



AQUAFACT

Revision A

Biomass Calculations

to accompany Foreshore Licence Application

for Seaweed Harvesting

around Muckross Head, Co. Donegal

Produced by

AQUAFACT International Services Ltd

On behalf of

AlgAran Seaweed

February 2015



AQUAFACT INTERNATIONAL SERVICES LTD

12 KILKERRIN PARK

TUAM ROAD


GALWAY CITY

www.aquafact.ie

info@aquafact.ie

tel +353 (0) 91 756812

fax +353 (0) 91 756888

Client	AlgAran Seaweed
Project Title	Foreshore Application for Hand Harvesting of Seaweed in Donegal Bay
Document Title	Biomass Calculations to accompany Foreshore Licence Application for Seaweed Harvesting around Muckross Head, Co. Donegal
Job Number	JN1286
Author	Caroline Roche 

Twenty-eight locations were surveyed from the proposed harvesting area around Muckcross Head. The biomass per 0.25m² quadrat was determined for a number of seaweed species. The locations assessed for biomass can be seen in Figure 1.



Figure 1: Biomass assessment locations

Table 1 shows the biomass determinations for each species assessed. The individual biomass values per species can be seen in this table, along with average biomass in g/0.25m², g/m², kg/m² and tonne/ha.

Table 1: Biomass calculations per species

Site	Species	Biomass (g/0.25m ²)	Average Biomass (g/0.25m ²)	Average Biomass (g/m ²)	Average Biomass (kg/m ²)	Average Biomass (tonne/ha)
A1	<i>Ulva spiralis</i>	284	498.33	1993.33	1.993	19.93
B1	<i>Ulva spiralis</i>	563				
C1	<i>Ulva spiralis</i>	648				
A2	<i>Palmaria palmata</i>	351	281.33	1125.33	1.125	11.25
B3	<i>Palmaria palmata</i>	246				
C6	<i>Palmaria palmata</i>	247				
A4	<i>Ulva lactuca</i>	154	154	616	0.616	6.16
A3	<i>Fucus serratus</i>	1098	1670.67	6682.67	6.683	66.83
B4	<i>Fucus serratus</i>	2840				
C4	<i>Fucus serratus</i>	1074				
A5	<i>Himanthalia elongata</i>	2444	2653.67	10614.67	10.615	106.15
B2	<i>Himanthalia elongata</i>	3095				
C2	<i>Himanthalia elongata</i>	2422				
D5	<i>Laminaria digitata</i>	665	2333.8	9335.2	9.3352	93.352
D6	<i>Laminaria digitata</i>	2838				
B5	<i>Laminaria digitata</i>	2943				
C5	<i>Laminaria digitata</i>	2945				
A6	<i>Laminaria digitata</i>	2278				
B6	<i>Chondrus crispus</i>	869	494.33	1977.33	1.977	19.77
A7	<i>Chondrus crispus</i>	223				
C3	<i>Chondrus crispus</i>	391				
B7	<i>Ulva-Palmaria</i>	144	144	576	0.576	5.76
B8	<i>Saccharina latissima</i>	307	307	1228	1.228	12.28
C7	<i>Alaria esculenta</i>	868	868	3472	3.472	34.72
D1	<i>Porphyra umbilicalis</i>	350	272.33	1089.33	1.089	10.89
D2	<i>Porphyra umbilicalis</i>	214				
D3	<i>Porphyra umbilicalis</i>	253				
D4	<i>Fucus vesiculosus</i>	771	771	3084	3.084	30.84

Figure 2 shows the rocky intertidal area around Muckcross Head. The rocky intertidal covers an area of 5.34ha (Area A = 0.15ha, Area B = 5.05ha and Area C = 0.14ha). The combined average biomass of all seaweed species is 4.5kg/m² (45.04 tonne/ha). The total seaweed biomass for this section of coastline is estimated at 240.5 tonnes.



Figure 2: Rocky intertidal zone around Muckcross Head

