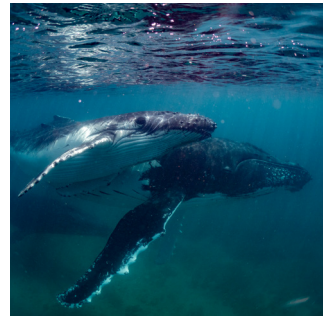


Management Program

for humpback whale
interactions along the
Ningaloo Coast

2020



Australian Government



Department of **Biodiversity,
Conservation and Attractions**



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Warning: This program mentions names and refers to quotations from Aboriginal people who may have passed away.

This management program was prepared by Jessica Strickland.

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Ngarnurra nhuna nhugurarrima Baiyungu, Thalanyji and Yinikurtura ganyarajarri thanardi ngarrari.
We acknowledge Baiyungu, Thalanyji and Yinikurtura People as the original custodians of the management area.

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This management program has been endorsed by the Conservation and Parks Commission and the Ningaloo Coast Joint Management Body.

Jumbuwardu burniji in the Ningaloo (Nyinggulu) area

The following story is told by Hazel Walgar, a Baiyungu woman from the Ganyara language group, and traditional owner who lives on country at Cardabia Station and is involved in the joint management of Ningaloo Marine Park (NMP) and adjacent lands. Hazel has shared the following story about the jumbuwardu burniji, our regular visitors to the Nyinggulu Coast, in order to highlight the cultural connection and understanding that traditional owners have for the land and sea.

“Jumbuwardu burniji, the Baiyungu word for humpback whale. Our regular visitors to the Ningaloo Coast, he’s not from here, he’s from somewhere else. It’s springtime and the jumbuwardu burnijimakes his journey to Ningaloo, Buluwha cold/cooler time. For traditional owners, it’s the right time of the year when most of our traditional food is available as the land and the ocean are flourishing. The winter rains come delivering rich nutrients into the ocean, this helps create food sources. Fish are fat, our shellfish are rich and plump, large quantities of food is available for the jumbuwardu burniji. The temperature of the water changes and mums have their babies. Around September the jumbuwardu burnijiheds south making their journey home by now on country its coming into summer Thubayurri – Hot time. Studying these creatures still continues in the scientific world but we traditional owners know exactly what is happening here on the Ningaloo Coast, these stories have been passed down by our Baiyungu elders.” – Hazel Walgar 2019

This story is not to be copied, reproduced, or used without the author’s consent.

Summary

The *Management program for humpback whale interactions along the Ningaloo Coast 2020* (herein ‘the management program’) has been developed by the Western Australian Department of Biodiversity, Conservation and Attractions (DBCA) to guide the management of interaction activities affecting humpback whales (*Megaptera novaeangliae*), also known in the Ningaloo (Nyinggulu) region as jumbuardu burniji. The management program focuses on Ningaloo Marine Park (State waters) and Muiron Islands Marine Management Area, which are within the Ningaloo Coast World Heritage Area, but also applies to adjacent State waters including the Exmouth Gulf. The program outlines the management arrangements for in-water humpback whale interactions and also considers commercial whale watching, recreational activities and other marine operations.

Management of interactions with humpback whales occurs in accordance with the *Biodiversity Conservation Act 2016* and the *Conservation and Land Management Act 1984* and associated Regulations and is underpinned by the *principles of ecologically sustainable development* and an adaptive management approach. For Ningaloo Marine Park (State waters) and Muiron Islands Marine Management Area, management is consistent with the *Management Plan for the Ningaloo Marine Park and Muiron Islands Marine Management Area 2005–2015*. Management also occurs in the broader framework of various other international, national and state instruments as they apply to humpback whales or the region.

The population of humpback whales that can be found in Western Australian State waters migrates annually from Antarctic feeding grounds to breeding and calving grounds, utilising resting grounds along their migratory pathway. Pressures on humpback whales include risk of vessel strike, noise pollution, marine pollution, habitat modification, human disturbance, and climate change.

In Western Australia (WA), DBCA has the legislative responsibility for the conservation and management of this species. The management program outlines four objectives for humpback whales along the Ningaloo Coast:

1. Improve the understanding of WA’s humpback whale population to inform management.
2. Promote public awareness, appreciation, and support for conservation of humpback whales.
3. Facilitate activities that provide for safe and meaningful humpback whale interactions.
4. Manage pressures to WA’s humpback whale population and its individuals.

In-water interactions

In-water humpback whale interactions offer people the opportunity to view whales in their own environment, which provides an outstanding tourism opportunity. A trial for in-water humpback whale interactions occurred in Ningaloo Marine Park (State waters) and Muiron Islands Marine Management Area from 2016–20. This management program establishes a framework for the transition to, and management of, a licensed in-water humpback whale interaction industry. The management of this activity is underpinned by four principles:

1. Minimise and manage impacts to humpback whales, particularly on mothers and vulnerable calves.
2. Minimise and manage risks to swimmers engaging in in-water humpback whale interactions.
3. Contribute to a sustainable and viable in-water humpback whale interaction industry.
4. Ensure informed decision-making about the in-water humpback whale activity is underpinned by research and monitoring.

Number of licences: There is to be a limited number of licences offered for in-water humpback whale interactions in State waters of Ningaloo Marine Park and Muiron Islands Marine Management Area to manage impacts on whales, manage risks to swimmers and allow for effective management. As part of an adaptive management approach, the number of restricted licences may be reviewed as more information becomes available through research, monitoring and learnings from the industry, but no more than 15 licences, which was the amount involved in the trial, will be issued under this management program.

Licence terms: Licences are to be allocated through a competitive expression of interest process and are to be granted for a ten-year duration with an option to renew for a further term of up to five years, pending a performance assessment.

Licence conditions: Licensed commercial operators will be required to comply with DBCA's *Commercial Operator Handbook* as well as conditions stipulated in their licence that outline how in-water humpback whale operations are to be undertaken. Licence conditions are an important management tool and can be changed in response to new information under an adaptive management approach. The licence conditions for the in-water humpback whale interaction licences stipulate various management arrangements, including the area of operation, swimmer group arrangements, protection measures for calves and certain other whales, interaction protocols, interaction limits and the mandatory use of an Electronic Monitoring System (EMS).

DBCA is responsible for the implementation of the management program, in collaboration and consultation with its partners. The program will guide management of humpback whales along the Ningaloo Coast for a period of ten years and will be subject to review.

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Acronyms

BC Act	<i>Biodiversity Conservation Act 2016</i>
CALM Act	<i>Conservation and Land Management Act 1984</i>
DBCA	Department of Biodiversity, Conservation and Attractions
ECZ	Exclusive Contact Zone
EMS	Electronic monitoring system
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
FOC	Free-of-charge
MIMMA	Muiron Islands Marine Management Area
NCWHAC	Ningaloo Coast World Heritage Advisory Committee
NMP	Ningaloo Marine Park
OUV	Outstanding Universal Value
VRM	Visitor risk management
WA	Western Australia

1 Introduction

1.1 Management context

The *Management program for humpback whale interactions along the Ningaloo Coast 2020* (herein ‘the management program’) has been developed by the Western Australian Department of Biodiversity, Conservation and Attractions (DBCA) to guide the management of tourism, recreational and other activities affecting humpback whales (*Megaptera novaeangliae*), also known in the Ningaloo (Nyinggulu) region as jumbuardu burniji. The management program identifies management objectives, desired outcomes and management actions for State waters of the Ningaloo Coast, in particular Ningaloo Marine Park (NMP) and Muiron Islands Marine Management Area (MIMMA), part of the Ningaloo Coast World Heritage Area (see Map 1).

The management program was developed in consultation with the Ningaloo Coast Joint Management Body and the Conservation and Parks Commission, both of which have provided their endorsement; stakeholders from the tourism industry; and humpback whale scientists. Advice from the Ningaloo Coast World Heritage Advisory Committee (NCWHAC), submissions received from partners and stakeholders on the draft program, and conservation interests have also been considered in the preparation of this management program.

The Ningaloo Coast is the only location in Western Australia (WA) where in-water interactions with humpback whales have been trialled and assessed and the findings of the trial have informed the management program. The management program establishes a framework for the transition to, and management, of a licensed in-water humpback whale interaction industry in the State waters of NMP (NMP also contains Commonwealth waters) and MIMMA.

1.2 Legislative and policy framework

Humpback whales are of local, national and international significance and there is extensive scientific and public interest in the species. The population of humpback whales that can be found in WA State waters migrates annually from feeding grounds in Antarctica to breeding and calving grounds, utilising resting grounds along their migratory pathway. Nationally, humpback whales are listed as ‘vulnerable’ under the [Environment Protection and Biodiversity Conservation Act 1999](#) (EPBC Act) and within WA they are listed as ‘conservation dependent’ under the [Biodiversity Conservation Act 2016](#) (BC Act).

The management program is consistent with the BC Act and Regulations 2018, the [Conservation and Land Management Act 1984](#) (CALM Act) and Regulations 2002, the EPBC Act and Regulations 2000 (Commonwealth), the [Management Plan for the Ningaloo Marine Park and Muiron Islands Marine Management Area 2005–2015](#) and relevant DBCA [policies and guidelines](#). It is also informed by the *principles of ecologically sustainable development* as outlined in the CALM Act and BC Act. DBCA manages the World Heritage values of the Ningaloo Coast, consistent with the [Convention Concerning the Protection of the World Cultural and Natural Heritage](#). The management of humpback whales in WA will occur in the context of this legislative and policy framework. Appendix 1 provides a summary of the relevant instruments supporting the protection of humpback whales.

In WA, DBCA has the legislative responsibility for the conservation and management of this species. Along the Ningaloo Coast, this is done in partnership with the Ningaloo Coast Joint Management Body and Conservation and Parks Commission and in consultation with the NCWHAC, as well as with local, state and national agencies and entities with management responsibilities (Appendix 2).

1.3 Management objectives

The management of this species and any associated activities and programs along the Ningaloo Coast will be conducted in accordance with the following key management objectives:

1. Improve the understanding of WA's humpback whales to inform management.
2. Promote public awareness, appreciation, and support for conservation of humpback whales.
3. Facilitate activities that provide for safe and meaningful humpback whale interactions.
4. Manage pressures to WA's humpback whale population and its individuals.

An adaptive management approach will allow findings from research and monitoring, as well as learnings from operators and managers, to be incorporated into decision-making on an ongoing basis.

2 Background

2.1 Ningaloo Coast

The Ningaloo Coast is located approximately 1,200km north of Perth, WA, and contains the towns of Exmouth (also known as Warnanggura), on the eastern coast of the North West Cape, and Coral Bay, which have thrived on marine tourism for decades (Map 1). The Ningaloo Coast was inscribed on the World Heritage List in 2011 in recognition of its [Outstanding Universal Value](#) (OUV), which has become a drawcard for visitors. The abundance and diversity of marine species and habitats along the Ningaloo Coast contribute to this OUV, with whale sharks, dugong, marine turtles, dolphins, rays and sharks, as well as humpback and other whales, prevalent in the region. Exmouth Gulf, which is adjacent to the Ningaloo Coast World Heritage Area, is an important habitat for resident and migratory species and is an important calving and resting area for migrating humpback whales.

2.2 Humpback whales

The humpback whale (*Megaptera novaeangliae*) is a large baleen whale that can reach more than 17 metres in length and weights of 35 to 40 tonnes. The species has an almost global distribution but there is notable geographical segregation into individual populations. Two populations of humpback whales use Australian waters: Group D (West Coast) and Group E (East Coast). The West Coast population migrates annually from summer feeding grounds in the Antarctic, along the coast of WA to sub-tropical and tropical winter breeding and calving grounds as far north as the Kimberley Region.

The population is currently considered to be significantly more than 30,000 individuals and has recovered from a near complete collapse due to intensive commercial whaling in the 20th century. This population generally leaves their Antarctic feeding grounds around March or April each year, reaching the Ningaloo Coast between approximately May and August on their northern migration. They commence their southern migration around August, with mothers and calves using known resting and nursing grounds along the way, significantly Exmouth Gulf along the Ningaloo Coast. Humpback whales are present along the Ningaloo Coast from approximately May through October; however, the exact timing of the migration can vary slightly from year to year, potentially as a result of water temperature, the extent of Antarctic sea-ice, predation risk, prey abundance and changes to feeding grounds.

2.3 Threats

There are a host of anthropogenic pressures that humpback whales face globally and throughout their extensive range. In WA, threats include vessel strike, noise pollution, marine pollution, human disturbance, habitat modification and climate change. Consideration must be given not only to local pressures, but to the cumulative pressures that may be experienced repeatedly during the migration cycle. Key pressures are summarised in Table 1 along with their associated consequences.

Table 1: Key pressures to humpback whales along the Ningaloo Coast.

Pressure	Consequences
Vessel strike	May cause serious injuries (e.g. cuts, loss of blood, trauma, fractures) or death. Mother and calf pairs are particularly vulnerable. Larger and faster vessels are more likely to cause death.
Noise pollution	Including from vessels, development or construction, and seismic activities. May cause displacement from critical habitat, disrupt behaviour temporarily or permanently, mask natural sounds, impact hearing, cause stress or physical harm, and interfere with communication including potentially causing separation of mother-calf pairs.
Marine pollution	Including marine debris, oil, sewage and other anthropogenic contaminants. Marine debris can be ingested, or cause entanglement, resulting in injury, starvation, impaired movement or drowning. Chemical pollution can cause impaired health, reproduction and immune function, or death.
Habitat modification	May cause changes to behaviours and displacement from areas of preferred habitat, which can lead to reduced condition and decreased reproductive success if there is an energy cost to movement and an alternative habitat is sub-optimal.
Human disturbance	Disturbance to whales can interrupt critical behaviour such as nursing, resting or mating, potentially leading to increased energy expenditure, stress and reduced condition.
Climate change	Consequences are not well understood however may include changes to prey distribution and abundance, habitat modification, use of habitats, and potential impacts to biological functions.
Cumulative pressures	The long-term, cumulative impacts on whales from disturbances, in the form of stress or changed behaviours (e.g. less time spent resting, feeding or providing maternal care), are not well understood.

2.4 Humpback whale interactions

Humans interact with whales in many ways, either intentionally through targeted activities like whale watching, or unintentionally, from activities or vessels being in their vicinity. Whale watching is one of the most rapidly growing and economically attractive tourism industries worldwide. The activity not only provides significant employment and economic benefits, but also has the potential to promote conservation of the species and provide important information about whales and their environments. Humpback whales are a favourite for whale watchers due to their acrobatic behaviour and relative curiosity.

Recently, there has been a growing popularity for in-water interactions with whales; however, this activity is only available in a few locations around the world, including the Kingdom of Tonga, Mexico, the Dominican Republic and Australia. Within Australia, in-water experiences with humpback whales are offered in Queensland (off the Sunshine Coast and in Hervey Bay), New South Wales (in Coffs Harbour, Jervis Bay and Byron Bay), and in WA (off the Ningaloo Coast).

Providing sustainable tourism opportunities in WA's parks and reserves is a [key focus](#) for the State Government. There is a valuable opportunity to further promote the Ningaloo Coast as a quality destination for marine fauna interactions under best-practice management. In-water interactions with whale sharks along the Ningaloo Coast have already been developed into a tourism industry that is recognised as world's best practice. The seasonal presence of humpback whales offers the opportunity for visitors to the Ningaloo Coast to interact with whales. Recreational activities and other marine operations also result in humpback whale interactions or have the potential to impact humpback whales along the Ningaloo Coast.

Interactions along the Ningaloo Coast

Commercial whale watching

Boat-based whale watching tours have been operating off the Ningaloo Coast for many years. A number of commercial tour operators engage in whale watching activities in the region (in particular, the Exmouth Gulf and Coral Bay, shown in Map 1), either as part of a dedicated whale watching tour, or as a supplementary activity on another type of tour (e.g. fishing charter, whale shark or manta ray tour, scuba diving or snorkelling tour). DBCA manages the activities of all commercial tour operators in NMP and MIMMA and sets specific actions for the management of these activities as they relate to humpback whales.

In-water humpback whale interactions

In-water interactions offer people the opportunity to view whales in their own environment, providing an outstanding experience of nature. In WA, interacting with humpback whales in the water is permitted only on tours with licensed operators. It occurs only within NMP and MIMMA and is done under a set of licence conditions managed by DBCA. DBCA will manage in-water humpback whale interactions through commercial licences (see section 3.1) and has outlined desired outcomes and management actions that provide a framework for the management of the industry (see section 3.2). The management of in-water humpback whale interactions is underpinned by four key principles:

1. Minimise and manage impacts to humpback whales, particularly on mothers and vulnerable calves.
2. Minimise and manage risks to swimmers engaging in in-water humpback whale interactions.

3. Contribute to a sustainable and viable in-water humpback whale interaction industry.
4. Ensure informed decision-making about the in-water humpback whale activity is underpinned by research and monitoring.

There may be interest in conducting in-water humpback whale interactions in other WA State waters; however, there has been no assessment of impacts on whales or risks to swimmers in areas other than the Ningaloo Coast to date and expansion of the activity elsewhere is not proposed in this management program. The introduction of this activity in other areas would come with its own unique set of circumstances and these factors would need to be evaluated, along with the cumulative impact this may have on whales, to determine whether the activity would be appropriate and how it would be trialled to guide management specific to that context.

Recreational activities

Members of the public regularly interact with humpback whales along the Ningaloo Coast, either directly while whale watching, or indirectly while enjoying other recreational activities. All members of the public who encounter humpback whales must comply with the rules for interacting with whales in WA State waters (see below). Recreational users are not permitted to approach whales closer than 100m while in the water.

Other marine operations

Other marine activities off the Ningaloo Coast also have the potential to impact humpback whales, including scientific research, commercial shipping, commercial fishing, industry, moorings, infrastructure, or oil and gas exploration (including seismic activity) and development. DBCA manages these activities in accordance with the *Management Plan for the Ningaloo Marine Park and Muiron Islands Marine Management Area 2005–2015* (in NMP and MIMMA), as well as under relevant legislation and instruments (Appendix 1). In addition, a significant portion of NMP is an '[Area to be Avoided](#)' (Map 2) (approved by the International Maritime Organisation) because of the region's ecological significance and its listing as an 'Environmentally Sensitive Sea Area' under the [Convention on Biological Diversity](#). This helps to limit the number of large ships or ships engaged in towing operations traversing along the North West Cape, assisting in reducing the risk of incidents and protecting the Ningaloo Coast World Heritage Area.

3 Management

Everyone must comply with the rules for interacting with whales in State waters as outlined under State legislation.

Rules for interacting with whales in WA State waters

Humpback whales are protected under the BC Act and Regulations 2018, which outline a set of rules for interactions with whales by all people, vessels and aircraft in WA State waters. These rules are designed to protect whales from an unacceptable level of impact from human activities. Commercial and private vessels (including everything from surfboards and kayaks to yachts and launches) and aircraft (including unmanned aerial vehicles/ drones and ultralights) are bound by these rules when interacting with whales.

People not involved in a licensed in-water humpback whale interaction must not enter the water within 100m of a whale. Should a whale approach whilst a person is in the water,

that person must endeavour to re-establish a minimum distance of 100m from the whale as soon as reasonably possible. All vessels not undertaking licensed commercial in-water humpback whale activities must not approach to closer than 100m to a whale and not closer than 300m in a 60° arc in front of or behind a whale.

For the whale watching rules, refer to DBCA's [website](#).

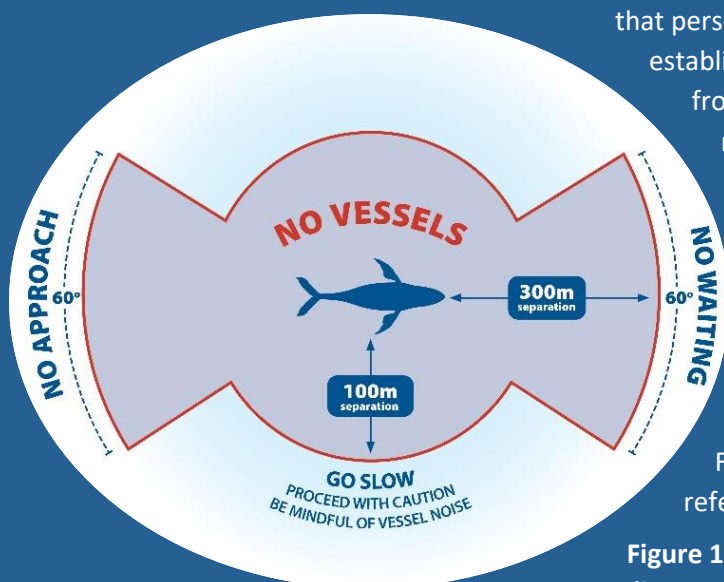


Figure 1: Diagram showing separation distances for vessels in WA waters.

3.1 Licensing

Licensing is a management tool that enables DBCA to authorise appropriate access and activities for certain operations and to monitor operations to ensure natural and cultural values are conserved. DBCA may grant licences to authorise activities where they are consistent with the requirements of the legislation. Where an activity is being conducted in a conservation reserve, such as NMP or MIMMA, licences must be consistent with the purpose of the reserve and the management plan for the area (i.e. the *Management Plan for the Ningaloo Marine Park and Muiron Islands Marine Management Area 2005–2015*).

Commercial operators and photographers, and scientific researchers are required to obtain a licence to conduct activities, abide by specific licence conditions and may have to pay fees and charges towards conservation and management, which reflects a user-pays approach. Licensing is the key instrument used by DBCA to manage activities relating to humpback whales along the Ningaloo Coast, including commercial tourism operations and scientific research.

There are different rules (including for whale watching) and licensing requirements for Commonwealth waters, including the Commonwealth waters of NMP (shown in Map 1). More information can be found on the Australian Marine Parks [website](#) and the Australian Government Department of Agriculture, Water and the Environment [website](#).

Licensing arrangements

Many commercial tourism activities, including whale watching, are managed under unrestricted commercial operations licences that are not limited in number. However, where there is a need to limit the number of licences for an activity in order to conserve protected species, environmental or cultural values, or for management or public safety reasons, DBCA may restrict the number of licences granted for an activity in accordance with the CALM Act or BC Act. Restricted commercial operations licences have a higher level of requirements and contain key performance indicators to allow DBCA to monitor performance. These restricted commercial operations licences tend to be for a longer period and also have a higher licence charge to reflect the higher management costs and the restricted market. In-water interactions with humpback whales have been permitted on a trial basis since 2016 under 15 licences. At the conclusion of this trial, in-water humpback whale interactions will be managed under a limited number of restricted commercial operations licences in order to monitor and manage the impact of this activity on humpback whales and to manage risks to visitors undertaking this activity. Licences are to be allocated through a competitive expression of interest process.

Number of licences

In 2016, 15 licences were offered to all existing whale shark licence holders for the trial to assess in-water humpback whale interactions in NMP (State waters) and MIMMA. Following a transition to a licensed industry, there are to be a restricted number of licences offered through a competitive expression of interest process for in-water humpback whale interactions in this area to manage impacts on whales, manage risks to swimmers and allow for effective management. As part of an adaptive management approach, the number of restricted licences may be reviewed as more information becomes available through research, monitoring and learnings from the industry, but no more than 15 licences will be issued under this management program.

The number of licences will be determined in the context of legislative requirements, findings from the trial and input from a variety of partners and stakeholders through a thorough consultation process. DBCA will consider the *principles of ecologically sustainable development*, which underpin Commonwealth and State legislation and the four principles for in-water interactions (see Page 4).

Licence terms

The restricted commercial operations licences are proposed to be granted for an initial term of ten years, with the possibility of renewal for a further term of up to five years, subject to a performance review. Upon expiration, all licences will be reallocated via a competitive expression of interest process to allow DBCA to select the best commercial operators to undertake the activity.

Licence charges

Licence charges contribute towards the costs of managing commercial in-water interactions with humpback whales, including conservation, research, education and management activities. The charges are applied per passenger and are collected by the commercial operators. This reflects a 'user

pays' approach. A daily licence charge has been set for all tour participants that swim or attempt to swim with humpback whales. DBCA will review the licence charges annually in line with State Government requirements to ensure they are appropriate and contribute towards cost recovery.

Licence conditions

Licensed commercial operators are bound by licence conditions outlined in DBCA's [*Commercial Operator Handbook*](#) (see Appendix 1). Commercial operators are also required to comply with conditions stipulated in their licence that outline how the licensed activity must occur. The licence conditions for in-water humpback whale interaction licences have been developed and refined during a trial period based on research and monitoring and consultation with trial participants, scientists and an independent working group.

Licence conditions are an important management tool designed to protect humpback whales and mitigate visitor risk. Licence conditions may be added to, cancelled, suspended and varied at any time. They are assessed and reviewed regularly. This allows for licence conditions to be changed in response to new information under an adaptive management approach. Licence conditions for the in-water humpback whale interaction licences stipulate various management arrangements, including:

- ***Area of operation*** for in-water humpback whale interactions is within NMP (State waters) and MIMMA.
- ***Swimmer groups*** must contain trained industry personnel and are limited in size to manage the safety of swimmers and impacts to humpback whales. The number of swimmer groups permitted per tour may also be limited to manage cumulative pressure on humpback whales.
- ***Mother and Calf Protection Zone*** is in place to protect mother and calf groups and requires the use of a spotter aircraft to confirm the absence of small calves (less than half the size of accompanying whales) prior to an interaction occurring in this area (see Map 3 and Map 4).
- ***Prohibited whales*** are not permitted to be interacted with. These include small calves (less than half the size of accompanying whales); special interest whales; injured, sick, deceased or incapacitated whales; or whales demonstrating agonistic or disturbance behaviours.
- ***The interaction protocols*** must be displayed and specify various rules for the vessel and for the swimmers during in-water interaction activities (see Appendix 3 for interaction protocols current at the time of writing).
- ***Interaction limits*** limit pressure to individual whales or pods. The time spent with any whale or pod must not exceed 60 minutes and the permitted number of unsuccessful interaction attempts may be restricted. Multiple operators may interact with the same whale or pod if the total cumulative time and number of unsuccessful interactions do not exceed these limits.
- ***Multiple groups*** are permitted in the water with resting whales (to allow groups to swap over in the water), providing only one group comes within 30 metres of a whale.
- ***An Electronic Monitoring System (EMS)*** is to be fitted onto approved vessels and operators are required to record data crucial to DBCA's management of humpback whales and in-water interaction activities.

Further conditions may be considered if required to manage impacts on whales and/or visitor safety, in consultation with operators.

Through the trial the following issues were identified. These will be a focus for monitoring and management to determine any changes that need to occur to licence conditions and/or licence numbers to manage them effectively.

1: Impacts of untested levels of licences

Over the four years of the trial to date, an average of 0.7 tours per day were conducted from Coral Bay (where three licences were held) and an average of 2.8 tours per day were conducted from Exmouth Marina and Tantabiddi (where 12 licences were held)¹. Even in the busiest month over four years of the trial (2016–19), on average fewer than five tours per day operated. Across both locations and over those four trial years, there were only four days when more than seven in-water humpback whale interaction tours occurred on the same day. This means that, although 15 licensed commercial operators were involved in the trial, only the operations and impacts of fewer than seven licences were assessed. This level of activity under the trial reflects that the activity was new; however, it is anticipated that demand would grow once industry licences are allocated and commercial operators invest in that aspect of their business. If the tourism demand for interactions continues to increase at a similar rate as under the trial and to levels seen with the whale shark industry, the following issues need to be managed:

- congestion on the water (with vessels and swimmers) and in the air (with spotter aircraft) could create safety risks;
- there could be increased competition to find eligible whales and resulting disturbance to whales; and
- there is potential for a reduction in the quality of visitor experience, with implications for Ningaloo's reputation as a world-leader in marine fauna interactions.

The issues of congestion and competition for eligible whales were reported by operators and observed during the trial despite the low level of activity per licence. These issues will be monitored, and licence conditions may be amended in consultation with operators to manage them. Consideration may also be given to reducing the number of licences to be allocated at the completion of the trial if these issues cannot be managed through licence conditions.

2: Unknown longer-term consequences and cumulative impacts on individual humpback whales

Changes in short-term behaviours of individual humpback whales during interactions with vessels and swimmers are well-documented and were observed from in-water interactions during the trial. The longer-term consequences of single interactions and cumulative consequences of repeated disturbances such as these are unknown. Licence conditions and/or numbers may be reviewed if research and monitoring indicate that longer-term consequences and cumulative impacts to humpback whales are unacceptable.

3: Complexity of interactions

Although the whale shark industry has been operating successfully in NMP and MIMMA with 15 licensed commercial operators, it is important to note that interactions with humpback whales can be far more complex, require a greater level of involvement from spotter aircraft, and may have a higher level of risk than whale shark interactions. Humpback whales in general are much faster, significantly larger, more unpredictable, more dangerous, and more likely to actively avoid an interaction. Individual humpback whales are also potentially at risk of being significantly impacted by cumulative or sustained tourism pressure because, as baleen whales, they can be sensitive to noise, exhibit

¹ The month of November was removed from calculations as licensed trial operators generally concluded in-water humpback whale operations by the end of October.

complex social bonds that can be affected by stress, must surface to breathe and are dependent on a limited energy budget while migrating and not feeding. Hence, although there are 15 licences for whale shark operations, the number of licences for in-water humpback whale interactions shall be assessed and allocated independently of whale shark interaction licences and with consideration of the particular challenges of this activity, the greater sensitivity of this species, and increased risk to swimmers.

4: Location of interactions

In-water humpback whale interactions are permitted in a smaller operational area than whale shark interactions, due to interactions only being permitted in State waters, not Commonwealth waters, of NMP. During the trial, interactions were spatially condensed along the back of Ningaloo Reef due to the limited availability of suitable humpback whales further offshore and the more difficult conditions generally considered involved in accomplishing successful interactions in deeper water. Maps showing low and high use areas off North West Cape, for commercial operators from Tantabiddi and Exmouth Marina (Map 5), and Coral Bay (Map 6) demonstrate the spatial distribution of in-water humpback whale interactions over four years of the trial (2016–19). The areas used tend to be frequented by mother and calf groups, specifically the area just westward of the Ningaloo Reef edge and Bateman Bay. Although special licence conditions for interactions in this area are applied under the Mother and Calf Protection Zone to protect vulnerable pods travelling with calves, the implications of the concentration of operations in this area for humpback whale mothers and calves will continue to be a key consideration in licensing. This is particularly the case in Bateman Bay, where research suggests the area may be used for short periods of resting and nursing by mother and calf pairs.

Visitor Risk Management (VRM)

VRM is an important component of DBCA's role in managing all interactions with humpback whales. Risks to visitors are managed in accordance with DBCA's VRM policy and guidelines and information on visitor risk and safety is also outlined in DBCA's *Commercial Operator Handbook*. A risk assessment for the in-water humpback whale interaction trial identified swimming with humpback whales as an inherently dangerous activity. Risks to swimmers include:

- being struck by a whale in the water,
- being struck by vessels participating in the activity or any other vessels,
- humpback whale predators such as killer whales (*Orcinus orca*), and
- impacts to health or drowning.

Although the responsibility for risk management for in-water humpback whale interactions is that of the licensed commercial operator, DBCA sets licence conditions to mitigate risk to visitors for in-water interactions. DBCA also provides commercial operators with information that outlines the risks and how they should be assessed and managed to help make informed decisions regarding placing swimmers in the water with humpback whales. Licence conditions contain measures to mitigate risks to swimmers in the water and include the following:

- Commercial operators and personnel are required to undertake training with DBCA.
- Swimming with small calves (less than half the size of accompanying whales) or with injured, sick or deceased whales is prohibited.
- A marine mammal lookout must be deployed, and interactions must cease immediately at the first sign of any whale showing agonistic or disturbance behaviours.
- A humpback whale flag is required to be displayed during attempted in-water interactions.

- Only one vessel is permitted in the Exclusive Contact Zone when swimmers are in the water and an in-water interaction is occurring (see Appendix 3).
- Minimum separation distances exist from whales for swimmers in the water.
- Swimmer groups must include trained personnel and are restricted in numbers.
- There is a requirement to display interaction protocols and provide visitors with briefings.
- In-water interactions are not permitted if a killer whale has recently been seen in the vicinity.

3.2 Management actions

Desired outcomes and management actions that guide and outline how DBCA will manage interactions with humpback whales along the Ningaloo Coast are below.

Desired outcome 1: Ensure this management program is underpinned by the principles of ecologically sustainable development.

Management actions:

- 1.1 Ensure all aspects of decision-making for humpback whales consider the *principles of ecologically sustainable development*.
- 1.2 Regularly review and adapt management strategies to include findings from research, monitoring, and consultation with commercial operators and the community, and to respond to changing conditions.
- 1.3 Actively communicate and consult with key partners including Gnulli joint management partners, Conservation and Parks Commission, the NCWHAC, commercial operators, researchers, other agencies and partners.

Desired outcome 2: Ensure the conservation of humpback whales is a consideration in making broader decisions for the Ningaloo Coast.

Management actions:

- 2.1 Provide advice on the management of humpback whales to external entities as required.
- 2.2 Implement temporal or spatial vessel speed limit recommendations as required to minimise impacts on humpback whales, in consultation with relevant partners and stakeholders.
- 2.3 Support the application of the Area to be Avoided declared by the International Maritime Organisation to reduce ship-related pressures to humpback whales across the majority of management area (see Map 2).

Desired outcome 3: Adopt a partnership approach with the humpback whale tourism industry involving regular communications to foster best-practice and effective management.

Management actions:

- 3.1 Explore and implement ways of promoting effective communication between DBCA, commercial operators and industry personnel.
- 3.2 Hold regular meetings with commercial operators and provide pre-season letters and information packs where appropriate to allow information exchange and foster good working relationships.
- 3.3 Communicate research and monitoring findings back to commercial operators and industry personnel.

Desired outcome 4: Ensure appropriate licensing arrangements are implemented for all licensed humpback whale interactions and activities.

Management actions:

- 4.1 Grant licences for humpback whale interactions and research in NMP and MIMMA in line with the Management Plan for the Ningaloo Marine Park and Muiron Islands Marine Management Area 2005–2015.
- 4.2 Review licence conditions relating to humpback whale interactions or research annually and adapt as required to ensure they are relevant, effective, and informed by research, monitoring, stakeholder feedback and best practices.
- 4.3 Consult with Gnulli joint management partners, the NCWHAC, the tourism industry, science representatives or relevant stakeholders on licence conditions relating to humpback whale interactions or research.
- 4.4 Restrict the number of commercial operations licences available for in-water humpback whale interaction tours in the management area to manage impacts on whales, manage risks to swimmers and allow for effective management to no more than 15 licences, which was the amount involved in the trial.
- 4.5 Allocate restricted commercial operations licences for in-water humpback whale interactions through a competitive expression of interest process to allow the best applicants to be selected.
- 4.6 Grant in-water interaction licences for a ten-year duration with possible renewal for a term of up to five years, pending performance assessment.
- 4.7 Review the licensing arrangements for in-water humpback whale operations in light of research and monitoring findings and feedback from the industry to determine if the number of licences and conditions applied through the licences are appropriate and amend as required.

Desired outcome 5: Implement an effective enforcement and compliance regime.

Management actions:

- 5.1 Ensure that commercial operators, industry personnel, and those engaged in other marine operations understand and comply with legislation and any licence or permit conditions.
- 5.2 Educate recreational users on rules and regulations governing marine parks and wildlife interactions and promote the importance of compliance with legislation.
- 5.3 Regularly review compliance management to identify and address compliance and enforcement priorities.

Desired outcome 6: Continue to encourage, monitor and respond to whale related reports.

Management actions:

- 6.1 Develop, implement and regularly review standard operating and reporting procedures and data management for incidents related to humpback whale interactions.
- 6.2 Encourage reports of and respond to humpback whale related incidents as required, including whale entanglements, injuries, strandings or deaths.
- 6.3 Develop, implement and regularly review a system for encouraging, receiving and storing data about notable or unusual whale sightings or behaviours.

Desired outcome 7: Manage risks to visitors involved in in-water interactions.

Management actions:

- 7.1 Apply DBCA's [VRM policy](#) and guidelines to in-water interactions with humpback whales and adapt management of this activity accordingly to ensure that visitor risk is managed effectively by commercial operators in accordance with licence conditions.
- 7.2 Review VRM licence conditions annually as well as in light of any incidents.
- 7.3 Provide VRM information and resources to commercial operators and industry personnel and provide training in VRM as required.

Desired outcome 8: Improve the understanding of humpback whale abundance, distribution and use of the Ningaloo Coast and the pressures on the species through research and monitoring.

Management actions:

- 8.1 Develop and implement a research and monitoring plan that identifies appropriate strategies based on management-related knowledge gaps to inform adaptive management.
- 8.2 Support research on humpback whale abundance and distribution along the Ningaloo Coast and in adjacent waters.
- 8.3 Support efforts to provide an updated Group D humpback whale population estimate.
- 8.4 Support research that improves the understanding of the potential impacts of in-water interactions on humpback whales, in particular mothers and calves.
- 8.5 Support research that improves the understanding of pressures and threats to humpback whales.
- 8.6 Develop partnerships and collaborations to address research and monitoring priorities.
- 8.7 Monitor industry EMS data from licensed operations to inform management of in-water humpback whale interactions.

Desired outcome 9: Ensure the humpback whale tourism industry provides visitors with a high-quality experience that is consistent with the Ningaloo Coast's reputation for best-practice ecotourism.

Management actions:

- 9.1 Conduct monitoring of visitors to assist management and the humpback whale tourism industry to ensure the tourism product provides high satisfaction.
- 9.2 Monitor humpback whale visitor number trends to inform management.
- 9.3 Support research to improve the understanding of the social and economic value of the humpback whale tourism industry and how it contributes to conservation.
- 9.4 Ensure findings from visitor research and monitoring are shared with commercial operators and industry personnel as appropriate, to enable the humpback whale tourism industry to provide visitors with a high-quality experience.

Desired outcome 10: Promote humpback whale conservation behaviours along the Ningaloo Coast through user education.

Management actions:

- 10.1 Educate vessel users about safe boating practices including speed restrictions around humpback whales and other marine species.
- 10.2 Educate users about the rules and regulations for interacting with humpback whales and other cetaceans (in particular, separation distances and unlicensed/ recreational users not attempting to swim with them).
- 10.3 Encourage users to report pollution, marine debris, entanglement hazards, and injured or dead wildlife, non-compliance and unusual whale sightings.
- 10.4 Encourage users to consider responsible and courteous behaviours around other vessels interacting with whales.
- 10.5 Incorporate environmental awareness into educational messaging for recreational and commercial users (e.g. ensure users are informed about restrictions on pollution and sewage discharge).
- 10.6 Disseminate key messages to users through a range of media, including signage, traditional and social media, online platforms, boat ramp education, vessel patrols and others, as appropriate.

Desired outcome 11: Create an informed, supported and educated humpback whale tourism industry through training and education.

Management actions:

- 11.1 Review and improve in-water humpback whale interaction training program as necessary.
- 11.2 Provide commercial operators and industry personnel with relevant educational messages to distribute to visitors.
- 11.3 Ensure commercial operators and industry personnel are educated about conservation of humpback whales, the latest research and monitoring findings, potential safety issues and procedures to manage visitor risk (i.e. value in using in-water radios, use of tenders, accurately estimating calf size and assessing whale behaviour), as appropriate.
- 11.4 Work with Gnulli traditional owners to incorporate local indigenous culture and values into training and education for the humpback whale tourism industry.
- 11.5 Ensure commercial operators and industry personnel are educated about the OUV of the Ningaloo Coast World Heritage Area.

Desired outcome 12: Raise community awareness of humpback whales through education and public engagement to support conservation.

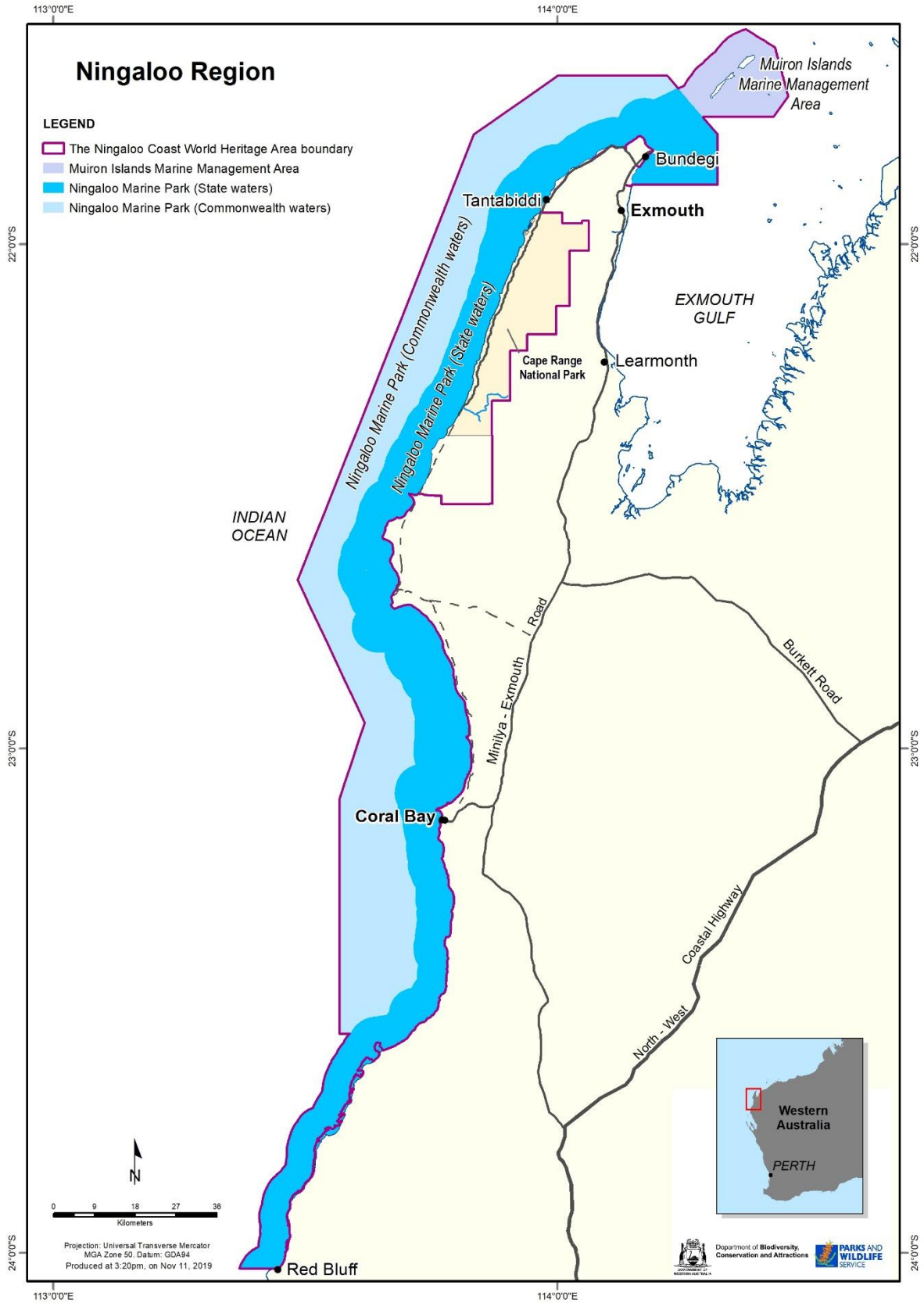
Management actions:

- 12.1 Communicate relevant educational messages and research findings with the community.
- 12.2 Engage with the community to disseminate key educational messages through public engagement, including public talks, school outreach programs, and others, as appropriate.
- 12.3 Include Gnulli traditional owners' culture and values into key community messages and educational resources, as appropriate.
- 12.4 Promote humpback whales as a key component of the OUV of the Ningaloo Coast World Heritage Area.

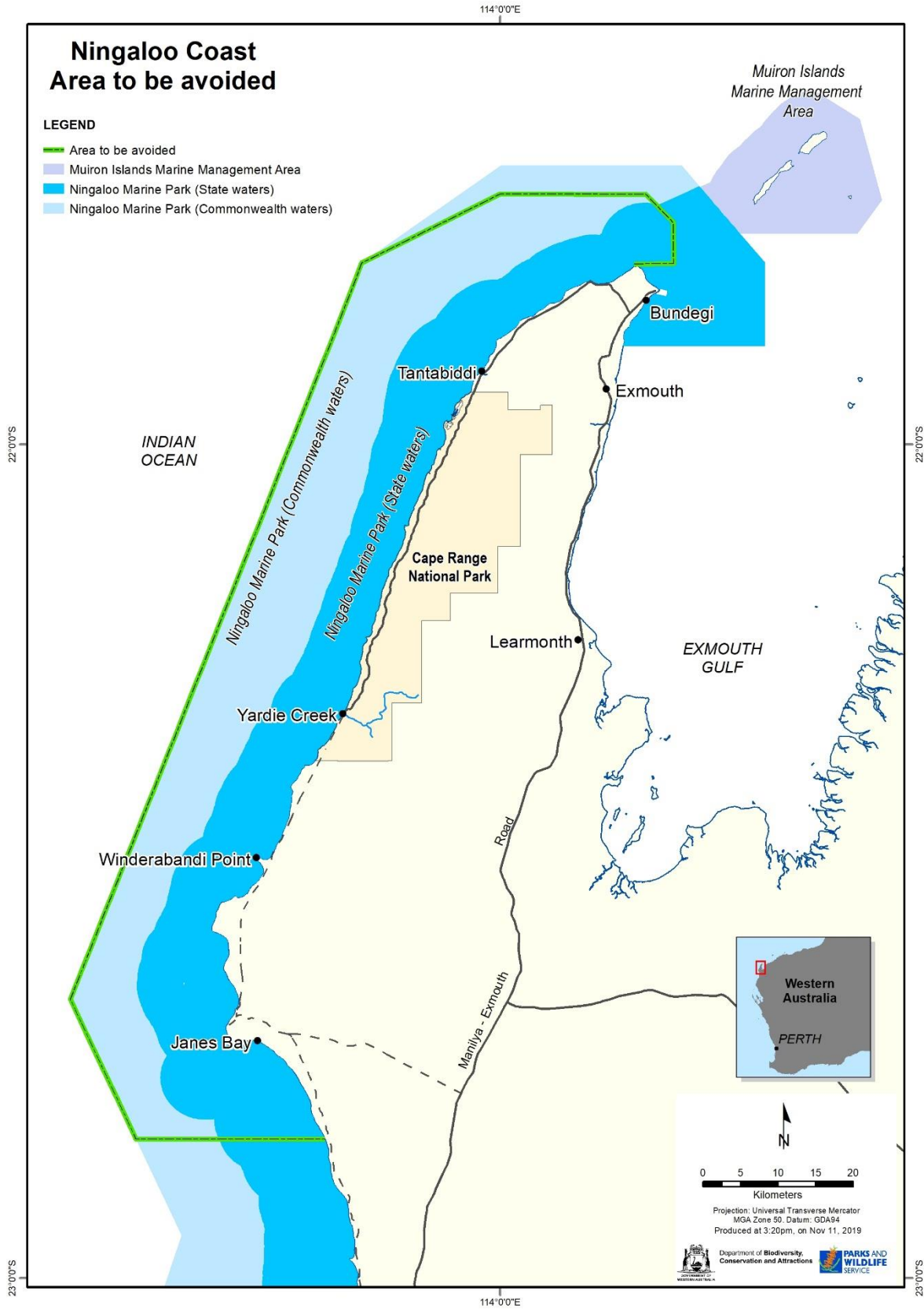
4 Implementation and Review

DBCA is responsible for the implementation of the management program. However, other entities have responsibilities relating to its implementation and may provide support as required. The Conservation and Parks Commission will review DBCA's management of humpback whale-related activities in NMP (State waters) and MIMMA in accordance with the *Management Plan for the Ningaloo Marine Park and Muiron Islands Management Area 2005–2015*. The Ningaloo Coast Joint Management Body will jointly manage humpback whale related activities in the State waters of NMP. The NCWHAC will advise on maintaining and communicating the OUV of the Ningaloo Coast World Heritage Area, including as it relates to humpback whales.

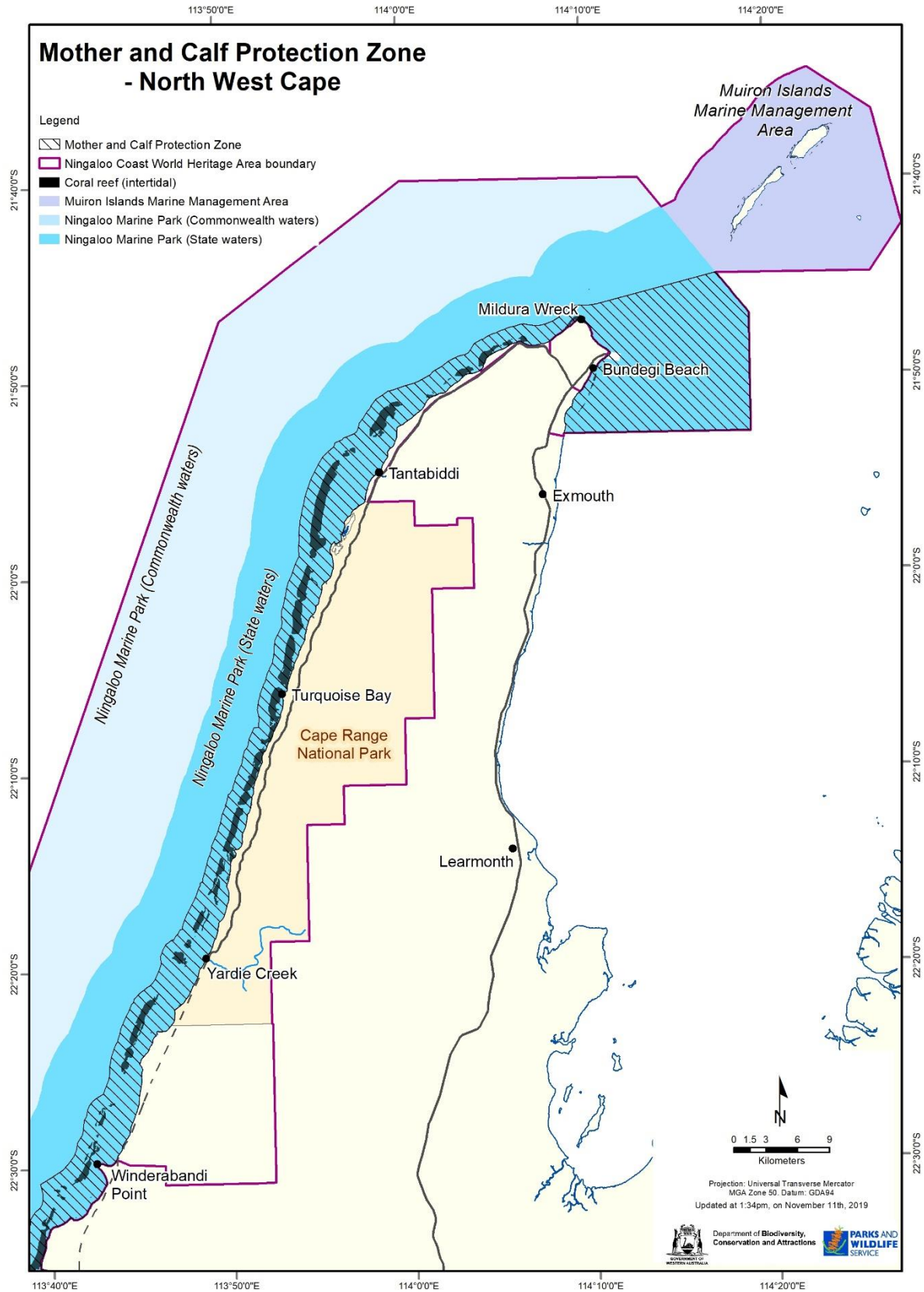
The management program will guide management of humpback whales along the Ningaloo Coast for a period of ten years. DBCA will undertake a mid-term review of the management program to evaluate the management of the in-water humpback whale interaction industry, commercial whale watching, recreational activities and other marine operations related to humpback whales. At the completion of the ten-year period, the management program will be reviewed and updated. The management program will remain in force in its original form until it is either revised or revoked by DBCA or until a new management program is approved.



Map 1: Location of Ningaloo Marine Park (State and Commonwealth waters), Muiron Islands Marine Management Area, the Ningaloo Coast World Heritage Area, and the Exmouth Gulf.

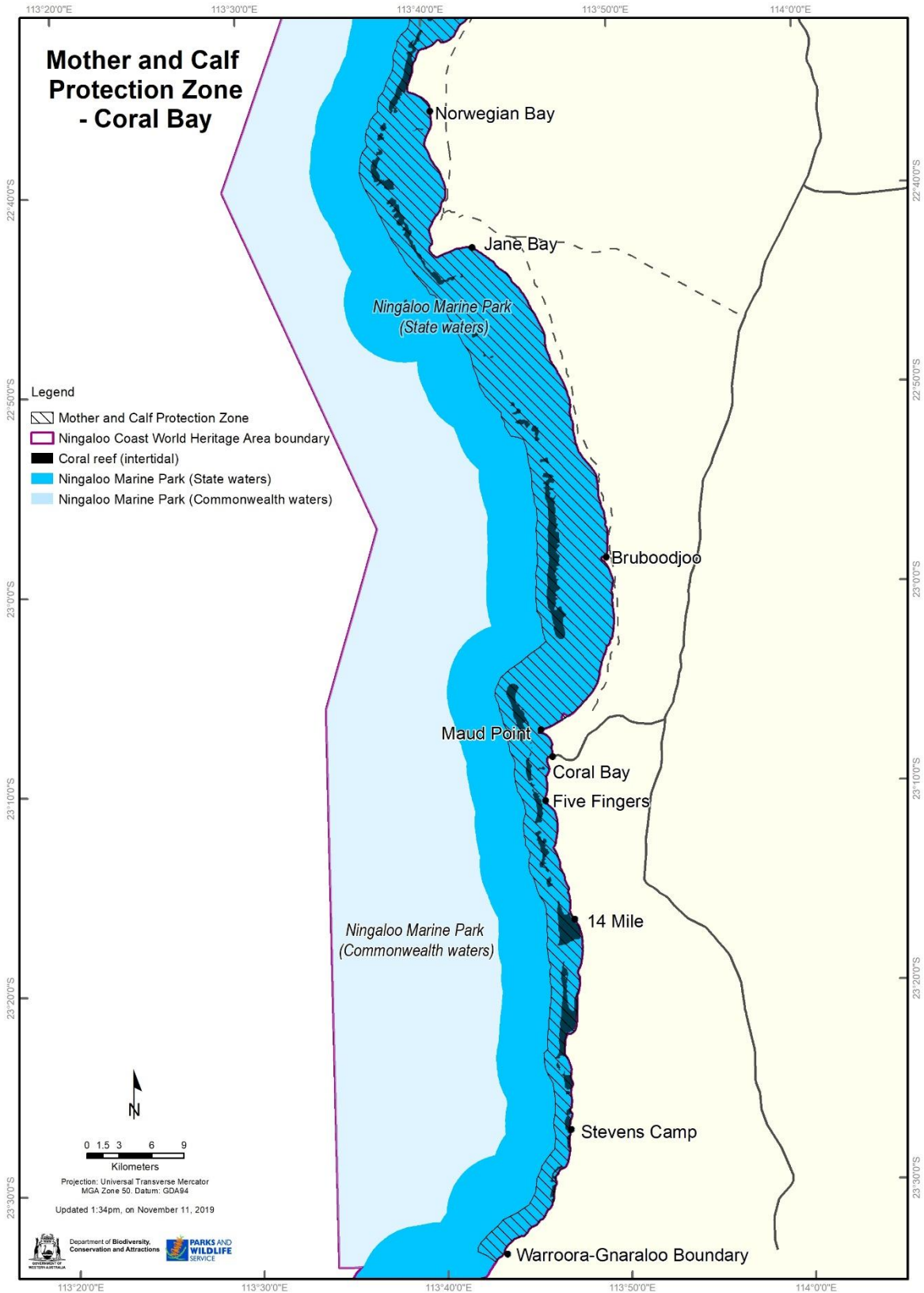


Map 2: Ningaloo Coast Area to be Avoided declared by the International Maritime Organisation.

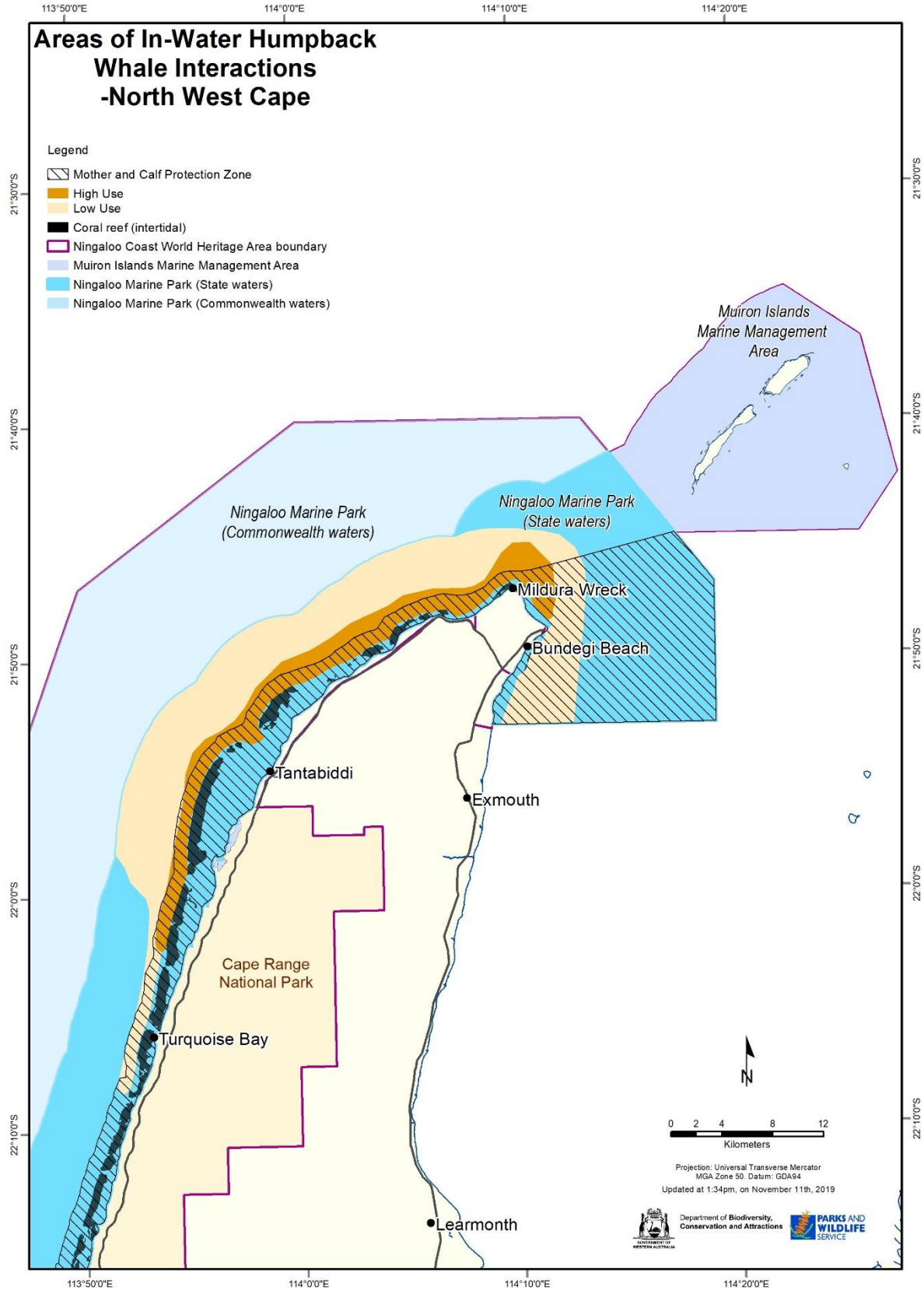


Map 3: Mother and Calf Protection Zone off the North West Cape.

Management program for humpback whale interactions
along the Ningaloo Coast 2020

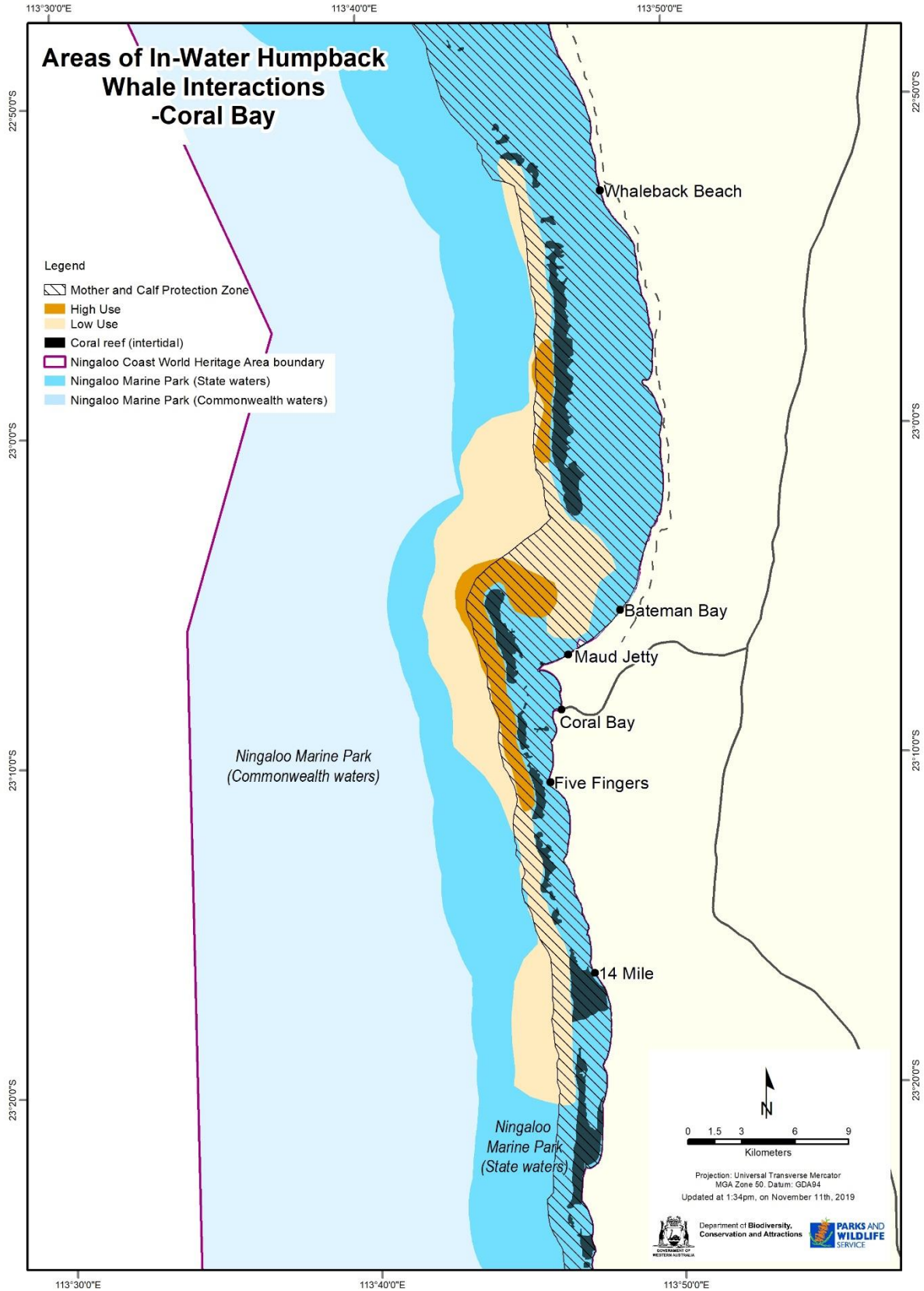


Map 4: Mother and Calf Protection Zone off Coral Bay.



Map 5: Areas of in-water humpback whale interactions off the North West Cape over four years of the trial from 2016-2019, showing areas of high use and low use.

Management program for humpback whale interactions
along the Ningaloo Coast 2020



Map 6: Areas of in-water humpback whale interactions out of Coral Bay over four years of the trial from 2016-2019, showing areas of high use and low use.

5 Appendices

Appendix 1: Relevant instruments for humpback whale management

Table 2 shows the instruments relevant for the protection and management of humpback whales at an international, national, state and regional level.

Table 2: Relevant instruments for the protection or management of humpback whales and their habitats.

Instrument	Level				Status/protection
	International	National	State	Regional	
<u>International Convention for the Regulation of Whaling</u>	✓				Moratorium on commercial whaling
<i>Whale Sanctuaries</i>	✓				Commercial whaling prohibited
<u>The Convention on the Conservation of Migratory Species of Wild Animals</u>	✓				Protected and listed under Appendix I
<u>Convention on International Trade of Endangered Species of Wild Fauna and Flora</u>	✓				Protected and listed under Appendix I
<u>Convention Concerning the Protection of the World Cultural and Natural Heritage</u>	✓				Protected as a component of the World Heritage values of the Ningaloo Coast
<u>Convention on Biological Diversity</u>	✓				Protection of species and habitats
<u>International Union for the Conservation of Nature Red List of Threatened Species</u>	✓				Listed as 'least concern'
<i>Area to be Avoided approved by International Maritime Organisation; General Provisions on Ships' Routeing</i>	✓	✓			Involves measures to protect from certain shipping operations.
<u>Environment Protection and Biodiversity Conservation Act 1999 and Regulations 2000</u>		✓			Listed as 'vulnerable' and 'migratory species'
<i>Australian Whale Sanctuary, under EPBC Act</i>		✓			Protected as a cetacean
<i>Ningaloo Environmentally Sensitive Sea Area</i>		✓			Has a higher level of protection from commercial activities
<u>Australia's Biodiversity Conservation Strategy 2010-2030</u>		✓			Protected as biodiversity

Management program for humpback whale interactions
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Instrument	Level				Status/protection
	International	National	State	Regional	
<u>Biodiversity Conservation Act 2016 and Regulations 2018</u>			✓		Listed as 'specially protected species'
<u>Conservation and Land Management Act 1984 and Regulations 2002</u>			✓		Protected on CALM Act land (and waters)
<u>DBCA's Strategic Directions 2018–21</u>			✓		Indirectly protected and conserved
<i>Department of Transport Legislation</i>			✓		Management of vessels used in operations
<u>DBCA's Corporate Policies and Guidelines</u>			✓		Part of management framework
<u>DBCA's Commercial Operator Handbook</u>			✓		Outlines procedures and general licence conditions for commercial operators
<u>Management Plan for the Ningaloo Marine Park and Muiron Islands Management Area 2005–2015</u>				✓	Listed as a value with relevant management targets and strategies

Appendix 2: Entities relevant to humpback whale management

Table 3 shows the entities relevant to the management of humpback whales along the Ningaloo Coast and their roles and responsibilities.

Table 3: Entities with roles relevant to the management of humpback whales along the Ningaloo Coast.

Entity	Roles
<i>DBCA</i>	<ul style="list-style-type: none"> responsible for the management of State land and waters and conservation of flora and fauna, under the <i>Biodiversity Conservation Act 2016</i> and the <i>Conservation and Land Management Act 1984</i> manages all activities relating to or affecting humpback whales in WA State waters including commercial and recreational activities and other marine operations jointly-manages the Ningaloo Coast World Heritage Area, including the State waters of NMP, with Gnulli traditional owners through the Ningaloo Coast Joint Management Body manages the OUV of the Ningaloo Coast World Heritage Area in consultation with the NCWHAC and the Australian Department of Agriculture, Water and the Environment
<i>Ningaloo Coast Joint Management Body</i>	<ul style="list-style-type: none"> collaborative decision-making body comprising representatives from the Gnulli native title claimants and DBCA staff draws on cultural knowledge and western scientific expertise to protect and conserve the cultural significance and the World Heritage values of the Ningaloo Coast guides management of State waters of NMP assists with decisions pertaining to the State waters of NMP and the activities within its boundaries, including those related to humpback whales
<i>Conservation and Parks Commission</i>	<ul style="list-style-type: none"> independent statutory body reporting to the WA Minister for Environment, in which marine parks and reserves are vested plays an important role in the development of policy, management plans and marine reserves that are vested in the Conservation and Parks Commission audits the management of marine reserves and their including the ecological values (such as humpback whales) identified within these areas
<i>Director of National Parks</i>	<ul style="list-style-type: none"> a Statutory Authority with responsibility to manage national reserves responsible for the Commonwealth waters of NMP, which is managed in partnership with DBCA under an agreement
<i>Department of Agriculture, Water and the Environment</i>	<ul style="list-style-type: none"> Australian government department administers the <i>Environment Protection and Biodiversity Conservation Act 1999</i> that protects National and World Heritage values and migratory species including humpback whales

Entity	Roles
	<ul style="list-style-type: none"> • administers the Environment Protection and Biodiversity Conservation Regulations 2000 including issuing cetacean permits under the EPBC Act for actions that will interfere with or injure a cetacean • responsible for the <i>Australian National Guidelines for Whale and Dolphin Watching 2017</i>
NCWHAC	<ul style="list-style-type: none"> • an independent advisory stakeholder group established by an agreement between the Australian and WA Government and supported by DBCA • contributes to enhancing the stewardship and community connection to the Ningaloo Coast World Heritage Area • provides advice on the protection, conservation, presentation and management of the OUV of the Ningaloo Coast World Heritage Area • provides input into opportunities to promote Ningaloo Coast World Heritage Area values
<i>Department of Transport</i>	<ul style="list-style-type: none"> • State government department • responsible for boating regulations, safety standards and marine pollution incidents • manages the coastal infrastructure at the Coral Bay boat launching facility used by Coral Bay commercial operators • manages and issues commercial surveys for vessels allowing the carrying of paying passengers, such as commercial operator vessels
<i>Shires of Exmouth and Carnarvon</i>	<ul style="list-style-type: none"> • manage the lands and other facilities adjacent to the management area
<i>Australian Marine Safety Authority</i>	<ul style="list-style-type: none"> • the national regulatory body for domestic commercial vessel activity • responsible for vessel safety, protection of the environment from ship pollution and pressures, provision of infrastructure for safe navigation, and maintenance of a national search and rescue service • regulating vessels used in commercial operations
<i>Civil Aviation Safety Authority</i>	<ul style="list-style-type: none"> • the national regulatory body for civil aviation • responsible for licensing pilots, registration of aircraft, and overseeing safety • regulating spotter aircrafts and unmanned aerial vehicles used for commercial operations

Appendix 3: Interaction Protocols

2019 Interaction protocols are shown in Figure 2 and Figure 3, and are current at publication but are subject to change.

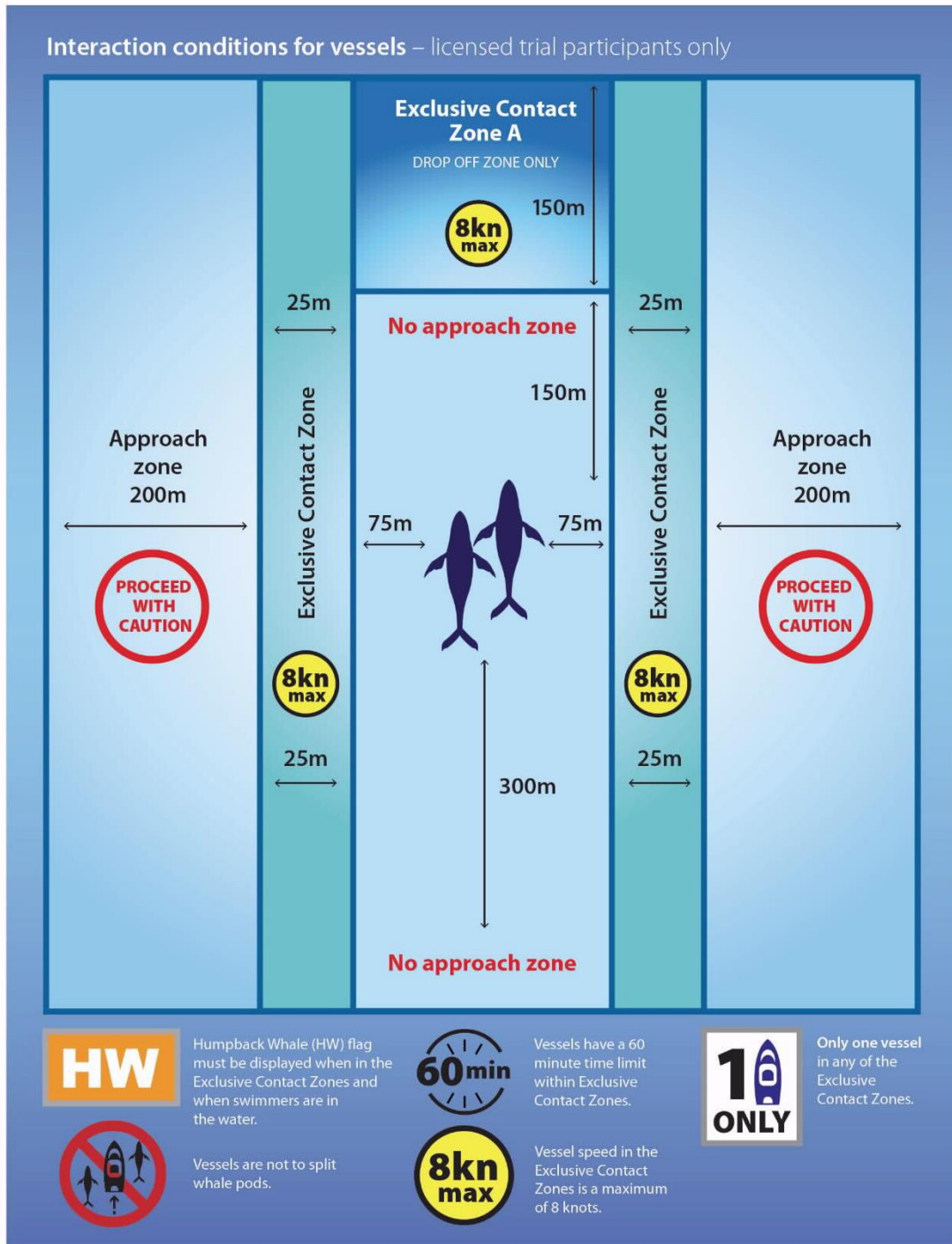


Figure 2: 2019 Interaction protocol for licensed commercial in-water humpback whale interaction vessels.

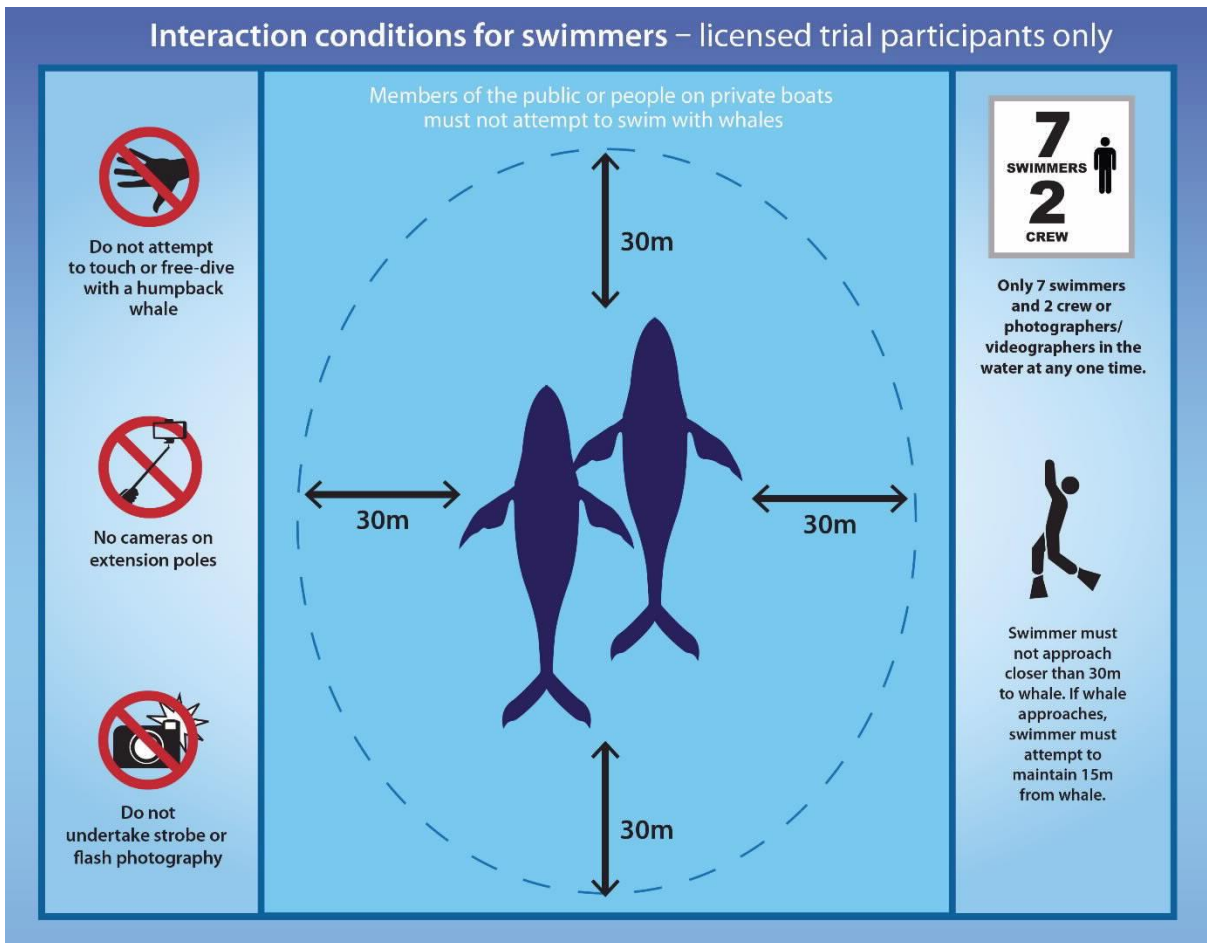


Figure 3: 2019 Interaction protocol for swimmers on a licensed commercial in-water humpback whale interaction tour.

