Supplementary Material

Table S1. spectral measurements in different states.

Site	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7
T 01	23/04/21	07/06/21					
T 02	23/04/21	08/06/21					
T 03	23/06/21	12/07/21					
T 04	27/05/21	09/06/21					
T 05	01/06/21	10/06/21					
T 06	14/05/21	24/05/21	25/05/21	03/06/21	22/07/21	24/07/21	26/07/21
T 07	24/06/21	23/07/21					
T 08	23/04/21	12/08/21					
T 09	02/07/21	09/07/21					
T 10	09/07/21	12/08/21					
T 11	25/06/21	10/07/21					
T 12	07/06/21	16/07/21	27/07/21				
T 13	27/05/21	19/07/21					
T 14	26/05/21	26/07/21					
T 15	18/05/21	21/07/21					
T 16	03/06/21	12/08/21					
T 17	28/06/21	10/07/21					

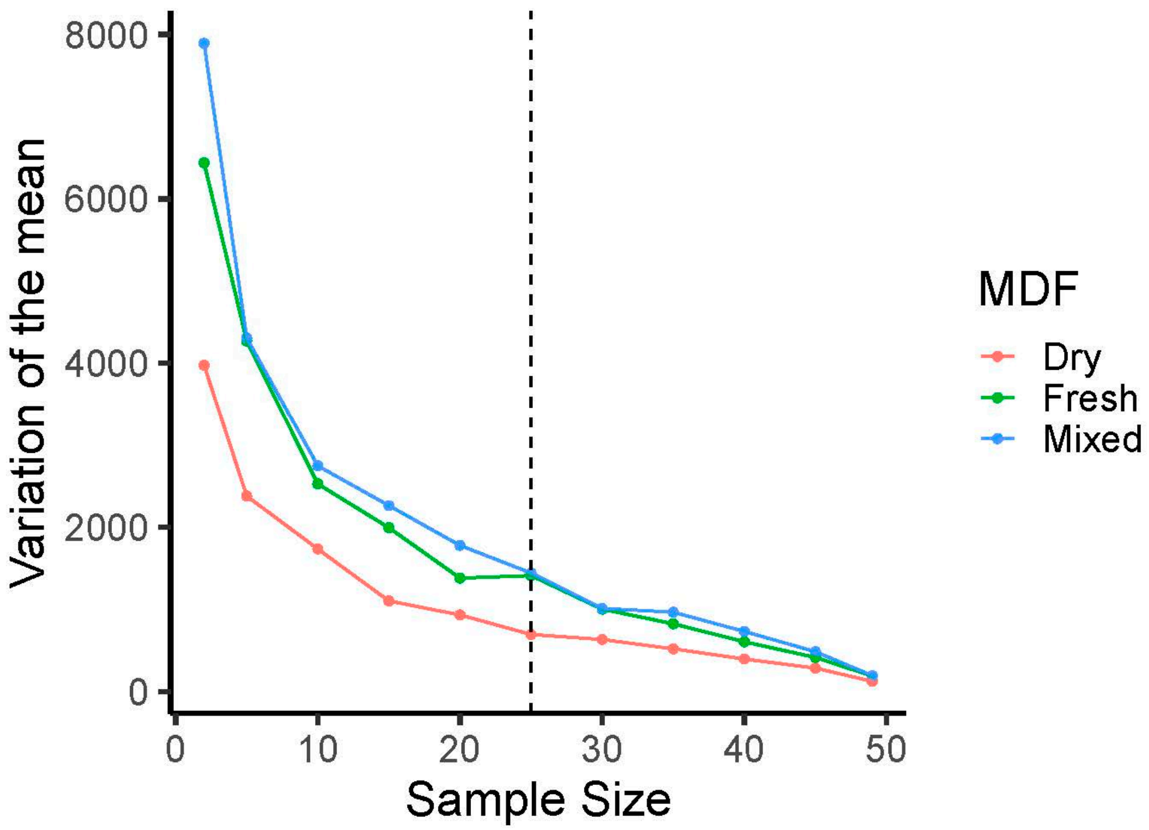

Figure S1. Standard deviation of mean (n=100) spectral reflectance against an increasing sample size.

We randomly selected two spectral measurements and measured the mean value of reflectance for each wavelength and averaged this to calculate an overall mean value. This was repeated 100 times and then the standard deviation of all 100 values was calculated to derive the variation of the mean. This entire process was repeated for increasing samples of spectral measurements, specifically 5, 10, 15, 20, 25, 30, 35,40, 45, 50. The resulting standard deviation of the means was then plotted to visualise the point at which the variation does not substantially decrease with an increasing sample size (Figure S1).

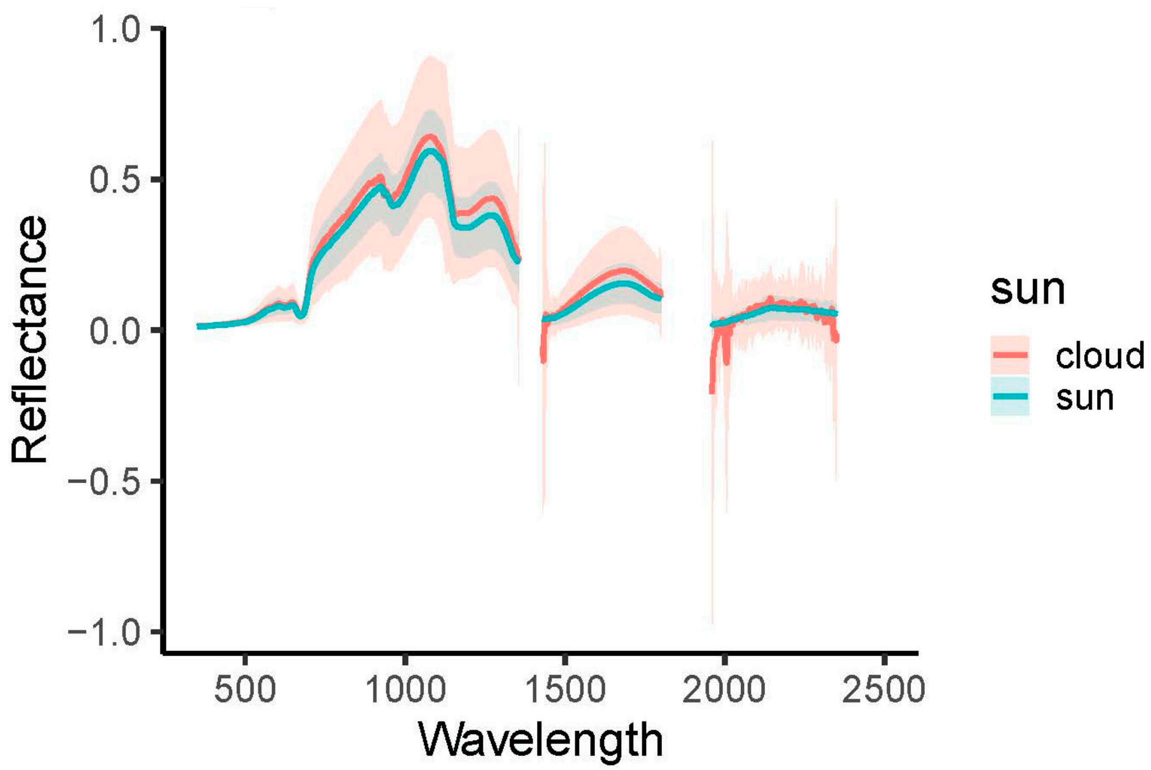

Figure S2. Spectral reflectance of Sargassum measured during sunny and cloudy conditions to determine the influence of weather conditions on the spectral responses.

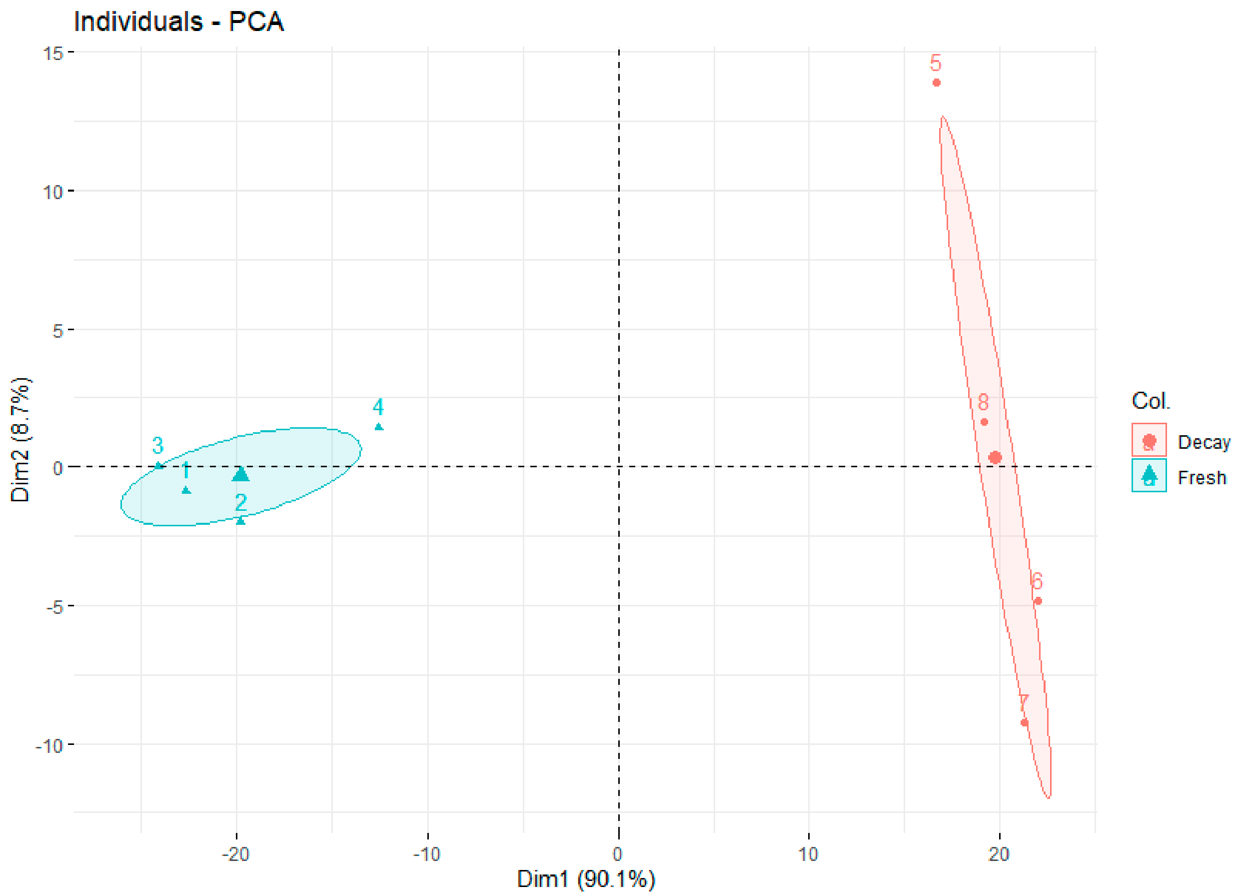

Figure S3. Visualisation of the principal component analysis results showing the separation of spectral measurements from fresh and decayed Sargassum.

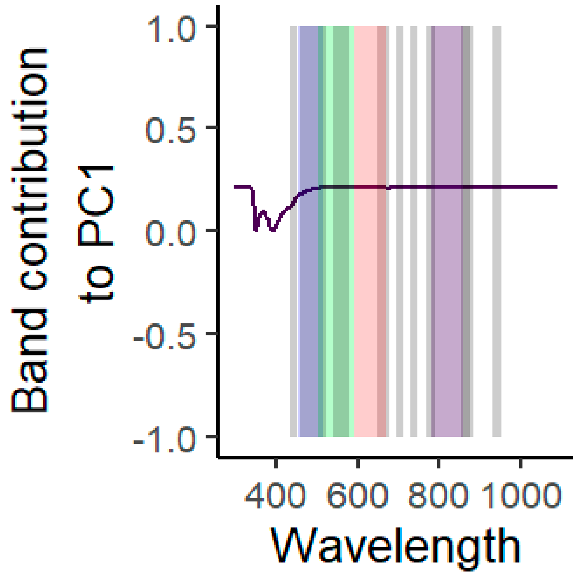

Figure S4. The contribution of each spectral band to the first principal component showing a slight decrease at the lower wavelengths.