



# Briefing

## COVID-19 maritime settings for commercial vessels

**Date due to MO:** 11 August 2021      **Action required by:** 21 August 2021

**Security level:** IN CONFIDENCE      **BEB Report:** 21/035

**To:** Hon Chris Hipkins, Minister for COVID-19 Response

**Copy to:** Prime Minister  
Minister of Health  
Minister for Oceans and Fisheries  
Minister of Foreign Affairs  
Minister of Agriculture  
Minister of Transport  
Minister of Customs

### Contact for telephone discussion

Name	Position	Telephone
Christine Stevenson	Chair of the Border Executive Board	s9(2)(a) OIA

### Minister's office to complete:

- Approved
- Decline
- Noted
- Needs change
- Seen
- Overtaken by events
- See Minister's Notes
- Withdrawn

Comment:



# COVID-19 maritime settings for commercial vessels

---

**Security level:** IN CONFIDENCE                      **Date:** 11 August 2021

---

**To:** Hon Chris Hipkins, Minister for COVID-19 Response

---

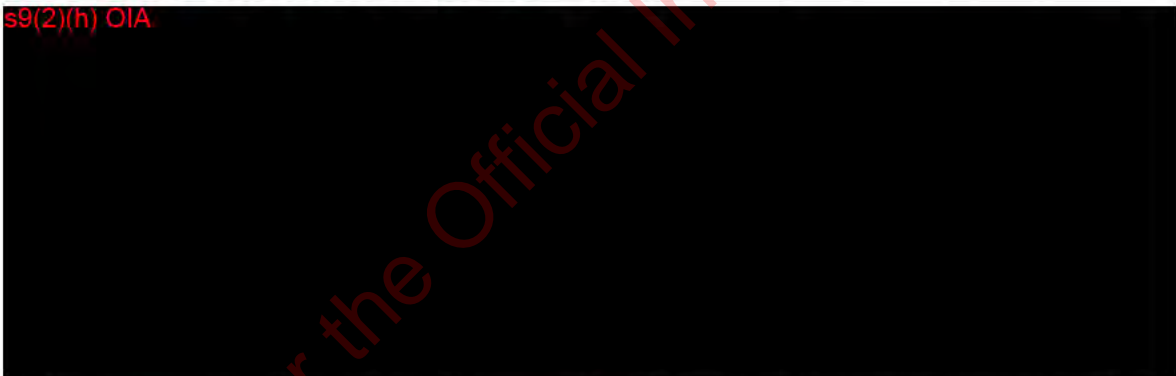
## Purpose and key points

1. This report recommends investigating improvements to strengthen the maritime border settings following the arrival in New Zealand in July and August 2021 of a number of commercial vessels with COVID-19 among their crews.
2. This report also responds to questions raised by Ministers as a result of these incidents, specifically:
  - a. whether we need a testing policy for symptomatic persons on foreign vessels when a person who is symptomatic is reported to the Captain/Master of the vessel (broadened to consider testing as one part of a wider set of controls)
  - b. whether we can require arriving replacement crew for foreign and domestic vessels to be already vaccinated on arrival
  - c. whether we can halt crew changes in New Zealand by foreign fishing vessels, depending on their economic benefit to New Zealand
  - d. whether ships carrying people with COVID-19 could be diverted away from New Zealand.
3. The key changes proposed are outlined below. Officials propose to report back to Ministers with a plan and the necessary changes to the Maritime Border Order to implement those changes in November 2021. However, there are reviews being undertaken at the moment by Worksafe New Zealand and the Ministry of Health into the latest incident (arrival of the *Rio de la Plata* at Tauranga) which may identify the needs for more changes.
4. Agencies responded to these incidents using the existing 'High Risk' protocols in place. Though these worked as intended, officials have reviewed the responses made to see what lessons can be learnt. This has resulted in identifying that better coordination efforts are required and some additional system-wide controls may be appropriate:
  - a. requiring seafarers arriving by air to await the results of their COVID-19 test before they are transported to their vessel
  - b. investigating whether we could require testing of all arriving seafarers coming into port, potentially via some form of rapid testing regime
  - c. investigating whether the costs (or at least a portion of the costs) of the response effort could be recovered, as managing outbreaks and responses can generate significant local resource requirements and cost pressures.





- 5. Some measures being implemented now (such as the requirement for all port workers to be vaccinated) will further reduce the maritime COVID-19 risk to New Zealand. New Zealand could require replacement crew to be already vaccinated on arrival, but officials do not recommend doing so now. If we did so there would likely be significant disruption to New Zealand’s supply lines and fishing industry as most replacement crew, for both New Zealand and foreign-flagged vessels, are foreign nationals who come from places with low vaccination rates.
- 6. The approach taken in *Reconnecting New Zealanders* will consider vaccination status as one of the most important considerations for traveller risk and will inform the settings that apply for entry to New Zealand, once we are ready to implement the new risk-based approach. The three entry pathways outlined in the *Reconnecting New Zealanders* paper relate to the air border. Decisions on the maritime border will be taken over time, informed by development of the risk-based approach, and there will be further opportunity to consider maritime settings, including vaccination status of crew, as part of this.
- 7. In the meantime, officials recommend further work be undertaken to develop a better picture of the vaccination status of seafarers operating around New Zealand, to feed into consideration of the maritime border settings.

8. s9(2)(h) OIA  


- 9. Officials recommend against adopting a policy of diverting ships carrying people with COVID-19 away from New Zealand s9(2)(h) OIA  
s9(2)(h) OIA and because of the potential for increased risk to vulnerable Pacific Island states (where such vessels might divert to).

### Recommendations

The Border Executive Board recommends you:		
a)	<b>note</b> that the response to the ships that arrived recently with COVID-19 outbreaks on board used the existing ‘High Risk’ protocols in place and while these worked as intended, officials have identified some additional coordination effort may be required, and some potential additional improvements could be made	<b>Yes/No</b>
b)	<b>agree</b> that officials investigate whether the costs (or at least a portion of the costs) of the response effort could be recovered from the ship concerned, as managing	<b>Yes/No</b>





	outbreaks and responses can generate significant local resource requirements and cost pressures	
b)	<p><b>agree</b> that officials investigate the following improvements to further reduce the risk to the maritime border and report back to Ministers with recommendations on:</p> <ul style="list-style-type: none"><li>• requiring seafarers arriving by air to await the results of their COVID-19 test before they are transported to their vessel</li><li>• whether we could require testing of all arriving seafarers coming into port, potentially via some form of rapid testing regime</li></ul>	<b>Yes/No</b>
c)	<p><b>note</b> that requiring foreign and domestic crew replacements to be already vaccinated on arrival at this time would likely result in significant disruption to New Zealand's shipping capacity and supply lines and to the fishing industry</p>	<b>Yes/No</b>
d)	<p><b>agree</b> that officials:</p> <ul style="list-style-type: none"><li>• further engage with the shipping and fishing industries as to their processes for encouraging and managing vaccination of crew</li><li>• identify the changes needed to the Maritime Border Order to make vaccination status part of the Extended Notice of Arrival in order to build a picture of vaccination status of seafarers</li><li>• investigate whether other health-related information (for example, most recent COVID-19 test and the results) could also be required to allow for a better risk assessment of the crew of a vessel</li></ul>	<b>Yes/No</b>
e)	<p><b>note</b> that given the risks to New Zealand's reputation from stopping crew changes occurring here, officials do not recommend stopping crew changes by foreign fishing vessels (or any class or sub-class of vessel)</p>	<b>Yes/No</b>
f)	<p><b>note</b> that the entry pathways outlined for the <i>Reconnecting New Zealanders</i> programme relate to the air border and decisions on the maritime border will be taken over time, informed by development of the approach</p>	<b>Yes/No</b>
g)	<p><b>note</b> that New Zealand should not seek to divert vessels that have or may have COVID-19 on board as a matter of course</p>	<b>Yes/No</b>



## BORDER EXECUTIVE BOARD

h)	<b>agree</b> to officials engaging with the shipping and fishing industries, and worker representatives, about the proposed improvements in this paper	<b>Yes/No</b>
i)	<b>agree</b> that officials report back to you with proposals for implementation and any changes to the Maritime Border Order in November 2021, though the timing may have to vary given some of these changes will depend on the results of reviews being undertaken currently.	<b>Yes/No</b>

Christine Stevenson

**Chair of the Border Executive Board**

Date: 11 August 2021

Hon Chris Hipkins

**Minister for COVID-19 Response**

Date:

s9(2)(g)(i) OIA





## COVID-19 maritime settings for commercial vessels

### Overview of the current situation

10. New Zealand responded to the recent foreign ships that arrived with COVID-19 outbreaks on board using the existing 'High Risk' processes and protocols in place. More detail is provided on these protocols in Appendix One.
11. In general, these processes worked as intended. But officials have identified some additional coordination effort may be required, and some potential additional improvements could be made. Some existing measures (such as the requirement for all port workers to be vaccinated by September 2021) will also help manage the COVID-19 risk to New Zealand from the maritime border.
12. The current maritime settings for commercial vessels (including shipping and fishing):
  - allow for foreign vessels to come to New Zealand and operate in and around our coast (Appendix Two provides information on vessel movements)
  - ensure all vessels arriving are treated as high risk and remain in isolation when arriving, when operating (loading/unloading/fishing) and moving around New Zealand
  - facilitate crew exchanges for both foreign and domestic vessels, to ensure our supply lines remain secure and our fishing industry continues. Appendix Three outlines the crew change process.
13. Managing outbreaks and responses to them can generate significant local resource requirements and cost pressures for Public Health Units and other agencies. These costs can be burdensome if they occur in quick succession, or all fall on one place/port. Officials recommend investigating whether the costs (or at least a portion of the costs) of the response effort could be recovered.

### Improvements to New Zealand's response framework

14. In respect of system-wide controls we recommend considering:
  - a. requiring seafarers arriving by air to await the results of their COVID-19 test before they are transported to their vessel
  - b. investigating whether all arriving seafarers (not just replacement coming by air) could be tested, potentially via some form of rapid testing regime at ports.
15. There are reviews being undertaken at the moment by Worksafe New Zealand and the Ministry of Health into the latest incident (arrival of the *Rio de la Plata* at Tauranga) which may identify the need for more changes.

### Requiring seafarers arriving by air to await the results of their COVID-19 test before they can board their vessel

16. Currently, all replacement crew members arriving in New Zealand are tested on arrival, whether they are going onto a foreign or domestic vessel. Most (over 95%) spend at





least one night in Managed Isolation and Quarantine Facilities (MIQF) to undergo this testing on their way to the ship.

17. However, there is no requirement for the seafarer being tested to wait for the results before boarding the vessel. The crew of the fishing vessel *Viking Bay* were in this position, when the positive results became known after the replacement crew had been transported to the vessel (and the vessel had departed from New Zealand).
18. If this requirement was put in place, all crew would need to go into MIQF for between one and three days (depending how long the test results take). While 60 bed nights per month are currently set aside for maritime crew that require it, the allocation would need to be increased, at a time when MIQF is under significant pressure.
19. Requiring people to await the test result before joining the vessel would allow a person testing positive to be immediately moved into quarantine. This happened in the outbreak on the fishing vessel *Playa Zahara*, where the test results were known in time to prevent some of the infected crew joining the vessel.
20. This proposal would have to be managed carefully with the shipping industry. There would be potential delays while crew await testing results, potentially interfering with the operation of the vessel. While this might be able to be mitigated to some extent by effective management of crew change timings, there is always some variability in the time to obtain a test result. There would also be an associated cost (above what is already incurred) for the longer stays in MIQF.
21. We recommend you **agree** to:
  - a. officials engaging with shipping and fishing industry stakeholders and to report back on implementing a requirement for those tested to await their results before being allowed to go to the vessel
  - b. further investigation being conducted to identify and manage the effects of this proposal on MIQF.

### Testing all arriving seafarers

22. A testing regime for seafarers could be put in place. For the test to be worthwhile, it would need to be some form of rapid testing regime, as the average turnaround time for a cargo ship is 16 hours.
23. There would be some significant costs to put such a regime in place. Most ports do not have any testing processes in place, and when this was considered previously, many ports did not have easily available infrastructure that could be used to provide the tests. However, if the rapid testing process only requires saliva tests, this may be more practical.
24. We recommend you **agree** to investigating whether all arriving seafarers (not just replacement coming by air) could be tested, potentially via some form of rapid testing regime at ports.





## Requiring replacement maritime crew arriving by air to be vaccinated

### Requiring vaccination inconsistent with *Reconnecting New Zealanders* approach

25. Requiring mandatory vaccination for crew, or taking into account vaccination status when considering entry settings, would have a range of implications (outlined in the next section). Requiring vaccination is not recommended at this time, as it would lead to significant disruption and would diverge from the wider *Reconnecting New Zealanders* approach, which outlines vaccination status as key factor for traveller risk but does not propose mandating vaccination.
26. Vaccination status is one of the most important considerations for traveller risk and will inform the settings that apply for entry to New Zealand, once we are ready to implement the new risk-based approach. The three entry pathways proposed relate to the air border only at this stage. Decisions on the maritime border will be taken over time, informed by development of the risk based approach, and there will be further opportunity to consider vaccination status of crew.

### Impacts of requiring vaccination now

27. While there are a number of benefits both to crew and New Zealand of crew being vaccinated, putting this requirement in place now where there are few places from where vaccinated seafarers could be recruited may lead to significant disruption to New Zealand's supply lines and fishing sector.
28. It is likely that planned crew replacements would become very difficult (and maybe impossible) to do given most of the seafarers operating around New Zealand come from places with low vaccination levels and are at sea for long periods (making it difficult to get vaccinated). As a result, the number of existing crew not able to leave their vessels would build up over time, as replacements could not be found.
29. New Zealand has an obligation under international law to facilitate the replacement and repatriation of seafarers on cargo ships s9(2)(h) OIA  
[REDACTED]
30. Under the *Reconnecting New Zealanders* programme, a digital system for verifying travellers' vaccination status is under development. This system will verify the authenticity and acceptability of a certificate or document showing the traveller has been vaccinated. The system is however, in its very early stages of development and will initially focus on the vaccination of New Zealanders. Requiring replacement crew to be already vaccinated on arrival in advance of a wider process for incoming travellers to demonstrate vaccination status on arrival would require significant effort to separately identify and process those passengers without a verification system in place.
31. To do so now, vaccination documentation would need to be verified manually once appropriate vaccination certification and standards have been determined. s9(2)(c) OIA  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]





32. Not acting alone in making vaccination a requirement could reduce any disruption to our supply chains and domestic fishing operations. New Zealand could encourage the major sources of inbound non-QFT flights to New Zealand (Singapore; Malaysia; Hong Kong; or China, for example) to require vaccination for travellers coming to those jurisdictions. This would mean that our requirement fitted along with others, whether it was for seafarers only or potentially a more general requirement for all passengers. We could phase any requirement for vaccination by, for example, starting with crew operating in areas where the current COVID-19 risk is low (such as routes into the Pacific and Australia) to protect those populations.
33. Requiring vaccination of replacement maritime crew who arrive in New Zealand by air now would also mean New Zealand would be setting a significantly higher threshold than most of our trading and travel partners. The only other jurisdiction to currently require vaccination of inbound air travellers is Samoa. It could result in reciprocity with New Zealand workers or travellers being subjected to an equivalent requirement which cannot easily be met. Other foreign seafarers operating around New Zealand (that is, those that arrive by sea) are not required to be vaccinated.
34. As other travellers are not currently required to be already vaccinated on arrival, it could be confusing for travellers, especially those arriving from the same place and would not align with the future risk-based approach outlined in the *Reconnecting New Zealanders* programme.

#### **Building our understanding of crew vaccination status and other risk factors**

35. In the meantime, we propose to develop a better picture of the vaccination status of seafarers operating around New Zealand, which ultimately will feed into consideration of future maritime border settings. At the moment, we do not know how many replacement crew for foreign and domestic vessels have been vaccinated, although we suspect the numbers will be low.
36. We propose to improve our understanding of vaccination status by:
  - a. engaging with shipping and fishing companies and their representatives to develop a snap shot of the current situation, and of their current and planned activities to encourage vaccination of seafarers
  - b. requiring each seafarer coming here to provide their vaccination status (and if vaccinated, associated details) as part of the Extended Notice of Arrival, to allow us to build up a picture of the level and spread of vaccination over time
  - c. investigate what other health-related information would allow for better risk assessment of arriving seafarers (for example, most recent testing undertaken, and result).
37. These proposals will require engagement with industry and worker representatives, as proposals would require effort for them to obtain and provide the information. However, this information will allow us to develop a better picture of the health status (and thus the risk) of people arriving in New Zealand by sea. It will also be an important input into any consideration around settings for arriving seafarers in future. We will also





be able to see for those seafarers that are vaccinated, whether the vaccination is of a type acceptable to New Zealand.

38. We recommend you **agree** to officials engaging with industry and worker stakeholders and to report back on the changes required to the Maritime Border Order to make vaccination status part of the Extended Notice of Arrival that has to be provided to come to New Zealand, and whether any further health-related information could also be obtained to allow better risk assessment.

### Halting crew changes for foreign fishing vessels

39. s9(2)(g)(i) OIA [Redacted]

s9(2)(g)(i) OIA [Redacted]

s9(2)(g)(i) OIA [Redacted]

40. s9(2)(g)(i) OIA [Redacted]
- s9(2)(g)(i) OIA [Redacted] s9(2)(h) OIA [Redacted]
- s9(2)(h) OIA [Redacted]

41. New Zealand has an obligation under international law to facilitate the replacement and repatriation of seafarers on cargo ships. s9(2)(g)(i) OIA [Redacted]
- s9(2)(g)(i) OIA [Redacted]
- s9(2)(g)(i) OIA [Redacted] These expectations were clearly articulated by the International Maritime Organisation and the International Labour Organisation last year, in the context of COVID-19. Only a small number of foreign-flagged fishing vessels visit New Zealand, meaning they do not pose a significant health risk. Preventing them from replacing crew would require costly adjustments to their operations, especially if implemented at short notice. While New Zealand's fisheries production would not be impacted, foreign vessels do not visit New Zealand solely for the purposes of exchanging crew, so create varying degrees of economic benefit. New Zealand's remoteness means that they are also engaged in offloading, re-provisioning, and servicing. Foreign flagged vessels tend to be regular and known visitors, with some of them operating long term out of New Zealand on a well-established basis. However, the composition of the crew is more variable.

42. Officials consider that a restriction is also unnecessary, given the rigorous and well-practiced system for crew changes currently in place. New Zealand's current crew

<sup>1</sup> See Appendix One for more detail.





change process manages up to 150 exchanges per month (although that includes crew for domestic vessels as well), with low overall risk to New Zealand. We also manage the risks all ships in isolation present when they are at ports, through monitoring and ensuring compliance with key isolation requirements such as social distancing and wearing personal protective equipment.

43. In the absence of different health risk profiles, officials recommend treating foreign fishing vessels the same as other vessels. Fishing vessels do not make as many port visits as cargo vessels, meaning their ability to exchange crew is limited. Any barriers to entry at ports potentially make already difficult crew replacement issues worse.
44. There is a strong humanitarian element to facilitating all crew replacements (both cargo and fishing) while managing COVID-19. Fishing is a dangerous occupation, and the risk of accident, unsafe ship operations, and mental health issues increase as seafarers spend longer periods of time aboard vessels.

### **Diversion of vessels with crew with COVID-19 to other places**

45. Officials do not recommend diverting vessels to other ports or places outside of New Zealand, although we could potentially do so by:
  - having health authorities deny arriving vessels pratique<sup>2</sup> for New Zealand as a whole (pratique currently only applies to a particular port – denial of free pratique prevents that vessel entering that particular port for operational reasons)
  - expanding harbour masters' existing powers to deny entry to a particular port to apply to New Zealand ports as a whole.
46. Some harbour masters are using their existing powers to deny entry to some vessels with COVID-19 now, but denial of entry only applies to entry to that particular port. Those vessels excluded from one port have been accommodated at other ports. Expanding the power would mean a vessel could not enter any port in New Zealand.
47. s9(2)(h) OIA  
s9(2)(h) OIA Officials do not recommend trying to use any powers to divert vessels to places outside New Zealand for the following reasons:
  - There may be concerns expressed by the country the vessel ends up in, particularly if that country is not expecting it, is not well set up for an outbreak response, or the outbreak results in community transmission in that place
  - The vessel may divert to countries (such as smaller Pacific Nations) that New Zealand is working with to prevent being exposed to COVID-19
  - New Zealand has obligations under United Nations and other international treaties to protect the health and safety of seafarers and to provide search and rescue

<sup>2</sup> Pratique is the process by which a port assesses the health status of an arriving vessel, and then grants access (often referred to as free pratique) to the port should the vessel be considered to have no contagious diseases on board.





## BORDER EXECUTIVE BOARD

services to vessels in distress within our search and rescue zone, including medical assistance when the vessel is in international waters.

ENDS.

Released under the Official Information Act 1982





## Appendix One: Current Border Settings for commercial vessels

### Maritime Border Order settings for arriving commercial vessels

48. Currently, clause 9 of the COVID-19 Public Health Response (Maritime Border) Order (No 2) 2020 (the Maritime Border Order or MBO) bans all foreign-flagged vessels from coming to New Zealand. Clause 10 grants exemptions to certain types of foreign vessel based on the activity of the vessel including:
- a. cargo vessels that are arriving in New Zealand for the purpose of loading or unloading cargo
  - b. fishing vessels that are:
    - i. unloading catch; or
    - ii. re provisioning or refuelling, or both; or
    - iii. embarking or disembarking crew.
  - c. a foreign State ship that has been granted diplomatic clearance by the Ministry of Foreign Affairs and Trade.
49. In addition, under clause 11, the Director-General of Health may grant an exemption to some vessels for limited purposes (including delivery to a business or for refit and repair).
50. All arriving vessels (irrespective of the type of exemption) are treated as high risk and must remain in isolation while in New Zealand. Crew on board are only allowed to leave the vessel for certain purposes<sup>3</sup>.
51. The exemptions for cargo and fishing vessels were included to ensure that New Zealand's economy could continue to function despite COVID-19. About 99% by volume and 95% by value of New Zealand's exports go via sea.

### Processes and protocols for managing outbreaks on maritime vessels

52. While each outbreak is different, there is a set of protocols and processes to manage such outbreaks that swings into action. Outbreaks are managed under the guidance of local Public Health officials and usually involve:
- a. Relocation of the vessel to an appropriate place (if required)
  - b. Isolation of the vessel at a berth or at anchor
  - c. Isolation of some or all crew on board the vessel (commercial ships must maintain a minimum crew level)
  - d. Removal of some crew to hospital/quarantine as required
  - e. Supporting the crew remaining on board

---

<sup>3</sup> These are outlined in clause 21 and include loading and unloading, maintaining the vessel or undertaking safety checks. Crew are also allowed to obtain health checks or medical treatment as well if required.





- f. Security and assurance of isolation around the vessel
- g. Testing and screening
- h. Aiding the safe return of crew (or replacements) to the vessel for departure
- i. Wearing of personal protective equipment (PPE) and social distancing
- j. Managing crew changes on commercial vessels.

This set of protocols ensures that New Zealand is protected from the outbreak, but also ensures New Zealand meets its international obligations under UN conventions to ensure the safety of the vessel and the people on it.

- 53. New Zealand's continued facilitation of crew change means there is a risk of potential onward transmission of COVID-19. New Zealand currently manages that risk to ensure our supply lines remain open, to encourage fishing and other operations in and around our waters, and to meet our international obligations.
- 54. The diagram in Appendix Three outlines the process in place for managing crew changes. This process is only part of the overall risk management process<sup>4</sup>, and has been in place since March last year. There have been modifications to improve its safety and effectiveness. Over the last six months, an average of 144 replacement crew have been exchanged each month. Exchanges occur on between 10 and 20 vessels each month, and occur at different ports.
- 55. Currently, no pre-departure testing is required for any arriving maritime vessel (whether crew is changing or not). This reflects the fact that the time taken to transit New Zealand is significantly longer when travelling by sea than by air, and given how shipping operations are conducted, it would be very difficult to arrange at overseas ports. However, replacement crew that fly into New Zealand to go to a maritime vessel will normally have been tested prior to departure, where that is the requirement to fly into New Zealand.

---

<sup>4</sup> Which includes mandatory testing, infection prevention and control measures (such as wearing PPE and social distancing), and assurance and monitoring.

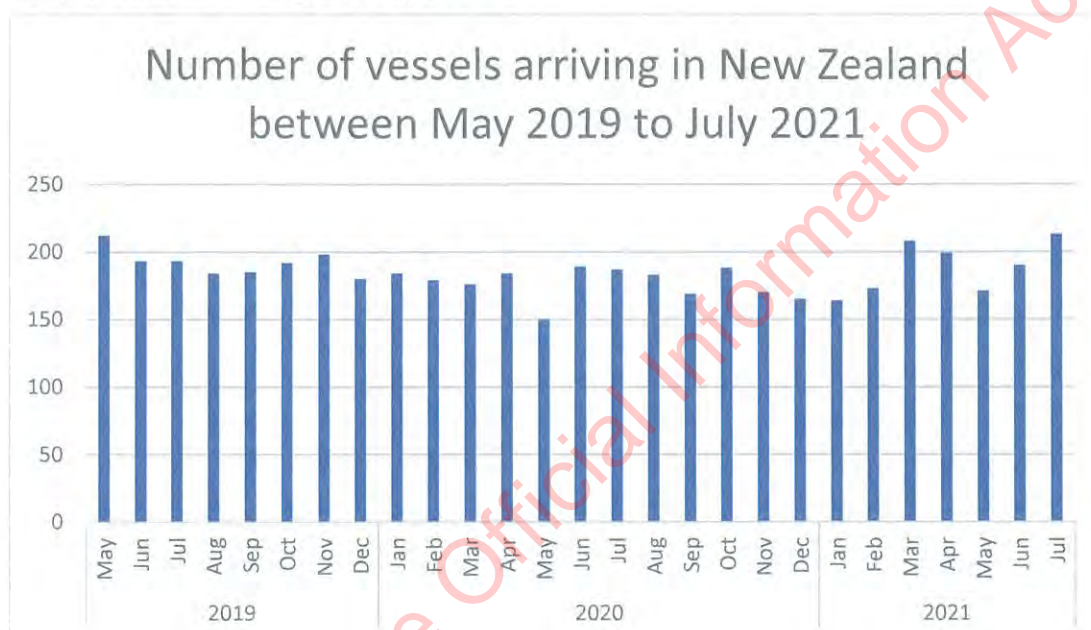




## Appendix Two: Commercial vessel movements

### Commercial vessel movements continue

56. The number of commercial vessels arriving has not changed significantly since border restrictions were imposed in response to the COVID-19 pandemic. Somewhere between 160 and just over 200 vessels normally arrive in New Zealand every month. Most are cargo vessels, but a small number are foreign and domestic fishing vessels. There are a small number of other operational vessels entering New Zealand (such as research, exploration or drilling vessels) as well.



### Cargo vessels

57. Most cargo vessels have crews from more than one place, and crew tend to join the vessel in different places and at different times. The crew composition may not be related at all to the flag of the vessel itself. Traditionally, crews of cargo vessels do not all change at the same time/place, but instead roll through a sequence of changing a proportion of the crew finish their contracts, and replacements arrive to join the vessel. Travel restrictions have made this difficult to continue to do.

### Fishing vessels

58. A small number of foreign flagged fishing vessels enter New Zealand ports each month (six in July 2021; approximately 30 per year from a range of countries). They do not fish in New Zealand waters.
59. Most are of a similar size and with similar crewing levels (20-35 people). The crew composition may not be related at all to the flag of the vessel itself. They tend to replace crew on an ad hoc basis and will likely not replace all crew at once. Typically, fishing companies bring in smaller groups of replacement crew by air. When the vessel enters port, the crew being replaced sign off then the replacement crew signs on.



60. New Zealand-flagged (i.e. domestic) fishing vessels operate mostly within the New Zealand Exclusive Economic Zone and range from larger vessels that fish offshore, who only return after significant periods at sea (3 months or more) to smaller vessels which return much more regularly to unload their catches. Domestic fishing vessels typically bring in larger groups of crew and will swap out crew all at once. Again, crew being replaced will sign off, then incoming crew will sign on.

Released under the Official Information Act 1982





Appendix Three: Diagram of the Crew Change Process

