Red Bay Seagrass Bed – recommendation to the Department of Environment Northern Ireland

Seasearch Northern Ireland would recommend the large subtidal seagrass bed present in the Red Bay/Waterfoot Bay area of Co. Antrim (Fig. 1) for further investigation as a Marine Conservation Zone (MCZ). Whilst DOENI have not identified subtidal seagrass as a Priority Marine Feature (PMF) in the search criteria for the current MCZ process, it remains a priority both in Northern Ireland and the UK as a whole and we believe it is not adequately covered by existing designations.

Seagrass species and habitats are included in a number o designations (OSPAR, NI Priority, UK BAP) and have a well documented marine conservation value, including to commercial fisheries They also have a major role in nutrient cycling and sediment dynamics. Northern Ireland does not possess substantial subtidal seagrass beds and only a few small known beds occur in existing SACs. The seagrass at Red Bay is not within a the current network of marine protected areas for Northern Ireland, although it may be the largest bed in NI and appears to be in good condition with rich associated biodiversity. The area was targeted for survey by Seasearch in 2008, 2009 and 2012 and it is not an area which divers would commonly visit.

Seasearch divers carried out point dives on the bed between 2008 and 2012. Positions given in figure 1 and table 2 are entry positions for dives in which seagrass was present. From these we have calculated approximate bed size (note this excludes the extreme inshore position from Northern Ireland Sublittoral Survey which may be a positioning error). It should be noted that this a very conservative estimate as Seasearch divers dropped on the bed have, as yet, been unable to find its extreme south-east edge – indicating that it is substantially larger. The bed lies with its centre and longest dimension on the 5m (CD) contour which lies north-west to south-east in the bay. The maximum diameter is 407m, the north-east to south-west dimension is 252m. The perimeter of the bed is 1643m and the bed area is 138, 447m^2. These are very approximate estimates and the bed would benefit from full mapping – probably using diver propulsion vehicles due to the bed size.

This is larger than the seagrass bed in Ballyhenry Bay, Strangford (378m by 175m with an area of 38,550m^2) and therefore probably the largest bed in Northern Ireland .

Seasearchn volunteers recorded marine life throughout the bed and identified commercial fish species in addition to a high diversity of epiphytes. Whilst the seagrass bed is patchy in cover (Fig. 2), seagrass was seed-bearing in all the surveys in this seagrass bed. All positions and marine species records from Seasearch have been supplied to DOE via Marine Recorder and also reported on. In 2012 some buddy pairs of divers also collected quantitative data on shoot density and maximum frond lengths throughout the seagrass bed which are summarised in Table 1.

Table 1. Data collected in 2012.

Number of quadrats sampled	Quadrat size	Average shoot density per quadrat	Shoot density per m^2	Maximum frond length recorded (cm)	Average maximum frond length (cm)
18	25cm x 25cm	9.3	149	50	33 cm

Positional data from Seasearch Northern Ireland and previous sublittoral surveys in the area are shown in Figure 1 and Table 2.

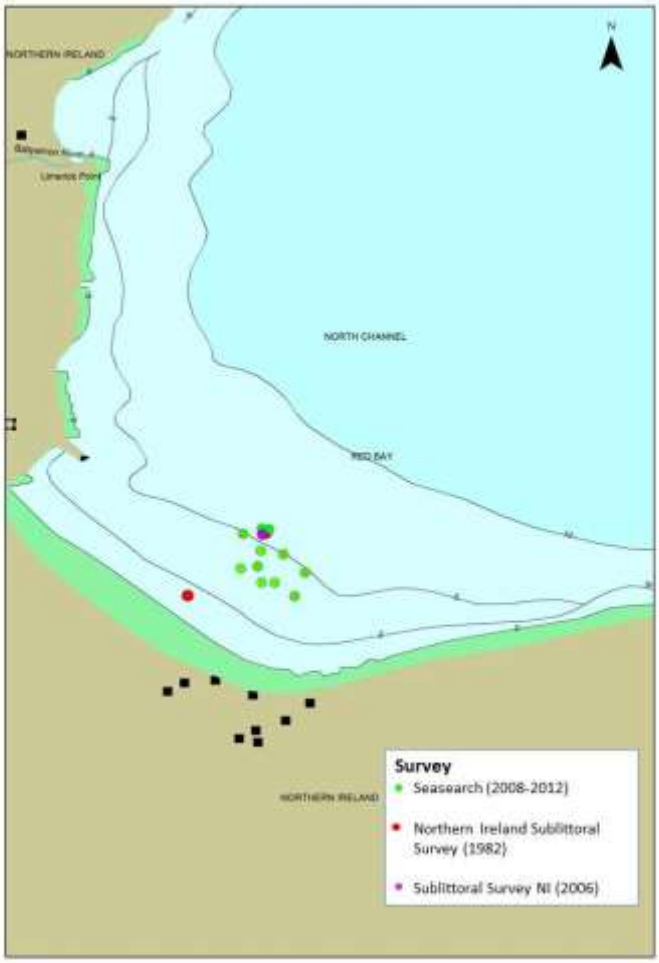

Figure 1. Seagrass (*Zostera marina*) records in the Red Bay locality, Co. Antrim.

Figure 2. Volunteer diver on the Red Bay seagrass bed.

We recommend further investigation of this seagrass bed with the view of including it in the network of Marine Protected Areas as an MCZ. Up to date assessment of this area may be required as more recent storm events may have changed the size and quality of the bed since the last survey.

Table 2. Records of seagrass in the Red Bay area.									
SurveyName	EventReference	EventName	Date	LONG	LAT	Max Depth	Min Depth	SpeciesName	Abundance
1982-85 NISS East Coast	550.029	Red Bay (Red Bay)	21/06/1982	-6.0425	55.06166667	-6.5	-2	*Zostera marina*	Present
1982-85 NISS East Coast	550.030	Red Bay (Red Bay)	21/06/1982	-6.046666667	55.05833333	-2.6	0	*Zostera marina*	Present
1982-85 NISS East Coast	550.349	Carnlough Bay (Carnlough Bay)	17/08/1983	-5.978	54.98833333	-7	-3	*Zostera marina*	Present
1982-85 NISS East Coast	550.350	Carnlough Bay (Carnlough Bay)	17/08/1983	-5.984666667	54.98633333	-2	0	*Zostera marina*	Present
2006 SSNI East Antrim	060614/01	Red Bay	14/06/2006	-6.0426888	55.06157596			*Zostera marina*	Present
2008 Seasearch	NI8/073	Red Bay Seagrass Bed	25/08/2008	-6.04270623	55.06159337	-6.35	-6.15	*Zostera marina*	Common
2008 Seasearch	NI8/072	Cushendall Bay Seagrass Bed	25/08/2008	-6.042341535	55.06186185	-7.1	-5.3	*Zostera marina*	Frequent
2008 Seasearch	NI8/061	Seagrass Bed, Red Bay, Cushendall	25/08/2008	-6.04270623	55.06159337	-7.3	-6.3	*Zostera marina*	Present
2008 Seasearch	NI8/075	Red Bay Seagrass Bed	25/08/2008	-6.042720925	55.06189421	-7.2	-5.8	*Zostera marina*	Common
2009 Seasearch	NI9/032	Cushendall Seagrass Bed - CG, DG	27/06/2009	-6.043716667	55.06161667	-7	-6	*Zostera marina*	Common

2009 Seasearch	NI9/048	Red Bay Seagrass Bed	27/06/2009	-6.041580185	55.06052894	-5.8	-5.6	*Zostera marina*	Abundant
2009 Seasearch	NI9/035	Red Bay Seagrass - CG, F	28/06/2009	-6.040425	55.05956667	-7	-6	*Zostera marina*	Abundant
2009 Seasearch	NI9/039	Red Bay Seagrass	28/06/2009	-6.040975	55.05829167	-6	-4	*Zostera marina*	Abundant
2009 Seasearch	NI9/036	Red Bay Seagrass Bed	28/06/2009	-6.04293995	55.05987206	-6.4	-4.9	*Zostera marina*	Common
2009 Seasearch	NI9/071	Red Bay Zostera Bed	26/09/2009	-6.04270623	55.06159337	-6.2		*Zostera marina*	Common
2009 Seasearch	NI9/065	Red Bay Seagrass	26/09/2009	-6.04270623	55.06159337		-7.2	*Zostera marina*	Present
2012 Seasearch	NI12/034	Seagrass	28/07/2012	-6.04277374	55.06070963	-5.2	-5.2	*Zostera marina*	Common
2012 Seasearch	NI12/036	Seagrass	28/07/2012	-6.04383811	55.05976575	-3.7	-3.7	*Zostera marina*	Common
2012 Seasearch	NI12/045	Seagrass	28/07/2012	-6.04277374	55.06070963	-5.6	-5.6	*Zostera marina*	Common
2012 Seasearch	NI12/044	Seagrass	28/07/2012	-6.042728585	55.0590201	-3.7	-3.7	*Zostera marina*	Common
2012 Seasearch	NI12/038	Seagrass	28/07/2012	-6.042053395	55.05900656	-5.2	-5.2	*Zostera marina*	Occasional