

Environmental and Social Due Diligence Disclosure Report¹

Oceanpick

8 March 2024

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¹ This report is a redacted version of the original report which was conducted by experienced third-party consultants that were commissioned to conduct an Environmental and Social Due Diligence (ESDD) of Oceanpick. The redacted version of the report has not been through quality control/ approval process by the third-party consultant.

1. PROJECT DESCRIPTION

Located in Trincomalee in the northeast of Sri Lanka, Oceanpick specializes in the ocean production of net cage Barramundi (*Lates calcarifer*) from breeding through harvest. Main product markets currently include Australia, the USA and Europe. Oceanpick currently has infrastructure capable of producing 3,000 MT.

1.1 Project Setting

LOCATION

CodBay Harbor and Trincomalee Port: The project is located in the Eastern Province of Sri Lanka, in lands surrounding the town of Trincomalee. Land-based portions of the project falls within two divisional secretariats of Trincomalee district, Town and Gravets Divisional Secretariat and one Gramaniladari Division of Kuchchaveli of Trincomalee District of Eastern province of Sri Lanka. The ocean net cage farms are in two Coastal Divisional Secretaries Divisions (DSD) of Trincomalee District, which are Town and Gravets and Kuchchavali DSDs. Oceanpick operations are centered around the inner harbor of Cod Bay, Trincomalee (maps can be found below and in the Appendix).

Trincomalee district engages in a number of food production activities which include agricultural crop production, livestock rearing, wild capture fisheries and other economic activities. For seafood, Sri Lanka remains heavily dependent on captures fisheries which supply 90% of its production, with only 10% of seafood coming from aquaculture. The main form of aquaculture in Sri Lanka is pond-based shrimp farming, where a Tiger prawn (*P. monodon*) based industry that experienced boom bust dynamics and crop failure due to disease issues and poor biosecurity measures is rapidly giving way to culture of *L. vannamei*. Most shrimp production is destined for export markets while providing domestic labor employment opportunities. Ornamental fish provide the export commodity that contribute most directly to local livelihoods. In this landscape, Oceanpick represent a diversified export product: it is the first open ocean net cage producer of barramundi in the country as well as the first open ocean mariculture facility in a country well-suited to this type of production².

Oceanpick operations are located in the inner harbor of CodBay, adjacent to the town of Trincomalee, within Koddigar Bay (Figure 1). CodBay Harbor is a government operated public fishing harbor where the Ceylon Fisheries Harbours Corporation provisions ice and access for loading/offloading for 20-40ft wooden-hulled vessels that make multi-day trips offshore, using a variety of line and net-based gears. Oceanpick's headquarters are located within CodBay Harbor in a semi-enclosed warehouse which houses the company's main administrative offices outside of Colombo. The company's beach access is a landing site across the road from the warehouse, on the water (Figure 2).

² <https://www.norwegian-lobster-farm.com/wp-content/uploads/2013/08/AQUACULTURE-IN-SRI-LANKA1.pdf>

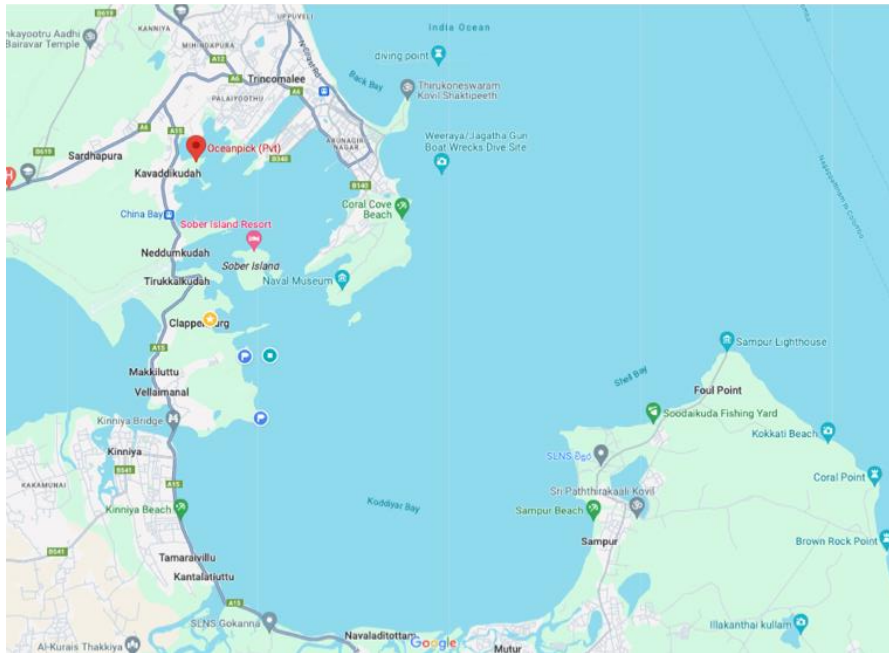


Figure 1 - The red pin gives the location of Oceanpick's main operational headquarters, in CodBay Harbor, within the Inner Harbor of Trincomalee, on the northeast coast of Sri Lanka. The deep waters of Koddiyar Bay and the Inner Harbor, together, comprise the important deepwater port of Trincomalee.

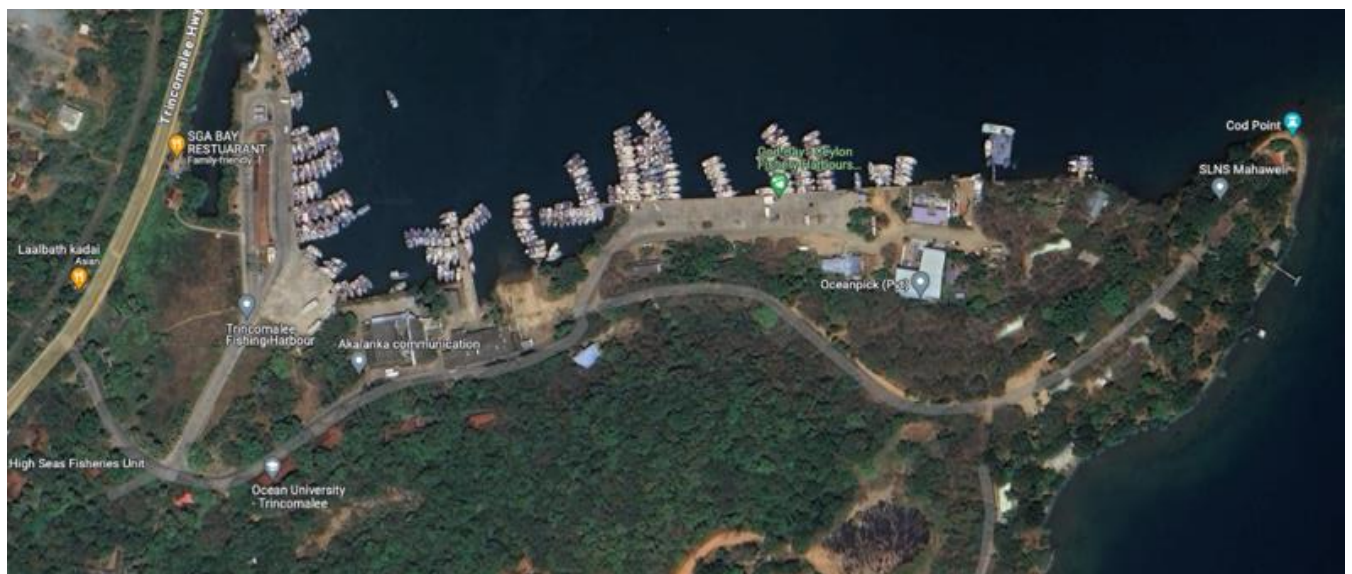


Figure 2 - CodBay Harbor, on Cod Bay with Oceanpick's warehouse slightly inland, at the western edge of the harbor headquarters (light gray roof). The adjacent seaward set of buildings (purple roof) plus shallow beach access are used by the company's harvesting platform.

Trincomalee is the third largest natural deepwater port in the world. It has been an important vessel port for well over 1000 years and was formerly a British naval base. The port also has a longstanding history as a naval base and has historically been important as a tool port and for tea export (via the Tea Traders Association (TTA)). The Ceylonese government assumed management from the British in 1956: the port has since been developed for bulk, cargo and port-related industrial activities including heavy manufacturing, tourism, agriculture and shipping. Data from 2010-2016 indicate that while repair, bunkering and other forms of traffic occur, the majority of vessels using Trincomalee Port are moving cargo¹.



Figure 3 - Location of main industries located within the Port of Trincomalee¹. CodBay harbor is the light brown across from Tokyo Cement: these are rafts of vessels which extends into Cod Bay. On the opposite side of this peninsula is Ashroff Quay/Pier which extends into China Bay.

The main industries in the Port are given in Table1, Figure 3: Tokyo Cement, Prima Flour (edible wheat flour), Lanka Indian Oil Corporation (IOC). The Mud Cove facility acts as a regional maintenance and repair facility, providing a slipway and workshops. The naval base at the northern mouth of Coddigar Bay is currently operational under the Navy and the Sri Lanka Port Authority (SLPA) manages the Ashroff Quay which receives imports of coal, clinker, gypsum and general cargo, most of which are destined for the Tokyo cement plant. The Ashroff quay is also used as a Cruise ship berth.

Table 1 - Main industries present in Trincomalee Port, located within the Inner Harbor³.

Facility name	Containers	Dry Bulk Goods	Liquid Bulk Goods	General Cargo	Passengers	Ship Repair/ Auxilliary	Navy
Tokyo Cement		X					
Mud Cove						X	
Ashroff Quay		X		X	X		
TTA							
Lanka IOC			X				
Prima Flour (edible)		X					
Navy Facilities							X

Port Development Considerations and potential future development of the Port

While the following developments are currently not affecting Oceanpick activities, some future potential developments may need to be considered in the future:

- **Port activities:** The IOC facility has the most substantial port capacity in the country for refined oil (>10,000,000 tons), where demand is expected to decrease by 2050: the port does not currently service crude oil nor is this projected by ADB. Projections based on 2050 anticipate commodity needs in Trincomalee for:
 - wheat, maize and corn

³ <https://www.adb.org/sites/default/files/project-documents/50184/50184-001-tacr-en.pdf>

- cement, clinker and gypsum
- non-containerized cargo
- fertilizers



Figure 4 – Lay-up locations identified in the 2019 Technical Consultant’s Report for the Asian Development Bank, prepared by Maritime & Transportation Solutions.

- **Lay-Up Siting:** “The deep-water Trincomalee bay offers enough area for ship lay-up if SLPA deems the business case positive. The term ‘lay-up’ means ships which are temporarily idle due to lack of cargo or which are temporarily phased out of commercial operations. Ships are laid-up when freight rates are not sufficient to cover the running costs. During times of economic crisis, laying-up is often preferred to the sale of the ship”: one such vessel is already laid up, between Greater Sober Island and Old Gun Point (visible in Figure 4, inset).
- **Deep-water Oil Jetty:** Due to water depth constraints the SLPA berthing facility adjacent to Ashroff Pier can handle small tankers up to 45,000 DWT⁴: larger vessels are currently sailing to Colombo. ADB has proposed that a new deep-water jetty could accommodate larger vessels of 50,000 to 80,000 DWT. This would enhance economies of scale and have a positive effect on the purchase price of fuels in the nation – and likely also increase the throughput of fuels through Trincomalee waters in both Koddiiyar Bay and the Inner Harbor.
- **Displacement:** A key issue in any plan to develop the Port of Trincomalee is that acquisition of land will be necessary, with involuntary relocation of people as possible consequence. In Sri Lanka, the subject of land acquisition is governed by the Land Acquisition Act (LAA) No.09 of 1950 as amended and the National Involuntary Resettlement Policy (NIRP).

ENVIRONMENTAL BASELINE

Koddiiyar Bay Canyon Oceanography: The waters off Trincomalee are dominated by the influence of the Trincomalee submarine canyon that begins offshore outside of Koddiiyar Bay and extends into Trincomalee Inner Harbor⁵ (Figure 5). The canyon at Trincomalee is a multiple canyon complex created by the runoff of the largest river in Sri Lanka, the Mahaweli. The canyon is one of the twenty largest

⁴ Deadweight tonnage.

⁵https://www.researchgate.net/publication/267695438_Impact_of_Internal_Tides_on_Sound_Propagation_and_Sea_Levels_in_Trincomalee_BayCanyon_Sri_Lanka/download?_tp=eyJjb250ZXh0Ijp7ImZpcnNOUGFnZSI6Il9kaXJlY3QiLCJwYXJlIjoieX2RpcmVjdCJ9fQ

in the world with walls 1350 metres high, made of hard granitic and quartzitic rocks⁶. The canyon traces seawards as a gorge for over 60 km and down to depth over 3350 m and to 3600m as a fan valley. In typical tropical coastal waters, warm surface water layers extend downwards from morning to evening due to solar heating and wind mixing. But in the Trincomalee Bay, there is unusual upward cold water mass movement from morning to evening. This upward movement of cold water is thought to be due to internal tide-wave activity from the canyon structure.

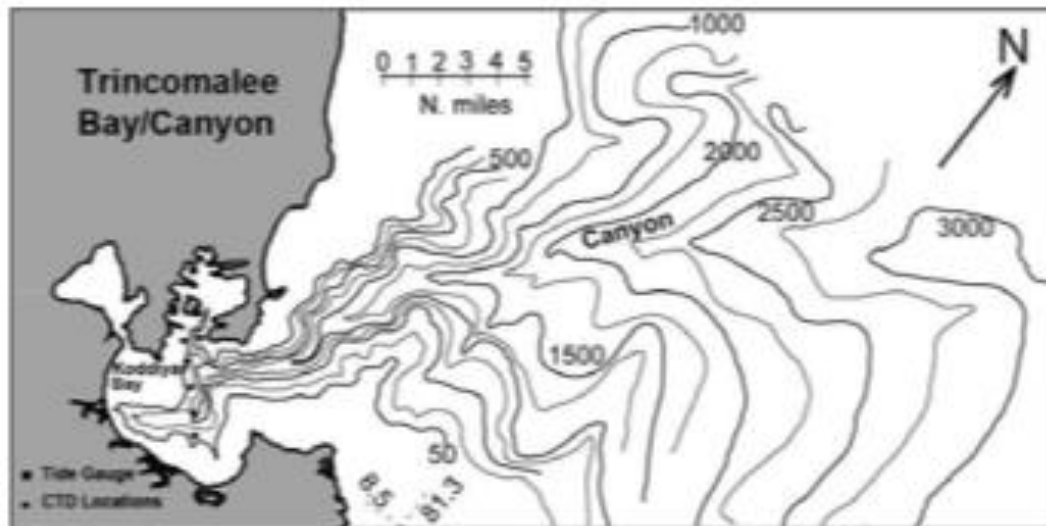


Figure 5 - Bathymetric map of Trincomalee Bay and its associated offshore canyon feature.

Watersheds: Oceanpick's operations are across Coddigar Bay from the outflow of the Mahaweli River, which is the largest watershed and river system in Sri Lanka. The Mahaweli brings substantial freshwater and sediment into Koddigar Bay. Oceanpick's operational sites are mostly located outside of any designated watershed systems. Oceanpick's Nursery II site is located on the edge of Sinnakarachichi Lagoon, which is the terminal water body associated with the Sinna Thoduwawa waterway, although the lagoon experiences seasonal effects from monsoon waters, and tidal influence. Lagoon waters are state-owned while the surrounding areas are partly state-owned and partly privately owned⁷.

⁶ Stewart, H. B.Jr., Shepard, F.P. & Dietz, R.S. 1964, Submarine canyons off eastern Ceylon. Abstract, Annual Meeting. Geological Society of America 197.

⁷ <http://203.115.26.10/wetland/more-details.php?id=64&action=edit>

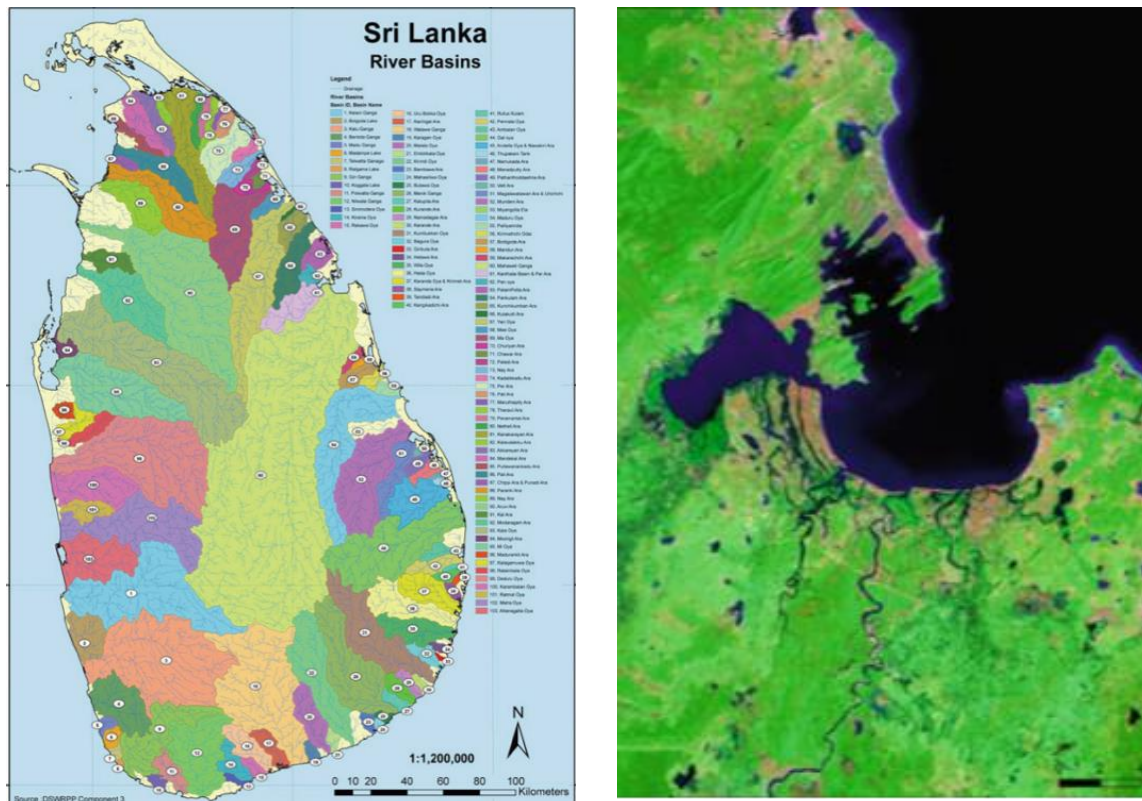


Figure 6 - River basins of Sri Lanka. (Left) The central yellow Mahaweli watershed is the largest in the country. Trincomalee port and town are located on the northeast coast, across Cuddiyar Bay from the the outflow of the Mahaweli River. (Right) A delta system formed by the Mahaweli River where freshwater enters Cuddiyar Bay.

Koddiyar Bay Coastal Ecosystems: The Trincomalee marine ecosystem is influenced by a series of main features: in Koddiyar Bay, the freshwater and sedimentation effects of the Mahaweli outflow into the complex and substantial offshore canyon that drives internal mixing and nutrient upwelling. Subtidally, the Trincomalee area is dominated by sandy/rocky shelves with intermittent coral heads, algal mats and algal beds. In the inshore, the coastal zone is made up of long sandy beaches, mangroves, brackish wetlands and coastal lagoons: coastal forest is present but rare. Key threats to coastal ecosystems in the region include rapid development following the end of the Civil war, tourism (plastic and effluent pollution) and destructive fishing (blast fishing is in the region, but is most common north of Nilaveli rather than within Koddiyar Bay).

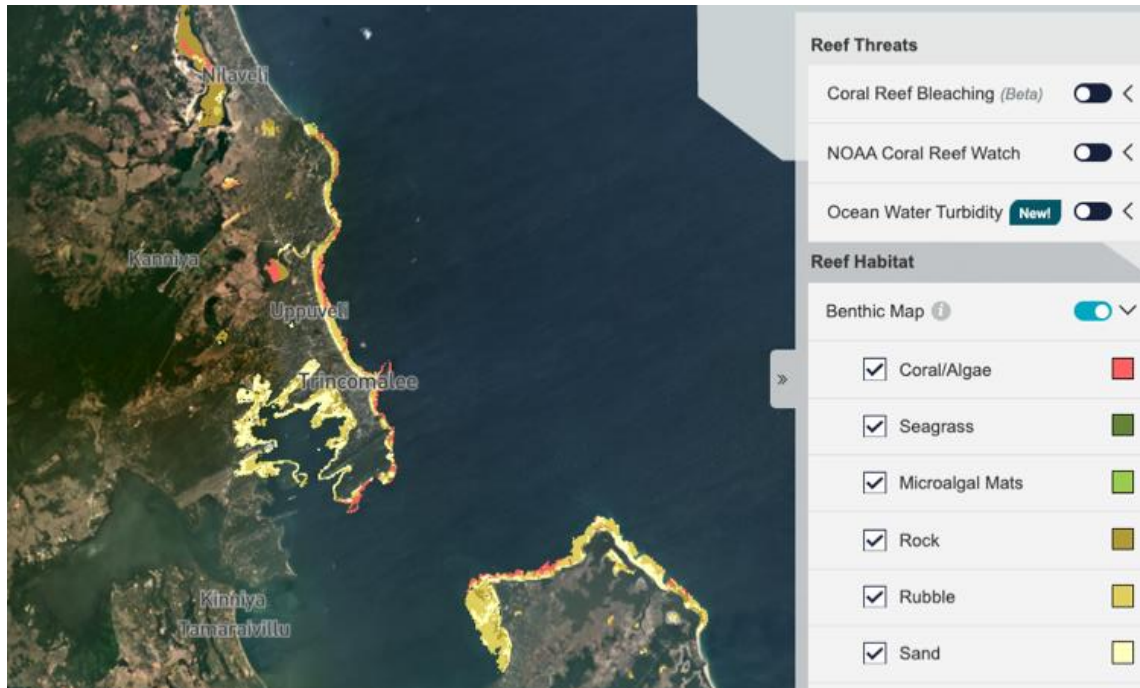
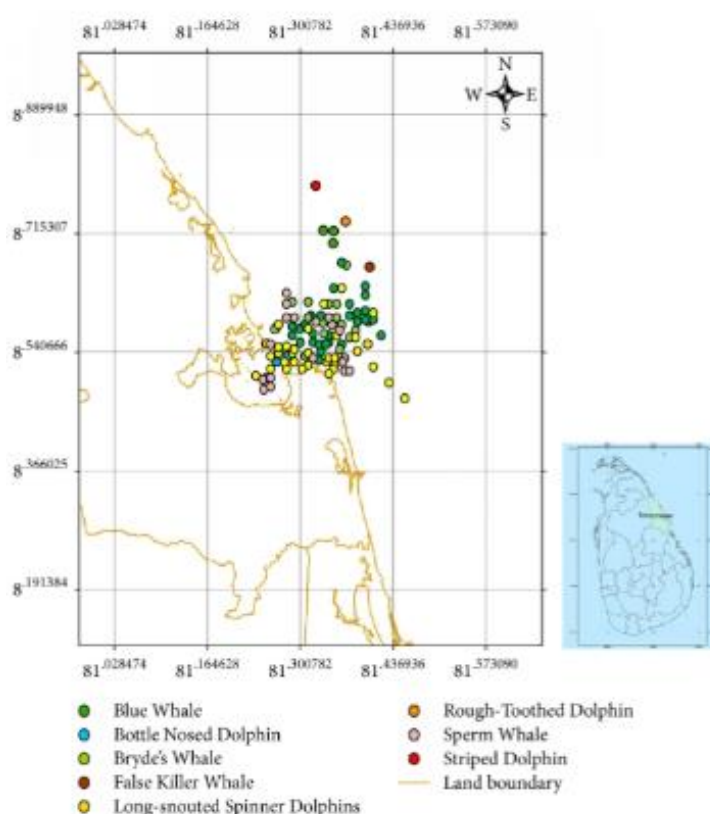


Figure 7 - Map showing various types of benthic habitat in the Trincomalee area, indicating noneaningful biotic habitat (coral, algae, seagrass, macroalgae) in Oceanpick's operational and farming areas.

Reef habitat: "The rocky seabed of Trincomalee supports extensive reef habitats, the majority of which are large boulder type reefs of crystalline rock. Narrow fringing coral reefs have developed on these rock substrates, extending about 200 m from the coast to a depth of about 8 m, while offshore reef habitats are found to a depth of more than 50m."...(Classical) coral reefs (live coral on coralline substrate).... "are few and their distribution is patchy along the coast. The main coral reefs are located at Nilaveli, (Pigeon Island and Coral Island), Dutch Bay, Back Bay, Coral Cove and Foul Point, and along the coast south of Foul Point to Batticaloa). There are also some small coral patches within the Trincomalee Harbour and in embayments along the eastern coast outside the harbour. There are no coral reefs in Koddigar Bay due to freshwater and sediment input from the Mahaweli River."⁸

Figure 8: Frequency and distribution of cetaceans associated with the Trincomalee Canyon⁴.



Marine fauna: To date, over 100 species of corals and more than 300 species of reef fish have been identified in Trincomalee and surrounding areas. Fishing for edible species and ornamental fish collecting are high in Trincomalee, with extensive harvesting of sea cucumber and Chanks (*Turbinella pyrum*). There are no systematic studies performed on benthic and soft bottom communities (i.e. Sponges, Cnidarians, Polychaetes, molluscs, crustaceans, Echinoderms) for these areas to date. There is highly limited information available for most marine species NARA, the National Aquatic Resources Research and Development Agency mainly performs work in a reactive sense, in response to proposed development, as opposed to proactive species surveys, due to resource limitations. For this reason even where dedicated surveys have been conducted, researchers are challenged to identify species due to high diversity, limited taxonomic capacity and species that may not yet be characterized, particularly in structural and lower trophic families such as flatworms, sponges etc.

Marine megafauna: Marine canyons, like the Trincomalee canyon, have physical features that enhance primary productivity and convert it to prey biomass quickly, over small areas. Canyons also concentrate prey through walls and make them more accessible in surface waters. For these reasons, submarine canyons are often rich fishing areas and important feeding grounds for marine wildlife, and particularly cetaceans⁹. Spinner Dolphins are the most abundant cetaceans in Trincomalee, although Sperm Whales (occasionally in superpods of 50+ individuals), Blue Whales, and Bryde's Whales, Bottlenose Dolphins and Striped Dolphin are also relatively common. Less frequently, there are sightings of Killer Whales, Rough-Toothed Dolphins, Longman's Beaked Whales, Dwarf Sperm Whale, and False Killer Whales. The main threats to cetaceans and particularly dolphins are direct human predation by gillnet fishers who both incidentally and deliberately capture dolphins for direct

⁹ https://www.who.edu/cms/files/fb99219_59386.pdf

consumption, sale, and use as bait in shark fisheries¹⁰. Recent surveys, along with anecdotal reports from interviews consistently reported cetaceans only occasionally within Coddigar Bay and mainly offshore. There are historical records of dugongs in the Trincomalee and Batticalao region, but main remaining populations are thought to occur around the Gulf of Mannar due to harvest for their meat, hide and oil.¹¹ Five species of sea turtle occur in Sri Lanka, where all have been actively hunted. The main nesting beaches in the country appear to be in the South and West, although the civil war severely limited data collection and the type of time series important for monitoring long lived species¹². There are records of Green turtle harvest in Trincomalee, but very little other information is available.

Terrestrial & Lagoon Ecosystems: Sri Lanka has a high degree of plant endemism, and of the 3087 flowering plants native to the country, 48.4% of flowering plants and 59.1% of ferns are threatened. Mangroves are also found in Trincomalee where LandSat imagery has estimated total mangrove cover at approximately 15km², which represents a 25% reduction in regional cover in the 20 years between 1997 and 2017 mainly attributed to clearing for pond-based aquaculture and tourism.¹³ In coastal lagoons, pollution, particularly due to the indiscriminate disposal of solid waste such as plastics is a major issue. The location of new settlements of Tsunami displaced communities has increased pollution of lagoons in Trincomalee. Development of lagoons for aquaculture and salt production, and siltation are seen as potential threats⁶.

Relevant Fishing Activities: The main fishing activities observed onsite in the inshore Trincomalee area and near Oceanpick operations include:

- beach seining undertaken by large, communal groups¹⁴
- hook and line and trap fisheries undertaken by small scale fishers alone or in pairs
- extensive, diffuse, but cumulatively commercial-scale removals of reef-associated species for the aquarium trade: participants may earn 3-30x minimum wage¹⁵

Destructive blast fishing is documented as common in the region, in the Nilavalei area and further north: it was not observed or heard near Oceanpick's operations in Koddigar Bay or in the Uppaveli area north of Trincomalee. Concerns have been raised that women in Trincomalee area who participate in fisheries and marketing activities are invisible to government authorities, and lack institutional representation with the Fisheries Department¹⁶.

ECONOMIC AND SOCIAL BASELINE

Economic Crisis: Prior to the C-19 pandemic, Sri Lanka was facing economic instability, being highly indebted to both public and private lenders in China, India and Japan. This situation was the results of longstanding policies away from low interest rate concessionary lending from the World Bank or the Asian Development Bank to mostly commercial loans held by private banks at much higher interest

¹⁰ <https://www.hindawi.com/journals/jmb/2014/819263/>

¹¹ <https://portals.iucn.org/library/sites/library/files/documents/2002-001.pdf>

¹² https://www.bmis-bycatch.org/system/files/zotero_attachments/library_1/UJ3KQ7J5%20-%20IOTC-2017-WPEB13-36.pdf

¹³

https://www.researchgate.net/publication/336879099_Mangrove_Forest_Cover_Change_Detection_Along_the_Coastline_of_Trincomalee_District_Sri_Lanka_Using_GIS_and_Remote_Sensing_Techniques

¹⁴ <https://socialdocumentary.net/exhibit/Kang-Chun-Cheng/6515#:~:text=Exhibit%20Abstract,of%20fishing%20in%20the%20country.>

¹⁵ <https://www.sciencedirect.com/science/article/abs/pii/S0308597X2200183X>

¹⁶ <https://library.wur.nl/WebQuery/edepot/427227>

rates. In 2019, 56% of Sri Lanka's debt was held by commercial lenders, compared to only 2.5% in 2004.

The combined effects of poor government monetary policies, compounded by the curtailment of tourism income during the pandemic, meant that by 2022 "the country faced the most severe economic crisis since 1943, marked by long queues for cooking oil, food and gas, as well as prolonged power cuts. The crisis was exacerbated by a tax policy that led to a decline in government revenue based on both a decrease in tax filings and limited enforcement to collect applicable taxes owed. At the same time, the government banned chemical fertilizers which crippled the export tea industry and its associated revenue, as well as causing food security associated with domestic crop failures. The drop in tourism also resulted in a loss of foreign exchange.

After a change in government, some debt forgiveness and collaboration with the International Monetary Fund, a new program was devised to stabilize Sri Lanka's economy in November of 2023, encompassing crucial financial, legal, and governance reforms. While measures have imposed new taxes there are early signs of economic stabilization and international confidence in Sri Lanka is growing.

Trincomalee and the Civil War: The Sri Lankan Civil war was fought from 1983 to 2009 via intermittent insurgencies against the Singalese government based in Colombo, by the northeastern Liberation Tigers of Tamil Eelam (LTTE or Tamil Tigers). The war was rooted in longstanding religious and political tensions, interacting with losses that both sides had suffered related to power, justice and agency suffered under prior British Colonial rule (both groups had co-existed peacefully prior to colonization). By the end of the civil war, the UN estimated a total of 80,000 – 100,00 Sri Lankans had been killed: approximately 40% of these being civilian deaths. The true nature of wartime atrocities remains undocumented. The state has been criticized for refusing to investigate violations of human rights in war crimes that included bombing of civilian targets by both sides, use of heavy weaponry and extensive landmines, abduction and massacres of Sri Lankan Tamils as well as frequent use of sexual violence¹⁷. Trincomalee was an active site of conflict throughout the war, where the central government naval base was of key strategic importance in supporting supply chains to Jaffna in the north, while being vulnerable to LTTE attacks from artillery bases around Koddigar Bay.¹⁸

Women experienced particular hardships during and after the Civil war. In 2015 the Sri Lankan government made a number of promises to the UN Human Rights Council that have yet to be met for its citizens. Without tools or means for reparations, conflict-affected women lack information on missing relatives, remain displaced from their land, suffer economic deprivation, live with psychological trauma and remain vulnerable to sexual violence and exploitation. *"Tamil speaking women in the north and east have arguably been more affected by the conflict and its aftermath than any other group in Sri Lanka. Tens of thousands of war widows and wives of the missing have been forced to become heads of household and primary income earners, leaving behind traditional domestic roles and entering the public realm to engage politically, economically and socially. They do this in a*

¹⁷ <https://icg-prod.s3.amazonaws.com/124-sri-lanka-the-failure-of-the-peace-process.pdf>

¹⁸ 2011 Report of the Secretary General's Panel of Experts on Accountability in Sri Lanka: <https://www.refworld.org/reference/countryrep/unsecgen/2011/en/78961> and 2011 Report of the Secretary-General's Internal Review Panel on United Nations Action in Sri Lanka: [https://digitallibrary.un.org/record/737299/files/The Internal Review Panel report on Sri Lanka.pdf?ln=en](https://digitallibrary.un.org/record/737299/files/The%20Internal%20Review%20Panel%20report%20on%20Sri%20Lanka.pdf?ln=en)

highly patriarchal context regulated by rigid cultural and social practices, and made insecure by the continued presence of the Sinhalese military.¹⁹

Displacement: It is estimated that over the course of the Civil war, more than 1 million Sri Lankans were displaced, 730,000 of these internally. Many had to flee several times and ended up becoming permanently displaced in welfare centres, or moving to friends, relatives or into abandoned buildings. Late in the war Sri Lanka was also hit by the 9.1 Sumatra-Andaman 2004 earthquake, which killed 1000 people in Trincomalee. In the area, the tsunami reached >2km inland. The combined effects of the war and tsunami mean that a number of communities in Trincomalee were displaced and resettled, sometimes repeatedly, into more upland areas: disputes related to many aspects of resettlement persist including loss of homes and properties either through destruction or because property was taken over by other displaced persons (The Refugee Council, September 2003). Requisition of land and buildings by the military occurred frequently during the war, with no compensation generally paid to those evicted. Lost or missing legal documentation is also a main issue facing a large number of the returning population. All of these issues were reported in interviews onsite.

Poverty: In 2016, Trincomalee district had the third highest incidence of extreme poverty in Sri Lanka, according to the World Bank.²⁰ At the national level, multidimensional poverty measures indicate that Sri Lanka's main sources of deprivation are monetary (38%), and less related to infrastructure inadequacies (<5%) or serious lack of access to education (<5%). The World Bank expects Sri Lanka's GDP to grow at 1.7 per cent in 2024 — up from negative 3.8 per cent in 2023 and negative 7.8 per cent in 2022. But previous poverty reduction gains over past decades have been reversed, because of growth reversal and job losses. The percentage of people living beneath the US\$3.65 a day poverty line has doubled to 25% during the last two years. Child malnutrition also increased as many families switched to less healthy diets²¹.

Trincomalee Demographics: According to the 2012 census, the population of Trincomalee district is 378,182 people, with approximately 42% Islamic, 26% Buddhist, 26% Hindu and 6% Christian. The two predominant languages spoken are Hindu and Sinhala.²²

¹⁹<https://www.crisisgroup.org/asia/south-asia/sri-lanka/289-sri-lankas-conflict-affected-women-dealing-legacy-war>

²⁰ ["Geospatial Poverty Portal: Interactive Maps"](#). World Bank. Retrieved 2024-01-22.

²¹ <https://eastasiaforum.org/2023/12/17/political-risks-loom-over-sri-lankas-economic-stabilisation/>

²² Population by ethnic group according to districts, 2012". Census of Population & Housing, 2011. Department of Census & Statistics, Sri Lanka.; Population by religion according to districts, 2012". Census of Population & Housing, 2011. Department of Census & Statistics, Sri Lanka.

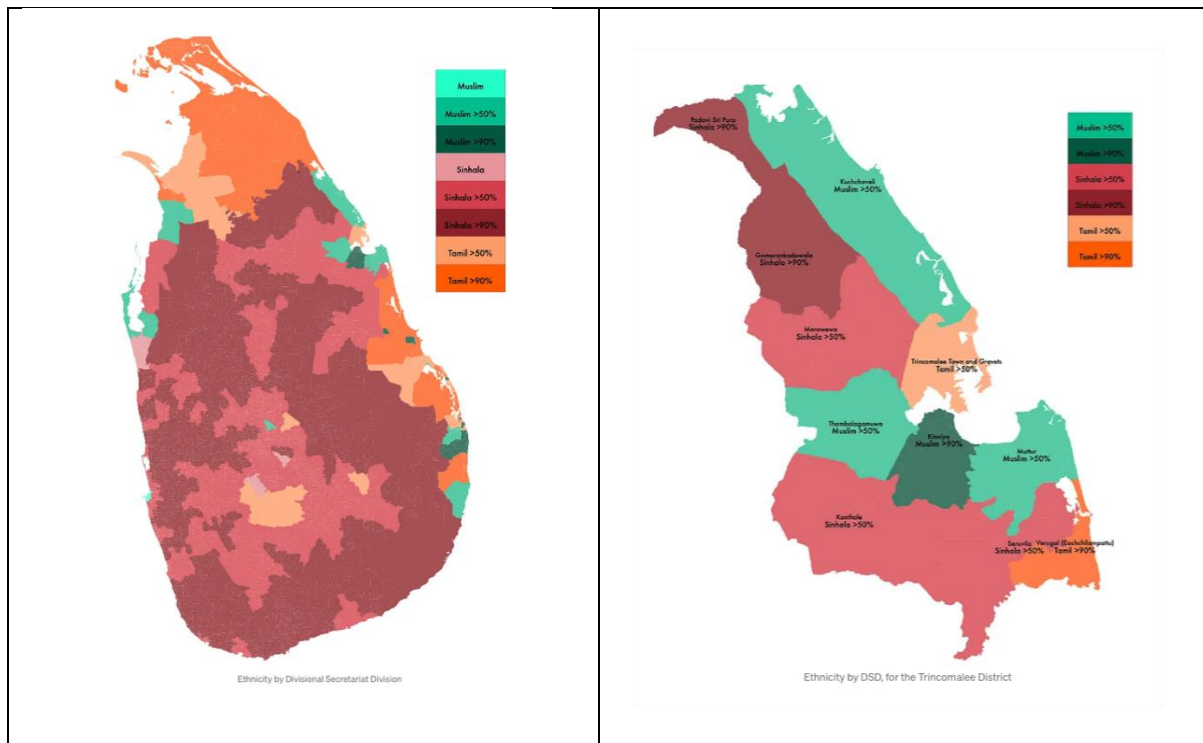


Figure 9 – While Trincomalee is one of the most collectively diverse areas in the country, within the region, demographic groups remain relatively segregated geographically.

1.2 Project/ Investment Overview

The investment aims to support Oceanpick through CAPEX expansion, working capital, and buy out of an existing shareholder during two phases:

- Phase I (current operations): Buy out existing shareholder, invest into current operations and increase capacity to reach current maximum production with existing infrastructure
- Phase II (expansion): Capital expenditure for expansion such as further cage arrays in new adjoining locations, building a second Nursery II facility, and building or acquiring a processing plant with working capital to support this growth

It should be noted that all activities in Phase II will not begin until a full ESIA has been undertaken, with the Accredited Entity's oversight. Hence, the current due diligence has mostly focused on current operations. The potential expansion activities could include the following main activities:

- Increase in the number of sea cages, located in new, nearby areas
- Acquisition of a land parcel that may support one or more of; processing, feed storage, nursery production or a future feed mill
- Building on the already leased Nursery II site, to build a functioning nursery for fingerling production



Figure 10 Location of Oceanpick's current and proposed activities (see also appendix for greater detail including location of Greater Somber Island and Pigeon Island Marine National Park). Inset image shows the location of (top to bottom) operational headquarters, nursery cages, grow-out cages and parcel currently proposed for acquisition which is not confirmed (white polygon).

Main locations relevant to existing operations of the project include:

Codbay headquarters (farm office), warehouse & landing site: The company's main operational base and administrative offices are located within a semi-enclosed warehouse on 0.15934 ha of leased land in the CodBay Harbor. Along with executive offices, the warehouse has a gathering area/eating room and rest room for workers.

Warehouse activities include net cleaning, some feed storage, waste collection from the sea cages, and administration. Waste water from net cage cleaning is piped out of the warehouse untreated and the final disposal point is unknown but assumed to be Codbay harbor.

The farm office has an adjoining boat landing site across the road that receives harvested fish and acts as the main loading site for feed destined for net cages. At the top of the beach are three small structures that house chemical storage, a worker rest station with bed, and covered fuel storage.

The headquarters area is accessed at the end of a 200-300ft of gravel road into CobBay Harbor, which is off a municipal, paved public road.

Alain Michael Hatchery: Oceanpick's main functioning hatchery near Nilaveli village (Uppavelli) where they maintain broodstock and rear larval fish to transfer size. The nursery originally pumped water from surface coastal water, but due to contaminants unsuitable for hatchery needs, now pumps saltwater from three saline wells in the intertidal zone. Wastewater is also returned in compliance with permits issued by MEPA, to the beach adjacent to the nursery, above the high tide line. The land totaling 1.0963 ha was purchased by the owner of Oceanpick. It also provides accommodation for one female manager²³. The hatchery is accessed off a municipal, paved public road.

Nursery II: Located north and inland of Alain Michael hatchery, this is a leased land parcel that is intended for a second nursery. A test 15ft deep water test well is on the site, but no other construction exists at present. The two-acre plot of land is already converted grassland and is accessed via a 300-400ft gravel road off a municipal, paved, public highway and is located adjacent to Sinnakarachichi

²³ There are no worker's camps that provide long-term accommodation for Oceanpick workers.

Lagoon on one side, agricultural land on two sides, and the municipal highway on the last side. The land parcel is all located above the high tide line and surficially, is not subject to tidal waters. Recent test well results indicate that water conditions are not suitable for hatchery production, so alternative locations for this facility will be sought.

Cage sites: There are three functioning net cage arrays totaling 28 individual seacages in two areas of the CodBay inner harbor: 1. Powder Bay (eight pre-grow-out/nursery cages) and 2. Dead Man's Cove with Minden I/Minden II (Clappenburg) sites (20 grow-out cages). Cages are made from heavy duty, UV resistant, f ploytheylene (PE100), anchored with polypropylene ropes. All cages are made of knotless nylon netting and are covered with fixed bird nets with 1.5 - 3 inch mesh (3.8 - 7.6 cm) to avoid bird predation/interactions. Seabed leases for were issued by Sri Lanka Port Authorities on December 12,2017 for 30 years area measuring 2.8327 ha for both grow-out areas and 0.04473 ha taken on lease on December 15, 2022, for the single pre-grow-out areas. Seacages are accessed either via harvest vessel which travels approximately 6.5 km in and out of the CodBay warehouse landing site to cages by water, or by first paved then gravel public roads, which end at Dead Man's Cove beach, and then by small boat launch which travel 1km by water out to seacages.

Table 2 – Technical specifications associated with Oceanpick's three multi-cage arrays. Cage locations are mapped in Figure 10. If Google maps are viewed in satellite view, cages are visible.

Site	Geo-location	Number of cages	Seabed footprint of all cages/site (ha)	Scale/Capacity
Powder Bay site	8.56259038479044, 81.21587306425006	8 (nursery cages)	0.4473	40m circumference x 4 50m circumference x 4
Minden I site	8.527090179410509, 81.21574431826164	10 (growout cages)	0.7966	50m circumference x 10
Minden II/ Clappenburg site	8.530188356307372, 81.21359855110006	10 (growout cages)	1.06	70m circumference x 10

Feed storage: A main feed storage warehouse at the base of Ashroff Pier, in CodBay harbor, within gated and secure lands owned by the Sri Lanka Port Authority. Prior permission to enter these lands and the private road is required from SLPA headquarters in Colombo.

Waste management: Sub-contracted liquid and solid waste management at CGL, the Trincomalee municipal waste management facility. Access is off the paved, public municipal road. All roads within CGL are made of rough earth/gravel.

Fish processing: Sub-contracted processing in two locations in Colombo. Fish are harvested on the floating harvest platform at sea and placed in iced totes. When the platform reaches the landing site in Codbay, totes are transported by truck on paved highway to Colombo for processing.

Table 3: Transportation corridors used to move all main Oceanpick staff and resources, giving the location, means of transport and nature of transport.

Start Location	End Location	Product being transported	Transport vehicle	Directionality	Distance (o/w)
CodBay Warehouse	Colombo	Whole fish for processing, potentially feed	Transport truck	One way	247km - 271km (by road)
Sea cages	CodBay Warehouse	Whole fish for processing, harvesting staff, sea cage technicians, divers	Harvest platform vessel	Both directions	6.5km (by water)
CodBay Warehouse	Dead Man's Cove launch	Personnel for occasional staffing changes (sea cage technicians, divers)	Company minivan	Both directions	10.2km (by road)
Dead Man's Cove launch	Sea cages	Personnel for occasional staffing changes (sea cage technicians, divers)	Small boat launch	Both directions	1km (by water)
Ashroff Jetty, Trincomalee	Sri Lanka Port Authority	Feed	Lorry	One way	500m (by road)

	Warehouse (CodBay)				
Sri Lank Port Authority Warehouse (CodBay)	CodBay Warehouse	Feed	Lorry	One way	2km (by road)

Table 4 – Left to right process flow associated with feed used by Oceanpick operations.

Inputs	Manufacturing & Sale	Purchase	Receiving Colombo	Receiving Trincomalee & Main Storage	Sub-Storage	SSub-storage	Use	End product
Sourcing feed ingredients of animal, plant, mineral origin (various)	Vietnam (shipped)	Oceanpick Colombo head office	Colombo Port (truck transport)	SLPA warehouse in CodBay (main feed receiving and storage)	CodBay office warehouse (temporary storage)	Mirage boat (temporary on water storage)	Netcages (consumed by barramundi)	Adult barramundi Feces

Table 5 – Key inputs and outputs associated with the main production stages of farming Oceanpick barramundi.

Process	Provisioning: Hatchery saltwater storage tank X1	Reproduction: Broodstock tanks x 4	Hatchery farming, early : Larval tanks x 4	Nursery farming, late: Nursery tanks x 22	Nursery sea cage farming: net cages x8	Growout cage farming: net cages x 20	Harvest: harvest platform vessel x 1
Stage-based activity	Ability to store clean saltwater for hatchery	Broodstock spawn to produce fertilized eggs for rearing fingerlings	Newly hatched larvae are fed with cultured live feeds	Grow on into fry/fingerlings for transfer to net ages	Grow on fingerlings to adult sizes	Grow adults to harvest size	Slaughter and chill fish for transport and processing
Life stage	N/A	Adult female/Adult male (Barramundi 3kg are male, >3kg they become female).	Larvae (egg hatch – day 16)	Fry/fingerling (day 16 age - <30g)	Juvenile (>30g – 100g)	Juvenile female/Adult female (>100g – harvest)	Juvenile female/Adult female (1-2kg)
Inputs/source product					Average feed supply during normal operations over last 5 years is 1600kg per site/day.		
	Brackish water from triple bore, lagoon shoreline	Broodstock & brooder feed	Artemia & Rotifer live feed	Feed (0.5, 1.5, 2.0, 3.0mm pellet sizes)	Feed (3 & 5 mm pellet size)	Feed (7 & 10mm pellet sizes)	Ice slurry
Output	n/a	Wastewater (hatchery wastewater treatment plant and outflow)	Wastewater (hatchery wastewater treatment plant and outflow)	Wastewater (hatchery wastewater treatment plant and outflow)	Unconsumed food, Feces, Urine, CO2 released to Powder Bay	Unconsumed food, Feces, Urine, CO2 released to Dead Man's Cove/Koddiyar Bay	Contained blood water Whole dead fish, disposed CGL

The company has a permitted lease in Back Bay, on the open coast near Elizabeth Point, but the site has never been used.

INTENDED BENEFICIARIES

Oceanpick represents the first net cage mariculture operation in Sri Lanka²⁴ and has the potential to act as an industry leader for open ocean protein production nationally and in the Indian Ocean region. The project contributes to the direct and indirect employment of a suite of executives, office staff, divers, net cage technicians and casual workers. Expansion of current operations will employ additional workers from the surrounding communities, who will benefit from skills development, as will university graduates.

Farming activities will provide the incentive for Competent Authorities with potentially competing mandates (e.g. Sri Lanka Port Authority and the Marine Environment Protection Authority) to monitor and maintain water quality in the industrial port of Trincomalee, where the Port Authority is actively soliciting interest from the private sector, many including heavy industrial activities.

The company has also employed female workers in typically male-dominated hatchery production management, which represents important role modeling for women in the heavily male-dominated field of seafood production, and a novel leadership reality for many Sri Lankan male workers. Oceanpick operates in areas that were subject to civil war from 1983-2009 between Buddhist Sinhalese and Hindu Tamils and where there are also Muslims and Christians. Oceanpick aims to have workers from all the main religious-ethnic groups in the country working together to rebuild a unified productive workforce.

DURATION OF THE PROPOSED SUB-PROJECT

The Fund expects to grow and provide equity financing during the holding period, expected to be between 5 to 7 years. The investment team estimates to maintain the investment in Oceanpick throughout the growth and expansion period of current operations and exit the company once full operational utilization has been achieved, depending on market appetite. It is assumed that the platform acquirer would continue to operate and maintain the operations as a going concern. Nevertheless, the Fund has the flexibility to maintain the investment for a longer period.²⁵

2. SCOPE OF REVIEW

Pegasus requested experienced third-party consultants to perform an Environmental and Social (E&S) Due Diligence (ESDD) of Oceanpick. The objective of the ESDD was to assess the Company's operations including the existing Environment, Social & Governance (ESG) structure, processes and capacity against the Reference Framework. The objective was to highlight the potential risk areas or concerns related to its existing business operations and expansion plans and to develop an action plan to address such risks. The ESDD was complemented by in-house assessments.

The Reference Framework encompassed:

- Applicable local, national and international environmental and social legislation, with legal technicalities addressed in a separate legal due diligence process by
- IFC Performance Standards 2012.
- World Bank Group (WBG) General Environmental Health and Safety (EHS) Guidelines
- WBG EHS Guidelines for Aquaculture
- Core ILO labor standards and ILO Basic Terms and Conditions of Employment

²⁴ Aquaculture in Sri Lanka has traditionally been concentrated in brackish water lagoons, freshwater bodies or in land-based ponds.

²⁵ There can be no guaranty that the duration of the sub-project will have the duration described as transactions will be conducted on attractive terms.

2.1 Applicable IFC Performance Standards

The International Finance Corporation (IFC) Performance Standards (PS) apply a risk-based categorization approach that distinguishes projects based on the nature and severity of E&S risks. This investment is screened as Category B: “*potential negative E&S risk and impacts are limited, site-specific, largely reversible and readily addressed through appropriate environmental and social mitigation measures*”.

The reason for this Categorization is that Oceanpick’s current (Phase I) activities do not require land conversion and occupy a total of farmed (suspended) footprint 2.30ha.

In addition, net cage farming may have benthic (seabed) impacts, but these are deposition of nutrient dense feed and fecal solids, which are consumed by marine scavengers and can be mitigated through fallowing. In marine fallowing, sea cages are moved to alternate farming sites: this has not been required because flushing rates at the current farming locations are not altering native bottom communities at present, as evidenced through ITI scores which demonstrate the ongoing health of benthic communities²⁶. Hence there is no current evidence to suggest that there is the need to reverse farming effects.

Moreover, there are no likely impacts from Oceanpick’s operations on marine protected spaces in the region. The major legislation used in declaring protected areas in Sri Lanka is the Fauna and Flora Protection Ordinance (FFPO) of 1993, which is administered by the Department of Wildlife Conservation (DWC). This was created primarily for the purpose of protecting *terrestrial* biodiversity. In Sri Lanka, national parks provide the highest level of protection and do not allow any form of resource extraction. They also require regulation of access for nonextractive uses. The closest national park with *marine* designation is Pigeon Island Marine Park, which is 25km north of the company’s sea cage operations in Trincomalee Inner Harbor by sea (Figure 10). Oceanpick’s operations are close to Great and Lesser Somber Island Sanctuaries (~1.5km by sea) neither of which have designated protected marine waters⁴. Sri Lankan sanctuaries allow open access for non extractive uses, and limited subsistence-based resource extraction under permit²⁷: all operations are fully licensed through the relevant authorities (see section 4.1.2).

An unknown risk posed by the operation in terms of reversibility is the establishment of nonnative barramundi, *Lates calcarifer*. A native barramundi, *Lates lakdiva* was identified for the first time based on one specimen from the southwest coast of Sri Lanka in 2014, well after deliberate government introduction of non-native *Lates calcarifer* into freshwater reservoirs (tanks) to augment food fish production. *L. calcarifer* is now established at low/unmonitored levels throughout Sri Lanka, including in the ocean waters of Trincomalee (although rare according to interviews) and no specimens of *L. lakdiva* are known from the northeast of Sri Lanka: they may never have existed here, or may have already been outcompeted by *L. calcarifer* or remain undocumented at low levels. Nonetheless, mitigation activities with respect to *L. lakdiva* are included in the ESAP as well as measures to prevent further escapement of *L. calcarifer*.

The expansion proposed in Phase II currently cannot be categorized at present as the new sites and locations have not been confirmed for expansion activities.

Based on the need for management of E&S risks, including aspects such as the use of feed and energy, disease risk, interactions with communities surrounding the farm and nurseries, siting in wild ecosystems and potential land/seascape conversion, the investment was evaluated with respect to the following IFC PS:

PS 1 - Assessment and Management of Environmental and Social Risks and Impacts

²⁶ For further detail, please see information on benthic impacts and ITI scores in footnote 41.

²⁷ <https://efl.lk/wp-content/uploads/2022/03/Marine-protected-areas-in-Sri-Lanka-a-review.pdf>

PS 2 - Labor and Working Conditions

PS 3 - Resource Efficiency and Pollution Prevention

PS 4 - Community Health, Safety and Security

PS 6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources,

PS 5 - Land Acquisition and Involuntary Resettlement is not applicable to the project because the land currently used by the company was either purchased through transfer of legal title from private land owners (Alain Michael hatchery) or is leased (Nursery II and CodBay headquarters). The seabed sites and use of the main feed warehouse are leased from the Port Authority of Sri Lanka. Based on stakeholder interviews, there were no accounts of community displacement in any of these areas via government land acquisition, although other displacements were discussed with assessors and occurred due to the 2004 tsunami. Therefore, no physical or economic displacement is expected by Phase I activities.

In Phase II, IFC PS 5 and the potential for displacement of fishing access/activities and impacts on water quality would need evaluation prior to any action via an ESIA.

PS 7 – After careful evaluation, PS 7 was not considered applicable to the project. Assessors are aware that Sri Lanka does not have specific laws to protect indigenous people, there is a history of government acts to prevent indigenous people from accessing traditional hunting grounds and a 2017 UN Human Rights review highlighted that indigenous Sri Lankan [Veddas are economically and politically marginalised](#)²⁸. Research by Prof. Nandadeva Wijesekara indicates that the coastal Veddas found in the Eastern coastal belt have characteristics that differentiate them from the rest of the Vedda communities. However, there is no timeframe establishing when Coastal Veddas settled in on the East coast. Most Coastal Veddas speak a language that is a dialect of Tamil and anecdotal accounts indicate that a unique language no longer spoken was in use approximately 40 years ago²³. There believed to be approximately 1,700 coastal Vedda families in 20 Vedda villages in Trincomalee District²⁹.

There is no evidence of Coastal Vedda settlements in immediate proximity to Deadman's Cove, noting the confounding reality of poor documentation³⁰. While no direct impacts on Coastal Veddas are expected by the sub-project, it is crucial for Oceanpick to acknowledge Vedda regional presence³¹, noting that the company's current policy manual does not explicitly mention indigenous rights (but does address human rights). Coastal Veddas undertake subsistence fishing, and there are records of the use of freshwater tanks (reservoirs) for fishing, but no information could be found describing ocean fishing activities associated with the closest documented community in Muttur, although this seems likely. Considering this, the company should take all measures to assure any escapement of

²⁸ Wildlife conservation laws and regulations (Fauna and Flora protection Ordinance, Forest Ordinance and National Heritage and Wilderness Areas Act) have deprived them of hunting grounds and criminalized their livelihood. Large development projects have led to their forced resettlement, a majority of whom are socially isolated and economically and politically marginalized. https://www.upr-info.org/sites/default/files/documents/2017-10/rights_of_indigenous_people_factsheet_srilanka_2017.pdf

²⁹ <https://ceylontoday.lk/2023/06/03/plight-of-our-own-aborigines/>

³⁰ Meaningful attempts have been made to contact local experts including Gayathri Lokuge at the Center for Economic and Poverty Analysis as well as Cultural Survival, one of the only groups to have conducted ground interviews with the Coastal Vedda in the Eastern Province: responses have not been forthcoming. Other local experts have asserted that there are: *"communities further south closer to where we work around Vakaraai and Kayankerni. The Coastal Vedda tend to be much more assimilated with other ethnic groups on the coast so identifying a distinct community is not as easy as in more central parts of the island."* (N. Perera, Blue Resources Trust, pers. comm).

³¹ The closest documented Coastal Vedda community is located on the shore of Koddiiyar Bay at Muttur which is 15-20km away along the shoreline.

non-native Barramundi do not affect Coastal Veddhas' use of native freshwater fisheries species in the Mahaweli delta, across Coddigar Bay and this has been accounted for in ESAP.

PS 8 - PS 8 is not applicable as there were no records provided related to sites of cultural significance within the existing operations, nor did stakeholder interviews indicate any cultural concerns associated with lands owned or leased by Oceanpick. The ESMS will require Oceanpick to define clear triggers that require the implementation of safeguards, should articles or processes relevant to the scope of PS8 arise within Oceanpick operations or key subcontractors. Any ESIA will consider the applicability of PS8 with respect to the expansion area, once decided. In addition, compliance was assessed with respect to the World Bank EHS Guidelines for Aquaculture and World Bank General EHS Guidelines.

2.2 Scope of Assessment Activities

The ESDD and appraisal included:

- A review of E&S documentation (policies, employee handbook, etc.) and site visits summarized in Table 6, including:
 - Policies and procedures
 - Selected associated records
 - Operational observation (Oceanpick and key subcontractors) via two site visits
 - Interviews with management, employees and casual workers, surrounding communities, and relevant public and private sector stakeholders
- Completion of Pegasus' ESDD questionnaire.
- Legal due diligence on national legislation

The ESMS Disclosure of Oceanpick can be found here: <https://d1xeoqaqyzc9p.cloudfront.net/app/uploads/2023/12/Oceanpick-ESMS-EN.pdf>

Table 6 – Documents, sites, stakeholders, procedures assessed during the due diligence

<p>Policies, manuals and procedures</p> <ul style="list-style-type: none"> • Company Policy Manual • Standard Operating Procedures (SOP) Manual – Farm • Standard Operating Procedures (SOP) Manual – Hatchery & Nursery • HACCP Manual & Risk Assessment • Bio Security Manual Farm-Hatchery & Farm • Animal Health Management and Welfare - Hatchery & Farm • HR Policy Manual – Hatchery & Farm – Copy 2 • Impact Assessments (IEE, ASC Benthic Assessment, EIA Draft 2) • Stakeholder Engagement Plan <p>Other farm plans, procedures and monitoring records examined</p> <ul style="list-style-type: none"> • Emergency Preparedness Plan • Boat Safety Manual • Diving Safety Plan • Employee Health and Safety Plan • Wildlife Interaction Plan (WIP) • Sri Lanka IUCN Red List 2012 • Daily Predator Controls • Pest Control Plan • Containment plan • Waste Disposal Record • Critical items disposal record • Dumping Slips & gate passes • Monthly necropsy reports • Husbandry/ welfare manual • First Aid Master Book
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- Fish Feeding and Monitoring Record
- Daily Cage Farm Monitoring Report
- Escape controls
- Net checking & cleaning
- Incident Report for Emergency Fish Escape
- Map of proposed sites for next net cage arrays
- Map of land and marine protected area (all designations: national parks, sanctuaries etc.)
- Internal audit
- Land lease documents

Onsite inspections in the Trincomalee region were undertaken at:

- CodBay headquarters in CodBay Harbor
- Alain Michael nursery (Nilaveli)
- Nursery II land parcel (Nilaveli, adjacent to Sinnakarachichi lagoon)
- Main net cage grow-out sites in Dead Man's Cove (Karumalayoothu)
- Feed storage within CodBay Harbor on Sri Lanka Port Authority lands
- Ceylon German Logistic PV Ltd. waste management site

Onsite inspection was not undertaken at:

- Net cage nursery cages (Powder Bay in CodBay Harbor)

Consultation with the following governmental and non-governmental bodies:

- National Aquaculture Development Authority of Sri Lanka (NAQDA) - <http://www.naqda.gov.lk/>
- National Aquatic Resources Research and Development Authority (NARA) - <http://www.nara.ac.lk/>
- Ceylon Fisheries Harbors Corporation - <http://www.cfhc.gov.lk/>
- IUCN Sri Lanka - <https://www.iucn.org/our-work/region/asia/countries/sri-lanka>
- Blue Resources Trust (BRT) - <https://www.blueresources.org/>
- Center for Poverty Alleviation (CEPA) - <https://www.cepa.lk/>

Local community and worker interviews included:

- 4 surroundings villages (groups of ~5, mainly female)
- 3 subcontractors (fiberglass manufacturing, machinery repair, waste management)
- Executive staff (individual)
- Non-executive staff (individual)
- Divers (group)
- Seacage technicians (group)
- Cleaners/maintenance (group)

3. PERFORMANCE STANDARD ANALYSIS

3.1 PS1: Assessment and Management of Environment and Social Risks and Impacts

3.1.1 E&S Assessment and Management System and Policy

While Oceanpick has many policies and procedures in place, a comprehensive and formal environmental and social management system (ESMS) does not yet exist, particularly with respect to climate preparedness. Please refer to Chapter '3.1.6 Monitoring and Review' and '*Table 9 Environmental and Social Monitoring System, aligned against the main criteria in the ASC Standard, giving responsible parties*' in this report for further detail on current ESMS policies, plans and procedures. Oceanpick's ESMS Disclosure that reflects the company's aspirations and ambitions in terms of EHS issues can be found here: <https://d1xeoqaoqyzc9p.cloudfront.net/app/uploads/2023/12/Oceanpick-ESMS-EN.pdf>

The Company Policy Manual contains 17 core policies relating to its labor standards, health and safety and environmental protection. At present, there is no overarching policy with respect to E&S compliance with applicable laws and associated regulations and relevant export jurisdictions. The translation of the policies into standard operating procedures is defined in the manuals and plans that were reviewed.

The following sections further discuss the existing procedures and opportunities to enhance management practices through an upgraded comprehensive ESMS.

3.1.2 Identification of Risks and Impacts

Phase I

For existing operations, risks and impacts are tracked through a number of both regulatory and voluntary mechanisms for Oceanpick's operations. Regulatory measures include national environmental impact assessment processes and statutory approvals/permits with associated inspections. Oceanpick has also undertaken a number of voluntary assessments to mitigate its own risks, and to demonstrate best performance in order to obtain market recognition via international ecolabels. Together these processes, along with internal audits provide a robust system of internal and external controls that identify a wide suite of environmental and social risks and impacts that are used to iteratively improve management systems. Permits and voluntary standard system certificates provide implementation accountability measures.

Compliance with Sri Lankan Regulations

Oceanpick has obtained necessary approvals for legal operation of an aquaculture production facility in Sri Lanka. It was noted that Oceanpick received approvals for the first open net cage mariculture in the country while the country's regulatory frameworks are structured for existing aquaculture norms related mainly to terrestrial pond production (see Project Setting). The legal due diligence has furthermore assessed compliance with the following regulations and reviewed the no-objection letters/ permits/ licenses for current operations (further described in Regulatory Risk Assessment):

Table 7 – Overview on Laws and Regulations on Aquaculture Development and International Standards

The Fisheries and Aquatic Resources Act No. 02 of 1996, and regulations	The Act provides for the management, regulation, conservation and development of fisheries and aquatic resources in Sri Lanka. Part VI of the Act addresses aquaculture. Certain zones are set aside for the purpose of aquaculture for which a license is required to which terms and conditions are attached. Aquatic resource protection measures are dealt in Part IV of the Act. Prohibitions and restrictions are imposed on certain fishing
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	<p>methods and on imports and exports likely to adversely affect the management of aquatic resources in Sri Lanka. Parts VIII and IX deals with the powers of the fisheries administration officers and the fines and penalties of the offences.</p> <p>Several regulations have been passed under the Act which has an impact on Aquaculture -very especially with regard to handling and distribution of fish and other aquatic resources as well as the licensing of establishments for the processing of fish and the conditions to be attached to such licences.</p> <p>The Minister has passed Regulations to adopt the Fish Products (Export Regulations) (1998) which prescribe the rules relative to hygiene and other requirements for fish processing establishments that are allowed to export fish products (including aquaculture products). Fish processing establishments for export should be certified and subject to inspection and monitoring by competent authorities through appointed inspectors. The regulations consist of 11 schedules containing hygiene and other conditions for processing of fish on board fishing vessels and in processing facilities. The regulations require the implementation of the Hazard Analysis Critical Control points (HACCP) system (H-K).</p> <p>The Aquaculture Management Regulations (1996) provides for the licensing procedure and indicates the authorizing authority for each of four different categories of aquaculture enterprises , as set out in Part I of the Schedule. The Director of Fisheries and Aquatic Resources may limit the number of licenses in the interests of the economy and the environment.</p> <p>FARA empowers the Director General to delegate in writing to any licensing officer, his authority to issue licenses in respect of aquaculture operations.</p> <p>“Aquaculture Operation” means the conduct of aquaculture in any area, enclosure, pond, impoundment, premises or structure set up or used for the cultivation of aquatic plants or organisms including fish for commercial purposes and includes any bed, or raft or other structure used for the cultivation of pearl oysters and other shellfish. The “Authority “under the amendment Act is the Aquaculture Development Authority.</p>
International Standards	<p>Sri Lanka is also a member of several international organizations such as the World Trade Organization (WTO), South Asian Association for Regional Cooperation (SAARC) and Network of Aquaculture Centres in Asia and the Pacific (NACA), which could have a bearing on Aquaculture based farming in Sri Lanka. In addition, Sri Lan Sri Lanka is also a member of several international organizations such as the World Trade Organization (WTO), South Asian Association for Regional Cooperation (SAARC) and Network of Aquaculture Centres in</p>

	<p>Asia and the Pacific (NACA), which could have a bearing on Aquaculture based farming in Sri Lanka. In addition, Sri Lanka is also a signatory to the Convention on Biological Diversity (CBD), the Biosafety Protocol and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).ka is also a signatory to the Convention on Biological Diversity (CBD), the Biosafety Protocol and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).</p>
<p>The Aquaculture Management (Disease Control) Regulations (2000)</p>	<p>The Aquaculture Management (Disease Control) Regulations (2000) made under the FARA establish a number of cleaning and disinfection requirements for aquaculture enterprises. A licensee of an aquaculture enterprise is required to inform the Director General of Fisheries and Aquaculture Resources of any symptom that might constitute a ground for suspecting an outbreak of any disease listed in the schedule. The Director General has the power to suspend all contact with other aquaculture enterprises in the area that could spread the disease, to suspend any fish from being taken out of the enterprise for any purpose whatsoever, and on receipt of the report from the laboratory, to impose corrective measures. In addition the regulations empower the Director General to</p> <ul style="list-style-type: none"> • supervise the use of antibiotics in fish and where necessary to issue guidelines. • The use of artificial colouring agents in fish for human consumption is prohibited. • Vaccination of fish against any of the diseases listed in the Schedule is prohibited, except with a permit obtained from the Director General. <p>A holder of an aquaculture license is required to maintain a log book with information relating to inter alia stocking, feeding, harvesting, water renewal disease prevention methods and description of diseases discovered and measures taken to control them.</p>
<p>The Animal Diseases Act (1992)</p>	<p>The Animal Diseases Act (1992) is also applicable to aquaculture. Under the Act ‘animal products’ include all varieties of fish, crab, prawn, lobster and turtle, marine as well as fresh water fish whether cooked, canned, dried, salted or smoked. The Act lists a number of measures that can be taken by the Director General of Animal Production and Health in case of animal diseases.</p> <p>The Act also deals with the import and export of animals and animal products. The permit and the notification procedures are included in the Animal Disease (Control and prevention) Regulations (1998).</p> <p>Additionally, the Animal Diseases Act regulates the issuance of a license for the manufacture of veterinary drugs and vaccines as well as their import and export. Import permits are issued by the Controller of Imports and Exports, on the recommendation</p>

	of the Director Animal Production and Health after submission of a certificate certifying the safety of the veterinary drug or vaccine. The Act also establishes the Veterinary Drug Control Authority.
The Aquaculture (Monitoring of Residues) Regulations (2002)	The Aquaculture (Monitoring of Residues) Regulations (2002) requires a licensee of an aquaculture enterprise to carry out its own checks (self monitoring) to ensure that suppliers of fish observe the appropriate withdrawal periods and that fish for processing does not contain residue levels, which exceed the maximum permitted limits, or traces of unauthorized substances, and has not been administered with any illegal treatment. The regulations also provide for the establishment of a National Residue Monitoring Plan, which sets out inter alia national measures for the detection of residue of the substances specified in the Schedule I thereto, national tolerance for authorized substances, a list of approved laboratories, a list of substances to be detected and the type of measures to be adopted with regard to fish products in which residues have been detected. All aquaculture enterprises and establishments are required to comply with the Plan. Schedule I to the Regulations lists the unauthorized substances, veterinary drugs, containments of which residue must be detected.
The Fish Processing Establishments Regulations (1998)	Any fish processing establishment requires a license to be issued by the Director General of Fisheries and Aquatic Resources
The Food Act (1980)	The Food Act (1980) may be applicable. Whereas the Fish Products (Export) Regulations are applicable to aquaculture products intended for export, the provisions of the Food Act may be relevant for the production and processing of aquaculture products intended for domestic (local) consumption

Regulatory Risk Assessment

In Sri Lanka, EIA is first introduced by the Coast Conservation Act No. 57 of 1981 as amended by Act No. 49 of 2011. This applies to projects that come within the "Coastal Zone"³² as defined by the Coast Conservation Act. By the "coastal zone definition", all existing Oceanpick operations are located in the country's Coastal Zone. The requirements (scope and nature) associated with EIAs are left to the discretion of the Director General, Coast Conservation & Coastal Resource Management Department (CCD). Oceanpick initially applied to permit their operations, with scope covering the Alain Michael hatchery and cage sites on the open ocean north of Trincomalee town.

³² [Coastal Conservation & Coastal Resource Management Department](#), retrieved on Dec 10, 2023 "Coastal zone means that area line within a limit of Three Hundred Meters landwards of Mean High Water line and the limit of Two Kilometers seawards of Mean low water line and in the case of Rivers, streams, Lagoons or any other body of water connected to the sea either permanently or periodically, the landward boundary shall extend to a limit of two kilometers measured perpendicular to the straight base line drawn between the natural entrance points thereof and shall include the waters of such rivers, streams and lagoons or any other body of water so connected to the sea, and shall also include the area line within a further extended limit of one hundred meters inland from the zero mean sea level along the periphery."

The Coast Conservation Act No. 57 of 1981 as amended by Act No. 49 of 2011, also stipulates that large scale development projects that may have significant impacts on the environment are reviewed initially, by the Central Environmental Authority (CEA), the Apex body relating to such matters, along with all relevant regulatory agencies. Projects are reviewed by CEA on the basis of information provided by the project proponent. Permission was sought by CEA, and because of the international export nature of the operation, the Environmental Protection License normally issued by CEA, was issued through the Board of Investment (for process details) with CEA liaising to control possible industrial pollution³³.

The constitution of Sri Lanka contains several provisions relating to the environment (i.e., Article 27 (14) and Article 28) and the 13th constitutional amendment introduced a new level of institution for environmental protection and management. Based on information provided by any development project proponent, a decision is made on the basis of approval of the project, either via Initial Environmental Examination (IEE) or via full Environmental Impact Assessment (EIA). In the case of Oceanpick, after such initial review, it was decided that the project would be approved based on the IEE. In 2013 Oceanpick enlisted services of relevant national and international experts to create their IEE: Dr. MFM Fairoz, Ocean University of Sri Lanka (NIFNE), Dr. Garret Macfarlane of Trans Tech, Scotland, U.K., M.G.W.M Kapila Gunarathne and Kames Fish Farming Ltd.

The Project Approving Agency (PAA) in consultation with the technical committee prepared the IEE Terms of Reference (TOR) which noted that permits would be required for project implementation from; National Aquaculture Development Authority (NAQDA), Urban Development Authority (UDA), Coast Conservation Department (CCD), Central Environmental Authority (CEA), Marine Environment Prevention Authority (MEPA), Department of Fisheries, and Department of Land Development. The IEE report was then presented to the Project Approving Agency (PAA), Central Environmental Authority (CEA) in order to obtain the environmental approval for the proposed project. Existing regulatory approvals now span nine competent authorities at scales ranging from the municipal to national level and there is a proactive system for maintaining such approvals on relevant cycle, appropriate to the scale of the operation³⁴. Full detail of the status, authorities, governing legislative acts, validity dates and status of approvals were reviewed.

Since 2013, Oceanpick's operations have changed and all cage area are located within the harbor (Figure 10), in different marine environments to the arrays assessed in the IEE. Although no subsequent IEE or EIA was required or has been conducted, there are three No-Objection Letters from the Coast Conservation & Coastal Resource Management (CCD) demonstrating that Oceanpick sought and received approvals associated with staged changes in their operations subsequent to their IEE. A number of the relevant mitigation actions recommended in the IEE such as use of locally sourced fish stock, burying of treated dead fish, monitoring feed use with underwater cameras and monitoring of socioeconomic impacts have not yet been implemented. In some cases, alternative procedures have been innovated (e.g. hand feeding and diver inspection daily for wasted feed versus use of autofeeders and cameras). Remaining associated activities for redress are mitigated via activities in the ESAP.

Voluntary Risk Assessments Based on International Best Practice

³³ https://www.cea.lk/web/?option=com_content&view=article&layout=edit&id=47

³⁴ Recent internal and external audits against legal requirements for BAP and ASC standards have provided incentives for Oceanpick HR to compile all records in systematic fashion. HR maintains a visible white board system, used to trigger renewals at predefined times in advance of renewal dates to maintain a current system of statutory approvals. This system, which explicitly tracks responsiveness times in partnering government offices, is allowing the company to create trigger timelines appropriate to the response times of counterpart regulators, in order to seek renewals on timelines that assure continuity of permitting (which interviews indicated have caused past challenges).

Oceanpick has produced four main documents that have been used to identify the main risks and potential impacts associated with building the first net cage mariculture facility in Sri Lanka. The company founder initiated Oceanpick with a fundamental interest in use of best international science and quality assurance, based on prior experience in the garment sector in Sri Lanka, which is subject to numerous quality considerations for export markets. Prior to commencing operations, advice from other experienced Scottish net cage farming company was sought. Oceanpick voluntarily implemented a series of risk assessment studies compliant with requirements of the Scottish Environmental Protection Agency, using associated international experts with relevant expertise to conduct these scoping studies

- 2013 Predicted Zone of Effect, 2013 – Coconut Point & Malai Porru, (Dr. Garrett Macfarlane, Transtech)
- 2016 Predicted Zone of Effect, 2018 – Minden Rock Bay, (Dr. Garrett Macfarlane, Transtech)
- 2018 Predicted Zone of Effect, 2018 – Powder Bay, (Dr. Garrett Macfarlane, Transtech)
- 2023 Benthic Biodiversity for Aquaculture Stewardship Council Certification, 2023 – (Dr. Fairoz, Ocean University of Sri Lanka)
- Oceanpick EIA Draft 2 - ASC 2023 (Dr. Fairoz, Ocean University of Sri Lanka)

In 2013, 2016, 2018 and outside of regulatory requirements, Oceanpick voluntarily undertook studies to characterize current flow at three representative cage sites and associated depositional footprints that could be expected for farming at these sites, in alignment with SEPA (Scottish Environment Protection Agency) guidelines, using Acoustic Doppler Current Profiler readings. The studies concluded that *“having good flushing rates with medium sea currents which minimizes negative impacts of sedimentation and disperse the sediments well”*.

Most recently, Oceanpick commissioned Dr. Fairoz to prepare the “EIA Draft 2” for the upcoming ASC assessment. This assessment examined environmental impacts associated with the existing nursery net cages at Powder Bay and the current net cage grow-out cages in Dead Man’s Cove. The work concluded that based on ITI metrics of infaunal community composition, visual inspection for feed pellets that the current stocking rates, the cages *“do not have a significant impacts to marine life in the water column”*. The assessment outlined the procedures followed by Oceanpick to prevent effects, but does not identify specific impacts, mitigation or recommended improvements in practices.

International Standards

The above external reports have supported Oceanpick’s aspirations to obtain three voluntary international E&S certifications. BAP (farm and hatchery) certification³⁵ was obtained in March 2023. A SMETA Sedex assessment was undertaken of both CodBay farm and Alain Michel hatchery³⁶ in May 2023. An ASC audit was conducted in January 2024: results are pending. Together, BAP, SMETA and ASC requirements are holistically appropriate to identify E&S risks relevant to PS1, 2, 3, 4, 6, but not PS 5, 7 and 8. Greenhouse gas emissions are considered under ASC certification, but none of the voluntary standards holistically address changing climate considerations, adaptation opportunities or “associated facilities”. BAP and ASC require mitigation measures via responses to non-conformities, which are audited to assure implementation in annual surveillance audits.

ASC and BAP certification

³⁵ BAP Farm certificate (LK23/00000116, SGS, Issued May 22, 2023, Exp. March 19, 2024), BAP Nursery certificate (LK23/00000148, SGS, Issued June 16, 2023, Exp. March 17, 2024)

³⁶ SMETA assessment (Farm CodBay ZS: 418628764), Alain Michel hatchery (ZS: 423706638).

Sustainable aquaculture certification schemes have been developed since the late 1990s to provide additional standards on aquaculture production systems and product sustainability. In an effort often led by NGOs and industry players, aquaculture stakeholders have joined forces to come up with sustainability principles which are third-party verified to provide to the market and consumers additional assurance about sustainability, as aquaculture practices with poor practices can be subject to negative social and/or environmental impacts.

Several sustainable aquaculture standards exist, with Best Aquaculture Practices (BAP) and Aquaculture Stewardship Council (ASC) certification standards accounting for the vast majority of certified farms, with the choice of the certification for farms often driven by market demand (with historically BAP preferred in the US market while ASC more advanced in the EU market).

These certification schemes have slightly different approaches:

- **ASC** focuses mainly on the sustainability of the grow-out operations for the environmental impacts of farms while looking at companies and their environment as a whole for the management of internal and external social risks. ASC standards are composed of [14 species/types of fish/bivalves/seaweed or farming systems standards](#) to reflect specific sustainability issues, a feed standard, and the Chain of Custody standards for traders.
- **BAP** is designed around [4 standards](#), covering the aquaculture production stages and value chain, with a hatchery standard, a farm standard, a seafood processing standard, and a feed mill standard, with some additional seafood types specific standards or guidelines (salmon, mollusk/ bivalves, shrimp). The standards are designed in a way that can accommodate the diversity of farming systems in the sector.

Despite these differences, the design, governance, and implementation approach for these two certifications follow similar general principles:

- Standards designed based on accepted good practices and sound sciences, including the FAO social and environmental safeguards, FAO technical guidelines on aquaculture certification and FAO Code of Conduct for Responsible Fisheries, the ILO conventions on labour rights, UN Guiding Principles on Business and Human Rights or the ISEAL Code of Good Practices, and full compliance with local legislations.
- Both [BAP](#) and [ASC](#) certification schemes are supported by multi-stakeholder boards and technical committees ensuring the standards' robustness and the necessary regular updates for emerging sustainability issues in the aquaculture sector to be integrated and taken into consideration, with both organizations relying on public consultation processes when revising their standards.
- The audit process is in both case led by accredited third-party Conformity Assessment Bodies (CABs) providing independent reviews of the audited operation against the standards, with initial audits, annual surveillance audits, and regular recertifications that could potentially involve upgrades to newer versions of the standards, promoting continuity in the good practices and continuous improvement.
- Transparency is central to the certification process, with opportunities for stakeholders to raise concerns and with audit announcements and reports made publicly available.

Currently applied standards for the Oceanpick projects are for BAP the [Farm Standard Issue 3.1](#) and the [Hatchery Standard Issue 2.1](#) (detailed guidance on these standards can be found [here](#)), and for ASC, the [Tropical Marine Finfish Standard v 1.1](#) (audit manual can be found [here](#) for additional information).

The following table below provides a high-level overview of the alignment with the ASC and BAP audit criteria with the IFC performance standards, with further details available in the applicable standards accessible in the links above:

IFC Performance Standards (PS) (01/01/2012)	Aquaculture Stewardship Council (ASC) Tropical Marine Finfish Standard (v1.1 14/07/2023)	Best Aquaculture Practices (BAP) certification standards (issue 3.1 07/02/2023)
<p>PS1: Assessment and Management of Environmental and Social Risks and Impacts</p>	<p>Overall structure of ASC Standards: ASC Standards consist of multiple Principles – a Principle is a set of thematically related Criteria which contribute to the broader outcome defined in the Principle title; • Each Principle consists of multiple Criteria – each Criterion defines an outcome that contributes to achieving the outcome of the Principle; • Each Criterion consists of one or several Indicators – each Indicator defines an auditable state that contributes to achieving the Criterion outcome. • Both Principles and Criteria include Rationale statements providing a set of reasons (backed by reference notes if needed) as to why the Principle or Criterion is needed.</p> <p>Principle 1: Comply with all applicable national laws and local regulations <i>Criterion 1.1 Compliance with all applicable local and national legal requirements and regulations</i></p>	<p>BAP Structure The BAP program has four pillars and an overarching set of Traceability Requirements. The pillars comprise the first four sections of the standard: 1. Food Safety 2. Social Accountability 3. Environmental Responsibility 4. Animal Health and Welfare The fifth section defines the Traceability Requirements that are essential to preserve product identity and to verify the validity of any BAP claims.</p> <p>BAP standards demand compliance with local regulations as the first step toward certification. However, not all regulations are equally rigorous. For this reason, BAP standards set out requirements for documentation and procedures that shall be in farm management plans, whether they are prescribed by local regulations or not. By so doing, they seek, where possible, to impose consistency in performance among facilities in different producing regions and to engage the industry as a whole in a process of continuous improvement.</p> <p>Pillar 2: Social Accountability A. Legal Rights and Regulatory Compliance - Laws, regulations, licenses and permits</p> <p>Pillar 3: Environmental Responsibility A. General implementation guidance - Environmental Impact Assessment and Management Plan</p>
<p>PS2: Labor and Working Conditions</p>	<p>Principle 6: Develop and operate farms in a socially responsible manner <i>Criterion 6.1 Freedom of association and collective bargaining</i> <i>Criterion 6.2 Child labour</i> <i>Criterion 6.3 Forced, bonded or compulsory labour</i> <i>Criterion 6.4 Discrimination</i> <i>Criterion 6.5 Work Environment Health and Safety</i> <i>Criterion 6.6 Wages</i> <i>Criterion 6.7 Contracts (labour) including subcontracting</i> <i>Criterion 6.8 Conflict resolution</i> <i>Criterion 6.9 Disciplinary practices</i> <i>Criterion 6.10 Working hours and overtime</i> <i>Criterion 6.11 Living conditions for employees accommodated on the farm</i></p>	<p>Pillar 2: Social Accountability C. Worker Rights and Employee Relations - Wages and Benefits - Working Hours - Forced, Bonded, Indentured, Trafficked, and Prison Labor - Child Labor and Young Workers - Hiring and Terms of Employment - Discrimination, Discipline, Abuse and Harassment - Freedom of Association and Collective Bargaining - Worker Health and Safety</p>
<p>PS3: Resource Efficiency and Pollution Prevention</p>	<p>Principle 2: Conserve natural habitat, local biodiversity and ecosystem structure and function <i>Criterion 2.2 Water quality in and near the site of operation</i> <i>Criterion 2.5 Effluents</i> <i>Criterion 2.6 Sludge Disposal and Salinisation of Freshwater and Soil Resources</i></p> <p>Principle 4: Use resources in an environmentally efficient and responsible manner <i>Criterion 4.1 Traceability and transparency of marine raw materials in feed</i> <i>Criterion 4.2 Efficient and optimised diets</i> <i>Criterion 4.5 Waste Management/Pollution Control</i></p>	<p>Pillar 1: Food Safety B. Chemical and Drug Management - Treatment with Antimicrobial Agents - Recordkeeping - Residue Testing - Prohibited Antimicrobial Agents - Prohibition on Use on Antimicrobial Agents or Hormones for Growth Promotion - Statements from Seed and Feed Suppliers - Feed Additives Applied on Farm - Antifouling Agents - Metabisulfite Use - Chemical Use in Transport - Antimicrobial Agents Designated as Critically Important for Human Medicine</p> <p>C. Microbial Sanitation, Hygiene, Harvest and Transport</p>

	<p><i>Criterion 4.6 Energy consumption and greenhouse gas emissions on farms</i></p>	<ul style="list-style-type: none"> - Sanitation - Exclusion of Livestock - Pond Fertilizers - Harvested Product Chilling - Harvest and Transport - Worker Health and Training <p><u>Pillar 3. Environmental Responsibility</u></p> <p>B. General implementation</p> <ul style="list-style-type: none"> - Environmental Loading Indices - Direct Energy Consumption <p>C. Effluent Management (not applicable to at-sea farming cages, similar criteria will apply if company get their hatchery BAP certified)</p> <ul style="list-style-type: none"> - Best Management Practices for Pond Effluents - Effluent Monitoring and Management - Mixing zone - Source water quality - Low water exchange rate systems - Environmental Impact Assessment - Crop Irrigation - Erosion Control - Seepage Control - Salinization - Sediment and Sludge Management - Sulfite Treatment <p>D. Habitat Protection and Site Selection ((not applicable to at-sea farming cages, similar criteria will apply if company get their hatchery BAP certified)</p> <ul style="list-style-type: none"> - Sensitive or Critical Habitats - Allowable Wetland Transformation and Restoration - Hydrological Alteration <p>F. Sediment Monitoring - Marine Net Pens and Coastal Flow-through Farms</p> <ul style="list-style-type: none"> - Local Standards - Hydrographic and Benthic Characterization - Sediment Monitoring Plan - Sediment Sampling and Analysis <p>K. Storage and Management of Farm Supplies and Solid Wastes</p> <ul style="list-style-type: none"> - Safe Storage - Feed Storage - Solid Waste Disposal - Managing Derelict Gear, Marine Litter and Plastic Waste - Mortality Disposal - On-farm Processing Waste Disposal <p><u>Pillar 4. Animal Health and Welfare A. Health and Biosecurity</u></p> <p>A. Health and Biosecurity</p> <ul style="list-style-type: none"> - Animal Health Management Plan - Biosecurity Plan - Training - Area Management <p>B. Welfare</p> <ul style="list-style-type: none"> - Welfare Indicators - Handling Operations - Live Transport - On-farm Processing
<p>PS4: Community Health, Safety, and Security</p>	<p>Principle 7: Be a good neighbour and conscientious coastal citizen</p> <p><i>Criterion 7.1 Community engagement and effective conflict resolution</i></p>	<p><u>Pillar 1: Food Safety</u></p> <p>A. General Requirement</p> <ul style="list-style-type: none"> - Contamination Risk Assessment <p>B. Chemical and Drug Management</p> <ul style="list-style-type: none"> - Treatment with Antimicrobial Agents

		<ul style="list-style-type: none"> - Recordkeeping - Residue Testing - Prohibited Antimicrobial Agents - Prohibition on Use on Antimicrobial Agents or Hormones for Growth Promotion - Statements from Seed and Feed Suppliers - Feed Additives Applied on Farm - Antifouling Agents - Metabisulfite Use - Chemical Use in Transport - Antimicrobial Agents Designated as Critically Important for Human Medicine <p>C. Microbial Sanitation, Hygiene, Harvest and Transport</p> <ul style="list-style-type: none"> - Harvested Product Chilling - Harvest and Transport - Worker Health and Training <p>Pillar 2: Social Accountability</p> <p>B. Local Community Relations</p> <ul style="list-style-type: none"> - Access to Public Resources - Farm Appearance - Community Engagement
PS5: Land Acquisition and Involuntary Resettlement	<p>Principle 1: Comply with all applicable national laws and local regulations</p> <p><i>Criterion 1.1 Compliance with all applicable local and national legal requirements and regulations</i></p>	<p>Pillar 2: Social Accountability</p> <p>A. Legal Rights and Regulatory Compliance</p> <ul style="list-style-type: none"> - Laws, regulations, licenses and permits
PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	<p>Principle 2: Conserve natural habitat, local biodiversity and ecosystem structure and function</p> <p><i>Criterion 2.1 Benthic biodiversity and benthic effects</i></p> <p><i>Criterion 2.3 Interaction with critical or sensitive habitats and species</i></p> <p><i>Criterion 2.4 Interaction with wildlife, including predators</i></p> <p>Principle 3: Protect the health and genetic integrity of wild populations</p> <p><i>Criterion 3.1 Culture of non-native species</i></p> <p><i>Criterion 3.2 Introduction of transgenic species</i></p> <p><i>Criterion 3.3 Escapes</i></p> <p><i>Criterion 3.4 Source of fingerlings/seed-stock</i></p> <p><i>Criterion 3.5 Broodstock Management</i></p> <p>Principle 4: Use resources in an environmentally efficient and responsible manner</p> <p><i>Criterion 4.3 Responsible origin of marine raw materials</i></p> <p><i>Criterion 4.4 Responsible origin of non-marine raw materials in feed</i></p> <p>Principle 5: Manage disease and parasites in an environmentally responsible manner</p> <p><i>Criterion 5.1 Fish Health Management</i></p> <p><i>Criterion 5.2 Chemicals and treatments</i></p> <p><i>Criterion 5.3 Survival of Farmed Fish</i></p>	<p>Pillar 1: Food Safety</p> <p>C. Microbial Sanitation, Hygiene, Harvest and Transport</p> <ul style="list-style-type: none"> - Sanitation - Exclusion of Livestock - Pond Fertilizers - Harvested Product Chilling - Harvest and Transport - Worker Health and Training <p>Pillar 3. Environmental Responsibility</p> <p>G. Efficient Use of Fishmeal and Fish Oil</p> <ul style="list-style-type: none"> - Average FCR Calculation - FIFO and FFDR Calculation - Compliance with BAP Feedmill Standards - <p>H. Stocking Sources and GMOs</p> <ul style="list-style-type: none"> - Recordkeeping - Importation Permits - Wild Juveniles - Non-native Species - Genetically Modified or Bioengineered Organisms <p>I. Control of Escapes</p> <ul style="list-style-type: none"> - Containment System Integrity - Screening - Escape Detection and Incidence Response - Net Pens - Containment Plan - Escape Prevention <p>J. Biodiversity and Wildlife Protection</p> <ul style="list-style-type: none"> - Wildlife Interaction Plan - Worker Training - Predator Exclusion and Deterrence - Managing Entanglement Risk - Recordkeeping •
PS7: Indigenous Peoples	Not in scope	Not in scope
PS8: Cultural Heritage	Not in scope	Not in scope

Internal audits

Oceanpick has a functional, nascent internal audit system that is not yet fully systemic in that records show photographic evidence of findings that are all relevant, but lack a standardized reporting framework, do not specify expected remedial actions against company procedures and do not specify completion timelines. Records of these audits, conducted by both internal staff and a contracted consultant were available for inspection and covered quarterly assessments spanning Q4 2021 – Q4 2023.

Based on findings associated with current operations, Oceanpick's existing policies and procedures are comprehensive and cover all aspects of an ESMS. In many cases, these would benefit from further structure, specificity or alignment against the above voluntary and regulatory frameworks. There are also a number of proactive measures being taken in practice that precede documentation. All of this work will need to be collated, aligned and systematized to form a cohesive ESMS that houses and contextualizes existing procedures, manuals, forms and records and more clearly articulates how monitoring and review feeds into management action loops. The ESMS should also be expanded to include triggers and mechanisms to mitigate the outstanding key risks given in Table 8 using relevant expertise (all addressed in ESAP Activities).

Table 8 – Description of the nature of Phase I key risks in relation to Oceanpick's existing operations and whether they are direct or indirect, induced, long term, cumulative or reversible. OP = Oceanpick and SC = Sub-contractor. Phase II activities will be identified via ESIA "at a point in the future where the physical elements, assets and facilities are reasonably understood" (IFC PS 2012, p.8)

IFC PS#	Nature of impact	Description of Impact	Direct/Indirect	Magnitude	Likelihood	Extent	Cumulative	Reversibility/Permanence
PS2	OHS	Worker safety in on-water operations and diving activities.	Direct (OP)	Low	Med	Small	Med	High rev (ESAP 8, 9, 10)
PS2	OHS	Burn and injury risks from improper storage and handling of hazardous chemicals and toxic waste	Indirect (SC)	Low	Med	Small	Med	High rev (ESAP 12, 13)
PS2	SEAH	Sexual harassment, discrimination	Indirect (SC)	Unknown	High	Med	Med	High rev (ESAP 6, 8)
PS3	Env'l - Ecosystem	Sedimentation from hatchery effluent to Uppuveli reef	Direct (OP)	Low	Low	Small	Med	High rev (ESAP 11)
PS3	Env'l - Eutrophication	Nutrient enrichment/algal blooms on Uppuveli reef	Direct (OP)	Low	Low	Small	Low	High rev (ESAP 6, 11)
PS4	Community food & fishing security	Loss of wild food fish via disease transfer to native species.	Indirect	Low	Low	Low	Med	Low rev (ESAP 7, 14)
PS4	Community food & fishing security	Loss of wild food fish via displacement/competition from escaped farmed species.	Indirect	Low	Low	Low	Med	Low rev (ESAP 7, 16)
PS4	Community food security	Soil salination via hatchery sludge use on farms.	Indirect	Low	Med	Small	Low	Low rev (ESAP 13)
PS4	Community health	Coliform bacterial outflow from insufficiently treated hatchery effluent.	Direct (OP)	Low	Med	Small	Med	High rev (ESAP 6, 11)
PS4	Community health	Food poisoning and zoonotic disease transfer from moribund fish disposed at CGL.	Indirect (SC)	Med	High	Med	High	High rev (ESAP 13)

PS4	Community health	Development of antibiotic resistance (“highly important to human health”)	Direct (OP)	High	Low	Small	Med	Low rev (ESAP 14)
PS6	Env'l – Endangered species	Waste consumption by endangered, threatened and protected (ETP) species at CGL municipal waste treatment facility presents illness and zoonotic risks to species at risk.	Direct (OP)	Low	Med	Med	Med	High rev (ESAP 6, 13)
PS6	Env'l - Freshwater	Potential contamination of ground and surface water with liquid waste disposal at CGL	Indirect (SC)	Low	Med	Med	Med	High rev (ESAP 6, 13)
PS6	Env'l - Eutrophication	Biodiversity impacts from encrusted nets being cleaned <i>in situ</i> or left on bottom prior to cleaning in Dead Man's Cove.	Direct (SC)	Med	Med	Small	Med	High rev (ESAP 6, 11)
PS6	Env'l - Ecosystem	Disease transfer to wild fish species	Direct (OP)	Med	Med	Med	High	Low rev (ESAP 6, 7, 14)

Phase II Risks and Impacts

The company will need to undertake an environmental and social impact assessment (ESIA) in compliance with the requirements of PS1, for all expansion activities, including for a proposed land expansion, any activities to be undertaken at the new nursery site and additional cage sites. The ESIA will consider the requirements of the regulatory agencies, including CCD, Central Environmental Authority, Department of Fisheries and Aquaculture and Department of Wildlife Conservation to ensure their approvals can be obtained. It will also be aligned with the requirements of the IFC Performance Standards, WBG EHS Guidelines and BAP and ASC certifications and at a minimum, will incorporate assessment of the following potential expansion risks and impacts identified during the site visit:

- **Biodiversity:** Impact from any potential land conversion and potential impact on priority ecosystem services related to expansion of land.
- **Traffic (OHS & Community Wellbeing):** Movement of vehicles (boats and trucks) for transportation of catch to the current processing facilities in Colombo, or locally with any expansion and building of a local processing facility.
- **Land Acquisition:** Trincomalee has been marred by a series of land grabbing incidents and consequent displacements, giving rise to social, political, and human rights concerns. Numerous articles, news reports, and studies have shed light on the issue of land grabbing in the Northern and Eastern provinces of Sri Lanka. Furthermore, the extended presence of the military in Trincomalee has sparked allegations of land grab by the armed forces.
- **Government displacement:** During the visit, community members reported being displaced in government-driven resettlement events in areas around CodBay, resulting in inadequate access to essential services, drainage, and lighting. While the current project sites don't indicate any resettlement issues, the ESIA for future expansion plans should encompass these broader socio-political dynamics in the project area.
- **Indigenous Peoples:** Assess if the future expansion activities will impact the tenure and access of Coastal Veddhas' to resources, fishing sites and fish landing areas.

For existing operations, the execution of this ESAP which is complimentary to existing ESMS policies, manuals, procedures is considered sufficient to meet IFC PS, and no ESIA is required for current operations. However, it is recommended that the ESIA for the expansion takes into account existing and current policies, procedures, operations, sites and impacts, as government authorities could ask Oceanpick to disclose environmental impacts of current operations at any time. Oceanpick will apply the more stringent regulations/ standards.

3.1.3 Management Programs

Oceanpick has prepared operational manuals and procedures that are described in more detail in sections below along with additional actions required to bring in line with the requirements of the IFC PS. These additional actions, together with the ESMP and associated required procedures will provide for a more comprehensive ESMS.

Typically, an ESIA assesses the impacts of a project on the environment and communities. However, in the case of Oceanpick, there are several risks of the environment on the activities of the company, which should be addressed in a technical feasibility study and the management response would be incorporated in the ESMS. These include:

- Confirming whether either local geochemistry or inputs from the Mahaweli River pose any risk to operations due to elevated concentrations of heavy minerals such as As, Cr, Cd or other compounds used in agricultural production.
- Climate threats to production through extreme weather events, temperature, changing rainfall and freshwater inputs affecting disease dynamics, harmful algal blooms, the stability of critical supply chains and other users of the harbor that may have knock on effects such as pollution events.

The company is vulnerable to risks from supply chain instability which had lead to supply chain obstacles to receiving sufficient feed volumes in the past. The risk of insufficient feeding can lead to lack of adequate nutrition which can result in stunted growth in fish or fish mortality.

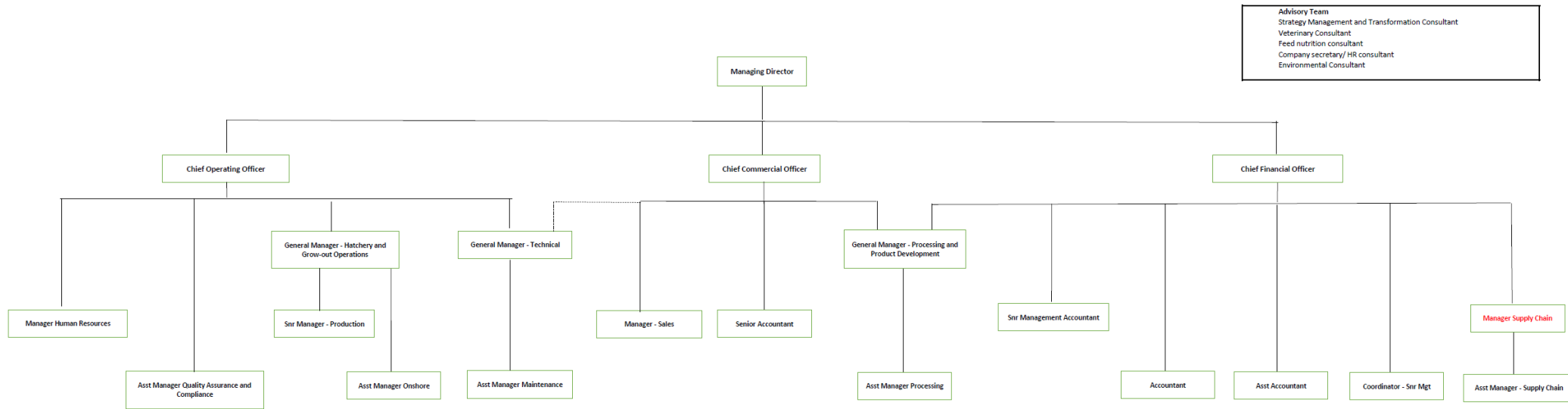
Although PS 5 has been indicated as not triggered by the investment, it will be important that the policies and procedures are developed to accommodate any new risks that may arise. The Company Policy Manual includes a land rights policy that is applicable to all aspects of Oceanpick's operations and extends to its entire value chain, including suppliers. This policy encompasses land acquisitions, leasing, and utilization, with a specific emphasis on upholding land rights, adhering to Free, Prior and Informed Consent (FPIC) principles, conducting fair negotiations, and establishing effective grievance mechanisms. It underscores the company's commitment to preventing land displacements and ensuring fair compensation while complying with the IFC PS.

3.1.4 Organizational Capacity and Competency

Oceanpick's organizational chart identifies managing staff, roles and titles, with associated lines of reporting with respect to overall operations. E&S related matters are currently managed by the Executive Team in conjunction with the Quality Manager who has been recently co-appointed to the role of Sustainability Manager. All roles are currently filled except for the Supply Chain Manager which has yet to be appointed. Social considerations are under the control of the Human Resources Assistant Manager who reports to the Chief Financial Officer (CFO).

Oceanpick – Environmental & Social Due Diligence (ESDD) Disclosure

OCEANPICK (PRIVATE) LIMITED - ORGANIZATIONAL CHART



Oceanpick – Environmental & Social Due Diligence (ESDD) Disclosure

Oceanpick has hired several external experts and consultants to help them address various needs including:

- Wastewater – externally tested by National water supply & Drainage Board Regional Laboratory & SGS Laboratory
- Noise, heat, light to assure compliance with Oceanpick’s Environmental Protection License (EPL) – externally tested by Industrial Calibrations and Services Center PVT Ltd.
- Various voluntary risk assessment – see experts/credentials above in Section, Voluntary Risk Assessments Based on International Best Practice

Improvements and procedures needed to meet compliance requirements for Best Aquaculture Practices & SMETA for both the farm and hatchery –Mr. Raj Wettasingha, consultant (Lead consultant in ISO 9001: 2015, ISO 14001:2015, ISO 45001: 2018, ISO 22001: 2004, Lead Assessor ISO 17025: 2017 with 15+ years experience in the QHSE field). While the combined expertise of staff and consultants currently is strong there are plans to add capacity for those responsible for developing and implementing the ESMS, legal expertise (outsourced), broadening health and safety measures, proactively preventing disease transfer between wild and cultured fish, controlling supplier and expanding stakeholder engagement.

3.1.5 Emergency Preparedness and Response

Oceanpick has an Emergency Response Plan which aims to prevent and mitigate harm associated with most emergency situations to company personnel, assets and their surroundings. Topics covered by the plan include medical events, fire, natural disasters (earthquakes, tornados, floods, cyclones), bomb threats, extended power loss, and includes an oil spill contingency plan, and emergency action plan (site evacuation). Separate boat safety and diving safety/diving emergency flowcharts were also available. All staff were trained in first aid and fire safety and all staff working on the water are tested and assessed for relative swimming skills. First aid kits are available throughout Oceanpick’s operations and most are well stocked with current basic over-the-counter medicines: non OTC medication requires permission-to-access from HR. Interviews confirmed effective annual unannounced drills and that staff have practiced with and feel comfortable using fire extinguishers and all extinguishers had evidence of annual maintenance. However, staff lacked training with respect to other emergency protocols (e.g. on-water emergencies) and there was insufficient knowledge of appropriate emergency treatment/procedures for high risk situations such as tsunamis, diving accidents or drowning swimmer situations. Evidence available did not indicate that oil spill procedures, mitigation equipment and coordination amongst agencies and affected parties are adequate for a major oil spill on the coast or in Koddigar Bay. Upon request, it was disclosed that MEPA Trincomalee - currently the main oil spill response body - has 800L of oil dispersant, 170 meters of oil booms and one oil skimmer available. However, the Emergency Response Plan does not indicate how or if the company will collaborate with external bodies such as MEPA in case of an emergency or take particular actions to protect their own operations. Recent shipping accidents have highlighted both insufficient governance related to safeguarding EEZ waters and the ability for competent authorities to respond appropriately³⁷.

The emergency response plan currently lacks a provision for notifying the neighboring community in the event of emergency situations that could affect them (in ocean emergencies unlikely to be caused by Oceanpick, but where Oceanpick may have equipment helpful to local community emergency needs). Oceanpick will also need to design procedures to address events that could have serious impacts on communities such as catastrophic net failures with mass escapement events of farmed fish or catastrophic

³⁷ <https://www.france24.com/en/live-news/20210604-sri-lanka-sued-over-ship-disaster-as-possible-oil-spill-looms>

failure of sedimentation facilities at Alain Michael nursery³⁸ as outlined in the ESAP. Any waste management facility selected as an alternative to CGL by Oceanpick will need to have an Emergency Plan in place that considers impacts on surrounding communities.

Oceanpick staff require further training in existing procedures and associated drills including lost divers, how to recognize and handle a diver with a decompression injury, distressed/man overboard situations, tsunamis and safety in electrical storms. Relevant procedures and equipment are also needed for climate emergencies (e.g. sustained hot water/low O₂ conditions that threaten fish health, rapid development of harmful algal blooms etc.).

3.1.6 Monitoring and Review

Oceanpick currently undertakes monitoring of many of its environmental impacts (e.g. energy and potable water use, sea water quality, effluent from the hatchery, escapement) conducts intermittent (not fully systematic) internal audits for priority issues (e.g. preparation for international audits, use of new subcontractors etc.) and any root cause analysis.

There is a well-developed quality assurance structure with an associated coding system that broadly categorizes the company's documents into a series of:

- high level farm management manuals (folders=FD code) – coded OP-secondary code
- subsections/procedures within manuals – coded OP-secondary code/individual procedure number.

These main manuals are as follows:

- Company main manuals – OP-QA-FD001
- Impact Assessments – OP-QA-FD001/2
- Regulatory Management – OP-QA-FD002
- Chemical and Drug Management – OP-QA-FD003
- Health Management – OP-QA-FD003
- Batch Reports/Test Reports – OP-QA-FD005
- Predator control and Escape Control – OP-QA-FD006
- Waste Management – OP-QA-FD007
- Common Documents – OP-QA – FD008

Thereafter the QA system has 45 individual checklists that are used to provide standardized monitoring and record keeping across the suite of operations at all sub-sites and for diverse aspects of elements in the Table 9.

Monitoring systems have recently been aligned against the ASC standard framework, defining staff responsibilities and oversight. This system will be expanded by Oceanpick to align with risks in Table 8, incorporating monitoring parameters, methods, frequency and outside experts.

Table 9 – *Environmental and Social Monitoring System, aligned against the main criteria in the ASC Standard, giving responsible parties. Please refer to the explanation of the QA system in section 3.1.6 for further detail on quality document coding structure.*

³⁸ Disease management should not account for catastrophic events as all procedures should be oriented towards prevention and early detection.

Criterion number	Criteria name	Quality document and associated code	Main staff responsible and function	Additional staff involved and their function
1.1	COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL LEGAL REQUIREMENTS AND REGULATIONS.	Regulatory Management OP-QA-FD-002 Legal Documents OP-AQ-F002/F1-001 Internal Audit OP-QA-FC-008/F1001	Human Resource Manager (HRM)	HR Executive
2.1	BENTHIC BIODIVERSITY AND BENTHIC EFFECTS	Government Standard for Benthic Sampling OP-QA-FD002/F1-012	Quality Assurance/Environmental consultants	Quality Executive
2.2	WATER QUALITY IN AND NEAR THE SITE OF OPERATION	Company main manuals OP-QA-FD-001 SOP Manual – Farm OP-FM-SOP SOP Manual – Hatchery & Nursery OP-QA-HM-SOP Test reports OP-QA-HD-06 Drinking water OP-QA-HD006/F1-002 Inlet Tubewell – sea water OP-QA-HD006/F1-003	Quality Assurance/Environmental consultants	Quality Executive
2.3	INTERACTION WITH CRITICAL OR SENSITIVE HABITATS AND SPECIES	Impact Assessment OP-AQ-FD-001/2 Wildlife Interaction Plan OP-MWIP IUCN Redbook OP-QA-HD001/F1-019 Environmental Test OP-QA-FD005/FI-009	Quality Assurance/Environmental consultants	Farm Manager
2.4	INTERACTION WITH WILDLIFE, INCLUDING PREDATORS	Daily Predator control OP-QA-FD006/F1/002	Quality Assurance/Environmental consultants	Farm supervisor
3.1	CULTURE OF NON-NATIVE SPECIES	SOP Manual – Farm OP-FM-SOP SOP Manual – Hatchery & Nursery OP-QA-HM-SOP	Quality Assurance/Environmental consultants	Quality Executive
3.2	INTRODUCTION OF TRANSGENIC SPECIES	SOP Manual – Farm OP-FM-SOP SOP Manual – Hatchery & Nursery OP-QA-HM-SOP	Quality Assurance/Environmental consultants	Quality Executive
3.3	ESCAPES	Predator control & Escape Control OP-QA-FC-006 Escape control OP-QA-FD006/F1-001 Net checking & Cleaning OP-QA-FD006/F1-004 Containment Plan OP-FM-FCP Incident Report for Emergency Fish Escape OP FM 020	Senior Production Manager	Supervisor
3.4	SOURCE OF FINGERLINGS/SEED-STOCK	N/A	Assistant Manager Onshore	Supervisor
3.5	BROODSTOCK MANAGEMENT	Mortality Record OP FM 004 Monthly Necropsy Report OP-QA-FD004/F1-003	Assistant Manager Onshore /Senior production manager	Executive/Supervisor
4.1	TRACEABILITY AND TRANSPARENCY OF	Feed Main Details OP-QA-FD003/F1002	Supply chain – Assistant Manager	Supply chain Executive

	MARINE RAW MATERIALS IN FEED	Feed Internal Test Reports OP-QA-FD003/F1003 Feed Heavy Metals Check Report OP-QA-FD003/F100		
4.2	EFFICIENT AND OPTIMISED DIETS	Feed calculations, Water and Effluent Calculation (OP-QA-HD002/F1-005) BAP Calculations OP-QA-FD003/F1005	Senior Manager -Production	Feed supervisor
4.3	RESPONSIBLE ORIGIN OF MARINE RAW MATERIALS	Feed Main Details OP-QA-FD003/F1002	Supply chain - Assistant Manager	Supply chain executive
4.4	RESPONSIBLE ORIGIN OF NON-MARINE RAW MATERIALS IN FEED	Feed Main Details OP-QA-FD003/F1002 Feed Internal Test Reports OP-QA-FD003/F1003 Feed Heavy Metals Check Report OP-QA-FD003/F1004	Supply chain - Assistant Manager	Supply chain executive
4.5	WASTE MANAGEMENT/POLLUTION CONTROL	Test reports OP-QA-HD-06 Effluent water OP-QA-HD006/F1-001 DO Level Monitoring Summary Sheet – Farm OP FM 010 Cage Water Quality – Powder Bay OP FM 013 Cage Water Quality – Minden OP FM 014 Benthic Test Reports OP-QA-FD005/F1-003 Waste Disposal Record OP-QA-FD007/F1-002 Critical Items Disposal record OP-QA-FD007/F1-003 Dumping Slip & gatepass OP-QA-FD007/F1-005	Quality Assurance/ Environmental consultants	Quality executive
5.1	FISH HEALTH MANAGEMENT	Animal Health Management and Welfare OP-QA-HD001/F1-004 Health Management OP-QA-FD-003 OIE Aquatic Animal and Health Code OP-QA-FD001/F008 Mortality Record OP FM 004 Consultant Visiting Reports OP-QA-FD004/F1-001 Consultant Logbook OP-QA-FD004/F1-002 Monthly Necropsy Report OP-QA-FD004/F1-003 NAQDA Log Book OP-QA-FD004/F1-005	Senior Manager - production /veterinary Consultant/QA	Farm Manager
5.2	CHEMICALS AND TREATMENTS	HACCP System for Fish Hatchery, Farm and Stores - OP-FM_SOP, 2002-09-20 Issue No.1 Store inventory updates for farm equipment OP-QA-FC007/F1-001	Quality Assurance/ Senior Production Manager	Quality executive

		MSDS/Chemicals List OP-QA-FD001/F1-001 Personal protection items OP-QA-HD004/F1-001 Immunization Reports OP-QA-HD001/F1-002		
5.3	SURVIVAL OF FARMED FISH	Animal Health Management and Welfare OP-QA-HD001/F1-004 Broodstock Details (OP-QA-HD002/F1-002) Broodstock mortality incident (OP-QA-HD002/F1-003) Mortality Record OP FM 004 Farm Harvest Record OP FM 007 Fish Sampling Record OP FM 018	Assistant Manager - Onshore supervisor /Senior manager- production	
6.1	FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING	HR Policy Manual – Hatchery & Farm Copy 2 OP – HRPM	Human Resource Manager (HRM)	HR Executive
6.2	CHILD LABOUR	HR Policy Manual – Hatchery & Farm Copy 2 OP – HRPM	Human Resource Manager (HRM)	HR Executive
6.3	FORCED, BONDED OR COMPULSORY LABOUR	HR Policy Manual – Hatchery & Farm Copy 2 OP – HRPM	Human Resource Manager (HRM)	HR Executive
6.4	DISCRIMINATION	HR Policy Manual – Hatchery & Farm Copy 2 OP – HRPM	Human Resource Manager (HRM)	HR Executive
6.5	WORK ENVIRONMENT HEALTH AND SAFETY	First Aid Masterbook Emergency Preparedness Plan OP-CMP Boat Safety Manual OP-BSP Diving Safety Plan OP-DSP Employee Health and Safety Plan OP-OHASP MSDS/Chemicals List OP-QA-FD001/F1-001	Human Resource Manager (HRM)/Quality Assurance	HR Executive
6.6	WAGES	HR Policy Manual – Hatchery & Farm Copy 2 OP – HRPM	Human Resource Manager (HRM)	HR Executive
6.7	CONTRACTS (LABOUR) INCLUDING SUBCONTRACTING	HR Policy Manual – Hatchery & Farm Copy 2 OP – HRPM	Human Resource Manager (HRM)	HR Executive
6.8	CONFLICT RESOLUTION	HR Policy Manual – Hatchery & Farm Copy 2 OP – HRPM	Human Resource Manager (HRM)	HR Executive
6.9	DISCIPLINARY PRACTICES	HR Policy Manual – Hatchery & Farm Copy 2 OP – HRPM	Human Resource Manager (HRM)	HR Executive
6.10	WORKING HOURS AND OVERTIME	HR Policy Manual – Hatchery & Farm Copy 2 OP – HRPM	Human Resource Manager (HRM)	HR Executive

3.1.7 Stakeholder Engagement and External Communications and Grievance Mechanism

The company has a stakeholder engagement plan titled "Social, Economic, and Community Well-being in Stakeholders." This plan identifies all relevant stakeholders and includes an analysis of their interests and

influence on the project but there is no systematic stakeholder engagement program. Village communities include: Chinabay & Abeypura (closest to CodBay headquarters), Vellaimanal (nearest to cage operations), Koneshapuri (proximity to Alain Michael hatchery), Trincomalee (main town), Kinniya Sports club (village-based sports in proximity to cages). Fishing communities within these villages include: Codbay, Vellaimanal, Nilaveli and Kinniya. The company maintains a cordial relationship with these communities. This is evident from the ease with which it organized meetings with the local community during the site visit. The founder of Oceanpick currently leads most of the company's outreach efforts at external engagements. The company runs a donation program benefiting the school in the village of Vellaimanal, which is the closest to the main growout site.

Government stakeholders have been identified as the following: Ceylon Fisheries Harbour Corporation, Sri Lanka Ports Authority, Sri Lanka Navy, Board of Investment, Fire Brigade, Predeshiya Sabha (local government authority), General Hospital, Policy station (Chinabay), Sri Lanka Airforce, Sri Lanka Customs.

It is recommended that the company develops, as part of its stakeholder engagement plan, a yearly schedule of engagement activities and include a format for recording all consultations that are organized with various stakeholders and increases involvement with relevant NGOs to support social and environmental activities..

For existing operations, Oceanpick will need to perform consultation via a more extensive Stakeholder Engagement Plan with fishing communities, proactively communicating in all appropriate languages and prior to taking new actions - the purpose, nature of operations (position, size, tethering and any buffer zone that will be maintained around cages), monitoring program and ongoing readings, to assure that community concerns are addressed with respect to farm infrastructure, policies and interactions between cage zones of effect and fishing grounds (e.g. risks to wild fish and local habitat, vessel navigation, landing sites and mutual aid in extreme weather situations or emergency events).

Table 10 - *Screen-capture illustrating the structure of Oceanpick's summarized Stakeholder Engagement Plan*

**Oceanpick (Private) Limited
Stakeholder Engagement Plan**

Identified Stakeholder	Contact Details	Stakeholder Involvement	Rating		Needs and Expectations	The current/ proposed Involvement
			Interest Level	Influence Level		
Nearby Village Community Chinabay Community Vellaimanal Community Koneshapuri Community Trincomalee Community Kinnya Sports club Abeyapura Community	715535711 / 0711733890 077 - 9939967 077 - 2542312 - Jeenu 763850286 757249687 742424625	Nearest Village to Codbay Nearest Village to the cages Nearest village to Hatchery Main community in the city A club in a village close to the farm A supportive community near by codbay premises	Medium High Medium Low Low Low	High High High Low Low Low	Most communities seek financial support for children's education and other activities	To conduct annual donation activities for school children and families. To support in their festival activities.
Fishing Community Codbay Fishing community Vellaimanal Fishing Community Nilaveli Fishing community Kinnya Fishing Community	706100915 077 - 9939967 765492885	The community that operates in the The community that engages in fishing ac A supportive community at Hatchery pre The community that engages in fishing ac	High High Low Low	High High Low Medium	They seek support to posses fishing equipment and support in their children's education. They also seek help technology wise and trainings	Fingerling donations for associations and to support them in their expectations
Government Organizations Ceylon Fisheries Harbour Corporation Sri Lanka Ports Authority Sri Lanka Navy - Trincomalee Board of Investment Pradeshya Sabha Fire Brigade - Trincomalee General Hospital Police station - chinabay Sri Lanka Airforce Sri Lanka Customs	0702609919 / 0762201150 773072313 070 - 2326946 777635466 262053865 770392464 262222261 764952037 712640871 703732727	The Govt authority that manages the har The Govt authority that manages the port The govt authority that controls the sea a The supportive authority for our export a A govt authority The nearest fire brigade The main hospital in the city The nearest police station The nearest air port that controls aviation Controls all imports and export activities	High High High Medium Medium Low Low Medium Low High	High High High High High Medium Low High Low High	Ontime Communication and ontime approval procedures, rules and regualtions to be followed	To update the relevant authorities about related activities. And we've internal policies and regulations to ensure compliance with Govt standards.
Environmental Organizations Marine Environmental Protection Authority Coast Conservation & Coastal Resource Management Department National Aquaculture Development Authority Central Environmental Authority	717881800 706661227 777118051 777635466	Authorized govt organization for marine p Authorized govt organization for coastal c Authorized govt organization for issuing a Authorized govt organization for controlli	Low Low Medium Low	High High High High	To ensure and obtain annual permits and license from the related authorities on time	Obtaining of license and permits on time and keeping the authorities aware in the event of any abnormalities and seek their guidance.
Main Local Suppliers Lalith Ice plant Ceylon Oxygen Industrial Gas - Liquid Oxygen Amila Electricals - Transport facility Vaseekaran traders - hardware items Salam n Sons - chemical items Kabala traders - consumable items India Oil Corporation - fuel station	775153120 779950301 772824291 710384123 776669333 774961954 770078671 759278022	Selected near by ice supplier Selected near by oxygen supplier Selected near by liquid oxygen supplier Selected near by transport facility supplie Selected supplier to get machinery items Selected supplier to get chemical items Selected supplier to get consumable items Selected supplier to get fuel	High High High Medium High Medium High High	Low Low Low Low Low Low Low Low	To render a support in their business.	We have built long term relationships with suppliers and we ensure we meet their expectations.
Main Local Customers Café on 18th Trinco Blu Shangri-La Hotels Lanka (Pvt) Ltd. Galle Face Hotel Anantara - Kalutara Lanka Hospitals PLC Barracuda Restaurant Jetwing Colombo 07 W15 Welligama Cinnamon Grand The Gallery Café Marriot Resorts Waters Edge		Local customers	Medium Medium High Medium Medium Medium Medium High High High High Low	Low Low High Low Low Medium Low Medium High Medium Medium Medium	To provide quality products and to ensure on time deliveries.	To ensure we meet their expectations by routine visits, obtaining customer feedbacks
Nearby Private Industries Prima Ceylon Limited Tokyo Cement	026 - 2233202 026 - 2233291	A near by food manufacturing factory A near by cement manufacturing factory	Low Low	Low Medium	To ensure smooth operations are carried out without any burden	Carrying our opeartions smoothly without affecting their business and we collectively collabarate
Nearby Contractors Sanoon - unloading n loading DWW Logistics Piyasena motors Fibre glass contactor Gabien wall constructions Boiler service SS welders - Chinabay Lanka deep well constructions	757671252 770173930 772959674 742424625 753825341 776269769 713395086 773414396	Service provider Service provider Service provider Service provider Service provider Service provider Service provider Service provider	Low Low Medium Medium Low Low Low Low	Low Low Low Low Low Low Low Low	To render a support in their business	To ensure we meet their expectations collaboratively
Oceanpick Employees Codbay Employee Representative Hatchery Employee Representative	750781634 778934446	Company employee Company employee	High High	High High	To ensure ontime salary payments and to be valued and treated well.	To ensure we meet all their expectations - by following SMETA guidelines, identifying and appreciating employees monthly.
Banks Amana Bank Bank of Ceylon		Bank Bank	High Low	High Medium		
Investors and shareholders Existing Shareholders Board of Directors Senior Management			High High High	High High High		

3.2 PS2: Labor and Working Conditions

3.2.1 Introduction

Oceanpick currently has 81 full time equivalent (FTE) staff which includes 33 persons in the executive role and 48 in non-executive role in CodBay and hatchery operations. Of these, 11 are women, most of these (9) are in an executive role. As of October 2023, there are 24 casual employees including temporary labor. This number is expected to increase significantly in the next 5 years.

Oceanpick has generally strong labor practices, without evidence of child labor, with functioning means for dialogue between workers and management. In third party audit processes aligned with ILO core labor standards, Oceanpick has received only minor non-compliances over matters such the need for more extensive secondary containment for fuels and the need for foot pedals on an eyewash station (the latter was resolved at our onsite visit). For subcontractors, no evidence is available relative to performance against IFC PS2 or ILO labor norms so this has been included in ESAP activities.

Oceanpick has sufficient controls and procedures to mitigate their main OHS risks. Certain aspects of OHS could be strengthened – acute but non-systematic risks noted on site such as unsecured O₂ cannisters at the hatchery, absence of hardhat use by certain workers in the warehouse workshop, and one fire extinguisher that was unsecured in a launch craft, will be resolved immediately. A larger review of OHS procedures, particularly with respect to preventative measures associated with on-water operations related to vessels, diver protocols will be implemented contingent on disbursement of funds. There are strong written policies for these issues but implementation may not be fully systematic or may require updating based on local realities (policies were drafted based on equipment and conditions by partner organization Kames that operates in Scottish North Seas), including bounce diving to shallow depths and the use of underwater pressure washers for net cleaning which were not anticipated in Kames' original protocols. Formal, structured, timelined second party audits related to OHS have not been conducted by Oceanpick at their subcontracted processing facilities (although site visits to subcontractors by OP QA have been undertaken with improvement requests made to processors): this activity has been added to the ESAP with the alternative option for subcontracted processors to acquire third party audits with requirements aligned against IFC OHS considerations.

3.2.2 Human resources policies and procedures

Oceanpick's human resources policies and procedures are documented within the Company Manual, Employee Handbook, and appointment letters, collectively defining the terms of engagement. The comprehensive Employee Handbook encompasses formal leave policies, a code of conduct, hiring procedures, disciplinary actions, a policy addressing sexual harassment, and an employee grievance mechanism. Simultaneously, the Company Manual includes several policies, including those for preventing child and forced labor, addressing sexual harassment, implementing grievance procedures, upholding human rights, and ensuring health and safety.

The company has established codes related to business ethics and responsible conduct that highlight the importance of values such as integrity, fidelity, self-respect, and requires adherence to employment regulations concerning personal finances, security, gifts, benefits, dress code, and alcohol use.

The company holds SMETA Certification, which verifies its human resources practices. The most recent audit was undertaken in May 2023.

Grievance procedures are available to workers and stakeholders at three levels:

- via Oceanpick (see immediately below and section 4.2.7)

- via Pegasus Capital Advisor's ([see Annex 11](#)) procedures as Fund Managers
- via the [Green Climate Fund's Independent Redress Mechanism](#).

Although at Oceanpick there is an employee grievance policy in place, it lacks a specified timeframe for grievance resolution. Furthermore, the procedure outlined in the employee handbook states that the company's decision regarding the grievance is considered final, with no explicit provision for legal recourse if an employee remains dissatisfied with the resolution. Lastly, the grievance mechanism remains to be extended to contract employees and clearly communicated proactively to stakeholders.

3.2.3 Working conditions and terms of engagement

The operations run for three (3) shifts Monday to Saturday. All employees are allowed weekly days off in compliance with the local regulations.

The facility has established a comprehensive policy and procedure concerning working hours, ensuring compliance with daily, weekly, and monthly overtime limits, as well as adhering to standard working hours as prescribed by local laws. Workers' attendance is recorded through a manual time tracking system.

The appointment letters include the company's terms of employment and code of conduct but do not always fully describe job responsibilities, compensation/time, and are currently worded to oblige workers to submit to medical procedures required by the company without qualifying any limits on such procedures. While the code of conduct is exhaustive, it does not include employee obligations with respect to sexual harassment.

Legal benefits, including holidays, are provided to workers, and multiple channels are available for workers to voice concerns or complaints.

3.2.4 Workers organization

While the Employee Handbook does not include a policy on freedom of association, the SMETA audit mentions that there is a Workers Committee which serves as a parallel representative body for workers, with members elected by their peers without management interference and interviews confirmed that such elected representatives were active and discussed issues of concern to workers with management.

3.2.5 Non-discrimination and equal opportunities

The company has a non-discrimination policy and procedure in place, which aligns with existing laws and regulations. The company's hiring practices do not discriminate based on factors such as ethnicity, social group, gender, caste, or nationality. As per the SMETA audit report, the company does not conduct pregnancy or blood tests during the recruitment process. As per the sample appointment letter for non-executive role, routine blood (blood sugar, lipid profile and full blood count) and urine tests are done as part of pre-employment medical tests. The facility upholds non-discrimination in various aspects, including hiring, compensation, training, promotion, termination, and retirement, and worker grading is determined by skills and experience.

3.2.6 Retrenchment

The company does not foresee any retrenchment and is planning to expand its workforce over the next five years.

3.2.7 Grievance Mechanism

The company maintains an employee grievance mechanism that is accessible to only its employees. It does not include contract workers or other affected stakeholders within its scope. It lacks a defined procedure for addressing grievances and does not specify a timeline for resolution. Under the current system, employees can report grievances to their line manager, either verbally or in writing. If the issue remains unresolved, the line manager may, at their discretion, escalate it to a more formal grievance management process. However, this formal grievance management procedure is not outlined in the Employee Handbook.

Additionally, the existing procedure states that the company's decision following the implementation of the grievance handling/management procedure is considered final. There is no provision for judicial remediation if an employee is dissatisfied with the resolution provided by the company.

As informed by the company, management provides staff with comment boxes, worker representatives and monthly meetings between worker representatives and HR to manage grievances. In general, this system seems to be working moderately well for the current scale of operations and there was evidence from worker interviews that the system was yielding timely responses that workers were happy with, mainly related to provisioning needs, but also in relation to working hours. Grievance boxes are not being used by workers. Workers said that they would talk directly to their supervisor, worker representative or HR in CodBay for any concerns.

Over the past year, the company received a total of ten employee grievances, with only one remaining unresolved, which pertains to a salary increment issue. Among these grievances, three were related to workplace conditions and the provision of Personal Protective Equipment (PPE).

Stakeholders regionally as well as internationally will also have access to external (to Oceanpick) grievance mechanisms through Pegasus Capital Advisor's ([see Annex 11](#)) procedures as Fund Managers, and through the [Green Climate Fund's Independent Redress Mechanism](#).

3.2.8 Protecting the Workforce, Child and Forced Labor

The Company Policy Manual contains the essential policies concerning child protection and forced labor, which are applied to all employees, contractors, agents, and business partners of Oceanpick. It aims to; ensure compliance with legal requirements and international standards related to child labor, protect the rights and well-being of children, and provide appropriate remedial measures in case of any instances of child labor. The procedure includes age verification at recruitment by requesting original age documents along with their employment application, such as birth certificates and National Identity Cards. No evidence of child labor was seen during the site visit, verified via worker interviews and HR records. Triangulation confirmed the youngest worker was age 22.

The Company's remuneration structure for non-executive employees adheres to the legal minimum wage requirements.

3.2.9 Occupational Health and Safety (OHS)

The Company Policy Manual contains a health and safety policy which provides a framework for managing health and safety risks in all areas of Oceanpick's operations. It applies to all employees, contractors, visitors and any other individuals involved in Oceanpick's operations in all locations. It commits to providing training to ensure that individuals are aware of potential hazards, understand safety procedures and have the necessary skills and knowledge to perform tasks safely.

The Hatchery, Nursery and Farm Risk Assessment undertaken in September 2022 was an extensive assessment to identify OHS risks has been undertaken and controls and preventative measures for implementation. Many of the typical risks associated with aquaculture such as physical hazards (electrical shock, fall from height, vehicle accidents, shallow water diving risks) and exposure to chemicals, have been included although additional risks such as water-borne disease have not been considered. While the assessment primarily focused within the confines of the sites it did not extensively consider the potential for community health and safety issues related to the company's activities.

The Farm Manual contains some limited OHS requirements but refers to the Employee Health and Safety Manual of the Oceanpick Farm which was not available for review on-site, although a plan has since been put in place. The site visit indicated that many measures are in place to control key OHS risks, such as regularly maintained and appropriately secured fire extinguishers, material safety data sheets and strong signage in Sinhala and English with pictograms. There were individual cases where fire extinguishers and oxygen canisters were not secured, where bulky life jackets used at sea that may be less appropriate than self-inflating ones for worker comfort/harvesting efficiency, and lack of evidence of internal OHS audits and training: these indicate that improvements required would be helpful, and Oceanpick has already acted on these initial findings.

Oceanpick policy indicates that all incidents, near misses, and hazards will be promptly reported and thoroughly investigated and there was evidence via HR records that this occurs. Procedures indicate that lessons learned will be shared to prevent recurrence, and corrective actions will be implemented to address identified deficiencies. Evidence of this management loop/ reporting is missing.

3.2.10 Workers Engaged by Third Parties

Most policies of the company are extended to contract workers as defined in previous sections. However, the grievance mechanism does not include contract workers within its scope.

The Company Policy Manual indicates that it will establish clear expectations for contractors and ensure they comply with health and safety requirements. Contractors will be selected based on their commitment to safety.

3.2.11 Supply Chain

The company's supply chain involves feed procurement, with majority of it sourced from a highly reputed international supplier. The company has established a requirement for that company to provide a compliance statement. This statement entails the feed supplier listing ingredients, confirming compliance with the US Food and Drug Administration, and verifying the sustainability of feed sources. Other suppliers are BAP certified.

The company has a human rights policy that mandates its suppliers and contractors to adhere to human rights standards in alignment with this policy. The company collaborates with its supply chain partners to mitigate potential human rights risks and advocate for responsible sourcing practices.

3.3 PS3: Resource Efficiency and Pollution Preventions

3.3.1 Resource Efficiency

Oceanpick is not a significant emitter of greenhouse gasses. Available data indicates that scope 2 emissions in 2022 were less than 300tCO₂e. There is no information on scope 3 emissions.

For freshwater, the company uses tap water from the mains and brackish water from three bore wells at the hatchery. Fresh water consumption in 2022 was on the order of 750 m³.

Power is obtained from the main Trincomalee grid, with additional heating generated from a Hoval Max 3 boiler at the nursery. There is a backup diesel-powered generator at the hatchery for power outages.

3.3.2 Pollution Prevention

Water quality samples are tested by Oceanpick at via established systems that indicate testing frequencies that may be monthly, quarterly or bi-annually depending on the type of test, the authority being tested for, and area of the operation by reputable third-party laboratories with calibrated equipment. SGS was used for all testing in 2023 and all water quality results have been compiled into a single record, where paper records and corresponding originals were verified onsite. Oceanpick conducts water quality testing for their own production purposes, to comply with the Environmental Protection Act in Sri Lanka managed by MEPA as the national environmental protection authority, to maintain their BAP certification and as they aspire to obtain their ASC certification. Each of these processes require slightly different types of testing assays, where test for phosphorus and nitrogen required under the EPA are for soluble phosphorus (limit: <5mg/L) and for total ammonia N (<50mg/L), while the WB EHS Aquaculture standards examine levels relative to Total N and Total P, so measures associated with these metrics are not directly comparable to WB EHS Aquaculture Table 1 reference levels, but remain indicative.

There are several sources of potential pollution from Oceanpick's operations. Effluent is released from the hatchery in the form of waters with nutrients elevated from feed and fish waste products, and similar liquid waste is released from sea cages. Effluent is also produced at the main operational headquarters and at sea from net cleaning (both at sea and on land). The company also handles hazardous materials on site and disposes of solid and hazardous waste according to local permitting requirements. The Standard Operating Procedure for the Fish Hatchery indicates the procedures for waste disposal, including liquid, solid and gaseous waste.

Effluent from the hatchery may include limited quantities of chemical residues (cleaning products and hormones), nutrients and veterinary drugs. All discharges are treated onsite including with chlorination: wastewater flows from the hatchery into a basic three part treatment system above the shoreline where it is chlorinated prior to disposal. Water flows from the hatchery into a collection tank, followed by an aeration tank and a final sedimentation tank. From here water is passive released onto a rock berm slightly above the beach, in keeping with allowances for beach discharge from MEPA. The sediment from the sedimentation tank is intermittently emptied, dried and distributed to neighboring farms. According to the SOP, hatchery discharges are monitored by the Quality Assurance Executive daily and recorded in the Wastewater Discharge Quality Record, although just weekly records of temperature, pH, dissolved oxygen, odor and color were documented. Corrective actions are tasked to the QA Executive after informing the Nursery Manager. Operationally, procedures state that current water quality issues are mitigated through increased water flow and increased oxygenation. Laboratory monitoring data indicates that hatchery effluent is not consistently below threshold reference values provided by the WBG EHS Guidelines for Aquaculture. The Hatchery does holds a BAP certificate which has undergone independent verification against comparable reference values for water quality. The Oceanpick hatchery team has bioball materials onsite that will be used to increase biofiltration, which should decrease existing nutrient pollutions.

For open ocean sea cages, effluent is most suitably monitored via the ecological and biochemical condition beneath enclosures and along depositional AZEs (allowable zones of effect), where feces and unused feed may build up. This is particularly true in well flushed locations such as where the Oceanpick cages are situated, along the upper slope of the Trincomalee Canyon, such that they are subject to tidal and upwelling currents, as well as internal canyon wave dynamics (see introduction), that rapidly disperse suspended nutrients away from the farm site.

Manual net washing occurs at the main operational headquarters and is the main source of nutrients in effluent from the warehouse (human waste is contained in septic tanks).. Nutrient-rich cage-cleaning wastewater undergoes minor sedimentation in a rudimentary pit and discharges passively via overflow without treatment or testing. Net washing also takes place at sea in situ (divers use underwater pressure washers), or nets may be left for approx.. a week on the ocean floor for filter feeding marine life to disperse/ die before manual cleaning on land.

Oceanpick uses extruded feeds matching pellet size to life stage. In growout cages fish are fed twice daily, once at dawn and once at dusk, reflecting Barramundi's reticence to feed near the surface or in bright light during daylight hours. Feeding practices were not observed for nursery cages. Feeding is halted a week prior to harvest to clear systems prior to harvest. Feed is visually monitored by netcage technicians from the surface, who adjust feeding based on fish behavior, with divers intermittently inspecting below cages. Feeding is halted a week prior to harvest to clear digestive tracts prior to slaughter. Oceanpick does not use fertilizers or anti-fouling chemical agents. Feed is attested from the manufacturer via a Certificate of Analysis to be without melamine or other adulterants. The Standard Operating Procedure for Farm indicates a sediment sampling procedure that includes collecting sediment and water samples and testing both. Monitoring data reviewed indicated that at net cages, dissolved oxygen and temperature were regularly monitored, with occasional readings associated with other water parameters. There is no systematic monitoring of TSS or bacterial coliform counts related to net cage production in either Powder Bay or at growout sites in Dead Man's Cove.

Blood from harvesting and slaughter is captured from slaughter trays in black plastic gallon containers and chlorinated to sterilize. There is no evidence of leakage from harvest platforms. Waste blood is being disposed of at the Ceylon Germany Limited (CGL) open dump site (see below), where staff reported that concrete containers used for liquid wastes had been cracked/damaged by Indian elephants, intermittently entering the CGL facility from adjoining forest within the Naval Headworks.

Sanitary waste at both land sites is captured in septic systems which are pumped for removal as needed.

Oceanpick has core management and infrastructure elements of chemical & toxics management, which are specified in the Farm Manual in the HACCP System for Fish Hatchery, Farm and Stores (OP-FM_SOP, 2002-09-20 Issue No.1). Pictogram hazard signage and signs in languages for all staff are posted throughout facilities and indicate main chemical risks in relevant areas including explosives, corrosives etc. SOPs indicate that OHS trainings are given as initial training as well as refresher trainings. Eye baths were available, with foot pedals and in working condition. There is a log book of all waste disposed from the site. Designated workers are trained in first aid for electrical shock, profuse bleeding and other medical emergencies like mishandling of chemicals. The SOP above also specifies that Oceanpick will provide basic medical care including access to, or communication with, medical authorities: it was confirmed with workers through interview that Oceanpick had covered expenses related to workplace injuries. However, documentation related to training records were not available and certain aspects of SOPs related to securing and documenting all chemicals were not fully implemented at the onsite inspection.

The main hazardous materials used are chlorine for general disinfection, bleach (sodium hypochlorite) and hydrogen peroxide for parasite baths. These are stored appropriately at the CodBay offices in designated, secure, organized areas with MSDS information available. There is also a workshop at the CodBay warehouse office where there is engine grease, latex paint, acrylic paint, lacquers which lack appropriate containment and MSDS information and are not secure. The chemicals at the hatchery were stored in a locked room but were not stored on drip trays, with accessible MSDS information. Oil and diesel were stored at the landing with incomplete spill containment (insufficient overflow capacity). Vaccines are stored in refrigerators and handled according to the MSDS. The Hatchery SOP indicates that hazardous waste is stored in the designated hazardous waste storage area and disposed of in accordance

with local regulations. Overall Oceanpick chemical records were not sufficient but have been updated since the onsite visit and no information was available related to the functional content of OHS staff training. Chemical storage, OHS training and security at subcontractors is not sufficient and should be a priority area to address, particularly the subcontracted machine shop and fiberglass contractor. At the latter, glass fiber, epoxy and associated epoxy catalysts are used, which represent flammability risks. Both OHS and contractor management is part of the ESAP.

Solid waste disposed of from Oceanpick includes old feed bags, used chemical containers, used diesel drums, dead fish, sludge from the sedimentation pit at the hatchery, etc. Aside from the old feed bags that are sent to a vendor to be recycled, and the sludge from the hatchery, which is distributed to neighboring farms, all solid waste is disposed of at the CGL open dump site. The site is situated inside a densely forested area as permitted by local authorities and has limited EHS controls in place to prevent human, non-human, ecosystem or water pollution. Interactions between CGL waste and Endangered Indian elephants were observed, and there is potential for consumption of waste by rag pickers. Staff indicated that a composting system for fish and blood is under consideration to redirect waste flows from CGL.

Feed is stored in a dry warehouse at ambient external temperatures, with evidence of systematic batch use once a month. Feed is stored elevated on pallets, wire mesh protects the entry of birds. Disposal records indicate that feed is inspected for fungal agents and disposed of if moist or moldy.

3.4 PS 4: Community Health, Safety and Security

Oceanpick has the following procedures in place to reduce impacts on the environment, to protect its personnel as well as surrounding communities for existing Phase I operations:

- SOP Manual Farm/Hatchery & Nursery
- BioSecurity Manual Farm-Hatchery & Farm
- Animal Health Management and Welfare – Hatchery & Farm
- HACCP Manual & Risk Assessment
- Impact Assessments
- Emergency Preparedness Plan
- Pest Control Plan – Copy 1
- Containment Plan
- MSDS/Chemical
- Comprehensive waste management programs
- Wildlife Interaction Plan
- Feed Heavy Metals Check Report
- Monthly Necropsy Report
- Net Checking and Cleaning
- Incident Report for Emergency Fish Escape

The policies or procedures don't directly aim to mitigate environmental or social risks to local communities, and consultation with local communities does not appear to have been conducted by government or Oceanpick prior to the establishment of net cages. Regardless, many aspects of the existing policies, checklists and monitoring processes mitigate risks for nearby communities that could be affected by escapement of nonnative barramundi (*L. calcarifer*) with potential to become invasive on wild fish communities, the advent of disease, decreases in water quality or fish habitat due to cage effluent.

Of the risks listed in Table 11, only escapement, insect breeding risk (small area of standing freshwater at the hatchery) and CGL disposal risks have occurred, while the rest remain theoretical or potential risks. Many of these risks are addressed by the ESAP which will allow proactive work to address the most substantial risks. The disease/ insect breeding issue is minor and was addressed while escapement represents a substantial production and ecosystem risk, so is considered more serious. The ESAP also requests Oceanpick to find alternative waste disposal systems to avoid GCGL, land salization and re-use of nutrient streams.

Oceanpick has demonstrated the ability to be responsive to escapement risk and has a number of policies (and associated checklists, not included) to address this, listed in Table 9. In addition to existing SOPs, mitigation measures that are currently in progress related to escapement include the novel use of CCT cameras to track poaching and increasing the frequency of netcage cleaning to reduce the risk of net ruptures due to bivalve encrustation. The ESAP will address also key ecosystem risks which include proactive monitoring to assure that there is no evidence in practice of antibiotic resistance, zoonotic disease transfer, augmentation of natural disease organisms (e.g. sea lice) in wild fish, and changes in reef coral cover or condition related to hatchery effluent.

In Phase II, the most serious concerns would be associated with whether increased arrays would impact fishers' access to and from fishing grounds and impacts on shared landing sites also used by farm machinery or personnel. The ESIA should also consider carefully cumulative impacts on ecosystem services important to communities.

Infrastructure and Equipment Design and Safety

There are relatively minor community infrastructure safety risks associated directly with Oceanpick's current Phase I activities which have limited interactions with the physical realities of community settlements.

1. Hatchery - there few community interactions with the Alain Michael hatchery which is on private land surrounded by low density agricultural land, so there are few community interactions. Nursery tanks are inside a secure building and water storage tanks are enclosed.

2. Netcages - There are interactions between small scale fishers from surrounding and netcages during fishing activities. Fishers did not see cages as impediments to fishing, and they cited that cages had been useful as safety tethers during storms/poor weather. Engine-powered boats of Oceanpick had also been deployed to rescue local fishers in self-powered vessels during poor weather.

3. Transport corridors – Oceanpick personnel are occasionally transported via small motorboats to and from net cages via the public beach in Dead Man's Cove. This beach is mainly a community access beach which is used by local fishers' for storage of their wooden vessels, landing and launch. Oceanpick launches use one side of the beach where local boats are not stored. Feed is transported to the farm via trucks from Colombo, and fish is transported back to Colombo for processing in typical transport trucks on public highways, with the appropriate statutory permits. The company's main feed storage facility is on gated government land which cannot be accessed by members of the public.

Hazardous Materials Management and Safety

Risks are associated with Oceanpick's waste disposed at CGL and the possibility for health impacts on surrounding communities. CGL currently receives solid and liquid waste which are not contained— CGL has no fences, liners, impermeable containers or other measures to contain either solid or liquid waste. Solid waste is in open piles accessible by both air and forest fringes to wildlife and surrounding communities. Liquid waste used to be deposited at CGL in concrete containers which are now damaged by wildlife (Endangered elephants) such that they cannot provide containment: liquid waste is therefore no longer deposited in this portion of the facility both because of damaged infrastructure and also because dangerous groups of elephants are blocking the access road. CGL is therefore best characterized as a waste collection location, but does not perform waste management services. Release of hazardous solid and liquid waste into the environment may cause acute or chronic health impacts to local communities either through seepage into freshwater systems or through airborne or direct exposure. It should be noted that CGL is the municipal waste management facility in Trincomalee and therefore, Oceanpick has no influence on CGL's management system.

Ecosystem Services

Ecosystem services support food/water security, human health and prosperity. The greatest number of possible risks associated with Oceanpick's operations with respect to communities, are associated with ecosystem services. A number of these risks are severe and while their likelihood is low, the magnitude of impacts were these risks to occur, would be potentially be high because they could alter the local environment and its associated services. There are a number activities in the ESAP intended to address these risks.

Table 11 summarizes the risks, including the risk of escapement of nonnative farmed *L. calcarifer* which may outcompete *L. lakdiva* (if it occurs in Trincomalee waters, which is currently unknown) and other native freshwater or oceanic species. There is also the potential for disease transfer from farmed barramundi to wild finfish important to food security and natural ecosystem function. Local fishers and community could be impacted by shifts in the distribution, composition, volume, health or behavior of target/non target species important for subsistence, food security and livelihoods.

Table 11 - Summary of Phase I risks specific to community health and safety associated with the Alain Michael hatchery, net cage arrays in Powder Bay, and Dead Man's Cove (Minden and Clappenburg) and CGL waste management facility

General Risk Category	Description of risk with respect to Oceanpick operations	Community risk	Severity of Risk/ Magnitude	Likelihood	Mitigation
Physical Hazards/ Drowning risk	The hatchery is on private land, with restricted access. Net cages were cited as having been used as safety devices by small fishers during storms as they have been used as offshore tethers. No concerns were expressed regarding navigating fishing vessels relative to cages in community interviews: friendly interactions viewed onsite.	Physical risk	Negative/ n/a	Low – hatchery n/a - netcages	Cages mitigate vessel operation risks for communities.

Breeding ground for insects - hatchery	No standing water visible at hatchery, which could breed mosquitos responsible for transmission of a variety of tropical diseases (e.g. dengue, malaria, west nile virus, zika, yellow fever etc)	Community exposure to disease	Med/Low	Low	n/a
Antibiotic resistance – net cages	Occasional use of antibiotics under veterinary supervision (nursery cages only).	Community exposure to disease	Med/Low	Med	Vaccination + veterinary services
Water-borne disease transfer – net cages	Water borne zoonotic disease could be transferred from farmed fish 1. to wild fin fish captured by local fishers and 2. by communities foraging moribund fish at CGL or to poachers.	Community exposure to disease	Med/Low	Low	Vaccination, Research Plan, Stocking density
Effluent - hatchery	Discharge from the Alain Michael hatchery shows coliform bacterial levels that are consistently over reference. <i>Coliform bacteria</i> : most harmless, some can cause gastrointestinal upset & flu-like sickness if consumed (if effluent contaminates freshwater drinking sources).	Community exposure to disease	Med - Effluent discharges to beach (saline environment) so unlikely to affect freshwater sources for community / Med	High	Improve waste management via improved sedimentation tank infrastructure
Improper handling, processing facilities	While not documented in Sri Lanka, barrmundi are known to carry <i>Cryptosporidium</i> in their intestinal tracts. When fish are improperly processed, this protozoan can contaminate fillets and cause serious gastrointestinal sickness (can cause chronic illness and death in immunocompromised and children) ³⁹ .	Consumer exposure to disease	Unknown (this is a parasite that is seldom tested for globally in aquaculture)	Low	Undertake genetic testing of animals from nursery and growout cages
Water-borne disease transfer – net cages	Water borne parasites and disease organisms could be transferred from farmed fish to wild fin fish captured by local fishers	Ecosystem services	High/High	Med	Vaccination, Research Plan, Stocking density
Escapement	Nonnative farmed <i>L. calcarifer</i> may escape and cause two impacts: 1. outcompete native <i>L. lakdiva</i> or 2. outcompete native freshwater finfish species. Both situations have the	Ecosystem services	High/High	High	Monitoring Plan, Relocate broodstock,

³⁹ <https://www.sciencedirect.com/science/article/abs/pii/S0043135421005558?via%3Dihub>

	potential to impact ecosystem integrity and community food security.				
Extraction of freshwater/ change of water regime	Hatchery extracts water from brackish/saline deep bore wells. All netcage farming occurs in marine waters.	Ecosystem	n/a – water is saline	n/a	n/a
Soil erosion - hatchery	The Alain Michael hatchery is built above grade (no excavation), and land is vegetated preventing soil erosion.	Ecosystem services	Low/ Low	Low	Cover vegetation
Soil salination - hatchery	Sludge from sedimentation tank is manually removed and has been used by neighboring farmers for fertilizer/compost. Can cause soil salination	Ecosystem services	Med/ Low	High	Dispose via solid waste management facility.
Effluent - hatchery	Discharge from the Alain Michael hatchery and TSS levels .	Ecosystem services	Low - filtering by beach sand Med	Med	Improve waste management and discharge
Effluent - hatchery	Discharge from the Alain Michael hatchery and Nitrogen levels that can cause algal blooms and impacts on coral reef.	Ecosystem services	Med	High	
Sedimentation – net cages	Sedimentation footprints associated with net cage farms are unlikely to diminish the volume or condition of local finfish species. No species are harvested from bottom culture in Trincomalee harbor by communities.	Ecosystem services	Low/ High	Low	Following plan
Hazardous waste - CGL	Waste from all Oceanpick activities is disposed at CGL which has insufficient/damaged/absent ability to contain liquid and solid hazardous waste which may affect freshwater sources for communities or cause direct health impacts.	Ecosystem services Health risk	High/High	High	Alternative waste management provider
Moribund/p utrid fish - CGL	Possible human consumption of disposed, moribund fish at CGL, which lacks security, fencing or the ability to restrict access by members of surrounding community.	Health risk	High/Med	Low	Alternative waste management provider

3.4.1 Resistance to veterinary drugs

Generally Barramundi are regarded as very hardy fish and require little disease management. Since most of the parasites of Barramundi are salt water specific they are usually treated by lowering the salinity in cages with fresh water for a period. Fungal disease is restricted to low salinity estuarine locations and so

should not affect offshore sites. Procedures indicate the intent to vaccinate for bacterial diseases such as Vibriosis if contracted.

Vaccination is currently undertaken for *Streptococcus iniae* (a bacterium common in aquaculture with zoonotic potential), and the farm has an extensive Biosecurity Manual focused heavily on disease, identification and prevention. Storage of antibiotics was not observed, nor the currency or expiry of any medications for nursery cages.

Antibiotic use is considered a last resort and has been implemented in nursery growout cages via medicated feeds. Interviews indicated that the veterinarian is called in such situations but doesn't administer the antibiotics, which is done by the hatchery manager⁴⁰ following a SOP controlling how batches are to be mixed with respect to volumes and oversight. The use of antibiotics, particularly when it involves critically important antimicrobials for human medicine, poses several risks, and it is often associated with concerns related to antimicrobial resistance (AMR). Food safety impacts and management and physical hazards.

3.4.2 Security Personnel

The company has contracted a third-party provider for security services, and the security guards engaged are and must be unarmed. Security guards were only seen stationed on the Mirage feed boat, protecting net cage growout arrays. There were no complaints about actions taken by security guards by surrounding communities via interviews, and staff indicated that when security was aware of poaching activity, they did not take direct action, but informed management. This is consistent with IFC directives that “the client will not sanction any use of force except when used for preventive and defensive purposes”.

3.5 PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

3.5.1 Protection and Conservation of Biodiversity

Modified and Natural Habitat

For Phase I, the area of CodBay inner harbor used for mariculture purposes by Oceanpick is not within critical or otherwise designated protected waters, nor has it damaged natural structures or processes, altered natural oceanography or threatened species at risk. Surrounding areas of Powder Bay and Dead Man's Cove are natural habitat composed of aquatic communities harvested regularly by local communities. The footprint of net cage arrays is currently small relative to the surrounding ecosystem, and there is no indication that operations would be causing fragmentation or impeded water flow. Benthic sampling shows that there is no change in macrofaunal communities measured using the Infauna Trophic Index⁴¹ from sites under cages and at control sides tested 25m, 100m and 1km from cages. Therefore

⁴⁰ Noting that hatchery manager Aslam Pathiri (Nominated for top 40 under 40 awards in global aquaculture) is likely to have more experience using antibiotics for fish/fish health issues than local veterinarians, as fish health is not a normal component of standard veterinarian training.

⁴¹ [https://sci-hub.se/https://doi.org/10.1890/1051-0761\(1999\)009\[0699:TITIII\]2.0.CO;2](https://sci-hub.se/https://doi.org/10.1890/1051-0761(1999)009[0699:TITIII]2.0.CO;2)

“Index values range from zero to 100. Low numbers reflect the presence of a community dominated by subsurface deposit feeding organisms and high values indicate domination by organisms that feed on material suspended in the water column. The ITI includes a diverse suite of marine organisms, which have been organized into four feeding groups based primarily on feeding strategy (Word 1979). (Use of the ITI for monitoring benthic impacts is based)... on the premise that feeding behavior of benthic invertebrates can be used to measure community response to

there is no evidence for alteration of aquatic habitat under the sea cages and appropriate effluent management. If significant benthic changes were to be indicated, fallowing is embedded within a variety of existing management documents as an option.

In fish farming, there is a general risk of loss of (i) natural forest habitat and (ii) modification of the seabed, (iii) hydrography and (iv) other marine ecosystems depending on the site/ land conversion. As indicated in Section 4.1.2, an ESIA will be required for Phase II to evaluate and define any mitigation measures to address such impacts (ESAP 2).

Legally Protected, Internationally Recognized Areas

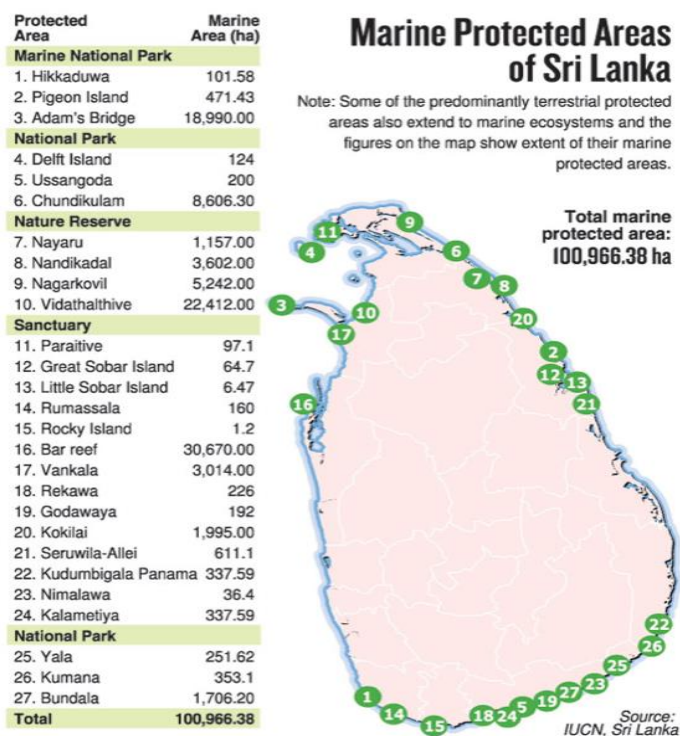
Per Figure 11, there are three designated protected zones in proximity to Oceanpick's operations, including one National Marine Park: Pigeon Island National Marine Park (471 ha), which is approximately 25km north of Trincomalee. Within the Trincomalee/CodBay Harbor, there are two small, protected sites, Greater Sober Island Sanctuary (65 ha) and Lesser Sober Island Sanctuary (<7ha). Local marine experts from Blue Resources Trust that the consultant met with onsite indicated in peer reviewed publications that *"Acceptance and use of MPAs as a conservation tool has been slow in Sri Lanka. Several marine and coastal habitats located along the boundaries of terrestrial protected areas (TPAs) have not been afforded formal protection (Table 1), whereas some subtidal and intertidal habitats, such as wetlands, mangroves, and estuaries, are currently protected as part of TPAs and therefore not officially recognized as MPAs (Perera & De Vos 2007, Table 1).⁴²"* As indicated in table 12, there are no marine and coastal habitats designated as part of either Greater Sober Island or Little Sober Island Sanctuaries, whereas there are for National Parks. Some sanctuaries have protections for only lagoons or mangroves systems, but not for subtidal waters. Both Sober Island sanctuaries have only terrestrial designation.

available organic material (organic enrichment or flux) in the water column and/or substratum, and that the response can be quantified based on the dominant invertebrate feeding strategies. Implicit in the index is that change in dominance (abundance) of organisms from those feeding on suspended materials to those that feed on deposited materials provides evidence for increases in the amount of sedimented particulate organic material." (Maurer et al. 1999) (degradation from net cages when used in the context of aquaculture).

⁴² https://www.researchgate.net/publication/5916310_Marine_Protected_Areas_in_Sri_Lanka_A_Review

Table 1 Major TPAs with marine and coastal components

Name	Year	Area / ha.	Responsible agency	Government legislation	Marine and coastal habitats within protected area	Marine and coastal habitats adjacent to protected area
Wilpattu National Park	1938	131,667.10	DWC	FFPO	Beaches, cliff coast, coastal vegetation	Sea grass beds
Yala National Park	1938	97,880.7	DWC	FFPO	Beach, sand dunes, coastal vegetation, coastal wetlands	Subtidal rocky reefs
Yala East National Park	1970	18,148.5	DWC	FFPO	Beach, sand dunes, coastal vegetation, coastal wetlands	Subtidal rocky reefs
Bundala National Park	1993	6,216	DWC	FFPO	Beach, sand dunes, coastal vegetation, coastal wetlands	Subtidal rocky reefs
Paraitivu Island Sanctuary	1973	97.1	DWC	FFPO		Subtidal reefs
Chundikulam Sanctuary	1938	11,149.1	DWC	FFPO	Lagoon system	
Kokilai Lagoon Sanctuary	1951	1,995	DWC	FFPO	Lagoon system	
Great Sober Island Sanctuary	1963	64.7	DWC	FFPO		Coral reefs
Little Sober Island Sanctuary	1963	6.5	DWC	FFPO		Coral reefs
Kalametiva Sanctuary	1984	2,525	DWC	FFPO	Lagoon, mangroves	

Table 12 - Major terrestrial protected areas in Sri Lanka with marine and coastal components, indicating which have marine and coastal habitats designated within the protected area.**Figure 11:** Marine Protected areas of Sri Lanka

As shown in Figure 12, Oceanpick's nursery cages in Powder Bay are situated to the northeast of both sanctuaries (approx. 1.7km distance), while the farm's growout cages are situated immediately to the south of both sanctuaries (approx. 1km distance), separated by Old Gun Spit. There is no evidence that the existing arrays impact these sites, but the ESIA will be required to consider impacts from additional arrays which will be in closer to both Sanctuaries, although neither have designations that include marine waters.

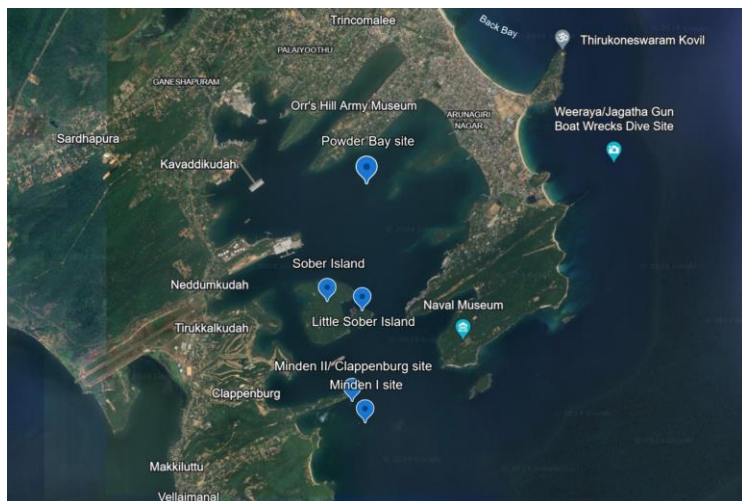


Figure 12: Great Sober Island and Little/ Lesser Sober Island and Oceanpick's nursery and growout cages

Critical Habitat Assessment

It is not anticipated that there are any critical habitats in the area currently impacted by the Company's activities. In terms of aquatic habitat, various interviews indicated that nationally and internationally listed cetaceans only occupy the offshore zone outside Trincomalee outer harbor and are rarely sighted in the inner harbor (for further detail on cetacean & megafauna, see Project Description, section 1, Environmental Baseline). Cages are covered by nets to prevent bird predation and interviews with staff as well as predator records indicated that entanglement and drowning is not a risk to birds. Pinnipeds commonly interact with and predate fish in net cages, but there are no pinniped populations in Sri Lanka. No interactions between net cages and ETP species was noted by interviewees or expected based on inspection. For the purposes of maintaining conformity with international standards, wildlife interactions are being monitored but staff members did not correctly understand CITES listing processes and were not using the information collected on nearby/interacting wildlife in useful ways.

The current net cage arrays are not located on coral reefs but do occur in the same enclosed water body of Dead Man's Cove where there is evidence of minor reef structures including small heads of branching and massive coral. Diving surveys have indicated: *"Cage locations are not covered with coral reefs, however there were few forms of Favia, Favites, Goniopora, Porites, domes were observed along the seaward margin and in the deeper parts of the sea bed areas around 1km distance (near shore) to selected sites. Some deeper parts contain substantially large rocks. Rocks are dominant with barnacle communities.*

No significant cover or diversity of algae present in the study area such as Green Alga or Brown Algae, however there were notable amount of Red algae (Rhodophyta) belonging to the genus Gracilaria.

Communities exist in areas with coral domes. This genus is important economically used as a food for humans (not popular in local) and various species of shell fish.

The most commonly observed fish species belong to the families of Acanthuridae, Balistidae, Caesionidae, Carangidae, Chaetodontidae, Haemulidae, Labridae, Lutjanidae, Lethrinidae, Mullidae, Nemipteridae, Pomacentridae, Pomacanthidae, Scaridae, Serranidae and Siganidae. These fish were important as in ornamental fish trade. Other fish species observed are important as food fish. Some species of grouper (Family: Serranidae), snapper (Family: Lutjanidae), emperor (Family: Lethrinidae) etc.), were observed.⁴³



Figure 13 - Reef structures: left: Minor reef structure is visible in all three coves on the southern mouth of the inner Harbor; right: Fringing reef adjacent to Alain Michael hatchery (blue roof near top of image). Deeper tongue and groove reef structures visible.

Minor reef structure is also present in adjacent Sweat Beach and Marble Beach. The Alain Michael Nursery releases very small volumes of intermittently insufficiently treated effluent onto beach sand adjacent to fringing reef: nearby Elizabeth Point also has meaningful reef structure. Effluent is released at such slow rates that it does not immediately enter coastal water, but percolates through sand, underground and through the width of the beach, providing additional filtration. Nursery II land is adjacent to mangroves growing in Sinnakarachchi Lagoon but does not occupy an area where mangroves are likely to be or have been affected, as leased land is above tidal influence necessary for mangroves.

The ESIA indicated in ESAP 2 will be required to scope any impact on critical habitat of future expansion plans.

Nonnative Species / Potential of Invasive Alien Species

Until 1984 and the identification of *Lates japonicus* as a distinct specie in Japan, Indo-Pacific barramundi was considered to comprise a single specie (*Lates calcarifer*) widely distributed in the Indo-west Pacific

⁴³ Oceanpick EIA Draft 2, 2023

region, ranging from the from the Arabian Gulf to China, Taiwan, the Philippines, the Indonesian archipelago, Papua New Guinea and northern Australia. Progress in genetic analysis and further research led to the identification of closely related new species of the Lates genus: *L. uwisara* in Myanmar and *L. lakdiva* in Sri Lanka⁴⁴, while additional genetic work confirmed that the SE Asia/ Australian species is distinct from the Indian sub-continent species⁴⁵.

The recent identification of the new species and the very likelihood that further species are yet to be identified in what was considered as the range of *L. calcarifer* require a precautionary approach around potential translocations of barramundi throughout Western and South East Asian region.

Documented introduction of *L. calcarifer* to Sri Lanka occurred in 2006 under an ADB assisted Coastal Resources Management Project implemented by the Ministry of Fisheries and Aquatic Resources, in the Negombo Lagoon. Interviews indicated that the Ministry of Fisheries has also made undocumented releases of *L. calcarifer* into freshwater bodies elsewhere in the country, such that it is now semi-established. Similar introductions occurred in India and across the region⁴⁶ likely contributing to the dispersion of the Australian specie, domesticated for aquaculture since the 1970's.

The status of native *Lates lakdiva* relative to nonnative *L. calcarifer* is an important consideration in this project. The client is farming what is now considered as a nonnative species of barramundi (*Lates calcarifer*) based on fingerling broodstock obtained from Australia. The first batches of fingerlings Oceanpick farmed were fingerlings obtained from a hatchery in Chilaw on the western coast of Sri Lanka, made up entirely of Sri Lankan broodstock (unconfirmed specie). Subsequently, the farm started to import fingerlings from Australia, coming from farmed fish already domesticated and selected for their aquaculture performance.

Oceanpick started farming around the same period when *Lates lakdiva* was discovered in SW Sri Lanka and as of today, its current range and status is unknown nationally as well as in the Trincomalee region.

Oceanpick uses screens in their hatchery system to prevent the escape of small fish, and chlorinates all waste water. The company is not intentionally introducing non-native *L. calcarifer*, but there is a functional likelihood of wild spawning from ocean netcages containing mature females maintained as backup broodstock that spawn monthly in proximity with farmed males (barramundi sex change with size, and all harvestable sizes should remain male, although sex-switching may occur at smaller sizes in cultured fish).

The company has also experienced intermittent escapement events. Escapes are caused by vigorous encrusting growth coupled with insufficient ability to clean cages, resulting in wild fish biting cage mesh and breakages from barnacle damage. Based on differences in the nature of cage ruptures (straight edged versus ragged cuts) there is also evidence/ known events of poaching by breathhold divers from adjacent communities: in response, CCT coverage is under consideration. Staff report that escaped fish often school near cages and can be returned by divers into cages. Cages are also maintained to prevent encrusting growth. In water, hydraulic pressure washers are used by divers to removed encrusting growth: on cage takes divers approximately a month to clean. Cages are also detached from frames, fallowed on the bottom at Dead Man's Cove to partially remove encrusting growth and then cleaned further in the

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https://www.researchgate.net/publication/235980255_Description_of_two_new_species_of_sea_bass_Teleostei_Latidae_Lates_from_Myanmar_and_Sri_Lanka

45 <https://www.frontiersin.org/articles/10.3389/fmars.2014.00030/full>

46 Pethiyagoda & Gill, 2014. Taxonomy and Distribution of Indo-Pacific Lates, in Biology and Culture of Asian Seabass *Lates calcarifer*

warehouse at CodBay, before being re-deployed for use. Capacity is currently constraining the ability to more rapidly and thoroughly clean net cages. However, incident reports also noted thousands of escaped fish in natural rocky environments away from cages, so there is a high likelihood of adults from escapes naturalizing and breeding in wild environments. Navigational markers were not mounted on all arrays and where mounted were not in positions associated with the highest risk boat traffic, where collisions have the potential to be a source of mass escapement, though none are known to have occurred to date.

Cages do not submerge but are constructed of materials used for North Sea salmon farming, so should be sufficient to withstand common conditions in the sheltered harbor waters. The tides on the west coast of Sri Lanka are mixed, predominantly semi diurnal tides with pronounced diurnal inequality. Tides are low, ranging from 0.2 m (during the neap period) to 0.8 m (during the spring period). General tidal current velocities recorded are around 0.05 cm⁴⁷. The Trincomalee/Delft areas have the lowest tidal amplitudes in Sri Lanka⁴⁸. Cyclones occur approximately three times a year in Sri Lanka. However, most cyclones only enter the country's sphere of influence and turn northward before making landfall, causing gusts of wind focused on the Eastern, Northern and Southern regions⁴⁹. The northeast monsoon blows waves across the Bay of Bengal towards the eastern coast where cages are located, associated with wave energy that remains relatively low, as well as during inter-monsoon periods.¹³ Therefore nets should be able to withstand typical storm situations.

Escapes management is a crucial issue in aquaculture in general, considering the risk of spreading invasive species, diseases or creating genetic pollution in wild population. While *L. calcarifer* has been widely translocated for aquaculture purposes across the Indo-Pacific region for decades when considered as a single species, the science around barramundi taxonomy and distribution of species is now still being fully redefined, making it a priority for Oceanpick to put in place the necessary measures to limit fish escape and limit fish translocation.

3.5.2 Management of Ecosystem Services

There is no evidence that Oceanpick's current activities significantly impact priority ecosystem services. An assessment will be required of future activities as indicated in ESAP 2.

3.5.3 Sustainable Management of Living Natural Resources

Oceanpick is engaged in the primary production of living natural resources and as such is required to achieve certification with respect to relevant and credible standards. The company engages in good management practices that address compliance with the international, third-party audited and nationally/ASI-accredited of BAP, ASC and SMETA standards. ASC is founded on multi-stakeholder consultative processes. Oceanpick is BAP certified, has been audited by SMETA and has undergone informal preassessment against the ASC standard and is awaiting a certification audit. It is also required to make step-wise and continual improvements.

3.5.4 Supply Chain/Fish meal and Fish Oil

Oceanpick currently maintains a detailed inventory of feed consumed, used and disposed. Feed is currently sourced from Vietnam and is meeting the requirements for a sustainable feed under ASC.

⁴⁷ IEE – Fin-fish farming, Trincomalee, Oceanpick.pp. 89.

⁴⁸ The maximum tidal range is 75cm in spring tide and 25cm in neap tides in the Colombo area. The strongest currents hit the southern coastline of Sri Lanka during Oct-Jan. The highest waves in Sri Lanka occur during the SW Monsoon (https://bobpigo.org/publications/BOBP_REP_67.pdf).

⁴⁹ <https://www.worlddata.info/asia/sri-lanka/cyclones.php>

ASC performance requires calculation of Forage Fish Dependency Ratio (FFDR) for weight of wild fish used per weight of cultured fish produced. The ASC defines “forage fish” for the purposes of the calculation as those derived from a pelagic fishery or fisheries where the catch is directly reduced (versus derived from byproducts). The FFDR is calculated separately for fishmeal (FFDRm) and fish oil (FFDRo) and the larger of the two numbers is used and compared to a threshold value⁵⁰. FFDR is calculated for the grow out phase in the pens⁵¹ and it was confirmed that 88% of the feed by volume is used in the largest 7mm and 10mm pellet sizes (1% 1.5mm, 1% 2mm, 3% 3mm, 5% 5mm, 46% 7mm, 46% 10mm).

This results in a FFDRm of 0 and an FFDRo of 0.8. Almost all meal is from byproduct, with the exception of 1% shrimp protein (which is not derived from forage fish) so is not included in the FFDRm calculation. The FFDRo value of 0.8 is well below both threshold values for efficient use of targeted forage fish, meeting the requirements for a sustainable feed under ASC. In general, the sourcing of fish meal and fish oil can be a risk given that it could originate from both legal and illegal sources. It is difficult for buyers to learn where fish were originally caught and by which vessels once fish are combined into large batches for sale.

⁵⁰ (FFDRm Barramundi \leq 2.25 (now), 1.8 (3 years), 1.4 (6 years) – or – FFDRo Barramundi \leq 2.75 (now), 2.3 (3 years), 2.0 (6 years))

⁵¹ ASC stipulates that FFDR is calculated for the grow-out period in the sea as long as the fingerling phase does not go past 50 grams per fingerling. If the fingerling phase goes past 50g then FFDR is calculated based on all feed used from 50 grams and onwards.

4. ENVIRONMENTAL AND SOCIAL ACTION PLAN

No.	Action	Deliverable	Date ⁵²
1	<p>Develop a comprehensive ESMS for current and expanded operations including any land or seabed conversion. The ESMS will incorporate the following elements, the details of which are outlined in the following actions: (i) assure that all permits, licenses and letters of no objection are received, aligned and in order (ii) identification of risks, including those related to climate change vulnerability, resilience, local communities; (iii) management programs that include a gender action plan and management of grievances, effluent treatment and waste management and contractor management; (iv) organizational capacity and competency; (v) emergency preparedness and response to extreme climate events that directly or indirectly affect operations; (vi) public stakeholder engagement and where applicable, indigenous engagement including preventing that there is any physical or economic displacement by communities; (vii) monitoring and review, (viii) specific triggering events or conditions to act upon or expand policies relevant to PS5 (land grabbing, government misappropriation, involuntary resettlement), PS 7 (need of or impacts on Indigenous Peoples), and PS 8 (unanticipated occurrence or impacts on items of archeological, cultural, artistic or religious significance). The ESMS will describe how conformity will be ensured, the parties responsible for its execution and how it will be communicated to all levels of the organization.</p>	ESMS consisting of the items listed in ESAP 1-19	12m
2	<p>For Phase II/ potential expansion: Prepare a full ESIA aligned with the requirements of IFC PS and applicable regulations, addressing any land conversion or seabed impacts and cumulative impacts of expansion of the pens and any associated facilities. It will be aligned with all Performance Standards including PS 5, 7 and 8 (if applicable) as well as climate-related considerations and include a detailed environmental and social management plan (ESMP) that will be incorporated in the ESMS.</p> <p>The ESIA should assess all the land it uses and proposes to use for its operations to ensure that there are no disputes, legacy issues, allegations of land grab or competing claims on the land given the history of war and land occupation by military in the area.</p>	ESIA and ESMP	At least 3m before expansion

⁵² Refers to the time period after the date of the financial close of the equity investment. The AE will monitor status and/ or completion of the ESAP on a quarterly basis.

	<p>The ESIA should assess the impacts on the company's activities such as water pollution from external sources, climate impacts and fish feed supply chain instability and develop management plans to address the risks.</p> <p>The more stringent set of regulations/ standards will be applicable.</p>		
3	Develop a systematic written process to assess all land to be leased and acquired to ensure that the land rights policy is proactively implemented.	Land screening procedure	1m
4	Define responsibilities to manage health and safety, stakeholder engagement and responsible supplier/ contractor management, as well as expansion planning, including the ESIA.	Identified staff with adequate capacity and training to implement all roles and responsibilities identified in the ESIA and procedures.	6m
5	Further develop the Emergency Preparedness Plan and include surrounding communities that may be affected as well specifications to address certain acute, high-risk issues and train staff	Emergency Preparedness Plan	6m
6	As part of the ESMS, Oceanpick will enhance the internal monitoring system which will include E&S monitoring indicators based on the WBG EHS Guidelines, ASC and the ESMP to monitor impact of the effluent at all sites, energy and water use, waste disposal, as well as the chemical and biodiversity changes incurred by the activities at sea, including at the net cages. The monitoring system will include internal or external annual audits.	Monitoring and reporting procedures and evidence of implementation	6m
7	Oceanpick is required to include in its existing stakeholder engagement plan (incl. interactions with community, indigenous, and government stakeholders) the disclosure and consultation with affected stakeholders and communication about project-level activities as well as the grievance/ feedback mechanisms as outlined in 3.2.7. It will develop its external communication mechanism to facilitate receipt and assessment of external communication from public and other stakeholders, and integrate the grievance mechanism. The company should disclose its external communication mechanism on its website and widely share it with its stakeholders in an appropriate form in the local context.	Stakeholder Engagement Plan and External Communication System	3m

8	Update the human resources policies and procedures to fully comply with IFC Performance Standards and ILO standards.	Human Resources Policies	3m
9	Develop a formal grievance mechanism defining the process for receiving, assessing, and resolving grievances with a clear escalation mechanism and timeline for resolution.	Grievance Mechanism	3m
10	Commission a qualified consultant to review the OHS hazard identification, risk assessment and controls, internal audit procedures and training.	Hazard Identification and Risk Assessment Updated OHS procedures Training plan Designated H&S staff	12m
11	Testing of effluent against the highest of the limits indicated in the WBG WHS Aquaculture Guidelines, BAP Hatchery/Farm Standard or ASC Marine Finfish Standard before discharge to the environment, particularly after net cleaning, and monitor the benthos and water quality under and adjacent to the cages as indicated by ASC. Based on results, define and strictly implement a consistent SOP for net cage cleaning and feeding to avoid impacts to the marine environment.	Evidence of testing and compliance with standards for the effluent, sediment, benthos and water quality Net cage cleaning and feeding SOP and evidence of implementation	6m
12	On the basis of an updated environmental hazard identification and risk assessment put in place appropriate controls to ensure storage and handling of hazardous materials are managed to avoid spillage.	SOPs and photos of appropriately stored and handled hazardous materials and evidence of implementation	9m
13	Prepare a waste management plan with feasible waste prevention, reduction, reuse, recovery and recycling measures and assess alternative potential facilities for disposal.	Waste management plan and evidence of implementation	12m
14	Find an aquaculture disease consultant specialized in tropical finfish systems, available for capacity building and contact during any suspected or confirmed outbreaks of disease, to support existing staff expertise.	List of consultants	6m

15	Develop and implement a policy and protocol for security personnel (including but not limited to the use of weapons, security guidelines, and a code of conduct for security personnel) in accordance with IFC PS 4.	Protocol and evidence of implementation	3m
16	Develop a set of procedures and measures to avoid escape and further introduction of <i>L. calcifer</i> into the marine environment. Measures include relocating broodstock females from ocean cages to land-based facilities, addressing poaching through stakeholder engagement, enhancing cage cleaning frequency, prioritizing management responsiveness to escapement events, and evaluating the need for stronger cages to withstand storms.	Procedures and plans and evidence of implementation	3m
17	Achieve and maintain full BAP and ASC certification and develop programs to achieve the continual improvements in good management practices.	Certification	12m
18	Update slaughter practices to humane and best commodity quality practices	Humane slaughter plan and video evidence of implementation	12m
19	Develop Responsible Contractor Policy and SOP to build on the existing ESG policies (incl. OHS policies and human rights policy) that Oceanpick mandates suppliers and contractors to adhere to and ensure that practices are in place to assess contractors and monitor them to comply with the policy. Procedures should include third party audits with requirements aligned against IFC OHS considerations if audits of similar requirements are not available.	Responsible Contractor policy and evidence of selection assessment and monitoring	2m

APPENDIX - SUPPORTING FIGURES

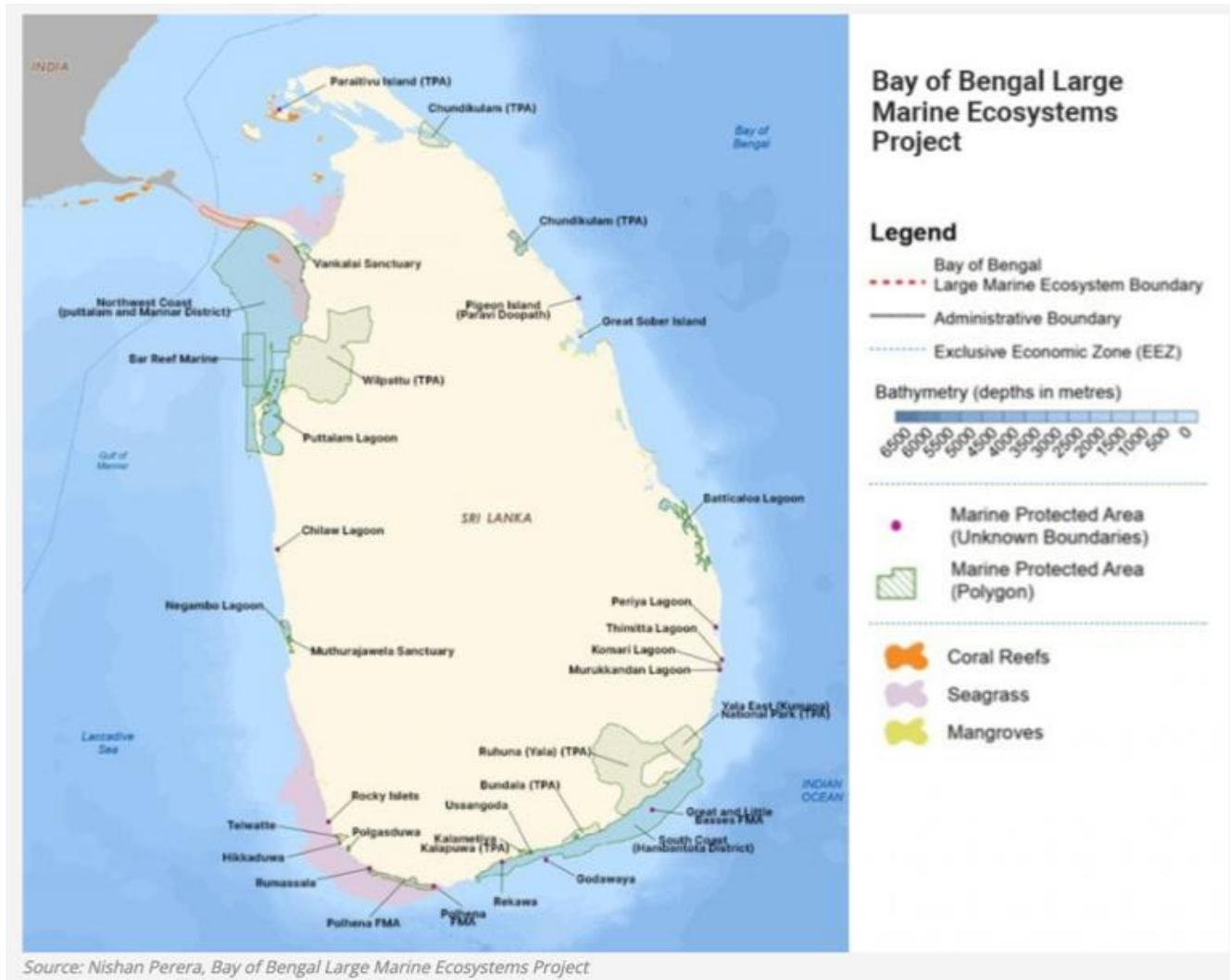


Figure A1 – Location of main reef and protected areas around Sri Lanka.

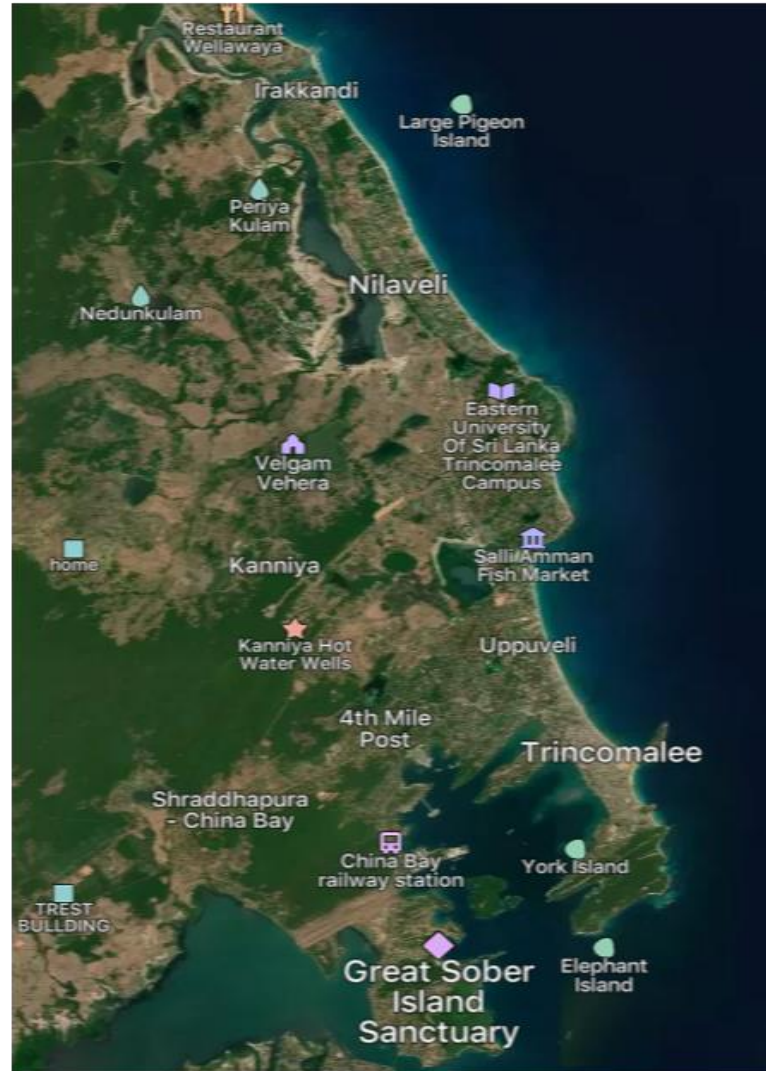


Figure A2: Trincomalee region, northeast Sri Lanka, showing location of Pigeon Island National Marine Park (Large Pigeon Island), Trincomalee town, and the location of Trincomalee Port/inner CodBay harbor, SW of Trincomalee town.

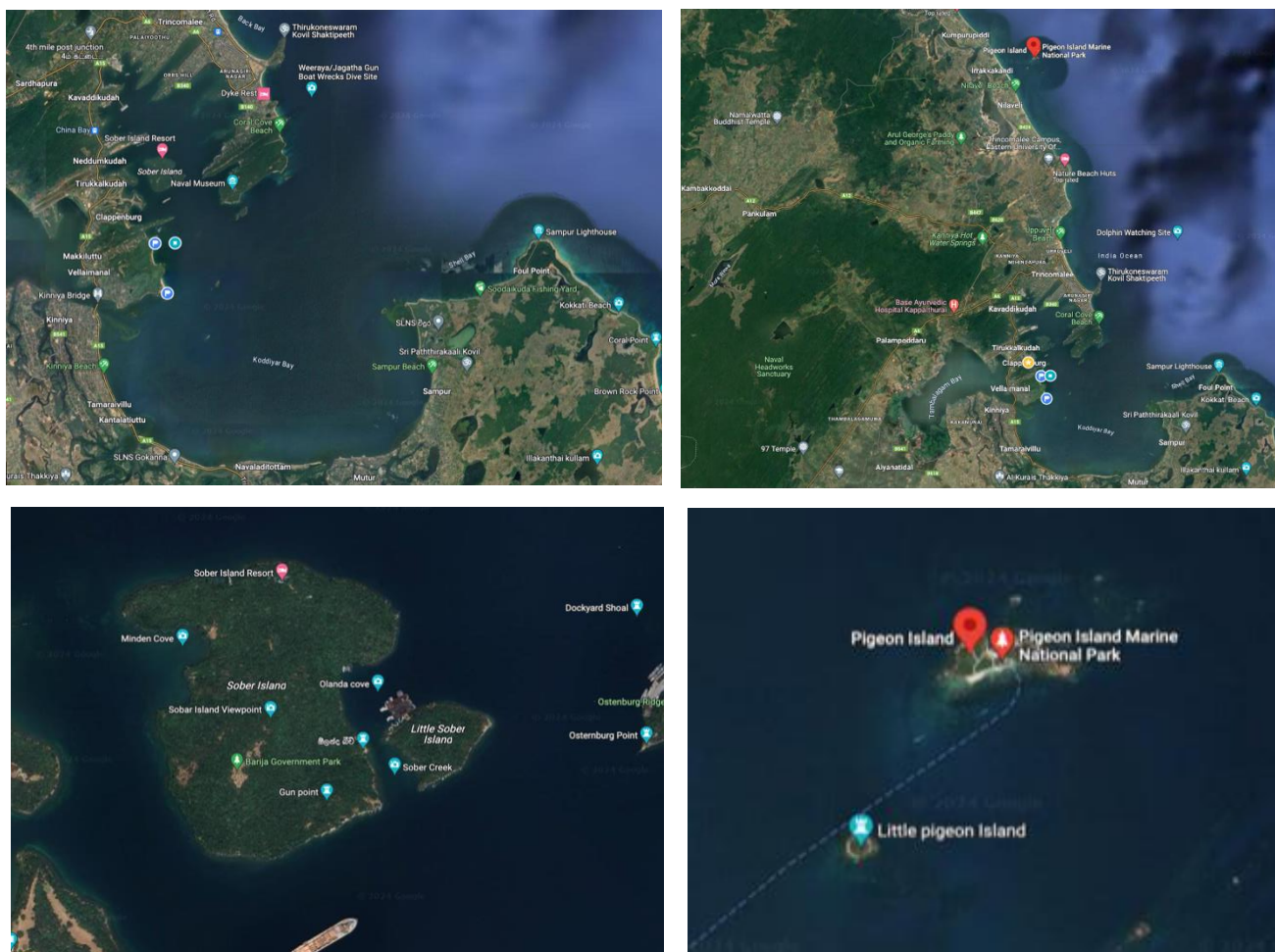


Figure A3: (Top Left) Koddiiyar Bay, Trincomalee, Sri Lanka, showing semicircular Koddiiyar bay with the Trincomalee Inner Harbor above, to the NE. Larger reef structures are visible as turquoise areas on the exposed north and south mouths of Koddiiyar Bay. Greater Sober Island is marked with the pink pin, in the mouth of the Trincomalee Inner Harbor. (Bottom Left) Detail of Greater and Lesser/Little Sober Islands (sanctuaries). (Top Right/Bottom Right - detail) Pigeon Island National Marine Park marked by red pins.

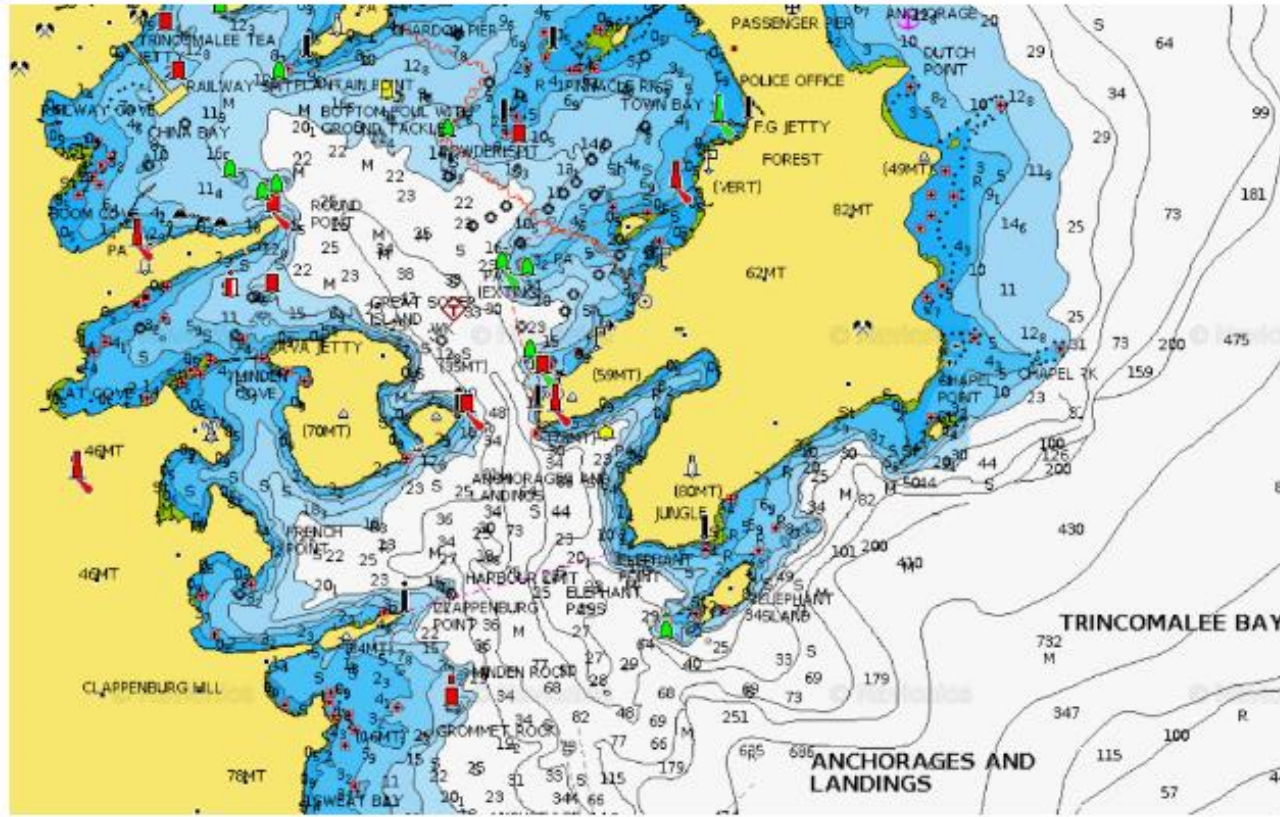


Figure A4 – Bathymetric map showing the location of the deep water canyon in Koddiiyar Bay that extends into the Port of Trincomalee.

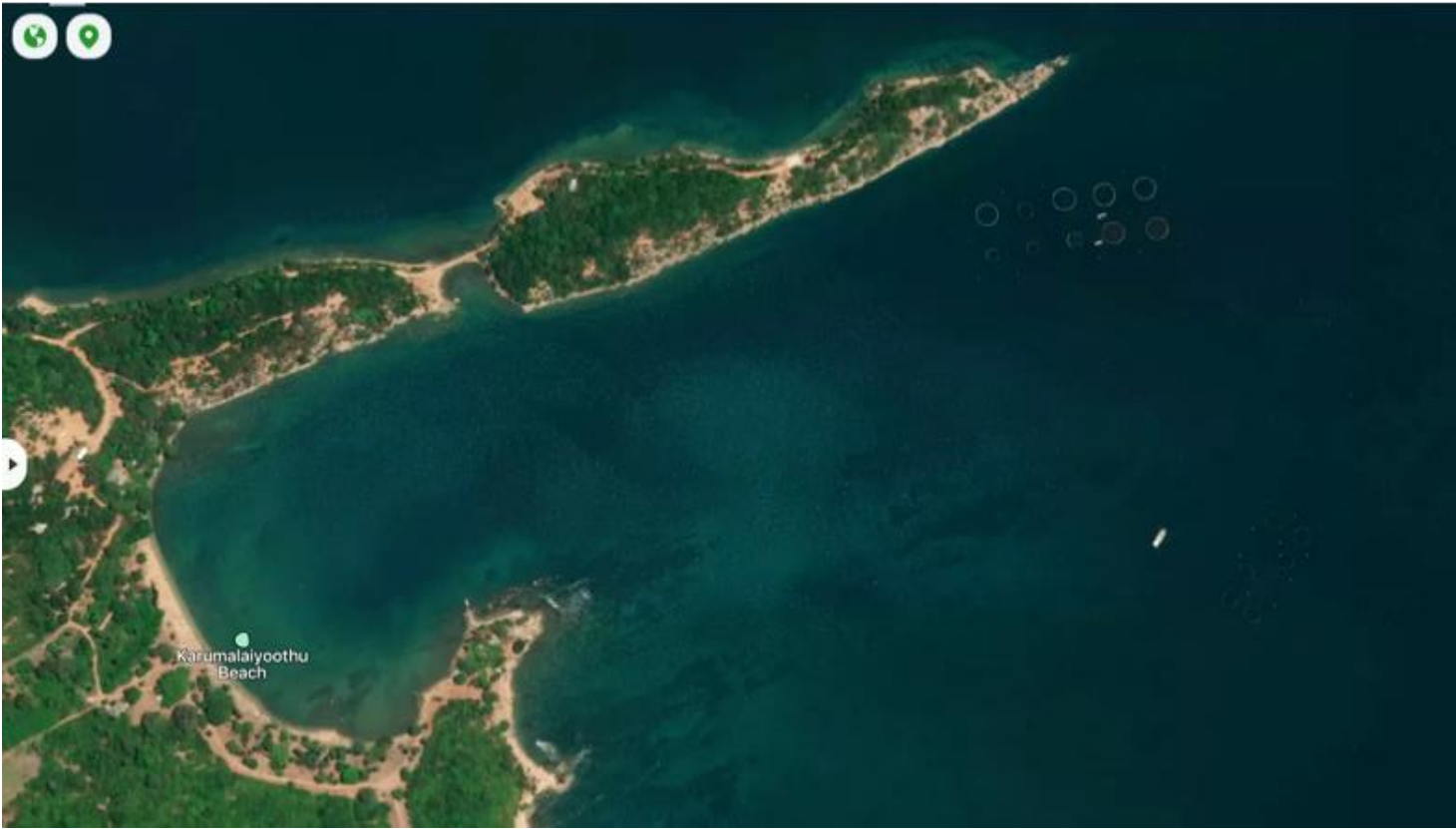


Figure A5 – Dead Man’s Cove/Karumalayoothu showing location of both grow-out farming arrays: Minden II/Clappenburg array (10 circular cages) is located at top right of image, directly south of Old Gun Point spit. The small white fleck in offshore waters shows Oceanpick’s “Mirage” (anchored feed boat), and faintly visible immediately east of the Mirage are the circles comprising the Minden I grow-out array (10 cages).

