Appendix BB NZCPS Policy 11

This appendix provides an assessment of the HAP against Policy 11 of the NZCPS. The HAP has been assessed against Policy 11 of the NZCPS on the basis of effects at the taxa (species) level rather than at the level of potential effects on an individual animal. This is appropriate in relation to species where the loss of a single individual would not be expected to result in adverse effects on the taxa as a whole, in order to implement Objective 1 (and Objective 6) of the NZCPS. It is also consistent with Department of Conservation guidance on implementation of Policy 11 of the NZCPS which discusses effects on species rather than individuals, and notes that threatened 'taxa' are defined by considering *inter alia* numbers of mature individuals and populations. This approach is also consistent with recent decisions from expert consenting panels under the CRFTCA (see for example decision on the Te Ara Tupua – Ngā Ūranga ki Pito One Shared Path project).

As outlined in section 10 of this report and Table BB-1 below, the HAP is consistent with the requirements of Policy 11 in relation to biogenic habitat in the vicinity of the HAP site.

For marine species (marine mammals, seabirds, sharks and wild fish) that are listed as threatened or at risk the principal occurrence that could lead to an adverse effect would be entanglement. The effects identified in the table below consider the circumstance where an entanglement may occur in identifying the level of effect. Through the draft marine species management plans and proposed conditions of consent, NTS is proposing to implement a series of best practice measures (that have been comprehensively discussed with manawhenua, DOC, MPI and ES from 2019 onwards) to reduce the risk of entanglement to as low as possible. If no marine species are entangled then adverse effects will be avoided. The entanglement of one individual of any marine species is also not anticipated to have population level effects and will trigger management responses to reduce the likelihood of further entanglements (see assessments contained in Appendices O, P Q, X, Y and Z).

The other potential mechanism of effect that needs to be specifically considered is that of effects on bioluminescent prey species of Whenua Hou Diving Petrel. While the risk of an adverse effect exists, the likelihood is unknown although likely to be low, based on the unproven nature of the effect and the wide range of the bird compared to the area affected by the HAP. Within the bounds of likelihood, adverse effects will be avoided, as required by Policy 11 of the NZCPS.

Overall, while potential adverse effects have been identified, with the implementation of proposed consent conditions and measures outlined in draft management plans (which together represent the practicable measures that can be taken to minimise risk), the HAP will be consistent with the requirements of Policy 11 of the NZCPS.

Table BB-1: Assessment against Policy 11 of the NZCPS

NZCPS Policy 11	Known species, habitats etc at the HAP site	Assessment
To protect indigenous biological diversity in the coastal environment:		Marine species are highly mobile and there is limited information on interactions with marine farms. The probability of an interaction occurring is dependent on the species and the individual itself.
(a) avoid adverse effects of activities on:		

NZCPS Policy 11		Known species, habitats etc at the HAP site	Assessment
			While a conservative approach to assessing effects on marine species and managing those effects has been taken, the possibility of interactions (and therefore adverse effects occurring) cannot realistically be reduced to zero. Likelihoods of adverse effects occurring have largely been assessed as being low. Where adverse effects may occur they will generally be localised, and on individuals rather than species as a whole. They will not be such that the protection of indigenous biodiversity in the coastal environment will not be achieved. As with marine species, conservative approaches have been taken to assessing and managing potential effects on benthic biodiversity and biodiversity in the water column. Again, no adverse impacts are anticipated that would result in any loss of protection of species in the marine environment
(i)	indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists;	*Marine mammals recorded in the Area of Interest* • Orca, Southern elephant seal (threatened – nationally critical) • Bottlenose dolphins (threatened – nationally endangered) • NZ sea lion, Hector's dolphin (threatened – nationally vulnerable) • Southern right whale (at risk – recovering) *Seabirds that breed or forage within the wider Foveaux Strait area* a. Whenua Hou diving petrel, Salvin's mollymawk, Gibson's wandering albatross, Antipodes wandering albatross (threatened – nationally critical) b. Yellow eyed penguin/hoiho (threatened – nationally endangered), c. Flesh-footed shearwater, Hutton's shearwater, Black petrel, Northern royal albatross, Southern royal albatross, Grey-headed mollymawk, Foveaux shag, Spotted shag (threatened – nationally vulnerable)	*Marine mammals* Potential adverse effects on these marine mammals have been assessed as being negligible to less than minor. *Seabirds* Potential adverse effects on these seabirds have been assessed as being low to very low, except for a potential moderate level of effect on Foveaux shag and spotted shag from entanglement, and a potential moderate level of effect on Whenua Hou diving petrel from attraction to the artificial lighting. *Sharks* Potential adverse effects on these sharks have been assessed as being negligible to low. *Wild fish* Potential adverse effects on these wild fish species have been assessed as being low.

NZCPS Policy 11		Known species, habitats etc at the HAP site	Assessment
		d. Southern little penguin, Fiordland crested penguin, Sooty shearwater, Buller's shearwater, Red billed gull, (at risk – declining) e. Snares crested penguin, Snares Cape petrel, Westland petrel, Chatham Island mollymawk (at risk – naturally uncommon) f. Fluttering shearwater, Broad-billed prion, Fairy prion, Cook's petrel, Grey petrel, Mottled petrel, Southern diving petrel, White-faced storm petrel, Grey-backed petrel, Little shag, Black shag (at risk – relict) g. Pied shag, Variable oystercatcher (at risk – recovering) *Sharks recorded in Foveaux Strait* • Great white shark (threatened – nationally endangered) • Basking shark (threatened – nationally vulnerable) *Wild fish potentially in Foveaux Strait* • Shortjaw kokopu (threatened – nationally vulnerable) • Giant kokopu, Longfin eel (at risk – declining) *Benthic species* No taxa of this category were observed in the proposal area or wider survey area.	
(ii)	taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;	*Marine mammals recorded in the Area of Interest* • Blue whale (critically endangered) • NZ sea lion, Hector's dolphin, humpback whale (endangered) • Sperm whale (vulnerable) *Seabirds* • Whenua Hou diving petrel (critically endangered) • Yellow eyed penguin/hoiho, Westland petrel, Northern royal albatross, Hutton's shearwater, Antipodes wandering albatross, Grey-headed mollymawk (endangered) • Snare's crested penguin Buller's shearwater, Southern royal albatross, Cook's petrel, White chinned petrel, Salvin's mollymawk, Foveaux shag, Black petrel, Gibson's wandering albatross,	*Marine mammals* Potential adverse effects on these marine mammals have been assessed as being negligible to less than minor. *Seabirds* Potential adverse effects on these seabirds have been assessed as being low to very low, except for a potential moderate level of effect on Foveaux shag from entanglement, and a potential moderate level of effect on Whenua Hou diving petrel from attraction to the artificial lighting. *Sharks* Potential adverse effects on these sharks have been assessed as being negligible to low. *Wild fish*

NZCPS Policy 11		Known species, habitats etc at the HAP site	Assessment
		Wandering albatross, Chatham Island mollymawk (vulnerable) *Sharks* • School shark (critically endangered) • Basking shark, Mako shark (endangered) • Great white shark, Broadnose Sevengill shark, Spiny dogfish, Thresher shark, Porbeagle shark, Seal shark (vulnerable) *Wild fish potentially in Foveaux Strait* • Shortjaw kokopu, Longfin eel (endangered) • Giant kokopu (vulnerable) *Benthic species* No taxa of this category were observed in the proposal area or wider survey area.	Potential adverse effects on these wild fish species have been assessed as being low.
(iii)	indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare;	The remnants of bryozoan-sponge reefs may be considered as indigenous ecosystems that are threatened in the coastal environment.	Potential adverse effects on bryozoan-sponge reefs have been assessed as being nil to minor.
(iv)	habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;	*Marine mammals* The only species potentially at their latitudinal / temperature limits are the bottlenose dolphins, particularly the regional populations that remain in Fiordland, which is subject to more extreme temperature variations than the 'southern' population that is known to visit Rakiura. *Seabirds* Breeding habitat for Fiordland crested penguin, Cook's petrel, Whenua Hou diving petrel, Foveaux Shag, spotted shag and pied shag exists on Rakiura and its associated islands, and on islands in Te Ara a Kiwa, where the southernmost breeding colonies for these species are located. The area of the proposed site potentially provides foraging habitat for Fiordland crested penguin, Cook's petrel, Whenua Hou diving petrel, Foveaux Shag, spotted shag and pied shag. While information on the complete foraging range of any of these bird species is not available petrels and penguins have a large foraging range and for shags the proposed site is not at the limit of their foraging range. Naturally rare species that have been recorded in the area are Snares crested penguin, Snares Cape petrel, Westland petrel, Campbell Island albatross and Chatham Island mollymawk.	*Marine mammals* Potential adverse effects on the habitat of bottlenose dolphins have been assessed as being nil to less than minor. *Seabirds* No effects on land or breeding habitat are anticipated from the HAP. Adverse effects on foraging habitat are assessed as being very low. *Sharks* Potential adverse effects on the habitat of these sharks have been assessed as being low. *Wild fish* Potential adverse effects on the habitat of wild fish species have been assessed as being no more than minor.

NZCPS Policy 11		Known species, habitats etc at the HAP site	Assessment
		When at sea, seabirds generally have large and expansive ranges, the extent of which is not fully known for every species. While it is possible that Foveaux Strait is at the limit of the at-sea natural range of some species, and it will provide habitat for naturally rare indigenous species, the presence of the proposed farms is only in a fraction of the range. *Sharks* The shark species observed around Rakiura are found throughout New Zealand waters and beyond. Some species, like white sharks, are globally distributed. Rakiura is generally the southern limit (in New Zealand) for the broadsnout sevengill shark, however, there are also confirmed records as far south as the Auckland Islands. Overseas, this species is found at similar latitudes as Rakiura. *Wild fish* Snapper, red moki and yellowtail kingfish are potentially at the limit of their natural range in Foveaux Strait.	
(v)	areas containing nationally significant examples of indigenous community types;	None present.	The proposal will have no adverse effects on these areas.
(vi)	areas set aside for full or partial protection of indigenous biological diversity under other legislation; and	None present.	The proposal will have no adverse effects on these areas.
(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on:			
(i)	areas of predominantly indigenous vegetation in the coastal environment	None present that will be affected by the proposed activities	The proposal will have no adverse effects on these areas.
(ii)	habitats in the coastal environment that are important during the vulnerable life stages of indigenous species	*Marine mammals* Potential winter mating habitat for southern right whale. Breeding colony of NZ sea lion on Rakiura is re-establishing and would be likely to use the waters in the vicinity of the proposed site. While the Southland area may be an important mating habitat for southern right whales, there are no known cetacean nursery areas in the	*Marine mammals* In relation to sea lions, due to distance, the farm will have no direct effect on the colonies themselves. Pups will only be vulnerable to the farm when they are old enough to leave the colonies and fend for themselves. This is a vulnerable time for them regardless of location.

NZCPS Policy 11		Known species, habitats etc at the HAP site	Assessment
		region. In terms of breeding colonies or nursery areas, the only known sea lion breeding colonies are off the southern end of Rakiura in Port Pegasus and the Catlins. Due to distance, the farm will have no direct effect on the colonies themselves. Pups will only be vulnerable to the farm when they are old enough to leave the colonies and fend for themselves. This is a vulnerable time for them regardless of location. *Seabirds* The breeding season / cycle of seabirds is generally considered a 'vulnerable life stage'. Foraging during the breeding season is critical for the survival of clutches / chicks, and thereby population / species productivity. Similarly, foraging at all stages of a bird's life is critical to survival. *Wild fish* The area in Te Waewae Bay and probably through Foveaux Strait to Bluff is a spawning area for elephant fish. Foveaux Strait is potentially a spawning habitat for rough skate and smooth skate. *Benthic habitat* Biogenic habitat (bushy bryozoans and bryozoan sponge reefs) provide habitat important for the life stages of indigenous species, including dredge oysters and blue cod.	The management restrictions of the farm are set up to ensure that structures are not attractive to any life stages of these species and that haul-out spots are not available – avoiding interactions as much as possible and in particular, avoiding severe injury / mortality from entanglement. *Seabirds* Seabird breeding activities occur on land, and as such these activities will not be impacted by the proposal. Adverse effects on foraging habitat are assessed as being very low. *Wild fish* Potential adverse effects on spawning habitat of these wild fish species have been assessed as no more than minor. *Benthic habitat* Potential adverse effects on biogenic habitat have been assessed as being nil to minor due to the proposed avoidance and mitigation measures.
(iii)	indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh	*Benthic habitat* Biogenic habitat (bushy bryozoans and bryozoan sponge reefs) are indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification. Bryozoan sponge reefs are particularly vulnerable to physical modification, with damage to erect bryozoan colonies taking decades to recover. Bryozoan sponge reefs in Te Ara a Kiwa are already affected by oyster dredging, bottom trawling and ship anchoring in the Strait.	The marine farms will be located over sandy habitat rather than biogenic habitat, to avoid physical damage to them.
(iv)	habitats of indigenous species in the coastal environment that are	*Seabirds* The proposed site is likely to provide foraging habitat for sooty shearwater (tītī). *Biogenic / wild fish*	*Seabirds* Adverse effects on foraging habitat are assessed as being very low, due to the proposed avoidance and mitigation measures.

NZCPS Policy 11		Known species, habitats etc at the HAP site	Assessment
	important for recreational, commercial, traditional or cultural purposes	Biogenic habitat within Te Ara a Kiwa provides habitat for Bluff oyster and blue cod, both important recreational, commercial and cultural species. A variety of other fish species are caught commercially, recreationally and for cultural purposes in Te Ara a Kiwa, but either do not have a particular habitat identified as important to them, or have habitat identified that is not likely to be affected by the HAP (e.g. coastal rocky reef areas).	*Biogenic / wild fish* Potential adverse effects on biogenic habitat have been assessed as being nil to minor due to the proposed avoidance and mitigation measures.
(v)	habitats, including areas and routes, important to migratory species	*Marine mammals* Te Ara a Kiwa provides a migration route for southern right whale and humpback whale. *Sharks* Te Ara a Kiwa is used by white sharks during their annual migrations. The region may also be used by broadnose sevengill shark as they are suspected to move seasonally between the South Island and Rakiura, but movements of this species have not been quantified.	*Marine mammals* Potential adverse effects on the habitat of southern right whale and humpback whale have been assessed as being nil to less than minor, due to the proposed avoidance and mitigation measures. *Sharks* Potential adverse effects on the habitat of these sharks have been assessed as being low, due to the proposed avoidance and mitigation measures.
(vi)	ecological corridors, and areas important for maintaining biological values identified under this policy	None identified as relevant to this proposal	The proposal will have no adverse effects on these areas.