



## **Attachment IX**

### **Consent application form and guidance on its completion**

## Guidance on information required for a fish farm consent application using form SWPC 7.

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## 1. Introduction

The intention of this guidance is to provide some background information on the information requirements to supplement the application form. The application form has been developed in parallel with the fish farm consent template. It should provide most of the information necessary to process a consent application. However, this note is also designed to help staff flag up some "pit-falls" when discussing SEPA's requirements with prospective developers and is best used during preliminary discussions to try to avoid the applicant in abortive work or the need to repeat survey work. Any problems or suggestions for improving the application form should be e mailed to the Secretary of FFAG who will pass them on to the PPC Task Team. Any resultant changes will be made to the bulletin board version of the application form (national\water issues\COPA application forms).

Staff should be aware that filling in a SEPA application form is not a legal requirement. Applications can be made in other formats. However, the information provided must be "**such as may reasonably be needed**" to assess an application to discharge (COPA s34(1)). If a form is not completed, and the application is deficient, the application with its fee should be returned and the missing information (so long as it is reasonable to require this information **for the site under consideration**) requested

## 2. Section A: General information

### 2.1 Site details (questions 1 to 12)

It is important to ensure that the applicant provides a clear description of the site together with a map showing its position. For marine cage sites a map showing the extent of the leased area should also be provided which identifies the proposed location(s) of the cages. Four NGRs should be annotated onto the map identifying the boundaries of the area proposed for the cages.

It is usually **preferable** that an applicant applies for "planning" permission (presently a CEC Lease) prior to making a consent application. This ensures that planning/infra-structure issues are considered first and an Environmental Impact Assessment has been undertaken where appropriate. However, Planning permission is not **required** prior to a consent application.

### 2.2 Production (questions 13 to 14)

Maximum planned production is required for the models used to predict the impact of nutrients and organic matter.

The maximum planned biomass (the weight of fish which can be held on site at any one time) is also required for inclusion in schedule 1 of the consent, for the modelling of environmental impact and is needed to assess the appropriate charge band.

### 2.3 Stocking and Growing plan (questions 15 & 16)

Supplementary information on the number of smolts to be introduced, length of growing cycle, stocking density in kg/m<sup>3</sup>, anticipated time for which maximum biomass will be held and the anticipated harvesting strategy, should be supplied by

the applicant. It is accepted that applicants may wish to vary their stocking plans in future however, the outputs from the AutoDEPOMOD modelling package which are used to determine the site biomass limit are dependant upon the stocking density and thus the density should not exceed that proposed in the application.

#### **2.4 Fish Food (questions 17 to 20)**

The annual quantity of feed to be used, the proposed feeding method, the feed conversion ratio and the phosphorus and nitrogen content should be included in the application.

#### **2.5 List of chemicals (question 21)**

SEPA requires information on the intended usage of medicines and chemicals to be provided in any application for either a new or reviewed consent for discharge from a marine cage fish farm. Applicants are required to list all medicines and chemicals, whether in-feed or bath treatments, that they intend to use on the farm which may enter the water (e.g. therapeutants, anaesthetics, disinfectants, antifouling net coatings) including the trade name, manufacturer and active chemical ingredients in the products. For any antifouling treatments it should be stated where and when the nets were treated and are likely to be retreated.

The applicant is also required to list the method by which these chemicals will be used (including maximum treatment concentrations, total quantities necessary for each treatment and probable number of applications). It is important that the applicant can demonstrate that he/she has considered how to minimise their use in each case.

### **3. Section B cage fish farms**

#### **3.1 Cage details (questions 1,2,5)**

The application should provide information on cage number, size and layout. The cage layout has an important bearing on the outputs from the model AutoDEPOMOD used to determine site biomass and it is important therefore that plans are provided of cage construction and the anticipated position of the cages or cage groups.

#### **3.2 Fallowing (question 4)**

The introduction of sea bed fallowing can have direct implications for effective planning and management of a site as well as a benefit in maintaining environmental quality. Whilst SEPA do not consider them to be a mandatory requirement, significant fallowing periods, e.g. at least a year, can allow any accumulation of organic wastes to be assimilated by benthic processes. Site rotation is a common practice in some parts of the country which allows site fallowing for significant periods. At sites with low current speeds a higher biomass may be considered if the growth cycle is followed by a fallowing period long enough for the sediment to recover.

Fallowing periods can also help to break the life cycle of sea lice particularly if included in management agreements between operators. The application should include details of proposed fallowing periods to reduce parasite and disease infestations. The application may also include details of longer fallowing periods where necessary to enable recovery of the sea bed and its fauna.

### **3.3 Environmental information (question 6)**

SEPA should provide detailed specifications with the application form which define the appropriate level of pre-development environmental survey data.

#### **3.3.1 Hydrography**

SEPA requires tidal current measurements, bathymetric information and modelling outputs from the AutoDEPOMOD modelling package to be provided in support of any application for either a new or reviewed consent for discharge from a marine cage fish farm. This is needed to assess the dispersion and dilution of organic wastes, nutrients, medicines and chemicals and determine a site specific footprint and biomass limit. The specific requirements are given in Attachment VII, Annex G and Annex H of the manual.

The provision of hydrographic and modelling data is essential to assess the likely environmental impact of a marine cage fish farm. The data can be used in several ways:

- as a quantitative assessment of dispersion around the site,
- with other data to set the maximum consented biomass at the site,
- modelling of the impact of faeces, waste food and chemical usage.

In general, the higher the mean current speed, the greater the dispersion. The area of benthic impact of discharges from the site is defined from current speeds and other site specific data using AutoDEPOMOD.

For reliable modelling of deposition and dispersion, an assessment is required of the variability of currents over a full spring-neap-spring tidal cycle (15 days minimum) at several depths. A data set of this type is relatively robust and is used by the applicant or their consultants for sophisticated modelling, to identify a proposed maximum biomass and for the assessment of chemical dispersion.

At Island sites where tidal currents close to the shore are relatively weak, a longer current speed record may be beneficial in identifying the full importance of wind-driven currents for the dispersion of waste solids.

For all data sets, the provision of wind speed and direction records is fundamental (see the meteorological data requirements in Attachment VIII) and the application should be considered incomplete without this.

#### **3.3.2 Location and bathymetry**

To assess the localised impact of discharges from the farm, details of the local bathymetry and shoreline are required as inputs to the AutoDEPOMOD package. The minimum distance of the cages from the shore is important in assessing the dispersion of discharges before they reach the shore. In most cases Admiralty charts or local plans with the same format will provide suitable information on the shoreline and depth around the cage location and within the leased area. Applications should be accompanied by the appropriate Admiralty chart, or copy of the appropriate part, on which the location of the cages should be annotated. If this is found to be inadequate it may need to be augmented by local measurements.

#### **3.3.3 Baseline environmental conditions**

The application should be accompanied by sufficient information to allow SEPA to assess the existing water quality and the effects that the proposed discharge will have on that water quality. Existing water quality is more likely to be a limiting factor where the existing biomass is high and the flushing characteristics of the receiving

water are poor. Therefore a site specific monitoring strategy and pre-development water quality data are required. (These are set out in Annexes E and F of the procedures manual). Further advice can be provided by Marine Science staff.

### 3.3.3.1 Water column

Dissolved oxygen depletion is seldom a problem in connection with cage fish farming and so baseline monitoring of dissolved oxygen is only required if the residence time of the defined system is greater than 3 days and there is more than 1000 tonnes total consented biomass proposed. If this is the case then appropriate dissolved oxygen measurements, as described in Annex F, should be made.

Similarly, nutrient enrichment is rarely a problem, although where there are a number of farms in slowly flushed systems hypernutrification could occur. Baseline information on nutrients is only required if the residence time of the defined system is greater than 3 days, and when the total consented biomass exceeds 1000 tonnes. In such a case, appropriate nutrient measurements as described in Annex F, should be made.

Applications which include the use of antifouling agents should include any available data on the expected concentration of the active ingredient e.g. copper within the water column in the vicinity of the cages and/ or the rate of loss into the water following treatment (this may be available from the manufacturers).

### 3.3.3.2 Sea bed

If the application is for increased biomass or for sea lice medicines which may reach the sea bed then the existing condition of the sea bed should be taken into account. A sea bed survey should be undertaken in accordance with Annex F if this is not already available to SEPA (if there is an existing farm with a history of monitoring then this information should be used in the sea bed assessment).

### 3.3.4 Minimising the release of polluting matter (questions 7 - 11)

SEPA has a strategic aim to progressively reduce the pollutant load per tonne of fish produced by the marine cage fish farming industry. In order to achieve this objective it is essential that applicants demonstrate that they will follow best environmental practice.

Question 7 which refers to minimising the deposition of food/faeces below cages is intended to ensure that efficient feed techniques are used. SEPA does expect the industry to further investigate the potential use of waste collection techniques below the cages. However, such techniques are not sufficiently well developed to allow SEPA to require their use at present.

SEPA requires that marine cage fish farms carry out bath treatments within full containment. The applicant must confirm that the net construction will allow the use of tarpaulins which will fully enclose the treated fish. In addition, they must **confirm** that the treatment volume **can** be reduced by a significant percentage of the cage volume (this will vary according to cage design but a 50% reduction in volume is considered in general to be a reasonably achievable target in most cases and can easily be exceeded in some).

## **4. Section C: Land based fish farms**

### **4.1 Site details**

In addition to answering the questions within the application form. The applicant should provide a plan of the layout of the farm showing:

- location and volume of tanks, raceways and ponds;
- site of the abstraction point and discharge;
- site of treatment facilities.

The applicant should demonstrate that the design of the site\_ will minimise the pollutant load to the river. Best environmental practice requires that feeding techniques minimise the loss of food (i.e. maximise the food conversion ratio). In addition, it is important that particulate matter generated within the farm is removed rapidly from the system to minimise the solubilisation of the organic and nutrient constituents of the food and faeces. The farm should therefore be designed to be self cleaning preventing the accumulation of particulates within fish holding facilities or channels. Filtering devices, which remove particulates from the main farm flow are preferred to settlement ponds. Settlement ponds do perform a useful purpose as polishing facilities after a filter or as a backup form of treatment in the event of the failure of the filter.

It is important to ensure that the handling of the filter backwash is adequately addressed. Although COPA cannot be applied to regulating the disposal of such sludge, it is useful to collect information on the proposed disposal options so as to allow discussions on the preferred option.