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Are Chinese Submarines Coming to the Arctic?

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In a May 2019 speech to the Arctic Council in Finland, Secretary of State Mike Pompeo issued a clear warning to the circumpolar world. China was moving into the Arctic and its influence will be destructive. The secretary decried China's "pattern of aggressive behavior" around the world and asked the assembled dignitaries if they "want the Arctic Ocean to transform into a new South China Sea, fraught with militarization and competing territorial claims?"¹

A self-described "Near Arctic State," China's interests and investments in the North have grown for the past decade. What is relatively new however, are concerns that China may seek to militarize the region, and specifically that the People's Liberation Army Navy (PLAN) may develop and deploy an under-ice submarine capability. Secretary Pompeo voiced this concern, citing assumptions from a recent Department of Defence report.² Academics have joined in this trend, pointing to the potentially serious strategic implications of PLAN missile or attack submarines roaming the Arctic Ocean.³ The message is clear: Chinese subs are coming and the West is vulnerable.

That vulnerability is often taken for granted, with commentators frequently pointing to the sparse US and allied military infrastructure north of 60°N, with unfavourable comparisons to Russia's robust Arctic defences a common criticism.⁴ At a glance that vulnerability appears very real. The US has only one reliable icebreaker, no ice-strengthened surface combatants, and nothing like the surveillance and area access and denial capability that the Russians boast. If the Arctic is destined to become a crossroads of global shipping and a significant resource base, as many expect, this would leave the US vulnerable to a Chinese presence.

Yet, the basic assumptions underpinning that threat narrative are rarely gamed out to their logical conclusions. Rather than drawing a straight line between a PLAN submarine presence and the presumption of strategic threat, far more consideration needs to be given to what those boats might realistically accomplish, how they would do it, and whether it would be an efficient use of PLAN resources. While the prospect of Chinese vessels in the Arctic is not an attractive one from any Western standpoint, such a deployment would not represent the kind of "fundamentally destabilizing" event that is sometimes supposed.⁵

Growing fears of Chinese militarization are commonly linked to the Arctic's growing and anticipated importance as an international thoroughfare. As the region's ice melts, shipping will increase – perhaps creating what Secretary Pompeo called the 21st century Suez and Panama Canals.⁶ However, while there are

time and distance savings through Arctic routes, the value for China in sea denial or commerce raiding is questionable. As a sea route, the Arctic offers shorter transits between Europe or the US Eastern Seaboard to Asia. Even in a future of heavy transpolar trade, much of this commerce will be to or from China and, in a scenario where PLAN submarines become a defence threat, such commerce would already have ended. Trade between the West and allied/neutral East Asia could still be interdicted in the North, though it is hard to see how doing so would be easier than attacking South Korean, Taiwanese, or Japanese shipping closer to home, where ports lie within easy reach of Chinese missiles.

Some analysts also identify military sealift as a potential target because the Arctic appears to offer avenues for more rapid deployment of forces to Asia. The Navy's 2019 *Strategic Outlook for the Arctic* contains this assumption,⁷ and the US Coast Guard's recent Arctic policy warned of potential Chinese efforts to impede American navigation in the region.⁸ These concerns are valid but operationalizing that threat would be a tall order. As is the case with commercial shipping, the Northwest Passage does not lend itself to military sealift, offering vessels both unpredictable ice conditions and a short open season. Even in an ice-free (or reduced) future, the region will remain inaccessible to non ice-strengthened ships during the winter, with hazardous sailing conditions persisting in the shoulder seasons.

Interdicting convoys in the Arctic would also be an overextension of PLAN resources since sealift would still need to pass through the more accessible, deep waters of the Bering Sea. This area would present better hunting grounds than the littoral waters of the Northwest Passage and Beaufort Sea, where water depth is normally less than 60 metres. Sea-denial operations in those narrow and shallow waterways is therefore possible, but far from a safe or optimal use of Chinese assets.

Apart from seeking to deny access to the Arctic, the PLAN may also use the ice-cover as a hiding spot for its ballistic missile submarines (SSBNs). The DoD's 2019 China security review and Secretary Pompeo have raised this possibility.⁹ China scholar Ann-Marie Brady writes that such deployments "would alter the nuclear balance between China and the United States."¹⁰ Indeed, there is value in using the Arctic as a launch position; it would place all of North America within range of China's JL-3 missiles while the ice-cover hides the noisier Chinese boats.¹¹ Nevertheless, getting there presents serious issues. The only realistic avenue is through the Bering Strait: 80 km wide with the deeper submarine route running only kilometres off the coast of Alaska.¹² Transiting means passing over detection systems, risking responses from Alaska-based ASW assets in the summer.

In the winter, overlooked environmental factors offer an equal deterrent. Shallow and choked with ice for much of the year, the strait is a dangerous place for a large submarine. Commander William Anderson of USS *Nautilus* described the region as an incredibly diverse "jungle" of ice ridges extending into the water from the surface. Some of these "ice pinnacles" reach down dozens of metres, resulting in a dramatic reduction in the open water available between the seafloor and the bottom of the ice keels.¹³ The shallowness of the Bering Strait is thus amplified, something Anderson described as akin to a "small boy trying to squirm under a low-hanging fence."¹⁴ Furthermore, active sonar pings would be required to detect the ice keels, making ASW efforts even easier.

The size of a Chinese *Jin*-class SSBN would pose serious difficulties. In an internal study of the marginal ice zones, noted submarine expert Richard Boyle suggested that the constrained nature of the Bering region requires “superb ship handling” from nimble vessels, with any boat longer than 107 metres probably incapable of meeting the maneuverability requirements.¹⁵ At 135 metres, a *Jin*-class SSBN will struggle to move safely through the Bering Strait for much of the year. This is not to say that a transit is impossible, but certainly a dangerous and uncertain proposition for an important strategic asset whose safety and stealth is prioritized by the PLAN.

Why a SSBN would brave the ice and SOSUS nets to enter the Arctic is an open question. At present, Chinese SSBNs can strike the US from anywhere east of Hawaii. Concerns that US SSNs might be better positioned to track PLAN boats in open water are legitimate,¹⁶ but that possibility is only magnified by those SSBNs moving into the Arctic, where PLAN assets would almost certainly be identified and followed by waiting American submarines. Canadian expert Ernie Regehr puts it well when he asks: “what possible strategic advantage could there be to entering a hostile region that is difficult to navigate and certain to mean facing intense anti-submarine warfare operations?”¹⁷

As the PLAN expands from a coastal defence force into a blue-water navy, the world can expect more far-ranging Chinese naval activity. Commentators have identified the Arctic as a particularly worrying target for Beijing’s attention. On the surface there seems to be some justification for this concern, and Chinese submarines may one day appear in the Arctic. Still, a sober look at the operational realities and tangible strategic benefits of an Arctic presence suggest that the value of any such presence should not be overblown.

¹ Mike Pompeo, “Looking North: Sharpening America’s Arctic Focus,” Speech to the Arctic Council, Rovaniemi, Finland (May 6, 2019).

² Department of Defence, “Military and Security Developments Involving the People’s Republic of China 2019” (2019), v.

³ Rob Huebert, “Mahan and Understanding the Future of Naval Competition in the Arctic Ocean,” *Canadian Naval Review* 14:3 (Winter, 2019) and Anne-Marie Brady, “China as a Rising Polar Power: What it means for Canada,” Macdonald Laurier Institute (December 2019), 4.

⁴ See for instance: US Senate Committee on Commerce, Science, & Transportation, hearings: “Expanding Opportunities, Challenges, and Threats in the Arctic: A Focus on the U.S. Coast Guard Arctic Strategic Outlook” (December 12), with comments distilled into the popular media: Liz Ruskin, “Russia’s Military Dominance over Arctic grows while US Treads Water, Security Experts tell Senate Panel,” *Alaska Public Media* (December 13, 2019).

⁵ Brady, “China as a Rising Polar Power,” 4.

⁶ Pompeo, “Looking North: Sharpening America’s Arctic Focus.”

⁷ US Navy, Chief of Naval Operations, “The United States Navy Strategic Outlook for the Arctic” (January 2019), 12.

⁸ United States Coast Guard, “Arctic Strategic Outlook” (April 2019), 10.

⁹ Department of Defence, “Military and Security Developments,” v.

¹⁰ Brady, “China as a Rising Polar Power,” 4.

¹¹ James Kraska, “Arctic Military Security & Strategy,” in *Changes in the Arctic Environment and the Law of the Sea*, Myron H. Nordquist et. al. eds. (Martinus Nijhoff, 2010), 261.

¹² For an illustration see: Adam Lajeunesse, *Lock, Stock, and Icebergs: The Evolution of Canada's Arctic Maritime Sovereignty* (Vancouver: University of British Columbia Press, 2016), Figure 10.2, 228

¹³ William M. Leary, *Under Ice* (College Station: Texas A&M University Press, 1999), 232.

¹⁴ William Anderson, *Nautilus 90 North* (US: Harper & Row, 1959), 108.

¹⁵ Richard Boyle, “Warfighting in MIZ Estuaries – The Ultimate Littoral Challenge” (November 1997), Waldo K Lyon Papers, Navy History and Heritage Archive, Washington DC, box 45, folder 9.

¹⁶ Saurav Sarkar, “Understanding China’s Submarine Capabilities: Undersea Competition in the Indo-Pacific,” Institute of Chinese Studies occasional Paper 33 (June 2019), 9.

¹⁷ Ernie Regehr, “Conjuring Chinese Nuclear Weapons Submarines in the Arctic,” *Arctic Security Briefing Papers* (The Simons Foundation, May 29, 2019).

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