



Project Description for Outer Galway Bay

NOTE: Harvest volume and biomass data is commercially sensitive and strictly confidential information and not to be disclosed without prior consent from Arramara Teo.

Arramara Teo is seeking an exclusive 10-year Maritime Usage License (MUL) to harvest 5,611 tonnes of *Ascophyllum* and *Fucus* (Table 1) from the intertidal shores of Outer Galway Bay, County Galway (Figure 1). This bay was chosen due to a long-standing tradition of seaweed harvesting by Arramara Teo harvesters and an abundant seaweed resource.

To achieve these goals, Arramara Teo has undertaken multi-year seaweed survey campaigns in the relevant marine area (the intertidal zone of Outer Galway Bay). This dataset was used to develop a robust harvesting plan that allows for the sustainable harvesting of seaweed in this bay while protecting the marine environment.

Details of the Sustainable Harvest Plan are found in the accompanying SISAA report. The report also addresses the potential cumulative effects of other ongoing maritime activities in the bay, ensuring that the proposed seaweed harvesting will not adversely affect marine habitats, protected species, or broader conservation goals.

The project aims to establish a sustainable seaweed harvesting model that supports local ecosystems and communities. The harvesting area has been closely monitored by trained Arramara Teo science personnel for over 10 years. Annual harvest quotas have been developed to allow for regrowth post-harvesting and minimise disruption to local marine life. Arramara Teo advocates for industry accountability in resource management, ensuring that exclusive management of specific harvest areas helps maintain the long-term sustainability of seaweed populations.

The total area covered by this MUL, along with the harvestable area, total biomass and annual harvest quantities for each bay are provided in Table 1.

This MUL includes the rocky intertidal area where the targeted seaweed species grows. Historic and continued annual surveys by Arramara Teo have allowed significant knowledge of the seaweed resource to be gained, including potential total biomass and regrowth timescales post-harvest.

Arramara Teo continues to conduct annual biomass surveys in the proposed MUL area, which provides guiding decisions on the most appropriate harvesting techniques to ensure all activities align with best practices in marine conservation.

In addition to managing exclusive harvest areas, Arramara Teo supports the coexistence of multiple commercial enterprises harvesting the same species, provided each operates within clearly defined, exclusively licensed areas to ensure responsible resource management. The project includes a thorough assessment of potential cumulative impacts with other maritime



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activities, and site investigations validate survey data to ensure sustainable seaweed harvesting practices.

Region	Sector	MUL Area (ha)	Intertidal Bed Area (ha)	Density Asco (kg/m ²)	Density Fucus (kg/m ²)	Density Asco and Fucus (kg/m ²)	Number of transects	Proposed Annual Harvest (t)
Outer Galway Bay								
	Total	665.1	215.8				20	5611

Table 1 - Area and seaweed biomass within each bay part of this MUL

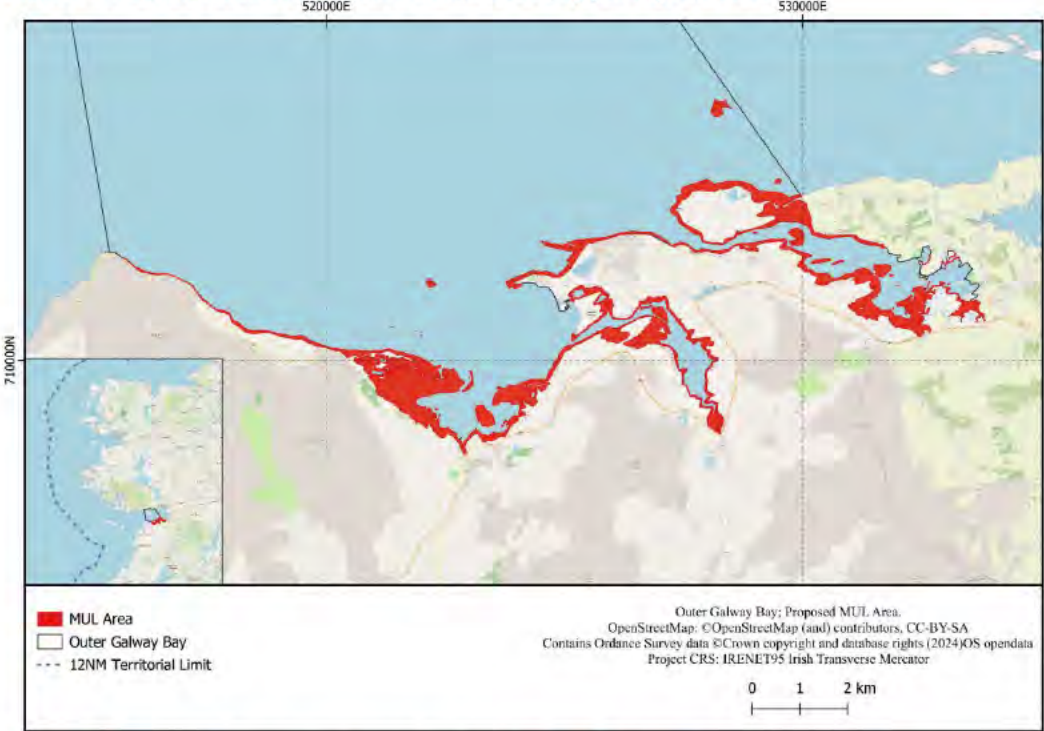


Figure 1 - Proposed harvesting areas included in the Marine Usage License application

Products

The seaweed resource used by Arramara Teo over the period of its existence since 1947 changed from a concentration on storm cast *Laminaria* in the earlier years to the hand-harvesting of intertidal species – a longstanding tradition along Ireland’s west coast.

Over a 79-year history, Arramara Teo has developed a targeted, species-specific approach to responsibly processing Ireland’s resource for domestic and export uses. This includes yet is not limited to the supply of products in-Ireland and abroad that are sold as animal feed supplements, soil conditioners and other uses.



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Having experienced the ebb and flow of not only commercial interest in seaweeds, but also the available workforce to harvest and process the resource; Arramara has emerged as Ireland's largest processor of *Ascophyllum nodosum*.

Three long-term benefits have evolved during the past decade that position Arramara to work in harmony with Ireland's Government agencies and academic, commercial and consultancy communities to establish this country as a world leader in responsible, sustainable seaweed resource management:

1. An exciting, heightened awareness of the current and future commercial value of Ireland's seaweed resources if managed responsibly.
2. A recognition amongst the coastal communities that a sustainably managed seaweed resource can help sustain and perpetuate their own culture and quality of life by allowing them to live in and make careers within their own communities.
3. A greater awareness of the need to regulate the wild harvest of Seaweed species to insure sustainability of the resource and proper compliance with Europe Environmental Directives.

Economic Activity

Arramara Teo was established to provide an economic base for sustainable commerce in rural western Ireland, and particularly its coastal communities. Arramara Teo has provided sustainable economic benefits to local and regional suppliers of goods and services over the past 79 years.

Arramara's direct contribution to the local economy is estimated at €4 million on an annual basis which equates to an economic contribution of €20 million. The economic multiplier used in this calculation is 5 based on a high marginal propensity to consume locally as against saving or spending abroad. A further €1 million is paid annually to the exchequer and €1 million on national goods and services.

Obtaining MUL to sustainably manage and harvest the seaweed resource means that this economic activity will continue and grow for the benefit of Ireland and the remote rural communities of the west coast.

Environmental

Environmental sustainability is not only the foundation of the seaweed industry but is central to Government and European Union priorities. We operate in a different and ever changing political and environmental climate than when Arramara Teo was founded.

Arramara Teo, following acquisition by ASL, has engaged new learning in aspects of resource management and environmental sustainability. This has taken many forms including, but not limited to:



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- Arramara Teo was a pioneer in installing dedicated Resource Management; an integral link between the sustainability of the seaweed, the activities of the harvesters, commercial demands and the sensitivity of protecting intertidal ecosystems.
- Arramara Teo has taken the initiative to educate harvesters (current and next generation) and other stakeholders in the importance of environmental stewardship, resource management and best practices.
- Arramara Teo has elevated the commercial profile of Ireland's seaweed resource by improving quality and thus improving the market value of that resource. This has resulted in a shift away from base materials supply and toward added value production in western Ireland, including the supply of added-value products in-Ireland and abroad sold as soil conditioners, animal feed supplements and for other uses.

Social

The concepts surrounding the industry's commitment to social enterprise and development is a relatively new global trend. For Arramara Teo, however, such concepts are rooted in the reason for its establishment in the 1940s. Coastal communities had long recognized the benefits garnered from the use of seaweed, but recognition by community and business leaders that an industry based on seaweed could bring life to a community must certainly have been regarded as a novel idea at the time.

Arramara has been able to make a substantial social contribution. The ability of local harvesters to supply this small commercial company with seaweed has been felt by many families along the more remote coastal communities of the west of Ireland.

Cultural

Arramara Teo has been able to contribute to the sustainability of Ireland's language and culture. Again, because of its location and its impact across many communities, Arramara has afforded families the opportunity to remain in their own communities thereby contributing to the various expressions of culture in those areas. This very clearly ties in with Údarás na Gaeltachta's mandate to promote social, cultural and economic activity, to sustain communities, which enables people to continue living in their native areas. Arramara Teo is one of the few private companies that invests in a dual communication strategy. This is evidenced through the investment in the Arramara website with a version as Gaeilge.