

Marine Aquaculture Site **Loch Hourn**

PLANNING APPLICATION

Appendix 10. Loch Hourn Video Survey March 2021

Mowi Scotland Limited
August 2021

Loch Hourn Video Survey March 2021

On the 3rd of March 2021 a video survey was carried out at Loch Hourn. The survey consisted of 2 transects, which have been labelled Transect 3 (T3). T3 consists of a north – south and east – west striking transects. These are both approximately 225 metres long. This area was selected due to the SEPA Aquaculture Modelling Screening & Risk Identification (HNW1) report indicating the presence of the Northern Feather Star (a priority marine feature, PMF) in this area.

During the survey a drop down camera was used in areas where the seabed was mostly flat. A Blueye Pioneer ROV was used to survey the wall and fallen blocks at the south end of T3. Tracks from this survey are shown in Figure 1.

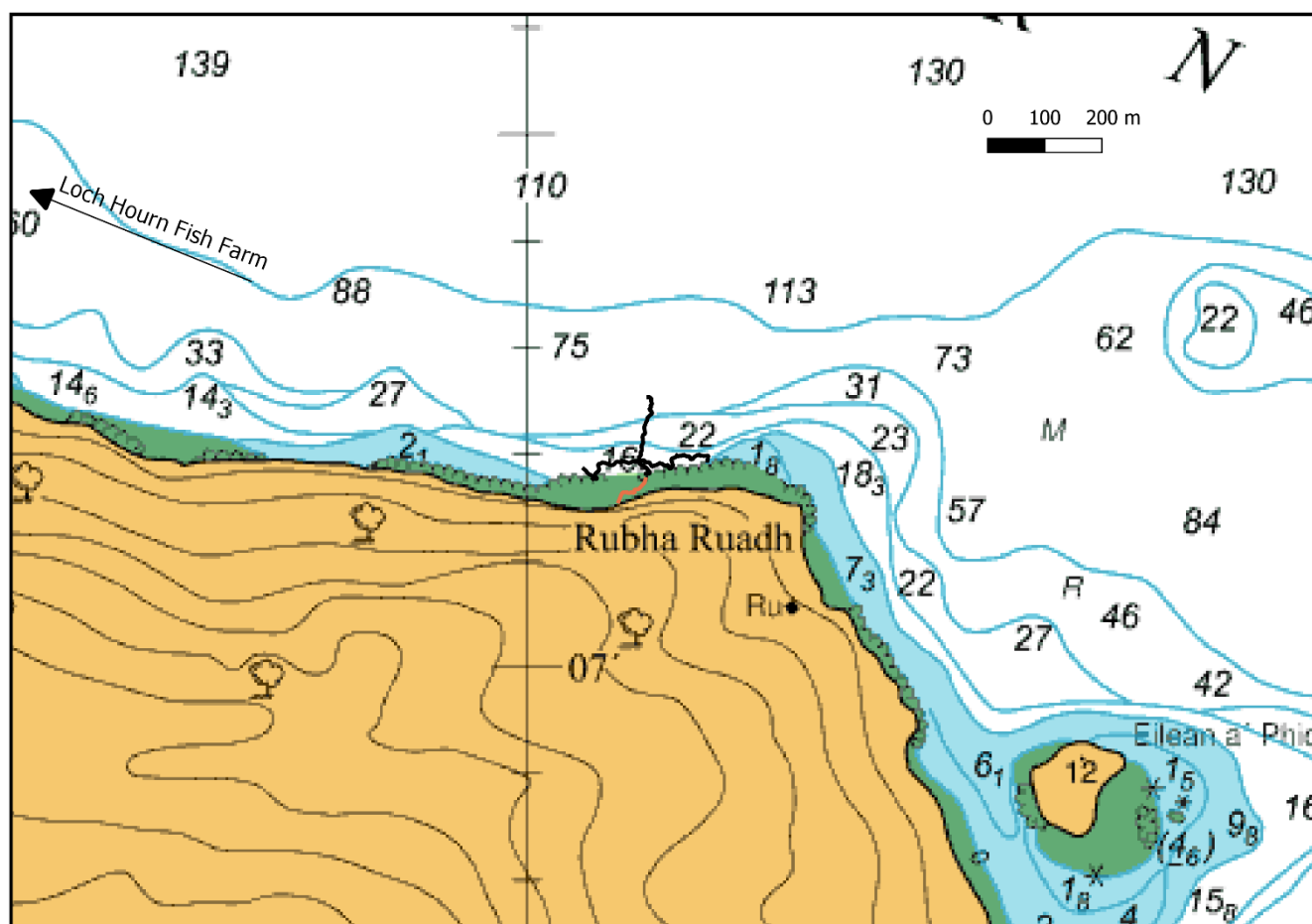


Figure 1: Loch Hourn Video Survey Transect 3. Orange line shows ROV track. Black line shows drop down camera track. A GPS was used on the boat to record the tracks, therefore, some offset is expected between the recorded track and the actual camera position on the seabed.

The video footage was saved and played back in order to identify species occurring on the seabed. A screen shot was taken of each species identified and a frequency estimate recorded based upon a variant of the Marine Scotland Science ROCA abundance scale, combining aspects of the Marine Nature Conservation Review abundance scale. The abundance classification used is defined below:

X	Rare	< 5 in 10 minutes
XX	Occasional	<25 and >5 in 10 minutes

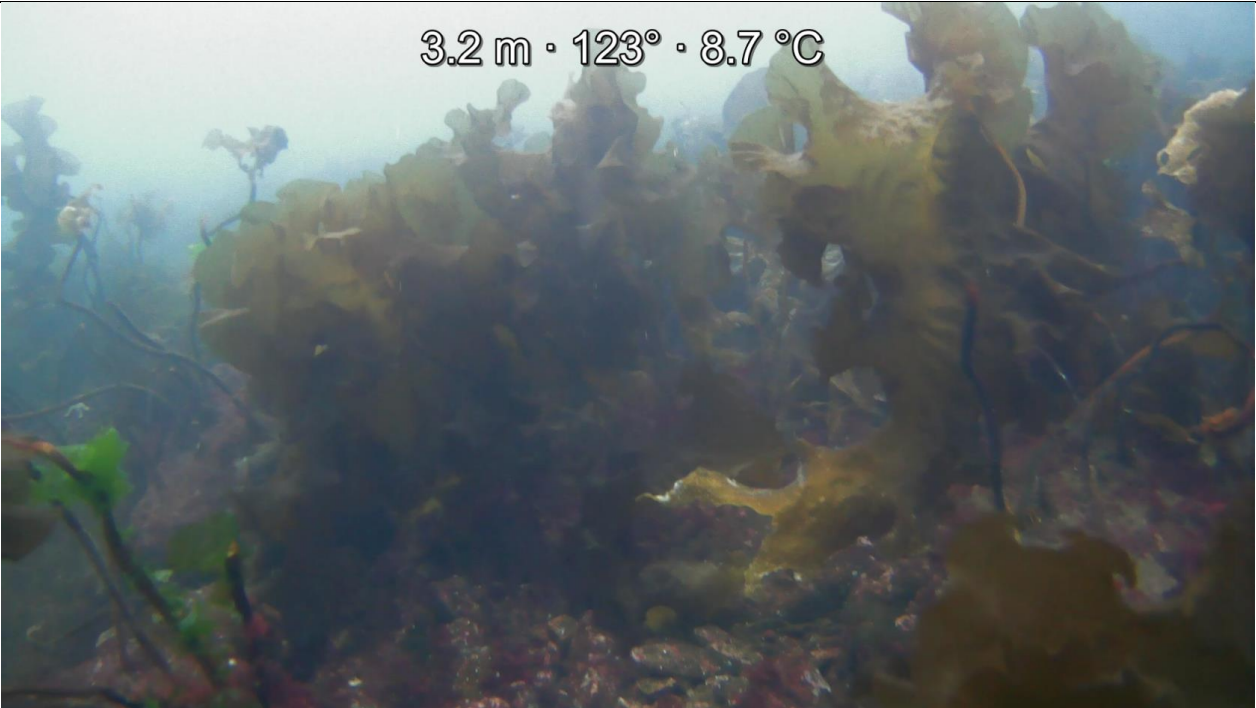
Transect 3 – ROV survey of the wall and fallen blocks. See Figure 1 for track.

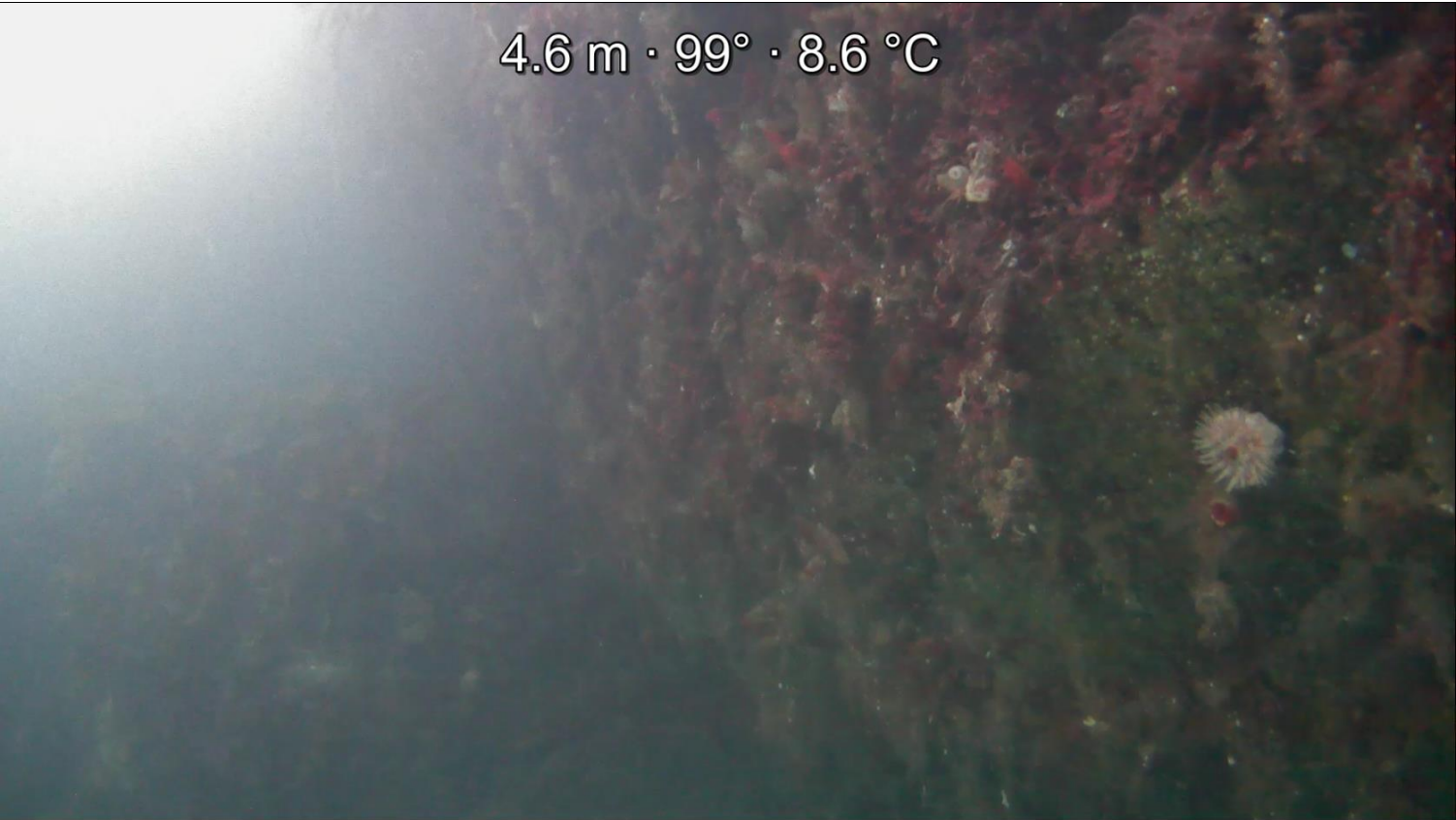
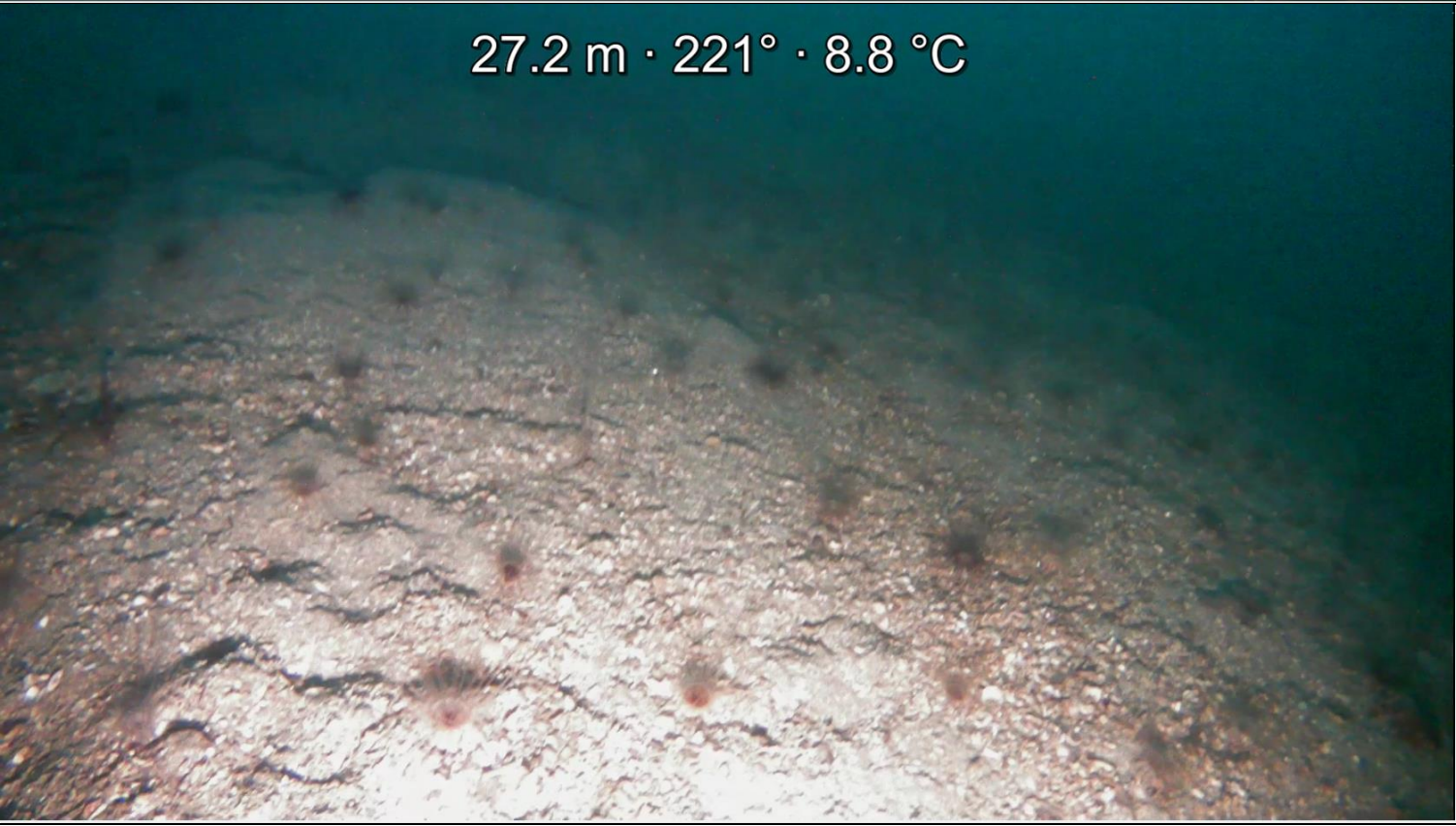
Transect start:
BNG
182321
808889



Transect end:
BNG 182369
808925


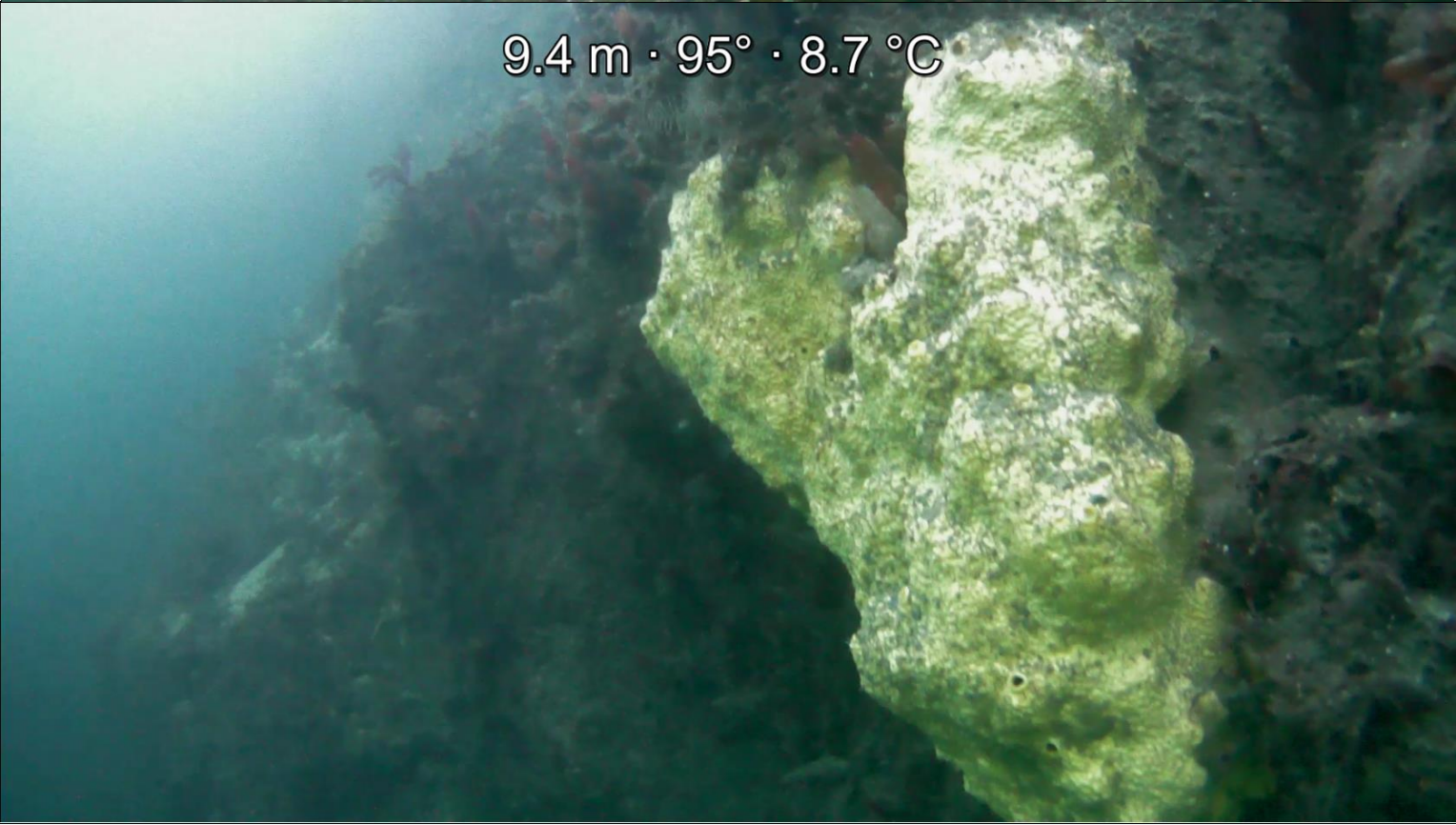
Orientation:
E to W

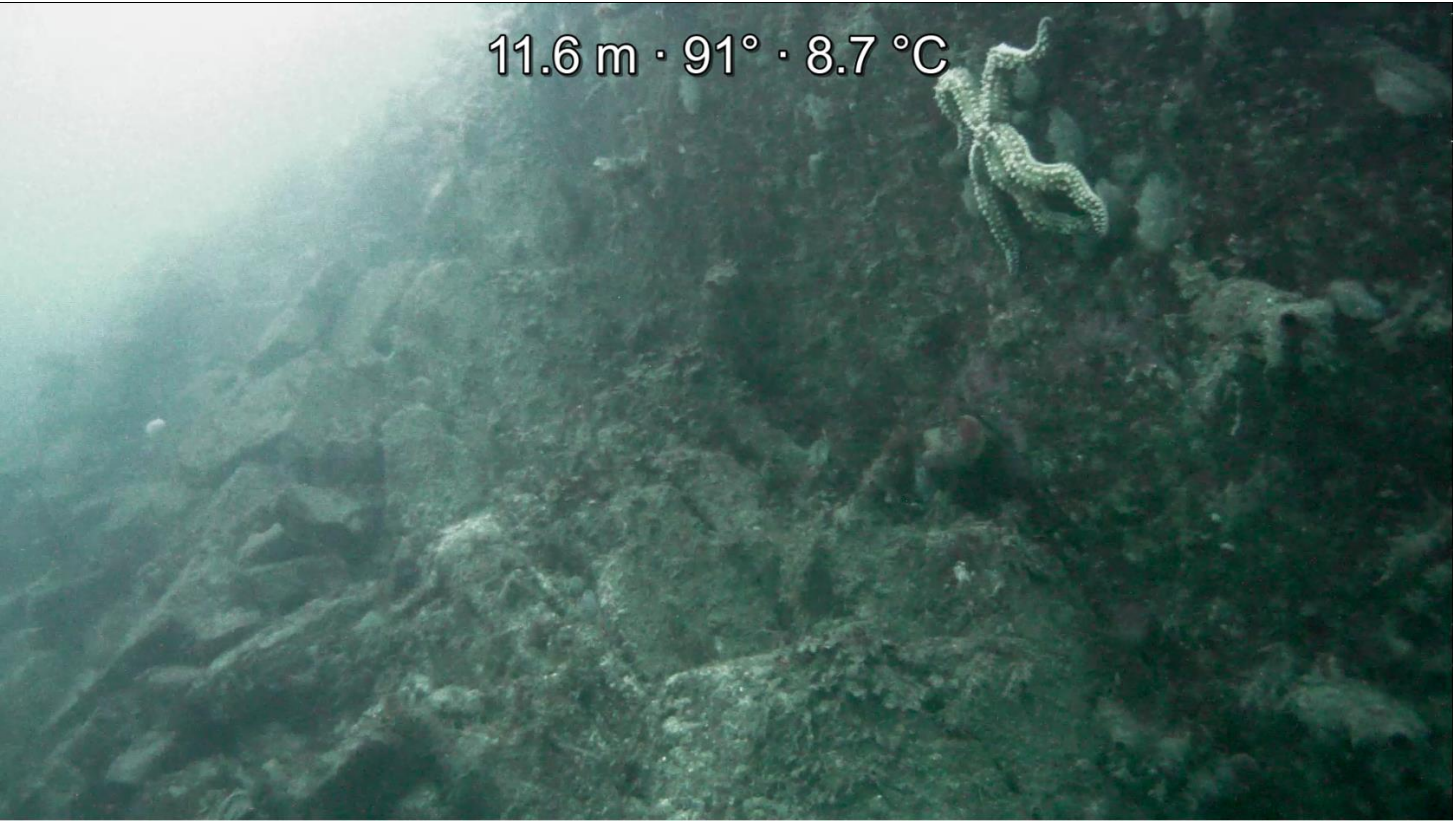

Transect Length:
65m


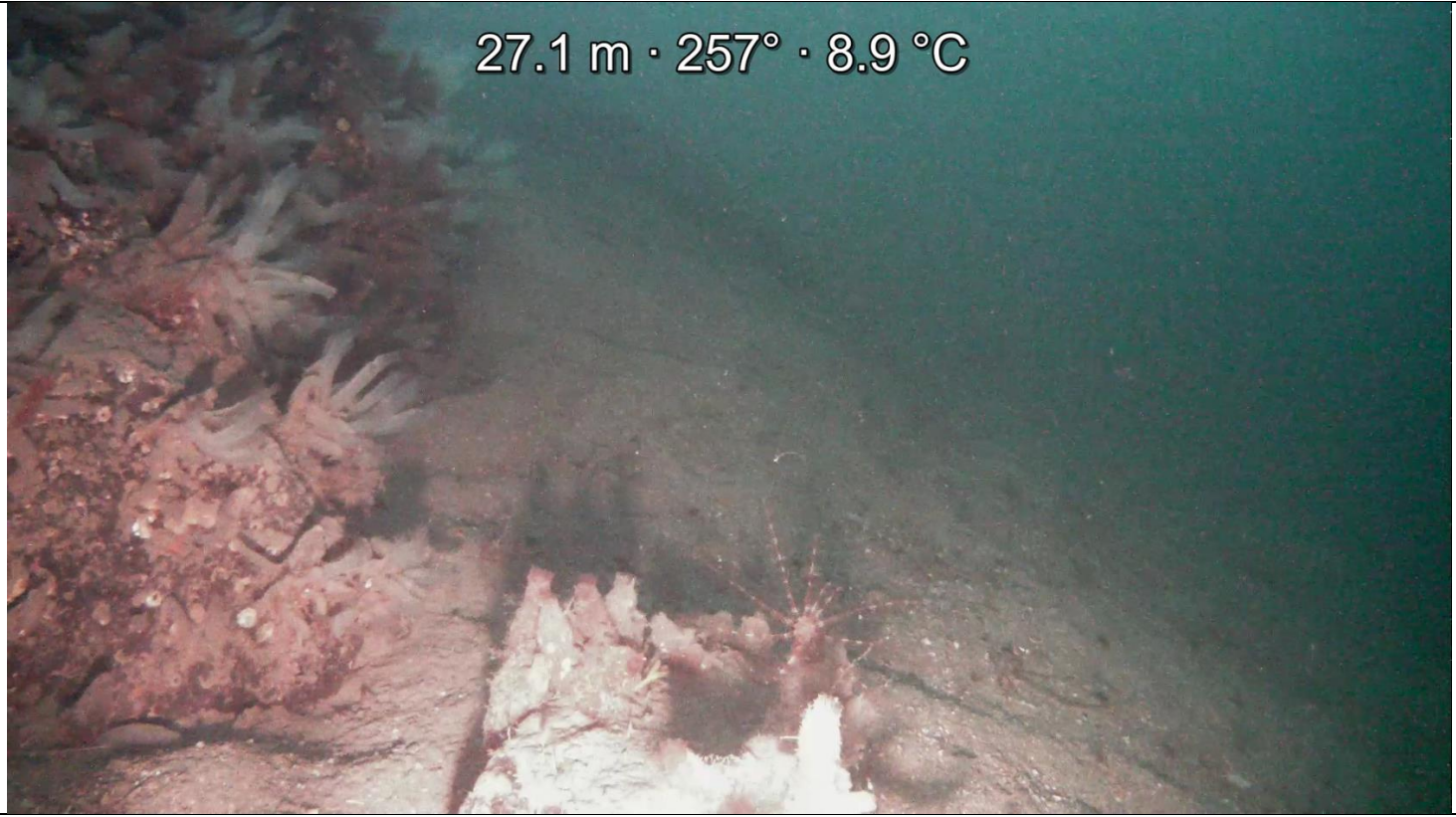
Common Name	Latin Name	Status	Screen shot		Time frame (video)	Video File	SACFOR estimate
Sugar Kelp	<i>Saccharina latissima</i>	No special status			00:11	video_BYEDP190287_2021-03-02_105632.mp4	Abundant
Hydroid and Sea Squirts encrusting the wall.	<i>Hydroid spp.</i> <i>and</i> <i>Ascidia mentula</i>	No special status			00:31	video_BYEDP190287_2021-03-02_104135.mp4	Common

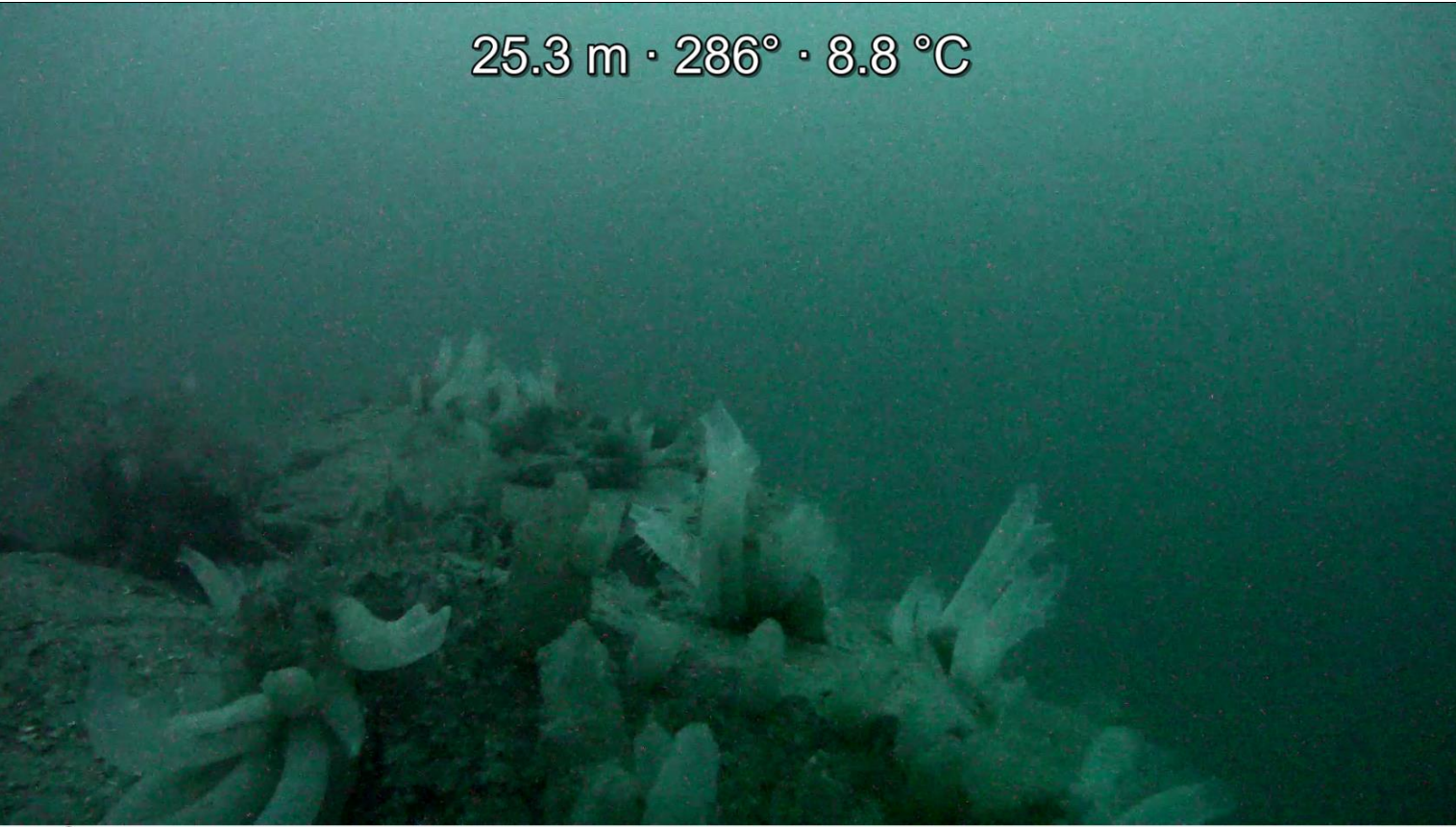

Anemone	<i>Anthozoa spp.</i>	No special status		 <p>4.6 m · 99° · 8.6 °C</p>		00:44	video_BYEDP190287_2021-03-02_104135	Occasional
Tube Anemone	<i>Ceriantharia spp.</i>	No special status		 <p>27.2 m · 221° · 8.8 °C</p>		00:34	video_BYEDP190287_2021-03-02_104758.mp4	Abundant



Common Sea Urchin	<i>Echinus esculentus</i>	No special status		 <p>21.4 m · 170° · 8.8 °C</p>		01:23	video_BYEDP190287_2021-03-02_104858.mp4	Occasional
Pollack	<i>Pollachius pollachius</i>	No special status		 <p>21.1 m · 150° · 8.8 °C</p>		01:39	video_BYEDP190287_2021-03-02_104858.mp4	Rare

Spiny Spider Crab	<i>Maja brachydactyla</i>	No special status		01:40	video_BYEDP190287_2021-03-02_111159.mp4	Occasional
Sponge	<i>Porifera Spp.</i>	No special status		02:19	video_BYEDP190287_2021-03-02_111159.mp4	Occasional

Spiny Starfish	<i>Marthasterias glacialis</i>	No special status				00:31	video_BYEDP190287_2021-03-02_111522.mp4	Occasional
Branching sponge	<i>Porifera spp.</i>	No special status				01:01	video_BYEDP190287_2021-03-02_111817.mp4	Occasional



Northern Feather Star	<i>Leptometra celtica</i>	Priority Marine Feature		00:25	video_BYEDP190287_2021-03-02_111817.mp4	Rare
Feather Star	<i>Antedon petasus</i>	No special status		00:24	video_BYEDP190287_2021-03-02_112326.mp4	Occasional

Sea Squirts	<i>Ascidacea spp.</i>	No special status		00:03	video_BYEDP190287_2021-03-02_112126.mp4	Common
Edible Crab	<i>Cancer pagurus</i>	No special status		00:17	video_BYEDP190287_2021-03-02_112824.mp4	Occasional

Red Seaweed spp.	<i>Filamentous red seaweed spp. and Foliose red seaweed spp.</i>	No special status		00:39	video_BYEDP190287_2021-03-02_112954.mp4	Abundant
Dead Men's Fingers	<i>Alcyonium digitatum</i>	No special Status		00:11	video_BYEDP190287_2021-03-02_113103.mp4	Frequent


Oarweed	<i>Laminaria digitata</i>	No special status				00:21	video_BYEDP190287_2021-03-02_113103.mp4	Frequent
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Transect 3 – Dropdown Camera Survey, South to North. See Figure 1 for track.								
<u>Transect start:</u> BNG 182372 808935	<u>Transect end:</u> BNG 182382, 809069	<u>Orientation:</u> S to N	<u>Transect Length:</u> 135m					
Common Name	Latin Name	Status	Screen shot			Time frame (video)	Video File	Frequency estimate
King Scallop	<i>Pecten maximus</i>	No special status				01:30	Hourn_T3_South_to_North.ASF	Rare
Long clawed squat lobster	<i>Munida rugosa</i>	No special status				02:15	Hourn_T3_South_to_North.ASF	Frequent

								
Fireworks anemone	<i>Pachycerianthus multiplicatus</i>	PMF				7:32	Hourn_T3_South_to_North.ASF	Rare

Transect 3 – Dropdown Camera Survey, West to East. See Figure 1 for track.

<u>Transect start:</u> BNG 182479, 808953	<u>Transect end:</u> BNG 182262, 808949	<u>Orientation:</u> W to E	<u>Transect Length:</u> 220m			
Common Name	Latin Name	Status	Screen shot	Time frame (video)	Video File	Frequency estimate

Red Cushion Star	<i>Porania pulvillus</i>	No special status				03:31	Hourn_T3_West_to_East_2.ASF	Occasional
Football Sea Squirt	<i>Diazona violacea</i>	No special status				04:01	Hourn_T3_West_to_East_2.ASF	Occasional

Species	Transect 3
<i>Saccharina latissima</i>	Abundant
<i>Hydroid spp.</i>	Abundant
<i>Ascidia mentula</i>	Common
<i>Anthozoa spp.</i>	Occasional
<i>Ceriantharia spp.</i>	Abundant
<i>Echinus esculentus</i>	Occasional
<i>Pollachius pollachius</i>	Rare
<i>Maja brachydactyla</i>	Occasional
<i>Porifera spp.</i>	Occasional
<i>Marthasterias glacialis</i>	Occasional
<i>Porifera spp.</i>	Occasional
<i>Leptometra celtica</i>	Rare
<i>Antedon petasus</i>	Occasional
<i>Ascidacea spp.</i>	Common
<i>Cancer pagurus</i>	Occasional
<i>Filamentous red seaweed spp.</i>	Abundant
<i>Foliose red seaweed spp.</i>	Abundant
<i>Alcyonium digitatum</i>	Frequent
<i>Laminaria digitata</i>	Frequent
<i>Pecten maximus</i>	Rare
<i>Munida rugosa</i>	Frequent
<i>Pachycerianthus multiplicatus</i>	Rare
<i>Porania pulvillus</i>	Occasional
<i>Diazona violacea</i>	Occasional

Table 1: A summary of species identified and their SACFOR abundance

Habitats			
Feature	Component biotopes/ species (biotope/ common name)	Component biotopes/species (biotope code/ species name)	Quality
Burrowed mud	Fireworks anemone	<i>Pachycerianthus multiplicatus</i>	Low / Rare
Species			
Feature	Species Name	Taxon group	Quality
Northern Feather Star	<i>Leptometra celtica</i>	Starfish and feather stars	Low / Rare

Table 2: Priority Marine Features identified in the Loch Hourn seabed survey

Conclusion

Several marine habitats are seen across Transect 3 covering littoral, infralittoral and circalittoral zones. Both rock and sediment substrates are present with a wealth of species identifiable. The species composition points to a lower energy environment. This is backed up by the sheltered location approximately 7.5km from the mouth of the sea loch.

At the south end of the transect in the infralittoral zone there is a vertical wall which was surveyed by ROV. This can be classified as **IR.LIR.K.Lsac.Ldig** supported by the presence of several species of kelp. Moving northwards into deeper water the habitat crosses into **CR.LCR.BrAs.AntAsH** with various feather stars, seasquirts, hydroids and erect sponges present. Further north and in deeper water the rocky substrate gives way to sandy muds and mixed sediments classified as **SS.SMx.CMx.ClioMx** due to the presence of various burrowing anemones and mixed sediment. Squat lobsters and their burrows were also prevalent.

Two priority marine features are noted both with low quality due to the rarity of the component species. Burrowed mud habitat containing rare Fireworks anemones are present. Only a single individual was identified in the footage. Northern Feather Stars were identified as a PMF species but their abundance was rare leading to low quality classification.

References

JNCC (2015) The Marine Habitat Classification for Britain and Ireland Version 15.03. Accessed August 2021. Available from: <https://mhc.jncc.gov.uk/>

JNCC SACFOR abundance scale. Accessed August 2021. Available from: <https://mhc.jncc.gov.uk/media/1009/sacfor.pdf>