



## **RISK ASSESSMENT FOR ANNEX IV SPECIES**

### **Extensive Aquaculture Slyne Head Peninsula SAC (Site Code: 2074)**

*October 2023*

**Marine Institute  
Rinville  
Oranmore, Co. Galway**

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## Introduction

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This Annex IV Risk Assessment has been prepared by the Marine Institute to comply with the provisions of Article 12 and 13 of Council Directive 92/43/EC in relation to the protection afforded to Annex IV species from disturbance or harm. Specifically, this Risk Assessment appraises the current and proposed extensive aquaculture activities in the Slyne Head Peninsula SAC (Site Code: 2074).

## Legislative Context

The Habitats Directive has identified a number of animal and plant species across Europe, which are rare or are threatened with extinction and which need special measures to be taken to ensure their long-term survival. Under Article 12 and 13 of the Habitats Directive, Member States must establish systems of strict protection for animal and plant species which are listed on Annex IV of the Habitats Directive. Article 12 and 13 of the Habitats Directive are transposed into Irish law by Regulations 51 and 52 of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended<sup>1</sup>.

The aim of the strict protection measures (set out in Article 12 (for animals) and 13 (for plants) of the Directive) is that the species in question will reach and remain at favourable conservation status. This means that the population dynamics of the species concerned can maintain itself on a long-term basis as a viable component of its natural habitats. It also means that the natural range of the species is neither being reduced, nor is likely to be reduced for the foreseeable future, and that there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Annex IV species are afforded strict protection throughout their range, both inside and outside of designated protected areas. This protection is afforded to these species at all stages of their life cycle and wherever they occur. This protection includes from deliberate disturbance of these species, particularly during periods of breeding, rearing, hibernation and migration. It is an offence to deliberately capture or kill, keep, transport or sell, injure or disturb a specimen in the wild, or damage or destroy a breeding site or resting place of an Annex IV animal species. For plants it is an offence to deliberately pick, collect, cut, uproot or destroy any specimen of these species in the wild, or keep, transport, or sell any specimen of these species taken in the wild.

<b>S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011 (inc. Amendment SI 293 of 2021<sup>2</sup>)</b>
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<b>Protection of fauna referred to in the First Schedule</b>
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<b>51.</b>
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(1) The Minister shall take the requisite measures to establish a system of strict protection for the fauna consisting of the species referred to in Part 1 of the First Schedule.
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(2) Notwithstanding any consent, statutory or otherwise, given to a person by a public authority or held by a person, except in accordance with a licence granted by the Minister under Regulation 54 or 54A, a person who in respect of the species referred to in Part 1 of the First Schedule—
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| a) deliberately captures or kills any specimen of these species in the wild, |
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<sup>1</sup> <https://www.npws.ie/legislation>

<sup>2</sup> <https://www.npws.ie/legislation>

- b) deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration,
- c) deliberately takes or destroys eggs of those species from the wild,
- d) damages or destroys a breeding site or resting place of such an animal, or
- e) keeps, transports, sells, exchanges, offers for sale or offers for exchange any specimen of these species taken in the wild, other than those taken legally as referred to in Article 12(2) of the Habitats Directive,

shall be guilty of an offence.

(3) The prohibitions referred to in paragraph (2) shall apply to all stages of life of the biological cycle of fauna to which this Regulation applies.

(4) The Minister shall establish a system to monitor the incidental capture and killing of fauna consisting of the animal species referred to in Part 1 of the First Schedule and, having regard to the information gathered, he or she shall conduct further research or take such conservation measures as required to ensure that incidental capture and killing does not have a significant negative impact on the species concerned.

#### **Protection of flora referred to in the First Schedule**

#### **52.**

(1) The Minister shall take the requisite measures to establish a system of strict protection for the flora consisting of the plant species referred to in Part 1 of the First Schedule.

(2) Notwithstanding any consent, statutory or otherwise, given to a person by a public authority or held by a person, except in accordance with a licence granted by the Minister under Regulation 54 or 54A, a person who in respect of the plant species referred to in Part 1 of the First Schedule—

- a) deliberately picks, collects, cuts, uproots or destroys any specimen of these species in the wild, or
- b) keeps, transports, sells, exchanges, offers for sale or offers for exchange any specimen of these species taken in the wild, other than those taken legally as referred to in Article 13(1)(b) of the Habitats Directive

shall be guilty of an offence.

(3) The prohibitions referred to in paragraph (2) shall apply to all stages of the biological cycle of the flora to which this Regulation applies.

The list of Annex IV species which occur in Ireland and its waters<sup>3</sup> is set out in Table 1.

*Table 1 Annex IV species which occur in Ireland (NPWS).*

<b>Animals</b>	<b>Plants</b>
All bat species	Killarney Fern
Otter	Slender Naiad
Natterjack Toad	Marsh Saxifrage
Kerry Slug	
Dolphins, Whales and Porpoises	
Marine Turtles	

As an Annex IV species may be found throughout the country, the protection of these species is not restricted in geographical terms and is not necessarily associated with areas subject to a specific designation. Any works or projects must ensure compliance with the requirements of the Regulations, which means avoiding impacts to Annex IV species. To do this a project must determine the probability

<sup>3</sup> <https://www.npws.ie/legislation>

of the protected species being present in the area affected by the works, using existing information, and applying the precautionary principle. If it is highly unlikely that an Annex IV species could be present or affected by the works, then the works will be compliant with Regulations 51 and 52<sup>4</sup>.

If information shows that the Annex IV species is present, or may be present, then an investigation to establish presence is required. The Precautionary Principle must be applied in relation to this matter at this stage. If the investigation finds the species to not be present then the project may proceed. If an Annex IV species is found to be present, or there is a breeding or resting place to which the animals are likely to return, then the likely impacts of the project needs to be examined to see if those impacts can be avoided through the design of the works<sup>5</sup>.

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<sup>4</sup> Guidance on the Strict Protection of Certain Animal and Plant Species under the Habitats Directive in Ireland. 2021. National Parks and Wildlife Service Guidance Series 1. DHLGH [Link](#)

<sup>5</sup> Guidance on the Strict Protection of Certain Animal and Plant Species under the Habitats Directive in Ireland. 2021. National Parks and Wildlife Service Guidance Series 1. DHLGH [Link](#)

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## Outline of the Aquaculture Activities

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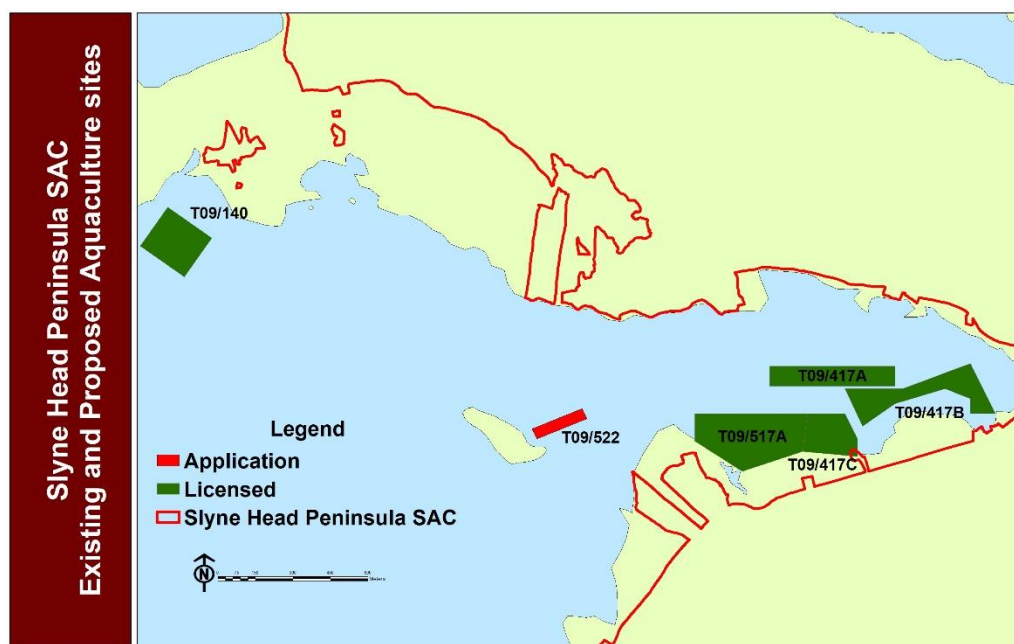
Currently within the Slyne Head Peninsula SAC (Site code: 002074) there are 4 sites licenced for extensive aquaculture. There is one site (T09 – 140A) for intensive (finfish) aquaculture:

- 4 licenced extensive aquaculture sites for the culture of Pacific oysters (T09-417A, B, C and T09-517A)
- 1 Application for intertidal shellfish culture of Pacific oysters (T09-522A)

*Licenced aquaculture and applications for aquaculture activities considered in this report.*

Site No.	Status	Activity/Species	Total Area (ha.)
T09-417A	Licensed	Pacific Oyster	4.00
T09-417B	Licensed	Pacific Oyster	5.04
T09-417C	Licensed	Pacific Oyster	3.12
T09-517A	Licensed	Pacific Oyster	7.93
T09-140A	Licenced (review and renewal)	Finfish	4.09
T09-522A	Application	Pacific Oyster	0.96

Existing and proposed aquaculture sites are presented below.



*Existing and proposed aquaculture sites (Licenced and Applications) in Slyne Head Peninsula SAC.*

### Intensive Salmon Culture

There is single licence for the culture of salmon in net pens in Mannin Bay. The site (T09-140A) is approximately 4ha in size and the water depth is approximately 15m. There are normally up to six pens on site and the site is accessed from the pier at Curhownagh, directly north of the site. The site is used to finish salmon from March to July in each year. The site is followed thereafter. Approximately 200 Tonnes of salmon are produced at the site each year.

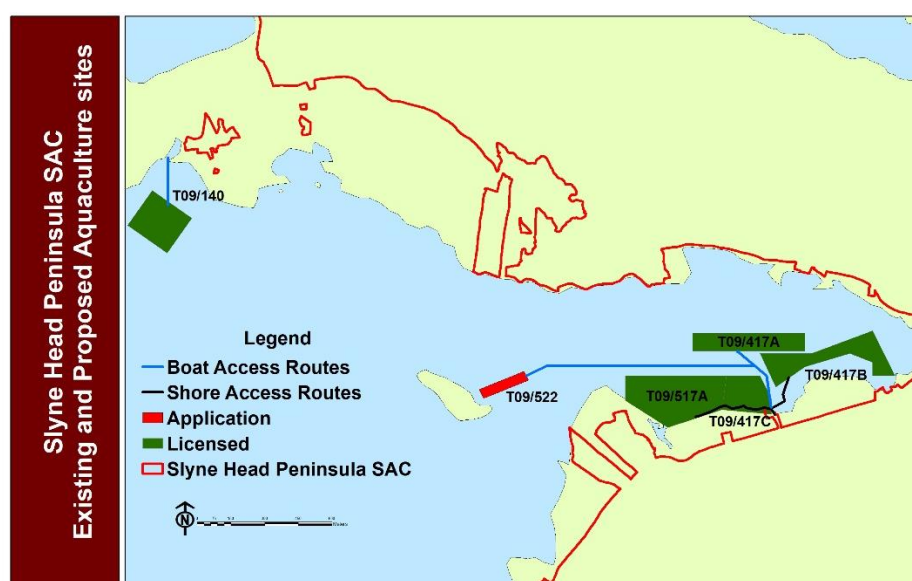
## Extensive Oyster Culture

Intertidal oyster aquaculture of the Pacific oyster, *Magallana gigas*, is a form of shellfish culture with oyster seed cultivated in bags on trestles in the intertidal zone, either to half-grown or fully-grown size. The bag and trestle method uses steel table-like structures arrayed in double rows with wide gaps between the paired rows to allow for access. Trestles used are made from steel are typically 3m in length, approximately 1 metre in width and stand between 0.5m and 0.7m in height. In general, oyster farms are positioned between mean Low Water Spring and mean Low Water Neap, allowing on average between two and five hours' exposure depending on location, tidal and weather conditions. The trestles hold typically six HDPE mesh bags, approximately 1m by 0.5m by 10cm, using rubber and wire clips to close the mesh bags and to fasten them to the trestles. The production cycle begins when oyster seed is brought in from oyster nurseries to the site either in spring or late summer. The mesh size in the mesh bags can vary (4mm, 6mm, 9mm and 14 mm) depending on oyster stock grade. For example, 6mm seed is put into 4mm mesh bags at a ratio of 1,000 to 1,500 seed per bag.

Oysters are thinned out and graded as they grow and will be taken to the handling / sorting facility twice per year for grading and re-packing then returned to the trestles. In the final stage they will be 'hardened' in the upper intertidal area, before removal, grading, bagging and delivery. Time to harvest, depending on intake size, ranges from 2.5 to 4 years, where they will have reached 60 - 80 to the kilo. At reaching market size oysters are in bags of about 120.

This proposed aquaculture site (T09-522A) in the intertidal area will be accessed during spring tides (at low tide) by boat. Typically, preparatory work is always conducted in onshore service areas in the intervening periods, including grading and packing, preparation of bags and trestles. General maintenance work that occurs on site includes shaking and turning of bags, and hand removal of fouling and seaweed to ensure maintenance of water flow through the bags when submerged. The site will be used for finishing oysters grown at the applicant's other sites in Mannin Bay.

There are a number of access routes for the extensive aquaculture operations in the Slyne Head Peninsula SAC. For some of the sites, access is by tractor across the intertidal areas, from a single access point on the south shore of Mannin Bay. The same point is used to access sites T09-417A (Licenced) and the new application T09-522A, by boat.



Existing and proposed access routes to the existing and proposed shellfish culture sites within the Slyne Head Peninsula SAC.

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## Relevant Annex IV Species

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The Habitats Directive has identified a number of plant and animal species across Europe, which are rare or are threatened with extinction and which need special measures to be taken to ensure their long-term survival. All species listed under Annex IV with the potential to be impacted by the existing and proposed aquaculture activities should be included, even if they have been separately assessed in the AA process.

Of the animal and plant species on Annex IV known to occur in Ireland, the following species were identified as relevant to the existing and proposed aquaculture activities:

### Dolphins, Whales and Porpoises

There are a number dolphin, whale and porpoise species recorded within the Slyne Head Peninsula SAC (proximate to the aquaculture activities)<sup>6</sup>. These are large mammals, that utilise a wide range of marine habitat environments. Whales tend to be migratory, following food, and are found in open ocean. Dolphins are found from shallow coastal waters to the deeper open ocean. They feed on a variety of fish and invertebrates, such as squid. Porpoises are also found from shallow coastal waters to the deeper open ocean, and are generally shy and elusive and prefer to avoid contact with boats and humans. The depth at the extensive aquaculture sites, which are chiefly inter-tidal, is not suitable habitat for dolphins, whales and porpoises in general. While there may be isolated sightings in the vicinity, the lack of spatial overlap or likely interactions between the Annex IV species and the aquaculture activities means there is no significant risk to the number of individuals to breed successfully, nor to the survival of the population, and the species natural range is secure and will not be reduced by the existing and proposed shellfish aquaculture operations.

### Otter

Ireland remains a European stronghold for the otter and the species is widespread here in our rivers and streams and along our coastline and lakeshores. Otters have two basic habitat requirements: adequate prey; and safe refuges where they can rest and breed. Otters maintain territories along river banks, lake shores and coasts. Coastal territories require a freshwater source for the otter to wash, so will always include a stream or spring. In productive areas, such as coastlines, territories are in the range of 5-6 km. On the coast, otters forage within 80-100m of the coastline, typically in depth of <3m, but up to 10-12m. For foraging they preferring shallow, rocky environments with seaweed cover. Otters maintains numerous resting places, known as couches (above-ground, hidden in foliage) and holts (underground, among roots, rocks, or tunnels) within its territory. They breed all year, nesting in a well-hidden natal holt.

Otter have not been recorded directly in the area of these aquaculture activities<sup>7</sup> but are likely to be present in the area so are considered in more detail in this risk assessment.

### All bat species

These are marine sites at a distance from bat habitats. These aquaculture activities do not impact on trees, hedges, buildings, bridges, caves, souterrains or changes in lighting, so bats are not likely to be

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<sup>6</sup> National Biodiversity Data Centre [Link](#)

<sup>7</sup> National Biodiversity Data Centre [Link](#)



present or affected by the works. As bats are not likely to be present, the lack of spatial overlap or likely interactions between the Annex IV species and the aquaculture activities means there is no significant risk to the number of individuals to breed successfully, nor to the survival of the population, and the species natural range is secure and will not be reduced.

#### Natterjack Toad

The natural ranges for the Natterjack Toad are freshwater and terrestrial. Populations are restricted to sites in County Kerry. Natterjacks are nocturnal and during the day they hide under logs and stones. Over winter, natterjacks hibernate in burrows that they dig themselves in sandy soils, or in piles of rocks or dry-stone walls. The toad breeds in shallow ponds and forages in the areas around those ponds at these locations. These extensive aquaculture sites are not a suitable habitat for Natterjack toads. Any overlap between this marine site and this species is highly unlikely, so there is no risk to the number of individuals to breed successfully, nor to the survival of the population, and the species natural range is secure and will not be reduced.

#### The Kerry Slug

The Kerry Slug are terrestrial and nocturnal (generally), with their natural ranges restricted to sites in County Kerry and west Cork (and more recently found in Galway, Limerick and Tipperary). Its habitats are woodland, and lichen covered rock outcrops and boulders. These aquaculture sites are not a suitable habitat for the Kerry slug. Any overlap between these marine sites and this species is highly unlikely, so there is no risk to the number of individuals to breed successfully, nor to the survival of the population, and the species natural range is secure and will not be reduced.

#### Plants

The natural ranges for the Annex IV plants species (Killarney Fern, Slender Naiad, and Marsh Saxifrage) are terrestrial and they are highly unlikely to be impacted by these aquaculture activities, so there is no risk to these Annex IV species.

#### Marine Turtles

Loggerhead Turtle (*Caretta caretta*) have been recorded in the vicinity of the SAC in 2003. A Leathery Turtle (*Dermochelys coriacea*) was sighted in 1984 within the vicinity of the SAC. Various Turtle species are occasional visitors to Irish waters. Considering the rarity in Irish waters of these widely roaming marine species, that may utilise entire oceans, and the intertidal or near-shore location of these aquaculture activities, it is highly unlikely that there will be any significant interactions with these Annex IV species, and there is no risk to the number of individuals to breed successfully, nor to the survival of the population, and the species natural range is secure and will not be reduced.

#### Conclusion

The relevant Annex IV species which are likely to be present in the area or potentially affected by these projects, and considered for further investigation, are:

- Otter.

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## Risk Assessment

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### Otter

Otter are reported within the general area of the SAC. Otter are an opportunist hunter, mainly eating fish, but also eats frogs, small birds, eggs, mussels, crabs and other invertebrates. The nature of this extensive aquaculture means it is not likely to have an effect on the number or availability of prey for the otter. While the general habitat in the area is likely to support otters, the intertidal areas of extensive aquaculture are not considered ideal foraging areas for otter, which prefer shallow, rocky environments with seaweed cover for foraging. The extensive aquaculture, being in the intertidal area, and the access routes, being in well-travelled routes, are highly unlikely to interfere with the couches and holts within its territory, nor to disturb the breeding locations.

The main impacts associated with the proposed projects on otter are related to:

- Obstruction (intertidal)- The trestles and activities associated with this form of oyster culture structures are positioned on, and rising to approximately 1m above, the intertidal seabed. They are oriented in rows with gaps between structures, thus allowing free movement through and within the sites. The structures are placed on the lower-shore, in the intertidal area, which is covered by water for most of the tide. They will not interfere with the natural behaviour of the otter.
- Entanglement - Shellfish and seaweed production activities are highly unlikely to pose any risk to otter populations through entrapment or direct physical injury.
- Displacement - The number of couching sites and holts or, therefore, the distribution of the otter, will not be directly affected by aquaculture activities.
- Disturbance - The proposed operations are generally carried out in daylight hours. The interaction with the otter will be minimal, given that otter foraging is primarily crepuscular. Disturbance associated with vessel traffic could potentially affect otter at these sites. However, the level of disturbance is likely to be very low given the likely encounter rates will be low dictated primarily by tidal state and in daylight hours.

The potential for impact from the listed hazards are generally highly unlikely or of low intensity. The lack of significant spatial overlap or likely interactions between the Annex IV species and the aquaculture activities means there is no significant risk to the number of individuals to breed successfully, nor to the survival of the population, and the species natural range is secure and will not be reduced.

### Mitigation Measures

Otters are highly unlikely to interact with these extensive aquaculture sites. Based on the information above, no mitigation measures for otter encounters are considered necessary for these projects.

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## Conclusions

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Following a risk assessment of the existing and proposed aquaculture sites in the Slyne Head Peninsula SAC (Site Code: 2074), the activities pose no risk to the number of individuals to breed successfully, nor to the survival of the population, and the species natural range is secure and will not be reduced, for the Annex IV species which occur in Ireland and its waters.