

HSE OP06-G03

Ecosystems and Oceans Protection Guideline

1.0 Introduction

The purpose of this Guideline is to detail the processes for operating entities to:

- Identify ecosystems in which they operate and potential impacts
- Implement control measures and monitoring to manage these impacts

1.1 Lessons Learnt

A comprehensive and robust baseline dataset on ecosystems is invaluable if an Operating Entity wants to calculate its impact. For example, an Operating Entity can only scientifically confirm if a dredging campaign has had a significant impact on fish populations if it has undertaken monitoring of fish populations pre-dredge, during the dredging and post dredge. Collection of datasets have been invaluable for managing environmental impacts and are often invaluable for legal cases or claims.

There are also opportunities where Operating Entities can bring around an ecosystem improvement. This could be by improving on historical practices, e.g. stop discharging sewage into the local river or by creating new ecosystems e.g. creation of new mangrove forests which act as Blue Carbon Sites.

2.0 Risks to be Addressed

Disruption or destruction of an ecosystem can lead to legal claims, fines and operational disruption.

There are several potentially negative ecosystem impacts that DP World Operating Entities can have if they are not managed appropriately, these include:

- Habitat loss
- Habitat degradation and fragmentation
- Overexploitation
- Introduction of invasive alien species
- Pollution

Operating Entities are most likely to cause negative impacts to ecosystems when they significantly change their operation or undertake construction. Therefore, ecosystems need to be considered and accounted for during these processes (refer *HSE OP06-G02 Sustainable Design and Construction Guideline*).

In 2018 DP World made a commitment to undertake Ocean Protection as part of the Sustainability Program 'Our World, Our Future'. Oceans was selected as an issue to:

- Highlight their importance
- Join with partners to contribute to ocean conservation
- Support our commitment to protect the ocean's natural resources

In support of this commitment, operating entities should aim to combat ocean pollution and undertake ocean enhancement when possible.

HSE OP06-G03

Ecosystems and Oceans Protection Guideline

3.0 Actions to Take

3.1 Ecosystems and Impact Survey

Ecosystems and impact surveys help an operating entity understand what ecosystems it can impact.

Ecosystems and Impact surveys:

- Identify what habitats could be impacted from operations (onsite and offsite)
- Identify if these habitats are Natural, Modified or Critical as shown in the table below
- Identify what species are within these habitats
- Identify if any of these habitats or species are Legally Protected e.g. IUCN Red List
- Identify if any habitats or species could be significantly impacted by current or planned future operations;
- If impacts on ecosystems are identified, record if known, what potential liability costs there are for potential fines or remediation
- Be undertaken before any significant change in operations or construction that could have an ecosystem impact
- Be recorded and reviewed at least every three years to confirmed if still appropriate then. If not, then renewed

HABITAT	DESCRIPTION
Natural Habitats	Natural habitats are areas composed of viable assemblages of plant and / or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.
Modified Habitats	Areas that may contain a large proportion of plant and / or animal species of non-native origin, and / or where human activity has substantially modified an area's primary ecological functions and species composition. Modified habitats may include, for example, areas managed for agriculture, forest plantations and reclaimed coastal zones. Modified habitats might still have a significant biodiversity value e.g. tree plantations or farmland.
Critical Habitats – Note a Natural Habitat or Modified Habitats can be a Critical Habitat	Critical habitat is defined as areas with high biodiversity importance or value, including: <ul style="list-style-type: none">• Habitat of significant importance to Critically Endangered or Endangered species, as listed in the IUCN Red List of threatened species or equivalent national approaches• Habitat of significant importance to endemic or restricted-range species• Habitat supporting globally or nationally significant concentrations of migratory or congregatory species• Highly threatened or unique ecosystems

The Ecosystem and Impact Survey can be a Desk Top Review exercise or Site Survey. The methodology required depends on the scale, size, operation and location of Operating Entity and this needs to be determined by the Operating Entity Senior Management depending on the risks identified. For example, for a Warehouse operation on an existing industrial area, where all impacts are contained on site then then a Desk Top Review would be most likely be appropriate. For an Operating Entity that is a Port Authority that undertakes regular dredging and has adjacent legal protected mangrove forest, then Site Surveys of the marine and terrestrial environment would be appropriate.

A Desk Top Review should be undertaken first then identify if future Site Surveys will be required.

DESK TOP REVIEW	SITE SURVEYS
A literature / data review and stakeholder engagement exercise.	If the Desk Top Review identifies that there are potential ecosystem impacts but there is not enough

HSE OP06-G03

Ecosystems and Oceans Protection Guideline

DESK TOP REVIEW	SITE SURVEYS
<p>The first step should be to use tools and databases available online or in-country to identify areas and species of conservation importance, to determine whether the project area is located within or near the site. This can be a review of previous environmental assessment, regional studies or can be using regional or global screening tools. A desk top review should be undertaken by using the Integrated Biodiversity Assessment Tool (IBAT) if there are not more appropriate local information sources and tools available. Early consultation with specialists and stakeholders e.g. government regulators and wildlife groups might be required. Other resources that can be used for the analysis include land classification and land use maps, satellite imagery or aerial photographs, vegetation type and ecosystem maps, and topographical and hydrological mapping such as those for watersheds and interfluvial zones.</p> <p>For projects located in critical habitats (including legally protected/recognized areas), Operating Entities should ensure that external experts with regional experience are involved in the Ecosystem and Impact Survey. If habitat is critical due to the presence of critically endangered or endangered species, recognized species specialists must be involved (for example, including individuals from IUCN Species Survival Commission Specialist Groups).</p>	<p>information on the ecosystem or to determine if the Operating Entity has the potential to impact the ecosystem, then site surveys shall be undertaken.</p> <p>For example, if an Operating Entity is cutting down a wood area during expansion or discharging to a river, but it is not known what species are present in these habitats, then a species survey shall be undertaken. These site surveys need to be undertaken by competent professionals with regional experience.</p> <p>The methodology for the site surveys, will depend on what ecosystem is trying to be assessed. The surveys shall be undertaken as per any regional/national requirements or standards and work to scientifically approved techniques for that type of survey.</p>

ECOSYSTEMS AS A SIGNIFICANT ENVIRONMENTAL ASPECT AND IMPACT

Once an Operating Entity has identified what ecosystems it could impact, the status of these ecosystems and any related legislation then as per *HSE OP06 Operational Controls for Environment* it will be able to identify if ecosystem impacts are a Significant Aspect or Impact for the Operating Entity.

3.2 Control Measures and Mitigation Hierarchy

When avoidance of ecosystem impacts is not possible, control measures for the activity will be implemented that conform to the Mitigation Hierarchy as shown in Appendix 1.

All control measures will be designed to achieve no Net Loss for the ecosystem and where feasible achieve a Net Gain for the ecosystem over the long term.

3.3 Specific Habitat Type Requirements

NATURAL HABITATS

The Operating Entity should not significantly impact Natural Habitats, unless the below requirements are met:

- There are no technically and financially feasible alternatives
- No other viable alternatives exist for the activity to occur on modified habitat
- Any conversion or degradation is mitigated according to the mitigation hierarchy

LEGALLY PROTECTED HABITATS

The Operating Entity should not significantly impact Legally Protected Habitats, unless the below requirements are met:

HSE OP06-G03

Ecosystems and Oceans Protection Guideline

- There are no technically and financially feasible alternatives
- It has been confirmed that the activity in such areas is legally permitted
- The Operating Entity has consulted legally protected area managers and other stakeholders on the activity
- Control measures implemented will promote and enhance the conservation aims and effective management of the habitat

CRITICAL HABITATS

The Operating Entity should not significantly impact Critical Habitats, unless the below requirements are met:

- There are no technically and financially feasible alternatives
- No other viable alternatives exist for the activity to occur in habitats of lesser biodiversity value
- All legal requirements granting approval for the activity in or adjacent to a critical habitat has been complied with
- The potential adverse impacts on the habitat will not lead to measurable net reduction or negative change in the parameters for which the critical habitat was designated
- The project is not anticipated to lead to a net reduction in the population of any Critically Endangered, Endangered, or restricted-range species
- The project's control measures will achieve net gains of those biodiversity values for which the critical habitat was designated

If any of the above criteria can not be met, then the activity and the reason why it needs to continue should be signed off by the Senior Management of the Operating Entity and the Region / Division SEA before it can proceed.

3.4 Monitoring

The best monitoring is monitoring of the ecosystem itself however this is often not possible, and monitoring will need to be of control measures or the impact source or pathway. For example, if a Port identifies that surface water discharges from the port are likely to significantly impact fish populations, then it either needs to undertake direction monitoring of the ecosystem e.g. annual fish population surveys or undertake regular monitoring of the surface water quality to confirm that there are appropriate water quality levels.

3.5 Oceans Protection and Enhancement

Marine ecosystem topics that Marine Operating Entities need to manage are Dredging Impacts, Blue Carbon Sites and Management of the Spread of Invasive Species.

DREDGING MANAGEMENT

Dredging Management Plans should:

- Be tailored to the project and shall define the dredging methodology
- Identify and assess dredged materials disposal options and sites
- Characterize the chemical and physical composition and behaviour of the sediments to be dredged
- Characterize the environmental baseline where the port, harbour, and/or terminal (and disposal area) will be located
- Define the area of influence with identification, assessment and modelling of sensitive ecological receptors (usually through sediment plume propagation modelling)
- Define mitigation measures to address adverse impacts (for example on aquatic habitat, biodiversity, and water quality), and relevant environmental monitoring parameters and indicators

PORTS AND TERMINALS VESSEL WASTEWATER FACILITIES

MARPOL requires the following measures for the collection, storage, and transfer and / or treatment services, and facilities of sufficient capacity and type for all wastewater generated by vessels at the port:

- Oily waste and wastewater need to be collected in barges, vehicles, or central collection systems and storage tanks. The capacity of oily waste collection is to be based on applicable MARPOL provisions
- Wastewater with noxious chemicals from bulk tank cleaning shall be collected through appropriate on-site or off-site treatment prior to discharge. Incompatible substances are not be mixed in the collection system. Treatment methods need to be based on the effluent characteristics

HSE OP06-G03

Ecosystems and Oceans Protection Guideline

- Ports need to provide ship operators with details on the pertaining ballast water management requirements, including the availability, location, and capacities of reception facilities, as well as with information on local areas and situations where ballast water uptake shall be avoided
- Port facilities that conduct cleaning or repair of ballast tanks need to be equipped with adequate reception facilities able to prevent the introduction of invasive species. Treatment technologies may include those applied to other effluents accepted in port reception facilities or more specific methods such as filtration, sterilization (e.g., using ozone or ultraviolet light), or chemical treatment (e.g., biocides)
- Sewage from ships need to be collected and treated on-site or off-site appropriately

VESSEL WASTEWATER CONTROLS

Adhering to MARPOL requires Operating entities managing vessels to:

- Segregate and dedicate ballast tanks and crude oil washing activities as well as maintain a written record of cargo and ballast operations; to prevent or control the release of oil or hazardous materials that may be associated with ballast waste
- Follow relevant international regulations and guidelines for management of ballast water, to prevent the transfer of invasive alien species and communicable diseases
- Use and operate a certified on-board sewage treatment system, as applicable according to international standards
- Collect in sanitary wastewater in holding tanks onboard and deliver to port reception facilities for further treatment at land-based wastewater treatment plants, in accordance with international regulations and guidance, for vessels operating in coastal waters
- Discharge all bilge water separated oily residues, and sludge to port reception facilities, except where ships are equipped with certified oily water separators (OWS), which may discharge treated water to sea in accordance with MARPOL provisions

INVASIVE SPECIES IN BALLAST WATER

Adhering to the IMO Ballast Water Management Convention requires vessels to:

- Manage their ballast water and sediments to a certain standard, according to a ship-specific ballast water management plan
- Carry a ballast water record book and an international ballast water management certificate
- Install an on-board ballast water treatment system as per the *IMO Code for Approval of Ballast Water Management Systems*. Until an on-board ballast water treatment system has been installed, ships should exchange ballast water mid-ocean

BLUE CARBON

If existing Blue Carbon sites are damaged, then Operating Entities should compensate this with the creation of new larger Blue Carbon mitigation sites.

If Operating Entities believe there is opportunity to undertake Oceans Enhancement in their vicinity, then they should contact their Region / Division SEA.

4.0 Who is Responsible

POSITION	RESPONSIBILITY
Senior Management	<ul style="list-style-type: none">• Ensure that Ecosystem survey has been undertaken• Ensure that there is a review of the Ecosystem survey and of identified operating impacts are least every three years, or when significant changes.• Ensure that there are adequate resources to identify significant ecosystems aspects and impacts, monitor and control these• Implement ecosystem control measures as per the mitigation hierarchy and the specific habitat type requirements.• Ensure ecosystem and marine protection impacts are appropriately considered during business decisions.

HSE OP06-G03

Ecosystems and Oceans Protection Guideline

POSITION	RESPONSIBILITY
Mid Management	<ul style="list-style-type: none">Implementation of Ecosystem Monitoring Program and escalation.Ensure Ecosystem and Marine Protection Control Procedures are implemented.
Supervisors	<ul style="list-style-type: none">Implement Ecosystem and Marine Protection Control Procedures and brief workers.
Workers	<ul style="list-style-type: none">Work to the Ecosystem and Marine Protection Control Procedures.

5.0 Available Tools

- [The World Bank – Environmental & Social Framework for IPF Operations – Guidance Note ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources.](#)
- [Integrated Biodiversity Assessment Tool](#)
- International Convention for the Prevention of Pollution from Ships (MARPOL)
- IMO – International Convention for the Control and Management of Ships Ballast Water and Sediments
- IFC EHS Guideline: Ports, Harbours and Terminals
- IFC EHS Guideline: Shipping

6.0 Document History

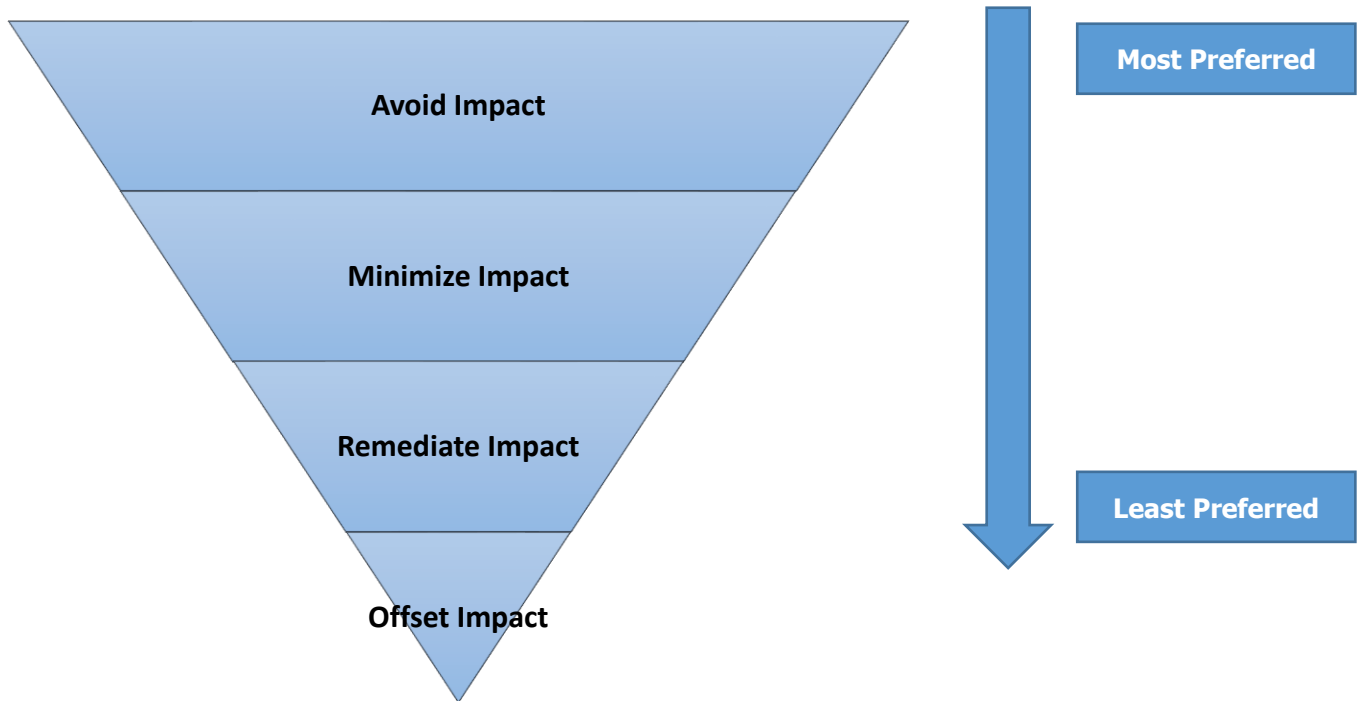
DOCUMENT CONTROL		
Document Custodian:	Group HSE Manager	
Document Approver:	Vice President Group HSE	
REVISIONS		
#	DATE	AMENDMENTS
0.1	July 2019	Initial draft
0.2	August 2019	Updated throughout based on consultation

HSE OP06-G03

Ecosystems and Oceans Protection Guideline

7.0 Appendix

7.1 Mitigation Hierarchy



AVOID IMPACT	Avoid the impact to the ecosystem by moving to a different area or changing the strategy. For example: Move planned expansion location so deforestation doesn't occur.
MINIMIZE IMPACT	Minimize the harm to the ecosystem, can be undertaken by adhering to best practices. For example: Decrease footprint of expansion area or keep natural vegetation.
REMEDiate IMPACT	Fix the ecosystem impact after the initial impact. E.g. replant areas, artificial habitat creation, incorporate landscape areas in the design of planned expansion.
OFFSET IMPACT	Create new habitat offsite. E.g. Nearby area is planted to create new forested area.