

Northern Territory Pearl Oyster Industry Compliance Plan



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1. Definitions

“**broodstock**” means pearl oysters which are intended to be used for breeding for the purposes of hatchery production;

“**cultured pearl**” means a pearl produced by a pearl oyster as a result of the application of pearl culture techniques;

“**Ecologically Sustainable Development (ESD)**” means using, conserving and enhancing the community’s resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.

“**Ecological Processes**” includes the key elements of ecosystem structure and function (and refers to any changes as a result of the fishery that cause serious or irreversible harm to key elements of ecosystem structure and function – MSC PI 2.5.1)

“**Environment Management Plan**” a document that describes likely impacts a development may have on the surrounding environment and the proposed environmental commitments, safeguards, monitoring, and management systems measures that will be adopted to address these issues (Attachment 1).

“**first operations**” is the terminology used to identify the pearl oyster seeding operations undertaken on a pearl oyster, involving the implantation of mantle tissue graft along with a nucleus to initiate the formation of a pearl sac to produce a nucleated cultured pearl;

“**go-back pearl oyster**” these are pearl oysters that have been presented by the licensee to the pearl seeding technician but that are not presently in the appropriate condition for the seeding operation. This could be a result of non-maturity, or the oyster presenting with sub-optimal health indicators (such as a retracted mantle);

“**habitat**” refers to distribution of habitat where the *P. maxima* fishery operates and the impact of the fishery on habitat structure and function (MSC PI 2.5.1)

“**harvesting**” means extraction of pearls from pearl oysters, but does not include removing pearls from dead pearl oysters in the course of pearl farming;

“**hatchery**” means a place where authorised hatchery activities may be carried out;

“**hatchery activities**” means all or any of the following activities:

- broodstock collection – the taking of pearl oysters for breeding stock;
- spat and pearl oyster production – the production and growout of juvenile pearl oysters (spat) to maturity by acclimatisation, propagation, breeding, rearing or raising;
- spat collection – the collection of spat from the wild;
- spat and broodstock movement and holding – the moving, holding or storing of spat, pearl oysters or broodstock
- processing spat or unseeded pearl oysters or broodstock; and
- purchasing, selling or otherwise dealing in spat, pearl oysters or broodstock;

“**hatchery shell**” means pearl oysters grown out from spat produced or collected as a hatchery activity;

“**lease**” means pearl farm lease;

“licence” means any of the following:

- a pearl oyster fishing licence;
- a pearl oyster industry culture licence; and
- any other licence prescribed by the regulations;

“licensee” means the person holding a licence;

“longline” means a device from which designated containers or panels containing pearl oysters are attached or by which designated containers or panels containing spat or pearl oysters are tethered, supported or held;

“nucleus” typically refers to a spherical bead that is implanted within a pearl oyster to act as a scaffold for the production of a ‘round’ pearl. In the mabé pearling industry a nucleus is a plastic hemispherical bead that is attached to the shell to generate a half pearl;

“pearl” denotes a biomineral gem formed within a pearl oyster, including natural or cultured, whole, half, baroque, seedless (keshi) or blister pearls;

“pearling” or **“pearling activity”** means all or any of the following activities –

- pearl oyster fishing – searching for or taking adult ;wildstock shell, moving and holding those wildstock shell prior to the application of pearl culture techniques to those pearl oysters;
- acquiring juvenile pearl oysters (spat) – produced or collected under the authority of a licence
- purchasing, selling or otherwise dealing in pearl oysters;
- pearl farming;
- spat and pearl oyster growout – holding, moving and growing out of spat acquired under (b), including the holding, moving and growing out of unseeded pearl oysters;
- carrying out pearl culture techniques; and
- processing pearl oysters;

“pearl culture techniques” includes any technique or practice used to produce and to harvest pearls, or to encourage the production of pearls from pearl oysters and includes seeding, reseeding and harvesting pearls from pearl oysters, as well as moving and holding pearl oysters in connection with those activities;

“pearl farm lease” means a pearl farm lease granted under the Crown Lands Act

“pearl farming” means all or any of the following activities –

- husbanding seeded pearl oysters to produce pearls on a pearl farm lease, including holding, moving and growing seeded pearl oysters in connection with their husbandry;
- husbanding unseeded wildstock pearl oysters taken pursuant to an annual wildstock quota entitlement;
- growing out spat on a nursery site, including: husbanding, growing out moving and holding stocks of unseeded hatchery shell; and
- such other activities as are prescribed;

“pearl oyster” means any of those species of bivalve molluscs declared under the Act to be pearl oysters to which this Act applies and includes the eggs, sperm, spat, larvae and shell of such pearl oysters and any pearls contained in such pearl oysters;

“**pearl oyster fishery**” has the meaning attributed to that expression by the Act;

“**pearling gear**” means any longline, equipment, implement, device, apparatus or other thing used, or designed for use for, or in connection with, pearling or hatchery activities;

“**precautionary principle**” is a concept that asserts that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing measures to prevent environmental degradation.

“**re-seeding operation**” means the specific pearl culture technique of inserting a nucleus into an established pearl sac within a pearl oyster,, which generally occurs after the harvesting of a pearl from that pearl oyster;

“**saibo pearl oyster**” is a donor pearl oyster sacrificed to supply mantle tissue (saibo) which is inserted into a recipient pearl oyster at the time of seeding;

“**seeded shell**” means a pearl oyster which has undergone pearl culture techniques and is considered to contain a cultured pearl;

“**seeding**” (see **first operation**) means the specific pearl culture technique of the implantation of mantle tissue graft along with a nucleus to initiate the formation of a pearl sac to produce a nucleated cultured pearl, either for the first time or when the technique is applied to x-ray negative shell;

“**1R**” means a pearl oyster that has been subjected to the initial first seeding operation for the production of its first cultured pearl;

“**2R**” means a pearl oyster that has been subjected to harvest and re-operation for the first time,for the production of its second cultured pearl;

“**3R**” means a pearl oyster that has been subjected to a second harvest and re-operation for the production of its third cultured pearl;

“**spat**” means juvenile pearl oysters where the dorso-ventral length (shell height) measures less than 60mm;

“**virgin pearl oysters**” means adult pearl oysters that have been fished from the wild or produced in a hatchery, not previously subjected to any pearl seeding activity;

“**wildstock shell**” means adult pearl oysters, other than spat or broodstock, that are fished from wild oyster beds;

“**x-ray negative shell**” means wildstock shell or hatchery stock shell that have been subjected to seeding, but which have not, upon x-ray examination, retained the nucleus or the nucleus is incorrectly positioned within the host oyster body for successful round pearl production;

“**zone**” means an area of waters declared to be a zone under the NT Pearling Zoning Policy.

2. Introduction

The Northern Territory Pearling Industry cultures *Pinctada maxima* silverlip pearl oysters for the production of Australian South Sea Pearls at a small number of farms dispersed around the Northern Territory (NT) coast. The industry operates under a quota system that acts as the principal regulatory instrument for the industry. The quota system helps to ensure sustainable production of Australian South Sea Pearls.

Licensees may seed a total of 120 units from fishery licences and 300 units from pearl oyster culture industry licences, whereby one unit currently equals 1,150 pearl oysters. Licensees can substitute and seed hatchery propagated pearl oysters from their Pearl Oyster Fishing Licence allocation.

This plan outlines the following:

- The short term and long-term objectives that are specific to the *Pinctada maxima* industry in the NT;
- The monitoring of seeding rights and the number of pearl oysters that are seeded during first operations;
- Biosecurity issues relating to the translocation of pearl oysters; and
- The environmental considerations of operating a pearl farm in the NT.

Pearl oyster fishing is permitted under licence in the NT and this Plan provides for fishing compliance in section 4.1.

The NT Government works closely with the Western Australian Government to ensure that the Australian South Sea Pearl reputational market advantage is maintained through complementary management arrangements, which in turn require complementary compliance arrangements.

3. Objectives of the Compliance Plan

The key objectives of this plan are to:

1. Ensure that the NT Pearling Industry operates within the legislative requirements of the:
 - a. Fisheries Act 1998;
 - b. Fisheries Regulations 1992;
 - c. Pearl Oyster Culture Industry Management Plan 1998;
 - d. Marine Act 1981 (Lease marking).
2. Ensure that the pearling industry in the NT maintains compliance with its seeding quota.
3. Ensure that the NT Pearling Industry operates in a manner consistent with the principles of Ecologically Sustainable Development (ESD) in areas of Fisheries jurisdiction, as provided for in the definitions section.

4. Background

In addition to legislative controls, the NT Pearling Industry is regulated through the allocation of fishing and hatchery pearl oyster units; whereby:

- Pearl oyster hatchery units are prescribed to limit the total number of pearl oysters that may be seeded in order to ensure sustainability of the industry, and
- Pearl oyster fishing units are prescribed to ensure sustainable management (catch) of the wildstock resource.

Pearl farm Crown Leases (sea leases) are issued under the Crown Lands Act and administered by Department of Infrastructure, Planning and Logistics. The Crown leases contain a set of conditions that must be adhered to, including operating under an EMP.

Most pearl farm land bases are on Aboriginal-owned land and licensees have a lease agreement with the Traditional owners for these sites. Environmental management conditions for these sites are normally included in the lease agreements.

An EMP is also a condition under a Pearl Oyster Culture Industry licence. NT Fisheries monitors compliance with respect to matters in an EMP covered by the Fisheries Act and subordinate legislation and policies.

NT Fisheries notes that licence holders operating within the NT Pearling Industry must comply with the following legislative requirements, however, it is not under the jurisdiction or expertise of NT Fisheries to monitor compliance with these requirements:

- Commonwealth Environment Protection and Biodiversity Conservation Act 1999
- Environmental Assessment Act 1982
- Territory Parks and Wildlife Conservation Act 1976
- Water Act 1992
- Weeds Management Act 2001
- Work Health and Safety (National Uniform Legislation) Act 2011
- Food Act 2004
- Dangerous Goods Act 1998
- Waste Management and Pollution Control Act 1998
- Public and Environmental Health Act 2011
- Australian Maritime Safety Authority Act 1990
- Any other legislation governing the use of the land and marine environment in which pearling activities occur.

5. Principles of Pearling Compliance

5.1. Fishery-Specific Environmental Objectives

This plan does place some focus on meeting the NT Fisheries Harvest Strategy Policy in terms of fishery specific objectives with respect to the aquatic environment pursuant to the EPBC Act and other legislation (<https://industry.nt.gov.au/publications/fisheries-publications/harvest-strategy-policy-and-guidelines>).

In addition to supporting the biological sustainability of this fishery resource (the general principle that the management framework maintains the target *Pinctada maxima* biomass at a level where the main factor affecting recruitment is the environment), this plan acknowledges and assists in meeting broader ecological

objectives in alignment with statutory ESD and the precautionary principle. This plan serves to ensure that the impact of fishing and related activity does not result in serious or irreversible harm to:

1. Bycatch species populations;
2. ETP species populations
3. Habitat structure and function; and
4. Ecological processes.

5.2. Seeding Compliance

Given the philosophy underpinning the pearling seeding quota system, an effective compliance regime is considered important to ensure its integrity.

The ongoing maintenance of a seeding compliance system will be in consultation with the industry and the Western Australian Government. This Plan should be reviewed periodically to ensure that it achieves its primary objective.

The seeding compliance system is risk-based, as efficient and economical as possible whilst maintaining seeding quota integrity and not unduly interfere with a licensee's operations. Any change to the seeding compliance management system affecting licensees must be discussed with licensees prior to implementation.

A comprehensive farm audit conducted by a Fisheries officer to carry out seeding compliance checking during seeding and verifying numbers of seeded pearl oysters imported into the NT and/or a comprehensive farm audit will be the key focus point of the seeding compliance part of this Plan.

Companies will be required to keep accurate stock records to allow a Fisheries officer to validate first seeded pearl oyster numbers and farm stock numbers (ref 6.2 and 6.8).

There is no requirement for the specified physical separation of the various sources of pearl oysters on a farm lease, but the ability of licensees to readily identify the location, classes and numbers of unseeded and seeded pearl oysters must be maintained and this information made available to a Fisheries officer. This Plan does not outline a limit on the number of unseeded hatchery propagated oysters that can be held on farms.

5.3. Farm Audits

There will be annual farm audits to monitor the operation of the farm against Fisheries legislation and Pearling licence conditions. Compliance with respect to matters in the EMP covered by the Fisheries Act will also be audited. Industry will facilitate a Fisheries officer access to the relevant farm sites at their cost.

If no seeding is undertaken, or no seeded oysters are imported in any given licensing year, a Fisheries officer will still undertake an annual audit of the pearling activities at the farm to ensure that all other conditions associated with the pearling licences have been met. This can include observation of expired leases to ensure removal of infrastructure on expired lease sites.

6. Key Components of NT Pearling Compliance

Key compliance areas covered in the plan are:

- Monitoring and reporting on ESD performance where covered by Fisheries' responsibilities;

- Compliance with total first operations seeding rights;
- Adherence to biosecurity protocols and requirements;
- Ensuring pearl farm operations are in line with licence and/or lease conditions;
- Completion and submission of required compliance documentation.

6.1. ESD Compliance

6.1.1. Bycatch of Non-Endangered, Threatened and Protected (ETP) species

Key issue: Ensuring that the impact of fishing does not result in serious or irreversible harm to bycatch (non-ETP) species populations:

- Undertaking periodic desktop assessments on the taking of by-catch (noting that *P. maxima* are taken individually by hand by divers no other animals are taken);
- Assessment of ESD compliance will be undertaken with each revision of this compliance plan will be done. The current assessment (2023) identified no non-ETP species affected by pearl oyster fishing.

6.1.2. Interactions with Endangered, Threatened and Protected (ETP) species

Key issue: Ensuring that the impact of fishing and related activity does not result in serious or irreversible harm to ETP populations:

- Fisheries legislation requires mandatory notification (logbook requirement) of interactions with ETP species;
- Undertake periodic assessments on interactions with ETP species that takes into account current management arrangements, number of logged/reported interactions and available research information;
- Assessment on each revision of this compliance plan will be done. The current assessment (2023) of the compliance plan is no ETP species affected by fishing.

6.1.3. Habitat structure and function

Key issue: Ensuring that the impact of fishing, anchoring and related activity does not result in serious or irreversible harm to habitat structure and function:

- Undertake periodic assessments on risk for benthic habitats in terms on effects on structure and function, from fishery activities;
- Assessment on each revision of this compliance plan will be done. The current assessment (2023) of the compliance plan is no habitat affected by fishing.

6.1.4. Ecological processes

Key issue: Ensuring that the impact of fishing and related activity does not result in serious or irreversible harm to ecological processes:

- Undertake periodic assessments on risk ecological processes in terms on effects on structure and function (e.g. trophic effects, depletion of top predators, changes in the size, composition, diversity ecological community) from fishery activities;

- Assessment on each revision of this compliance plan will be done. The current assessment (2023) of the compliance plan is no harm to ecological processes by pearl oyster fishing.

6.1.5. Periodic Review of ESD Components

If a future assessment of any of the above ESD components identified an undesirable (high) level of risk to ecological processes in the context of fisheries activities then a risk management assessment will be undertaken. This will consider all available information and develop/implement strategies designed to generate an acceptable (moderate or lower) risk level to the relevant ESD component.

6.2. Seeding Compliance

Key seeding compliance areas are:

- Seeding of pearl oysters within total first operations seeding right;
- Completion and submission of appropriate documentation.

The following activities allow for seeding compliance checks to be undertaken:

- Licensees must submit an Annual Notice of Intent pre-season, as outlined in s6.1, by March of that year to assist with compliance planning;
- Licensees must declare intent to commence a pearling activity such as seeding, harvest or oyster translocations through an electronic notification (such as email);
- Annual declaration of inputs and outputs for the current season's pearl oysters;
- Audit validation of total first operation seeding against a licensee's quota using a stockholding validation system/record keeping/declaration of inputs and outputs of seeding and transport activities;
- Licensees to maintain prescribed records on site.

6.3. Farm compliance

Key farm compliance areas are:

- Compliance with quarantine, translocation and disease management protocols and requirements as per Fisheries Act s11 movement permits or other orders by the Director of Fisheries;
- Compliance with the Pearling licence conditions;
- Compliance with Fisheries Legislation
- Compliance with Fisheries-specific components of EMP
- Compliance with Fisheries legislation governing the use of the land and marine environment in which pearling activities occur.

The following activities allow for compliance checks to address these areas:

- Annual farm audit (facilitated by licensee) to check on applicable license and lease conditions relating to pearling activities and compliance with Fisheries-specific legislative requirements.

6.4. Licensing and Registration Compliance

Regular reporting in a nutshell

1. Licensees must submit an Annual Notice of Intent pre-season, as outlined in s6.1; (by March of the current year) to assist with compliance planning
2. Bi-annual pearl farm summary as approved by the Director are to be submitted to the Director of Fisheries in writing within 28 days of the following dates:
 - a. 31 December;
 - b. 30 June.
3. Report on holding of 60-90mm and >90mm unseeded pearl oysters on 30th June and 31st December of each year.)
4. Post seeding report: Notification (via email or other means but must be verifiable) at the completion of seeding the type and number of oysters seeded.
5. Notification (via email or other means but must be verifiable) of the intent to commence seeding operations. Any virgin pearl oysters seeded for 'keshi' pearl production will be considered as part of a licensee's total first operations seeding rights.
6. For all translocations within the NT or into the NT an S11 permit is required. Health certification is not required if it is the same health zone or if risk assessment indicates low risk of known disease or environmental (e.g. genetic) effects. These permits can be processed quite quickly (within two working days once all information such as a health cert if required is provided).

Pearl Oyster Fishery and Pearl Oyster Culture licensing fees are payable before 01 January each year. If instalments are not paid by 01 January all fishing operations must cease until the instalment is paid as the licence will be deemed to have expired.

Every person in charge of an active fishing operation requires 'Approved Operator' status. A commercial fishing licensee must appoint an Approved Operator to undertake fishing operations and paperwork must be submitted in advance to Fisheries licensing for new operators seeking approval.

For licensees who submit returns, renewal applications for licenses cannot be processed until the Aquaculture Statistical Returns have been submitted and accepted by the Returns Officer for that year.

All vessels used on commercial fishing licenses must be registered and will not be listed on your licence renewal or instalment unless currently unregistered.

7. NT Pearling Industry Compliance Framework

The following provides a detailed account of a licensee's compliance requirements to ensure that the principles of this Plan are met. Non-compliance of this framework may attract penalties that are governed under pearling and fisheries legislation.

7.1. Notice of Intent

- An Annual Notice of Intent will be required to be submitted pre-season (by March of that year) by licensees, setting out annual projected fishing, seeding, transport and harvest timeframes. This will allow for the development of efficient compliance planning particularly regarding compliance with quota which can be monitored and strengthened by the declaration of reporting requirements for pearling companies progressively through the year.

- Companies are encouraged to meet with Fisheries to discuss previous season outcomes and upcoming Annual Notice of Intent. It is envisaged that this will occur around February each year.
- The Annual Notice of Intent includes;
 - Number of total first operation pearl oysters seeded in the previous year.
 - proposed total first operation pearl oysters that will be seeded that year including:
 - pearl oyster fishing units;
 - pearl oyster hatchery units; and
 - any temporary transfer of quota units (fishing and hatchery units) including the transferee's name and licence number and number of units.
 - Details about first seeding operations, including licensee's name and the number of pearl oysters to be seeded at different locations, particularly the state in which seeding will take place.
 - Details about wildstock fishing activities including licensee's name and licence number and expected fishing numbers.
 - The number of fishing unit oysters to be substituted with hatchery-propagated oysters (if relevant).
 - Predicted timings for transport, harvest and/or hatchery production activities.
 - Attached temporary or permanent quota transfer forms between NT licensees.

As this information is commercial in confidence it will not be released by Fisheries unless written approval of the company involved is provided.

7.2. Seeding on a Pearl Farm (first operations)

- Notification (via email or other means but must be verifiable) of the intent to commence seeding operations.
- Seeding and re-seeding activities are not allowed to take place simultaneously unless there is an observer on board but can occur consecutively.
- Licensees must maintain on-farm records and/or plans that allow for the identification of different groups of seeded pearl oyster panels.

7.3. Harvest and Re-Seeding

- Notification (via email or other means but must be verifiable) of the intent to commence harvest and re-seeding operations, including the harvest of pearl, pearl meat and mother of pearl shell.
- Licensees must maintain on-farm records and/or plans that allow for the identification of different groups of seeded pearl oyster panels.

7.4. Un-seeded Pearl Oysters

Un-seeded oysters include spat and go-backs.

- Licensees are to maintain on-farm records and/or plans that allow for the identification of different groups of unseeded pearl oysters.

- Licensees are to provide estimates of holdings of 60-90mm and >90mm spat in their Aquaculture Statistical Return.

7.5. Translocation of Pearl Oysters between the NT and WA

This section of translocation compliance only applies to the movement of live pearl oysters from WA waters into NT receiving waters.

- A licensee's Annual Notice of Intent will contain a projected transport schedule for all pearl oysters outlining approximate months of transport. Confirmation of details for each trip and vessel (the origin, destination, estimated number and production status of shell and the transport dates) shall be provided during the year. *Fisheries Act* Section 11 permit application to list final transport schedule.
- A *Fisheries Act* Section 11 permit is required before any translocation occurs and movements must comply with this permit and the NT Pearl Oyster Zoning Policy (Attachment 2). Submission of the approved application form for importing pearl oysters into the NT is required before a permit will be considered.
- Companies are to facilitate access to transport vessels by a Fisheries officer to allow for verification of the number and type of imported pearl oysters.
- A health certificate is a requirement for the S11 permit to be issued. This permit is issued under the translocation policy for pearl oysters.
- Any changes to a Section 11 permit transport conditions must be re-submitted to Fisheries for approval and permit correction. Such re-submission must be provided at least one working day prior to the transport.
- Licensees are to declare through email or other means the total shell unloaded at destination upon completion of the translocation.
- Translocation of stock from the NT to WA will be covered by the Annual Notice of Intent. Western Australian translocation requirements must be met, including health certification and appropriate permits. An NT s11 for movement of stock within the NT will also be required.

7.6. Translocation of Pearl Oysters between Farm Sites in the NT

This section only applies to live pearl oysters, which are being translocated within NT receiving waters. It applies to movement of pearl oysters between different licence holdings, and not between sea leases held under one licence in the same health zone.

- The Annual Notice of Intent contains a projected transport schedule for all pearl oysters outlining approximate months of transport. Confirmation of details for each trip and vessel (including the origin, destination, estimated number and production status of shell and the transport dates) shall be provided during the year. Final transport schedule to be submitted to Fisheries no less than three days prior to a transport taking place.
- The transport schedule must be re-submitted to Fisheries if there is a major change, such as the pick-up location, destination or trip sequence. Such re-submission must be at least 24 hours prior to the transport occurring. These transport alterations can be submitted via email.
- All movements onto farms must comply with the NT Pearl Oyster Zoning Policy unless otherwise approved.

- A *Fisheries Act* Section 11 permit is required to be submitted to Fisheries Licensing to obtain an annual permit for the movement of pearl oyster between NT farms that are in the same health status zone as defined in the NT Pearl Oyster Zoning Policy. Health certification is not required for movement within the same health zone.
- Notification of pearl oyster movement between farms is to be submitted to Fisheries Licensing by email prior to transport taking place.
- Licensees are to declare through email or other means the total shell unloaded at destination upon completion of the translocation.

7.7. Farming operations – Hatchery

- The Annual Notice of Intent declares the hatchery operating period.
- Hatchery operation as per appropriate hatchery operational standards.
- Transport of broodstock as per appropriate hatchery operational standards. This compliance plan does not outline a limit to the number of broodstock held in the hatchery at any one time, provided they are all accounted for.
- A stand-alone hatchery operator must use broodstock from contracting quota unit holder.
- Transport logs and farm records must be maintained for validation and copies to be kept at the site.

7.8. Pearl Farm Sea Lease – General

- Each licensee must maintain farm records on-site regarding:
 - the farming infrastructure types and locations within the pearling leases;
 - of the different groups of pearl oysters held within the pearling leases;
 - total number of pearl oysters held within the pearling leases.
- Pearl oyster stock identification must be maintained so that validation of total first operation seeded pearl oysters and un-seeded pearl oysters can be undertaken by a Fisheries officer.
- Pearling sea lease marking and lighting must be consistent with lease conditions. Lease boundary verification during site inspections may be made using GIS equipment or via desktop satellite imaging.

7.9. Pearl Farm Land Lease – General

- Pearling licence and Crown lease conditions are to be complied with.
- Fisheries Legislation (including correct Approved Operators recorded, vessels marked and registered) are to be complied with.
- Fisheries-specific aspects of EMP are to be complied with.

An audit report created after each farm audit visit will be provided to the licensee. This report may contain commercial in confidence information and as such will not be released by Fisheries unless written approval of the company involved is provided. Any material provided to the Fisheries officer during an audit (including stock records) are similarly commercial in confidence, are not to be copied and must be destroyed upon completion of the audit report.

Any corrective issues highlighted in the report are to be addressed within the period specified in the audit or by a time negotiated with the licensee in line with s7.

8. General Compliance Matters

- For minor compliance breaches the understanding of 'best efforts' should apply - i.e., industry and the Department will agree that an initial incident of non-compliance will be advised to the industry member for immediate rectification and recorded by Fisheries.
- Lack of satisfactory action and/or three minor breaches for the same offence by the industry member within a licensing year will directly incur the fees for subsequent compliance services to check that the offence is rectified.
- There are four levels of compliance:
 - Fisheries officer to validate first seeding operation numbers, facilitated by licensee.
 - Low scale generic inspections (one Fisheries officer) funded through general government operations.
 - High scale compliance inspections where continued non-compliance is required for rectification and validation requiring a significant inspectorial force to be funded through fee for service direct to the licensee.
 - Suspected breaches investigated. There will be an attempt to recover costs where there is a conviction.

9. Audit Process

- An annual internal audit by Fisheries to assess effectiveness of the Plan with a report to NTPIAC.
- Periodic review of this Compliance Plan by Fisheries and industry (via NT PIAC) to ensure effectiveness and suitability.
- External review by third party to assess auditable processes and outcomes every 5 years. An accredited auditor will be contracted to provide this service.

Attachment 1

Environmental Management Plan (EMP) Content

EMP content should follow the 'GUIDELINE FOR THE PREPARATION OF AN ENVIRONMENTAL MANAGEMENT PLAN' (NT EPA 2015; https://ntepa.nt.gov.au/_data/assets/pdf_file/0006/284883/guideline_prep_emp.pdf).

Existing EMPs are valid but future revisions should align with the EPA guidance for EMP. A complete EMP covers areas outside of Fisheries jurisdiction and/or expertise.

However, some pearl industry specific items are included below. The EMP content below is included for further guidance as it includes areas specific to the pearl industry.

Executive Summary

Include a brief summary of document – Company name, ABN, contact details, experience of company/personnel, objective of company, brief description of environment, description of facility and summary of commitments to address risk identified in this EMP (can be in table form) – this is from the risk assessment in section 5)

1. Introduction

1.1. Scope

- What the EMP covers e.g. operations associated with the land-based farm lease site, Operations associated with the marine lease sites, Company vessel movements in, between and adjacent to marine leases.

1.2. Company Environmental Policy

Explain the company policy and what the company is committed to – examples below:

- To comply with applicable Commonwealth and State Government's statutory requirements and current industry standards for the protection of the environment
- In the absence of specific regulatory prescription of guidelines, adopt the best practicable means available to minimise and ameliorate adverse environmental impacts
- Consult with appropriate government agencies and other parties so as to meet all relevant statutory requirements and to facilitate effective liaison with governments and non-government bodies
- Set environmental objectives and targets
- Assess the local and regional environment and recognise areas of high environmental sensitivity in which you operate and adopt management strategies to protect such areas from environmental degradation
- Ensure that risks to the environment are reduced to as low as reasonably practicable

2. Description of the facility

2.1. Location

- How do staff, goods, supplies (and wastes) get to and from the site? Include details about where the farm is located – include a Google Earth map with labels.

2.2. Description of Land Leases

- What infrastructure is present i.e. buildings, power supply, amenities, include a site map, size of area;
- Brief summary of topography, landform, surface hydrology, flora and fauna habitats;
- Extent of native vegetation and how much has been cleared;
- Include permits/ licences agreements to use site.

2.3. Description of Sea Leases

- What infrastructure is present.
- Brief summary of flora and fauna habitats.
- Include lease areas and coordinates with a location map, permits / licences etc.

3. Farm Production Process

3.1. Farming Technique

Type of farming technique to be used:

- Hatchery shell grown out on bottom farm.
- Move to longlines for culture.
- Number of oyster per panel/long line.
- Shell cleaning methods.

3.2. Stocking

- What is your stock and where are you getting it from? E.g. WA sourced Broodstock or on site hatchery shell.

4. Staffing

- Number of staff on site.
- Type of roster system e.g. 4 weeks on 2 weeks off
- Types of staff employed e.g. mechanics, cooks, divers, skippers, shell cleaners, hatchery technicians and
- The qualifications required for each type of staff e.g. maritime tickets to operate vessels

4.1. Employee training

- What type of training is required and provided? E.g. staff inductions, on the job training, general farm meetings etc.

4.2. Visitor and contractor obligation

- Information provided to visitors regarding EMP compliance.

4.3. Incident reporting and investigation

- How is this reported and managed?

5. Potential and Anticipated Impacts and Proposed Safeguards

This section is about identifying possible impacts and the risk of this occurring and mitigations measures employed.

Use this risk ranking tool to evaluation each situation separately.

Table 1 – Likelihood of risk happening:

The realistic change of the risk occurring, taking into consideration existing mitigation measures.

Likelihood	Score	Definition
Remote	1	Never heard of, but not impossible
Rare	2	May occur in exceptional occasions
Unlikely	3	Uncommon but has been known to occur
Possible	4	Some evidence suggests this may be possible to occur
Occasional	5	May occur
Likely	6	It is expected to occur

Table 2 – Consequence if the risk occurs:

The realistic worst case outcome that could occur.

Regulatory compliance outcomes, profitability, OH&S and environmental aspects should also be considered in determining this value.

Consequence	Score	Definition
Negligible	1	Very insignificant impact. Unlikely to be measurable
Minor	2	Possibly detectable but minimal impact to structure/ function
Moderate	3	Maximum acceptable level of impact- recovery measured in month or years. Possible legislative breach with warning or small financial penalty.
Severe	4	Will result in wider and longer term impacts- recovery measured in years. Possible legislative breach with financial penalties applicable

Consequence	Score	Definition
Major	5	Very serious impacts with relatively long time frame likely to be needed to restore to an acceptable level- recovering in years to decades. Possible legislative breach with serious financial penalties applicable
Catastrophic	6	Widespread and permanent/ irreversible damage or loss will occur- unlikely to ever be fixed. Possible serious legislative breach with extensive financial penalties applicable.

Table 2C Risk Ranking Score: Risk ranking = likelihood x consequence

		Consequences					
		1	2	3	4	5	6
Likelihood		Negligible	Minor	Moderate	Severe	Major	Catastrophic
6	Likely	6	12	18	24	30	36
5	Occasional	5	10	15	20	25	30
4	Possible	4	8	12	16	20	24
3	Unlikely	3	6	9	12	15	18
2	Rare	2	4	6	8	10	12
1	Remote	1	2	3	4	5	6

Table 3 – Risk Classification: used to classify the risk using the value determined using the PPA Risk Ranking Tool Part 2C.

Score	Description/Act
H	<p>High Risk</p> <p>Greater than and equal to 20</p> <p>Immediate action is required. For example, staff are required to advise the CEO to call a special meeting to discuss immediate action. E.g. clean up oil spill.</p>
M	<p>Moderate Risk</p> <p>Greater than and equal to 8 but less than 19</p> <p>Risks are acceptable as long as risk reduction measures are applied to reduce the risks to as low as reasonably possible</p>
L	<p>Low Risk</p> <p>Less than 8</p> <p>Risks are broadly acceptable and are managed by current procedures</p>

5.1. Risks

5.1.1. Fuel, Oil and Chemical Handling

Fuel Storage and Handling – describe storage and handling procedures for each fuel type under their headings

Diesel

- Mitigation measures

- Monitoring
- Risk

Example of risk classification: Although the likelihood of a large scale diesel spillage is rare, the consequence to the environment and the company is major. The risk posed by this potential impact is moderate. Small scale spills during general fuel transfers however, are expected to occur. The consequence of these spillages is negligible, the risk posed by this impact is therefore low.

ULP

- Mitigation measures
- Monitoring
- Risk

Oil storage and handling

- Mitigation measures
- Monitoring
- Risk

Chemical handling and storage

- Mitigation measures
- Monitoring
- Risk (for each hazardous chemical there should be a safety data sheet)

5.1.2. Waste Management

Operational and domestic waste

- Mitigation measures
- Monitoring
- Risk

Food scraps

- Mitigation measures
- Monitoring
- Risk

Incineration

- Mitigation measures
- Monitoring
- Risk

Sewage and grey water disposal

- Mitigation measures
- Monitoring

- Risk

Hatchery discharge water

- Mitigation measures
- Monitoring
- Risk

5.1.3. Disease Detection and Mitigation Measures

Note: Each farm should aim to have a biosecurity plan in place that at least complies with 'The Aquaculture Farm Biosecurity Plan: generic guidelines and template' produced by the Sub-Committee on Aquatic Animal Health 2017.'

Hygiene

- Mitigation measures
- Monitoring
- Risk

Translocation of oysters

- Mitigation measures
- Monitoring
- Risk

Disease detection

- Mitigation measures
- Monitoring
- Risk

Disease contingency plan

- Mitigation measures
- Monitoring
- Risk

5.1.4. Biodiversity and Protected Sites

Impact of longline and mooring equipment anchoring on the benthic zone

- Mitigation measures
- Monitoring
- Risk

Boat strikes

- Mitigation measures
- Monitoring

- Risk

Impact on rookeries and turtle nesting sites

- Mitigation measures
- Monitoring
- Risk

Entanglements

- Mitigation measures
- Monitoring
- Risk

Attraction of flora and fauna to pearling infrastructure

- Mitigation measures
- Monitoring
- Risk

Lighting

- Mitigation measures
- Monitoring
- Risk

Impacts of pearl cultivation on water quality and primary production

- Mitigation measures
- Monitoring
- Risk

The introduction of *P. maxima* into the surrounding environment

- Mitigation measures
- Monitoring
- Risk

Sacred and historic sites

- Mitigation measures
- Monitoring
- Risk

5.1.5. Marine Pest Management

Strategies and procedures to minimise risk

- Mitigation measures
- Monitoring

- Risk

5.1.6. Base Camps

Fire management

- Mitigation measures
- Monitoring
- Risk

Weed and pest management

- Mitigation measures
- Monitoring
- Risk

Erosion, dust and sediment control

- Mitigation measures
- Monitoring
- Risk

Noise

- Mitigation measures
- Monitoring
- Risk

Interaction of staff with site flora and fauna

- Mitigation measures
- Monitoring
- Risk

5.1.7. Social values

Scenic amenity

- Mitigation measures
- Monitoring
- Risk

Shore camps

- Mitigation measures
- Monitoring
- Risk

Longlines

- Mitigation measures
- Monitoring
- Risk

Navigation

- Mitigation measures
- Monitoring
- Risk

5.1.8. Decommissioning and rehabilitation

- Mitigation measures
- Monitoring
- Risk

6. Auditing and Management Review

Internal audits – when and by whom

External audits – when and by whom

7. Attachments

1. Summary of environmental risks associated with pearling operations at “xx farm”

Associated activity	Hazard	Risk	Mitigation measure	Risk ranking	Monitoring	Comments	Text reference

- 2. Corrective Action Register (C.A.R.)**
- 3. Procedures for the Transfer of Bulk Diesel (you should have this written down)**
- 4. PPA Environmental Code of Conduct**
- 5. Pearling Industry Whale Management Policy and Procedures**

8. Suggested Reference Material

Benzie, J. A. and Smith, C. 2002. Pearl Oyster Genetics. FRDC Project 97/344.

Department of Health and Community 1996, 'Code of Practice for Small On-site Sewage and Sullage Treatment Systems and the Disposal and Reuse of Sewage Effluent', Department of Health and Community, Darwin.

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Gifford, S., Dunstan, R., O'Connor, W., Roberts, T., and Toia, R. 2004. 'Pearl Aquaculture- profitable environmental remediation?' *The Science of the Total Environment*, vol 319:27-37

Johnson, M. S. and Joll, L. M. 1993. Genetic subdivision of the pearl oyster *Pinctada maxima* (Jameson 1901) (Mollusca: Pteriidae) in northern Australia. *Aust. J. Mar. Freshw. Res.* 44:519-526.

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Standards Australia 2004, The storage and handling of flammable and combustible liquids, AS1940, Standards Australia, Sydney

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