

# FLORA & FAUNA

- **Scope of Ecological Work**
- **Fish & Fisheries**
- **Birds**
- **Mammals**
- **Marine Habitats & Species**
- **Designated Sites, including Natura 2000 sites**



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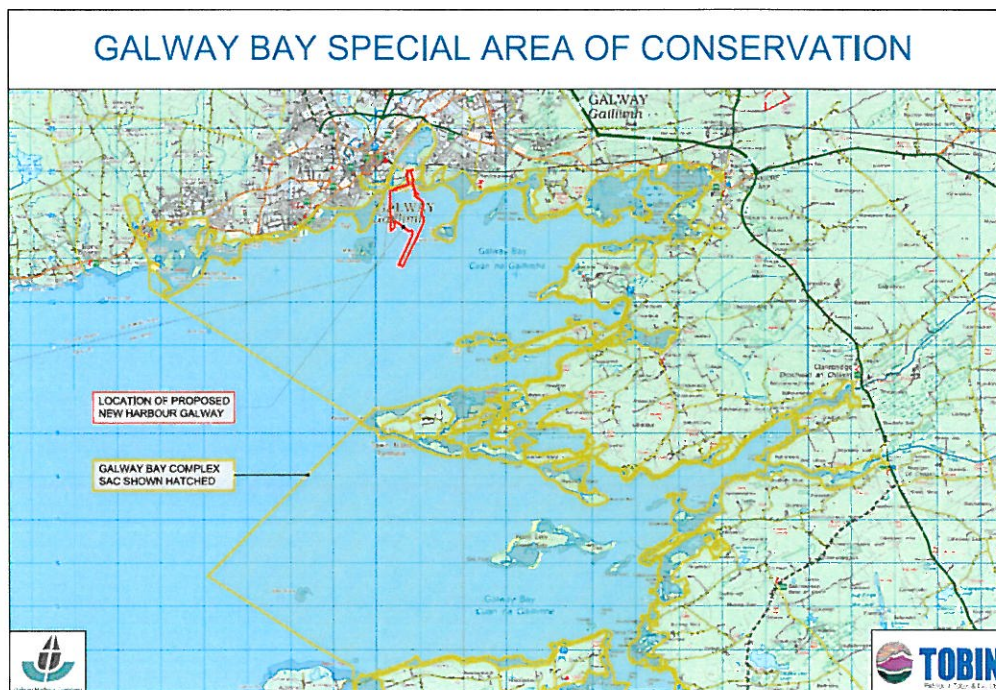
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# GALWAY BAY DESIGNATIONS

## Galway Bay Complex Special Area of Conservation (SAC)



### Qualifying Interests

**Habitats:** Coastal Lagoons, Large Shallow Inlets and Bays, Reefs, Perennial Vegetation of Stony Banks, Atlantic Salt Meadows, Mediterranean Salt Meadows, Salicornia and other annuals colonizing mud and sand, Calcareous fens, Turloughs, Mudflats and Sandflats not covered by seawater at low tide, Semi Natural Grasslands (*Festuco Brometalia*), Alkaline Fens, *Juniperus communis* formations.

**Species:** Common Seal, Otter



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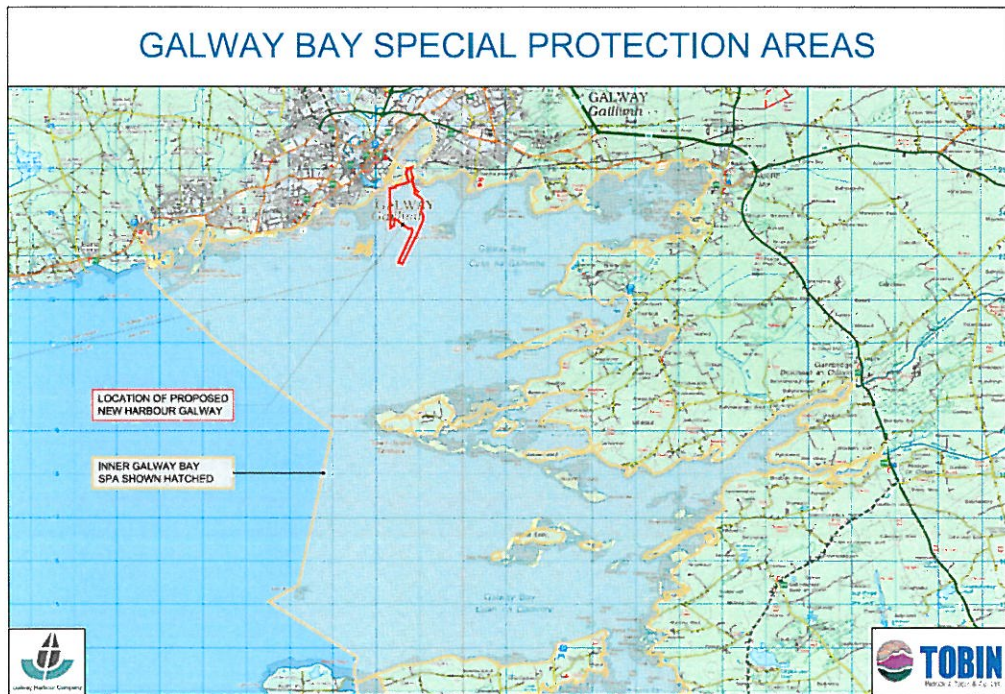


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# GALWAY BAY DESIGNATIONS

## Inner Galway Bay Special Protection Area (SPA)



### Qualifying Interests

Annex of EU Birds Directive	Common Name	Scientific Name
Annex I	Great Northern Diver	<i>Gavia immer</i>
N/a	Cormorant	<i>Phalacrocorax carbo</i>
N/a	Grey Heron	<i>Ardea cinerea</i>
N/a	Light-bellied Brent Goose	<i>Branta bernicla hrota</i>
N/a	Red-breasted Merganser	<i>Mergus serrator</i>
N/a	Ringed Plover	<i>Charadrius hiaticula</i>
Annex I	Bar-tailed Godwit	<i>Limosa lapponica</i>
N/a	Turnstone	<i>Arenaria interpres</i>
Annex I	Sandwich Tern	<i>Sterna sandvicensis</i>
Annex I	Common Tern	<i>Sterna hirundo</i>



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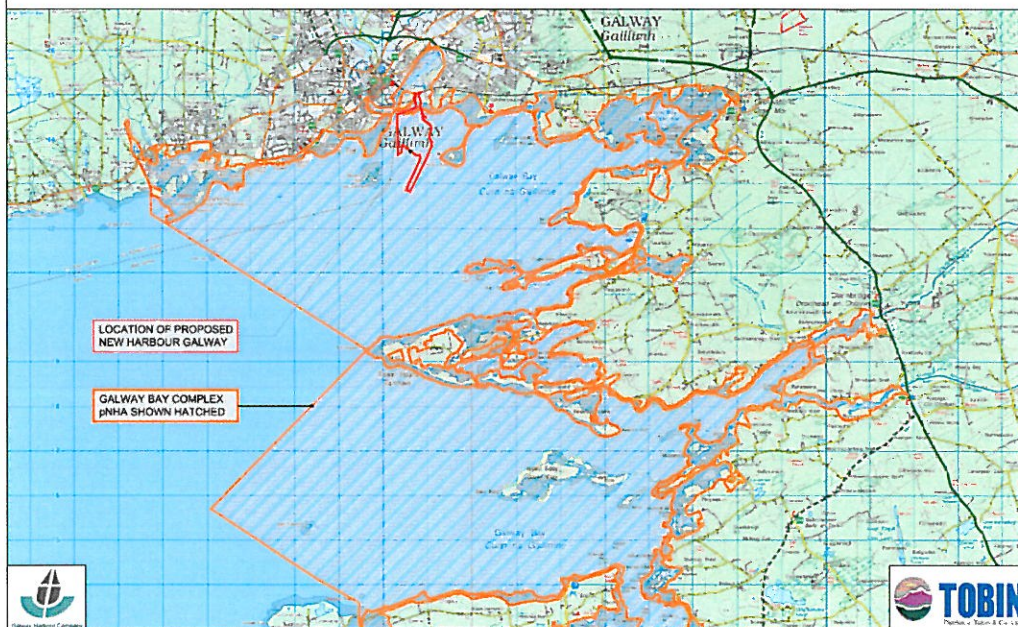
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# OTHER DESIGNATIONS IN THE VICINITY

## Galway Bay Complex Proposed Natural Heritage Area (pNHA)

### GALWAY BAY PROPOSED NATURAL HERITAGE AREAS



- Moycullen Bogs NHA  
(Site Code 002364)
- Creganna Marsh SPA  
(Site Code 004112)
- Lough Corrib SAC & pNHA  
(Site Code 000297)
- Lough Corrib SPA  
(Site Code 004042)



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# SENSITIVE ECOLOGICAL SITES

## Galway Bay Sensitive Ecological Sites



- Sensitive Bird Breeding Sites
- Sensitive Mammal Sites
- Noise & Vibration Impacts Modelled and Assessed



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# BIRDS

- **Site Located within Inner Galway Bay SPA**
- **Annex I Qualifying Interests – Great Northern Diver, Bar-tailed Godwit, Sandwich Tern, Common Tern**
- **Baseline Information mainly from I-WeBS (Irish Wetland Bird Survey) data for Inner Galway Bay; records since 1976**

Species	Potential Impacts Being Studied
Common Tern	Loss of Habitat
All other important bird species (i.e. other terns, gulls, waders, egret, petrels, divers, sea duck etc.)	Disturbance due to construction (general, blasting, other noise, etc)
	Disturbance to breeding common tern colony on Rabbit Island (construction)
	Disturbance while operational (general)
	Disturbance while operational - specific events (increased siltation, dredging, etc)
	Disturbance to breeding common tern colony on Rabbit Island when operational (e.g. increased activity)
	Indirect Impacts
	Damage to health by pollutants during operation
	Damage to feeding grounds
	Damage to health/death associated with event e.g. oil spill



# FISH & FISHERIES

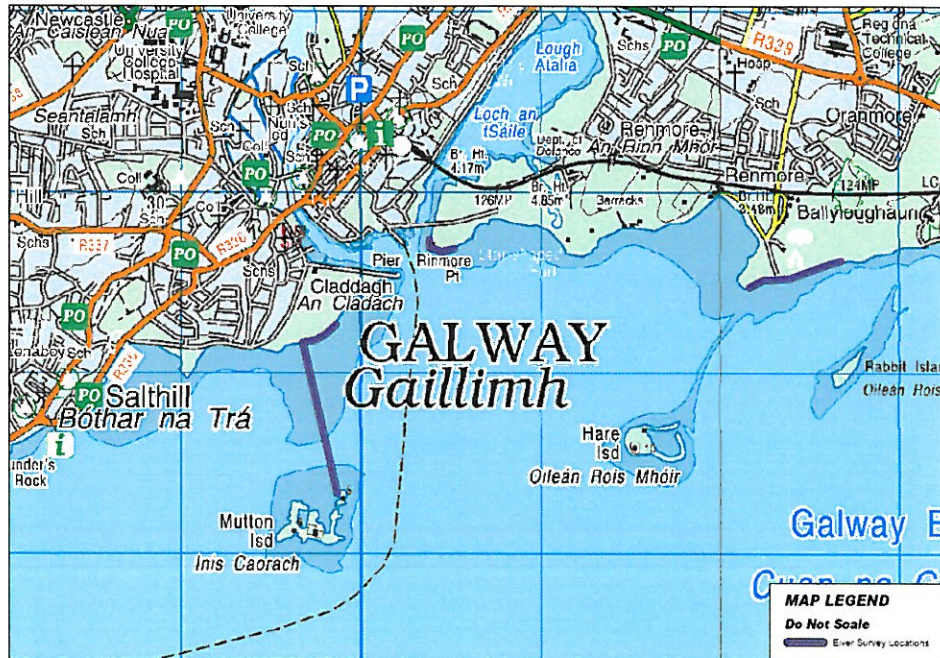
- **Fish & Fisheries – Baseline Information from Inland Fisheries Ireland, Local Merchants and Marine Institute**
- **Elver Survey & Salmon Smolt Tagging Survey Completed**
- **Most Important Species**
  - **Atlantic Salmon, Trout, Eel, Shrimp, Lobster, Velvet Crab, Oyster**

Species	Potential Impacts Being Studied
Atlantic Salmon	Loss of habitat
Sea Trout	Disturbance to migration during construction (general & blasting & dredging) – adults & juveniles
Eel	Disturbance to migration during operation (general & dredging) – adults & juveniles
Sea Lamprey	Damage to heath due to changes in water chemistry
Other fish species	<p>Damage to health due to siltation</p> <p>Impacts from low Dissolved Oxygen during construction</p> <p>Indirect Impacts</p> <p>Disturbance to migration due to River Corrib water deflection - e.g. into Lough Atalia</p> <p>Disturbance to migration due to changes in e.g. salinity or water chemistry</p> <p>Exposure of displaced fish to poaching</p> <p>Increased predation by seals/birds due to narrowed entrance to Corrib</p> <p>Damage to health of migrating fish by pollutants during operation</p> <p>Disturbance/Damage to health of migrating fish due to siltation during operation (e.g. manoeuvring vessels)</p> <p>Damage to health of fish/death associated with oil spill</p>



# BASELINE SURVEYS - EEL

## ■ Elver Survey Location Map



- Elver Surveys completed during Spring 2010
- Three teams of surveyors hand searched at three locations, once per week for 11 weeks
- Survey Methodology based on survey completed in 1980s by Professor TK McCarthy
- Very low numbers of elver obtained; links with internationally reduced eel stock numbers



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# MAMMALS

- **Mammals within Harbour Area include Common Seal, Short Beaked Dolphin**
- **Grey Seal, Harbour Porpoise and Bottle-nosed Dolphin in Galway Bay**
- **Baseline Information mainly from Irish Whale and Dolphin Group (IWDG) Cetacean Sightings Database**
- **Seal haul outs mapped around Galway Bay with acoustic modelling being undertaken**

Species	Potential Impacts Being Studied
<b>Otter</b>	Loss of Habitat
<b>Common Seal</b>	Disturbance due to construction (general - noise, etc)
<b>Grey Seal</b>	Disturbance during construction (blasting, dredging, general)
<b>Dolphin &amp; Porpoise</b>	Disturbance while operational - specific events (increased siltation, dredging, etc)
	Indirect Impacts
	Damage to health by pollutants during operation
	Damage to health/death associated with event e.g. oil spill



# ENVIRONMENTAL ASSESSMENT

- **E.I.S. Ongoing**
- **Scope includes assessment of:**
  - Loss of Habitat
  - Disturbance due to construction and operational phases
  - Impacts related to specific processes during construction, e.g. dredging
- **Environmental Impact Assessment conducted in line with water model results – salinity, flow, siltation, etc.**
- **Indirect Impacts include possible exposure to increased predation, possible increased risk of pollution incidents, etc.**



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# APPROPRIATE ASSESSMENT

- **Article 6(3) and 6(4) of EU Habitats Directive**
- **A Natura Impact Statement (NIS) will be produced and included within the EIS Document**
- **The NIS will identify and assess the impacts of the proposed development on Natura 2000 sites (including Galway Bay SAC, Inner Galway Bay SPA and Lough Corrib SAC)**
- **The information within the NIS will allow the competent authority (An Bord Pleanála) to conduct an Appropriate Assessment of the development in line with Article 6(3) and 6(4) of the Habitats Directive**



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