The Water Environment (Controlled Activities) (Scotland) Regulations 2011

Licence Application
FORM C
Please fill in this form to discharge effluent from a fish farm

The Data Protection Act 1998
"The Scottish Environment Protection Agency is responsible for maintaining and improving the environment and regulating environmental emissions. It has a duty to discharge its functions to protect and enhance the environment and to promote conservation and recreation.
The information provided will be processed by the Scottish Environment Protection Agency to deal with your application, to monitor compliance with the licence/permit/registration conditions, to process renewals, and for maintaining the relevant public register(s).
We may also process and/or disclose it in connection with the following:

- offering/providing you with our literature/services relating to environmental affairs
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, Local Authorities, Emergency Services, Scottish Executive) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving our service.

We may pass it on to our agents/representatives to do these things on our behalf.

You should ensure that any persons named on this form are informed of the contents of this Data Protection Notice

ADDITIONAL INFORMATION

In addition to the application form some supporting information is required. You can discuss these requirements with the local SEPA office.

For land based fish farm or associated land based facilities:

- A drainage plan showing the drainage layout of the fish farm (e.g. discharge points, treatment facilities, inlets and outlets. Number, size and design of tanks/ponds)
- Design drawings/details of treatment facilities

For cage farms:

- A drawing showing the design, dimensions and layout of the cages
- A plan showing the area licensed by the Crown Estate or planning consent within which the cages will be confined (National Grid References (10 characters e.g. NT 1234 5678) should be identified on the map at four points around the perimeter of the area.
- Documentation on the chemicals to be used on site
- Environmental survey data provided to comply with any required specifications which define the requirements for pre-development hydro graphic, water chemistry and benthic biological surveys. Further details of these requirements are set out in the Marine Cage Fish Farm Procedures Manual available on the SEPA Website.

For marine cage fish farm sites, the outputs from the modelling package AutoDEPOMOD suggesting site biomass limits and limits for sea lice medicines. Further details of these requirements are set out in the Marine Cage Fish Farm Procedures Manual available on the SEPA Website.

SECTION 1: GENERAL INFORMATION

1.1 If not already included on your 'Site Plan' (see Form A), please provide a "Drainage Plan" showing:

- The site drainage layout (if applicable)
- All discharge point(s) locations
- The layout of the cage fish farm (if applicable)
- Identify pollution risk areas/chemical and oil stores

Reference the Plan "Drainage Plan" and attach it to your application

1.2 About Site Development

Will the effluent come from (tick box)					
an existing development or discharge?	☐	a new development or discharge?	☒	an alteration to an existing development or discharge?	☐
Planning Permission ref no. (if applicable)					
Building Warrant reference no. (if applicable) Crown Estate Lease no (if applicable)					

1.3 Receiving Environment

Where will the discharge be made to: *(please tick)*	River?	☐	Freshwater loch?	☐	Land via a soakaway?	☐
	Direct to groundwater?	☐	Estuary (i.e. transitional waters) or coastal waters?	☒	Land?	☐
Is the discharge via a partial soakaway?		YES ☐		NO ☒		
What is the name of the receiving water (if known)?		**Loch Linnhe**				

1.4 About the outlet(s) (not applicable to discharges from cage sites)

1.4.1 Will the discharge be made through: *(please tick)*	*a new outlet?	☐	*an alteration to an existing outlet?	☐	an existing outlet?	☐

1.4.2 *If a new outlet or alteration to existing outlet: submit outlet design so that SEPA can agree your engineering proposals, prior to licensing

1.4.3 National Grid Reference for Outlet(s) (at least 10 characters, format xx-xxxx–xxxx)

- - - - - -	Outfall Internal diameter mm mm mm
What provision will be made for samples to be taken of the effluent discharged? *(e.g. sampling chamber, automatic sampler)*	

1.5 In the boxes provided please indicate which of the following discharges you will be applying for (give the number of each discharge, scale of discharge {i.e. complex licence or simple licence} and whether any environmental service claim is being made)

Discharge	**Description**	Number of discharges applied for *State Number*	Complex Licence (CL) *State Number*	Simple Licence (SL) *State Number*
Fish Farm Effluent	**Cage fish farm**	1	1	
	Tank/hatchery Fish Farm			

Note- if you claim Environmental Service then your reasoning must be set out on a separate sheet referenced "Environmental Service Claims". Information on Environmental Service is available in the Charging Scheme guidance, please see the Environmental Regulation (Scotland) Charging Scheme 2016 found on the SEPA website. SEPA Website: http://www.sepa.org.uk/regulations/authorisations-and-permits/charging-schemes/charging-schemes-and-summary-charging-booklets/

SECTION 2: FARM DETAILS

2.1 The fish farm is, or shall be (*please tick*)

in the sea	☒	in a sea loch or voe	☐
on land with a marine intake	☐	on land with a freshwater intake	☐
in a freshwater loch	☐	on land with a groundwater intake	☐
Other (*please specify*)			

2.2 What species of fish do you rear or plan to rear?	*Salmo salar* (Atlantic salmon)

PRODUCTION

2.3 What is the planned maximum production? (*in tonnes per year*)	1473 tonnes/year (2946 tonnes/cycle)

2.4 What is the planned maximum weight of fish to be held at any time? (*in tonnes*)	1870.4 tonnes

2.5 Please supply a stocking plan for the on-growing cycle based upon monthly projections. (Use a separate, referenced sheet if required.)

	Please see Shuna Production Plan attached.

2.6 What is the planned maximum stocking density? (*in kilograms per cubic metre*)	17.0 kg/m^3

FISH FOOD

2.7 What quantity of fish food do you plan to use? (*in tonnes per year*)	1710 tonnes/year (3420 tonnes/cycle)

2.8 What method is proposed to be used to feed the fish?	Automated feed barge

2.9 What food conversion ratio do you expect to achieve? (*Kilograms of fish production (wet weight) against kilograms of food (wet weight)*)	1.16

Note: please provide supporting documentation.

2.10 What will the phosphorus and nitrogen content of the food be? *(% composition by weight)*	Phosphorous: 0.95 – 1.43% Nitrogen: 5.44 – 7.84%

USE OF CHEMICALS

2.11 Please list all chemicals/medicines that you intend to use on the farm, which may end up entering the receiving waters (e.g. therapeutants, whether in-feed or bath treatments, anaesthetics, disinfectants, anti-fouling net coatings)

The following details should be provided. • the trade name of chemical and the manufacturer; • the active ingredient • a copy of the manufacturers data sheet for each chemical; • a method statement, which explains in detail the procedure used to carry out the treatment including measures to minimise the release of chemicals to the environment. • maximum treatment concentration (active ingredient) for each chemical (where applicable); • the number of applications typically needed for each complete treatment; • total quantity of neat chemical used for each application or the amount of active ingredient; • an indication of the number of treatments which could be required over a year assuming (a) optimistic and (b) pessimistic conditions; • details of storage arrangements for chemicals; For net anti-fouling coatings, information should be provided on the sites where coatings will be applied and nets washed You should check product documentation (or if necessary, with the manufacturers) to establish if any of the chemicals listed in the annex to this form are present. If any of these chemicals are present, you must list them and estimate the quantities which will be used.	See separate chemicals summary, manufacturer's data sheets and work statement methods as appropriate. The attached modelling report recommends the following consent limits: Azamethiphos The total quantity of azamethiphos to be discharged should not exceed 329.1 g in a 3 hour period, or 458.4 g in a 24 hour period. This can be used to treat 1 cage in 3 hours or 2 cages in 24 hours at a maximum treatment depth of 2 m. Deltamethrin The total quantity of deltamethrin to be discharged should not exceed 22.3 g in a 3 hour period. The equivalent treatment volume is 11150m^3.

Note: You should be aware that the chemicals listed will be considered for inclusion within the licence which will authorise their subsequent use. The use of any other chemicals would be illegal and may make you liable to prosecution under the Water Environment (Controlled Activities) (Scotland) Regulations 2011.

SECTION 3: CAGE FISH FARMS

3.1 Please state the planned maximum number of cages on site and the proposed layout. *(include a plan of the cage grid and moorings)*	8 x 120m cages in a 6 x 2 75m grid. See attached site plan.

3.2 What are the proposed measurements of each cage? (*including length, breadth and depth in metres or circumference, diameter and depth for circular cages*)	120 m circumference (38.2m diameter) cages x 12m net depth.

3.3 What is the average water depth below the cages? (from bottom of the nets to loch bed in metres)	5 m minimum

3.4 SEPA will normally expect sites to be left fallow following each production cycle. Please explain how this will be achieved. If the cages are to be moved on a rotational basis, you should provide a map showing the location of sites which will be used as part of the rotation.	The site will be fallow for a minimum of six weeks at the end of each production cycle.

3.5 Please state the type of mooring, e.g. single point or corner anchors. If single point mooring, what will be the radius of swing? (*in metres*)	Corner anchors.

MINIMISING THE RELEASE OF POLLUTING MATTER

3.6 How do you intend to minimise the deposition of food/fish faeces underneath the cages.	The fish are fed from a centralised feeding system located on the barge. This is finely tuned to the requirements of the fish and controlled using cameras in the cages. As feed represents a significant proportion of the running costs of the company, every effort is made to keep any waste to an absolute minimum, for financial as well as economic reasons. The fish are sample weighed or measured by an in-cage imaging system to monitor feed conversion rates, and emphasis is placed on maximising efforts to achieve targets.

3.7 SEPA will require you to provide <u>full</u> containment during the bath treatment of fish with therapeutants. Please explain how this will be achieved. (*e.g. <u>full</u> tarpaulins, well boats*)	See attached work method statement for bath treatments in cage and in wellboat.

3.8 SEPA will expect you to minimise the treatment volume within each cage during bath treatments. What will be the treatment volume relative to the normal working cage volume? (*either in cubic metres or % reduction*)	Fish are continually monitored for the presence of sea lice and pathogens. Treatments are only carried out if and when necessary, to protect the health of the fish while meeting FMA and CoGP targets, and only under the instruction of a qualified veterinary surgeon. The treatment volume will be the minimum necessary to treat the fish safely and effectively, and is determined by the company vet to allow for variables such as fish biomass and water temperature.

3.9 Associated land based facilities: please describe any land based facilities which will be associated with the cages. This could include a shore base, staff facilities, net washing facilities or processing plants.	The site will be accessed and serviced from the existing shorebase north of Appin, adjacent to Linnhe Marina. The nets are supplied and serviced by W&J Knox, Kilbirnie, Ayrshire. Harvesting is carried out through transport of live fish by wellboat from the site to SSF's processing facility at South Shian.

SECTION 4: LAND BASED FISH FARMS (INCLUDING HATCHERIES)

4.1 What is the planned average and maximum volume discharged in cubic metres per day?	Average Vol.	m^3/day
	Maximum Vol.	m^3/day

4.2 What is the planned maximum rate of flow of effluent in litres per second?	Maximum flow.	l/s

4.3 How is the effluent to be treated before it is discharged? This should describe facilities such as settlement ponds or filters. (*Should include dimensions of the pond or aperture size of the filter mesh*). **Provide expected quality of the discharge.** **Note: please submit design details of filter if available**	

4.4 How will the solid waste arising from the treatment facilities be handled? (*This should cover aspects such as the frequency of settlement pond desludging, the treatment of backwash from filters and the disposal of the waste.*)	

X ADDITIONAL INFORMATION SUBMITTED

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Please reference additional supporting documents submitted as part of this application	Document name: Document reference:	**Location Plan** **Shuna Location Map.pdf**
	Document name: Document reference:	**Site Plan** **Shuna Site Plan.pdf**
	Document name: Document reference:	**Hydrographic Report** **Shuna Modelling Data Collection Report.pdf** **Shuna 2015 (HG) Hydrographic Report.pdf**
	Document name: Document reference:	**Modelling Report** **Shuna Biomass and Medicine NewDepomod Modelling Report.pdf**
	Document name: Document reference:	**Production Plan** **Shuna Production Plan.pdf**
	Document name: Document reference:	**Chemicals Summary and associated data sheets/method statements**
	Document name: Document reference:	**Environmental Monitoring Plan** **Shuna EMP_DRAFT.docx**
	Document name: Document reference:	**Baseline Survey and Survey Design Reports** **Shuna baseline survey design.pdf**
	Document name: Document reference:	**Medicines Minimisation Plan** **Shuna Medicines Minimisation Plan.docx**
	Document name: Document reference:	**Visual Survey Report** **Shuna Visual Seabed Survey Report.docx**
	Document name: Document reference:	**Loch Linnhe 2018 ECE Report** **Loch Linnhe 2018 ECE Report.pdf**
	Document name: Document reference:	**Shuna Feeding Plan** **Shuna Feeding Plan.docx**

ANNEX: Substances

Table 1 below details substances which must be highlighted within your application if they are contained within your discharge.

Table 1 - Substances

Substance		Substance	
Alachlor	PS	Fluoranthene	PS
Aldrin	LIST I	Hexachlorobenzene	PHS, LIST I
Aluminium	SP	Hexachlorobutadiene	PHS, LIST I
Anthracene	PSR	Hexachlorocyclohexane (Lindane)	PHS, LIST I
Arsenic	SP, LIST II	Iron	SP, LIST II
Atrazine	PSR, LIST II	Isodrin	LIST I
Azinphos-methyl	LIST II	Isoproturon	PSR
Bentazone	LIST II	Lead and its compounds	PSR, LIST II
Benzene	PS, LIST II	Linuron	LIST II
Biphenyl	LIST II	Malathion	LIST II
Boron	LIST II	Manganese	SP
Brominated diphenylether (only	PHS	Mecoprop	LIST II
Cadmium	PHS, LIST I	Mercury and its compounds	PHS, LIST I
Carbon tetrachloride	LIST I	Mevinphos	LIST II
Chlorfenvinphos	PS	Naphthalene	PSR, LIST II
Chlorine	SP	Nickel and its compounds	PS, LIST II
Chloroalkanes, (C10-13)	PHS	Nonylphenols	PHS
Chloroform	LIST I	Octylphenols	PSR
Chloronitrotoluenes	LIST II	Omethoate	LIST II
2-Chlorophenol	LIST II	PCSDS	LIST II
4-Chloro-3-methylphenol	LIST II	pentabromodiphenylether (PBDE))	PHS
Chlorpyrifos	PSR	Pentachlorobenzene	PHS
Chromium	SP, LIST II	Pentachlorophenol	PSR, LIST I
Copper	SP, LIST II	Perchloroethylene	LIST I
Cyanide	SP	Permethrin	SP, LIST II
Cyfluthrin	LIST II	Phenol	SP
2,4 –D (ester)	LIST II	Poly Aromatic Hydrocarbons	PHS
2,4-D (non-ester)	LIST II	pp-DDT	LIST I
DDT	LIST I	Simazine	PSR, LIST II
Demeton	LIST II	Sulcofuron	LIST II
Di(2-ethylhexyl)phthalate (DEHP)	PSR	Tetrachloroethane	SP
Diazinon	SP	Toluene	SP, LIST II
1, 2 Dichloroethane	PS, LIST I	Triazophos	LIST II
Dichloromethane	PS	Tributyltin compounds	PHS, LIST II
2,4-Dichlorophenol	LIST II	Trichlorobenzene	PSR, LIST I
Dichlorvos	LIST II	1,1,1-Trichloroethane	LIST II
Dieldrin	LIST I	1,1,2-Trichloroethane	LIST II
Dimethoate	LIST II	Trichloroethylene	LIST I
Diuron	PSR	Trichloromethane	PS
Endosulphan	PSR, LIST II	Trifluralin	PSR, LIST II
Endrin	LIST I	Triphenyltins	LIST II
Fenitrothion	LIST II	Vanadium	LIST II
Flucofuron	LIST II	Xylene	LIST II

KEY: PHS – Annex X priority hazardous substance
PS – Annex X priority substance
PSR – Priority Substance Review
SP - Annex VIII substance covered by points 1 to 9 - termed as Specific Pollutant
List I - Dangerous Substances Directive List I substance, also listed in annex IX of WFD
List II - Dangerous Substances Directive List II substance (as agreed by UK, statutory EQS applies)