



## **Assessment of the nature and extent of seaweed harvesting rights in Kenmare Bay.**

*Supplementary assessment in support of BioAtlantis Ltd.'s application to hand harvest  
Ascophyllum nodosum in Kenmare Bay.*

Prepared by: BioAtlantis Ltd.

Date: 29<sup>th</sup> of July, 2025

BioAtlantis Ltd,  
Clash Industrial Estate,  
Tralee,  
Co. Kerry,  
Ireland.

## Contents

|  |           |
|--|-----------|
| <b>1. Summary.....</b>   | <b>3</b>  |
| <b>2. Aims of this assessment.....</b>   | <b>3</b>  |
| <b>3. Methodology employed:.....</b>   | <b>3</b>  |
| (a) Search for seaweed rights: .....   | 3         |
| (b) Mapping of harvesting rights .....   | 4         |
| (c) Certified folios and maps:.....  | 4         |
| (d) Potential overlap between existing rights and BioAtlantis’ application. ....                 | 4         |
| (e) Revision of BioAtlantis’ harvesting plan .....   | 5         |
| <b>4. Results: .....</b>   | <b>5</b>  |
| (a) Overview:.....   | 5         |
| (b) Appurtenant rights to harvest or gather seaweed.....   | 5         |
| Table 1: Summary of appurtenant rights .....   | 5         |
| (c) Burdens on folios that relate to seaweed: .....  | 6         |
| Table 2: Summary of burdens .....  | 6         |
| (d) Overlap between existing rights and BioAtlantis’ plan to harvest in Kenmare Bay.....         | 7         |
| (e) Revision of the harvesting plan to account for existing seaweed rights.....                  | 8         |
| Table 3: Estimated quantities of <i>A. nodosum</i> in areas with existing harvesting rights..... | 9         |
| (f) Accuracy of the dataset and suitability of the methodology employed. ....                    | 9         |
| (g) Profit-à-Prendre rights.....   | 10        |
| (h) Privately owned maritime areas.....  | 10        |
| <b>5. Conclusions: .....</b>   | <b>10</b> |
| <b>6. Appendices:.....</b>   | <b>11</b> |
| Appendix 1: Seaweed rights specified on folios.....  | 11        |
| (a) Kenmare Bay .....  | 11        |
| (b) Derrynane Bay and neighbouring areas.....  | 13        |
| Appendix 2: Maps showing the location of existing harvesting rights in Kenmare Bay. ....         | 15        |

## 1. Summary

On the 14<sup>th</sup> June, 2022, BioAtlantis Ltd. applied for a foreshore licence to sustainably hand harvest *Ascophyllum nodosum* in Kenmare River SAC, Co. Kerry (Application Reference Number: FS007554). As part of the foreshore licensing process, BioAtlantis liaised with the Property Registration Authority of Ireland (PRAI) in order to establish the extent and nature of existing seaweed rights within the licence area. This report outlines the extent of existing seaweed harvesting rights in Kenmare Bay, with the view to ensuring that there are no in combination effects or spatial overlap between these existing rights and BioAtlantis' license application. In 2018, the PRAI conducted a country-wide search of 'seaweed' in Co. Kerry and Co. Cork, on behalf of BioAtlantis, to identify folios that mention this term. In 2022, BioAtlantis requested that this search be expanded to include synonyms of seaweed, in order to identify any folios that were potentially missed in the previous search. In total, 777 folios with a total of 831 properties/entries with the text 'seaweed' were identified, 1 folio with 1 property/entry with the text 'sea-weed' and 14 folios with the text 'rods'. Eight of these properties/entries are associated with townlands bordering the licence area in Kenmare Bay, including five appurtenant rights in relation to seaweed harvesting/gathering and three with seaweed rights registered as a burden. These rights are associated with four townland areas in inner-Kenmare: Claddanure West, Doon, Dromcunnia and Tubbrid. Details of this assessment are described in this report, along with supporting documentation. In cases where existing seaweed rights were identified, BioAtlantis has designated the areas in question as "non-harvestable". As a condition of any potential licence, BioAtlantis will agree not to engage in any harvesting activities in these areas without first obtaining permission from the person to which those rights belong, thereby ensuring no overlap between the company's licence and any existing seaweed harvesting rights in Kenmare Bay. On the basis of this assessment, the harvesting plan has been updated to account for the exclusion of areas identified as having existing seaweed rights. Where Profit-à-Prendre rights to harvest seaweed are successfully registered with the PRAI/Tailte Éireann in the future, BioAtlantis agree to adjusting the harvesting plan further to ensure that those individuals can continue to harvest *A. nodosum*.

## 2. Aims of this assessment

The aims of this assessment are as follows:

- Identify all existing seaweed harvesting rights in the Kenmare Bay licence application area.
- Determine the nature and spatial extent of those rights.
- Assess the potential for overlap between existing harvesting rights and BioAtlantis' application to harvest seaweed in Kenmare Bay.
- Implement mitigation measures to ensure that there is no overlap between BioAtlantis' plan and existing harvesting rights.
- Provide maps which show the location of existing seaweed rights.
- Update the BioAtlantis harvesting plan and tonnages of harvestable *A. nodosum* in Kenmare Bay, to account for removal of areas with existing rights.

## 3. Methodology employed:

### (a) Search for seaweed rights:

BioAtlantis liaised with the PRAI between August 2018 and October, 2022, to assess the nature and extent of seaweed harvesting rights in the proposed licence area (NOTE: In 2023, the PRAI merged with the Valuation Office and Ordnance Survey Ireland, as part of a new State Agency, Tailte Éireann, <https://www.tailte.ie/en/>). A county wide search was conducted to identify all folios in Cork and Kerry with seaweed mentioned as a burden or appurtenant right.

- **"Servient rights":** These are seaweed harvesting rights which are registered as a burden on Folios. A text based search was performed by the PRAI to identify all folios within the search area where the word "seaweed" occurred.
- **"Appurtenant rights":** A search for appurtenant rights was conducted encompassing the entire area of County Cork and County Kerry. This 'county-wide' search involved searching the term "seaweed" throughout these counties and cross checking the results of the search with townlands located within or connected to the proposed licence area. This allowed for the identification of any appurtenant rights to seaweed across the entire counties of Cork and Kerry that specifically relate to or are linked to those townlands or islands in Kenmare Bay, with foreshore situated within BioAtlantis' proposed licence area.

Spelling variations and synonyms: To reduce the potential for omissions due to variations in spelling in the database and folios, an additional search was conducted between June and October 2022, using 22 additional terms. This included spelling variants and synonyms of the term seaweed. The search focused on the identification of folios that refer to one or more of the following: 'seaweed', 'seeweed', 'sea-weed', 'see-weed', 'sea weed', 'see weed', 'Wrack', 'Bladderwrack', 'Feamainn', 'Winterweed', 'Driftweed', 'Oarweed', 'Mayweed', 'Asco', 'Ascophyllum', 'Laminaria', 'Fucus', 'Rods', 'Kelp', 'Ceilp', 'Driftwood', 'Rockweed'. The purpose of this analysis was to identify any folios that may have been missed in the original searches.

#### **(b) Mapping of harvesting rights**

Based on the search above, the PRAI provided BioAtlantis with a full list of folios that contain the word "seaweed" in Cork and Kerry. The respective shapefiles were obtained from the PRAI which contain data in relation to the location of these appurtenant rights and burdens. Where the location of seaweed rights were not spatially defined, the entire townland containing those rights were marked. Folios containing rights located at sites outside of the licence area were not included in the maps, as there is no spatial overlap between these rights and the activities in the proposed license area.

#### **(c) Certified folios and maps:**

In all cases where "seaweed" was mentioned on folios associated with townlands connected to the proposed license area, BioAtlantis obtained the fully certified folios and maps from the PRAI. These documents may be obtained from BioAtlantis on request. BioAtlantis also liaised with the Records Branch of the Department of Agriculture, Food and the Marine and requested the original Irish Land Commission maps, "Office Maps" and/or "Registry Maps", relevant to folios where seaweed rights are located within the license application area. BioAtlantis examined all certified folios and maps where seaweed was mentioned in order to assess the location of these harvesting rights.

#### **(d) Potential overlap between existing rights and BioAtlantis' application.**

Four main clusters of seaweed rights were identified as being located on the northern shores of Kenmare River SAC as follows: Claddanure West, Doon, Dromcunna and Tubbrid. This data was cross-checked with BioAtlantis' application to harvest *A. nodosum* in Kenmare Bay, in order to determine the potential overlap between these activities. In cases where appurtenant rights are specified, these areas were designated and marked as "non-harvestable", in order to ensure no overlap with BioAtlantis' application. In cases where there are rights to pass and re-pass for the purpose of cutting, drawing, taking or carrying away of seaweed, a precautionary approach was taken to ensure no overlap with the current application. For example, all areas



of intertidal zone bordering townlands with burdens in relation to a right of way to gather seaweed, are marked as “non-harvestable”. A map was created to highlight such areas.

#### (e) Revision of BioAtlantis’ harvesting plan

Q-GIS was used to measure the area of the intertidal zone (m<sup>2</sup>) in Claddanure West, Doon, Dromcunnia and Tubbrid, in which existing seaweed rights are present, i.e. areas marked as “non-harvestable” on the attached map. BioAtlantis’ harvest plan was revised on this basis, accounting for the exclusion of these areas.

## 4. Results:

### (a) Overview:

In a county wide search of Cork and Kerry, a total of 777 folios with a total of 831 properties/entries with the text ‘seaweed’ were identified, 1 folio with 1 property/entry with the text ‘sea-weed’ and 14 folios with the text ‘rods’. The term “Seaweed” was specified in a total of 8 folios in Kenmare Bay. Of these, 5 folios contain appurtenant seaweed harvesting/gathering rights and 3 folios have seaweed rights registered as a burden (Appendix 1(a)). All 5 rights are located within 4 clusters along the northern shore of the bay. All folios specifying rights and rights of way in relation to seaweed, relate to cutting, drawing, taking or carrying away of seaweed. Supplementary searches relating to synonyms of the term ‘seaweed’ did not identify additional folios expressing rights in relation to seaweed harvesting rights within the licence area. A total of 13 folios were identified in Derrynane Bay and neighbouring areas which refer to seaweed (Appendix 1 (b)); however, harvesting will not take place at these locations, as outlined in the application.

### (b) Appurtenant rights to harvest or gather seaweed.

- **Doon:** One appurtenant right was identified in the townland of Doon, which relates to a right to cut, gather and remove seaweed from a spatially defined area.
- **Dromcunnia:** There are four folios in Dromcunnia (also spelled ‘Drumcunnia’), specifying a right of way over land associated with KY10568, for the purpose of taking seaweed.

**Table 1: Summary of appurtenant rights**

| No. | Townland   | No. of folios | Folio numbers | Description of appurtenant right  |
|-----|------------|---------------|---------------|---|
| 1   | Doon       | 1             | KY24508       | There is appurtenant to the property a right to cut, gather and remove seaweed from the foreshore of part of the townland of Doon coloured green at co-ordinates XY: (477298, 566430), (477500, 566590), (477658, 566861) and (477966, 566981).   |
| 2   | Dromcunnia | 4             | KY3585F       | There is appurtenant to the lands a right of way over part of the lands of Drumcunnia in the Barony of Dunkerron South from the point lettered A to the point lettered B on the Registry Map (being portion of the lands comprised in Folio KY10568) for the purpose of taking seaweed only.                          |
|     |            |               | KY10357       | There is appurtenant to the said lands a right of way over part of the lands of Drumcunnia situate as aforesaid from the point lettered A to the point lettered B on the Office Maps (being portion of the lands at the date of this registration comprised in Folio KY10568) for the purpose of taking seaweed only. |
|     |            |               | KY10358       | There is appurtenant to the said lands a right of way over part of the lands of Drumcunnia situate as aforesaid from the point lettered A to the point lettered B   |

| No.   | Townland | No. of folios | Folio numbers | Description of appurtenant right  |
|-------|----------|---------------|---------------|---|
|       |          |               |               | on the Office Maps (O.S. 92) (being portion of the lands at the date of registration comprised in Folio KY10568) for the purpose of taking seaweed only.  |
|       |          |               | KY10515       | There is appurtenant to the said lands a right of way over part of the lands of Drumcunnia situate as aforesaid from the point lettered A to the point lettered B on the Office Maps (being portion of the lands at the date of this registration comprised in Folio KY10568) for the purpose of taking seaweed only. |
| Total |          | 5             |               |   |

**(c) Burdens on folios that relate to seaweed:**

- **Claddanure West:** a burden is registered on a folio which provides for a right of way to pass and repass to access the foreshore and of drawing seaweed from the foreshore.
- **Dromcunnia:** a burden is registered which provides for a right of way to pass and repass to access the foreshore for the purposes of cutting, taking and carrying seaweed therefrom.
- **Tubbrid:** a burden is registered on a folio which provides for a right of way to pass and repass to access the foreshore and to draw seaweed from the foreshore.

**Table 2: Summary of burdens**

| No.   | Townland        | No. of folios | Folio numbers | Description of burden  |
|-------|-----------------|---------------|---------------|--|
| 1     | Claddanure West | 1             | KY30409       | The right of [REDACTED] the registered owner of part of the townland of Claddanure West shown as 7B edged red on the Registry Map thereof (O.S. 93) his heirs and assigns and his servants and members of his family and guests residing with him on foot and with or without horse carts or mechanically propelled vehicles to pass and repass over the property herein by the way coloured yellow and lettered A. B. C. on the Plan thereof for the purpose of access to the foreshore and of drawing seaweed or having access to a boat or bathing.   |
| 2     | Dromcunnia      | 1             | KY31175       | The property is subject to the right of the owners and occupiers of the lands for the time being comprised - Folios 10357, 10358 and 10515, to pass and repass over the lands herein by the way lettered A-B on the Registry Map thereof (O.S. 92) to the foreshore for the purpose of cutting taking and carrying away seaweed therefrom  |
| 3     | Tubbrid         | 1             | KY30864       | Full and free right and liberty for [REDACTED] his heirs and assigns the owner of part of the townland of Tubbrid shown as Plan 2 on the Registry Map thereof (O.S. 93/9) and his and their servants and agents at all times by day or night on foot and with horses, carts and other vehicles to pass and repass over the property herein by the way coloured yellow and lettered E-V-B on the Plan thereof for the purpose servicing the salmon fishery at the point marked B on the foreshore and servicing a boat at the point marked G on the foreshore and also for the purpose of drawing seaweed from the foreshore. |
| Total |                 | 3             |               |  |

**(d) Overlap between existing rights and BioAtlantis' plan to harvest in Kenmare Bay.**

There was a potential overlap between existing harvesting rights and a number of sites in the application area. The intertidal zone associated with townlands where these zones are located are marked as "non-harvestable" (Appendix 2). Harvest activities will not take place in these areas without first obtaining permission from the owner of such rights. Individuals with existing rights to harvest in these areas may supply BioAtlantis with harvested *A. nodosum* if they choose to. The marking of areas with existing rights as "non-harvestable" is summarised below:

- **Doon:** The location of existing appurtenant rights in Doon are clearly marked and indicated by XY coordinates in the folio. There is no spatial overlap between the intertidal zone of the townland of Doon and harvestable areas (coastal zones and islands) marked in the harvest plan. Nevertheless, BioAtlantis will not harvest in these zones of any part of Doon where existing appurtenant rights and burdens exist in relation to seaweed, without first obtaining permission from the owner of such rights.
- **Dromcunnia:** While there are rights of way over parts of land associated with folio KY10568 for the purposes of taking seaweed, the precise locations of such harvesting rights are not known. With this in mind, a conservative and pre-cautionary approach has been taken to ensure that there is no overlap between these existing rights and the current application. In particular, the entirety of Dromcunnia townland has been marked as "non-harvestable". There was a potential overlap or partial overlap between the intertidal zone of the townland of Dromcunnia and two proposed harvest zone sites (originally named CZ 4.4, CZ 4.5). BioAtlantis will not harvest in these zones or any part of Dromcunnia where existing appurtenant rights and burdens exist in relation to seaweed, without first obtaining permission from the owner of such rights.
- **Claddanure West:** While there are rights of way to pass or repass over a property for the purposes of drawing seaweed, the precise locations of such rights are not known. A conservative and pre-cautionary approach has been taken to ensure that there is no overlap between these existing rights and the current application. In particular, the entirety of Claddanure West townland has been marked as "non-harvestable". There is no spatial overlap between the intertidal zone of this townland and harvestable areas (coastal zones and islands) marked in the harvest plan. Nevertheless, BioAtlantis will not harvest in these zones of any part of Claddanure West where existing appurtenant rights and burdens exist in relation to seaweed, without first obtaining permission from the owner of such rights.
- **Tubbrid:** While there are rights of way to pass or repass over a property for the purposes of drawing seaweed, the precise locations of such rights are unknown. A conservative and pre-cautionary approach has been taken to ensure that there is no overlap between these existing rights and the current application. In particular, the entirety of Tubbrid townland has been marked as "non-harvestable". There was a potential overlap or partial overlap between the intertidal zone of this townland one proposed harvest zone site (originally named CZ 5.1). BioAtlantis will not harvest in this zone or any part of Tubbrid where existing appurtenant rights and burdens exist in relation to seaweed, without first obtaining permission from the owner of such rights.

In all cases, the entire intertidal zones of the townlands of Claddanure West, Doon, Dromcunnia and Tubbrid have been designated as "non-harvestable". BioAtlantis will not harvest in any such

area where existing appurtenant rights and burdens exist in relation to seaweed, without first obtaining permission from the owner of such rights. In the application, the above harvestable zones were amended and updated to ensure no spatial overlap with the entire intertidal zones of the townlands of Claddanure West, Doon, Dromcunna and Tubbrid.

**(e) Revision of the harvesting plan to account for existing seaweed rights.**

Given that a number of folios have existing appurtenant rights or burdens in relation to seaweed harvesting, it was considered necessary to update the original harvesting plan. The plan was updated to ensure that areas with existing rights are designated as “non-harvestable”:

- **Dromcunna:** It was initially estimated that Coastal Zone (CZ) CZ 4.4 and CZ 4.5 contain approximately 55.93 T and 46.83 T of seaweed respectively, which corresponded to a maximum annual harvest of 20.56 T (11.19 T and 9.37 T respectively). As CZ 4.4 and CZ 4.5 are considered as “non-harvestable” due to the potential presence of existing rights in relation to seaweed in Dromcunna, it was necessary that harvesting plan be updated to restrict harvest to locations outside these “non-harvestable” areas. Taking a precautionary approach, the revised harvest plan precludes any harvesting within the intertidal zone of the townland of Dromcunna, thus ensuring no overlap between the license area and areas with existing rights in relation to seaweed (See Table 3).
- **Tubbrid:** CZ 5.1 was estimated to contain 43.69 T of seaweed, corresponding to a maximum annual harvest of 8.74 T. As part of CZ 5.1 is considered “non-harvestable” due to the potential presence of harvesting rights in relation to seaweed in Tubbrid, the harvesting plan was updated to restrict harvest to locations outside these “non-harvestable” areas. The harvest plan was updated to preclude harvesting within the intertidal zone of Tubbrid townland, ensuring no overlap between the license area and areas with existing seaweed harvesting rights (See Table 3).
- **Doon:** No spatial overlap between harvestable areas in the original application and the intertidal zone of Doon have been identified.
- **Claddanure West:** No spatial overlap between harvestable areas in the original application and the intertidal zone of Claddanure West have been identified.

To ensure that appurtenant rights or burdens in relation to seaweed harvesting are unaffected, harvesting will not take place within the intertidal zones associated with townlands of Doon, Dromcunna, Claddanure West and Tubbrid, without first obtaining permission from the owner of such rights. CZ 4.4, CZ 4.5 and CZ 5.1 have been amended or removed from harvesting plan and associated maps to ensure no spatial overlap with the intertidal zones of these three townlands. The revised sustainable harvest figures for Kenmare Bay were also revised.

**Table 3: Estimated quantities of *A. nodosum* in areas with existing harvesting rights.**

This table lists townlands in Kenmare Bay where seaweed harvesting rights are associated with property folios, either as appurtenant rights or burdens. Harvest zone ID's represents areas associated with townlands that are likely to contain harvestable levels of *A. nodosum*. Estimated densities and tonnages for each harvesting zone are provided.

| Townlands with existing appurtenant rights or burdens. | Harvesting Zone ID | Total Harvestable Area (m <sup>2</sup> ) | Typical Density (Kg/m <sup>2</sup> ) | Coverage <sup>§</sup> | Harvest levels (Tonne) <sup>†</sup> |                         |
|--|--------------------|--|--------------------------------------|-----------------------|-------------------------------------|-------------------------|
|  |                    |  |                                      |                       | Available Seaweed (T)               | Max. Annual Harvest (T) |
| Dromcunnia   | CZ 4.4             | 15095.85                                 | 3.90                                 | 95                    | 55.93                               | 11.19                   |
| Dromcunnia   | CZ 4.5             | 12280.50                                 | 4.01                                 | 95                    | 46.83                               | 9.37                    |
| Tubbrid  | CZ 5.1             | 15224.40                                 | 4.10                                 | 70                    | 43.69                               | 8.74                    |
| Doon   | n/a                | n/a                                      | n/a                                  | n/a                   | n/a                                 | n/a                     |
| Claddanure West  | n/a                | n/a                                      | n/a                                  | n/a                   | n/a                                 | n/a                     |
| <b>Total (sum of each zone)</b>                        |                    |  |                                      |                       | <b>146.45</b>                       | <b>29.3</b>             |

<sup>†</sup> Maximum Annual Harvest (Tonnes) is calculated as 20% of the total available biomass per site. The figure of 20% refers to the percentage of the total available *A. nodosum* biomass harvested per site, per annum.

<sup>§</sup> Denotes the percentage of coastline that can support *A. nodosum* growth.

n/a, Denotes a lack of spatial overlap between the intertidal zone of townlands and proposed harvestable areas.

#### **(f) Accuracy of the dataset and suitability of the methodology employed.**

The PRAI previously confirmed to BioAtlantis that the confidence level for searches conducted using the term “seaweed” is considered as very high. The PRAI considered that all folios containing the word “seaweed” within the polygon submitted render an accurate result for the area. It is considered likely that the search has identified all appurtenant seaweed rights in the Cork and Kerry area associated with Kenmare Bay. The PRAI previously pointed out that while searches for “seaweed” are considered to provide accurate results, there is the potential for a margin of error due to errors in the data captures of the some of the folios. It is also possible that there are errors in the system, i.e. errors by omission may have occurred when transcribing the old folios into digital format. Regardless of these potential limitations, the search based on the term “seaweed”, is likely to have rendered accurate results for both islands and coastal properties in the Kenmare Bay area.

The potential for omissions to arise due to variations in spelling in the database and folios was assessed in a separate county wide search of Cork and Kerry, including a total of 22 terms representing variations or synonyms of the term seaweed. Just two of these terms were identified in folios from Cork and Kerry with the term ‘sea-weed’ arising once 1 and ‘rods’ on 14 occasions. None of the folios mentioning these terms are related to the license area or harvesting activities in this application. This analysis shows that while the datasets generated in this assessment are accurate, there is a low margin for error due to potential for variations or misspelling of the term seaweed or synonyms of seaweed. However, these appear to represent rare cases. Overall, this analysis demonstrates that while the term “seaweed”

captures the majority of seaweed harvesting rights, it is also important to extend searches to include other spelling variations or synonyms of this term.

It has previously been recommended for applicants to check folios for all the lands bordering within 1 mile of the foreshore, as a means of ensuring that all seaweed rights are captured effectively. This assessment was undertaken on a broader county wide basis, to ensure that potential rights extended outside the area were captured. The PRAI took a novel approach to identifying appurtenant rights in the licence area by conducting a county wide search of all appurtenant seaweed rights in Cork and Kerry. By examining the descriptions of burdens and appurtenant rights on each folio individually, it was possible to identify specific folios that relate to seaweed within Kenmare Bay specifically. This approach of conducting a county wide search and examining each individual folio description resulting from the search, would appear to represent an effective approach to identifying existing seaweed harvesting rights in the license area. The information in the registered folios and associated maps are considered the official record of existing harvesting rights in Kenmare Bay.

**(g) Profit-à-Prendre rights**

While this study has identified existing registered rights to harvest seaweed in the proposed license area, it does not include any future rights that may be registered as “Profit-à-Prendre”. Where Profit-à-Prendre rights to harvest seaweed are successfully registered with Tailte Éireann in the future, BioAtlantis agree to adjusting the harvesting plan further to ensure that those individuals can continue to harvest *A. nodosum*. This ensures that there is no spatial overlap between the company’s licence and any Profit-à-Prendre rights registered into the future.

**(h) Privately owned foreshore/maritime areas**

The foreshore/maritime area is primarily in State ownership. The following islands are known as being in private in ownership: Rossdohan island, Dinish Island, Illaunslea, and Garinish Island. Rossmore Island is also regarding as private. Harvesting will not take place in privately owned maritime areas without prior consent on the property owners.

## **5. Conclusions:**

This assessment has identified the nature and extent of existing seaweed harvesting rights in Kenmare Bay, using folios, certified folios, maps and shapefiles provided by the PRAI. Intertidal zone areas associated with townlands identified as having existing seaweed rights have been designated by BioAtlantis as “non-harvestable”. As a condition of any potential licence, BioAtlantis will agree not to engage in any harvesting activities in these areas, without first obtaining permission from the owner of such rights. This will ensure that there is no overlap between the company’s licence and any existing seaweed harvesting rights in Kenmare Bay. Where Profit-à-Prendre rights to harvest seaweed are registered in the future, BioAtlantis agree to adjusting the harvesting plan further to ensure the continuation of *A. nodosum* harvesting by individuals who have secured such rights.

## 6. Appendices:

### Appendix 1: Seaweed rights specified on folios.

#### (a) Kenmare Bay

A summary of folios in the license area of Kenmare Bay which relate to seaweed are outlined in the table below.

| Folio no. | Location of right (Townland) | Map no. | Marked on map              | Type of seaweed right                           | Right shared with other folios           | Description of rights as described in the respective folio.   | Folio Ref. (page number)   |
|-----------|------------------------------|---------|----------------------------|---|--|---|--|
| KY24508   | Doon                         | ---     | Coordinates provided       | Appurtenant harvesting right.                   | None indicated                           | There is appurtenant to the property a right to cut, gather and remove seaweed from the foreshore of part of the townland of Doon coloured green at co-ordinates XY: (477298, 566430), (477500, 566590), (477658, 566861) and (477966, 566981).   | <b>Folio ref:</b> pg. 1 of 4<br><b>Certified Folio ref:</b> pg. 1 of 4 |
| KY3585F   | Dromcunna                    | ---     | Lettered A-B               | Appurtenant harvesting right.                   | KY10357<br>KY10358<br>KY10515<br>KY31175 | There is appurtenant to the lands a right of way over part of the lands of Dromcunna in the Barony of Dunkerron South from the point lettered A to the point lettered B on the Registry Map (being portion of the lands comprised in Folio KY10568) for the purpose of taking seaweed only.                               | <b>Folio ref:</b> pg. 2 of 5<br><b>Certified Folio ref:</b> pg. 2 of 5 |
| KY10357   | Dromcunna                    | ---     | Lettered A-B               | Appurtenant harvesting right.                   | KY10358<br>KY10515<br>KY3585F<br>KY31175 | There is appurtenant to the said lands a right of way over part of the lands of Dromcunna situate as aforesaid from the point lettered A to the point lettered B on the Office Maps (being portion of the lands at the date of this registration comprised in Folio KY10568) for the purpose of taking seaweed only.      | <b>Folio ref:</b> pg. 2 of 5<br><b>Certified Folio ref:</b> pg. 2 of 6 |
| KY10358   | Dromcunna                    | OS 92   | Lettered A-B               | Appurtenant harvesting right.                   | KY10357<br>KY10515<br>KY3585F<br>KY31175 | There is appurtenant to the said lands a right of way over part of the lands of Dromcunna situate as aforesaid from the point lettered A to the point lettered B on the Office Maps (O.S. 92) (being portion of the lands at the date of registration comprised in Folio KY10568) for the purpose of taking seaweed only. | <b>Folio ref:</b> pg. 2 of 5<br><b>Certified Folio ref:</b> pg. 2 of 5 |
| KY10515   | Dromcunna                    | ---     | Lettered A-B               | Appurtenant harvesting right.                   | KY10357<br>KY10358<br>KY3585F<br>KY31175 | There is appurtenant to the said lands a right of way over part of the lands of Dromcunna situate as aforesaid from the point lettered A to the point lettered B on the Office Maps (being portion of the lands at the date of this registration comprised in Folio KY10568) for the purpose of taking seaweed only.      | <b>Folio ref:</b> pg. 2 of 6<br><b>Certified Folio ref:</b> pg. 2 of 6 |
| KY30409   | Claddanure West              | OS93    | 7B<br>Lettered A.<br>B. C. | <b>Burden:</b> Right to pass and repass to draw | None indicated                           | The right of [REDACTED] the registered owner of part of the townland of Claddanure West shown as 7B edged red on the Registry Map thereof (O.S. 93) his heirs and assigns and his servants and members of his family and guests residing with him on foot and with or   | <b>Folio ref:</b> pg. 4 of 4   |

| Folio no. | Location of right (Townland) | Map no.  | Marked on map  | Type of seaweed right  | Right shared with other folios           | Description of rights as described in the respective folio.   | Folio Ref. (page number)   |
|-----------|------------------------------|----------|----------------|--|--|---|--|
|           |                              |          |                | seaweed.   |  | without horse carts or mechanically propelled vehicles to pass and repass over the property herein by the way coloured yellow and lettered A. B. C. on the Plan thereof for the purpose of access to the foreshore and of drawing seaweed or having access to a boat or bathing.  | <b>Certified Folio ref:</b> pg. 5 of 5                                 |
| KY31175   | Dromcunna                    | OS 92    | Lettered A-B   | <b>Burden:</b> Right to pass and repass for cutting, taking and carrying away seaweed.   | KY10357<br>KY10358<br>KY10515<br>KY3585F | The property is subject to the right of the owners and occupiers of the lands for the time being comprised - Folios 10357, 10358 and 10515, to pass and repass over the lands herein by the way lettered A-B on the Registry Map thereof (O.S. 92) to the foreshore for the purpose of cutting taking and carrying away seaweed therefrom   | <b>Folio ref:</b> pg. 4 of 5<br><b>Certified Folio ref:</b> pg. 4 of 5 |
| KY30864   | Tubbrid                      | OS 93/9  | Lettered E-V-B | <b>Burden:</b> Right to pass and repass to draw seaweed.   | None indicated                           | Full and free right and liberty for [REDACTED] his heirs and assigns the owner of part of the townland of Tubbrid shown as Plan 2 on the Registry Map thereof (O.S. 93/9) and his and their servants and agents at all times by day or night on foot and with horses, carts and other vehicles to pass and repass over the property herein by the way coloured yellow and lettered E-V-B on the Plan thereof for the purpose servicing the salmon fishery at the point marked B on the foreshore and servicing a boat at the point marked G on the foreshore and also for the purpose of drawing seaweed from the foreshore.  | <b>Folio ref:</b> pg. 6 of 6<br><b>Certified Folio ref:</b> pg. 6 of 6 |
| KY10568   | Dromcunna                    | OS 92/12 | Lettered C E D | <b>Burden:</b> Right to pass and repass. Purpose not indicated on folio. However KY10568 is referred to in folios KY10357, KY10358, KY10515 and KY3585F. | None indicated                           | The right of Dromquinna Estate Limited their successors and assigns the owners of part of the townland of Dromcunna shown as plans 2 and 10568 respectively edged red on the Registry Map thereof (O.S. 92/12) and their servants, agents and guests on foot at all times of the day or night to pass and repass over the property herein by the way coloured yellow and lettered C E D on the plan thereof (or as close as possible thereto having regard to the nature of the terrain) The description of the land affected by the above right is as set out on the Registry Map. In the event that the above entry includes lettering or other alpha numeric references as part of the description of the subject lands, where such lettering or alpha numeric references are not now shown on the Registry Map, the description on the Registry Map prevails and is deemed to be the description of the affected property for the purposes of the Registration of Deeds and Title Acts 1964 and 2006. | <b>Folio ref:</b> n/a<br><b>Certified Folio ref:</b> n/a               |



**(b) Derrynane Bay and neighbouring areas**

A summary of folios in Derrynane Bay and neighbouring areas which relate to seaweed are outlined in the table below. **NOTE:** Harvesting will not take place in Derrynane Bay or neighbouring areas, as outlined in the application.

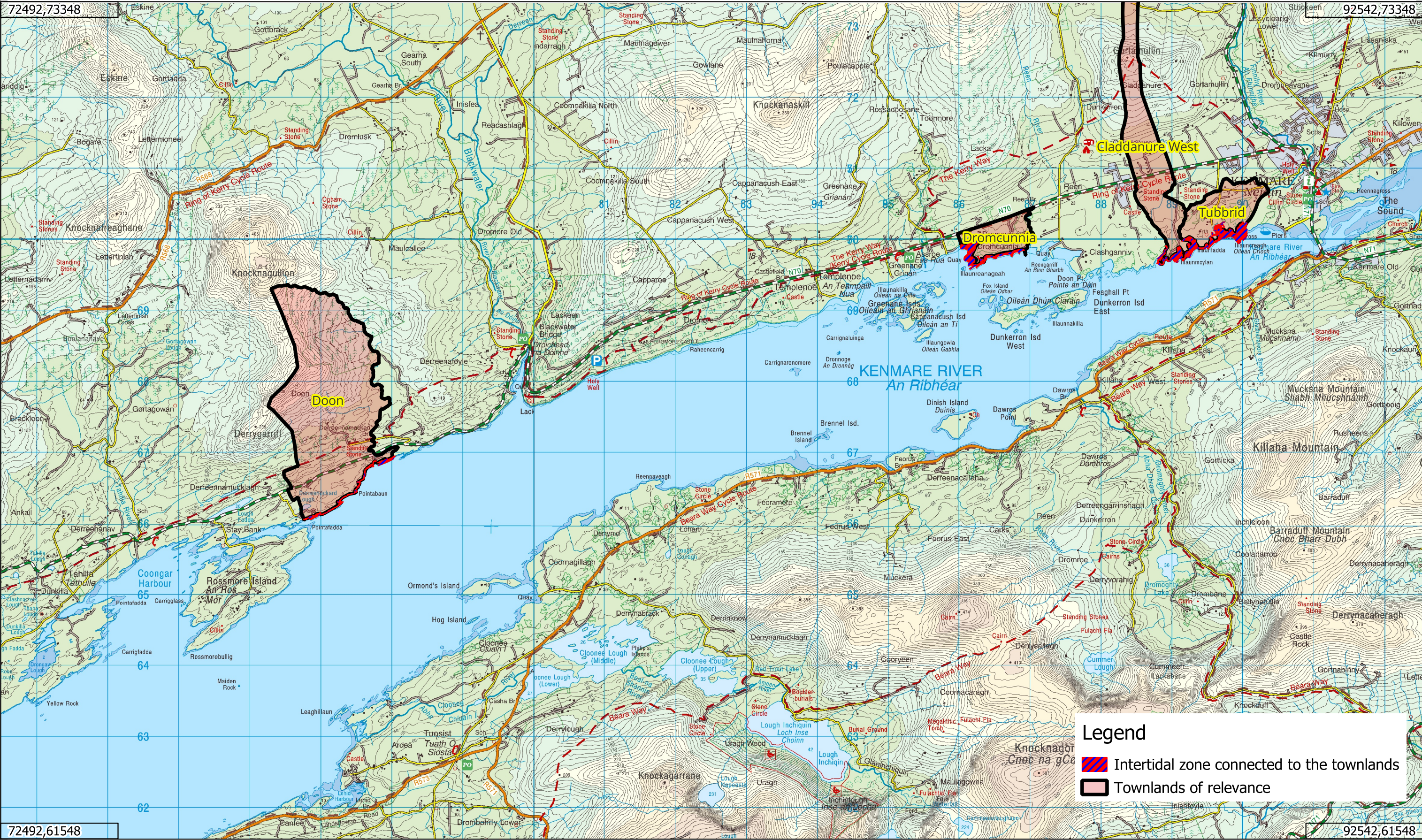
| <b>Folio</b> | <b>Appurtenant right (part 1 of folio)</b>  |
|--------------|---|
| KY7497       | There is appurtenant to the said lands, in conjunction with the property comprised in Folio 31842, a right to the seaweed growing on the lands of Carrigarasty Island containing .1568 hectares or thereabouts, and Illaunathowe Island containing .2858 hectares or thereabouts, both like measure.  |
| KY14150F     | There is appurtenant to the property the right to take seaweed on Kids Island containing 2.275 acres, Carrigillauny Rahilly Island containing 0.094 acres and Carrigaullig Island containing 0.150 acres.   |
| KY16996F     | There is appurtenant to the property in conjunction with the property comprised in Folios KY7947 and KY31842 a right to the seaweed growing on the lands of Carrigarosty Island shown coloured green at co-ordinates XY: (451172, 558818) containing 0.388 acres or thereabouts statute measure and Illavnathowe Island shown coloured green at co-ordinates XY: (451016, 558948) containing 0.706 acres or thereabouts statute measure.  |
| KY20511F     | There is appurtenant to the property No's 3, 4 & 5 the right to take seaweed on Kids Island containing 0.9207 Hectares, Carrigillaunyahilly Island containing 0.0380 Hectares and Carrigavillig Island containing 0.0607 Hectares (O.S. 106/9).   |
| KY23709F     | There is appurtenant to the property in conjunction with the property comprised in folio's: KY7497, KY16996F and KY31842, a right to the seaweed growing on the lands of Carrigarosty Island, shown coloured green at co-ordinates XY: (451172, 558818) and containing 0 acres 1 rood 22 perches or thereabouts statute measure and Illavnathowe Island shown coloured green at co-ordinates XY: (451016, 558948) and containing 0 acres 2 roods 33 perches or thereabouts statute measure. |
| KY27825F     | There is appurtenant to the property a right to the seaweed growing on the lands of Kids Island containing 2A:1R:4P shown at the area coloured green at co-ordinates: XY: (450297,558915) Carrigavallig Island containing 0A:0R:15P shown at the area coloured green at co-ordinates: XY: (451267,558751) and Carrigillaunyahilly Island containing 0A:0R:24P shown at the area coloured green at co-ordinates: XY: (451269,558901).  |
| KY28896      | There is appurtenant to the property a right to the seaweed growing on the lands of Kids Island containing 2A:1R:4P shown at the area coloured green at co-ordinates: XY: (450297,558915) Carrigavallig Island containing 0A:0R:15P shown at the area coloured green at co-ordinates: XY: (451267,558751) and Carrigillaunyahilly Island containing 0A:0R:24P shown at the area coloured green at co-ordinates: XY: (451269,558901).  |
| KY29027      | There is appurtenant to the property Nos. 1 and 2 in common with the property comprised in Folio 7498 a right to the seaweed growing on the Townlands of Kids Island containing .9206 hectares shown coloured green at co-ordinates XY: (450297, 558914) Carrigavallig Island containing .0379 hectares shown coloured green at co-ordinates XY: (451267, 558751) and Carrigillaunyahilly Island containing .0607 hectares shown coloured green at co-ordinates XY: (451269, 558900).       |
| KY29027      | There is appurtenant to the property No. 3 a right to the seaweed growing on the lands of Kids Island containing .9206 hectares shown coloured green at co-ordinates XY:(450297, 558914), Carrigavallig Island containing .0379 hectares shown coloured green at co-ordinates XY: (451267, 558751) and Carrigillaunyahilly Island containing .0607 hectares shown coloured green at co-ordinates XY: (451269, 558900).  |
| KY31030      | There is appurtenant to the property in conjunction with the property No. 3 Folio KY22451 a right to the seaweed growing on the lands of Kids Island containing 2A:1R:4P or thereabouts Carrigavallig Island containing 0A:0R:15P or thereabouts and Carrigillaunyahilly Island containing 0A:0R:24P or thereabouts all like measure.   |
| KY31842      | There is appurtenant to the property in conjunction with the property comprised in Folio KY7497 and Folio KY16996F and KY23709F a right to the seaweed growing on the lands of Carrigorosty Island at the area coloured green at co-ordinates: XY: (451173,558818) and Illaknathowe Island at the area coloured green at co-ordinates: XY: (451016,558948).   |


|          |  |
|----------|--|
| KY35107  | There is appurtenant to the property herein in common with the property comprised in Folios KY7498 and KY29027 a right to the seaweed growing on the townlands of Kids Island containing 2a.1r.4p. Carrigavallig Island containing 0a.0r.15p. and Carrigillaunrahilly Island containing 0a.0r.24p. |
| KY65170F | There is appurtenant to the property 1 the right to take seaweed on Kids Island containing 0.9207 Hectares, Carrigillaunyahilly Island containing 0.0380 Hectares and Carrigavillig Island containing 0.0607 Hectares (O.S. 106/9).  |

## **Appendix 2: Maps showing the location of existing harvesting rights in Kenmare Bay.**

Appendix 2 includes maps showing the locations of townlands (Claddanure West, Dromcunna, Tubbrid and Doon) with property folios referring to appurtenant rights or burdens in relation to seaweed. Areas of intertidal zone associated with these townlands is marked are non-harvestable (see next page).





|                                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |      |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
|---------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|------|--|--|--|--|----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|---|--|--|--|--|---|--|--|--|--|---|--|--|--|--|---|--|--|--|--|--------------------|--|--|--|--|--|--|--|--|--|
| PREPARED BY                     |  |  |  |  |  |  |  |  |  | TITLE  |  |  |  |  |  |  |  |  |  | Townlands associated with appurtenant rights or burdens in relation to seaweed within Kenmare Bay. |  |  |  |  |   |  |  |  |  |      |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| [Redacted]                      |  |  |  |  |  |  |  |  |  | PROJECT  |  |  |  |  | Kenmare Bay: Application to sustainably hand harvest Ascophyllum nodosum |  |  |  |  |  |  |  |  |  |   |  |  |  |  | DATE |  |  |  |  | 02-JUL-2024    |  |  |  |  | <div></div> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| Revision: A                     |  |  |  |  |  |  |  |  |  | SCALE 1:50,000   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |      |  |  |  |  | DRAWING NUMBER |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| Projection: Transverse Mercator |  |  |  |  |  |  |  |  |  | 0  |  |  |  |  |  |  |  |  |  | 1  |  |  |  |  | 2 |  |  |  |  | 3    |  |  |  |  | 4              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 |  |  |  |  | 6 |  |  |  |  | 7 |  |  |  |  | 8 |  |  |  |  | 9 |  |  |  |  | HRVST-KMRE-A-00218 |  |  |  |  |  |  |  |  |  |
|                                 |  |  |  |  |  |  |  |  |  | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |      |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |

