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Autonomous Technology and Dynamic Obligations: Uncrewed Maritime Vehicles and the Regulation of Maritime Military Surveillance in the Exclusive Economic Zone

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Abstract

The development of uncrewed maritime vehicles [UMVs] has the potential to increase the scale of military maritime surveillance in the exclusive economic zones of foreign coastal states. This paper considers the legal implications of the expanded use of UMVs for this purpose. It shows how features of the legal regime—namely how its application depends on determining the intent of a vessel's operation (to distinguish marine scientific research from military surveillance), as well the obligation to have due regard—have a "dynamic" quality that will pose a challenge to UMVs operated by autonomous technology. The legal obligations will require equipping UMVs with the capacity to communicate something about their identity, the purpose of their mission, and to be able to have some capacity to be responsive to the economic and environmental interests of the coastal state.

The United Nations Convention on the Law of the Sea[1] [UNCLOS] is the most comprehensive treaty regulating the use of the ocean. It establishes rules for where ships can go and what they can do when they are there, including rules for military activities carried out by naval vessels. The development and increasing use of uncrewed maritime vehicles [UMVs] by militaries will be constrained by this body of law. Analyzing how UNCLOS applies to UMVs therefore helps identify what capabilities are necessary for the lawful operation of these devices and what uncertainties and gaps there are in the legal regime that may lead to conflict.

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1. 10 December 1982, 1833 U.N.T.S. 397, 21 I.L.M. 1261 (entered into force 16 November 1994) [*UNCLOS*].

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This paper focuses on the legal implications of one specific use of UMVs: maritime military surveillance in the exclusive economic zones [EEZs] of foreign states. For the purposes of this paper, military maritime surveillance includes the collection of any information in the ocean by state militaries for military purposes. This includes hydrographic surveys, acoustic monitoring, environmental monitoring, and real-time surveillance feeds to military planners. The development of UMVs has the potential to dramatically increase the possible scale of intelligence gathering operations in foreign EEZs. Such a development would require a rethinking of military strategy, most prominently by changing how submarines are used,[2] and possibly undermining—maybe even eliminating—their usefulness. Intelligence gathering of this scale was not possible when UNCLOS was negotiated, and the strategic and legal implications were not accounted for in the compromise struck by the states party to the agreement.

UNCLOS sets out the basic rules governing the use by states of the ocean, including where ships (including UMVs)[3] are permitted to go, what they are allowed to do when they are there, and how other states may respond to them. It does this by dividing the ocean into different zones with different balances of rights and obligations between coastal states and other states. Consequently, the relevant rules depend on the jurisdictional zone where a UMV is deployed.

Other than internal waters, the zone of ocean closest to the coast—the territorial sea—is the area of maximum coastal state control. UNCLOS provides that states have the right to a territorial sea up to 12 nautical miles from the coastal baseline.[4] The coastal state has territorial sovereignty over this area and its use by other states is tightly constrained. Beyond the territorial sea is the EEZ, an area that extends up to 200 nautical miles from the coastal baseline.[5] In the EEZ the coastal state has specific sovereign rights enumerated in UNCLOS, but not absolute territorial sovereignty. Finally, beyond the EEZ is the high seas, an area open to all states on an equal basis. The rules covering maritime surveillance by state vessels on the high seas and in territorial waters are generally accepted: all states are permitted to carry out surveillance activities on the high seas, and only coastal states are permitted to conduct surveillance within their territorial waters. It is the middle zone—the EEZ—where surveillance is most controversial.

Military activities in the EEZ have been controversial since the zone was first formalized in international law. It was a compromise between maritime powers and coastal states, and part of the "package deal" of UNCLOS[6] that recognized the rights of coastal states to economic resources within the EEZ, while still protecting (to at

2. Robert FARLEY, "Navy of The Future: Submarines Could Soon Become Underwater Drone Motherships" *The National Interest* (30 October 2019), online: The National Interest <https://nationalinterest.org/blog/buzz/navy-future-submarines-could-soon-become-underwater-drone-motherships-92091>.

3. See Simon MCKENZIE, "When Is a Ship a Ship? Use by State Armed Forces of Un-crewed Maritime Vehicles and the United Nations Convention on the Law of the Sea" (2020) 21 Melbourne Journal of International Law, forthcoming.

4. *UNCLOS*, *supra* note 1 at art. 3.

5. *Ibid*., at art. 57.

6. Rolf Einar FIFE, "Obligations of 'Due Regard' in the Exclusive Economic Zone: Their Context, Purpose and State Practice" (2019) 34 International Journal of Marine and Coastal Law 43 at 53.

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least some extent) the access of other states to the area for non-economic purposes. The negotiated solution found in the text of UNCLOS does not deal explicitly with military activities, leaving room for different interpretations. It has resulted in several diplomatic and military confrontations between some of the world's leading powers, and has been the subject of much academic debate.

The central point of contention is the extent to which UNCLOS permits other states to carry out military activities, including surveillance, within the EEZ of a coastal state. The stakes are high: while some see military activities as being an unacceptable threat to the sovereignty of a coastal state, others see them as ensuring and protecting maritime trade and undersea cables, and crucially important to the global economy and global security.[7]

The argument that surveillance is not permitted in the EEZ is usually made on one of the following grounds. First, it is argued by some that military maritime surveillance is a form of marine scientific research [MSR] and therefore falls under the exclusive jurisdiction of the coastal state. This would mean that other states would need the consent of the coastal state to carry out surveillance. Second, it is argued that, even if maritime surveillance is not MSR, it is not covered by the freedom of navigation of other states in the EEZ and therefore is not permitted.

Along with arguing that these two arguments should be rejected, this paper identifies some capabilities that UMVs should be equipped with to minimize the risk of legal conflict. In particular, because the legality of the surveillance is dependent on the military purpose of the surveillance (rather than the specific information collected), ensuring surveillance UMVs can communicate that they are a naval vessel belonging to a state, and the military purpose of their information collection, will help demonstrate that their use is lawful.

Accepting that military activities, including maritime surveillance, are permitted in the EEZ does not mean the military surveillance activities of other states are unconstrained. UNCLOS requires other states to have "due regard" to the interests of coastal states in the EEZ.[8] This means that if states intend to deploy UMVs for military maritime surveillance they are obliged to assess whether it could affect the economic and environmental interests of the coastal state in the EEZ. The paper explains how due regard—requiring consideration of the interests of the other state, and ideally consultation and negotiation—is hard to square with the secret nature of surveillance. This is particularly the case with new technology, where the

7. Wolff HEINTSCHEL VON HEINEGG, "Military Activities in the Exclusive Economic Zone" (2014) 47 Belgian Review of International Law 45 at 46.

8. The obligation of due regard will apply to a wider range of devices than just those involved in military maritime surveillance. However, this paper focuses on UMVs used for this activity in order to consider their use for this specific purpose. There have been other papers that explore other aspects of the due regard obligation and its interpretation, including Ioannis PREZAS, "Foreign Military Activities in the Exclusive Economic Zone: Remarks on the Applicability and Scope of the Reciprocal 'Due Regard' Duties of Coastal and Third States" (2019) 34 International Journal of Marine and Coastal Law 97; Shotaro HAMAMOTO, "The Genesis of the 'Due Regard' Obligations in the United Nations Convention on the Law of the Sea" (2019) 34 International Journal of Marine and Coastal Law 7; Mathias FORTEAU, "The Legal Nature and Content of 'Due Regard' Obligations in Recent International Case Law" (2019) 34 International Journal of Marine and Coastal Law 25; Fife, *supra* note 6.

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environmental and economic impacts are less clear, raising the stakes of a lack of transparency. Again, this analysis helps identify UMV capabilities that will help in reducing the risk of conflict.

While the contours of this legal dispute about military activities in the EEZ is unlikely to be significantly affected by the use of UMVs, there are some complications with deploying them lawfully. This paper illustrates the importance of equipping UMVs with the capacity to communicate something about their status as a military device and, at least to some extent, the purpose of their mission. It also shows that devices that are limited in their situational awareness and are unable to change their operation in response to their environment will less likely be able to fulfil the key obligation of "due regard", illustrating the challenge of dynamic legal obligations that are determined by their context. Being uncrewed means they are without the communication and decision-making backstop available to crewed maritime vessels.

This paper contributes to the emerging scholarship analyzing how the use of UMVs is governed by the law of the sea. Others have written on whether or not they fall within the definition of "ship" in UNCLOS and have access to the ensuing navigational rights.[9] Following the approach taken by the majority of scholars, this paper proceeds on the basis that a UMV can be classified as a "ship" if the flag state determines that this is appropriate. Where the flag state does not classify the device as a ship, or the device is not a part of another ship whose status it shares,[10] it will not have access to the same range of navigation in the territorial sea of coastal states as a ship would have.[11] While addressing how the legal regime applies to UMVs that are not ships is beyond the scope of this paper, it should be noted that the application of the provisions discussed do not turn on whether or not a UMV is a ship. They relate to the definition of MSR, whether carrying out military surveillance in the EEZ of another state is lawful, and if so, the obligations that accompany a decision to carry out a surveillance mission.

I. UMVS WILL SIGNIFICANTLY INCREASE THE MARITIME SURVEILLANCE CAPACITY OF STATES

Keeping watch over the vast expanse of the ocean is expensive and difficult. The capacity of states with a lengthy coastline to maintain surveillance over maritime

9. See for example, McKenzie, *supra* note 3; Robert VEAL and Henrik M. RINGBOM, "Unmanned Ships and the International Regulatory Framework" (2017) 23 Journal of International Maritime Law 100; Robert VEAL, Michael TSIMPLIS, and Andrew SERDY, "The Legal Status and Operation of Unmanned Maritime Vehicles" (2019) 50 Ocean Development and International Law 23; Michael N. SCHMITT and David S. GODDARD, "International Law and the Military Use of Unmanned Maritime Systems" (2016) 98 International Review of the Red Cross 567; Andrew NORRIS, *Legal Issues Relating to Unmanned Maritime Systems Monograph* (Newport, RI: U.S. Naval War College, 2013).

10. Norris, *supra* note 9 at 23; Robert MCLAUGHLIN, "Unmanned Naval Vehicles and the Law of Naval Warfare" in Hitoshi NASU and Robert MCLAUGHLIN, eds., *New Technologies and the Law of Armed Conflict* (The Hague: T.M.C. Asser Press, 2014), 229 at 238.

11. See Hitoshi NASU and David LETTS, "The Legal Characterization of Lethal Autonomous Maritime Systems: Warship, Torpedo, or Naval Mine?" (2020) 96 International Law Studies 79 at 93.

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territories is limited. For example, Australia currently manages its territorial waters by using crewed surveillance aircraft to cover large areas, with crewed surface vessels providing on-water support if something is sighted that requires further examination or interception.[12] The costs of purchasing (or renting) and operating the aircraft and ships necessary are significant. Furthermore, the number and scale of the surveillance operations are necessarily limited by the people available to crew the aircraft and vessels. These limitations make this strategy generally unsuitable for comprehensive and continuous surveillance.[13] The same is true for surveillance on the high seas, or in the EEZs of other states: the size of the ocean makes it basically impossible for crewed ships to provide anything approaching a comprehensive overview of what is happening on and in the ocean.

The strategic value in having a better picture of what is happening in the maritime domain has led states to invest in a more diverse range of surveillance assets, including UMVs.[14] The development of UMVs and uncrewed aerial vehicles [UAVs] has the potential to make it much easier to know much more about what is happening at sea.[15] Coastal states have much to gain from the use of UMVs for surveillance as it would make it substantially easier to monitor their ocean territories. In 2016, the Australian Strategic Policy Institute laid out a vision for a future surveillance network where UMVs were used in conjunction with crewed surface and air assets as part of a "surveillance ecosystem".[16] The paper imagined a future where Australia's ocean territories were subject to persistent surveillance:

> [A] net of several hundred solar- and wave-powered [UMVs] stretch across Australia's northern approaches. Those highly autonomous surface vessels communicate and coordinate their movements to stay on station or move out of the way of passing vessels. Every day, the UMVs' sensors detect and monitor dozens of ships entering and exiting Australian territory.[17]

The researchers proposed that the data gathered by these devices could be filtered and analyzed in a central facility allowing for the creation of a "detailed and up to date operating picture".[18] It would help to ensure that the "more sophisticated and expensive assets are deployed in respect to only the most serious of incidents, or when their capabilities make them indispensable".[19] This vision has been taken up by the Australian government, and in 2018 the Minister of Home Affairs set out his ambition of "[d]rones prowling Australia's far flung ocean boundaries [and] undersea

12. James MUGG, Zoe HAWKINS, and John COYNE, *Australian Border Security and Unmanned Maritime Vehicles* (Canberra: Australian Strategic Policy Institute, 2016) at 12–16.
13. *Ibid*.
14. *Ibid*., at 6–8.
15. *Ibid*.
16. *Ibid*., at 19.
17. James MUGG and Zoe HAWKINS, "Securing Australia's Oceans: The Case for Unmanned Maritime Vehicles" *The Strategist* (13 July 2016), online: The Strategist <https://www.aspistrategist.org.au/securing-australias-oceans-case-unmanned-maritime-vehicles/>.
18. *Ibid*.
19. *Ibid*.

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sensors monitoring shipping movements around our coastlines" to "secure Australia's vast ocean borders against future threats".[20]

Of course, it is not only coastal states that are thinking about how UMVs can be used to achieve strategic ends at sea. Maritime powers are also planning to use UMVs for the surveillance of waters beyond their ocean territories.[21] The benefits of underwater UMVs in denied-area intelligence, surveillance, and reconnaissance [ISR] are clear. With no one on board, they are substantially safer (and cheaper) for states to deploy.[22] The use of UMVs for these purposes may not be limited to major maritime powers: it has also been suggested that small states would benefit from the use of low-cost uncrewed systems for countering threats, aggressive actions, and ISR.[23]

UMVs encompass a broad range of technology. They can operate on or below the surface; and they can be remotely controlled, pre-programmed, or have the capacity for at least some autonomous operation. The nature and capacities of each device will depend on its mission and purpose. The likely sensor payloads of UMVs include sonar (used underwater) and radar (used above water) for object detection and identification, environmental sensors for measuring ocean conditions, and light and optical sensors for laser mapping and video feeds.[24]

An example of a UMV at the larger and more complex end of the spectrum is the US anti-submarine UMV called "Sea Hunter". The 2019 prototype of this vessel is 40m long, has a top speed of 27 knots, and is designed to detect and track submarines until they can be intercepted or destroyed by a friendly vessel.[25] Devices such as these are being designed to assist with combat rather than pure surveillance and show the ambitions of the supporters of this technology. Some analysts go so far as to predict

20. Peter DUTTON, "Securing Australia's Borders for the Future" *Minister for Home Affairs* (29 October 2018), online: MHA <https://minister.homeaffairs.gov.au/peterdutton/Pages/Securing-Australia's-borders-for-the-future.aspx>. There are doubts, however, about the government's commitment to this proposal: Andrew TILLETT, "Clouds Gather over Dutton's Plan for Eyes in the Sky" *Australian Financial Review* (28 February 2020), online: Australian Financial Review <https://www.afr.com/politics/federal/clouds-gather-over-dutton-s-plan-for-eyes-in-the-sky-20200227-p544th>.

21. The US is the most prominent example of this: David B. LARTER, "The US Navy Is Spending Millions Plotting the Drone-Enabled Fleet of 2045" *Defense News* (13 February 2020), online: Defense News <https://www.defensenews.com/naval/2020/02/13/the-us-navy-is-spending-millions-plotting-the-drone-enabled-fleet-of-2045/>.

22. It should be noted that, given the potential for an espionage mission in foreign territory to face unforeseen situations, a UMV carrying out this kind of a mission would require a level of cognition, learning, and capacity to react to unexpected circumstances that is, at the very least, many years away: Bradley MARTIN, Danielle C. TARRAF, Thomas C. WHITMORE, Jacob DEWEESE, Cedric KENNEY, Jon SCHMID, and Paul DELUCA, "Advancing Autonomous Systems: An Analysis of Current and Future Technology for Unmanned Maritime Vehicles" *RAND Corporation* (2019), online: RAND Corporation <https://www.rand.org/pubs/research_reports/RR2751.html> at 35.

23. Scott SAVITZ, "Small States Can Use Naval Mines and Unmanned Vehicles to Deter Maritime Aggression" *Real Clear Defense* (16 July 2018), online: Real Clear Defense <https://www.realcleardefense.com/articles/2018/07/16/naval_mines_and_unmanned_vehicles_for_maritime_deterrence_113609.html>.

24. Martin et al., *supra* note 22 at 17.

25. Along with the US, the UK has also sought to invest in large UMVs for naval combat: H.I. SUTTON, "Royal Navy to Get First Large Autonomous Submarine" *Forbes* (5 March 2020), online: Forbes <https://www.forbes.com/sites/hisutton/2020/03/05/royal-navy-to-get-first-large-autonomous-submarine/#75bfa4521f0b>.

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that "fully autonomous" UMVs with "global range, extended time at station, and sophisticated sensor and weapons capabilities are likely by the mid-2030s".[26] This would—at least in theory—allow for states to carry out surveillance, and maybe even project force into contested maritime environments, without risk to military personnel.[27]

The devices used primarily for surveillance are likely to be smaller and less complicated than those designed for combat missions. The development of these devices is already well under way. Most prominently, Liquid Robotics' Wave Gliders are about three metres long and travel at an average speed of 1.3 knots. They are powered using wave motion and are designed for persistent surveillance to detect submarines or surface vessels, as reconnaissance, and as a communications gateway.[28] It is evident that wave gliders like those produced by Liquid Robotics will be an important part of any new surveillance system as they provide substantial advantages for long-term surveillance. A 2019 Canadian study found that:

> It is believed that no platform lends itself so well to persistent surveillance with high autonomy as sonar-equipped wave gliders. None meets capability requirements so well —for multi-month persistence, ease of deployment and recovery from port or ship, for near real time communications (for monitoring and re-tasking), and for absence of anchor and cabling, to cite a few key requirements.
>
> Most importantly for extended use in home waters, no other class of autonomous maritime platforms afford equally high autonomy and independence with such low liabilities of operation owing to the wave glider's combination of light weight, slow relentless speed, its few moving parts, and the absence of combustible, spillable fuels. Low liability is paramount for the distant operation of autonomous systems outside of combat.[29]

The use of UMVs might also allow private companies to be more involved in military maritime surveillance than in the past. This kind of surveillance is already outsourced by some coastal states,[30] and with the use of UMVs the volume of data being produced will be such as to require a substantial capacity for sorting and analysis.[31]

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26. Malcolm DAVIS, "Autonomous Military and Naval Logic Gains Life of Its Own" *The Australian* (8 October 2019), online: The Australian <https://www.theaustralian.com.au/nation/defence/autonomous-military-and-naval-logic-gains-life-of-its-own/news-story/3fe066cfcabbfbaf3dbc904be7ab37a5>.
27. *Ibid*.
28. "The Wave Glider: How It Works", *Liquid Robotics* (2020), online: Liquid Robotics <https://www.liquid-robotics.com/wave-glider/how-it-works/>.
29. Ronald KESSEL, Craig HAMM, and Martin TAILLEFER, "Persistent Maritime Surveillance Against Underwater Contacts Using a Wave Gliders: Fleet Composition and Effectiveness", Maritime Situational Awareness Workshop, NATO Center for Maritime Research and Experimentation, Conference Paper, 8–10 October 2019, at 6.
30. The maritime aerial surveillance of Australia's EEZ is carried out by a private company: "Airborne Surveillance: What We Do" *Cobham Aviation Services* (2020), online: Cobham <https://www.cobham.com.au/what-we-do/surveillance>. See also "SRT 'Ensuring Bahrain Is Protected by a Ring of Steel'" *SRT Marine Systems* (1 November 2019), online: SRT <https://srt-marine.com/srt-takes-part-in-bidec-2019-2/>; "Coastal Surveillance" *Kongsberg* (2020), online: Kongsberg <https://www.kongsberg.com/kda/about-us/knc-systems/knc-coastal-surveillance/>; "Elbit Systems Commenced the Operation of the Maritime UAS Patrol Service to European Union Countries" *Elbit Systems* (18 June 2019), online: Elbit Systems <https://elbitsystems.com/pr-new/elbit-systems-commenced-the-operation-of-the-maritime-uas-patrol-service-to-european-union-countries/>.
31. For example, see Dominik FILIPIAK, Milena STRÓŻYNA, Krzysztof WĘCEL, and Witold ABRAMOWICZ, "Big Data for Anomaly Detection in Maritime Surveillance: Spatial AIS Data

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The value in the analysis can come both from what the data reveal about the strategic situation at sea, but also by allowing for the creation of a rich dataset for better understanding the ocean, and possibly to inform machine-learning programs. The creation of datasets has real economic value in increasing the capacity of data analysis systems to recognize patterns and identify objects, and there may be other ways that the data have value for commercial interests. This may further have an impact on the application of the law.

It is unclear how far along this trajectory we are. Given that the value of surveillance missions often lies in them not being detected, the difficulty in getting accurate information about how states carry out intelligence gathering at sea is unsurprising.[32] However, some information can be gleaned from public records. For example, there have been public reports discussing the new investments the U.S. Department of Defense is making into UMVs for surveillance activities.[33] It has also been reported that China has deployed underwater wave gliders, capable of operating independently for months, in the Indian Ocean. These devices are reportedly measuring oceanographic data including temperature, salinity, turbidity, chlorophyll, and oxygen levels.[34] As the use of these devices becomes more widespread, major maritime powers will know an unprecedented amount of real-time information about what is happening on and under the surface of the ocean. But is the law capable of resolving disputes between coastal states and other states regarding the use of UMVs? How will the obligations in UNCLOS constrain the design of surveillance UMVs?

II. THE REGULATION OF SURVEILLANCE IN THE EEZ

A. *States Disagree about Whether the Military Activities of Other States Are Permitted in the EEZ*

The EEZ is subject to a specific legal regime provided by UNCLOS.[35] The EEZ regime preserves and protects the natural resources of the area for the benefit of the coastal state. It has its origins in a struggle in the mid-twentieth century between maritime powers and coastal states over economic resources in the areas adjacent to territorial seas.[36] After the US claimed sovereignty in 1945 over the natural resources in the sea

Analysis for Tankers" (2018) 215 Scientific Journal of Polish Naval Academy 5; Giuliana PALLOTTA, Michele VESPE, and Karna BRYAN, "Vessel Pattern Knowledge Discovery from AIS Data: A Framework for Anomaly Detection and Route Prediction" (2013) 15 Entropy 2218.

32. James KRASKA, "Putting Your Head in the Tiger's Mouth: Submarine Espionage in Territorial Waters" (2015) 54 Columbia Journal of Transnational Law 164 at 192.

33. Martin et al., *supra* note 22 at 34–6.

34. H.I. SUTTON, "China Deployed 12 Underwater Drones in Indian Ocean" *Forbes* (22 March 2020), online: Forbes <https://www.forbes.com/sites/hisutton/2020/03/22/china-deployed-underwater-drones-in-indian-ocean/>.

35. *UNCLOS*, *supra* note 1 at art. 55.

36. See Alonso GURMENDI, "Customary International Law Symposium: 'Making Sense of Customary International Law' and Power Dynamics" *Opinio Juris* (7 July 2020) online: Opinio Juris <http://opiniojuris.org/2020/07/09/customary-international-law-symposium-making-sense-of-customary-international-law-and-power-dynamics/>.

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bed and subsoil of its continental shelf, several Latin American states made claims over extended maritime zones that included natural resources both under and within the sea.[37] This led to other states from around the world making similar claims, the purpose of which was to protect fishing stocks from distant-water fishing fleets that were mainly operated from the territories of maritime powers.[38] After lengthy and complicated negotiations at the Third United Nations Conference on the Law of the Sea in the 1970s and early 1980s, the parties arrived at the negotiated compromise reflected in the text of the UNCLOS treaty.[39]

There is no clear-cut solution as to what military activities UNCLOS permits in the EEZ. The treaty is silent about whether other states have the right to conduct military activities without notice in another state's EEZ.[40] The space created by this legal ambiguity allows states to justify their respective legal positions and the actions they take as a consequence of those positions. The lack of a conclusive interpretation (to the extent that such a thing is possible) means that states and scholars have arrived at radically different interpretations of the regime. While there are a few points of legal dispute, the main focus of the argument is the extent to which Article 58 of UNCLOS protects the freedom of other states to use EEZs for non-economic purposes. The US and China take opposite positions: the US taking a permissive approach to what activities are allowed in the EEZ,[41] and China pushing for a much more restrictive interpretation that is protective of the interests of coastal states.[42] This conflict has played out in several incidents where US surveillance vessels and aircraft carrying out activities within the Chinese EEZ were intercepted, harassed, or attacked by Chinese vessels and aircraft.[43] The various interpretative questions posed by this dispute are explored in detail later in Section D.

While the views and practice of states regarding military activities in the EEZ have been comprehensively covered by other scholars,[44] it is useful to give some sense of

37. Satya N. NANDAN and Shabtai ROSENNE, eds., *United Nations Convention on the Law of the Sea, 1982: A Commentary*, Vol. 2 (Dordrecht/Boston/London: Martinus Nijhoff Publishers, 1985) at 493–4.

38. *Ibid*., at 494.

39. *Ibid*., at 493–505.

40. Prezas, *supra* note 8.

41. See Ronald O'ROURKE, *Maritime Territorial and Exclusive Economic Zone (EEZ) Disputes Involving China: Issues for Congress* (Washington: Library of Congress—Congressional Research Service, 2014) at 20; Asaf LUBIN, "The Dragon-Kings' Restraint: Proposing a Compromise for the EEZ Surveillance Conundrum" (2018) 57 Washburn Law Journal 17 at 28–38; Brian WILSON, "An Avoidable Maritime Conflict: Disputes Regarding Military Activities in the Exclusive Economic Zone" (2010) 41 Journal of Maritime Law & Commerce 421 at 425–8.

42. Kraska, *supra* note 32 at 182; Moritaka HAYASHI, "Military Activities in the Exclusive Economic Zones of Foreign Coastal States" (2012) 27 International Journal of Marine and Coastal Law 795 at 795–6; Lubin, *supra* note 41 at 38–46; Wilson *supra* note 41 at 428–30.

43. Kraska, *supra* note 32 at 183.

44. See for example, Prezas, *supra* note 8; Heintschel von Heinegg, *supra* note 7; Hayashi, *supra* note 42; Kaiyan H. KAIKOBAD, "Non Consensual Aerial Surveillance in the Airspace over the Exclusive Economic Zone for Military and Defence Purposes" in Kaiyan H. KAIKOBAD and Michael BOHLANDER, eds., *International Law and Power: Perspectives on Legal Order and Justice—Essays in Honour of Colin Warbrick* (Leiden/Boston: Martinus Nijhoff Publishers, 2009) 513; Ivan SHEARER, "Military Activities in the Exclusive Economic Zone: The Case of Aerial Surveillance" (2003) 17 Ocean Yearbook Online 548; Boleslaw A. BOCZEK, "Peacetime Military

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the states that support the different positions. Many states have supported the permissive approach to military activities in the EEZ, including the Federal Republic of Germany, Italy, the Netherlands, and the UK.[45] Along with China, objections to the permissive approach have been raised by other coastal states to military activities in their EEZ, including Bangladesh, Brazil, Cape Verde, India, Malaysia, Pakistan, and Uruguay.[46] Some states have declared that it is necessary to obtain a coastal state's consent before undertaking military activities in their EEZ.[47] This conflict over interpretation of the rights in the EEZ has unsurprisingly resulted in much analysis and debate about how the rights and duties in the EEZ are divided between coastal states and other states.[48]

B. *The Provisions Distributing Rights and Responsibilities in the EEZ are Ambiguous*

The rights, jurisdiction, and duties of the coastal state in its EEZ are set out in Article 56(1) of UNCLOS. It provides that the coastal state has:

> [S]overeign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds[49]

In addition, it provides that the coastal state has jurisdiction with regard to "the establishment and use of artificial islands, installations and structures", "marine scientific research", the "prevention and preservation of the marine environment",[50] and "other rights and duties provided for in [UNCLOS]".[51]

The rights of coastal states are restricted by the rights and interests of other states. Article 56(2) provides that:

> In exercising its rights and performing its duties under this Convention in the exclusive economic zone, the coastal State shall have due regard to the rights and duties of

Activities in the Exclusive Economic Zone of Third Countries" (1988) 19 Ocean Development & International Law 445.

45. Heintschel von Heinegg, *supra* note 7 at 56–7.

46. Hayashi, *supra* note 42 at 796. For a comprehensive overview of the restrictive claims of coastal states, see Heintschel von Heinegg, *supra* note 7 at 49–53.

47. For example, upon Brazil's ratification of UNCLOS on 22 December 1998, Brazil made a declaration that "the provisions of the Convention do not authorize other States to carry out military exercises or manoeuvres, in particular those involving the use of weapons or explosives, in the Exclusive Economic Zone without the consent of the coastal State". See "Status of Treaties—United Nations Convention on the Law of the Sea" *United Nations Treaty Collection* (n.d.), online: UNTC <https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en>.

48. Kraska, *supra* note 32, at 183; Heintschel von Heinegg, *supra* note 7 at 45.

49. *UNCLOS*, *supra* note 1 at art. 56(1)(a).

50. *Ibid.*, at art. 56(1)(b).

51. *Ibid.*, at art. 56(1)(c).

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> other States and shall act in a manner compatible with the provisions of this Convention.[52]

The rights and duties of other states in the EEZ are set out in Article 58(1). It provides—in a long and complex sentence with many clauses—that:

> In the exclusive economic zone, all States, whether coastal or land-locked, 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]

It goes on to provide that Articles 88 to 115 of UNCLOS (provisions which set out the rights and obligations of all states in the high seas) and "other pertinent rules of international law" also apply in the EEZ "in so far as they are not incompatible" with the EEZ regime.[54] The reference to these provisions, along with Article 87 (which sets out the high seas freedoms of navigation, overflight, and the laying of submarine cables), embeds the freedom of the high seas into the EEZ.

The effect of Articles 87 and 88 more generally needs to be addressed directly. The rights of states on high seas are wide: the starting point is that they are "open to all States" to use for the purposes they see fit. However, there is no explicit reference in Article 87 of UNCLOS to a freedom to carry out military activities.[55] Article 88 reserves the high seas for peaceful purposes without defining what amounts to a "peaceful purpose". It is widely accepted that "peaceful purposes" in Article 88 encompass any conduct that does not breach the prohibition on the use of force in the UN Charter.[56] Other parts of UNCLOS have provisions which show that it was anticipated that military ships and vessels would be subject to UNCLOS. Article 19 provides the rules for innocent passage through the territorial sea of coastal states, including several activities that are unequivocally military activities.[57] Article 20 provides specific rules for submarines.[58] Article 29 provides a definition of warships.[59] These references to military activities—which are not the only ones in

52. *Ibid*., at art. 56(2).
53. *Ibid*., at art. 58(1).
54. *Ibid*., at art. 58(2).
55. Instead, there is explicit reference to the freedom of navigation; of overflight; to lay submarine cables and pipelines, subject to part VI; to construct artificial islands and other installation permitted under international law, subject to part VI; of fishing, subject to the conditions laid down in art. 87(2); and of scientific research, subject to parts VI and XIII. See *ibid*., at art. 87(1)(a)–(f).
56. Satya N. NANDAN and Shabtai ROSENNE, eds., *United Nations Convention on the Law of the Sea, 1982: A Commentary*, Vol. 3 (Dordrecht/Boston/London: Martinus Nijhoff Publishers, 1985) at 91; Prezas, *supra* note 8 at 113; Hayashi, *supra* note 42 at 799; Andrew S. WILLIAMS, "Aerial Reconnaissance by Military Aircraft in the Exclusive Economic Zone" in Peter A. DUTTON, ed., *Military Activities in the EEZ: A U.S.-China Dialogue on Security and International Law in the Maritime Commons* (Newport, RI: Naval War College Press, 2010), 49 at 58–9; Wilson, *supra* note 41 at 435–6.
57. See e.g. *UNCLOS*, *supra* note 1 at art. 19(2)(f).
58. *Ibid*., at art. 20.
59. *Ibid*., at art. 29.

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UNCLOS—would be unnecessary if they were prohibited on the high seas by its restriction in Article 88 to peaceful purposes. This is also supported by extensive state practice. Military activities, including surveillance, have occurred on the high seas for centuries.[60]

Continuing the disinclination of UNCLOS to deal with military activities explicitly, Article 58(1) does not mention military maritime surveillance, hydrographic survey, or other forms of military data collection. The key question for determining the lawfulness of such activity is whether surveillance and survey are "related" to the freedoms of navigation, overflight, or the laying of submarine cables and pipelines established by Article 87, and if so, if such activity is compatible with other provisions of UNCLOS (most importantly Article 56).

States are also subject to a due regard obligation in their use of another state's EEZ. Article 58(3) provides that:

> In exercising their rights and performing their duties under this Convention in the exclusive economic zone, States shall have due regard to the rights and duties of the coastal State and shall comply with the laws and regulations adopted by the coastal State in accordance with the provisions of this Convention and other rules of international law in so far as they are not incompatible with this Part.[61]

The operation of the reciprocal due regard obligations in Articles 57 and 58 is central to the question of what constraints a state faces when it is considering carrying out surveillance and survey activities in the EEZ of another state.

Also relevant is Article 59, which some commentators claim is a basis for residual security rights for coastal states.[62] It provides that:

> In cases where this Convention does not attribute rights or jurisdiction to the coastal States or to other States within the exclusive economic zone, and a conflict arises between the interests of the coastal States and any other State or States, the conflict should be resolved on the basis of equity and in the light of all the relevant circumstances, taking into account the respective importance of the interests involved to the parties as well as to the international community as a whole.[63]

While there was no formal discussion during the drafting of the provisions relating to the EEZ about whether military activities should be permitted, the tension over military activities was behind much of the negotiations.[64] Kaikobad's comprehensive account of the drafting of Article 58 shows that the outline of the debate was clear from the beginning. Coastal states would have some rights over the economic resources of the zone, and other states would retain some form of access. All of the preparatory documents and reports accepted that the rights of states to the freedom

60. Hayashi, *supra* note 42 at 799; Heintschel von Heinegg, *supra* note 7 at 60–3.

61. *UNCLOS*, *supra* note 1 at art. 58(3).

62. See for example, Sienho YEE, "Sketching the Debate on Military Activities in the EEZ: An Editorial Comment" (2010) 9 Chinese Journal of International Law 1 at 3–4.

63. *UNCLOS*, *supra* note 1 at art. 59.

64. Prezas, *supra* note 8 at 98.

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of navigation, overflight, and the laying of submarine cables and pipelines in all EEZs would be protected.[65]

The critical issue was how the freedoms of other states would interact with the economic rights of the coastal state. In particular, there was debate over how the "miscellaneous" activities other than the three freedoms (navigation, overflight, and laying submarine cables) should be regulated.[66] Some states proposed that other activities had to be lawful and linked to the core activities of navigation and communication;[67] others said that the miscellaneous rights should be "freestanding", and allow for any use of the EEZ as long as it was consistent with international law and the UN Charter.[68] There was concern that these freedoms were "vulnerable to abuse and were therefore in need of precise explication in order to obviate such abuse by the major maritime States".[69] While Kaikobad is willing to conclude from the drafting history that surveillance is not included in freedom of navigation, all that can be said with confidence is that military activities in the EEZ were controversial during the negotiation, and the solution arrived at in the final text of UNCLOS remains ambiguous.

C. *Maritime Military Surveillance Is Not "Marine Scientific Research" under UNCLOS*

The first legal question in relation to UMV surveillance that must be addressed is whether it falls within the jurisdiction of the coastal state under Article 56. As will be recalled, this Article provides coastal states with, *inter alia*, jurisdiction over MSR carried out in the coastal state's EEZ. If military survey and surveillance is encompassed by MSR, UNCLOS would require other states to obtain the consent of the coastal state before carrying out the operation in the EEZ.[70] Such a requirement would be a serious impediment to conducting a UMV surveillance mission in the EEZ of another state.

Part XIII of UNCLOS regulates MSR in some detail but does not provide a definition of the concept.[71] Using the contents of Part XIII to establish its meaning, Stephens and Rothwell define it as "any form of scientific investigation, fundamental or applied, concerned with the marine environment, i.e. that has the marine environment as its object".[72] It includes "physical oceanography, marine chemistry and biology, scientific ocean drilling and coring, geological and geophysical research, and

65. Kaikobad, *supra* note 44 at 523.
66. *Ibid*., at 530.
67. *Ibid*., at 528.
68. *Ibid*., at 530–1.
69. *Ibid*., at 540.
70. *UNCLOS*, *supra* note 1 at part XIII.
71. This is apparently because it was thought that what was included in the part "adequately gave meaning to the concept". See Tim STEPHENS and Donald ROTHWELL, "Marine Scientific Research" in Donald ROTHWELL, Alex OUDE ELFERINK, Karen SCOTT, and Tim STEPHENS, eds., *The Oxford Handbook of the Law of the Sea* (Oxford: Oxford University Press, 2015), 559 at 562.
72. *Ibid*.

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other activities that have a scientific purpose".[73] This describes at least some of the activities carried out during military surveillance operations. It does not, however, include research conducted at sea of non-marine environments (like atmospheric or astronomical observation), or research conducted from afar (like remote sensing from satellites).[74]

Some states—China being the most prominent example—argue that MSR encompasses all forms of maritime survey and surveillance. This view is backed up by some commentators, who argue that military marine data collection is one component of the general concept of MSR.[75] In support they point to several factors, including the similarity of the technology used to carry out military survey and scientific research, and the difficulty of knowing what sort of activities a device is undertaking.[76]

Others argue that, as UNCLOS differentiates between MSR and other forms of maritime data collection, these other forms of data collection are beyond the jurisdiction of a coastal state in its EEZ.[77] This argument is made on the basis that other provisions of UNCLOS—such as Articles 19(2), 21(1), and 40—refer to "survey activities" or "hydrographic surveys".[78] While there is no definition of any of these activities, the different phrases used to describe similar activities suggests that some distinction is being drawn between them. This allows MSR to be distinguished not just from hydrographic surveys and military surveys, but also surveillance, environmental monitoring, and meteorological data, as well as archaeological and historical investigations.[79] On this view, MSR is limited to resource-related surveying, reflecting that the rights of coastal states in their respective EEZs protect their economic, rather than security, interests.[80]

This approach prioritizes the intention for collecting the data, and what it will be used for, in assessing its legal category.[81] The distinction "lies in the application of the

73. *Ibid.*

74. *Ibid.*

75. Haiwen ZHANG, "Is It Safeguarding the Freedom of Navigation or Maritime Hegemony of the United States?—Comments on Raul (Pete) Pedrozo's Article on Military Activities in the EEZ" (2010) 9 Chinese Journal of International Law 31; see Prezas, *supra* note 8 at 101 for a more comprehensive overview of this argument. For a different approach to justifying coastal state jurisdiction over military surveying in the EEZ, see WU Jilu, "The Concept of Marine Scientific Research" in Peter A. DUTTON, ed., *Military Activities in the EEZ: A U.S.-China Dialogue on Security and International Law in the Maritime Commons* (Newport, RI: Naval War College Press, 2010), 65.

76. YU Zhirong, "Jurisprudential Analysis of the U.S. Navy's Military Surveys in the Exclusive Economic Zones of Coastal Countries" in Peter A. DUTTON, ed., *Military Activities in the EEZ: A U.S.-China Dialogue on Security and International Law in the Maritime Commons* (Newport, RI: Naval War College Press, 2010), 37 at 43; XUE Guifang (Julia), "Surveys and Research Activities in the EEZ: Issues and Prospects" in Peter A. DUTTON, ed., *Military Activities in the EEZ: A U.S.-China Dialogue on Security and International Law in the Maritime Commons* (Newport, RI: Naval War College Press, 2010), 89 at 100.

77. Raul (Pete) PEDROZO, "Military Activities in the Exclusive Economic Zone: East Asia Focus" (2014) 90 International Law Studies 514.

78. *Ibid.*, at 525–6; Heintschel von Heinegg, *supra* note 7 at 58.

79. Hayashi, *supra* note 42 at 797. See also Pedrozo, *supra* note 77 at 524–7.

80. Pedrozo, *supra* note 77 at 526.

81. Raul (Pete) PEDROZO, "Coastal State Jurisdiction over Marine Data Collection in the Exclusive Economic Zone: U.S. Views" in Peter A. DUTTON, ed., *Military Activities in the EEZ: A*

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data, and not in the process of the data gathering itself".[82] This makes the motivation of the data collection crucial for determining its lawfulness. While hydrographic and military surveying might collect information on the same natural phenomena, they tend to serve different purposes, such as improving the safety of navigation for naval vessels (in the case of the former) and strategic planning (in the case of the latter).[83] In addition, information collecting during military maritime surveillance is not publicly released and does not have the same value as a tradable commodity as mapping data obtained through other forms of maritime survey.[84]

Relying on the purpose for which the data is collected is not without problems.[85] It requires other states to trust the claims about the motive and purpose of the mission made by the vessel or the deploying state.[86] There is a fear it could allow any kind of MSR to be conducted under the name of hydrographic or military surveys in the EEZ without limitation, possibly leading to "the collapse of the Convention's regime on MSR".[87] This is particularly so as the scientific instruments used, and the nature of the data collected, are essentially the same in both cases.

The problem would be particularly acute with UMVs. The "intent" behind the operation of a UMV conducting information collection would be difficult to ascertain. There would be no on-board commander or crew who could be asked to provide further clarifications. There could be further complications if the devices are owned by private companies and leased to the government, or if the data that are collected are sorted and analyzed by a private company (as is the case with some other forms of surveillance craft and data).[88] In these cases, it might lead to suspicions that the surveillance was more of a joint venture to collect data useful for both military and economic purposes.

Regardless of these concerns, the better view is that MSR in UNCLOS is limited to environmental and economic research, not the military activity of maritime

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U.S.-China Dialogue on Security and International Law in the Maritime Commons (Newport, RI: Naval War College Press, 2010), 23 at 28–9; J. Ashley ROACH, "Marine Scientific Research and the New Law of the Sea" (1996) 27 Ocean Development & International Law 59 at 60–1; Emmanuella DOUSSIS, "Marine Scientific Research: Taking Stock and Looking Ahead" in Gemma ANDREONE, ed., *The Future of the Law of the Sea: Bridging Gaps Between National, Individual and Common Interests* (Cham: SpringerOpen, 2017), 87 at 99; Sam BATEMAN, "The Regime of the Exclusive Economic Zone: Military Activities and the Need for Compromise?" in Tafsir M. NDIAYE and Rüdiger WOLFRUM, eds., *Law of the Sea, Environmental Law and Settlement of Disputes: Liber Amicorum Judge Thomas A. Mensah* (Boston, MA: Martinus Nijhoff, 2007), 569 at 576–7.

82. Efthymios PAPASTAVRIDIS, "Intelligence Gathering in the Exclusive Economic Zone" (2017) 93 International Law Studies 446 at 452.

83. Stephens and Rothwell, *supra* note 71 at 571.

84. *Ibid*.

85. Hayashi, *supra* note 42 at 797.

86. *Ibid*., at 797–8.

87. *Ibid*., at 798; Zhang, *supra* note 75; Xue, *supra* note 76 at 100.

88. For example, Amazon Web Services provides a range of data storage and analytics services to the Australian Government. See Elouise FOWLER, "Government Signs on with Amazon in $39m Cloud Computing Deal" *Australian Financial Review* (27 June 2019), online: Australian Financial Review <https://www.afr.com/technology/government-signs-on-with-amazon-in-39m-cloud-computing-deal-20190627-p5210n>.

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surveillance. This best reflects the focus of the EEZ regime, on protecting the economic and environmental interests of the coastal state.[89]

Many states and international organizations have conducted military surveys in foreign EEZs, including Russia, Japan, Australia, South Africa, the UK, China, and NATO.[90] While some of the data that are collected might be the same as MSR, it makes sense to distinguish such data on the basis of their purpose. This is not an unusual situation: plenty of data are potentially useful for both commercial and security purposes. In addition, the concern that private companies might be more involved in the technology and the analysis of the data does not by itself justify a stricter interpretation of the rule. In cases where data are being collected to help with resource extraction, the application of the rule is clear. It would be MSR and under the jurisdiction of the coastal state. While subterfuge by a state acting in concert with commercial interests to collect these data would be challenging to detect, where it is detected, the coastal state would be well within its rights to complain and seek redress.

In conclusion, the purpose for which the information is collected is the main criterion distinguishing between MSR and other forms of maritime information collection. Consequently, military maritime surveillance which is conducted for military purposes will not fall within the exclusive jurisdiction of the coastal state. Any negative effects caused by the UMV surveillance on the exercise by the coastal state of its economic rights in its EEZ will not bring it within the jurisdiction of the coastal state, but might amount to a failure to conform to the obligation of due regard, a possibility that is discussed in detail below.

Distinguishing MSR from other forms of maritime survey on the basis of the purpose of the collection of data illustrates the importance of the UMV being able to communicate something about the mission it is carrying out and the state it is answerable to. Ensuring that those who come across the device understand that it is carrying out military maritime surveillance will help it communicate the legality of its mission. To this end, it should have clear markings indicating that the vessel belongs to the particular state's armed forces. This also means that, if states are considering outsourcing the data collection and analysis, they will have to ensure that the companies are not using the data collected in the EEZ of another state for their own commercial purposes. As discussed above, these commercial purposes might go beyond the exploitation of resources in that particular UMV, and might relate to the value of the data themselves for machine learning or other purposes.

D. *Military Surveillance is Covered by the Freedom of Navigation of Other States in the EEZ*

If we accept that military surveillance is not encompassed by MSR, the next question is whether it falls within the rights granted by Article 58 to all other states in the EEZ.

89. Papastavridis, *supra* note 82 at 452.

90. Heintschel von Heinegg, *supra* note 7 at 58–9; James KRASKA and Raul PEDROZO, *International Maritime Security Law* (Leiden: Martinus Nijhoff Publishers, 2013) at 270.

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As set out above, Article 58 provides all states with the rights of navigation and overflight in the EEZs of coastal states. While these rights clearly allow for ships and aircraft to transit through the EEZ of a coastal state, the activities they can carry out when in the foreign EEZ are not defined. The freedom exercisable by other states in the EEZ is more limited than the freedom they have in the open seas,[91] as state vessels, including any UMVs, must still comply with the EEZ regime.[92] It is unclear, however, whether the limitation imposed by the EEZ regime extends to prohibit all or some military activities.[93] The use of UMVs makes this issue more pressing given their potentially ubiquitous nature and their capacity to carry out a form of surveillance that was not possible before. Can it really be said, as per Article 58, that maritime surveillance for military purposes is an "internationally lawful use" of the sea "related to" the freedom of navigation?

1. *The permissive approach: the "freedom of navigation" covers military activities*

Those arguing that other states have a right to conduct military activities (including survey and surveillance) in the EEZs of coastal states generally claim that military activities are covered by the reference to "other internationally lawful uses of the sea related to [the] freedoms [of navigation and overflight]" in Article 58(1).[94] In order to show that this interpretation of Article 58(2) is consistent with the EEZ regime, these scholars argue that the rights of the coastal state must be understood in the light of the focus of the EEZ regime on economic and environmental interests.[95] Given this, they say it does not include the coastal state's political or military interest in controlling foreign military activity.[96] Most who accept this position allow a wide range of action to other states, holding that only the military activities in breach of the prohibition on the use of force in Article 2(4) of the UN Charter are prima facie unlawful.[97]

There are other features of UNCLOS that suggest that this interpretation should be preferred. The reference in Article 58(2) to Articles 88 to 115 could be read as expressly recognizing the legality of certain military activities in the EEZ.[98] These provisions allow for some military actions, including the right to visit (Article 110), responding to piracy (Articles 100–107) and the slave trade (Article 99), the

91. Daniel P. O'CONNELL, *The International Law of the Sea*, Vol. 1 (Oxford: Clarendon Press, 1982) at 577–8.

92. *Ibid*.

93. Tullio SCOVAZZI, "'Due Regard' Obligations, with Particular Emphasis on Fisheries in the Exclusive Economic Zone" (2019) 34 International Journal of Marine & Coastal Law 56 at 60.

94. Prezas, *supra* note 8 at 101–2; Papastavridis, *supra* note 82 at 471–2.

95. See for example, Papastavridis, *supra* note 82 at 453–4; Kraska, *supra* note 32 at 182; Shearer, *supra* note 44 at 561. See Kaikobad, *supra* note 44 at 517–18 for a compelling description of the different scholarly positions.

96. Prezas, *supra* note 8 at 102–3. See also Bernard H. OXMAN, "The Regime of Warships Under the United Nations Convention on the Law of the Sea" (1984) 24 Virginia Journal of International Law 809 at 838.

97. Heintschel von Heinegg, *supra* note 7 at 54.

98. *Ibid*., at 55.

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suppression of unauthorized broadcasting (Article 109), and the right to hot pursuit (Article 111).[99] There would be no need to refer to these provisions if they were not permitted at all within the EEZ. Furthermore, contrasting the rules relating to innocent passage with the rights provided to other states in the EEZ regime suggests that the latter includes military activities. While Article 19(2) specifically sets out a variety of military exercises—including firing weapons or carrying out research or survey activities and collecting information—as being contrary to innocent passage, there is no similar provision in the EEZ regime.[100]

A range of subsidiary arguments in support of this position have also been put forward, including that the customary international law position has been incorporated into the regime[101] or that, regardless of Article 58, military activities would be permitted by Article 59.[102]

2. *The restrictive approach: the rights of other states in foreign EEZs are substantially more limited than their rights on the high seas*

The most restrictive reading of the EEZ regime holds that all military activity in the EEZ requires the consent of the coastal state.[103] Just as with the arguments in favour of the permissive approach, scholars offer several different rationales for this position. Some argue that coastal states have residual rights in the EEZ, including exclusive jurisdiction over military activities[104] on the basis of a "security interest" protected by Article 59 of the Convention.[105] Others rely on other parts of UNCLOS. For example, Gao Zhiguo argues that conducting military activities in the EEZ is contrary to the reservation of the ocean for peaceful purposes (Article 88 of UNLOS) because it constitutes "military and battlefield preparation in nature" and is a "threat of force" against the coastal state.[106] For the reasons discussed above, these arguments are not persuasive: the reservation of the high seas for peaceful purposes in Article 88 does not prohibit all military activities. The EEZ regime encompasses at least some

99. *Ibid*.

100. Prezas, *supra* note 8 at 101.

101. Heintschel von Heinegg, *supra* note 7 at 55–6.

102. Prezas, *supra* note 8 at 102–3.

103. For example, upon Brazil's signature of UNCLOS on 10 December 1982, Brazil made a declaration that "[t]he Brazilian Government understands that the provisions of the Convention do not authorize other States to carry out in the exclusive economic zone military exercises or manoeuvres, in particular those that imply the use of weapons or explosives, without the consent of the coastal State", confirmed upon ratification of UNCLOS (22 August 1988): see "Status of Treaties—United Nations Convention on the Law of the Sea" *United Nations Treaty Collection* (n.d.), online: UNTC <https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en>.

104. Prezas, *supra* note 8 at 102.

105. Yee, *supra* note 62; LI Guangyi, WAN Binhua, and ZHU Hongjie, "On the Rights and Obligations of Military Activities in the Exclusive Economic Zone" (2011) 2011 China Oceans Law Review 148.

106. Zhiguo GAO, "China and the Law of the Sea" in Myron H. NORDQUIST, Tommy KOH, and John Norton MOORE, eds., *Freedom of Seas, Passage Rights and the 1982 Law of the Sea Convention* (Boston, MA: Martinus Nijhoff Publishers, 2009), 265 at 293–4.

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military activities; the question is the extent to which military surveillance, and military activities more generally, are constrained.

A plain reading of the text—particularly the final clauses of Article 58(1)—does seem to suggest that the high seas freedoms of other states are limited by more than just Article 56.[107] These clauses say that it is only the high seas freedoms related to the freedoms of navigation, overflight, and the laying of submarine cables. Much can be made of the requirement of "relatedness". Kaikobad says it requires an activity to be linked to the "precise right in question" and to have "characteristics which are consistent with activities dealing with the operation of ships and aircraft".[108] He argues that aerial surveillance does not fall into this category: the flight over the EEZ is not carried out for its own sake, but is rather as a means to an end—the surveillance.[109] It is more than just an "on-board activity" incidental to overflight within the EEZ;[110] it is in fact "integral" to the overflight as "one would not and could not have taken place without the other".[111] As aerial surveillance is not sufficiently linked to the freedom of navigation and overflight, it is not permitted by Article 58.[112] The same would hold for surveillance by a UMV, particularly where the device has no other purpose other than the collection of data at sea.

Kaikobad's careful reading of the provision and his conclusion in regard to surveillance is in some ways persuasive. It gives the final clause of Article 58 real work to do, and it is not precluded by the drafting history. There are forms of surveillance that are very difficult to see as being "related" to navigation: for example, imagine a fleet of small wave glider UMVs that maintain a perpetual presence in the EEZ of another state. While they would be constantly moving—so in some sense, always navigating—this activity seems qualitatively different from other navigational activities, such as a warship travelling to another destination.

Nevertheless, it should not be accepted. The difficulty is that Kaikobad's position effectively treats the only valid purpose of navigation or overflight as being limited to travelling from one location to another. That is, the purpose of moving through the EEZ is the movement itself, rather than something else—like surveillance. Given that other provisions of UNCLOS specifically require the activities of a ship or vessel while navigating through the territorial waters of another state to be only about the transit, it would be inappropriate to apply those same restrictions to a different zone of the ocean.[113] The right of innocent passage requires the passage to be "continuous and expeditious" and not prejudicial to the "peace, good order or security" of the coastal state.[114] Archipelagic sea lane passage also requires the passage to

107. See for example, O'Connell, *supra* note 91 at 577–8.
108. Kaikobad, *supra* note 44 at 519.
109. *Ibid*., at 519–20.
110. *Ibid*., at 521.
111. *Ibid*.
112. *Ibid*., at 553–4.
113. Scovazzi, *supra* note 93 at 61.
114. *UNCLOS*, *supra* note 1 at arts. 18(2), 19(1).

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be "continuous and expeditious".[115] The right given in Article 58 is plainly broader than these passage rights.

Once it is accepted that the right to navigation encompasses more than just transiting through an area it becomes harder to determine what forms (and purposes) of navigation are permitted. This is particularly so as the freedoms in the high seas as set out in Article 87 do not specifically mention military activities at all. For the reasons discussed above, this suggests that it must be included in one of the listed freedoms (not to mention state practice after UNCLOS came into effect). Navigation seems like the best candidate: it refers to the right to go to a place. The right to navigate does not say anything about what a ship can do when it is in a part of the ocean —but there are plenty of other parts of UNCLOS that do constrain a ship's activity. Given this, the better view is that the rights provided to all states in Article 58 are wide enough to encompass surveillance in the EEZ, including surveillance by UMVs.

3. The expansive use of UMVs is likely to solidify the permissive approach

The permissive approach is more persuasive: Article 56 makes it clear that the rights of the coastal state are primarily economic rights that are for the purpose of discovering and using natural resources within the EEZ. The extent of coastal states' rights over the establishment and use of artificial islands, installations and structures, marine scientific research, and the marine environment should be understood in this context.

This question may in the end be a moot point. There are indications that the position taken by some states—particularly China—may not be static as the maritime balance of power changes.[116] It is evident that China has been expanding its capacity for maritime mapping and surveillance, and its surveillance ships have been sighted off Japan, Guam, Hawaii, and Alaska.[117] More recently, China entered the EEZ of Papua New Guinea to carry out what appeared to be oceanographic surveying quite close to a naval base being upgraded by Australia and the US on Manus Island.[118] It was reported that senior US and Australian defence officials acknowledged that the surveying activity was "entirely lawful" but that they believed the "civilian ships [were] also gathering invaluable data for future defence operations".[119]

While it is too early to say, it may be that as UMVs become cheaper and more accessible to a wider range of states—particularly compared to past maritime surveillance vessels—surveillance in the EEZ of other states may become uncontroversial.

115. *UNCLOS*, *supra* note 1 at art. 53(1).

116. Kraska, *supra* note 32 at 184.

117. Euan GRAHAM, "China's Naval Surveillance off Australia: Good News and Bad" *The Interpreter* (24 July 2017), online: The Interpreter <https://www.lowyinstitute.org/the-interpreter/china-s-naval-surveillance-australia-good-news-and-bad>. See also, Office of the Secretary of Defense, "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2018" *Department of Defense* (16 May 2018), online: Department of Defense <https://media.defense.gov/2018/Aug/16/2001955282/-1/-1/1/2018-CHINA-MILITARY-POWER-REPORT.PDF> at 67–9.

118. Andrew GREENE, "Chinese Surveillance Near PNG Expanding as Australia and US Begin Manus Island Naval Upgrades" *ABC News* (21 April 2019), online: ABC News <https://www.abc.net.au/news/2019-04-21/china-increases-surveillance-near-png/11028192>.

119. *Ibid*.

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The increasing capacity of China to carry out military survey and surveillance activities[120] is perhaps why the conflict between the US and China over US maritime survey activities in the Chinese EEZ appears to have decreased in recent years.[121] However, caution is required before drawing any firm conclusions: the stated position of China regarding surveillance in the EEZ has not changed, and, given that it is generally secret, the information about current military maritime surveillance activities that is publicly available is very limited.

4. *The relevance of Article 59 is limited*

Given that it is used by those in favour of both the permissive and restrictive approaches to support their position, it is necessary to briefly discuss the operation of Article 59. As set out above, this provision establishes how conflicts between the coastal state and other states should be resolved where UNCLOS does not attribute rights or jurisdiction either to the coastal state or to other states. It provides that, where this occurs, it should be "resolved on the basis of equity and in light of all the relevant circumstances", taking account of "the respective importance of the interests involved to the parties as well as to the international community as a whole".[122] If, as this paper argues, it is accepted that Article 58 allows for military activities in the EEZs of other states, Article 59 will not be applicable, as the right (or freedom in this case) will have been attributed by Article 58.[123]

If the jurisdiction or right to conduct military activities in the EEZ is not covered by either Articles 56 or 58, there may be a role for Article 59. However, regardless of whether Article 59 is taken to recognize that the coastal state has a residual security interest in the EEZ, or conversely that other states are able to conduct military activities in the EEZ, it leaves us in a similar position in requiring the conflict to be resolved on an equitable basis.

Article 59 does not support the claim that the coastal state (or other states) have exclusive jurisdiction over military activities in the EEZ,[124] that any security interest of the coastal state should be prioritized over other interests,[125] or vice versa. A coastal state would not be able to prohibit or require prior consent to military activities in its EEZ, but rather any conflict between the interests of the coastal state and other states would have to be resolved as per the vague terms of Article 59.[126] It

120. It should be noted that China has been carrying out military activities in foreign EEZs for quite a long time. See Pedrozo, *supra* note 81 at 31–2.

121. However, it should be noted that, while there is ongoing tension between the China and US over activities at sea, it has been about other issues. See Andrew GREENE, "China has 'Won Control' of the South China Sea. Now we Wait for Beijing's Next Move" *ABC News* (26 July 2020), online: ABC News <https://www.abc.net.au/news/2020-07-26/china-has-control-south-china-sea-australia-confrontation/12491366>.

122. *UNCLOS*, *supra* note 1 at art. 59.

123. Prezas, *supra* note 8 at 104.

124. Oxman, *supra* note 96 at 838.

125. Prezas, *supra* note 8 at 103.

126. *Ibid*.

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seems that this would require a context-specific assessment of the particular military activity in question.[127]

III. THE OBLIGATION OF DUE REGARD AND SURVEILLANCE BY UMVS

Accepting that military surveillance by other states is permissible in the EEZ of foreign states does not mean that those activities are unconstrained. Other states must have due regard to the right and obligations of coastal states in the EEZ.[128] This requires—at the very least—them to be "cognisant" of the interests of coastal states.[129] The duty of due regard aims "to balance the exercise of the respective rights of different natures attributed to the coastal state and [other] states by the Convention".[130] It is the main restriction on the use of surveillance UMVs in the EEZ of a foreign state, and unpacking what is required by the obligation is key to understanding how UMVs can be used and what capabilities they will need to operate lawfully.

The principle of due regard is not unique to the EEZ regime. It is one of the "great organizing principles of the law of the sea",[131] allowing for the "accommodation of competing interests" by balancing states' freedom of action with the necessity for self-restraint.[132] States must balance their own freedom of action and claims of jurisdiction against the freedoms and claims of others.[133] While the obligation of due regard arises in multiple parts of UNCLOS, the circumstances in which it is triggered depend on the specific provisions being applied. In the case of the EEZ, it is (again) Articles 56 and 58 that are key. Article 56(2) requires that the coastal state "shall have due regard to the rights and duties of other States" when exercising its rights in the EEZ.[134] Similarly, for all other states operating in the EEZ of a coastal state, Article 58(3)

127. Fife, *supra* note 6 at 47.

128. This obligation extends to apply to the conduct of naval exercises: James S. KRASKA, "Resources Rights and Environmental Protection in the Exclusive Economic Zone: The Functional Approach to Naval Operations" in Peter A. DUTTON, ed., *Military Activities in the EEZ: A U.S.-China Dialogue on Security and International Law in the Maritime Commons* (Newport, RI: Naval War College Press, 2010), 75 at 82.

129. Kaikobad, *supra* note 44 at 521.

130. Prezas, *supra* note 8 at 105; also see Scovazzi, *supra* note 93 at 58–9.

131. 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* (Leiden: Brill Nijhoff, 2018), 108 at 108. It also exists in other areas of international law.

132. *Ibid*.

133. *Ibid*. There are twelve provisions in UNCLOS that use a "due regard" obligation (*UNCLOS*, *supra* note 1 at arts. 27(4), 39(3)(a), 56(2), 58(3), 60(3), 66(3)(a), 79(5), 87(2), 142(1), 148, 234, 267), and a further two that use the synonymous phrase "reasonable regard" (*UNCLOS*, *supra* note 1 at arts. 147(1), 147(3)) The drafting history supports the conclusion that the terms basically mean the same thing. Oxman, *supra* note 96 at 827 explains that the change was due to a "retranslation of the Spanish term '*debida consideración*' (which is the Spanish equivalent of 'reasonable regard' in the Convention on the High Seas) as 'due regard' or 'due consideration'" in the proposed texts that were drafted by the Spanish-speaking delegates.

134. *UNCLOS*, *supra* note 1 at art. 56(2).

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requires that they have "due regard to the rights and duties of the coastal State".[135] Articles 56(2) and 58(3) are a limit on the exercise of the rights of the coastal state in their EEZ, and other states that operate there.

Presuming that other states have the right to carry out military surveillance in the EEZ (which, as set out above, is the better view), they would have to exercise due regard in planning and executing their operations. This shows there is no absolute right to conduct military activities because this right is subject to the due regard obligation.[136] More specifically, the state must concern itself with the impact the activity will have on the economic and environment rights of the coastal states.[137] It must be recognized at the outset that this only covers rights and interests that are resource related and protected by Article 56. There is no textual evidence in the treaty of a security interest in the EEZ that could be validly protected under the UNCLOS regime.[138]

A. *Consideration of Due Regard in the EEZ by International Tribunals*

Two decisions of international tribunals have considered how the due regard obligation applies to direct state action: the Chagos Marine Protected Area Arbitration[139] and the *Bay of Bengal* case.[140] Even though these cases concerned non-military maritime disputes, they show that the extent of the due regard obligation depends on the context, and that the rights and interests at stake will determine what other states have to do to be cognizant of the rights of coastal states. They show that the due regard obligation is dynamic: it depends on the situation and the rights at stake, and there are multiple ways it can be satisfied.

The 2015 *Chagos Marine Protected Area* Arbitration arose after Mauritius objected to the UK (as the coastal state) declaring a large marine protected area around the Chagos Archipelago without consultation.[141] The Mauritian fishing industry was impacted by the declaration of the protected area. In its decision, the Tribunal said that the due regard obligation in UNCLOS did not impose "any universal rule of conduct" or a "uniform obligation" to avoid impairment of a right or

135. *Ibid*., at art. 58(3).

136. Prezas, *supra* note 8 at 110.

137. It has also been suggested that other states may be under an obligation of due regard with regard to other foreign states. See Geneviève Bastid BURDEAU, "The Respect of Other States' Rights (Freedom of Navigation and Other Rights and Freedoms Set Out in the LOSC) as a Limitation to the Military Uses of the EEZ by Third States" (2019) 34 International Journal of Marine & Coastal Law 117.

138. Prezas, *supra* note 8 at 110.

139. *Chagos Marine Protected Area Arbitration (Mauritius v. United Kingdom)*, Award, 18 March 2015, [2015] P.C.A. Case No. 2011-03 [*Chagos Marine Protected Area Arbitration*].

140. *Dispute Concerning Delimitation of the Maritime Boundary Between Bangladesh and Myanmar in the Bay of Bengal (Bangladesh/Myanmar)*, Judgment, 14 March 2012, [2012] I.T.L.O.S. Case No. 16 [*Bay of Bengal Case*].

141. For a helpful overview of the case, see Michael WAIBEL, "Mauritius v. UK: Chagos Marine Protected Area Unlawful" *EJIL:Talk!* (17 April 2015), online: EJIL:Talk! <https://www.ejiltalk.org/mauritius-v-uk-chagos-marine-protected-area-unlawful/>.

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uniformly permit a right-holding state to proceed.[142] Instead, the obligation depended on:

> [T]he nature of the rights held by Mauritius, their importance, the extent of the anticipated impairment, the nature and importance of the activities contemplated by the United Kingdom, and the availability of alternative approaches. In the majority of cases, this assessment will necessarily involve at least some consultation with the rights-holding State.[143]

The Tribunal said that, in the context of the declaration of the marine protected area, the UK (the coastal state) was required to undertake "both consultation and a balancing exercise" with the rights and interests of Mauritius (i.e. other affected states). In the circumstances of the case, the UK failed to comply with both requirements.[144] The Tribunal was careful to distinguish between the procedural obligation and the substantive qualities of the given activity; it explained that it was the manner in which the UK arrived at the decision, rather than the substance of the decision itself, that was the issue.[145]

This case suggests that the due regard obligation has procedural elements, and that —in the words of the Tribunal—"in the majority of cases" consultation with other states will be necessary.[146] As will be set out below, such a procedural requirement would have potentially serious consequences for military surveillance in the EEZ.

In the *Bay of Bengal* case, Bangladesh brought proceedings against Myanmar to determine the delimitation of Bangladesh's maritime boundaries, central to which was the relationship between the rights in the sea bed and subsoil of the continental shelf and the EEZ rights in the area suprajacent to the shelf. While it is unnecessary to delve into the details of the case (particularly considering its complexities), some of what the Tribunal said has a bearing on due regard and military surveillance by UMVs. The Tribunal noted that there are many ways in which states can ensure and discharge their due regard obligations, including by negotiating an arrangement. It was willing to leave it up to the parties to determine what measures they considered appropriate.[147]

Other Tribunal decisions discuss the due regard obligation in relation to the extent of a state's responsibility for private vessels flying its flag, rather than decisions directly under the control of the state.[148] In the *Fisheries Advisory Opinion* the Tribunal held that the obligation of due regard is an obligation of conduct, not result: they held that while flag states do not have to achieve perfect compliance with the law, they must take "all necessary measures" to ensure compliance.[149] In the *South China*

142. *Chagos Marine Protected Area Arbitration*, *supra* note 139 at 202, paras. 519, 534–6.
143. *Ibid*., at 202, para. 519.
144. *Ibid*., at 210, paras. 534–5.
145. *Ibid*., at 212, para. 544.
146. *Ibid*., at 202, para. 519. See also Kraska, *supra* note 128 at 85–6.
147. *Bay of Bengal Case*, *supra* note 140 at 137, para. 476.
148. For example, *Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission (SRFC),* Advisory Opinion, 2 April 2015, [2015] I.T.L.O.S. Case No. 21 [*SRFC Advisory Opinion*].
149. *Ibid*., at 40, para. 216.

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Sea Arbitration the Tribunal unsurprisingly held that knowingly facilitating a breach of UNCLOS will breach the due regard obligation.[150]

B. *Applying Due Regard to Military Surveillance by UMVs*

While these cases do not address military activities, or more specifically military surveillance, there are some things that we can take from them. They illustrate that due regard is an "ad hoc balancing exercise" that is dependent on the rights concerned and their importance.[151] The standard of due regard has to be assessed on a case-by-case basis as it depends on the nature of the planned activity.[152] Oxman argues that it is "essentially … futile" to speculate as to whether naval manoeuvres are permissible as "[t]he relevant inquiry is whether the particular activity in a particular place is consistent with the 'due regard' obligation".[153] Notwithstanding Oxman's warning, some general comments can be made.

The *Chagos Marine Protected Area* Arbitration suggests that other states have, in most cases, a procedural obligation to consult with the coastal state prior to commencing an activity in the EEZ that might impact on the rights and interests of the coastal state. The balancing exercise should not be unilateral,[154] and there should be an effort made to consult and negotiate to mitigate any damage the activity might cause.[155] Notification and consultation allow the coastal state to challenge the proposed activity, and the other state to adjust the plan in order to better account for the rights of the coastal state.[156] This would help to maximize the chance that the substance of the activity would meet the state's due regard requirements.[157]

Other states are required have due regard to the interests of the coastal state in the EEZ. As noted above, these are economic rights, not security rights.[158] While these rights might be extensive when it comes to the resources in the EEZ—Papastavridis opines that they suggest there is a "rebuttable presumption in favor of the coastal State in respect of all uses that pertain to resources or, more broadly, have an economic value",[159] and Prezas argues that other states should comply with any regulations protecting the economic or environmental interests in the EEZ[160]—this does not mean that other states must consider the national security interests of the coastal state.

The challenge is identifying when the intelligence gathering by another state will be contrary to the economic and environmental rights of the coastal state. Papastavridis

150. *South China Sea Arbitration (Philippines v. China)*, Award, 12 July 2016, [2016] P.C.A. Case No. 2013-19 at 297, para. 756.
151. Papastavridis, *supra* note 82 at 458.
152. Prezas, *supra* note 8 at 109; Scovazzi, *supra* note 93 at 63.
153. Oxman, *supra* note 96 at 838; also see Fife, *supra* note 6 at 46–7.
154. Prezas, *supra* note 8 at 106.
155. Papastavridis, *supra* note 82 at 458.
156. Prezas, *supra* note 8 at 106.
157. *Ibid*., at 107.
158. Williams, *supra* note 56 at 51; Wilson, *supra* note 41 at 423.
159. Papastavridis, *supra* note 82 at 458.
160. Prezas, *supra* note 8 at 111.

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suggests that any intelligence gathering that is for the economic benefit of another state would be unacceptable, and it would not be permissible to use material collected during a military surveillance operation to assist the other state to take advantage of any resources in the zone.[161] This would, of course, be very difficult for a coastal state to detect and prove. In addition, any intelligence gathering that constitutes a "threat or use of force" under Article 2(4) of the UN Charter would be contrary to UNCLOS (specifically Article 301).[162] This is a high threshold; it would have to involve a "considerable degree of coercion against the coastal State".[163] Unless accompanied by some other coercive measures, such as clear threats of aggressive action, intelligence gathering is unlikely to be sufficiently coercive to be in violation of this requirement.[164] Others see the potential economic and environmental impacts of maritime surveillance in very broad terms: Yu Zhirong has argued that the mere passage of a US surveillance vessel towing a survey sensor through fishing zones in the Chinese EEZ polluted the maritime environment.[165]

This obligation of due regard is supported by other parts of UNCLOS. While Article 236 of UNCLOS exempts warships and government non-commercial vessels from having to comply with rules on environmental protection, it also requires each state to adopt "appropriate measures" to operate the vessels consistently with the Convention. The measures are only required to be those that are "reasonable and practicable" and that do not impair their operation.[166] The due regard obligation has been held by the International Tribunal for the Law of the Sea [ITLOS] to extend to the obligation to protect the marine environment in Articles 192 and 193 of the Convention,[167] which would imply that there is a requirement to carry out an environmental impact assessment before carrying out military activities.[168]

In summary, where there is a risk that UMV surveillance could have an impact on the exercise of economic rights in the EEZ, such as by interfering with fishing, environmental protection, or mineral exploration, the other state should ideally give the coastal state an opportunity to negotiate an appropriate balance between the competing rights. However, consultation, negotiation, and potentially compromise are ill-suited to surveillance operations. The strategic value of such operations lies partly in their scope and nature being opaque to the coastal state.[169] As the due regard obligation is sensitive to the context in which it arises, it seems fair to conclude that, where the risk that the surveillance operation would affect the economic or environmental rights of the coastal state is minimal, consultation would not be required.

161. Papastavridis, *supra* note 82 at 472.
162. *Ibid.*, at 473.
163. *Ibid.*
164. *Ibid.*, at 473–4.
165. Yu, *supra* note 76 at 42.
166. *UNCLOS*, *supra* note 1 at art. 236.
167. *SRFC Advisory Opinion*, *supra* note 148 at 61, para. 216.
168. Prezas, *supra* note 8 at 108.
169. *Ibid.*, at 109.

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Finding that consultation is not necessarily required does not mean that the other state can ignore the due regard obligation.[170] While it is context dependent, the obligation imposes some requirements on what states have to know about the devices before they can be used. Due regard requires that the use of a UMV in the EEZ for military maritime surveillance will have no or minimal impact on the economic and environmental rights of the coastal state, or that any impact involves an appropriate balancing of the competing rights. As the balancing exercise for at least some surveillance operations is likely to occur unilaterally, given that they will be secret, the level of care required by the other state is higher than it would be where a negotiation or consultation was being undertaken. This will be a difficult and compromised task: coastal states are likely to be very sceptical of the balance struck by other states between the other states' security interests in carrying out maritime surveillance and their economic and environmental rights. While there is insufficient publicly available state practice and *opinio juris* to have a clear picture of what balance is appropriate, the obligation to have due regard to the interests of the coastal state is what the law requires, and it does impose some limitations on surveillance activities.

The reason for accepting that due regard will limit the range of legally acceptable military exercises—including surveillance—is most easily seen in the more invasive forms of military operations. Limiting live fire exercises in a relatively small but particularly rich and sensitive fishing zone or during whale migration could be an appropriate way to have due regard to the protected interests of the coastal state.[171] Such a "material" military activity could well have a serious impact on the economic rights of the coastal state.[172] Similarly, coastal state regulations and limitations on live-fire exercises in an area of the EEZ to protect an area of significant biodiversity could well be a reasonable, necessary, and proportionate way of protecting the area. While these regulations would not directly apply to military vessels or government non-commercial vessels (due to these vessels specifically being excluded from the rules of UNCLOS), the state operating those vessels would still have to have due regard to those regulations.[173]

Surveillance is likely to have a very different effect in the EEZ than weapons testing or some other intensive military activity, and this difference would be reflected in the extent of the obligation of other states.[174] While it is unclear what the environmental and economic impacts of the use of UMVs will be, it seems safe to assume that a small and relatively passive device that is powered by the movement of the waves or solar energy will be less disruptive than other forms of shipping. There is evidently a difference in the risk of harm to economic and environmental rights posed by surveillance by a relatively passive UMV and a weapons test with a real material dimension.[175]

170. Fife, *supra* note 6 at 52 provides some useful examples of how the due regard obligation might be operationalized.

171. Kraska, *supra* note 128 at 82; Bateman, *supra* note 81 at 573–4.

172. Prezas, *supra* note 8 at 112.

173. *Ibid*., at 111.

174. *Ibid*., at 109.

175. *Ibid*.

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Nevertheless, the due regard obligation will still have an impact on the operation of UMVs. For example, the navigation and operation by an array or swarm of smaller UMVs should have regard to regulations designed to protect the migration routes of fish or other ocean animals. Moreover, as due regard is a dynamic and contextually dependent obligation, a UMV that is designed to spend long periods of time in the EEZ of another state would be more likely to be acceptable if it was responsive to its surroundings. A group of wave gliders transiting through a high-value fishing area might be a genuine inconvenience and have an impact on the fishing vessels of the coastal state. Similarly, there may be areas of the EEZ that are particularly sensitive to the kinds of investigations a UMV is carrying out. Failing to have this capacity would not preclude the use of UMVs, but it does require the deploying state to understand the potential impact and be satisfied that the proposed use does not unduly impact the EEZ rights of the coastal state.

The analysis of data collected by devices by third-party technology companies, or alongside them, might be contrary to the obligation of due regard. While the devices might be cheap, developing the capacity to analyze the data they collect will be much more resource intensive. It would be unsurprising if an "off-the-shelf" model was preferred, and the analysis was outsourced to commercial parties. While the information might not be used to extract the resources of the EEZ, it might still be data that have some sort of commercial value. This perhaps should be seen as unlawful as it would reduce the commercial value of the data collected by the coastal state for the same purpose.

C. *Enforcement Options*

The extent to which the obligation of due regard is practically enforceable by the coastal state is unclear. The secret nature of surveillance means that the coastal state may not know why a UMV is in its EEZ. If it is clear it is a military device, a request for an explanation of how the obligation of due regard was satisfied in carrying out the mission may be rebuffed on national security grounds. The relative novelty of some these devices mean that the impact of the operation of UMVs on the marine environment, including fish stocks, will be hard to assess. Military activities are controversial, so in the unsurprising event that no agreement can be reached about what due regard required in the circumstances, UNCLOS does not give the coastal state a right to prevent the activity. If the activity went ahead and actually infringed the coastal state's rights in the EEZ, the other state would be internationally responsible for the damage caused.[176]

All this means that the disputes between states about the operation of the EEZ regime are likely to continue. Indeed, some of the features that make UMVs compelling to maritime powers—such as being relatively cheap, not having people on board, and operating independently—could lead to different state behaviour where they are discovered and considered to be operating unlawfully, making the legal picture even

176. *Ibid*., at 107.

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more complicated.[177] While it is far too early to suggest that a new customary rule has formed, there are some indications that the use of uncrewed devices is undermining assumptions about when states can use force against the property of other states. The political stakes of seizing or destroying a small and cheap UMV are less significant than when an expensive crewed vessel is seized or destroyed.[178] This can already be seen from the response of states to their UMVs being taken or destroyed.[179]

The basis for this differential treatment is unclear. Existing theories of sovereign immunity suggest that UMVs would be immune from the enforcement jurisdiction of another state. This is because immunity relates not to whether there are people on board or the economic value of the device, but to the ownership of the device and its use. While this might change over time, the more compelling explanation for the different treatment of uncrewed vehicles is that the lack of people on board the device widens the range of circumstances when force is a necessary and proportional response to an international wrong (such as a territorial incursion into another state).[180] This, and the potential for the use of UMVs to lead to a re-imagining of maritime military strategy generally, suggests that states should come together to determine an appropriate compromise that sets out a framework for the lawful use of these devices.[181] At the very least, states should explore the possibility of sharing information at a general level about the environmental impacts of surveillance activities to build confidence that the obligation of due regard is being respected.

IV. CONCLUSION

While it should be accepted that the deal struck by UNCLOS allows military activities, including surveillance, in the EEZ of coastal states, legal arguments are unlikely to convince those states that hold to the more restrictive view. However, the increasing use of UMVs for military maritime surveillance brings new issues to the fore. The distinction between MSR and military survey and surveillance, which has been contested for quite some time, will be made more challenging to assess if states use dual-purpose UMVs to carry out surveillance. It will make it even more difficult for coastal states to tell whether their rights are being respected, making it particularly important to equip UMVs used for military surveillance with the capacity to communicate to other

177. See Joshua L. CORNTHWAITE, "Can We Shoot Down That Drone? An Examination of International Law Issues Associated with the Use of Territorially Intrusive Aerial and Maritime Surveillance Drones in Peacetime" (2019) 52 Cornell International Law Journal 475.

178. *Ibid*., at 479.

179. *Ibid*., at 485–503.

180. *Ibid*., at 527–42. Also see Ashley DEEKS and Scott R. ANDERSON, "Iran Shoots Down a U.S. Drone: Domestic and International Legal Implications" *Lawfare* (20 June 2019), online: Lawfare <https://www.lawfareblog.com/iran-shoots-down-us-drone-domestic-and-international-legal-implications>; Mohamed HELAL, "The Global Hawk Incident: Self-Defense against Aerial Incursions—Reflections on the Applicable Law" *Opinio Juris* (4 July 2019), online: Opinio Juris <http://opiniojuris.org/2019/07/04/the-global-hawk-incident-self-defense-against-aerial-incursions-reflections-on-the-applicable-law/>.

181. Bateman, *supra* note 81 at 580.

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vessels that they are military vessels, and that the data they are collecting are not being used for commercial reasons. It will also impose restrictions on the arrangements that militaries make with private companies to carry out the surveillance or analyze the data.

The obligation of due regard will also constrain the operation of UMVs for maritime surveillance. States deploying UMVs for surveillance are required to weigh up the value of surveillance against the interests of the coastal state in the EEZ. It requires states to be cognizant of the economic and environmental interests of the coastal state when deploying a UMV, and ideally assessing and mitigating any economic or environmental impact of their use. In addition, UMVs that are being deployed for long periods should have some capacity to avoid causing disruption to the protected interests of the coastal state.

It must be acknowledged that the secret nature of surveillance leads to an impasse: while in other settings international tribunals have held that consultation is required to satisfy the requirement of due regard, letting the coastal state know that the surveillance is going to occur could compromise its effectiveness. States should explore ways to build confidence that, when carrying out surveillance in the EEZ, they are respecting the interests of the coastal state. This could include sharing information about how the potential environmental and economic impact of surveillance was assessed, or confirmation that the information gathered from the surveillance was used only for military purposes and not for economic gains. Such activities may make a small contribution to mitigating the risk of increased legal conflict and the potential for a miscalculation leading to a serious confrontation with tragic consequences.

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