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International Law and Acoustic Antagonism in East Asian Waters

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I. INTRODUCTION

On Tuesday, November 14, 2023, the Chinese Navy Ship (CNS) *Ningbo* (DDG-139), a Russian-built destroyer, activated its hull-mounted sonar (short for “sound navigation and ranging”) system to “ping”¹ in close proximity² to His Majesty’s Australian Ship (HMAS) *Toowoomba* (FFH-156), a Royal Australian Navy frigate.³ Both vessels were operating in Japan’s exclusive economic zone (EEZ) at the time,⁴ and a team of Australian Navy divers was beneath the water’s surface, attempting to untangle fishing nets from their warship’s propeller. The Australians notified other vessels, including CNS *Ningbo*, of ongoing diving operations “on normal maritime channels, and using internationally recognised signals.”⁵ The Chinese destroyer reportedly acknowledged HMAS *Toowoomba*’s notifications but, instead of offering

1. A “ping” is a short burst of sound waves. *See generally* MARK DENNY, BLIP, PING, AND BUZZ: MAKING SENSE OF RADAR AND SONAR (2007).

2. Publicly available information does not indicate how close the ships were to one another at the time of the incident.

3. *See* Andrew Greene, *HMAS Toowoomba Naval Divers Forced to Exit Water Over Chinese Warship Sonar Pulses*, ABC NEWS (Nov. 18, 2023, 5:26 AM), <https://www.abc.net.au/news/2023-11-18/naval-chinese-warship-injury/103121900>; For a description of the CNS *Ningbo* and its capabilities, *see Hangzhou Class Guided Missile Destroyer*, SEAFORCES-ONLINE, <https://www.seaforces.org/marint/China-Navy-PLAN/Destroyers/Hangzhou-class-DDG.htm> (last visited Feb. 9, 2024). For a description of the HMAS *Toowoomba* and its capabilities, *see HMAS Toowoomba (II)*, ROYAL AUSTRALIAN NAVY, <https://www.navy.gov.au/hmas-toowoomba-ii> (last visited Feb. 9, 2024). Ironically, the word Ningbo (宁波 / 寧波) means “peaceful sea and calm wave” in English. *See* CULTURAL ADVANTAGES IN CHINA: TALE OF SIX CITIES (Fu Yuhua et al. eds., 2009).

4. According to the UN Convention for the Law of the Sea (UNCLOS), Part V, the exclusive economic zone (EEZ) is an area beyond and adjacent to the territorial sea (not extending beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured). *See* United Nations Convention on the Law of the Sea art. 55, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS]. For the most part, the EEZ is governed by high seas principles and the HMAS *Toowoomba* and CNS *Ningbo* were both entitled to be present in the EEZ. Still, Chinese official Liu Jianchao noted that the incident occurred in “disputed waters.” Specifically, Chinese excessive maritime claims extend to the eastern end of the Chinese continental shelf, which goes deep into Japan’s claimed EEZ. *See* Kirsty Needham, *Chinese Official Warns Australia on Navy Movements in East, South China Seas*, REUTERS (Nov. 28, 2023, 3:23 AM), <https://www.reuters.com/world/asia-pacific/chinese-official-warns-australia-navy-movements-east-south-china-seas-2023-11-28/>.

5. Press Release, Australian Government, Minister for Defence, Unsafe and Unprofessional Interaction with PLA-N (Nov. 18, 2023), <https://www.minister.defence.gov.au/media-releases/2023-11-18/unsafe-and-unprofessional-interaction-pla-n>.

to help, approached the Australians while operating its hull-mounted sonar and pinged the area where Australian divers were undertaking repairs. As a result, at least one Royal Australian Navy diver suffered undisclosed, albeit reportedly minor, injuries.⁶

Australia's Deputy Prime Minister and Minister for Defense Richard Marles quickly condemned the People's Liberation Army Navy (PLA-N) actions as "dangerous and unprofessional."⁷ Prime Minister Anthony Albanese later said he was "very concerned" by the "dangerous, unsafe and unprofessional" actions by the PLA-N, although he declined to confirm whether he raised the incident directly with Chinese Premier Xi Jinping.⁸ One media outlet characterized the incident as an "attack."⁹ Another commentator claimed that the incident is part of "a string of dangerous and almost warlike provocations."¹⁰ If the PLA-N's intent was to intimidate the Australians, it failed. Less than ten days later, HMAS *Toowoomba* transited the Taiwan Strait despite Chinese objections¹¹ and subsequently conducted joint patrols with the Philippines in the South China Sea.¹²

At a minimum, the incident demonstrates the CNS *Ningbo*'s amateurism; at worst, it reflects a malicious intention to injure vulnerable divers from another State's armed forces. In either case, the PLA-N's actions mark the continuation of a disturbing trend of Chinese military antagonism and un-

6. Josh Butler, *Albanese Accuses China of "Dangerous, Unsafe, and Unprofessional" Behavior in Naval Ship Altercation*, THE GUARDIAN (Nov. 20, 2023), <https://www.theguardian.com/australia-news/2023/nov/20/australia-china-navy-incident-hmas-toowoomba-divers-injured-sonar-warship>.

7. *Australia Criticises China for "Unsafe, Unprofessional" Naval Interaction*, REUTERS (Nov. 17, 2023), <https://www.reuters.com/world/asia-pacific/australia-criticises-china-unsafe-unprofessional-naval-interaction-2023-11-18/>.

8. *Id.*

9. SSN, *Alarming Incident. Chinese Destroyer Attacked Divers with Sonar*, MSN, <https://www.msn.com/en-us/news/world/alarming-incident-chinese-destroyer-attacked-divers-with-sonar/ar-AA1kaR8l> (last visited Feb. 9, 2024).

10. Craig Hooper, *Chinese Navy Sonar Blasts Aussie Sailors; Fallout Threatens Australia's Pro-China Government*, FORBES (Nov. 18, 2023), <https://www.forbes.com/sites/craighooper/2023/11/18/chinese-navy-sonar-blasts-aussie-sailors-fallout-threatens-australias-pro-china-government/?sh=302875ca6016>.

11. Matthew Knott, *"We Won't Be Intimidated": Australian Warship Sails Through Sensitive Taiwan Strait*, SYDNEY MORNING HERALD (Nov. 24, 2023, 4:01 PM), <https://www.smh.com.au/politics/federal/we-won-t-be-intimidated-australians-warship-sails-through-sensitive-taiwan-strait-20231124-p5emni.html>.

12. *Id.*

lawful harassment of military and civilian ships and aircraft operating in international waters and airspace. As the U.S. Assistant Secretary of Defense for Indo-Pacific Security Affairs noted, the incident is “the latest example in a pattern of coercive and risky PLA operational behavior.”¹³

Indeed, the PLA-N, Chinese Coast Guard, and China’s maritime militia have harassed U.S. aircraft with lasers in East Africa and over the East and South China Seas.¹⁴ The PLA has also used lasers and radar guns to target and harass Japanese and Filipino navy vessels and at least one Royal Australian Air Force P-8 Poseidon aircraft.¹⁵ China Coast Guard vessels, often supported by PLA-N warships and maritime militia, have also employed water cannons and bullhorns to harass and intercept fishing vessels, maritime law enforcement vessels, and merchant ships.¹⁶ In addition, the PLA has reportedly equipped unmanned aircraft with cyber and acoustic weapons to harass U.S. Navy assets in the South China Sea.¹⁷

13. Ely Ratner (@ASD_IndoPacific), TWITTER (Nov. 18, 2023, 5:08 PM), https://twitter.com/ASD_IndoPacific/status/172599482574139667?s=20 (“This week, dangerous behavior by a PLA destroyer resulted in the injury of personnel supporting a lawfully operating @Australian_Navy vessel—the latest example in a pattern of coercive and risky PLA operational behavior.”).

14. Ellen Mitchell, *US Accuses China of Using Laser Against Navy Patrol Plane*, THE HILL (Feb. 27, 2020), <https://thehill.com/policy/defense/485075-us-accuses-china-of-using-laser-against-navy-patrol-plane/>; see also Gordon Lubold & Jeremy Page, *Laser from Chinese Base Aimed at U.S. Military Pilots in Africa’s Skies, Pentagon Charges*, WALL STREET JOURNAL (May 3, 2018, 5:36 PM), <https://www.wsj.com/articles/laser-from-chinese-base-aimed-at-u-s-military-pilots-in-africas-skies-pentagon-charges-1525351775>; *U.S. Accuses China of Pointing Lasers at its Pilots from Djibouti Base*, BBC (Mar. 4, 2018), <https://www.bbc.com/news/world-asia-china-43999502>.

15. Peter A. Dutton, *MOUs: The Secret Sauce to Avoiding a U.S.–China Disaster?*, NATIONAL INTEREST (Jan. 30, 2015), <https://nationalinterest.org/feature/mous-the-secret-sauce-avoiding-us-china-disaster-12154>. See also Anh Duc Ton, *Code for Unplanned Encounters at Sea and Its Practical Limitations in the East and South China Seas*, 9 AUSTRALIAN JOURNAL OF MARITIME AND OCEAN AFFAIRS 234 (2017); Joel Guinto, *South China Sea: Philippines Says China Used “Military-Grade” Laser Against Boat*, BBC (Feb. 13, 2023), <https://www.bbc.com/news/world-asia-64621414>; Press Release, Australian Defence Force, Chinese Ship Lasing of P-8A Poseidon on 17 February 2022 (Feb. 22, 2022), <https://www.defence.gov.au/news-events/releases/2022-02-22/chinese-ship-lasing-p-8a-poseidon-17-february-2022>.

16. Hannah Beech, *Blasting Bullhorns and Water Cannons, Chinese Ships Wall Off the Sea*, NEW YORK TIMES (Sept. 23, 2023), <https://www.nytimes.com/2023/09/23/world/asia/china-sea-philippines-us.html>.

17. RANDALL K. NICHOLS ET AL., DRONE DELIVERY OF CBNRECY—DEW WEAPONS: EMERGING THREATS OF MINI-WEAPONS OF MASS DESTRUCTION AND DISRUPTION 409 (2022).

This article examines how acoustic devices, like sonar, can be used for violence. It explains, in general terms, how international law regulates the use of acoustic devices during times of peace. It specifically assesses whether China's use of sonar in the vicinity of HMAS *Toowoomba* constitutes a violation of "due regard," a customary obligation reflected in the UN Convention on the Law of the Sea (UNCLOS) and other international agreements, or an unlawful interference with Australia's freedom of navigation. Finally, it addresses whether China's use of sonar in the vicinity of Australian divers on November 14, 2023, should be considered a "use of force," whether such use of force was permitted by international law, and the legal remedies available to Australia, including the potential use of force in self-defense.

II. THE USE OF ACOUSTIC DEVICES TO TAKE VIOLENT ACTION

A. Defensive Use of Acoustic Devices

Militaries employ some acoustic devices in defensive modes for the protection of personnel and installations. Acoustic devices generate and direct sound waves (i.e., variations in pressure that travel through air, gas, or water) to deter, temporarily incapacitate, or disorient a person.¹⁸ They generally target the vulnerability of the human ear, using pressure or pain to cause psychological and physical damage. Some acoustic devices (e.g., "sound cannons") produce audible noises at painfully high decibels and are used to disperse crowds.¹⁹ For example, since the attack on the USS *Cole* in Yemen in 2000, U.S. Navy ships have relied on the long-range acoustic device (LRAD), a massively powerful loudspeaker,²⁰ to warn and deter encroaching ships. American ground forces used the LRAD to disperse crowds in Iraq.²¹ Similarly, the Israeli Defense Forces have used the so-called "Scream" device for

18. JULIETTE VOLCLER, *EXTREMELY LOUD: SOUND AS A WEAPON* 1 (2011).

19. *What is a Decibel?*, UNIVERSITY OF NEW SOUTH WALES: PHYSCLIPS, <https://www.animations.physics.unsw.edu.au/jw/dB.htm> (last visited Feb. 9, 2024).

20. See GENASYS, *LRAD OVERVIEW AND PRODUCT GUIDE*, <https://apac.genasys.com/wp-content/uploads/LRAD-Product-Guide-Final-PRINT.pdf> (last visited Feb. 9, 2024).

21. Reuters, *US Brings New Weapon to Iraq*, AL JAZEERA (MAR. 9, 2004), <https://www.aljazeera.com/news/2004/3/9/us-brings-new-weapon-to-iraq>. According to futurist Michael Anissimov, the LRAD projects a sound beam intense enough to permanently damage hearing. See Michael Anissimov, *What are Some Acoustic Weapons?*, ALL THE SCIENCE (last modified Dec. 29, 2023), <https://www.allthescience.org/what-are-some-acoustic-weapons.htm>.

riot control purposes.²² There has also been speculation about the U.S. Navy's use of ultrasound beams as "anti-frogman weapons."²³

Naval sonars are acoustic devices primarily used "for detection, classification, localization, and tracking of submarines, mines, or surface contacts, as well as for communication, navigation, and identification of obstacles or hazards (e.g., polar ice)."²⁴ However, many navies also use low-frequency active sonar to deter or neutralize underwater threats (e.g., divers attempting to emplace mines on the hull of a ship).²⁵ For example, "active sonar is one of the major components of the Integrated Anti-Swimmer System (IAS) used by the U.S. Coast Guard."²⁶ Indeed, sonar systems emit sound waves²⁷ at intensities high enough to harm the human body and marine animals.²⁸ Sound waves are particularly dangerous for divers, as "in an aquatic medium, [they] pass essentially directly from the water to the body."²⁹

High-intensity sound waves can cause "vertigo, imbalance, intolerable sensations, incapacitation, disorientation, nausea, vomiting, and bowel

22. AP, *Israeli Army Gets "The Scream"*, CBS NEWS (June 10, 2005, 2:26 PM), <https://www.cbsnews.com/news/israeli-army-gets-the-scream/>.

23. See, e.g., Marius Rogobete et al., *An Unmanned Underwater Vehicle Defence System*, 25 SCIENTIFIC BULLETIN OF NAVAL ACADEMY 16 (2022); Rui Gu et al., *Conception and Demonstration of Comprehensive Near-Zone Defense System for Coastal Important Areas* (2021), <https://ieeexplore.ieee.org/document/9586865>.

24. RICHARD P. HODGES, UNDERWATER ACOUSTICS: ANALYSIS, DESIGN AND PERFORMANCE OF SONAR 1 (2010).

25. Alexander Sutin & Yegor Sunelnikov, *Underwater Non-Lethal Weapon Based on Principles of Time Reversal Acoustics*, PROCEEDINGS OF MEETINGS ON ACOUSTICS (2011), <https://pubs.aip.org/asa/poma/article/13/1/045005/960920/Underwater-non-lethal-weapon-based-on-principles>.

26. See *id.* at 1; but see Brent D. Sadler, *A Conflict-Ready Coast Guard is Vital to US Success in a Long War with China*, HERITAGE FOUNDATION (Mar. 21, 2022), <https://www.heritage.org/defense/report/conflict-ready-coast-guard-vital-us-success-long-war-china>.

27. See generally Renzo Mora et al., *The Effect of Sonar on Human Hearing*, in SONAR SYSTEMS 235 (Nikolai Kolev ed., 2011).

28. DIVING MEDICAL ADVISORY COMMITTEE, THE EFFECT OF SONAR TRANSMISSION ON COMMERCIAL DIVING ACTIVITIES (June 1, 2010), <https://www.dmac-diving.org/guidance/DMAC06.pdf>; see also *Does Military Sonar Kill Marine Wildlife?*, SCIENTIFIC AMERICAN (June 10, 2009), <https://www.scientificamerican.com/article/does-military-sonar-kill/>; Australian Gov't, Dep't of Climate Change, Energy, the Environment and Water, *Sonar and Seismic Impacts* (updated Oct. 15, 2021), <https://www.dcceew.gov.au/environment/marine/marine-species/cetaceans/sonar-seismic-impacts>; Alicia Chang & Julie Watson, *Bad News for Whales and Dolphins: Navy to Expand Sonar Testing*, NBC NEWS (Dec. 15, 2013), <https://www.nbcnews.com/science/main/bad-news-whales-dolphins-navy-expand-sonar-testing-2D11749987>.

29. VOLCLER, *supra* note 18, at 36.

spasm; and resonances in inner organs, such as the heart.”³⁰ Some modern acoustic weapons can render a person totally deaf.³¹ Sound waves can rupture eardrums and even tear the lungs or cause fatal internal hemorrhaging.³² Sound waves can induce cavitation in the ear and cause headaches or substantial nausea.³³ Cavitation is the generation of air bubbles in fluids within human tissue, such as the eardrums or bloodstream, and is especially hazardous in a maritime context.³⁴ High levels of exposure to underwater sonar cause “dizziness, hearing damage or other injuries” to humans.³⁵ The HMAS *Toowoomba*’s divers most likely experienced, or may be continuing to experience, symptoms like these following their exposure to the PLA-N’s sonar pings.

B. Offensive Use of Acoustic Devices

In addition to the use of acoustic devices in defensive modes, they are evidently appealing tools for coercion and intimidation during strategic competition in the so-called “gray zone” between armed conflict and peace.³⁶ Acoustic devices can be employed as non-lethal weapons, “intended to have

30. NAT’L INSTITUTE OF ENV’T HEALTH SCIENCES, NAT’L INSTITUTES OF HEALTH, INFRASOUND: BRIEF REVIEW OF TOXICOLOGICAL LITERATURE 9 (Nov. 2001), https://ntp.niehs.nih.gov/sites/default/files/ntp/htdocs/chem_background/exsumpdf/infrasound_508.pdf.

31. Jürgen Altmann, *Acoustic Weapons—A Prospective Assessment*, 9 SCIENCE & GLOBAL SECURITY 165 (2001).

32. VOLCLER, *supra* note 18, at 15.

33. Bożena Smagowska & Malgorzata Pawlaczyk-Łuszczczyńska, *Effects of Ultrasonic Noise on the Human Body—A Bibliographic Review*, 19 INTERNATIONAL JOURNAL OF OCCUPATIONAL SAFETY AND ERGONOMICS 195 (2013), <https://www.tandfonline.com/doi/epdf/10.1080/10803548.2013.11076978?needAccess=true> and.

34. Ricardo Villalobos et al., *Cavitation Detection in a Tonpilz-Type Transducer for Active SONAR Transmission System*, 11 JOURNAL OF MARITIME SCIENCE AND ENGINEERING 1279 (2023).

35. DIVING MEDICAL ADVISORY COMMITTEE, *supra* note 28; see also RENZO MORA, THE EFFECT OF SONAR ON HUMAN HEARING (2011); Angelo Salami et al., *The Effect of Active Sonar for the Protection of Moored and Anchored Warships on Human Hearing*, 267 EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY 207 (2010).

36. Kyle Mizokami, *How a Chinese Warship Injured Divers With Blasts of Sonar*, POPULAR MECHANICS (Nov. 30, 2023), <https://www.popularmechanics.com/military/navy-ships/a45976112/chinese-warship-injures-australian-divers-with-sonar/> (“The use of sonar against divers, like the use of lasers and water cannons, is another example of dangerous behavior by the People’s Liberation Army Navy to harass its rivals. Some day, someone is really going to get hurt by this sort of reckless activity, and China won’t be able to call it an accident.”).

relatively reversible effects and minimize risk of fatalities, permanent injuries, or permanent damage to materiel.”³⁷ As Professor David Fidler surmised,

The development and use of “non-lethal” weapons may also give rise to new kinds of low-intensity conflict between States and within States. “Non-lethal” weapons may be attractive tools for the conduct diplomacy [sic] by other means in connection with, for example, border disputes or disputes over the control of economic or natural resources.³⁸

Professor Fidler’s assessment applies well to the *Ningbo—Toowoomba* incident. Presumably, the CNS *Ningbo*’s actions are connected to the People’s Republic of China’s (PRC) excessive maritime claim stemming from an extended continental shelf, which goes deep into Japan’s claimed EEZ.³⁹ As many observers have noted, China deliberately conducts military operations shrouded in ambiguity and below a clear legal threshold of force to avoid triggering a justified military response from competitors and potential adversaries.⁴⁰ In addition to the use of sonar to injure divers, PLA-N vessels have been known to employ “barrages” of auditory safety equipment, such as sirens and fog horns, against competitors in the East and South China Seas.⁴¹ As the French journalist Juliette Volcler observed in her book *Extremely Loud: Sound as a Weapon*, acoustic devices can produce “the same results as other ‘non-lethal’ weapons, while defusing criticism and confusing the debate.”⁴²

In this case, in an instant, the CNS *Ningbo* sought to subtly use a lawful activity (i.e., the use of active sonar in the EEZ) to mask an unlawful use of force (i.e., the use of its active sonar to injure divers engaged in lawful operations), but in a manner the PRC could insistently debate, downplay, and

37. U.S. Dep’t of Defense, DoD Instruction 3200.19, Non-Lethal Weapons (NLW) Human Effects Characterization ¶ 4(a) (May 17, 2012, with Change 2, Aug. 31, 2018), <https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/320019p.pdf>.

38. David P. Fidler, *The International Legal Implications of “Non-Lethal” Weapons*, 21 MICHIGAN JOURNAL OF INTERNATIONAL LAW 51, 78 (1999).

39. Yann-huei Song, *Conflicting Outer Continental Shelf Claims in the East and South China Seas: Proposals for Cooperation and Peaceful Resolution*, 35 UNIVERSITY OF HAWAII LAW REVIEW 485, 509–10 (2013).

40. See U.S. DEP’T OF THE ARMY TECHNIQUES PUBLICATION (ATP) 7-100.3, CHINESE TACTICS ¶ 1-56 (2021).

41. Hannah Beech, *Blasting Bullhorns and Water Cannons, Chinese Ships Wall Off the Sea*, NEW YORK TIMES (Sept. 23, 2023), <https://www.nytimes.com/2023/09/23/world/asia/china-sea-philippines-us.html> (noting, “The P.L.A. tugboat responded with more barrages of its horn, a sonic assault so piercing that we felt it in our bodies.”).

42. VOLCLER, *supra* note 18, at 1.

justify.⁴³ Indeed, one might conclude that the CNS *Ningbo*'s use of sonar to harass the Australian divers reflects a historical inclination to implement Sun Tzu's injunction to "subjugate the enemy's army without fighting"⁴⁴ or a modern tendency to erode international norms.⁴⁵

III. INTERNATIONAL LAW ISSUES

A. General Observations

Despite their capacity for harm, international law does not prohibit or specifically address acoustic weapons, much less the use of acoustic devices like sonar to harass or injure. Some non-lethal weapons, such as biological⁴⁶ and

43. See Rod McGurk, *China Warns Australia to Act Prudently in Naval Operations in the South China Sea*, ASSOCIATED PRESS (Nov. 28, 2023, 5:46 AM), <https://apnews.com/article/australia-china-sea-liu-navy-warships-sydney-452f4933a3d51f1e3daf6ca272a9d66e>; Stephen Dziedzic, *Australian Navy Vessels Need to Act "With Prudence" in Waters Near China*, *Top Chinese Official Says*, ABC NEWS (Nov. 28, 2023), <https://www.abc.net.au/news/2023-11-28/liu-jianchao-speech-navy-vessel/103162412> (noting that Chinese spokesperson Liu Jianchao criticized the response to the *Toowoomba* incident, stating, "This kind of rhetoric . . . gives the Chinese people a message that the reason why Australian naval ships are there was really to contain China.").

44. SUN TZU, *THE ART OF WAR*, ch. III, at 177 (Ralph D. Sawyer trans., Basic Books, 1994) (fifth century BCE).

45. Peter W. Singer, *We Have China's Anti-Access Challenge Exactly Backward*, DEFENSE ONE (Nov. 29, 2023), <https://www.defenseone.com/ideas/2023/11/we-have-chinas-anti-access-challenge-exactly-backward/392346/>. Additionally, while Additional Protocol I to the 1949 Geneva Conventions defines the term "attack" in the context of armed conflict, the concept of attack "in the sense of the Protocol . . . is unrelated to the concept of aggression or the first use of armed force; it refers simply to the use of armed force to carry out a military operation at the beginning or during the course of armed conflict." See COMMENTARY ON THE ADDITIONAL PROTOCOLS OF 8 JUNE 1977 TO THE GENEVA CONVENTIONS OF 12 AUGUST 1949, ¶ 1882 (Yves Sandoz et al. eds., 1987) (footnote omitted).

46. Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, Apr. 10, 1972, 26 U.S.T. 583, 1015 U.N.T.S. 163.

chemical weapons,⁴⁷ are specifically regulated, but acoustic weapons are not.⁴⁸

The Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to be Excessively Injurious or to Have Indiscriminate Effects (CCW), which applies during armed conflict but frequently serves to guide States during peacetime,⁴⁹ omits any references to acoustic devices, even those specifically designed to cause permanent hearing loss as one of its combat functions. Therefore, in the absence of a rule or rules specifically governing the use of acoustic weapons, the more general rules discussed below apply.

B. *The Requirement for Due Regard*

Considering the CNS *Ningbo's* actions did not take place in the course of an armed conflict between China and Australia, it is essential to evaluate whether the CNS *Ningbo's* use of sonar, in this case, was a violation of customary law, UNCLOS, or some other rule governing maritime military behavior during peacetime.⁵⁰

As a threshold matter, the CNS *Ningbo* failed to exercise “due regard,” as it was legally required to do. On the high seas, States may engage in military activities so long as there are no specific rules of international law precluding the activity *and* they are conducted with “due regard” for the right of other States to use the area concerned for lawful purposes.⁵¹ These high seas freedoms apply in a coastal State’s EEZ.⁵² Due regard denotes conducting

47. Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction art. II, Jan. 13, 1993, 1974 U.N.T.S. 45.

48. *Directed Energy Weapons: Discussion Paper for Convention on Certain Conventional Weapons (CCW)*, ARTICLE 36 (Nov. 2017), <https://article36.org/wp-content/uploads/2017/11/DEW-Final-17Nov17.pdf>.

49. Henri Meyrowitz, *The Function of the Laws of War in Peacetime*, 26 INTERNATIONAL REVIEW OF THE RED CROSS 77, 81 (1986).

50. Some scholars argue that the “first shot” use of force between States immediately gives rise to an international armed conflict (albeit one of very limited duration and scope). See T.D. Gill, *Some Reflections on the Threshold for International Armed Conflict and on the Application of the Law of Armed Conflict in any Armed Conflict*, 99 INTERNATIONAL LAW STUDIES 698 (2022). Given that neither Australia nor the PRC asserts the existence of an armed conflict, we have not analyzed the application of the law of naval warfare to this incident.

51. UNCLOS, *supra* note 4, art. 87.

52. *Id.* art 55; see also *Law of the Sea: A Policy Primer, Chapter 4: Military Activities in an EEZ*, FLETCHER SCHOOL OF LAW AND DIPLOMACY, <https://sites.tufts.edu/lawofthesea/chapter-4/> (last visited Feb. 9, 2024).

one's activities in a manner that does not interfere with the safety or rights of other States, including freedom of navigation.⁵³

As Professor James Kraska explains, “naval operations must exercise due regard for other users of the oceans and . . . such activities must be ‘peaceful’ or for ‘peaceful purposes.’”⁵⁴ The purpose of “due regard” is to “ensure balance between concurrent rights belonging” to the various States operating in international waters.⁵⁵

Due regard is a customary law obligation applicable throughout the commons.⁵⁶ It also appears in various treaties. For instance, Article 3(d) of the Chicago Convention on International Civil Aviation requires State aircraft to operate with “due regard for the safety of navigation of civil aircraft.”⁵⁷ UNCLOS Article 87(2) provides that high seas freedoms, such as navigation and overflight, “shall be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas.”⁵⁸ UNCLOS makes clear that the high seas freedoms also apply in the EEZ. Specifically, UNCLOS Article 58(1) provides,

In the exclusive economic zone, all States, whether coastal or landlocked, enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in article 87 of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention.

53. See, e.g., Bernard H. Oxman, *The Principle of Due Regard*, in *THE CONTRIBUTION OF THE INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA TO THE RULE OF LAW: 1996–2016*, at 108 (Yoram Dinstein ed., 2017).

54. James Kraska, *Intelligence Collection and the International Law of the Sea*, 99 *INTERNATIONAL LAW STUDIES* 602, 606 (2022).

55. “Enrica Lexie” Incident (It. v. India), Case No. 2015-28, Award, ¶ 975 (Perm. Ct. Arb. 2020).

56. Martin H. Belsky et al., *Due Regard*, in *DEFINITIONS FOR THE LAW OF THE SEA: TERMS NOT DEFINED BY THE 1982 CONVENTION* 179, 187 (George K. Walker ed., 2011).

57. Convention on International Civil Aviation, Dec. 7, 1944, 61 Stat. 1180, T.I.A.S. No. 1591, 15 U.N.T.S. 295.

58. UNCLOS, *supra* note 4, art. 87.

In this case, the HMAS *Toowoomba* was legally entitled to operate in Japan's EEZ, as it was exercising high seas freedom of navigation and enforcing UN sanctions on North Korea.⁵⁹ Although it is difficult to discern the CNS *Ningbo*'s intent, the ship's use of sonar clearly interfered with the Australians' lawful use of international waters (regardless of the extent of the divers' injuries).⁶⁰ The publicly available facts concerning this incident suggest that the CNS *Ningbo* failed to exercise due regard for the HMAS *Toowoomba*'s lawful activities in Japan's EEZ as required by UNCLOS and customary international law.

The CNS *Ningbo*'s actions also ran afoul of the 1972 Convention on the International Regulations for Preventing Collisions at Sea, commonly known as the collision regulations (COLREGs).⁶¹ China and Australia are both party to the COLREGs, which constitute "rules of the road" for mariners and apply to all forms of vessels upon the high seas or navigable waters connected to the high seas.⁶² While primarily concerned with preventing physical collisions between vessels, the COLREGs echo the requirement for due regard. Rule 18 requires vessels to "keep out of the way of" a vessel that is not under command.⁶³ The CNS *Ningbo*'s actions in approaching HMAS *Toowoomba* after she had signaled she was not under command (due to the fishing nets tangled in the propeller) and inflicting active sonar pings on divers in the water violated Rule 18 of the COLREGs, and certainly the spirit of the

59. HMAS *Toowoomba* Supports Sanctions on North Korea, AUSTRALIAN GOVERNMENT DEFENCE (Nov. 17, 2023), <https://www.defence.gov.au/news-events/news/2023-11-17/hmas-toowoomba-supports-sanctions-north-korea>; see also S.C. Res. 2397 (Dec. 22, 2017); *Monitoring and Surveillance Activities by Australia Against Illicit Maritime Activities Including Ship-to-Ship Transfers*, MINISTRY OF FOREIGN AFFAIRS OF JAPAN (Nov. 15, 2023), https://www.mofa.go.jp/press/release/press5e_000074.html ("Japan welcomes these activities . . . and Japan works closely with related countries including Australia and related international organizations.").

60. "International waters include all ocean areas not subject to the sovereignty of a coastal State." U.S. NAVY, U.S. MARINE CORPS & U.S. COAST GUARD, NWP 1-14M/MCTP 11-10B/COMDTPUB P5800.7A, THE COMMANDER'S HANDBOOK ON THE LAW OF NAVAL OPERATIONS ¶ 1.6 (2022). Determining the *Ningbo*'s intent is difficult. However, "it is generally reasonable to infer that the State objectively intends the natural and probable consequences of its actions." Michael N. Schmitt & W. Casey Biggerstaff, *Aid and Assistance as a "Use of Force" Under the Jus Ad Bellum*, 100 INTERNATIONAL LAW STUDIES 186, 207 (2023). The PLA-N commanders knew or should have known that the use of active sonar in the vicinity of Australian divers would interfere with diving operations.

61. Convention on the International Regulations for Preventing Collisions at Sea, Oct. 20, 1972, 28 U.S.T. 3459, T.I.A.S. No. 8587, 1050 U.N.T.S. 16.

62. *Id.* r. 1(a).

63. *Id.* r. 18(a)(i).

treaty. Even if the CNS *Ningbo's* commanding officer and crew lacked the intent to harm the Australian divers, they are responsible for the foreseeable consequences of their unprofessional seamanship and negligent sonar operations.⁶⁴

Finally, the CNS *Ningbo's* use of sonar near Australian divers contravened the spirit of the Code for Unplanned Encounters at Sea (CUES), a non-binding, multilateral agreement initially proposed by Australia in 1999 and finally concluded at the 2014 Western Pacific Naval Symposium.⁶⁵ Twenty-one regional navies unanimously adopted CUES, including both China and Australia. The CUES lays out a standardized protocol of safety procedures, basic communications protocols, and default maneuvering instructions for naval vessels and aircraft during unplanned encounters at sea, with the aim of reducing the risk of incidents arising from these encounters.⁶⁶ The CUES outlines various operating principles for peacetime navies. For example, it requires commanding officers and masters of vessels to “maintain a safe separation between their vessel and those of other nations.”⁶⁷ While the agreement does not expressly regulate sonar use, it urges prudent commanders to generally avoid “the discharge of . . . weapons in the direction of vessels” and “the use of laser[s] in such a manner as to cause harm.”⁶⁸ The use of sonar in a harmful manner clearly violates the spirit of CUES, a code that exists to improve confidence and promote safe interactions between navies, especially in places like the East and South China Seas.

China has denied any violation of COLREGS, CUES, or other rules, and even claims the sonar ping was fabricated or attributable to another vessel. Chinese Defense Ministry spokesperson Wu Qian claimed that the CNS *Ningbo* had been tracking and monitoring HMAS *Toowoomba* and that the Chinese ship had “maintained a safe distance and did not interfere with the

64. *Id.* r. 2.

65. Western Pacific Naval Symposium, Code for Unplanned Encounters at Sea: Version 1.0 (Apr. 22, 2014), reprinted at Document: Code for Unplanned Encounters at Sea, USNI NEWS (Aug. 22, 2016), <https://news.usni.org/2014/06/17/document-conduct-unplanned-encounters-sea> [hereinafter CUES]; see also JAMES KRASKA & RAUL PEDROZO, DISRUPTIVE TECHNOLOGY AND THE LAW OF NAVAL WARFARE 30 (2022); Anh Duc Ton, Code for Unplanned Encounters at Sea and Its Practical Limitations in the East and South China Seas, 9 AUSTRALIAN JOURNAL OF MARITIME AND OCEAN AFFAIRS 227 (2017).

66. RONALD O'ROURKE, CONG. RSCH. SERV., R42784, U.S.-CHINA STRATEGIC COMPETITION IN SOUTH AND EAST CHINA SEAS: BACKGROUND AND ISSUES FOR CONGRESS 66 (Nov. 15, 2023).

67. CUES, *supra* note 65, ¶ 2.6.2.

68. *Id.* ¶ 2.8.1.

Australian divers' operations."⁶⁹ PRC officials argued that the incident resulted from Australia "making trouble" by conducting operations "on China's doorstep."⁷⁰ The reference to China's doorstep is likely a veiled assertion of the PRC's excessive maritime claims against Japan, discussed previously.

Months later, China explicitly denied its sonar was activated at all. The PRC's ambassador to Australia claimed that the sonar pings could not have originated from CNS *Ningbo* because, "[s]hould they have initiated the sonar from the Chinese ship against the divers it would cause immediate fatality."⁷¹ Ambassador Xiao Qian blamed Japanese Maritime Self-Defence Force vessels operating in the area.⁷² Australian officials rejected the PRC's characterization of the event, and the preponderance of publicly available evidence supports Australia's claims.⁷³

At a minimum, the CNS *Ningbo's* acoustic antagonism interfered with the Australians' lawful operations (i.e., UN sanctions enforcement, diving operations to untangle fishing nets from their ship's propeller) and failed to stay clear of a vessel not under command.⁷⁴ However, their use of sonar may have also violated the UN Charter's prohibition on the use of force.

69. Ministry of Foreign Affairs of the People's Republic of China, *Foreign Ministry Spokesperson Mao Ning's Regular Press Conference on November 20, 2023*, https://www.fmprc.gov.cn/eng/xwfw_665399/s2510_665401/2511_665403/202311/t20231120_11183670.html.

70. Butler, *supra* note 6.

71. Andrew Greene, *Beijing Points Finger at Japan Over Sonar Attack on Australian Warship HMAS Toowoomba*, ABC NEWS (Jan. 17, 2024, 3:02 AM), <https://www.abc.net.au/news/2024-01-17/beijing-points-finger-at-japan-warship-sonar-attack/103354026> (quoting Chinese ambassador to Australia Xiao Qian).

72. *Australia Rejects China Comments on Sonar Incident*, REUTERS (Jan. 17, 2024), <https://www.reuters.com/world/asia-pacific/australia-rejects-china-comments-sonar-incident-2024-01-18/>.

73. Georgia Roberts, *Opposition Labels China's Denial of Sonar Incident Propaganda*, ABC NEWS (Nov. 20, 2023), <https://www.abc.net.au/news/2023-11-21/china-denies-sonar-incident-peter-dutton-says-it-is-propaganda/103130288>; *see also* Transcript of Comments by Anthony Albanese, Prime Minister of Australia, *Doorstop—Frankston* (Jan. 18, 2024), <https://www.pm.gov.au/media/doorstop-frankston> ("I'm not swayed by the [PRC Ambassador's] comments. The navy made reports, I think it's very clear what occurred. I stand by the comments that I made at the time, that it was wrong. It shouldn't have occurred.").

74. Collin Koh, *How to Stop Any Repeat of the Australia—China SONAR Incident*, THE INTERPRETER (Dec. 4, 2023), <https://www.lowyinstitute.org/the-interpreter/how-stop-any-repeat-australia-china-sonar-incident> (arguing that COLREGs and CUES should be updated to specifically address sonar misuse); *c.f.* Markus Garlauskas & Philip Yu, *China's Acoustic Aggression Against a US Ally Follows a Pattern. Military Talks Won't Help*, ATLANTIC

C. *Did the CNS Ningbo Engage in a Prohibited Use of Force?*

According to Article 2(4) of the UN Charter, all member States “shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any manner inconsistent with the Purposes of the United Nations.” This fundamental prohibition is restated in UNCLOS Article 301 and is unquestionably part of customary international law.⁷⁵

The UN Charter’s prohibition on the use of force prompts a complicated legal question: can the employment of an invisible acoustic device against military divers be considered a “use of force” against the territorial integrity or political independence of a State? The UN Charter does not define “force,” nor does it provide any criteria for assessing whether an activity amounts to a use of force. The drafting history of Article 2(4) suggests that “force” should be understood broadly, but the Charter references “armed force” and “armed forces” elsewhere (e.g., the Preamble, Article 44), suggesting that force implies acts of violence rising to lethality, or at least potentially lethal acts. It is well established that “the concept of the use of force is generally understood to mean armed force.”⁷⁶

The mainstream view is that any use of force not authorized within the Charter is prohibited.⁷⁷ However, some scholars believe there is a “gravity threshold” below which the UN Charter’s prohibition on the use of force does not apply.⁷⁸ Professor Wolf Heintschel von Heinegg articulates the concept of “incident[s] at sea,” a subset of “military operations against foreign warships or military aircraft [that] do not constitute a use of force, although they are provocative or aggressive in nature because they are neither intended

COUNCIL: NEW ATLANTICIST (Nov. 22, 2023), <https://www.atlanticcouncil.org/blogs/new-atlanticist/chinas-acoustic-aggression-against-a-us-ally-follows-a-pattern-military-talks-wont-help> (arguing that attempts to update CUES or re-establish military-to-military contacts are futile).

75. UNCLOS, *supra* note 4, art. 301.

76. Michael N. Schmitt, *Computer Network Attack and the Use of Force in International Law: Thoughts on a Normative Framework*, 37 COLUMBIA JOURNAL OF TRANSNATIONAL LAW 885, 908 (1999).

77. *Id.* at 901.

78. See Tom Ruys, *The Meaning of Force and the Boundaries of the Jus ad Bellum: Are Minimal Uses of Force Excluded from UN Charter Article 2(4)*, 108 AMERICAN JOURNAL OF INTERNATIONAL LAW 159, 159 (2014).

nor expected to directly result in damage or injury.”⁷⁹ The United States expressly rejects the gravity threshold,⁸⁰ and Australia has not endorsed it.⁸¹

The *Ningbo*’s actions were an unlawful use of force. As discussed earlier, sonar has the capacity to injure swimmers, and PRC officials admit that the employment of hull-mounted sonar against divers could result in death.⁸² Even under Professor von Heinegg’s elevated threshold, there was a clear expectation that pinging divers could result in injury, and it was thus a use of force.

The remaining question is whether such a use of force was permitted by international law. Not every use of force is prohibited—actions authorized by the UN Security Council, actions with the consent of the territorial State, and actions in national self-defense against an actual or imminent armed attack, discussed in detail below, are permitted.⁸³ Although China denies the incident occurred, an analysis of possible justifications demonstrates the use of force was without legal basis.

The *Ningbo*’s use of sonar was not conducted pursuant to a Security Council authorization, and there is no evidence it was an exercise of self-defense in response to a use of force or armed attack by *Toowoomba*. China might have asserted that *Ningbo*’s actions were permitted as self-defense against Australian infringement on their territorial waters. As discussed,

79. Wolff Heintschel von Heinegg, *The Difficulties of Conflict Classification at Sea: Distinguishing Incidents at Sea from Hostilities*, 98 INTERNATIONAL REVIEW OF THE RED CROSS 449, 455 (2016).

80. William H. Taft IV, Legal Adviser, U.S. Department of State, *Self-Defense and the Oil Platforms Decision*, 29 YALE JOURNAL OF INTERNATIONAL LAW 295, 300–1 (2004) (“A requirement that an attack reach a certain level of gravity before triggering a right of self-defense would make the use of force more rather than less likely, because it would encourage States to engage in a series of small-scale military attacks, in the hope that they could do so without being subject to defensive responses.”).

81. See George Brandis, Attorney-General for Australia, Lecture delivered at the TC Beirne School of Law, University of Queensland, *The Right of Self-Defence Against Imminent Armed Attack in International Law* (Apr. 11, 2017), <https://law.uq.edu.au/blog/2017/05/developments-international-law-self-defence-against-imminent-armed-attack> (click on “read the transcript” in the second paragraph) (citing approvingly to CHATHAM HOUSE, PRINCIPLES ON INTERNATIONAL LAW ON THE USE OF FORCE BY STATES IN SELF-DEFENCE (2005), which includes the statement, “An armed attack means any use of armed force, and does not need to cross some threshold of intensity.” *Id.* at 6.).

82. Greene, *supra* note 71.

83. OFFICE OF THE GENERAL COUNSEL, U.S. DEPARTMENT OF DEFENSE, LAW OF WAR MANUAL §§ 1.11.4.1–1.11.4.5 (updated ed. July 2023).

China maintains excessive maritime claims that encompass portions of Japan's EEZ, claims neither recognized by the United States nor Australia.⁸⁴ China asserts that portions of Japan's EEZ are part of China's "non-demarcated 'near seas,'" and objects to the conduct of military operations within these "near seas."⁸⁵ The underlying maritime claims range from baseless to disputed, and the objection to military operations in the EEZ is a minority position inconsistent with UNCLOS.⁸⁶ Setting aside the weakness of the PRC's legal scaffolding, Chinese comments about Australian activities on "China's doorstep" seemed to be an attempt to characterize CNS *Ningbo's* actions as a response to imagined Australian incursions into China's claimed territorial waters.⁸⁷ However, this claim would fail because, as Professor Cameron Moore explains, the PLA-N has an obligation to "refrain from forceful actions" against a sovereign immune Australian warship under these circumstances and "make every effort to negotiate maritime disputes in good faith."⁸⁸ Even accepting *arguendo* that the PRC's territorial claims were valid, CNS *Ningbo's* actions still constituted an unlawful use of force.⁸⁹

D. Did the CNS *Ningbo's* Prohibited Use of Force Trigger a Right to Self-Defense?

Article 51 of the UN Charter preserves "the inherent right of individual or collective self-defence if an armed attack occurs against a member of the United Nations."⁹⁰ The United States has long taken the view that *any* use of

84. See U.S. DEP'T OF DEFENSE, REPORT TO CONGRESS: ANNUAL FREEDOM OF NAVIGATION REPORT FOR FISCAL YEAR 2022, <https://policy.defense.gov/OUSDP-Offices/FON/>.

85. Michael D. Swaine, *China's Maritime Disputes in the East and South China Seas*, CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE (Apr. 4, 2013), <https://carnegieendowment.org/2013/04/04/china-s-maritime-disputes-in-east-and-south-china-seas-pub-51417>.

86. O'ROURKE, *supra* note 66, at 8, 46–51.

87. Ministry of Foreign Affairs of the People's Republic of China, *Foreign Ministry Spokesperson Mao Ning's Regular Press Conference on November 20, 2023*, https://www.fmprc.gov.cn/eng/xwfw_665399/s2510_665401/2511_665403/202311/t20231120_11183670.html.

88. CAMERON MOORE, FREEDOM OF NAVIGATION AND THE LAW OF THE SEA: WARSHIPS, STATES AND THE USE OF FORCE 109 (2021).

89. Int'l Law Comm'n, *Draft Articles on Responsibility of States for Internationally Wrongful Acts with Commentaries*, 56 U.N. GAOR Supp. No. 10, art. 22, U.N. Doc. A/56/10 (2001), reprinted in [2001] 2 YEARBOOK OF THE INTERNATIONAL LAW COMMISSION 26, U.N. Doc. A/CN.4/SER.A/2001/Add.1 (Part 2), https://legal.un.org/ilc/documentation/english/reports/a_56_10.pdf.

90. U.N. Charter art. 51.

force (regardless of its intensity and duration) triggers the right of self-defense.⁹¹ The U.S. view treats notions of “force” and “armed attack” as functionally indistinguishable. Under that view, *any* unlawful use of force would trigger the right of (necessary and proportionate) self-defense, regardless of its scale and effects.⁹²

Some States believe there is a distinction between the “use of force” and an “armed attack,” and that self-defense is only available in the latter case.⁹³ Australia takes this view, although without articulating a public position on the threshold for armed attack.⁹⁴ While forms of reaction that were permissible under “classical” international law, such as armed reprisals, are no longer tolerated in peacetime, States are entitled to respond to an armed attack.⁹⁵ The debate centers on the threshold for declaring an armed attack. Scholars have promulgated views about de minimis uses of force or minor acts of “indirect aggression.”⁹⁶ These opinions generally purport to apply the International Court of Justice (ICJ) opinion in the *Nicaragua* case, which implied that certain less-grave aggressive acts do not justify forceful self-defense.⁹⁷ In *Nicaragua*, the ICJ stated that “scale and effects” must be considered when determining whether an act of aggression amounts to an “armed attack.”⁹⁸

The ICJ returned to this issue in the *Oil Platforms* case, suggesting an attack must be “specifically aimed” at a State.⁹⁹ However,

91. See LAW OF WAR MANUAL, *supra* note 83, § 1.11.5.2 (citing Abraham D. Sofaer, *Terrorism, the Law, and the National Defense*, 126 MILITARY LAW REVIEW 89, 92–93 (1989)).

92. *Id.*

93. See, e.g., TALLINN MANUAL 2.0 ON THE INTERNATIONAL LAW APPLICABLE TO CYBER OPERATIONS 332–33 (Michael N. Schmitt gen. ed., 2017).

94. Brandis, *supra* note 81 (“Now, it goes without saying that Australia regards the use of force always as a last resort. Where a threat is not an actual or imminent ‘armed attack’, as that term is understood in international law, Australia responds in a variety of other ways.”).

95. Int’l Law Comm’n, *supra* note 89, at 75, Commentary to Article 22(3). Individual (or unit) self-defense would also have been available to *Toowoomba* and her crew, but are beyond the scope of this analysis. See STU WATERS, TAKING THE FIRST HIT? TIME TO RE-VISIT UNIT SELF-DEFENCE AS AN INHERENT RIGHT (2021), https://www.navy.gov.au/sites/default/files/documents/Tac_Talks_Issue_42_0.pdf.

96. TOM RUYTS, “ARMED ATTACK” AND ARTICLE 51 OF THE UN CHARTER 140 (2010).

97. *Id.*

98. Military and Paramilitary Activities in and against Nicaragua (Nicar. v. U.S.), Judgment, 1986 I.C.J. 14, ¶ 195 (June 27); see also TALLINN MANUAL 2.0, *supra* note 93, r. 69.

99. Oil Platforms (Iran v. U.S.), Judgment, 2003 I.C.J. 161, ¶ 63–64 (Nov. 6).

to the extent that this may be read as suggesting that military attacks on a state or its vessels do not trigger a right of self-defence as long as the attacks are not aimed specifically at the particular state or its vessels but rather are carried out indiscriminately, this part of the ICJ's ruling in *Oil Platforms* has been criticised as not supported by international law.¹⁰⁰

Even the *Oil Platforms* court did “not exclude the possibility that the mining of a single military vessel might be sufficient to bring into play the ‘inherent right of self-defence.’”¹⁰¹

In this case, CNS *Ningbo*'s use of sonar against vulnerable divers was akin to mining a ship of the line—it was an unlawful use of force against an Australian vessel that could reasonably be expected to cause injury. Australia had open to it the full gamut of necessary and proportional responses in self-defence. That said, the Australian government has not officially accused China of a Charter-violating use of force against the HMAS *Toowoomba*, nor did the Australian vessel engage in any reported self-defence measures. This likely reflects the Royal Australian Navy's restraint and the Australian government's desire to de-escalate the situation, as opposed to any doubt about the unlawfulness of the PLA-N's conduct.

Still, Australia is entitled to respond to the PRC's wrongful act with countermeasures such as economic sanctions, retorsion, and expulsion of diplomatic personnel. However, political and economic realities will almost certainly continue to limit the Australian response to demarches and mild public protest.¹⁰²

100. PRINCIPLES ON INTERNATIONAL LAW ON THE USE OF FORCE, *supra* note 81, at 6.

101. *Oil Platforms* (Iran v. U.S.), *supra* note 99, ¶ 72.

102. Andrew Tillett, *Chinese Sonar Incident Leaves Albanese All at Sea*, FINANCIAL REVIEW, (Nov. 24, 2023), <https://www.afr.com/politics/federal/chinese-sonar-incident-leaves-albanese-all-at-sea-20231121-p5ellu>; *see also* Jake Dietsch, *HMAS Toowoomba Arrives Back at Garden Island After Chinese Warship Sonar Incident*, WEST AUSTRALIAN (Dec. 13, 2023), <https://thewest.com.au/news/sound-telegraph/hmas-toowoomba-arrives-back-at-garden-island-after-chinese-warship-sonar-incident-c-12888168> (“Hundreds of sailors from a navy vessel caught up in a provocative Chinese sonar incident have been reunited with their loved ones, but media were under strict instructions not to ask families about the dangerous international encounter.”).

IV. CONCLUDING THOUGHTS

As States jockey for advantage in the congested and disputed global commons while the rules-based international order is subject to increasing challenges, the *Ningbo–Toowoomba* incident will not be the last acoustic use of force. On balance, the PLA-N activities represent a violation of due regard, an unlawful interference with Australia’s freedom of navigation, and an unlawful use of force. The narrative malleability of incidents at sea and the legal ambiguity surrounding whether acoustic aggression animates a State’s right to self-defense means we have almost certainly not heard the last of this issue.