8.0 TECHNICAL SECTION

WILDLIFE

Lyttelton Port Company

WARNING – Printed versions of Technical Section 8.0: Wildlife are uncontrolled. Official and controlled versions of Technical Section 8.0: Wildlife are available on LPC website.

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Hector's dolphins
(image © Shelley McMurtrie/EOS Ecology)

8.1 INTRODUCTION

This Section provides technical guidance for Contractors on how wildlife effects must be managed during construction, and helps them to prepare the wildlife management sections of their CEMP.

Please note, throughout this Section, any references to 'you' or 'your' are directed at the Contractor.

As part of Banks Peninsula, the Port and Lyttelton Harbour/Whakaraupō are part of a regionally distinct incised coastline that supports a wide variety of marine life. The topography of the steep slopes and hills surrounding the Port have also given rise to a diverse range of environments for terrestrial wildlife.

As people have modified the environment surrounding the Port, many of the distinctive wildlife and vegetation types have disappeared, been changed or become more localised in their distribution. Despite these changes over the past 200 or more years, there is still a substantial variety of threatened, rare or locally important wildlife – both on land and in the sea.

LPC takes its corporate environmental responsibilities seriously, and that extends to being a leader in the stewardship of wildlife. In concert with Tangata Whenua Waitaha, Ngāti Mamōe and Ngāi Tahu, LPC seeks to identify and manage risks and, where appropriate, protect and enhance indigenous biodiversity on the land and in the water.

As part of that legal and ethical responsibility, Contractors must do the right thing. Works associated with the reinstatement and redevelopment of the Port has the potential to generate impacts on wildlife during construction.

You will need to manage these potential effects from your activities to avoid undue impacts on species and habitats of special importance. Part of this also includes maintaining positive relationships with organisations that have a responsibility or interest to ensure the welfare of such wildlife, such as the Department of Conservation (DOC), Tangata Whenua and the Regional and District Councils.

Wildlife included in this CEMP are species, communities or habitats that are of conservation significance having been identified through the resource consent process, or being of local or cultural importance. In most cases 'conservation significance' equates to its classification in DOC's species threat classification system which categorises species risk of extinction based on population size, existing threats and rate of decline over time[1].

This Section is designed to be worked through from start to finish. A flowchart summarising the content of each Section is over the page.

1 Townsend, A.J.; de Lange, P.J.; Norton, D.A.; Molloy, J.; Miskelly, C.; Duffy, C. 2008. New Zealand Threat Classification manual. Department of Conservation, Wellington. 30 p.

ASSESSMENT

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8.2 ROLES & RESPONSIBILITIES
Outlines the responsibilities of the Contractor, Wildlife Specialist and the LPC Project Manager.

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What wildlife criteria your project has to achieve.

8.6 CONTROL MEASURES
What to do for high/medium/low risk projects. For high risk projects additional mitigation is specified by the Wildlife Specialist as required.

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8.7 MONITORING & REPORTING REQUIREMENTS
Requires monitoring throughout the project and may trigger the need for additional involvement of the Wildlife Specialist.

Wildlife monitoring results to be reported to the LPC Project Manager when required. Reporting may also be required to DOC under specified permits or Authorities for wildlife work.

8.8 CONTINGENCY MEASURES
References the procedure for involving further Wildlife Specialist expertise where situations of wildlife handling may be required.

ASSESSMENT

8.2 ROLES & RESPONSIBILITIES

Port development activities are generally undertaken by third party Contractors, which are managed directly by LPC or a consultant on behalf of LPC.

8.2.1 CONTRACTOR

- Preparing and implementing the wildlife content of the CEMP in accordance with this Technical Section.
- Engaging with a Wildlife Specialist for day to day observations if the project has a high risk rating.
- Monitoring wildlife at the beginning of project and notifying the LPC Project Manager as soon as possible if wildlife is found within the project area where it has not been recorded in this Technical Section.
- Implement the control measures at all times. All Contractors and sub-contractors have an obligation to stop work and inform the project Wildlife Specialist if the Wildlife Accidental Discovery Protocol (WADP, Section 8.9) is triggered by work in the project area.
- Liaison with the LPC Project Manager on any complaints received, wildlife investigations undertaken and any instance where DOC's assistance is sought.

8.2.2 WILDLIFE SPECIALIST

- Providing advice on wildlife values as part of project planning, especially in areas of high risk for wildlife.
- Undertaking pre-works checks for wildlife in accordance with the Performance Standards as set out in this Technical Section.
- Undertaking wildlife recovery and relocation works (if permitted under the appropriate legislation) or liaising with DOC or other appropriately qualified specialists to undertake such wildlife recovery and relocation as may be required by the controls or WADP.
- Providing advice to Contractor on additional mitigation measures appropriate for high risk projects.

8.2.3
LPC PROJECT MANAGER

- Direct the Contractor to undertake investigations, monitoring and methodology changes if required in light of wildlife monitoring results, and in accordance with the advice of the Wildlife Specialist.
- Where permits or Authorities to undertake work on wildlife are deemed by the Contractor to be absent, incomplete or not fit for purpose, the LPC Project Manager shall review those materials in conjunction with the Wildlife Specialist and liaise with DOC.

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8.3 SETTING

8.3.1 LAND ENVIRONMENTS

Areas of land owned by LPC include the Inner Harbour, Te Awaparahi Bay, and margins and inland areas around Gollans Bay.

The highly developed nature of the Inner Harbour and Te Awaparahi Bay for Port operations has resulted in the removal of most habitat that would have originally supported native wildlife. Areas of habitat remaining are edge strips of planted or regenerating amenity gardens, or shrubland communities along the inland boundaries of the facilities areas (for example, between Godley Quay, Simeon Quay and the Port facilities). These habitats are likely to support mostly exotic (introduced) birds and plants, however they may provide habitat for native skinks, particularly Canterbury grass skink (*Oligosoma aff. polychroma Clade 5*).

To the east of the Port, Gollans Bay and inland areas owned by LPC offer more natural habitats for wildlife. Grassland areas support thick, ungrazed grass swards that are preferred habitat for the Canterbury grass skink and native McCann's skink (*Oligosoma maccanni*). Rocky outcrops scattered across slopes are known to support the native Waitaha gecko (*Woodworthia cf. brunnea*) and remnant shrubland areas behind parts of Gollans Bay Quarry may support the threatened jewelled gecko (*Naultinus gemmeus*).

8.3.2 MARINE & COASTAL EDGE ENVIRONMENTS

Lyttelton Harbour/Whakaraupō, including the harbour entrance, is home to three species of whales, four species of dolphins and one seal species. The harbour areas, including coastlines, are used or visited by at least 42 species of birds that use the marine area. Some of these species use the inner harbour and are known to frequent the Port for parts of their life cycle such as foraging, resting, breeding and moulting. Many of these species are rare or endangered and are therefore of particular interest to manage appropriately, including ensuring that Port activities do not adversely affect them.

Built structures such as wharves, piles and rock or block seawalls offer habitat for seabirds and resting places for marine mammals. Removal of built structures and works within the marine environment are activities that will be undertaken under this CEMP. Therefore, there is a need to minimise potential disturbance, injury or mortality to wildlife.

The seawalls around the Port offer nesting crevices used by White-flippered penguins *(Eudyptula minor albosignata*), a penguin that is only found in the Banks Peninsula area. Seawalls also offer habitat for New Zealand fur seals (*Arctocephalus forsteri*) as haul-out areas, and as roosting or resting sites for

seabirds such as Pied shag (*Phalacrocorax varius*), White-fronted tern (*Sterna striata*) and Black-billed gulls *(Laurus bulleri*). Parts of the Port that have less foot and vehicle traffic are favoured by some birds for nesting and roosting, such as Z Pier for Pied shag, White-fronted tern, Black-billed gull and Variable oystercatcher (*Haematopus unicolor*).

The waters around the Port, including within the inner operations area and within the harbour waters near wharf complexes, is habitat for New Zealand fur seals, Hector's dolphin (*Cephalorhynchus hectori)*, and foraging shags.

8.3.3 SPECIES & HABITATS OF CONSERVATION SIGNIFICANCE

Locations shown in the risk analysis in the next section have been identified based on the availability of habitat within an area and the likelihood of wildlife using it.

Wildlife of most interest to LPC are species that are of conservation significance or that have particular local importance to the community. A summary of the species for which risk assessments have been included in this Technical Section is provided in Appendix 8A.

ASSESSMENT

8.4 RISK ASSESSMENT

8.4.1 THREATS & RISKS FROM PORT ACTIVITIES

The types of activities and potential causes of effects on wildlife include:

1. **Physical removal of habitat** – such as the removal of vegetation supporting lizards, or the removal or upgrade of seawalls containing nesting or moulting White-flippered penguin (WFP). By adhering to the controls outlined in this Technical Section, injury or mortality of wildlife can be avoided.
2. **Piling activities** – which generate underwater noise with potential effects on whales and dolphins, particularly Hector's dolphin. In order to minimise the potential for injury, LPC adopts a 'stop' protocol if marine mammals are observed within 300 m of piling activities, and a 'soft-start' technique whereby piling force is started low in order to deter any nearby dolphins (and other marine life that may be equally susceptible).
3. **Vehicle and foot traffic movements** – in the vicinity of known nesting areas for seabirds which may cause nest abandonment by adults or injury or death to chicks that have wandered from nests. Nesting areas are few and are located at Z Berth and Gladstone Pier. Avoidance of these nesting areas, and appropriate caution when driving or walking in the vicinity of nesting areas over the summer breeding season is recommended.
4. **Movement of vessels within the Port** – which can disturb roosting seabirds or injure birds such as shags that may be foraging around Port structures; and vessel strikes with marine mammals (mostly whales). General awareness of wildlife presence will minimise potential effects.

You need to rank risk of potential adverse effect on wildlife as high, medium or low for your project. The ranking will be translated into your CEMP as a **high (red)**, **medium (orange)** or **low (green)** box where specified in the template. Areas that are not coloured are of negligible risk to wildlife. Generally, the higher the risk the more control measures will be required.

To make this assessment you need to rank your project against each of the criteria in the table on the next page. The following sections will help you decide which criteria your project meets. All piling activities are considered high risk.

Your project's risk rating is determined by your highest risk criteria. For example, if an effects assessment predicts potential impacts on New Zealand fur seal basking areas within your project site, the relevant performance standard is low risk, but if the project also involves potential impacts on nesting penguins along the same length of seawall (high risk), your project's overall wildlife risk rating is high.

Note that the risk for the project should be determined based on the highest risk type of work. The risk categories are used to define the minimum mitigation measures required as outlined in Section 8.6 of this Technical Section.

The following table illustrates the risks to wildlife associated with various activities within LPC land and surrounding waters.

Risk Assessment Evaluation Tool

ACTIVITY	RISK RATING		
	HIGH	MEDIUM	LOW
Piling	**Hector's dolphin** any time	n/a	**Seabirds, WFP & New Zealand fur seal** any time
Seawall or wharf disturbance (foot and vehicle traffic, deconstruction)	**WFP** Jul–Feb – during nesting/ moulting season in areas of known occurrence **Seabirds** Sep–Mar – during nesting season, or in close proximity to Z berth, western end of Cashin Quay and Gladstone Pier, and southern end of Cashin Quay adjacent to the breakwater	**WFP** at all seawalls or under piers not included as high risk areas **Seabirds** in areas not addressed by high risk areas	**New Zealand fur seal** haul out areas
Disturbance within unmodified coastlines east of Port operations area (Gollans Bay and surrounds)	**WFP** Aug–Feb – during nesting/moulting season	**New Zealand fur seal** haul out areas **WFP & Seabirds**	n/a
Vessel movement around Port operations area and surrounds	**Hector's dolphin** summer – when more abundant	n/a	**New Zealand fur seal** in water **Seabirds** especially shags
Vegetation clearance	**Native lizards** within established grassland, shrubland or rock outcrops	**Native lizards** within amenity plantings and regenerating shrublands	n/a
Large scale construction using potentially dusty construction materials, lime use for soil stabilisation, on site concrete batching plant	**Native lizards** within established grassland, shrubland or rock outcrops	**Native lizards** within amenity plantings and regenerating shrublands	n/a

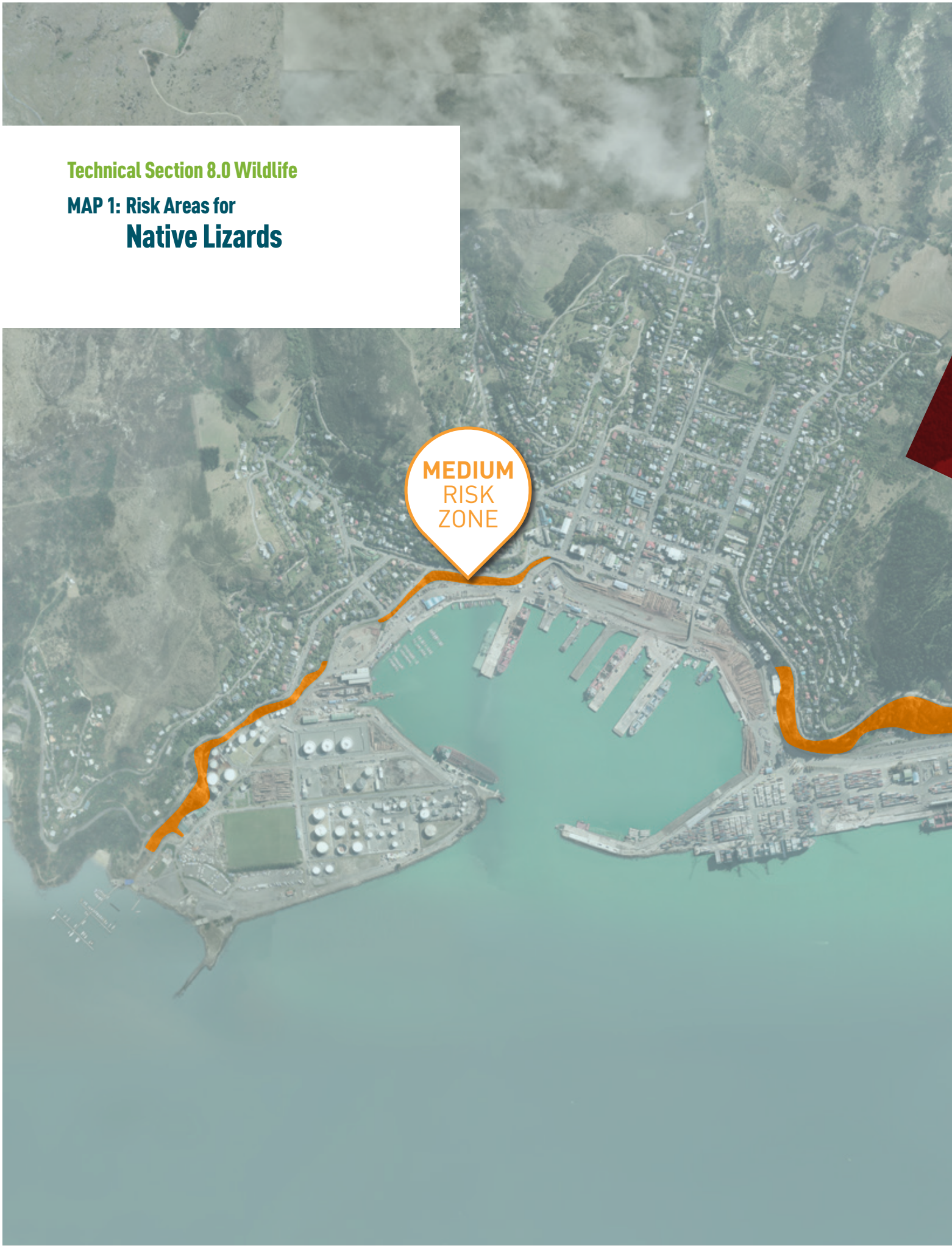
For some species, the risk rating will change during the year, and are listed in the below table.

If your project duration includes periods of different risk ratings during the year, the highest risk rating must be used in your CEMP.

Risk Assessment Evaluation Tool

SPECIES	LOCATION	SEASONALITY RISK RATING	
		HIGH	MEDIUM
White-flippered penguin	Within seawalls	**Aug–Feb** when birds nest and moult	**Other times** as only adults should be present, although adults may come ashore for refuge during periods of bad weather at sea
Seabirds	Z Berth, western end of Cashin Quay and Gladstone Pier	**Sep–Mar** when birds are nesting and raising chicks	**Other times** as only adults should be present
Hector's dolphin	Surrounding waters	**Oct–Mar** when dolphins move into Lyttelton Harbour, and calves are born	**Other times** when animals are located further offshore

MAP 1: Risk Areas for
Native Lizards




HIGH
RISK
ZONE

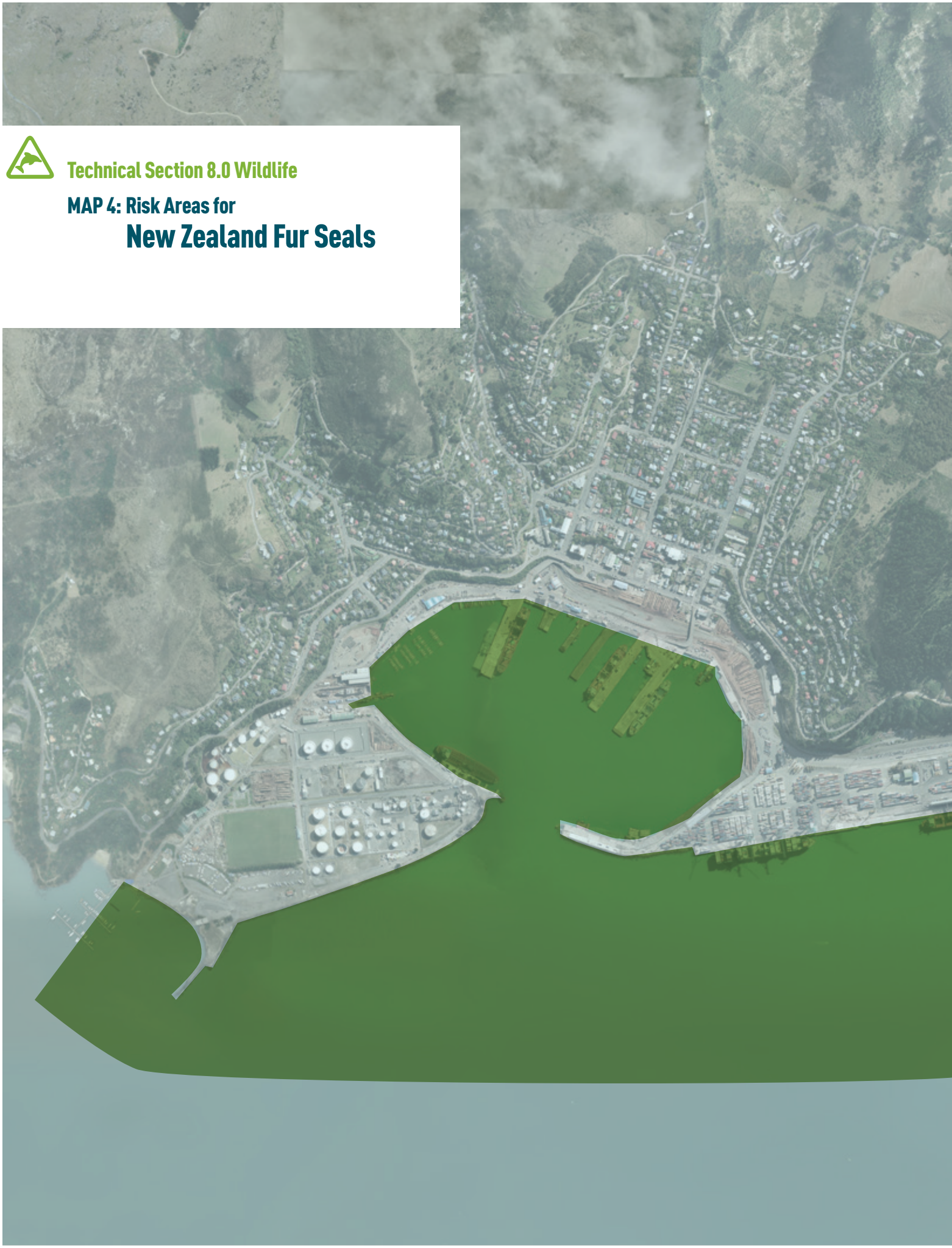
MAP 2: Risk Areas for
White-flippered Penguins


HIGH
RISK ZONE
High chance of finding nesting penguins

MAP 3: Risk Areas for Hector's Dolphins


HIGH
RISK
ZONE

MAP 4: Risk Areas for
New Zealand Fur Seals




MEDIUM
RISK
ZONE
LOW
RISK
ZONE

MAP 5: Risk Areas for
Seabirds


MEDIUM
RISK
ZONE
HIGH
RISK
ZONE

DESIGN & OPERATION ii

8.5 PERFORMANCE STANDARDS

The management of wildlife and effects on wildlife at the Port is subject to the provisions of the Resource Management Act 1991 (RMA), Regional and District plans and resource consents (where required). It is anticipated that the activities requiring resource consent as part of this CEMP will also be required to adhere to the conditions of resource consents as they relate to wildlife (if any).

Apart from matters under the RMA and resource consents, legislation that governs how wildlife are managed in New Zealand include the following Acts. These are relevant considerations for your CEMP, as these Acts enable handling or relocation of wildlife from areas, with the appropriate permits or Authorisations held by LPC.

8.5.1 MARINE MAMMALS PROTECTION ACT 1978

The Department of Conservation administers the Marine Mammals Protection Act 1978, which provides for the conservation, protection and management of marine mammals. A permit is required under the Act for anyone to 'take' a marine mammal. The definition of 'take' includes actions that harm, harass, injure or attract.

It is an offence to kill or injure marine mammals without the appropriate authorisations.

8.5.2 WILDLIFE ACT 1953

The Wildlife Act 1953 deals with the protection and control of wild animals and birds and the management of game. Permits are necessary to deal with certain wildlife.

Most native bird, bat, lizard and frog species, and some native invertebrates (such as giant weta) are absolutely protected under the Act, while many common introduced bird and animal species are not protected. Some native and some introduced bird species have limited protection to maintain their numbers while allowing for some harvest or control.

To catch, hold, release or kill most wildlife species you must have permission (a permit or Authority) from DOC. This includes the following activities (amongst others):

- Catching, handling and releasing wildlife at one site.
- Disturbing or killing wildlife or their eggs.
- Catching and/or holding wildlife for rehabilitation.
- Holding dead specimen (e.g., any part of the wildlife).
- Catching wildlife in the wild and moving them to another wild location into which they are released.

DESIGN & OPERATION

8.6 CONTROL MEASURES

Gull on nest, Lyttelton Harbour
(image © EOS Ecology/Shelley McMurtrie)

8.6.1 OVERVIEW

Control measures that are acceptable to LPC for each potential effect on wildlife are listed over page, first on a generic basis for each of the risk zones, and secondly, as more specific controls for each species mapped in the risk layers.

Overall, and on a 'first principles' basis, it is good practice to apply the full range of controls in a given situation in a step-wise manner, so that risk to wildlife is minimised or mitigated where avoidance of effect on habitats and species is not practicable.

8.6.2 GENERIC CONTROL MEASURES

Risk Assessment Evaluation Tool

RISK LEVEL	ACTIVITY	CONTROL MEASURE
HIGH	Works in areas where wildlife has been recorded and is likely to be present, or where the nature of your activity is likely to cause disturbance or injury to wildlife if present.	• Avoid area during times of greatest risk to wildlife (e.g., nesting WFP or seabirds). • If avoidance is not practicable, Wildlife Specialist to undertake a site survey and assessment as part of completing the Wildlife CEMP. • Wildlife Specialist (or nominated equivalent expert) to be involved in early stages of the project, give briefing to site staff and advise on specific procedures during works (such as observation requirements, etc.) • Implement standard procedures (e.g., Marine Piling Management Plan, WFP protocols).
MEDIUM	Works in areas where wildlife may be present, or where suitable habitat exists.	• Seek advice from Wildlife Specialist as to likelihood of presence, including site assessment where necessary. • Undertake caution in site works where deconstruction or modification is required. • If accidental discovery of wildlife occurs, initiate WADP protocol.
LOW	Works in areas where wildlife have a low likelihood of being present, or where wildlife is already used to these or similar activities and is known to not be adversely affected.	Exercise caution in the operation of plant and equipment, vessel movements and stay alert for possible sightings and potential for harm to wildlife. If accidental discovery of wildlife occurs, initiate WADP protocol.
NEGLIGIBLE	Work in areas where wildlife is very unlikely to be present.	• No controls for wildlife. • If accidental discovery of wildlife occurs, initiate WADP protocol.

8.6.3 WORKS AROUND WHITE-FLIPPERED PENGUINS

LPC has been granted a Wildlife Permit (56584-FAU) from DOC under the Wildlife Act that enables LPC to manage any construction-associated risks to the penguins and keep them safe.

White-flippered penguins are most likely to be encountered within seawalls in the areas shown on Map 2, within cavities above mean high water springs.

The principal means of preventing effects on WFP is to avoid undertaking works within known WFP habitat (shown as high risk areas) during the breeding and moulting seasons which are August to February inclusive.

For all LPC construction works, this Wildlife Permit must be implemented during the project planning, pre-construction and construction phases of the project, as outlined within the documentation prepared by LPC for Contractors, including:

- 'Implementation of LPC's WFP DOC Permit (56584-FAU)' flow diagrams;
- '1. White-flippered penguin habitat infilling procedure';
- '2. White-flippered penguin capture, handling and relocation procedure'; and
- '3. White-flippered penguin zone construction procedure'.

Failure to comply with the Wildlife Permit can result in prosecution.

8.6.4 MARINE BASE PILING

If you are piling in the Harbour you also need to adopt the LPC Marine Piling Management Plan to protect noise sensitive marine species. This is included in Technical Section 6.0 – Noise & Vibration, as Appendix 6A, and must be included in your CEMP.

In summary, the Marine Piling Management Plan requires:

- 'all clear' for marine life within a specified radius (developed through site specific modelling), termed the 'exclusion zone' of the pile driving unit to be confirmed before the commencement of pile driving operations;
- marine based pile driving operations to take place during daylight only (daylight is defined as where there is adequate light to see a minimum distance of 300 m from the piling location);
- the start procedure for the pile driving unit will comprise a soft-start approach or use an acoustic deterrent; and
- if marine life is spotted within the exclusion zone, pile driving unit to suspend operations immediately.

8.6.5 SPECIES-SPECIFIC CONTROLS

Species-specific controls are intended to provide a targeted response to the discovery or management required of particular species in a way that minimises the risk of harm to wildlife and which complies with permits or Authorities granted to LPC for managing wildlife within works areas of the Port.

	RISK RATING		
SPECIES	HIGH	MEDIUM	LOW
Native lizards	Assess potential effects using Wildlife Specialist. Obtain Wildlife Permit from DOC if lizards are present.	Proceed with caution when removing potential habitat. Implement WADP protocol if lizards detected at the site.	Implement WADP protocol if lizards are detected at the site.
White-flippered penguin (WFP)	• Avoid works Jul–Feb where practicable or assess potential effects using Wildlife Specialist. • Implement requirements of Wildlife Act permit 56584-FAU, including keeping a min. 12.5 m radius around the WFP if encountered, and protocols for habitat modification as described in Section 8.6.3.	Assess potential effects using Wildlife Specialist. Implement WADP protocol if penguins are detected at the site.	Implement WADP protocol if penguins detected at the site.
Hector's dolphin	Adhere to Marine Piling Management Plan. Include Wildlife Specialist as part of piling works. Adhere to DOC interaction with marine mammal protocols for high speed vessel movements (>15 knots).	There are no medium risk areas within LPC.	There are no low risk areas within LPC.
New Zealand fur seal	There are no high risk areas within LPC.	• Consult with Wildlife Specialist as part of preparing your CEMP to review current records within the works area. • Proceed using caution. If seals are present within 300 m of works area, stop works and implement WADP protocol.	Visually assess habitat prior to commencing works. If seals are present within 300 m of works area, stop works and implement WADP protocol.
Seabirds - shags	There are no high risk areas for shags within marine environments at LPC.	There are no medium risk areas for shags within marine environments at LPC.	• Waters around the Port support foraging adult or juvenile shags. • Exercise caution for vessel movements.
Seabirds – all others	• Avoid activities at Z Berth, Gladstone Pier and western part of Cashin Quay Sep–Mar (inclusive), or put measures in place prior to prevent birds returning to the area. • Assess potential effects using Wildlife Specialist. • A Wildlife Permit may be required if disturbance or relocation of nests/chicks is proposed.	Visually assess habitat prior to commencing works. If seabird nests or chicks are present within 50 m of the works area, stop works and implement WADP protocol.	Visually assess habitat prior to commencing works.

OPERATION iii

8.7 MONITORING & REPORTING

The minimum monitoring requirements for wildlife are outlined as follows. Some of these actions are requirements by law as they are part of Authorities issued by DOC; others are best practice to ensure that the likelihood of potential adverse effects on wildlife is minimised.

The monitoring provisions in the table below are assumed to be in place at all times during the undertaking of work in areas where interaction with wildlife may be possible. A summary of the monitoring results in the table below shall be provided to your LPC Project Manager at the weekly meeting.

SPECIES	ACTIVITY	RISK ZONE	MONITORING
Hector's dolphin	Piling in marine environment	HIGH	• Location and number of times Hector's dolphins are spotted, including number of times spotted within exclusion zone. • The number of times work ceased due to the presence of Hector's dolphin.
NZ Fur seal	Piling in marine environment/ works around seawalls	ANY	• Location and number of times fur seals observed within 300 m of piling activities (in water) or observed on seawalls or other structures (basking). • The number of times fur seals are required to be relocated.
Native lizards	Vegetation clearance	HIGH OR MEDIUM	**HIGH risk zones** – monitoring as per conditions of Wildlife Authority. **MEDIUM risk zones** – number of lizards seen during general works.
WFP	Work around seawalls and known/ suspected nesting or moulting areas	HIGH OR MEDIUM	Number of times WFP nests uncovered, and location, and what was the response (cease works, relocate penguins).
Seabirds	Work around known nesting areas	HIGH	Number and species of seabirds nesting or with chicks, and location.

Monitoring the location and nature of wildlife incidents and reporting these in a timely manner to your LPC Project Manager is important as it ensures that LPC can:

- respond to wildlife issues (such as the need for relocation or issues involving animal welfare) in a timely manner;
- comply with the requirements of any Authority or direction issued by DOC, including reporting by LPC on matters involving specific wildlife;
- comply with matters of resource consent involving wildlife;
- refine areas of known wildlife presence and revise the size and/or location of risk zones in response; and
- review and revise control measures as appropriate in response to the nature, frequency and effectiveness of existing controls and contingency measures.

The inspection of control measures and monitoring of environmental effects are required on a regular basis to ensure they continue to work and that performance standards are not breached.

Suggested frequency of inspections and monitoring of wildlife are outlined below.

ACTION	FREQUENCY	PURPOSE
A summary of monitoring results must be completed and provided to your LPC Project Manager.	once a week	To keep LPC up to date with how wildlife management is being addressed on the site.
The LPC Project Manager should accompany the Contractor during a site inspection.	once a month	To ensure compliance with the CEMP and to identify areas where improvements can be made, and to follow up on previous actions/ improvements.
Meetings on site to discuss the results of the weekly monitoring results and monthly site inspection.	once a month	Keep staff and contractors up to date with wildlife and general environmental management on site and provide an opportunity for them to raise issues/ areas for improvement.

OPERATION iii

8.8 CONTINGENCY

The risk zones mapped for wildlife reflects the current knowledge of wildlife habitat and use of habitat across LPC land.

It is likely that in some places, wildlife will choose to occupy areas outside of the risk zones indicated on maps and hence works in those areas that uncover those species will make an unexpected discovery.

In the case of an accidental discovery of wildlife, the following Wildlife Accidental Discovery Protocol (WADP) shall be followed:

- if it involves a species listed in this Wildlife Technical Section; or
- is a species known to be or suspected to be new to the LPC site; and
- is present within a proposed work site and may be subject to potential harm if works proceed, then;

1. **stop work** and cone off or otherwise prevent others from accessing the site; and
2. **contact the Project Wildlife Specialist**, your LPC Project Manager or staff at LPC's Environmental Team. They will assess the situation, including the potential for harm, the effectiveness of existing controls, or the need for additional controls. Where necessary, they may contact DOC for advice or specialist expertise where wildlife relocation is necessary but is not covered under existing permits held by LPC.

Red-billed gull preening
(image © EOS Ecology/Shelley McMurtrie)

8.9 APPENDICES

APPENDIX 8A
NATIVE LIZARDS

Native lizards are typically small (less than 150 mm length from snout to tail tip) and comprise skinks and geckos. The risk status of native lizards on LPC land are:

- Waitaha gecko (At Risk–Declining)
- Jewelled gecko (At Risk–Declining)
- Canterbury grass skink (At Risk–Declining)
- McCann's skink (Not Threatened)

Within LPC land, geckos are most likely to be found in undisturbed areas of rock bluffs or tor, and within native shrubland behind Gollans Bay Quarry. Skinks are most likely to be found within dense grassland areas and within the edges of landscaped gardens and bush patches along Godley and Simeon Quays.

Skinks and geckos are most active during spring, summer and autumn and go into a 'torpor' or less-active phase during winter. Both skinks within LPC's land are day-active, while the Waitaha gecko and jewelled gecko are dusk or night-active. All native lizards are coloured to blend with their local environment, and so are difficult to see, even if habitat under which they are hiding is disturbed. The lizards live within very small areas during their lives, so many can be found in a small area where the habitat is good quality.

The main risk to lizards at LPC is the removal of habitat (vegetation and grassland) and dumped materials such as concrete, tires or building materials within bush areas. Where lizards are considered likely to be present (high risk areas), at a minimum, you should seek advice from the Wildlife Specialist with regard to undertaking a survey of the area. Work with native lizards must be undertaken by a suitably qualified and experienced herpetologist (lizard expert).

Canterbury grass skink
(image supplied by Department of Conservation)

Waitaha gecko
(image supplied by Carey Knox)

McCann's skink
(image © Arnaud Badiane)

Jewelled Gecko
(image supplied by Department of Conservation © James Reardon)

APPENDIX 8A
WHITE-FLIPPERED PENGUIN

The White-flippered penguin (WFP) is only found in Canterbury and breeds around Banks Peninsula, including within Lyttelton Harbour.

It is one of the world's smallest penguins, growing up to 30 cm tall and weighing 1.5 kg. They have an overall blue-grey appearance and have an obvious white trim on the flipper and a white belly.

They are nocturnal animals when on land and will come to shore to nest during the day and leave to hunt during the night. WFP are known to nest in rock seawalls above mean high water springs across the Port and have been spotted at the Port during the breeding and moulting season. As of the last penguin survey in 2017, 55 penguins were estimated to be living within the Port operations areas. The penguins are at their most vulnerable time when they come to land to reproduce, rear chicks and moult (August to February). Moulting is an especially vulnerable time for the penguins as they are land-bound until their new layer of feathers develop and it becomes water resistant again.

White-flippered penguins are listed as an At Risk–Declining species and they are protected under the Wildlife Act 1953.

White-flippered penguin on land
(image supplied by Duncan Watson)

White-flippered penguin at sea
(image supplied by Phillip Griffin)

White-flippered penguin at sea
(image CC © Ben www.flickr.com/photos/seabirdnz/34113052886)

APPENDIX 8A
HECTOR'S DOLPHIN

Hector's dolphins are one of the smallest dolphins in the world, growing to a maximum of 1.5 m in length. It is the only dolphin in New Zealand to have a round dorsal fin. Their bodies are a distinctive grey with white and black markings, and a short snout.

Hector's dolphin is the only dolphin species endemic solely to New Zealand waters, and is listed as nationally endangered. This species occurs around the South Island, with approximately 2,000–4,000 dolphins out of the estimated total population (ca. 15,000 animals) found within Banks Peninsula waters.

During the warmer summer and autumn months, dolphins move close to the shore and spread into the Peninsula's bays and harbours, including Lyttelton Harbour. It is over this time period that most calves are born (October–March). While calves have been regularly sighted within particular areas of Akaroa and Lyttelton Harbours and some southern bays, no distinct calving and/or nursery areas have been clearly identified. Over the colder months animals generally move further offshore and mainly out of the bays and inner harbour regions, with only a few animals continuing to remain in mid-harbour and entrance waters.

Hector's dolphin adult and calf
(image supplied by Whale and Dolphin Trust NZ)

Adult Hector's dolphins
(image supplied by Whale and Dolphin Trust NZ)

Hector's dolphin
(image Tomas Sobek [CC BY-SA 4.0 (https://creativecommons.org/licenses/by-sa/4.0)], from Wikimedia Commons)

APPENDIX 8A
NEW ZEALAND FUR SEAL

The New Zealand fur seal is well established along the South Island's eastern coastline with breeding colonies located in the southern bays of Banks Peninsula, rather than in Lyttelton Harbour. Seals aggregate at these colonies to breed from late spring to summer. Fur seals travel long distances to find food, and as their population continues to grow, it is more likely that individuals will use Lyttelton Harbour. Seals are inquisitive by nature and are known elsewhere in New Zealand to haul ashore, even in areas that are frequented by people.

Habitats around LPC that may be used by seals are the seawalls and accessible coastal areas where they can haul ashore to bask, and waters within and around the Port where fish as prey may be present.

Threats to seals are entanglement in nets, ropes or other equipment in the water, disturbance from people and domestic animals such as dogs, and collision with vehicles on land or boats in water where space is crowded.

Fur seals are considered abundant throughout most of New Zealand and not currently threatened; therefore their current conservation status is of 'least concern'. An Authority from DOC is required to catch or move New Zealand fur seals.

New Zealand fur seal adult
(image supplied by Department of Conservation)

New Zealand fur seal adult basking
(image supplied by Department of Conservation)

New Zealand fur seal pup
(image CC © Ben www.flickr.com/photos/seabirdnz/44497629112)

APPENDIX 8A
SEABIRDS

Seven species of native seabirds have been recorded on or around Port facilities, including two species of shag, three species of gull, White-fronted tern and Variable oystercatcher.

Each of these species is briefly described below. Collectively, these species use the Port and surrounding area when nesting and raising young on land, roosting and resting on Port structures, and foraging in the waters in and around the Port operations areas.

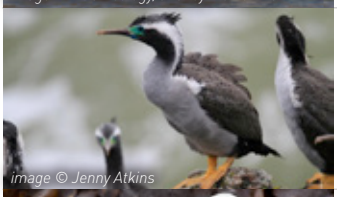
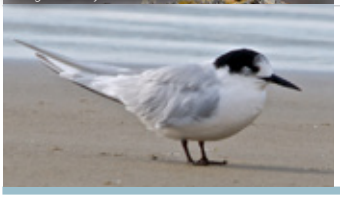
BIRD SPECIES		THREAT STATUS	ACTIVITY WITHIN PORT	HABITAT USE
 image © EOS Ecology/Shelley McMurtrie	Variable oystercatcher	At Risk –Recovering	Nesting	Western end of Cashin Quay/Z Berth / Reclamation
 image © EOS Ecology/Shelley McMurtrie	Pied shag	Threatened –Nationally Vulnerable	Roosting & Foraging	Western end of Cashin Quay/Z Berth/In waters around Port facilities
 image © Jenny Atkins	Spotted shag	Not Threatened	Roosting & Foraging	Western end of Cashin Quay/Z Berth/In waters around Port facilities
 image © EOS Ecology/Shelley McMurtrie	Red-billed gull	At Risk –Declining	Roosting	Western end of Cashin Quay/Z Berth
 image © Duncan Watson	Black-billed gull	Threatened –Nationally Critical	Nesting	Western end of Cashin Quay/Z Berth
 image © Tony Whitehead	Black-backed gull	Not Threatened	Nesting	Gladstone Pier/ Reclamation/Breastwork
	White-fronted tern	At Risk –Declining	Nesting	Western end of Cashin Quay/Z Berth

image © Brian Ralphs from Berkhamsted, Hertfordshire, UK [CC BY 2.0 (https://creativecommons.org/licenses/by/2.0)], via Wikimedia Commons

Variable oystercatcher

Variable oystercatchers are distinctive seabirds with black bodies and bright orange bills. They breed from October onwards and lay 2–3 eggs. Incubation period is approximately 28 days and it takes chicks at least 6–7 weeks to fly. Late chicks may not fledge until March.

Use of the Port includes breeding and roosting on Z Berth in the seawall. Seawalls elsewhere and natural coastline is also likely to provide habitat, provided disturbance by people and vehicles is low. Key threats at LPC are disturbance of nests by people during October–March which may harm eggs or chicks, and interactions between chicks and moving plant (especially vehicles) in the vicinity of Z Berth and the western end of Cashin Quay.

Variable oystercatcher with chicks
(image © Anja Kohler)

Variable oystercatchers flying
(image © Steve Attwood)

Pied shag

Adult and juvenile Pied shags can be found swimming around the harbour, including around and under piers, or roosting on piles or piers. Adults have a clear white belly and black back plumage. Juveniles are identified by the moulting brown and white underparts and pale brown upper parts. Juvenile Pied shags can be found at the end of Z Berth; adults can be found throughout the waters around the Port and roosting on structures on the edge of piers. Juvenile shags are more vulnerable during the moulting phase. Adults become quickly habituated to noise, machinery, and movement, and are usually aware of human activity (and move out of the way).

Pied shag adult
(image © EOS Ecology/Shelley McMurtrie)

Pied shag juvenile moulting
(image © Albert Aanensen)

Spotted shag

The Spotted shag is a slim, medium-sized, grey-blue marine shag with a long, slender bill and yellow-orange feet. Adult breeding birds have black spots on the back and upperwings, and two curved broad, white stripes that run from each eye down each side of the neck.

The Spotted shag has a similar habitat to the pied shag and has been recorded roosting on Z Berth and active in the waters around the Port. Adults and juveniles are both likely to be present year-round within the vicinity of the Port area.

Spotted shags adult
(image © Jenny Atkins)

Spotted shag juvenile
(image © Steve Attwood)

Red-billed gull

A medium-sized white gull with pale grey back, back and wing edges, the Red-billed gull is characterised by its bright red bill, eyelids and legs. Juveniles are similar to adults but with brown patches on the back, brownish primary feathers, and dark brown iris, bill and legs.

Red-billed gulls breed from September to January with pairs laying two eggs. Incubation is approximately 23–26 days and the chicks fledge at approximately 55 days. Key threats at LPC are disturbance of nests by people during the breeding season which may harm eggs or chicks, and interactions between chicks and moving plant (especially vehicles) in the vicinity of Z Berth.

Red-billed gull adult
(image © Ormond Torr)

Red-billed gull egg and chick
(image © Rebecca Bowater)

Black-backed gull

Black-backed gulls are a large black-and-white gull with a white head and underparts, black back, yellow bill with a red spot near the tip, and pale green legs. Juveniles are dark mottled brown with black bill and legs; their plumage lightens with age until they moult into adult plumage at 3 years old.

The nest is a bulky collection of grass, small sticks or seaweed, or a simple scrape in sand or shingle. Adults lay 2–3 large grey-green eggs with dark brown spots and blotches from October–January. Incubation lasts for 23–26 days; chicks fledge at about 7–8 weeks old and are fed by adults for at least another month.

The Black-backed gull is not afforded any level of protection under the Wildlife Act. Black-backed gulls are often considered pests, and in places are controlled to reduce their predatory impacts on populations of threatened shorebirds. Key threats at LPC are disturbance of nests by people during the breeding season which may harm eggs or chicks, and interactions between chicks and moving plant (especially vehicles) in the vicinity of Gladstone Pier.

Black-billed gull adults
(image © Ormond Torr)

Black-billed gull adult & chick
(image © Tony Whitehead)

White-fronted tern

The White-fronted tern is a medium sized bird with a long white forked tail, a distinctive bill and a black or grey-capped head separated from the long pointed black bill by a white band. Breeding normally occurs in large colonies with the terns arriving to a nesting site just days before laying the eggs. Eggs are laid on bare ground without any nesting material. At LPC, eggs are laid on bare surfaces of Z Berth.

Key threats at LPC are disturbance of nests by people during October–January which may harm eggs or chicks, and interactions between chicks and moving plant (especially vehicles) in the vicinity of Z Berth and the western end of Cashin Quay.

White-fronted tern flying
(image © EOS Ecology/Shelley McMurtrie)

White-fronted tern chick
(image © Josie Galbraith)

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