Era)

Great talks 21Nov18 by John MacFarlane @NationalDefence on "Growing Together: Cultural Contribution of Indigenous People in Canadian Military since First World War" & by Elder Debbie Eisan @hfxmnfc to RUSI(NS) & guests incl @GlavineLeo NS Min of Communities, Culture & Heritage

Text&slides of John MacFarlane's presentation "Growing Together: the Cultural Contribution of Indigenous People in the Canadian Military since the First World War": https://rusi-ns.ca/wp-content/uploads/2018/11/Growing-Together.pdf @CanadianForces @NationalDefence #IndigenousVeterans

Dave Perry @DavePerryCGAI 6:20 AM - 8 Nov 2018 tweeted and RUSI(NS) retweeted: Get Going with a Refresh of the National Shipbuilding Strategy - my column in the recently released @CdnNavalReview That strategy was the right thing to do - lets do it right. <a href="http://www.navalreview.ca/wp-content/uploads/public/vol14num2/vol14num2art5.pdf">http://www.navalreview.ca/wp-content/uploads/public/vol14num2/vol14num2art5.pdf</a> (Get Going with the Refresh of the National Shipbuilding Strategy)









Great to read #RCNavy innovating with aerial #drones <a href="http://mapleleafnavy.com/2018/10/15/snyper-drone-clears-path-for-future-systems/">http://mapleleafnavy.com/2018/10/15/snyper-drone-clears-path-for-future-systems/</a> Small #UAV will add considerable reconnaissance & surveillance capability to even smallest vessel. Every ship an aircraft carrier #ExcellenceAtSea (Snyper drone clears path for future systems)



## Posted on Facebook Royal United Services Institute NS with comments:

Russian shipyard starts serial production of Aframax oil tankers

http://tass.com/economy/1031000?\_ga=2.213824471.299895908.15 42309144-1416770865.1536062390



The Zvezda Shipyard is just outside of Vladivostok in the Pacific. As one will see in the first paragraph of the article, it is currently building a 4,000-ton oil tanker. The article also notes that this yard will be building an entirely new fleet of oil tankers for Rosnoft for the next several years. It becomes obvious that Russia still has docks that could take the aircraft carrier *Kunetzov*, but has chosen not to do so at this time. The question is why?

The conflict between "small navy" or coastal fleet versus a "blue water" capability is likely the cause at the highest levels of the Russian government and Ministry of Defence. Russia retains six large ships: one aircraft carrier, two battle cruisers (one being refitted and one about to go into long term refit) and three Slava-class cruisers. There has been considerable argument whether maintaining these vessels is economic and supports Russian goals overseas or whether the state would be better served with new small but highly capable ships such as the Admiral Grigorovich class and smaller corvette classes. This approach would support a capable submarine fleet.

There is some doubt that the *Kunetzov* is mechanically sound enough to enable the journey. She routinely went to sea with a large tug in company. Her performance in Syrian operations was as close to pathetic as one could get. Still, from the point of view that such major units show the flag and look impressive, that she does show that Russia maintains a blue water capability and can support operations overseas is important. The real answer will come when funding is requested to replace these elderly vessels all of which are nearly thirty years old or older.

The Russian merchant fleet is getting older as well. Its replacement is overdue, and it makes money as opposed to spending it.

Surge in China theft of Australia company secrets: report

 $\frac{https://www.afp.com/en/news/3954/surge-china-theft-australia-company-secrets-report-doc-1az28k2}{}$ 



The article points out that Australia concluded an agreement with China on cyber-theft which according to this article by Agence France Presse, has been ignored and Chinese efforts to infiltrate and cyber-attacking Australian companies has soared. One must ask oneself, why anyone would do business with China except in the most deliberate and most confining way. Australia has a free trade agreement with China, did make efforts to stop cyber-attacks and what has it achieved?

The only winner here is China as Australia continues to have "buyers regret." There is no rule of law, just the whims of the Chinese Communist Party. They will do as they please.

Head of Russian military intelligence GRU dead 'after long and serious illness'

https://www.rt.com/news/444590-russia-gru-head-dead/



Colonel General Igor Korobov died in Moscow in the early hours of Thursday, Moscow time, 22 Nov 18. He conducted GRU operations in Syria in 2016 and took over the whole of the organization in 2017.

It is interesting that he passed particularly as the GRU have been responsible for a relatively large number of gaffs that have embarrassed Russia, something that is generally frowned upon in certain quarters of the Russian Government of Vladimir Putin. These gaffs probably did not help his 'health' situation.

Majority of Russians Hold Putin Responsible for National Woes, Poll Says

https://themoscowtimes.com/news/majority-russians-hold-putin-responsible-for-national-woes-poll-says-63573



An interesting article. Until now President Putin was virtually "teflon coated" but this article indicates that Russians are now changing their views on his efforts. The Levada Centre is relatively speaking one of the few independent pollsters in Russia so there may be some truth to the figures.

In Russian history, when a leader loses the "faith" of the people, their days are usually numbered unless they take massive action to terrorise the general population. Putin's National Guard is being equipped with new crowd control measures. This organization does not have the support of the people and is held

in low regard. The most popular institution in Russia in recent polls is the Army and this general support from the population has been consistent. This situation does not appear to be a recipe for calm collected thought. The real question is: are we seeing the end of Russia as we know it? Has Putin's attack on his main support base back-fired with pension reform? Will Russia's ongoing downward spiral be quiet or will it become a major flashpoint? Will China take advantage of the leadership vacuum if things go badly?

Russia has 7300 nuclear weapons, what happens if the country starts to disintegrate?

Russian rescue vessel in service since tsarist era takes to sea after repairs

http://tass.com/defense/1031985?\_ga=2.143444343.314015747.154 2844120-1416770865.1536062390



Oldest Serving Warship in the World?

This is a little tongue in cheek but an interesting story for naval buffs. The *Kommuna* initially served in the Baltic Fleet but is now part of the Black Sea Fleet. It was originally laid down in 1912. This is an interesting piece of naval trivia, although bringing it to the attention of anyone in the Canadian government may result in the Halifax-class frigates ailing unto the 2090s.

#### First naval officer nominated to head Russia's GRU

http://tass.com/defense/1032011? ga=2.177204711.314015747.154 2844120-1416770865.1536062390



Considering that General-Colonel Korobov has just passed away the immediate nomination of his successor the very next day is interesting to say the least.

In virtually every military such nominations are by the nature of them political and thus take time. Russia may be different but it still would take time to select a suitable candidate. The next day is a little quick even for the autocracy that is Russia.

Vice-Admiral Igor Kostyukov has been in the intelligence services for some time and thus is likely a good candidate and a proven performer.

The link at <a href="https://russiandefpolicy.blog/tag/igor-olegovich-kostyukov/">https://russiandefpolicy.blog/tag/igor-olegovich-kostyukov/</a> gives some idea of his recent past. It is titled "GRU Deputies."

The question is: is he there to clean up the GRU from its disastrous efforts?

**Posted on Facebook Royal United Services Institute NS**: RUSI(NS) postings may be viewed by clicking on the icon at <a href="https://RUSI-NS.ca">https://RUSI-NS.ca</a>. To have something posted or commented, email the CIO by noon Thursday.

Ottawa on track to invest less on new military kit than promised for second year

 $\underline{\text{https://www.cbc.ca/news/politics/defence-spending-less-than-expected-}}{1.4898175}$ 



Canada resisting UN request to extend Mali mission: sources

https://www.cbc.ca/news/SOMNIA-1.4907742



India and Russia: Ties that Bind

https://rusi.org/commentary/india-and-russia-ties-bind?utm\_source=RUSI+Newsletter&utm\_campaign=4847a26cf8-EMAIL\_CAMPAIGN\_2018\_11\_16\_04\_57&utm\_medium=email&utm\_term=0\_0c9bbb5ef0-4847a26cf8-47709521

UK to double F-35 fleet with 17-jet order, Defence Secretary announces

 $\underline{https://www.gov.uk/government/news/uk-to-double-f-35-fleet-with-17-jet-order-defence-secretary-announces}$ 



Robots Go To War In British Military Exercise, Army Tests Futuristic Tech

https://www.ndtv.com/science/autonomous-warrior-robots-go-to-war-in-uk-military-exercise-british-army-tests-futuristic-tech-1946371?amp=1&akamai-rum=off



Finland and Norway are telling airline pilots to be ready to fly without GPS, and some think Russia is up to something

https://amp.businessinsider.com/finland-norway-tell-pilots-to-fly-without-gps-and-some-blame-russia-2018-11

Austrian colonel spied for Russia for decades, Vienna says

https://uk.mobile.reuters.com/article/amp/idUKKCN1NE0YA



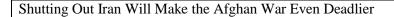
U.S. and China Are Playing 'Game of Chicken' in South China Sea

https://www.nytimes.com/2018/11/08/world/asia/south-china-searisks.html



## RCAF CC-177 Globemaster III reaches impressive milestone

http://www.rcaf-arc.forces.gc.ca/en/article-templatestandard.page?doc=rcaf-cc-177-globemaster-iii-reaches-impressivemilestone/jnz1n1fa



 $\underline{https://foreignpolicy.com/2018/11/16/shutting-out-iran-will-make-the-afghan-war-even-}$ 

deadlier/?utm\_source=PostUp&utm\_medium=email&utm\_campaign=76
16&utm\_term=Editor's%20Picks%20OC



Defence minister confirms Mali mission will not be extended

https://www.cbc.ca/news/SOMNIA-1.4909120

Dealing with Canadian 'Jihadis' Detained Abroad: New MLI Commentary

 $\underline{https://www.macdonaldlaurier.ca/dealing-canadian-jihadis-detained-\underline{abroad-new-mli-}}$ 

commentary/?mc\_cid=1f6352e853&mc\_eid=a8426c0175

Learning from Australia about China's Influence Activities: New MLI Commentary

https://www.macdonaldlaurier.ca/learning-australia-chinas-influence-activities-mli-commentary/?mc\_cid=1f6352e853&mc\_eid=a8426c0175

Vandalism suspected as Coast Guard ship tumbles into water in N.S.

https://www.msn.com/en-ca/news/canada/vandalism-suspected-as-coast-guard-ship-tumbles-into-water-in-ns/ar-BBPO9Ws?ocid=se

Liberals reject committee

https://www.cbc.ca/news/SOMNIA-1.4910529





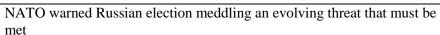
Liberals reject committee recommendation to replace Victoria-class subs - no desire for subs with under-ice capability

https://ottawacitizen.com/news/national/defence-watch/liberals-rejectcommittee-recommendation-to-replace-victoria-class-subs-no-desire-forsubs-with-under-ice-capability

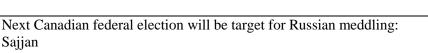
HALIFAX

Western allies focus on crisis of leadership at Halifax security forum

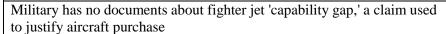
https://www.cbc.ca/news/SOMNIA-1.4910785



https://www.cbc.ca/news/SOMNIA-1.4910748



https://www.cbc.ca/news/SOMNIA-1.4910839



https://nationalpost.com/news/canada/military-has-no-documents-aboutfighter-jet-capability-gap-claim-used-to-justify-aircraft-purchase

Governor General invests 69 recipients into the Order of Military Merit

http://www.rcaf-arc.forces.gc.ca/en/article-templatestandard.page?doc=governor-general-invests-69-recipients-into-theorder-of-military-merit/johf46mz





Sajjan

Minister Sajjan Wraps Up Successful 10th Annual Halifax International Security Forum

https://www.canada.ca/en/department-national-defence/news/2018/11/minister-sajjan-wraps-up-successful-10th-annual-halifax-international-security-forum.html



## Full Spectrum Targeting for RCN

https://defence.frontline.online/article/2018/6/10747-Full-Spectrum-Targeting-for-

RCN?utm\_source=FrontLine+Defence+Newsletter&utm\_campaign=0f27 4f8c71-

<u>EMAIL\_CAMPAIGN\_2018\_11\_19\_03\_45&utm\_medium=email&utm\_term=0\_c695d3fd22-0f274f8c71-89113457</u>

NATO official warns EU force would be 'unwise'

https://www.defensenews.com/global/europe/2018/11/17/nato-official-warns-eu-force-would-be-

unwise/?utm\_source=Sailthru&utm\_medium=email&utm\_campaign=ebb %2019.11.18&utm\_term=Editorial%20-%20Early%20Bird%20Brief



Finland, Norway press Russia on suspected GPS jamming during NATO drill

https://www.defensenews.com/global/europe/2018/11/16/finland-norway-press-russia-on-suspected-gps-jamming-during-nato-drill/?utm source=Sailthru&utm medium=email&utm campaign=ebb%

drill/?utm\_source=Sailthru&utm\_medium=email&utm\_campaign=ebb% 2019.11.18&utm\_term=Editorial%20-%20Early%20Bird%20Brief



Kim's tactical weapon test detonates global media bomb

http://www.atimes.com/article/kims-tactical-weapon-test-detonates-global-media-

bomb/?utm\_source=Sailthru&utm\_medium=email&utm\_campaign=ebb %2019.11.18&utm\_term=Editorial%20-%20Early%20Bird%20Brief

U.S. Military Targets Growing Russian and Chinese Influence in Latin America

https://foreignpolicy.com/2018/11/19/us-military-targets-growingrussian-and-chinese-influence-in-latinamerica/?utm\_source=PostUp&utm\_medium=email&utm\_campaign=76

59&utm\_term=Editor's%20Picks%20OC

Auditor bears down on Liberals' jet plan

https://www.msn.com/en-ca/news/canada/auditor-bears-down-on-liberals-jet-plan/ar-

 $\underline{BBPSNtP?ocid=se\&fbclid=IwAR0ksVaqy88zaJvPgVsdl65\_siB0di1Fdv9}jRks0TuBminuP3tT88hsqrKk$ 



https://www.msn.com/en-ca/news/canada/canadian-air-force-running-short-of-pilots-jets-top-watchdog/ar-BBPUUC6?ocid=se

Auditor General exposes major flaws in Trudeau government's fighter jet plans

https://ottawacitizen.com/news/national/defence-watch/auditor-general-exposes-major-flaws-in-trudeau-governments-fighter-jet-plans#click=https://t.co/jge03M5sd7

Auditor general trashes Liberal plan to keep CF-18s flying until 2032

https://www.cbc.ca/news/SOMNIA-1.4912813









## ON TRACK - Fall 2018

 $\underline{https://cdainstitute.ca/wp\text{-}content/uploads/2018/11/On\text{-}Track\text{-}Autumn-}\underline{2018\text{-}Edition.pdf}}$ 



## Canada buys used fighters but lacks pilots

 $\frac{https://www.msn.com/en-ca/news/canada/canada-buys-used-fighters-but-lacks-pilots/ar-BBPUOqm?ocid=se}{lacks-pilots/ar-BBPUOqm?ocid=se}$ 



#### China Has More Nuclear Subs Than the West Believed

https://www.defenseone.com/technology/2018/11/china-has-more-nuclear-subs-west-

believed/152984/?utm\_source=Sailthru&utm\_medium=email&utm\_camp\_aign=EBB%2011.21.18&utm\_term=Editorial%20-%20Early%20Bird%20Brief

Canadian watchdog sounds alarm over F-18 purchase, military priorities

https://www.defensenews.com/global/the-americas/2018/11/20/canadian-watchdog-sounds-alarm-over-f-18-purchase-military-priorities/?utm\_source=Sailthru&utm\_medium=email&utm\_campaign=EBB%2011.21.18&utm\_term=Editorial%20-%20Early%20Bird%20Brief



## What's standing in the way of an Arab NATO?

https://www.defensenews.com/global/mideast-africa/2018/11/20/whats-standing-in-the-way-of-an-arab-

nato/?utm\_source=Sailthru&utm\_medium=email&utm\_campaign=EBB
%2011.21.18&utm\_term=Editorial%20-%20Early%20Bird%20Brief



A bold F-35 pilot carried out a 'bizarre' backward landing on Britain's largest warship

https://www.businessinsider.com/f-35-pilot-conducts-bizarre-backwards-landing-on-british-carrier-2018-

11?utm\_source=Sailthru&utm\_medium=email&utm\_campaign=EBB%2 011.21.18&utm\_term=Editorial%20-%20Early%20Bird%20Brief

Minister of National Defence's statement in response to the Auditor General of Canada's report on Canada's fighter force

https://www.canada.ca/en/department-national-defence/news/2018/11/minister-of-national-defences-statement-in-response-to-the-auditor-general-of-canadas-report-on-canadas-fighter-force.html



## Australia makes its pick for drone fleet

https://www.defensenews.com/global/asia-pacific/2018/11/16/australia-makes-its-pick-for-drone-

<u>fleet/?utm\_source=Sailthru&utm\_medium=email&utm\_campaign=ebb%</u> 2019.11.18&utm\_term=Editorial% 20-% 20Early% 20Bird% 20Brief

Could America Use Its Leverage to Alter the Saudis' Behavior?

https://www.rand.org/blog/2018/11/could-america-use-its-leverage-to-alter-the-

<u>saudis.html?utm\_source=WhatCountsEmail&utm\_medium=RAND%20P</u>
<u>olicy%20Currents+AEM:%20%20Email%20Address%20NOT%20LIKE</u>
%20DOTMIL&utm\_campaign=AEM:631600804

## What Deters and Why

https://www.rand.org/pubs/research\_reports/RR2451.html?utm\_source= WhatCountsEmail&utm\_medium=RAND%20Policy%20Currents+AEM: %20%20Email%20Address%20NOT%20LIKE%20DOTMIL&utm\_cam paign=AEM:631600804

#### Defeat, Not Merely Compete

https://www.rand.org/pubs/research\_reports/RR2588.html?utm\_source= WhatCountsEmail&utm\_medium=RAND%20Policy%20Currents+AEM: %20%20Email%20Address%20NOT%20LIKE%20DOTMIL&utm\_cam\_paign=AEM:631600804



Failed warship bidder sues to scuttle deal https://www.thechronicleherald.ca/news/local/failed-warship-bidder-suesto-scuttle-deal-261443/ Legal challenge filed over \$60B high-stakes competition to design Canada's new warships https://nationalpost.com/news/canada/legal-challenge-filed-over-highstakes-competition-to-design-60b-warships Canadian Surface Combatant project faces second legal challenge https://ottawacitizen.com/news/national/defence-watch/canadian-surfacecombatant-project-faces-second-legal-challenge China's Aggressive Military Reorganization Prompts Fears of Conflict https://www.msn.com/en-ca/news/world/china%e2%80%99s-aggressivemilitary-reorganization-prompts-fears-of-conflict/ar-BBPYeso?ocid=se Canadians should be concerned about fighter jet replacement process https://www.hilltimes.com/2018/11/21/canadians-concerned-fighter-jetreplacement-process/176933

18

Fighter-jet purchase won't allow Canada to meet NORAD, NATO commitments: report https://ipolitics.ca/2018/11/20/purchasing-new-interim-fighter-jet-fleetwont-allow-canada-to-meet-norad-nato-commitments-oagreport/?utm\_source=Morning+Brief&utm\_campaign=e29d369558-EMAIL CAMPAIGN 2016 12 02 COPY 456&utm medium=email& utm term=0 a43c5d924a-e29d369558-206954637 Canada's jets don't meet international obligations: Auditor-General https://www.theglobeandmail.com/politics/article-canadas-jets-dontmeet-international-obligations-auditor-general/ John Ivison: Auditor General shoots down federal government's fighter iet follies We don't know how to fix it but that's OK https://nationalpost.com/opinion/john-ivison-auditor-general-shootssince we also down-federal-governments-fighter-jet-follies? don't know how to Fly it! Finland holds early talks in F-18 replacement contest https://www.flightglobal.com/news/articles/finland-holds-early-talks-in-f-18-replacement-contes-453763/

#### **Other Sources:**

#### #armaments

**European Armaments Standardisation** 

 $\underline{http://www.css.ethz.ch/en/services/digital-library/publications/publication.html/b71af14f-9701-4b44-baff-8a342c38ad80}$ 

The Transformation of European Armaments Policies

http://www.css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/CSSAnalyse234-EN.pdf

#### #cvber security

Utilizing the Human Element to Mitigate Today's Sophisticated Cyber Threat Landscape <a href="https://www.atlanticcouncil.org/blogs/new-atlanticist/utilizing-the-human-element-to-mitigate-today-s-sophisticated-cyber-threat-landscape">www.atlanticcouncil.org/blogs/new-atlanticist/utilizing-the-human-element-to-mitigate-today-s-sophisticated-cyber-threat-landscape</a>

#### #defence procurement

Weapons Acquisition and Strategic Uncertainty: Investigating the French Case <a href="https://thestrategybridge.org/the-bridge/2017/11/19/weapons-acquisition-and-strategic-uncertainty-investigating-the-french-case">https://thestrategybridge.org/the-bridge/2017/11/19/weapons-acquisition-and-strategic-uncertainty-investigating-the-french-case</a>

#### #drones

Robots Go To War In British Military Exercise, Army Tests Futuristic Tech

 $\frac{https://www.ndtv.com/science/autonomous-warrior-robots-go-to-war-in-uk-military-exercise-british-army-tests-futuristic-tech-1946371$ 

Autonomous vessels and mariners

https://www.workboat.com/blogs/international-waters/autonomous-vessels-and-mariners/

#### #economic warfare #financial warfare #debt wars

Chinese Infrastructure Project Drives Pakistan Further into Debt

 $\underline{www.atlanticcouncil.org/blogs/new-atlanticist/chinese-infrastructure-project-drives-pakistan-further-into-debt}$ 

Good to see IMF stand up and oppose the Chinese "Settlers of Catan" approach.

#### #future fighter

UK to double F-35 fleet with 17-jet order, Defence Secretary announces

https://www.gov.uk/government/news/uk-to-double-f-35-fleet-with-17-jet-order-defence-secretary-announces

This is a vote of confidence for the plane.

Russia Thinks Stealth Fighters Like the F-22 and F-35 are "Paper Fiction"

https://nationalinterest.org/blog/buzz/russia-thinks-stealth-fighters-f-22-and-f-35-are-paper-fiction-35502

## #information operations

How to Spot a Twitter Bot

https://www.symantec.com/blogs/election-security/spot-twitter-bot

The White House shallowfake: Press secretary uses manipulated video in war against press <a href="https://thebulletin.org/2018/11/the-white-house-shallowfake-press-secretary-uses-manipulated-video-in-war-against-press/">https://thebulletin.org/2018/11/the-white-house-shallowfake-press-secretary-uses-manipulated-video-in-war-against-press/</a>

This article has been included in *Dispatches* more for its use of a new buzzterm: 'shallowfake" - unsophisticated.

Inside the British Army's secret information warfare machine

https://www.wired.co.uk/article/inside-the-77th-brigade-britains-information-warfare-military

## Here's How to Fight Disinformation

www.atlanticcouncil.org/blogs/new-atlanticist/here-s-how-to-fight-disinformation

"...countries are devoting resources to directly improve media literacy among their populaces and launch educational programs for students on online disinformation."

"Education and media literacy programs are needed to "[build] critical thinking....""

Disinformation on Steroids: The Threat of Deep Fakes

https://www.cfr.org/report/deep-fake-disinformation-steroids

#### #internal security

It's Time for an Effective Strategy to Deal with Canadian 'Jihadis' Detained Abroad https://macdonaldlaurier.ca/files/pdf/MLICommentary\_Nov2018\_Newark\_FWeb.pdf

#### #Japan

Why Japan is building its military, fast

https://nationalpost.com/opinion/david-j-bercuson-why-japan-is-building-its-military-fast

The writer David J. Bercuson is a fellow of the Canadian Global Affairs Institute and director of the Centre for Military, Security and Strategic Studies at the University of Calgary.

#### #iournalism

Dawna Friesen: Journalism is a pillar of democracy

https://globalnews.ca/news/4610531/journalism-and-democracy-dawna-friesen/

There are those amongst us who assert that there is a "public information war" ongoing, in addition to political warfare and other forms of conflict in which journalism plays a part. Quality journalism is front line to our defences. Good advice to the general readership from Ms Friesen: "Read and listen and watch a variety of sources. Keep yourself informed. Learn to recognize a bad argument, a false equivalency, and a poorly sourced story." #SupportQualityJournalism

#### **#just to be different**

The Hitch Hiker's Guide To The British Army

http://www.craigrobertdouglas.co.uk/punk-history-military-ally-ness/

#### #law

Artificial Intelligence and the Resort to Force

https://www.lawfareblog.com/artificial-intelligence-and-resort-force

What the Armed Forces Can, Can't, and Might Do at the Border

https://mwi.usma.edu/armed-forces-can-cant-might-border/

US law, yes, but always interesting to compare.

#### #logistics

Logisticians celebrate their 50th anniversary

https://ml-fd.caf-fac.ca/en/2018/11/21551

The Canadian Forces Logistics Branch has been renamed the Royal Canadian Logistics Service (RCLS).

#LOGBOTs – Making Army logistics "hard to find, hard to hit and hard to kill"

https://groundedcuriosity.com/logbots-making-army-logistics-hard-to-find-hard-to-hit-and-hard-to-kill/

Grounded Curiosity @GroundCuriosity 18 Nov tweeted: Distributing the logistics tail, frustrating an adversary and improving resupply efficiency and resilience - making logistics hard to find, hard to hit and hard to kill | New post by the #DEFAus18 winner @choisheungkay

https://twitter.com/GroundCuriosity/status/1064065472977494018

Wavell Room - British Military Thinking @wavellroom retweeted: If you're not thinking about the future of logistics, you're not thinking hard enough about the future of warfare. @TheRLCThinkers @SRDMaguire @nicholadrummond @thinkdefence

https://twitter.com/wavellroom/status/1064101598165704704

#### #navies

Keep Ships Longer To Boost Fleet Size: 355 Ships By 2035

https://breakingdefense.com/2018/06/keep-ships-longer-to-boost-fleet-size-355-ships-by-2035/

Keeping ships longer? Canada's already there...

#### #Pacific

Water Wars: Agreements and Disagreements

https://www.lawfareblog.com/water-wars-agreements-and-disagreements

Strategic maneuvering by base building.

## #policing

Machine Learning Algorithms and Police Decision-Making: Legal, Ethical and Regulatory Challenges <a href="https://rusi.org/publication/whitehall-reports/machine-learning-algorithms-and-police-decision-making-legal-ethical">https://rusi.org/publication/whitehall-reports/machine-learning-algorithms-and-police-decision-making-legal-ethical</a>

Police Use of Force: An Examination of Modern Policing Practices

https://www.hsdl.org/?abstract&did=818876

## #readiness

WiFi Over Water: Misplaced Priorities in the American Way of War <a href="https://mwi.usma.edu/wifi-water-misplaced-priorities-american-way-war/">https://mwi.usma.edu/wifi-water-misplaced-priorities-american-way-war/</a>

Good recommendations, applicable to more than just the US.

#### #SAR

Guidelines become 'common language' of search and rescue teams in a disaster <a href="https://www.straitstimes.com/singapore/guidelines-become-common-language-of-search-and-rescue-teams-in-a-disaster">https://www.straitstimes.com/singapore/guidelines-become-common-language-of-search-and-rescue-teams-in-a-disaster</a>

#### #shipbuilding

The Canadian Shipbuilding Gap

http://www.navalreview.ca/2018/11/the-canadian-shipbuilding-gap/

#### #strategy

Preventing World War III

http://www.atlanticcouncil.org/blogs/new-atlanticist/preventing-world-war-iii

What are the Canadian delusions?

#### **#United States**

US military 'losing its competitive edge'

https://www.bbc.com/news/world-us-canada-46219481

The End of U.S. Naval Dominance in Asia

https://www.lawfareblog.com/end-us-naval-dominance-asia

#### Other:

#### **Global Defence Technology** Issue 93 November 2018

https://defence.nridigital.com/global\_defence\_technology\_nov18/issue\_93

Contents include:

Protecting pilots from laser attacks

The search for new tools to predict cyberattacks

Are hypersonic weapons an unstoppable force?

The US Navy is turning its attack subs into underwater spies

From CDAI, Howard Coombs: Attached at <a href="https://warontherocks.com/2018/11/rethinking-enlisted-education-expanding-the-professional-military-education-debate/">https://warontherocks.com/2018/11/rethinking-enlisted-education-expanding-the-professional-military-education-debate/</a> is War on the Rocks "Rethinking Enlisted Education: Expanding the Professional Military Education Debate." The article proposes a revised conceptualization of Enlisted Ranks PME for the US Army. Some of the ideas are thought provoking and worth considering.

Frontline 2018 Issue 5

https://defence.frontline.online/article/2018/5

contents:

Who's Where?

Border Security & Organized Crime

PTSD, Philanthropy, and Purpose

Did Corrections Canada misinterpret Goodale?

The Age of Nitwitter

CSC 2018 Evaluation Stage

Germany's disturbing look into the future

Money Laundering in the 4th Industrial Revolution

Canadian Mission in Mali

Psychological Flexibility on the Front Line

Frontline 2018 Issue 6

https://defence.frontline.online/article/2018/6

contents:

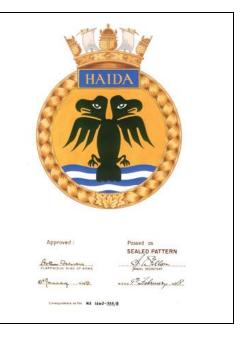
Changing the Disaster Response Paradigm

Full Spectrum Targeting for RCN

## **Naval Heritage**

Last week there was a post in *Dispatches*: "Bemusement as word 'God' removed from the motto of HMS London" <a href="https://ukdefencejournal.org.uk/bemusement-as-word-god-removed-from-the-motto-of-hms-london/">https://ukdefencejournal.org.uk/bemusement-as-word-god-removed-from-the-motto-of-hms-london/</a>

Subsequently there were some emails exchanged which spoke of 'sealed patterns.' It was learned, not surprisingly, that the Directorate of History and Heritage holds the original paintings (sealed patterns) of HMC Ships badges.



#### 'Attack Tankers'

Here's an idea to solve the 'shipbuilding gap' and increase distributed lethality in the RCN: contract Irving to build a bunch of tankers for the RCN!

Ed: Actually, this is an interesting and amusing example of the sort of memes that can circulate in twitterverse. There're infowars ongoing all the time.

The Turkish (Google) translates as:

Silhouettes of the enemy battleships that they wrecked as battles of victory are processed.

The fuel tank tanker Sola TS has also been commissioned by Norway Norwegian Fortune Helge Ingstad, who sank a few days ago.

It's funny, but it's really aggressive.



Follow

Savas gemilerine zafer nisanesi olarak batirdiklari dusman savas gemilerinin siluetleri islenir.

Akaryakit tankeri Sola TS'e de, birkac gun once kendisine carpip batan, Norvec firkateyni Helge Ingstad'inki islenmis.

Fotograf gercekse komik ama cok saldirgan olmus.

Translate Twee



7:45 AM - 17 Nov 2018

RCAF @RCAF\_ARC 19 Nov tweeted: In commemoration of the 75th anniversary of 437 Squadron, one CC-150 Polaris 03 has been temporarily repainted in the post-Unification Air Transport Group white and red paint scheme, which was used from 1975-1997. #RCAF Marc Messier, with our thanks.

https://twitter.com/RCAF ARC/status/1064639456181813248



Ed: The OPP update below is included for information of our members and readers. Some of you are aware that increasingly RUSI(NS) has been including CBSA and CCG in our events and information exchange. Recently we started reaching out to Parks Canada and Transport Canada. Stand by for more speakers from these and other departments.

## Oceans Protection Plan - Update - Cumulative Effects of Marine Shipping Initiative

I would like to provide you with an update on the <u>Cumulative Effects of Marine Shipping Initiative</u> under the Oceans Protection Plan at Transport Canada. If you aren't familiar with this Initiative, please see the following link or the attached Fact Sheet for more information: <a href="https://letstalktransportation.ca/understanding-the-effects-of-marine-vessel-activity-on-coastal-environments">https://letstalktransportation.ca/understanding-the-effects-of-marine-vessel-activity-on-coastal-environments</a>.

These three updates of the Initiative might be of interest to you:

## 1) Literature Review - Review of cumulative effects management concepts and international frameworks

The above Literature Review is available for your reference. Please contact the Transport Canada CE team at <a href="Mainte-Assessment-EvaluationMaritime.TC@tc.gc.ca">TC.MarineAssessment-EvaluationMaritime.TC@tc.gc.ca</a> to receive a copy. There is also an executive summary posted at <a href="http://www.tc.gc.ca/eng/review-cumulative-effects-management-concepts-international-frameworks.html">http://www.tc.gc.ca/eng/review-cumulative-effects-management-concepts-international-frameworks.html</a>. If you have other examples of cumulative effects management frameworks that you have not yet shared with us and would like to, please send them to the above email address.

#### 2) Outcomes and Responses to our four key introductory questions

Many of you have had the opportunity to provide input into the four introductory questions which were introduced through various engagement sessions over the past year. These questions included:

- · In what ways do you think maritime activities affect the environment?
- · Do you have any factors to be considered for the spatial boundaries of our pilot site(s)? (pilot sites for this initiative include Cambridge Bay, NU; South Coast BC; North Coast BC; Placentia Bay, NL; Bay of Fundy, NB and St. Lawrence, QC).
- · Do you have any factors to be considered for the temporal scale of our pilot site assessments?
- · In what ways do maritime activities impact Indigenous Nations use of the pilot study environments?

The outcomes and responses received to date are posted at <a href="https://letstalktransportation.ca/cems">https://letstalktransportation.ca/cems</a> and are open to any further input.

#### 3) Events on the horizon

It has been heard very clearly that there is a wealth of knowledge within the pilot study areas with respect to cumulative effects. The Cumulative Effects team would like to respectfully incorporate this valuable knowledge by organizing technical workshops this winter/spring. Regional technical workshops will be planned within each of the six pilot study areas to choose valued components, spatial / temporal boundaries and identifying indicators to measure progress towards management objectives. A National technical workshop will be planned to take a look at and discuss the benefits and challenges of various cumulative effects assessment methodologies that could be used in conducting our regional studies. If you

feel you have expertise or knowledge to share in these areas and are interested in participating in these workshops, or their planning, please let the team know. Funding may be available to support your participation.

To support and prepare for these discussions, this Fall, the team is looking for any data regarding ongoing work that might have overlap with our Initiative. If you are aware of any sources of data that might help the Cumulative Effects team in their work, and have not already shared it with them, please let them know at the email address listed above.

Feel free to share this information with others to spread the word. There's much to look forward to in 2018-2019 as the team continues to work together on Cumulative Effects and OPP. I encourage you to visit their website here, <a href="https://letstalktransportation.ca/understanding-the-effects-of-marine-vessel-activity-on-coastal-environments">https://letstalktransportation.ca/understanding-the-effects-of-marine-vessel-activity-on-coastal-environments</a> for future updates.

We look forward to hearing from you,

## Leah Beveridge

Sr. Program Advisor, OPP Arctic Engagement Hub

OPP Engagement & Policy Development Transport Canada | Government of Canada Leah.Beveridge@tc.gc.ca | Tel: 343-997-6739

## On behalf of

## **Paula Doucette**

A/Manager, Cumulative Effects of Marine Shipping, Oceans Protection Plan

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paula.doucette@tc.gc.ca / Tél. cell.: 604-315-3776 / ATS: 1-999-675-6863