FINAL

EL 1165A DRILLING DISCHARGES FOLLOW-UP PROGRAM: BENTHIC HABITAT MONITORING 2020 REPORT

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ABBREVIATIONS

%	percent
C-NLOPB	Canada-Newfoundland & Labrador Offshore Petroleum Board
cm	centimeters
EIS	Environmental impact statement
EL	Exploration license
EMCL	ExxonMobil Canada Ltd.
HD	High definition
km	kilometers
m	meters
mm	millimeters
MODU	Mobile offshore drilling unit
NAD 83	North American Datum 1983
NAFO	Northwest Atlantic Fisheries Organization
ROV	Remotely operated vehicle
SAR	Species at risk
SBM	Synthetic-based mud
Stdev.	Standard deviation
UTM	Universal Transverse Mercator
WBM	Water-based mud

1.0 INTRODUCTION

Wood Canada Environment & Infrastructure, a division of Wood Canada Limited (Wood), was contracted by ExxonMobil Canada Ltd. (EMCL) to conduct seabed surveys at target locations on the eastern slopes of the Flemish Pass within Exploration Licence (EL) EL 1165A formerly EL 1134 (Figure 1-1, EMCP 2019a). This is part of the follow-up monitoring program for fish and fish habitat as set out in the Eastern Newfoundland Offshore Exploration Drilling Project Environment Impact Statement (EIS) (EMCP 2017) as well as requirements set out in the *Canadian Environmental Assessment Act* (2012) Decision Statement (CEA Agency 2019).

1.1 Pre-Drilling Survey

The Hampden K-41 wellsite within EL 1165A was previously surveyed in 2018 (RPS 2018). The 2018 pre-drilling survey examined a 200 m by 200 m boundary around the proposed drill center and transects within the predicted drill cutting footprint (RPS 2018). The Hampden K-41 wellsite is in approximately 1,180 m water depth. At this water depth the mobile offshore drilling unit (MODU) West Aquarius maintained position using a dynamic positioning system. Anchors were not used at this site and were thus not included in the survey design. The objectives of the previous surveys were to monitor the existing environment at the Hampden K-41 wellsite for fish and fish habitat and implement mitigations in the C-NLOPB's guidance for coral colonies. To mitigate potential harm from drilling activities to cold-water corals, the guidance indicates that drilling activities shall not occur within 100 m of a coral colony as defined by C-NLOPB as either:

- *Lophelia pertusa* reef complex; or
- Five or more large corals (larger than 30 centimeters in height or width) within a 100 square metre area.

From these pre-drill surveys, it was determined that no *L. pertusa* complexes were present but there were two C-NLOPB defined coral colonies observed in the survey area (but outside of the predicted drill cutting footprint) each consisting of a cluster of six soft corals at or above 30 cm (EMCL 2019b). One coral cluster was located 100 m away from the proposed drill center. The second coral cluster was located more than 50 m away from the drill center and outside of the predicted drill cutting footprint. After receiving approval from the CNLOPB, the drill center location was selected to ensure the colonies were avoided and drilling proceeded at the site in the spring of 2020 (April to May). Other mitigations implemented included assessing the presence and condition of corals within the survey area post-drilling to assess project-related effects. The EIS predicted the project would not likely result in significant adverse environmental effects. Due to changes in program scope, the full planned drilling program was not implemented at the site and only a top hole was drilled. In consultation with the C-NLOPB, due to the reduced drilling program, only the 200 by 200 m boundary was surveyed and assessed in May 2020.

1.2 Scope

The objective of the post-drilling follow-up program is to meet conditions 3.12.1, 3.12.2, 3.12.2.1, 3.12.2.2, and 3.12.2.3 of the Decision Statement (Table 1-1) by verifying the accuracy of the predictions made during the environmental assessment as it pertains to marine fish and fish habitat and determine the effectiveness of the mitigation measures (CEA Agency 2019). In consultation with the C-NLOPB, due to the reduced drilling program (e.g., shortened drilling time, less cuttings, only WBM used), only the 200 x 200 m area was surveyed and assessed in May 2020. The reduced drilling program is discussed in Section 1.3. This report will discuss the benthic habitat survey results as they pertain to conditions 3.12.2, 3.12.2.2, and 3.12.2.3 with other conditions discussed a separate drill cutting monitoring report (see Wood 2020a).

Table 1-1 Conditions met by this survey

Condition	Condition Details
3.12.1[2]	For every well, measure the concentration of synthetic-based drilling fluids retained on discharged drill cuttings as described in the Offshore Waste Treatment Guidelines to verify that the discharge meets, at a minimum, the performance targets set out in the Guidelines and any applicable legislative requirements, and report the results to the Board;
3.12.2[1, 2]	For the first well in each exploration licence, and for any well where drilling is undertaken in an area determined by coral and sponge surveys to be sensitive benthic habitat, and for any well located within a special area designated as such due to the presence of sensitive coral and sponge species, or a location near a special area where drill cuttings dispersion modelling predicts that drill cuttings deposition may have adverse effects, develop and implement, in consultation with Fisheries and Oceans Canada and the C-NLOPB, follow-up requirements to verify the accuracy of the environmental assessment and effectiveness of mitigation measures as they pertain to the effects of cuttings discharges on benthic habitat. Follow-up shall include:
3.12.2.1[2]	Measurement of sediment deposition extent and thickness post-drilling to verify the drill waste deposition modeling predictions
3.12.2.2[1]	Benthic fauna surveys to verify the effectiveness of mitigation measures
3.12.2.3[1, 2]	Report the information collected as identified in conditions 3.12.2.1 and 3.12.2.2, including a comparison of modelling results to *in situ* results, to the C-NLOPB within 60 days following the drilling of the first well in each exploration licence.
[1]Condition met in this report [2]Condition met in the Drill Cutting Monitoring Report (see Wood 2020a).	

1.3 Drill Cuttings Modelling and Reduced Drilling Program

A combined drill cuttings model of four seasonal models was used to predict the extent of released water-based muds (WBM) and synthetic-based muds (SBM) (to account for variable environmental conditions throughout the year) (Wood 2018). From the combined model, discharged cuttings were predicted to drift primarily to the south and southeast with the majority deposited within 1 km from the wellhead. A reduced drilling program occurred between April and May 2020 where only a top hole was drilled. During drilling of the top hole only water-based muds (WBM) were used. Due to the reduced drilling program, the concentration of synthetic-based drilling fluids retained on discharged drill cuttings cannot be assessed at the time of this report for Hampden K-41.

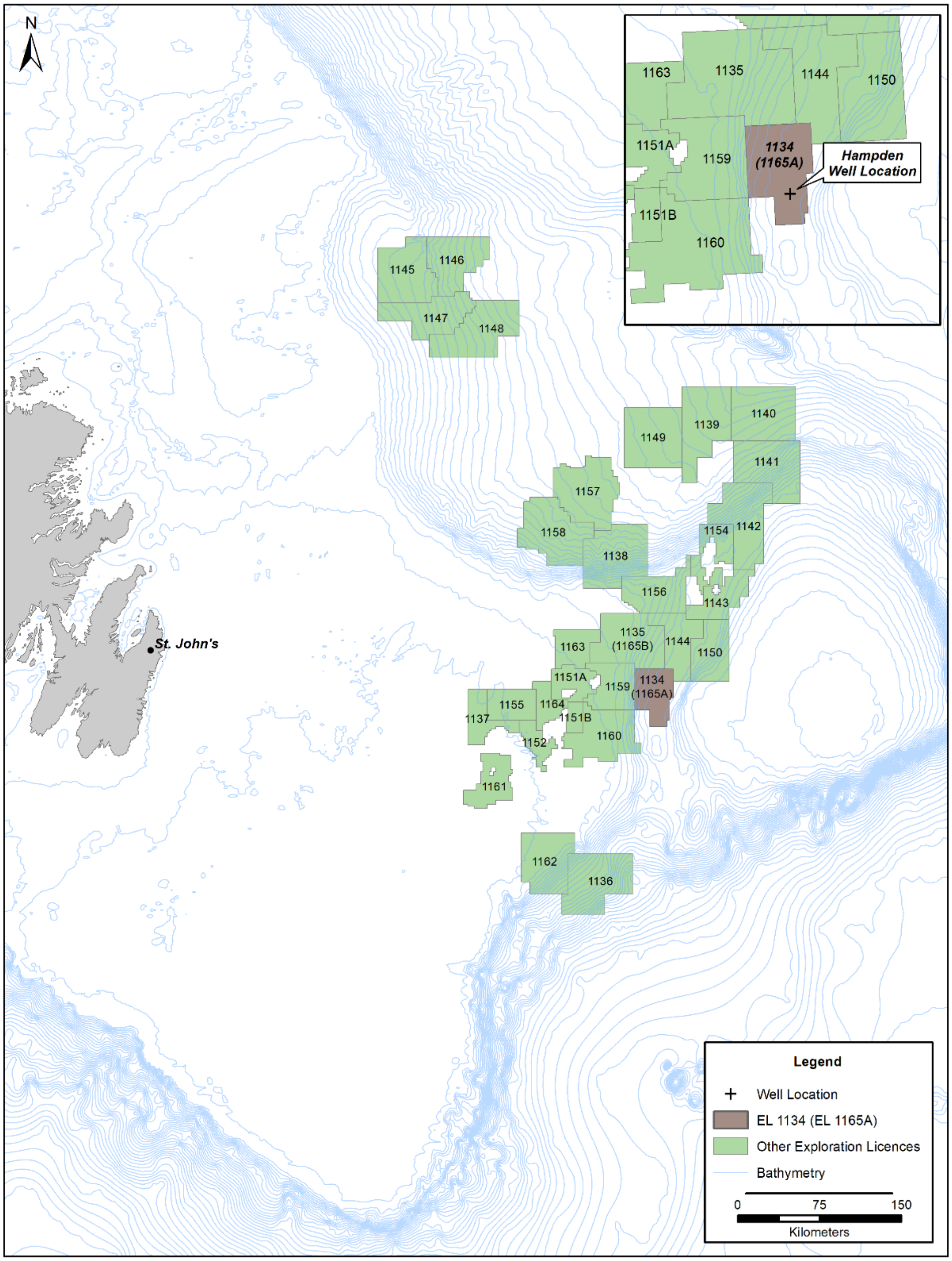


Figure 1-1 Location of EL 1165A Hampden K-41 well.

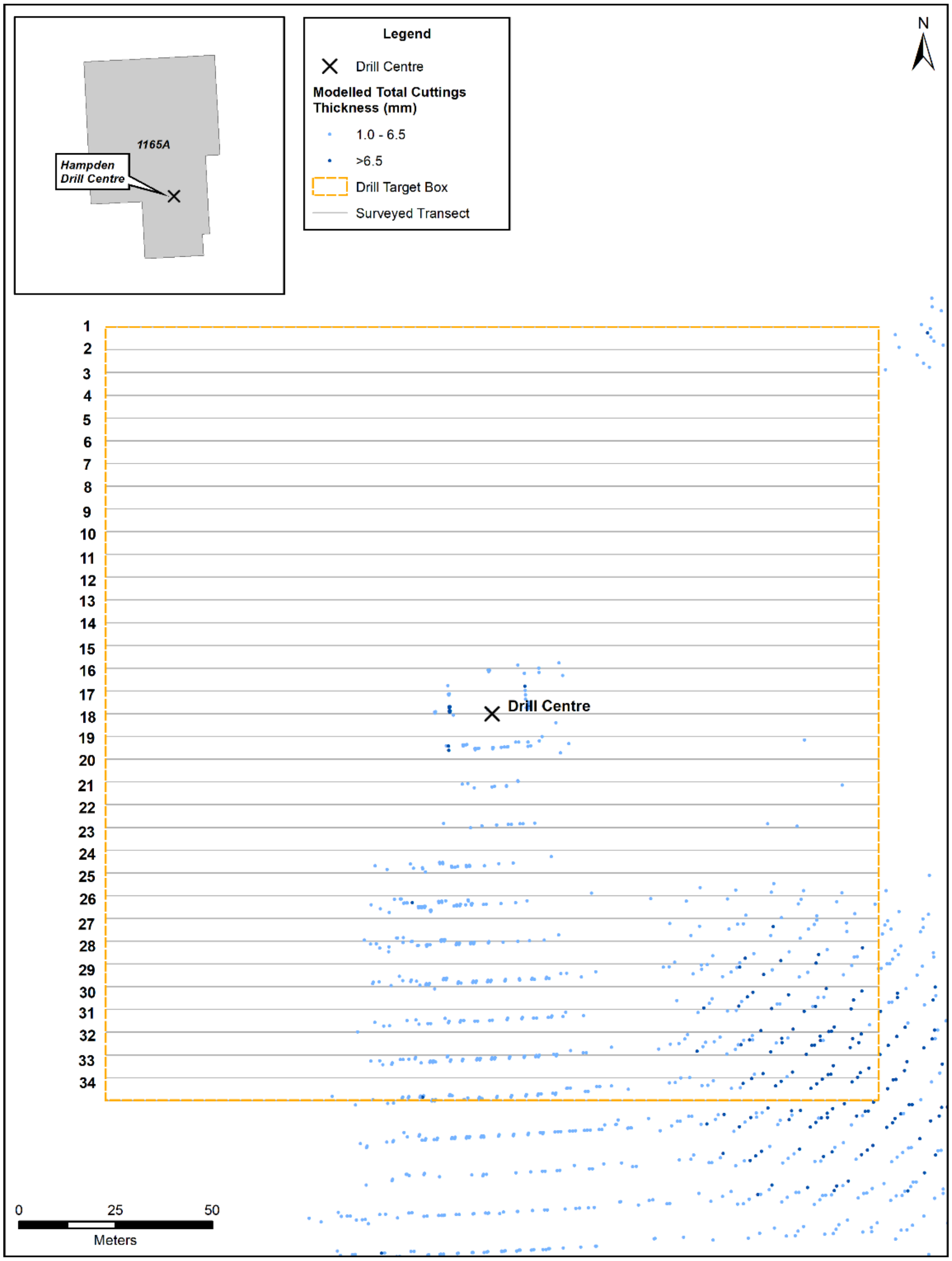


Figure 1-2 Post-drilling survey design at EL 1165A.

2.0 METHODOLOGY

The survey was conducted from the MV *Paul A. Sacuta* with a Millennium 191 remotely operated vehicle (ROV) from May 25th to May 26th, 2020 (Figure 2-1). The ROV was equipped with a forward-facing pan/tilt/zoom high-definition (HD) camera which was used to collect high-definition video during the duration of the survey. Still images were taken opportunistically. Video and still imagery were used to describe the surficial substrate and identify benthic fauna (including corals and sponges). Forward-facing scaling line lasers were spaced 10 cm apart. Due to turbidity in the water column, grid line G-6 was surveyed several times to collect appropriate video data. Data presented from this line consists of non-overlapping video sections.

ExxonMobil Canada Ltd. was responsible for chartering the vessel and Oceaneering Canada Ltd. was responsible for the operation of the ROV. Wood provided onboard biologists responsible for providing direction to ROV operators to ensure collection of video and images appropriate for characterizing cold-water corals and sponge groups and general characterization of fish and other invertebrates.

ROV position and survey video and imagery were geo-referenced using the ships Hi-PAP system. The HD video was encoded with a digital overlay that displayed depth (m), coordinates (UTM and NAD83), heading, date and time, and altitude above seafloor. Still images were encoded with a date time stamp and numbered sequentially.

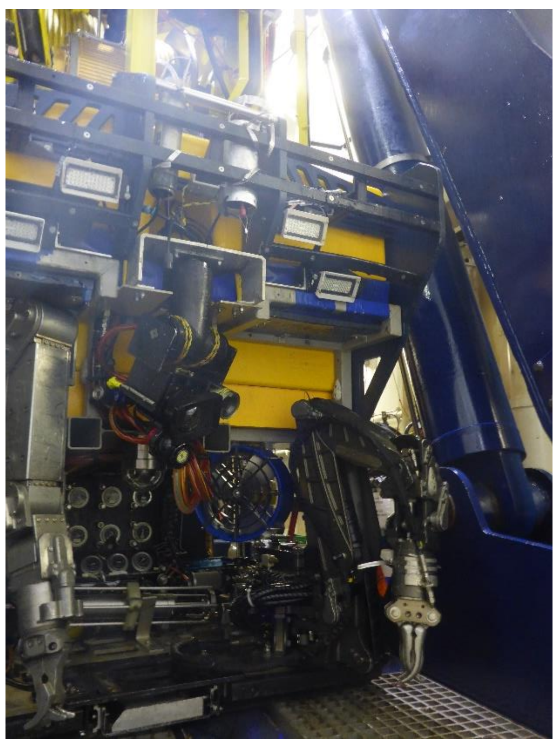


Figure 2-1 Millennium 191 ROV used for the 2020 EL 1165A post-drilling survey

2.1 Visual Survey Design

The 2020 post-drilling survey consisted of a 200 m by 200 m grid centered around the wellhead and composed of 34 horizontal surveys lines spaced 6 m apart (Figure 1-2). The ROV operated in two modes: survey (where the ROV travelled along the seafloor) and measuring (the ROV was resting on the seafloor). Only survey mode video was used for this analysis. During survey mode the ROV remained at an altitude <2 m above the seafloor and an estimated field of view of 1.95 m. Measurement results are presented in the EL 1165A drill cutting report (Wood 2020a). For comparison, the 2018 pre-drilling survey was analyzed using the methods presented below. The pre-drilling survey was conducted in the fall of 2018 and consisted of 30 horizontal survey lines spaced 6.7 m apart (RPS 2018). The ROV travelled at varying altitudes and had a calculated field of view of between 4 to 7 m. Both the pre- and post-drilling surveys were conducted using the Millennium 191 ROV. Differences in field of view and ROV altitude between the surveys could affect visibility and faunal counts (Sameoto 2008).

2.2 Visual Analysis

Benthic video imagery was analyzed for surficial geology (primary and secondary substrate types), coral and sponge abundance, distribution and condition, and invertebrate and fish taxa presence. To compare pre-drilling survey observations with post-drilling survey observations, drill cuttings, corals, and sponges were identified and geo-referenced for mapping. Survey transects were sectioned into 50 m lengths for analysis. Surficial geology, invertebrate, and fish taxa presence were analyzed along 50 m transect sections and summarized.

2.2.1 Drill Cuttings

Seafloor was analyzed visually for the presence or absence of deposited drill cuttings and reported separately from this report (see Wood 2020a).

2.2.2 Coral and Sponges

Identifying characteristics of a coral or sponge species can be difficult to observe using video or still imagery alone, and a specimen (examined under microscope with a certified taxonomist) is often needed for positive identification. Thus, corals and sponges were identified visually to functional groups using a Northwest Atlantic Fisheries Organization (NAFO) area guide (Kenchington et al. 2015) (Table 2-1). Corals and sponges were enumerated, and specific locations were mapped.

Table 2-1 Coral and sponges functional groups based on Kenchington et al. (2015)

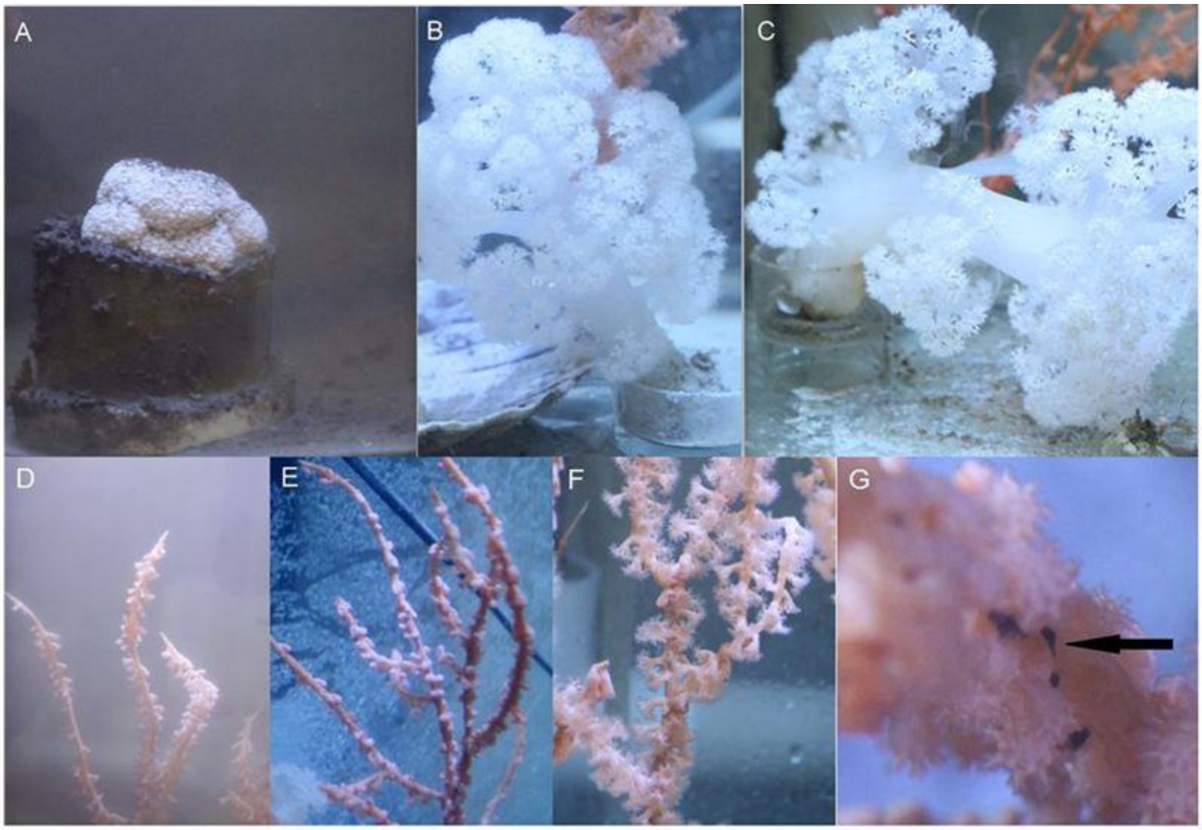
Coral Functional Groups	Sponge Functional Groups
Soft Corals (Alcyonacea)	Solid / Massive
Black Corals (Antipatharia)	Leaf / Vase Shaped
Hard Corals (Scleractinia)	Round with Projections
Branching Corals (Alcyonacea)	Thin-walled, Complex
Sea Pens (Pennatulacea)	Stalked
-	Other (e.g., encrusting sponge, finger sponge)

The condition of corals and sponges, including health, visible sedimentation, and burial will be estimated visually based on observations (Table 2-2). The methods to assess corals and sponges will follow those of Liefmann et al. (2018) and Fang et al. (2018), respectively. Liefmann et al. (2018) observed that when exposed to excessive sedimentation, soft corals (*Duva florida*) would contract their polyps for prolonged periods of time (Figure 2-2). Branching corals (*Priminoa resedaeformis*) lost a significant proportion of polyps. Observations of contracted polyps and missing polyps will be noted for any corals observed, including coral orientation (upright or bent over) in relation to the sediment. Fang et al. (2018) examined the effects of drilling discharges on sponges (*Geodia barretti*). In the study the sponges were exposed to three different treatments which physically manifested on the surface of the sponges differently (Figure 2-3). For this survey, any physical observations similar to those in Fang et al., 2018 (e.g. sediment veneer, chemical veneer) will be noted.

Table 2-2 Coral and sponge condition classifications with descriptions.

Coral Condition		Sponge Condition	
Condition	**Description**	**Condition**	**Description**
Good (G)	Coral is oriented upright with polyps extended and not visible sedimentation	Sediment veneer[1] Presence/absence	Surface of a sponge has a veneer of sedimentation.
Bent (B)	Most of the coral is in contact with the seafloor and alive	Covered (C)	The base of the sponge or a portion of the body is obscured by accumulated sediment
Covered (C)	A portion of the coral is covered by accumulated sediment		
Missing polyps (#P)	A percentage of the coral's polyps are missing. Written as #P where # is the percentage of polyps missing		
Withdrawn (W)	Polyps are closed and pulled in.		
Dead (D)	Coral skeleton with no polyps		

[1] Veneers from background sedimentation are commonly observed on sponges and a distinction was not made between natural or drill cutting sediment veneers.



Source Liefmann et al. 2018

Figure 2-2 Examples of exposure treatments on *Duva florida* (A, B, C) and *Primnoa resedaeformis* (D-G) A) Mine tailings sedimentation, B) Glass bead treatment, C) Control, D) Mine tailings sedimentation, E) Glass bead treatment, F) Control, G) Mine tailing accumulation captured in the mucus layer.

Source Fang et al. 2018

Figure 2-3 Examples of exposure treatments on *Geodia barretti*: control (Con), suspended natural sediment (Sed), bentonite (Ben), barite (Bar).

2.2.3 Surficial Substrate

The primary and secondary substrate was identified by substrate type along 50 m transect sections. Substrate type was determined using the Udden-Wentworth Scale and categorized into a substrate class (Table 2-3) (Wentworth 1922, Kelly et al. 2009).

Table 2-3 Surficial substrate categories used to categorize benthic environment

Substrate Class	Substrate Type	Definition
Bedrock		Continuous solid bedrock
Coarse	Boulder	Rocks greater than 250 mm
	Rubble	Rocks ranging from 130 mm to 250 mm
Medium	Cobble	Rocks ranging from 30 mm to 130 mm
	Gravel	Granule size or coarser, 2 mm to 30 mm
Fine	Sand	Fine deposits ranging from 0.06 mm to 2 mm
	Mud	Material encompassing both silt and clay < 0.06 mm
Organic/Detritus		A soft material containing 85 percent or more organic materials
Shells		Calcareous remains of shellfish or invertebrates containing shells

2.2.4 Other Taxa

All other invertebrate taxa were identified to phylum, and fish were identified to functional groups as described in Table 7 of Ollerhead et al. (2017). Taxa abundances were enumerated in 50 m transect sections. While the survey was not specifically to assess presence of Species at Risk (SAR), they were also identified. Representative photos were taken opportunistically.

2.3 Mapping

The ROV transects were plotted using GIS software ArcGIS 10.5 (ESRI) in NAD83 datum. Fixes were taken for start and end of each transect, measurements, and core samples. Overlay coordinates were used for coral and sponge locations and mud cuttings delineation (visual analysis).

3.0 RESULTS

In total the ROV covered 6,914 m of sea floor along the 200 by 200 m survey grid. Visibility was good with the noted exception to line G-6 which was re-surveyed. Survey coordinates from the 2020 survey can be found in Appendix A, and faunal densities per section and area can be found in Appendix B.

3.1 Surficial Substrate

Fine substrate (mostly mud) was the primary substrate category observed with sporadic coarse (boulders and rubble) and medium (cobble and gravel) substrate present (Figure 3-1). The surficial substrate observed within the survey area (by reach) consisted of 88.3% fine substrate, 4.9% coarse, and 0.1% medium with the remaining 6.7% being lines where the substrate was not visible or the ROV was not in survey mode. While larger substrate classes were observed in both the pre- and post-drilling surveys the distribution has changed. Sections within 50 m of the drill center were more likely 100% fine in the post-drilling survey compared to the pre-drilling survey.

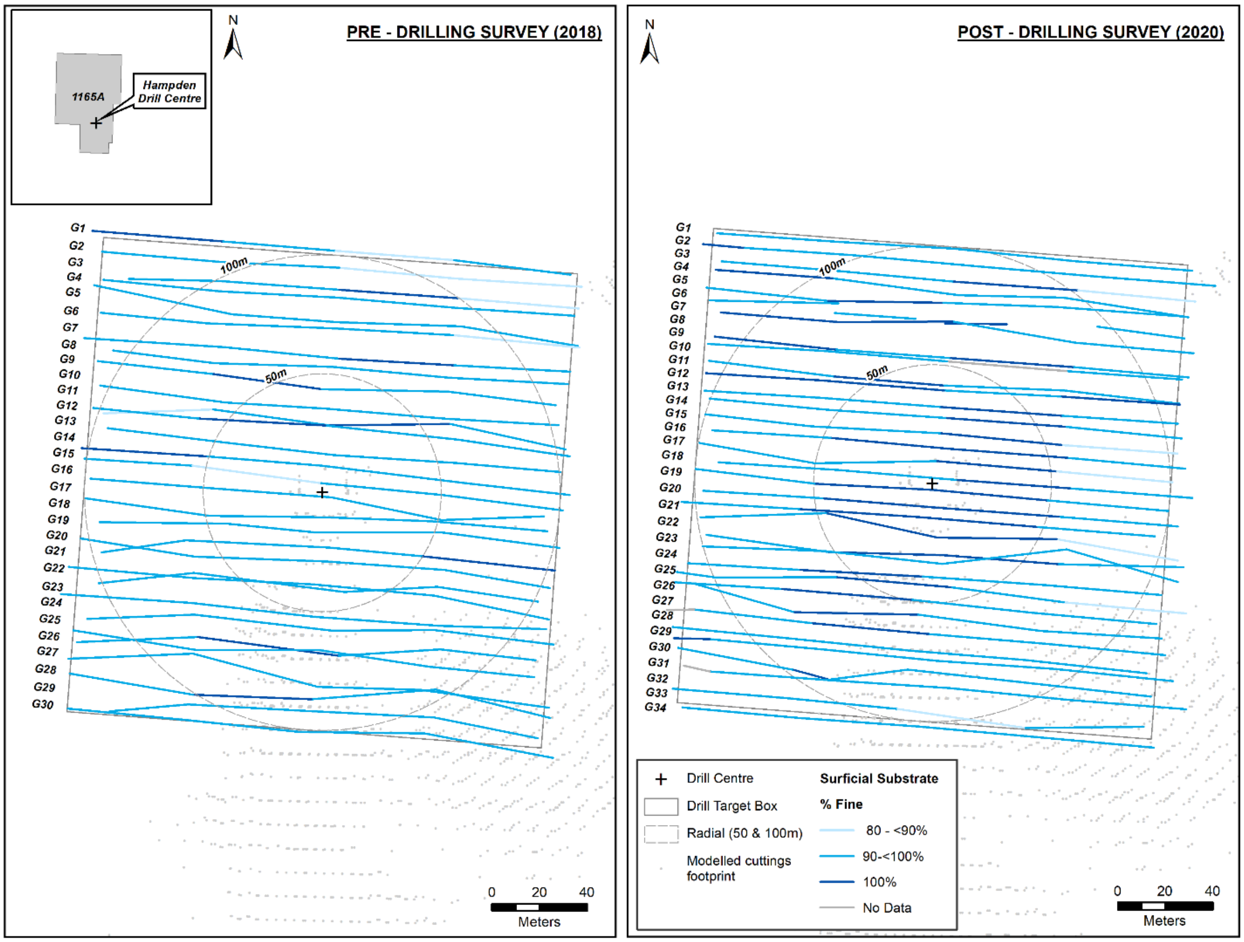


Figure 3-1 Distribution of percent substrate class fine present observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

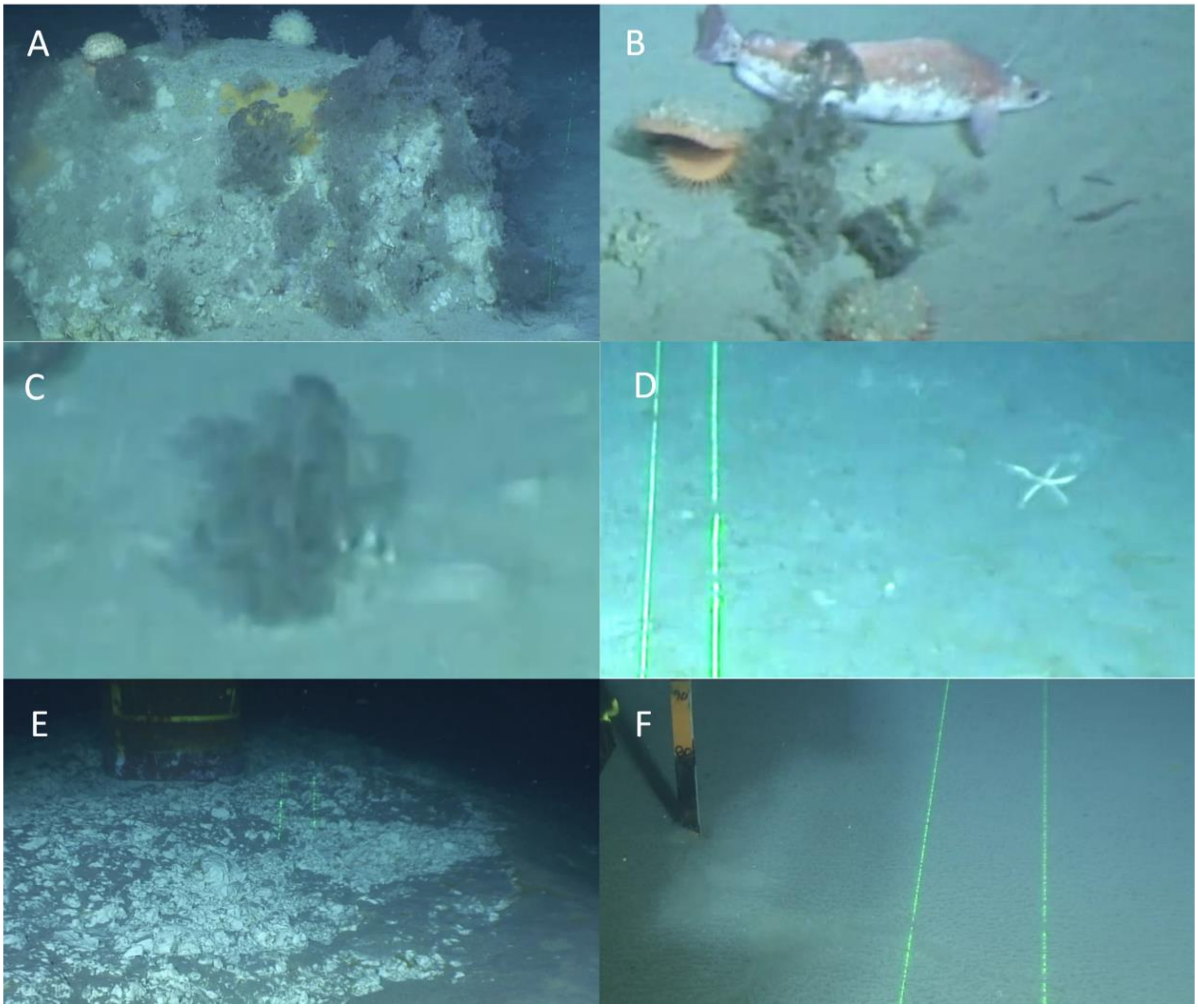


Figure 3-2 Representative photo of substrate categories observed at Hampden K-41: A) boulder, B) rubble, C) cobble, D) mud, E) medium substrate class drill cuttings, F) fine substrate class drill cuttings.

3.2 Corals and Sponges

3.2.1 Corals

Three coral functional groups (soft corals, sea pens, and branching corals) were observed throughout the post-drilling survey area (Figure 3-7). These corals groups were also observed in the pre-drilling survey (EMCP 2019b). A total of 4, 360 individual corals were observed in the post-drilling survey. A total of 8,795 individual corals were observed in the pre-drilling survey. The decrease in observations between the two surveys could be due to the differences in field of view and transect spacing and not necessarily a project-related effect. Sea pens were the most abundant functional group consisting of several species (e.g., *Anthoptilum grandiflorum*, *Halipteris finmarchica*, *Pennatula* sp.). Sea pens were observed at densities between 0 to 0.917 ind./m^2 (Table 3-1) the highest densities occurring in the outer transect sections (particularly towards the north and south of drill center) and with decreasing densities towards the center of the survey area (Figure 3-3). While, this functional group was observed within 50 m of the drill center, there were eight transect sections that had no recorded observations. These sections were mainly to the east of the drill center. In 2018, the density distribution of sea pens was comparatively more even with most densities ranging between 0.034 to 0.298 ind./m^2.The highest density (0.337 ind./m^2) was observed to the northeast of the drill center (Figure 3-3). The means between the two surveys are comparable with 0.142 ind./m^2 observed in the pre-drilling survey and 0.165 ind./m^2 observed in the post-drilling survey. Soft corals were the second most abundant functional group (mainly Nephtheids). Densities observed in the post-drilling survey ranged between 0 to 0.571 ind./m^2. Soft coral density increased with increasing distance from the drill center with the highest densities occurring to the east (Figure 3-4). The lowest densities were observed within 50 m of the drill center. Soft coral densities from the pre-drilling survey ranged between 0.007 to 0.417 ind./m^2. The distribution pattern was similar to the post-drilling survey where the highest densities occurred at the edges of the survey area to the east (Figure 3-4). The two soft coral clusters identified in the pre-drilling survey occurred at two locations, one to the northwest more than 50 m from the drill center and one to the southwest more than 100 m from the drill center. From the post-drilling survey results these areas had similar densities as observed in the pre-drilling survey. Branching corals consisted of a single species (*Acanella arbuscula*) with the highest densities occurring to the south of the drill center (Figure 3-5). As observed in other groups, branching corals occurrence within 50 m from the drill center were lower than in sections > 50 m from the drill center. Densities in the post-drilling survey ranged between 0 to 0.061 ind./m^2, whereas they ranged from 0 to 0.033 ind./m^2 in the pre-drilling survey.

In addition to density and distribution, coral condition was also noted. Table 3-2 shows a summary of pre- and post-drilling survey visually observed coral conditions and Figure 3-8 depicts representative photos of each condition recorded. In both surveys, the overall condition for corals were in good (86% of corals observed in the 2020 survey and 98% in 2018) which is described as in an upright position with polyps extended and no visible sedimentation. Due to variations in coordinates, it can be difficult to identify the same coral on the seafloor between surveys. From the pre-drilling survey re-analysis, the coral clusters identified in the pre-drilling survey report occurred in transect sections consisting of >98% good condition. These areas in the post-drilling survey were in areas that ranged between 68 to 100% good condition and well outside of areas without any coral occurrences or 0% good condition. In the post-drilling survey, some sea pens were observed tilted towards the seabed; however, this does not provide evidence as to the condition of those corals only that they were not upright. Other conditions noted include polyps contracted (withdrawn) or missing, and some individuals had partial sediment coverage. Of the corals observed, 38 corals (mainly soft corals) appeared to have their polyps contracted. These corals were located mainly to the south of the drill center. Withdrawn corals were observed in both the pre- and post-drilling surveys although at a higher occurrence in the pre-drilling survey. This trend was also observed in corals with polyps missing or that appeared dead.

Table 3-1 Summary statistics for coral functional groups within the 200 x 200 m survey grid.

Taxa Group	Year	Mean	Stdev	Median	Min	Max
Soft Corals	2018	0.158	0.088	0.137	0.007	0.417
	2020	0.113	0.122	0.088	0.010	0.571
Branching Corals	2018	0.007	0.007	0.004	0.003	0.033
	2020	0.010	0.012	0.000	0.009	0.061
Sea Pens	2018	0.142	0.054	0.129	0.034	0.337
	2020	0.165	0.155	0.133	0.010	0.917

Total number of survey sections: 2018 (n=120), 2020 (n=141).
Only sections above 10 m linear distance were included for summary statistics.
Minimum density is the lowest non-zero value.

Table 3-2 Summary statistics for coral condition within the 200 x 200 m survey grid.

Condition	Year	Total	Mean	Stdev	Median	Min	Max
Good	2018	8639	71.991	28.139	69	25	158
	2020	3748	24.03	24.1	19	0	129
Dead	2018	12	0.1	0.376	0	0	2
	2020	1	0.01	0.08	0	0	1
Bent*	2018	-	-	-	-	-	-
	2020	557	3.57	5.68	1	0	34
Covered	2018	2	0.017	0.183	0	0	2
	2020	10	0.064	0.271	0	0	2
Polyps Missing	2018	7	0.058	0.269	0	0	2
	2020	4	0.026	0.195	0	0	2
Withdrawn	2018	135	1.125	1.668	0	0	9
	2020	38	0.244	0.932	0	0	7

Mean is average count per 50-m survey section for each condition category.
*Bent was not assessed for 2018

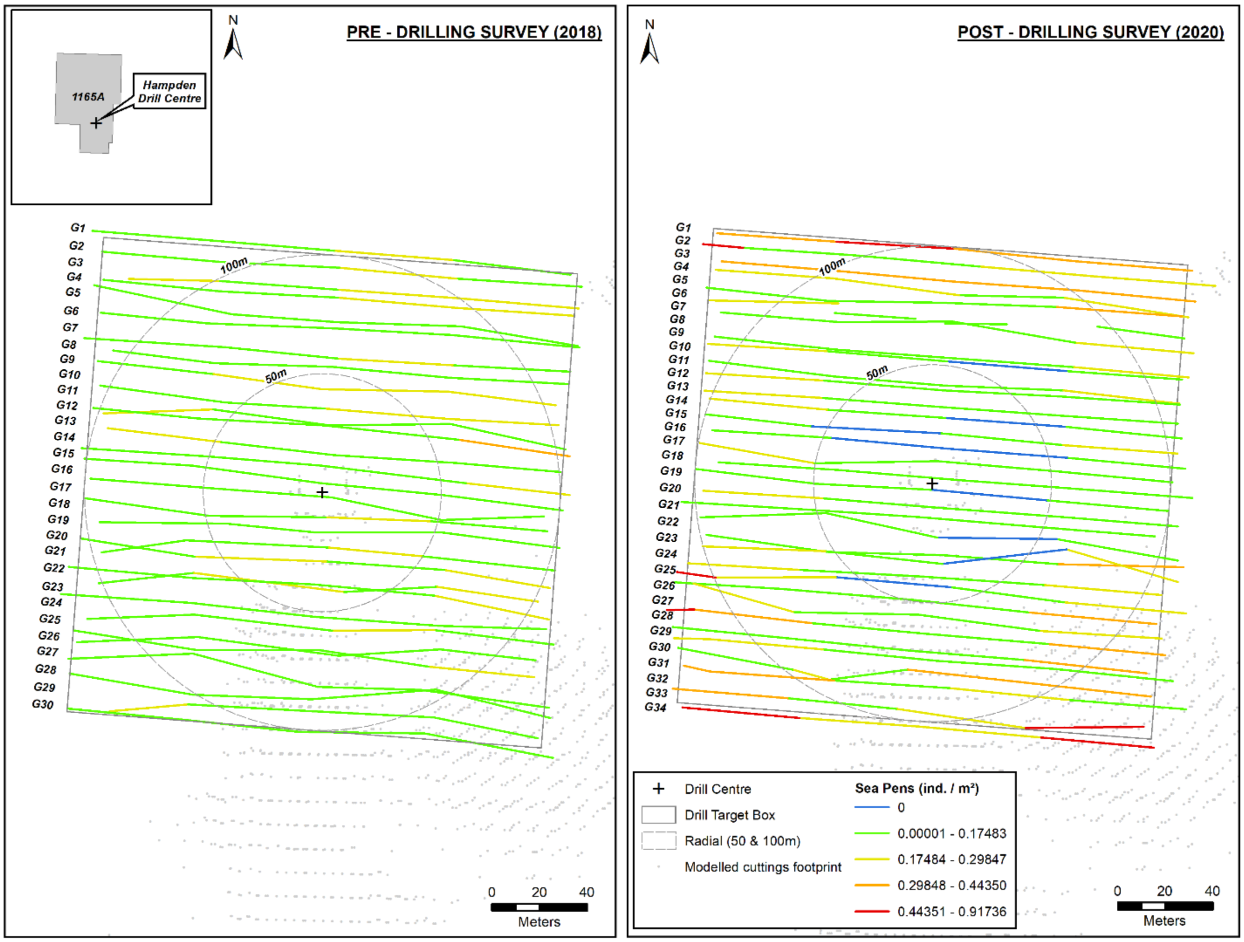


Figure 3-3 Distribution of sea pen densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

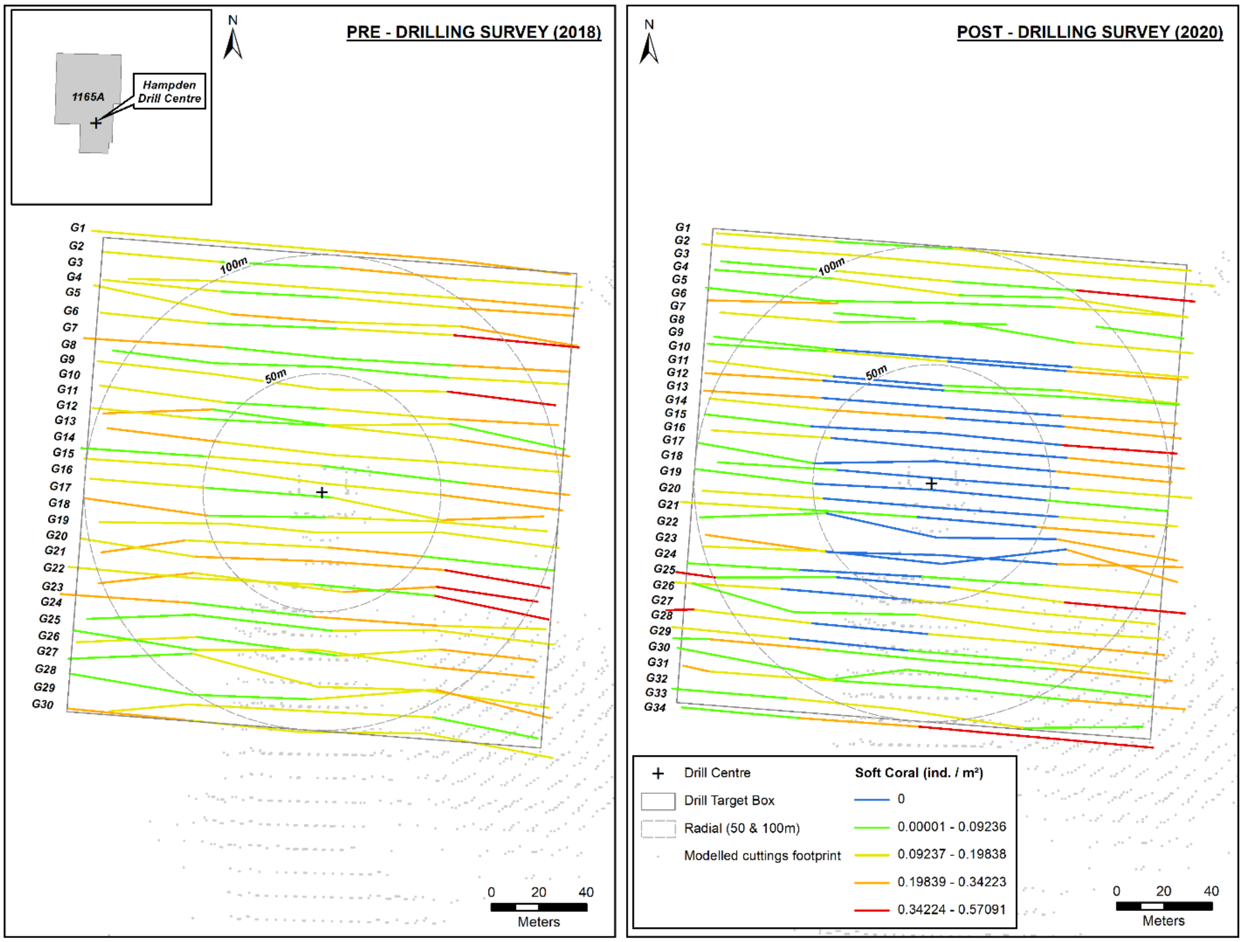


Figure 3-4 Distribution of soft coral densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

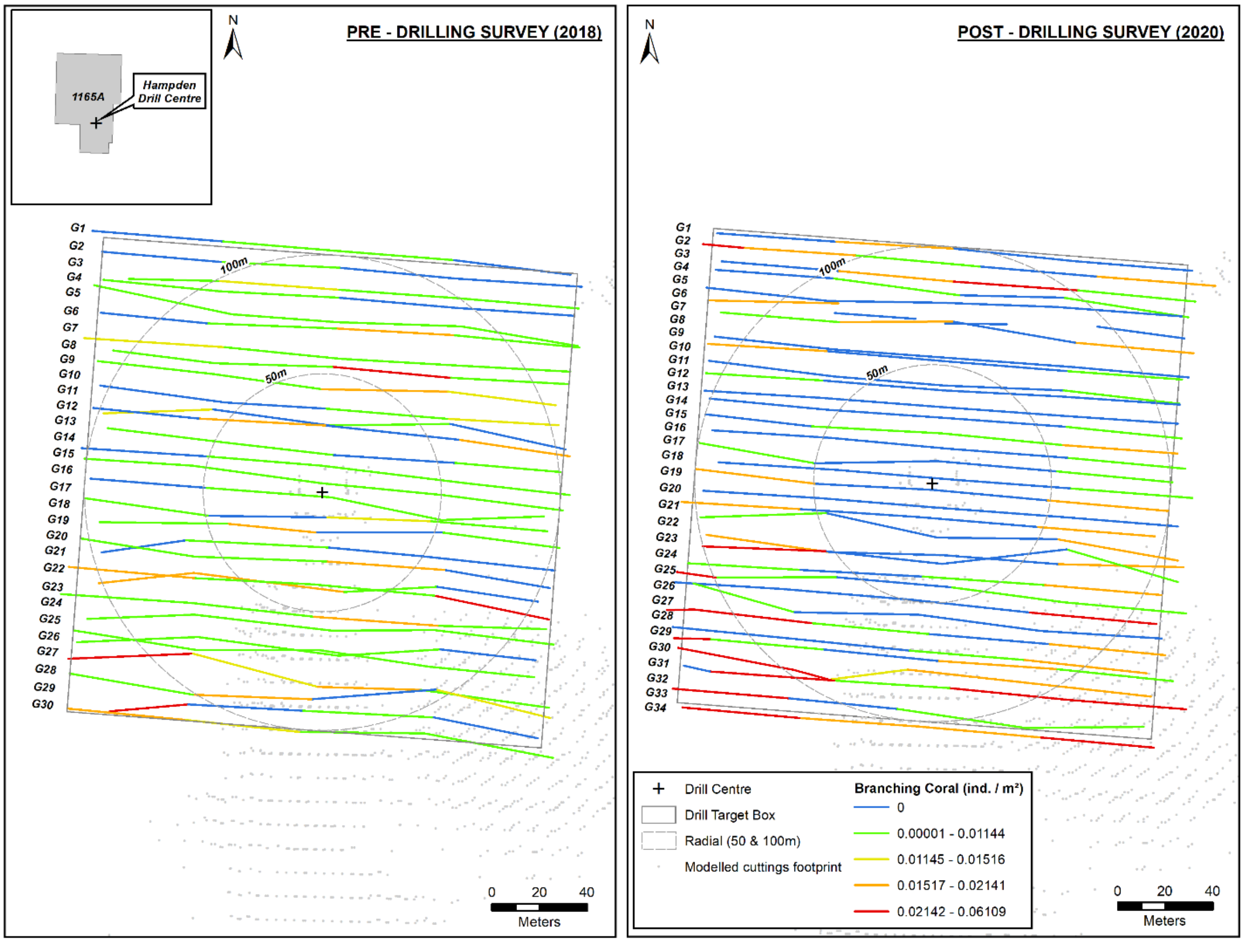


Figure 3-5 Distribution of branching coral densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

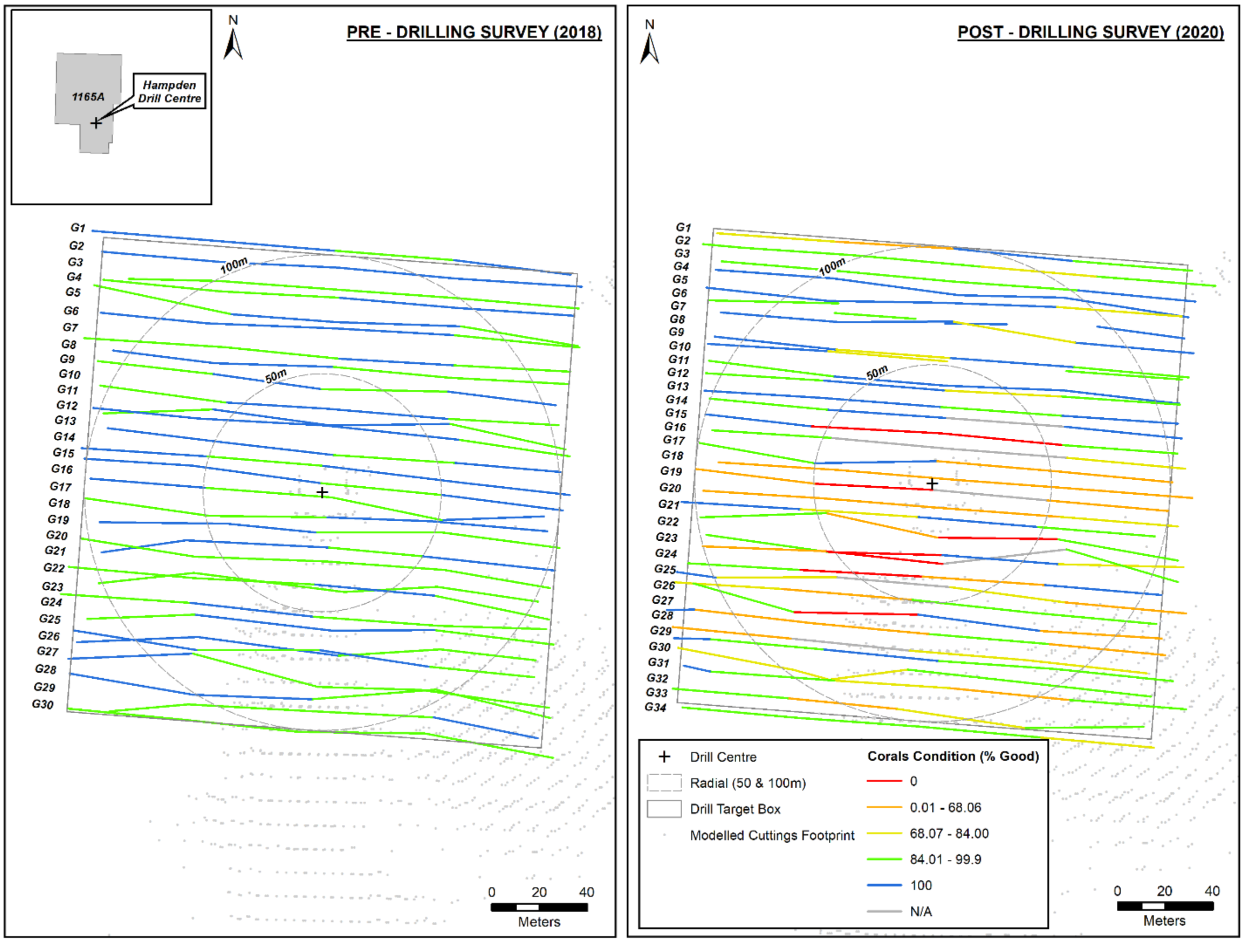


Figure 3-6 Distribution of percent good condition for corals observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

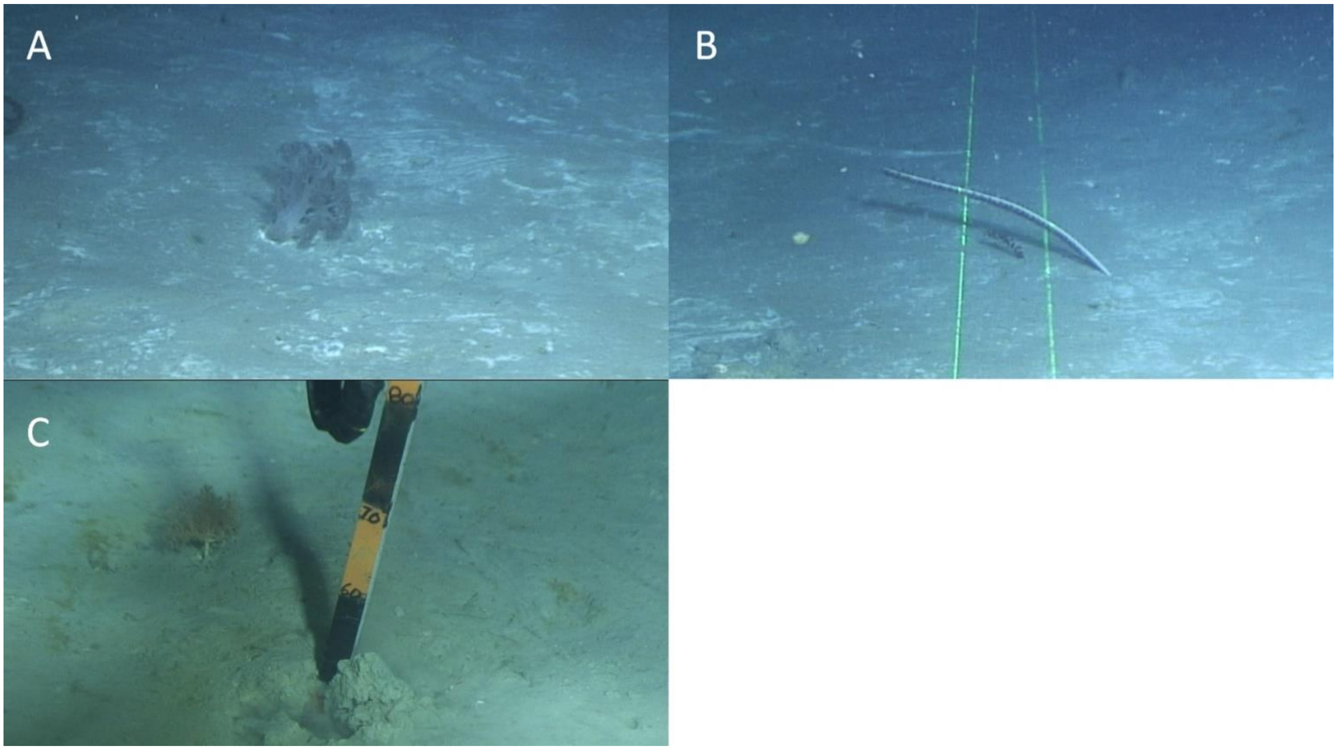


Figure 3-7 Representative photos of each coral functional group: A) Soft coral, B) Sea pens, C) Branching coral. Lasers are 10 cm apart.

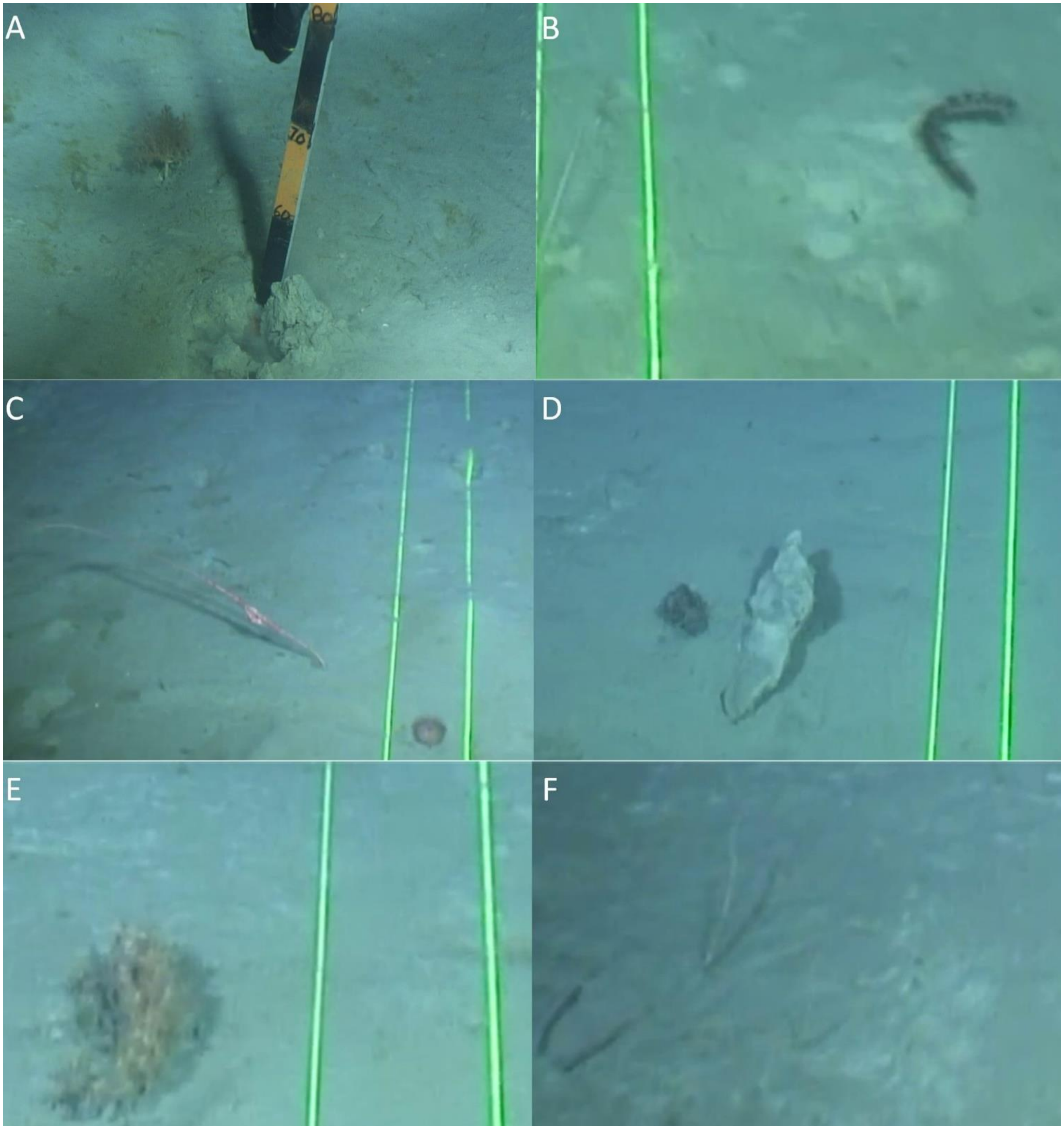


Figure 3-8 Representative photos of coral conditions: A) Good, B) Bent, C) Polyps Missing, D) Withdrawn, E) Covered, F) Dead. Lasers are 10 cm apart.

3.2.2 Sponges

Sponges were observed throughout the survey area (Figure 3-9). All six sponge morphological groups were observed at least once during the survey (Figure 3-16). The most observed sponge morphological groups were solid/massive, round with projections, and leaf/vase shaped. Solid/massive sponges ranged in densities from 0 to 1.176 ind./m^2 (Table 3-3) with the highest densities occurring mainly to the north and south of the drill center (Figure 3-9). Observed densities in the pre-drilling survey ranged between 0 to 0.708 0 to 1.176 ind./m^2 and were comparatively more evenly distributed throughout the survey area with the highest densities occurring to the north and south of the drill center. Leaf/vase shaped sponge density ranges were similar in both the pre- and post-drilling surveys however the distribution varied between surveys (Figure 3-10). In the pre-drilling survey, the highest densities occurred to the north of the drill center. In the post-drilling survey, the highest densities occurred to the south of the drill center with decreasing densities moving from north to south across the survey area. As in the pre-drilling survey, several large individual leaf/vase shaped sponges were observed. This was also observed between surveys for the morphological group round with projections (Figure 3-11). Similarly, in the post-drilling survey sections within 50 m of the drill center have lower reported densities than transect sections to the south of the drill center. In the pre-drilling survey sections within 50 m from the drill center 0.004 to 0.288 ind./m^2. Thin-walled, complex and stalked sponge groups were less abundant in the area for both survey years and sparsely distributed (Figure 3-12, Figure 3-13). As with the coral functional groups, the sponge morphological group densities decreased within 50 m from the drill center compared to the 2018 pre-drilling survey.

Sponge condition was assessed visually for both pre- and post-drilling surveys (Table 3-4). In both the pre- and post-drilling surveys, most of the sponges observed had a sediment veneer on their surface. Of the sponges observed in the post-drilling survey, 85% had a sediment veneer or were covered compared to 74% in the pre-drilling survey. Distribution of sponge conditions without sediment veneer (“good”) were mapped (Figure 3-15). There were more sections with 100% sediment veneer absent observed in the post-drilling survey compared to the pre-drilling survey. This could be due to natural variation in sedimentation rates and bottom currents between the two surveys. In the post-drilling survey only three sponges (mainly leaf/vase shaped) had drill cutting accumulations obscuring their base (Figure 3-17). Sediment veneers can occur naturally and do not necessarily indicate drill cuttings or impact the overall health of a sponge

Table 3-3 Summary statistics for sponge morphological groups within the 200 x 200 m survey grid.

Taxa Group	Year	Mean	Stdev	Median	Min	Max
Solid / Massive	2018	0.080	0.100	0.040	0.004	0.708
	2020	0.147	0.192	0.070	0.010	1.176
Leaf / Vase Shaped	2018	0.028	0.031	0.017	0.003	0.171
	2020	0.016	0.026	0.000	0.009	0.176
Round with Projections	2018	0.066	0.050	0.050	0.004	0.288
	2020	0.051	0.063	0.030	0.009	0.316
Thin-Walled, Complex	2018	0.001	0.002	0.000	0.003	0.009
	2020	0.001	0.004	0.000	0.010	0.030
Stalked	2018	0.000	0.000	0.000	0.004	0.004
	2020	0.000	0.003	0.000	0.010	0.021
Other Sponges	2018	0.001	0.004	0.000	0.003	0.021
	2020	0	-	-	-	-
Total number of survey sections: 2018 (n=120), 2020 (n=141). Only sections above 10 m linear distance were included for summary statistics. Minimum density is the lowest non-zero value.						

Table 3-4 Summary statistics for sponge condition within the 200 x 200 m survey grid.

Condition	Year	Total	Mean	Stdev	Median	Min	Max
Sediment Veneer Absent	2018	1330	11.083	6.761	10	0	36
	2020	488	3.128	3.767	2	0	21
Sediment Veneer Present or Covered	2018	3779	31.492	29.114	23	1	160
	2020	2705	17.34	22.242	9	0	127

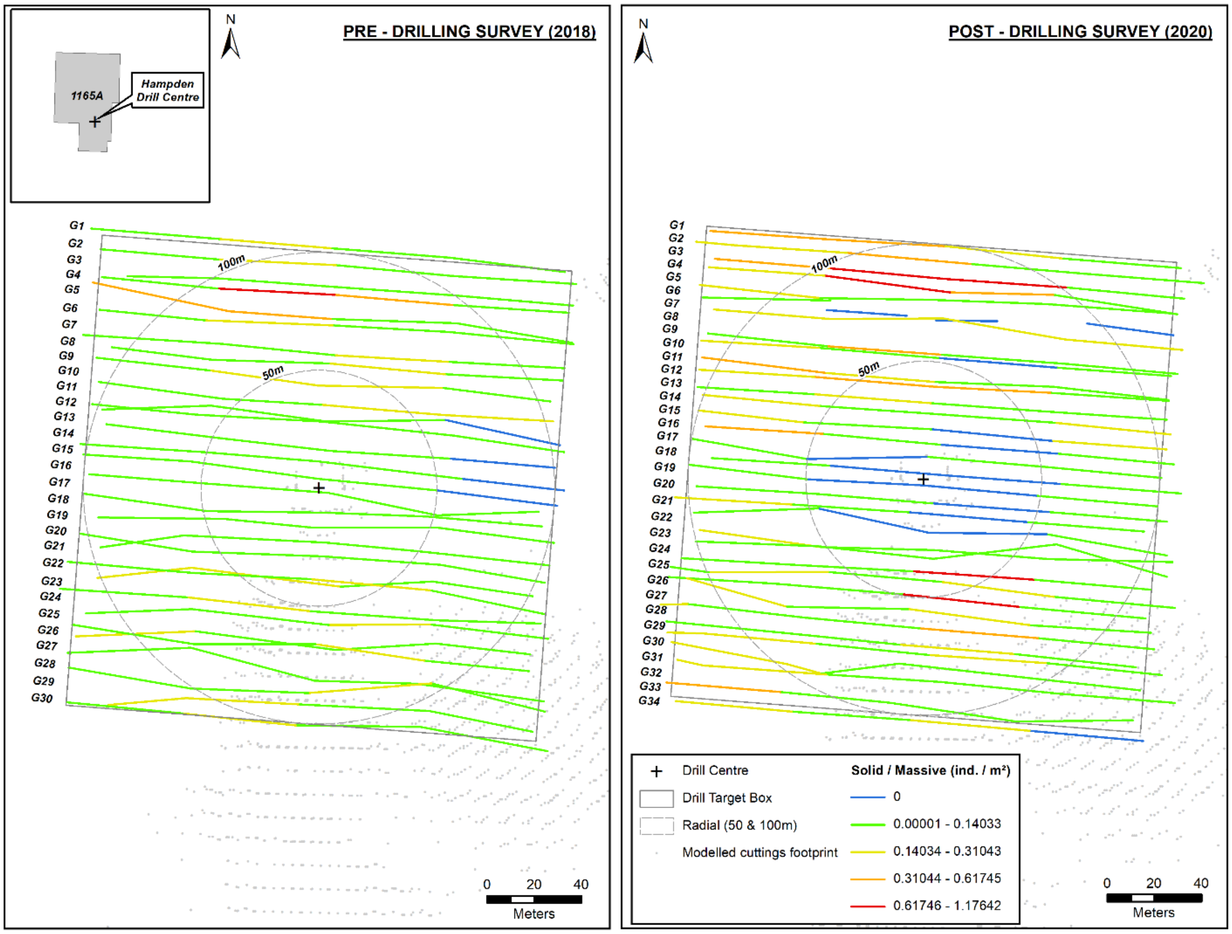


Figure 3-9 Distribution of solid/massive sponge densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

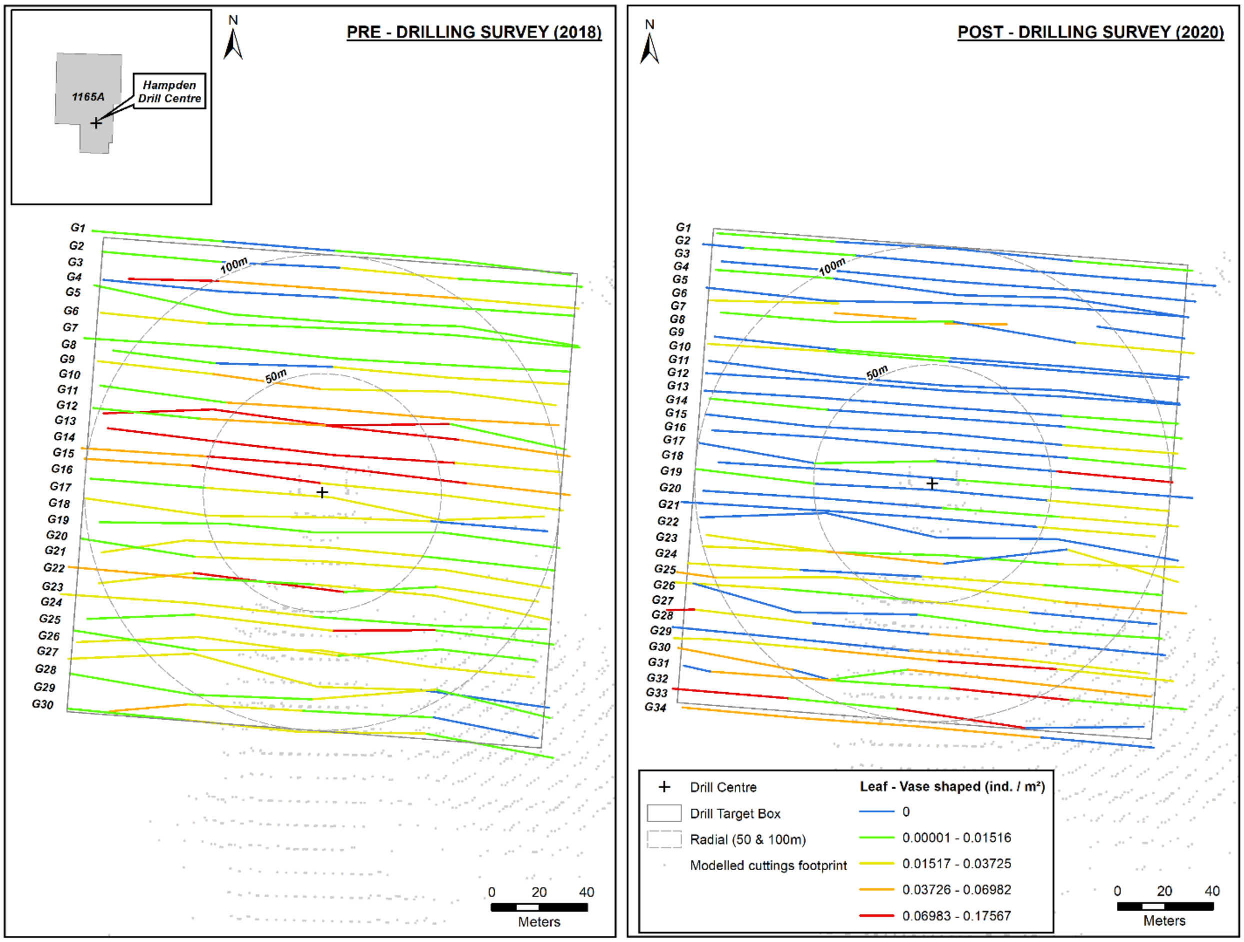


Figure 3-10 Distribution of leaf/vase sponge densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

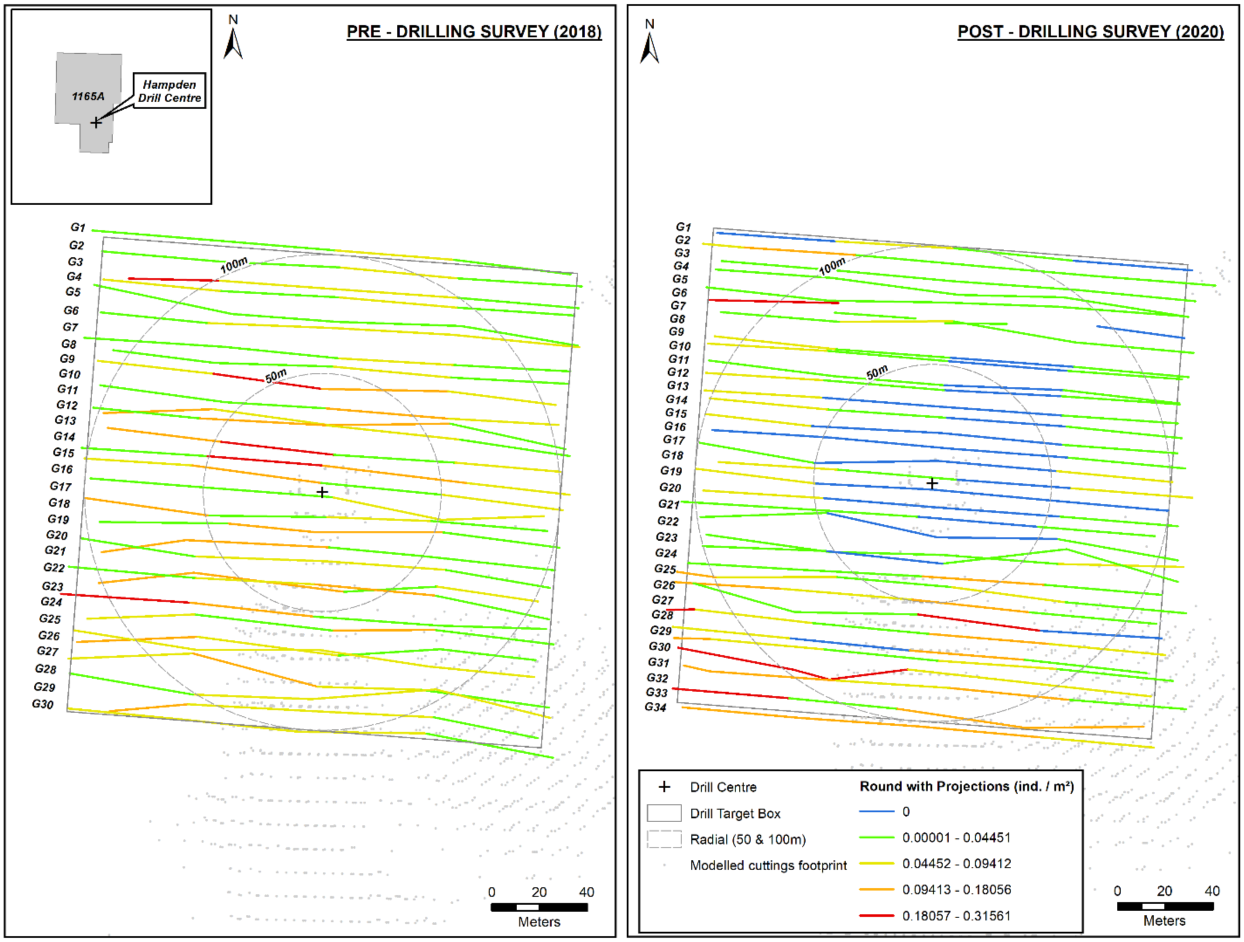


Figure 3-11 Distribution of round with projections sponge densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

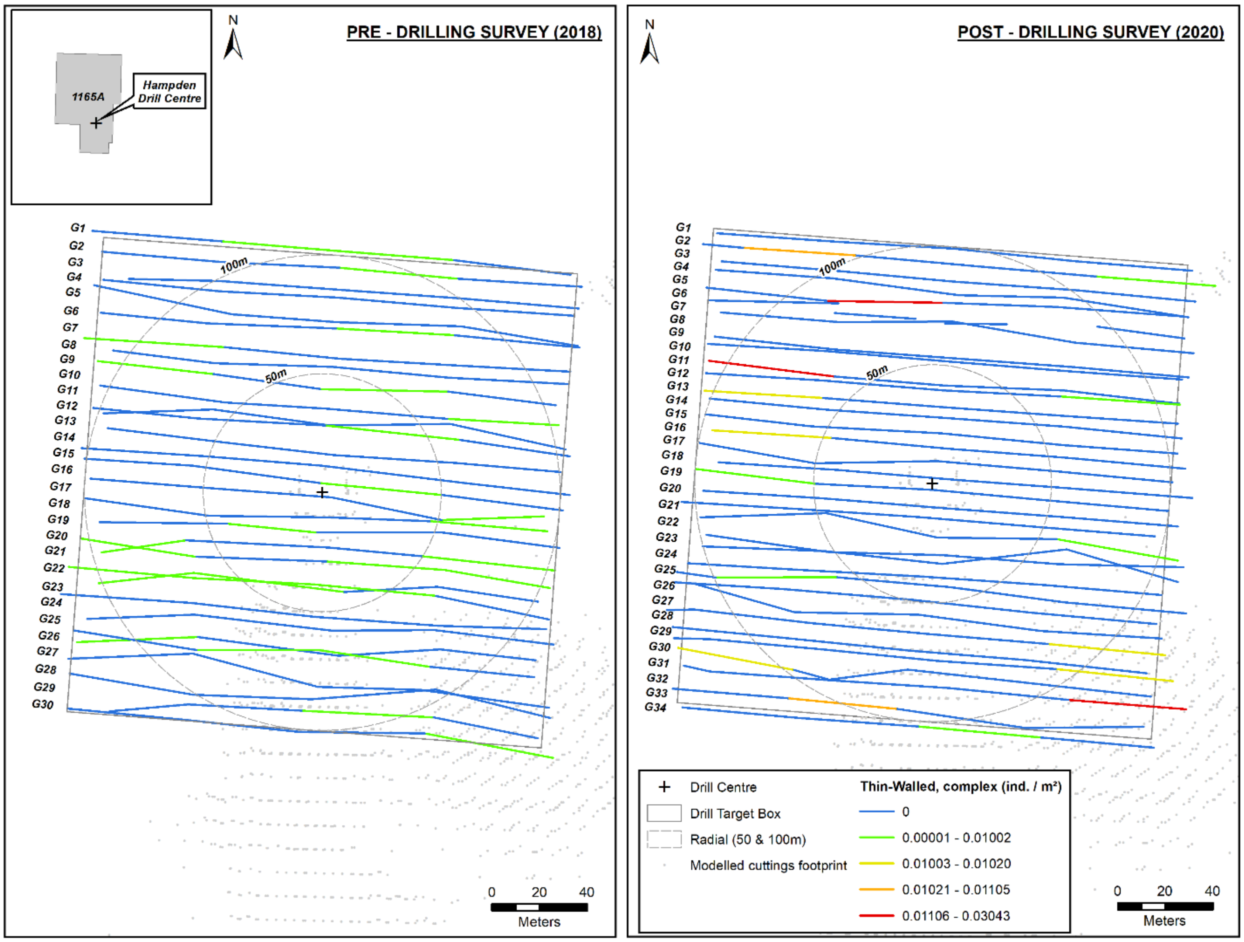


Figure 3-12 Distribution of thin-walled, complex sponge densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

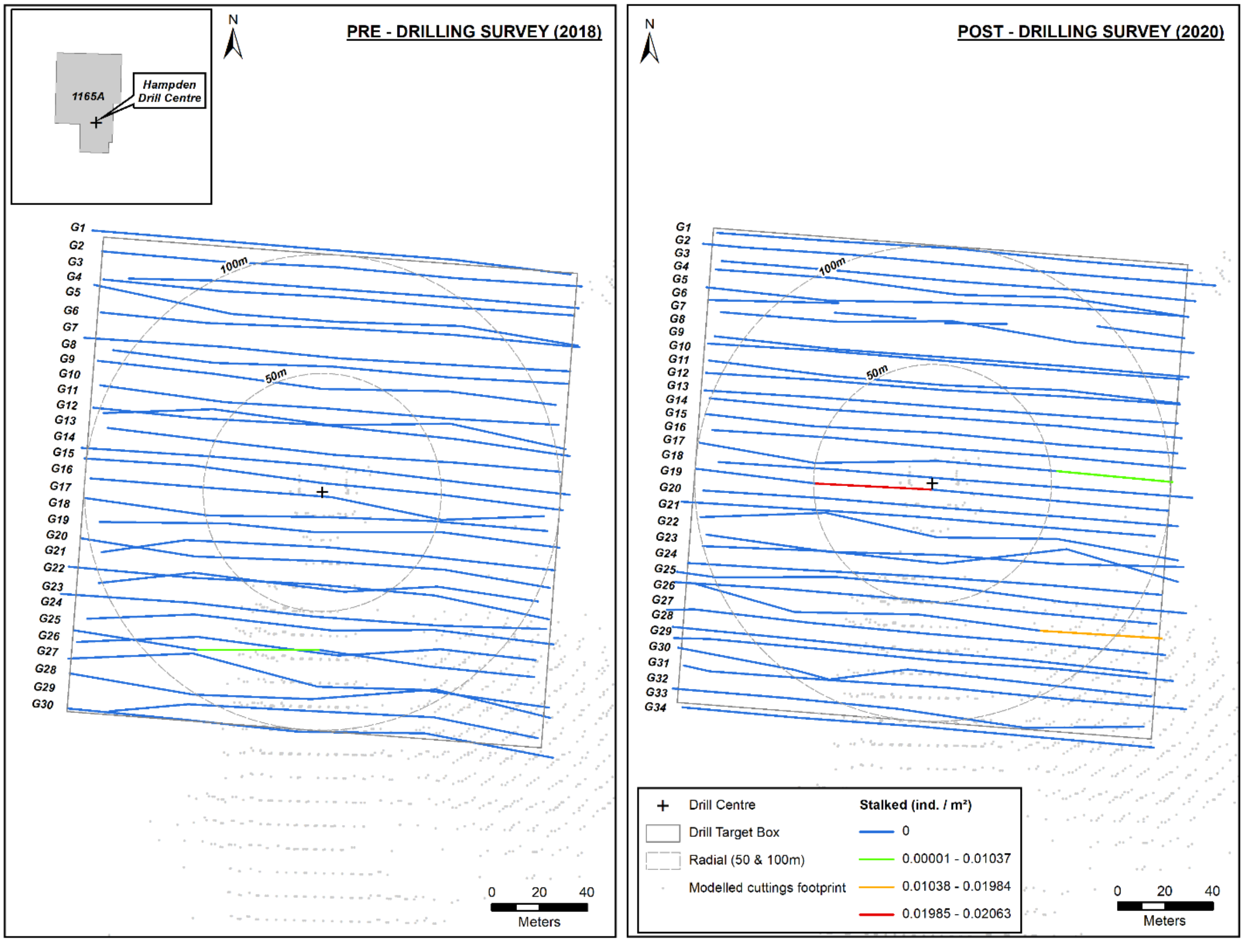


Figure 3-13 Distribution of stalked sponge densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

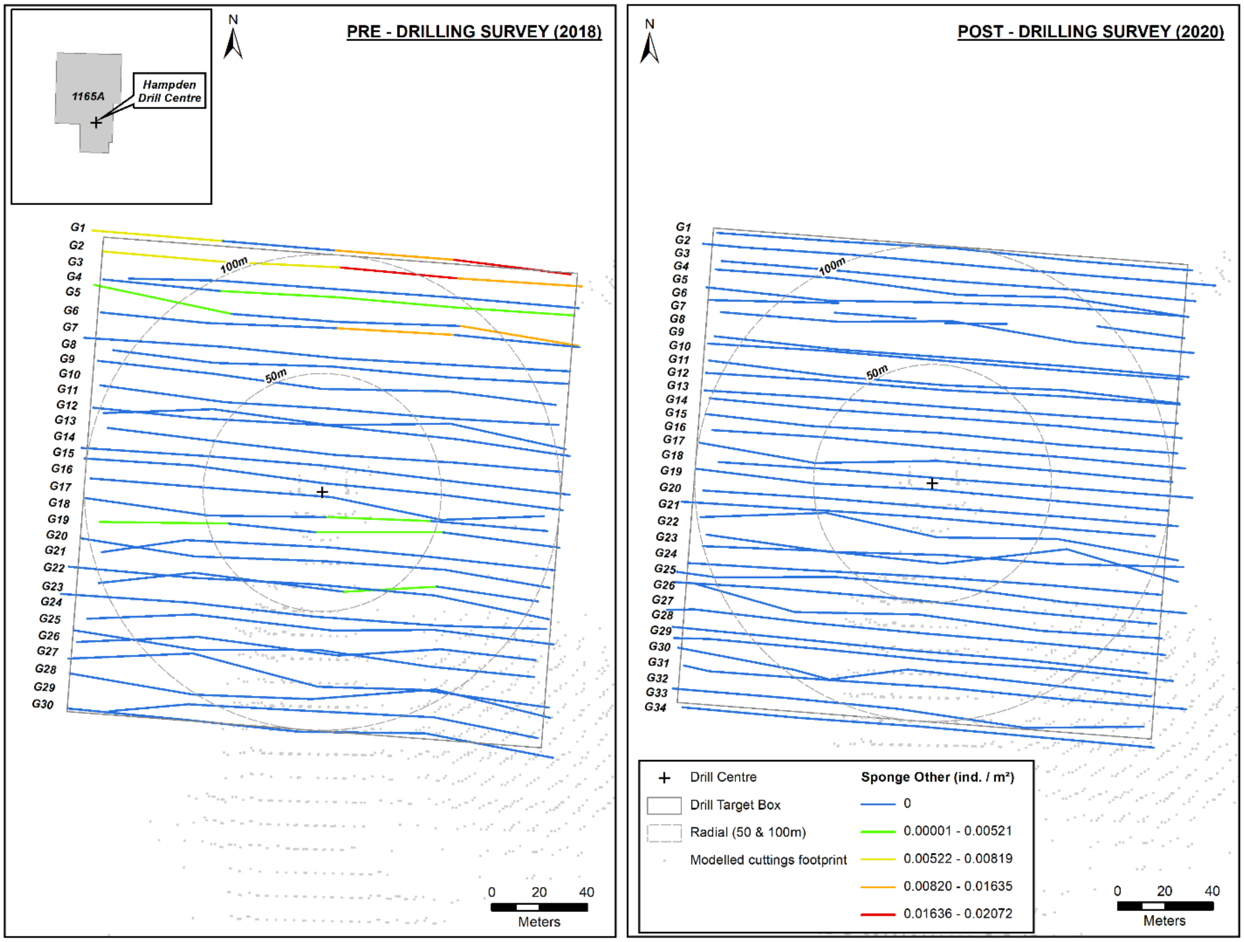


Figure 3-14 Distribution of other sponge densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

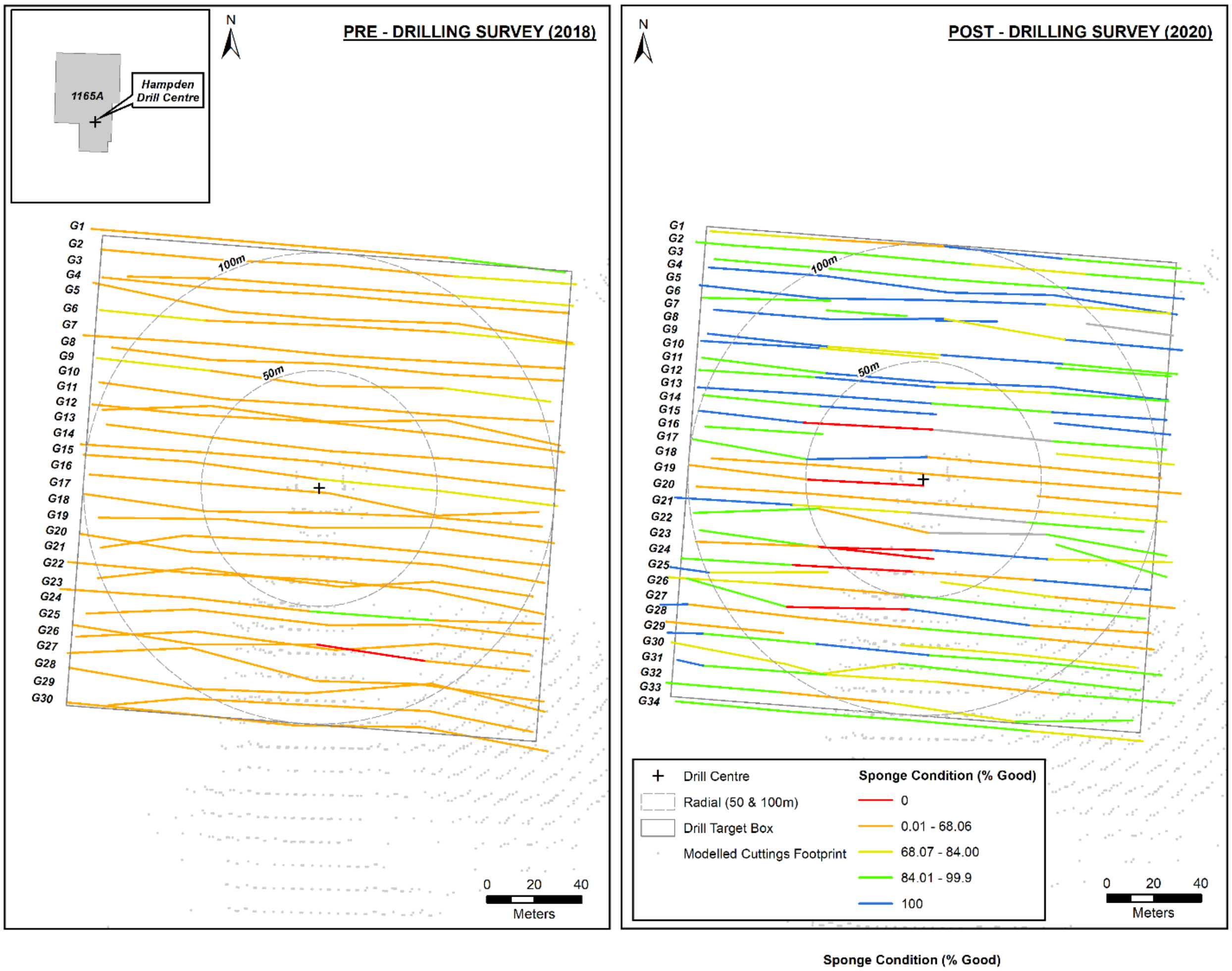


Figure 3-15 Distribution of percent good condition for sponges observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

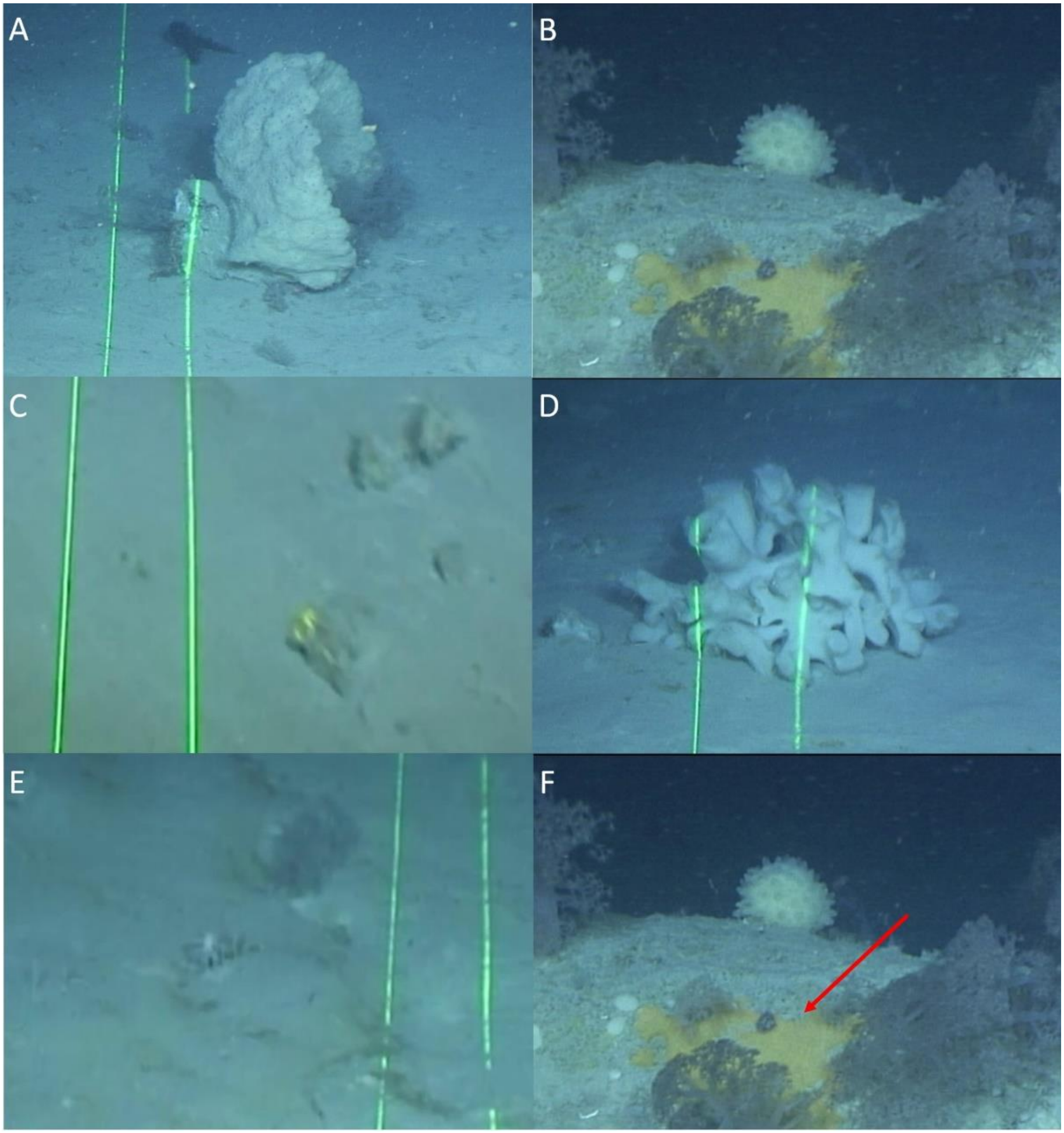


Figure 3-16 Representative photos from each sponge morphological group: A) Leaf/Vase sponge, B) Round with projections, C) Solid/Massive shaped, D) Thin-walled/Foliose, E) Stalked, and F) Other (red arrow). Green lasers are 10 cm apart.

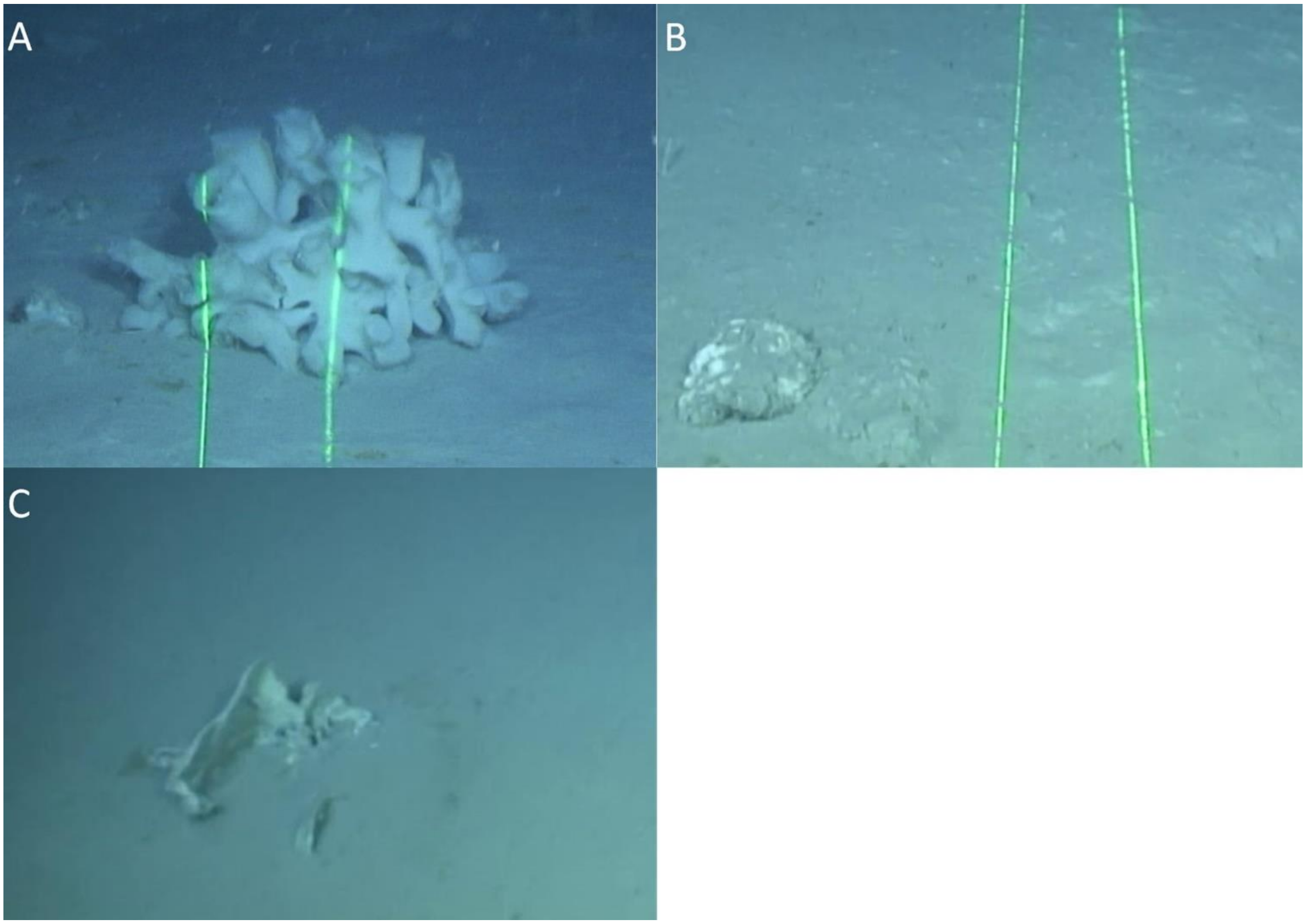


Figure 3-17 Representative photos of sponge conditions: A) Sediment Veneer Not Present ("good"), B) Sediment Veneer Present, C) Covered. Lasers are 10 cm apart.

3.3 Other Taxa

3.3.1 Invertebrates

Invertebrate taxa (other than corals and sponges) were observed throughout the grid lines though generally not present within 50 m of the drill center (Figure 3-18, density maps are located in Appendix C). Echinoderms were the most commonly observed invertebrate group (0 to 0.396 ind./m^2) of which mobile taxa such as sea urchins were the most abundant, followed by sea stars and brittle stars (Table 3-5). Pre-drilling survey echinoderm densities ranged between 0.027 to 0.27 ind./m^2 and were observed throughout the survey area. Cnidarians (other than corals) were the second most common group (0 to 0.284 ind./m^2), with sea anemones (mainly cerianthids) as the most abundant taxa. Brachiopods were the third most common group and were sporadically distributed on hard substrates and only visible when the ROV stopped. Molluscs were comprised of mobile taxa, such as gastropods and squid, and were observed in low densities (0 to 0.061 ind./m^2). Other invertebrate taxa observed included shrimp and annelid worms. These taxa were found throughout the survey area including within 50 m of the drill center.

Table 3-5 Summary statistics for invertebrate groups (excluding corals and sponges) within the 200 x 200 m survey grid.

Taxa Group	Year	Mean	Stdev	Median	Min	Max
Echinoderms	2018	0.119	0.045	0.117	0.027	0.270
	2020	0.114	0.095	0.112	0.010	0.396
Cnidarians	2018	0.071	0.034	0.064	0.020	0.196
	2020	0.076	0.071	0.058	0.009	0.284
Molluscs	2018	0.005	0.006	0.004	0.003	0.031
	2020	0.009	0.014	0.000	0.009	0.061
Brachiopods	2018	0.009	0.009	0.008	0.003	0.041
	2020	0.019	0.034	0.010	0.009	0.191
Other Invertebrates	2018	0.003	0.004	0.000	0.003	0.027
	2020	0.009	0.010	0.010	0.009	0.041

Total number of survey sections: 2018 (n=120), 2020 (n=141).
Only sections above 10 m linear distance were included for summary statistics.
Minimum density is the lowest non-zero value.

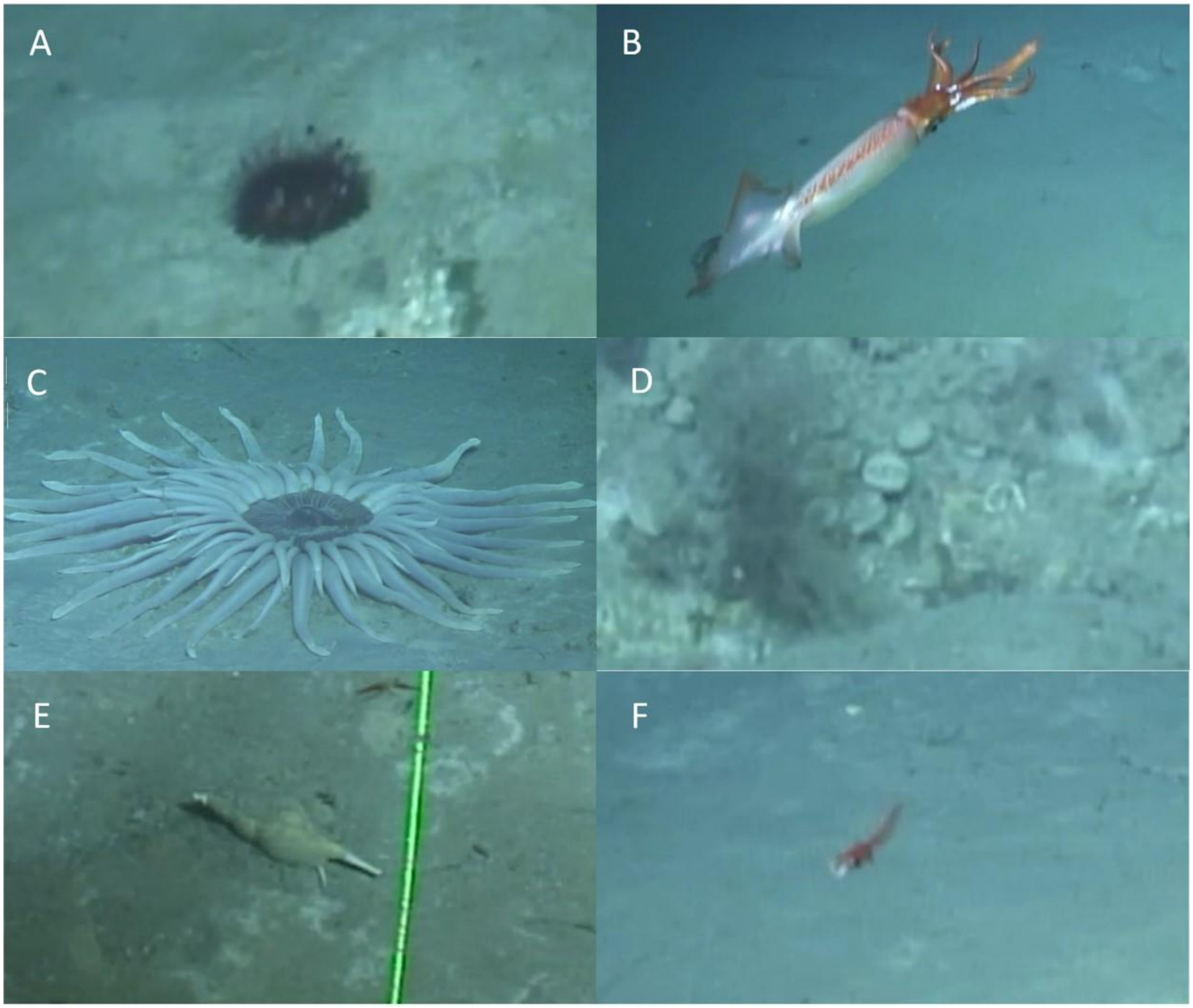


Figure 3-18 Representative invertebrates from each species group: A) sea urchin (echinoderm), B) squid (mollusc), C) sea anemone (cnidarian), D) brachiopods, E) gastropod (mollusc), and F) shrimp (crustacean / other invertebrates). Lasers are 10 cm apart.

3.3.2 Fish

Fish species were found throughout the 200 x 200 m survey grid (Figure 3-19, density maps are located in Appendix D). Benthivores were the most commonly observed group in both surveys, with grenadier species as the most abundant taxa (Table 3-6). Fish unable to be assigned to a functional group, such as poorly seen fish or small juveniles, were classified as Unknown fish and were the second most common group overall. Planktivores, of which lanternfish were the only taxa, were the third most common group. Low numbers of piscivores such as Greenland halibut and black dogfish sharks were observed.

Table 3-6 Summary statistics for fish functional groups within the 200 x 200 m survey grid.

Taxa Group	Year	Mean	Stdev	Median	Min	Max
Benthivores	2018	0.011	0.008	0.010	0.004	0.038
	2020	0.021	0.018	0.019	0.009	0.089
Piscivores	2018	0.000	0.001	0.000	0.004	0.005
	2020	0.000	0.001	0.000	0.010	0.011
Planktivores	2018	0.001	0.002	0.000	0.004	0.017
	2020	0.001	0.004	0.000	0.005	0.030
Unknown	2018	0.003	0.005	0.000	0.003	0.022
	2020	0.006	0.009	0.000	0.009	0.045

Total number of survey sections: 2018 (n=120), 2020 (n=141).
Only sections above 10 m linear distance were included for summary statistics.
Unknown fish include juveniles and unidentified fish.
Minimum density is the lowest non-zero value.

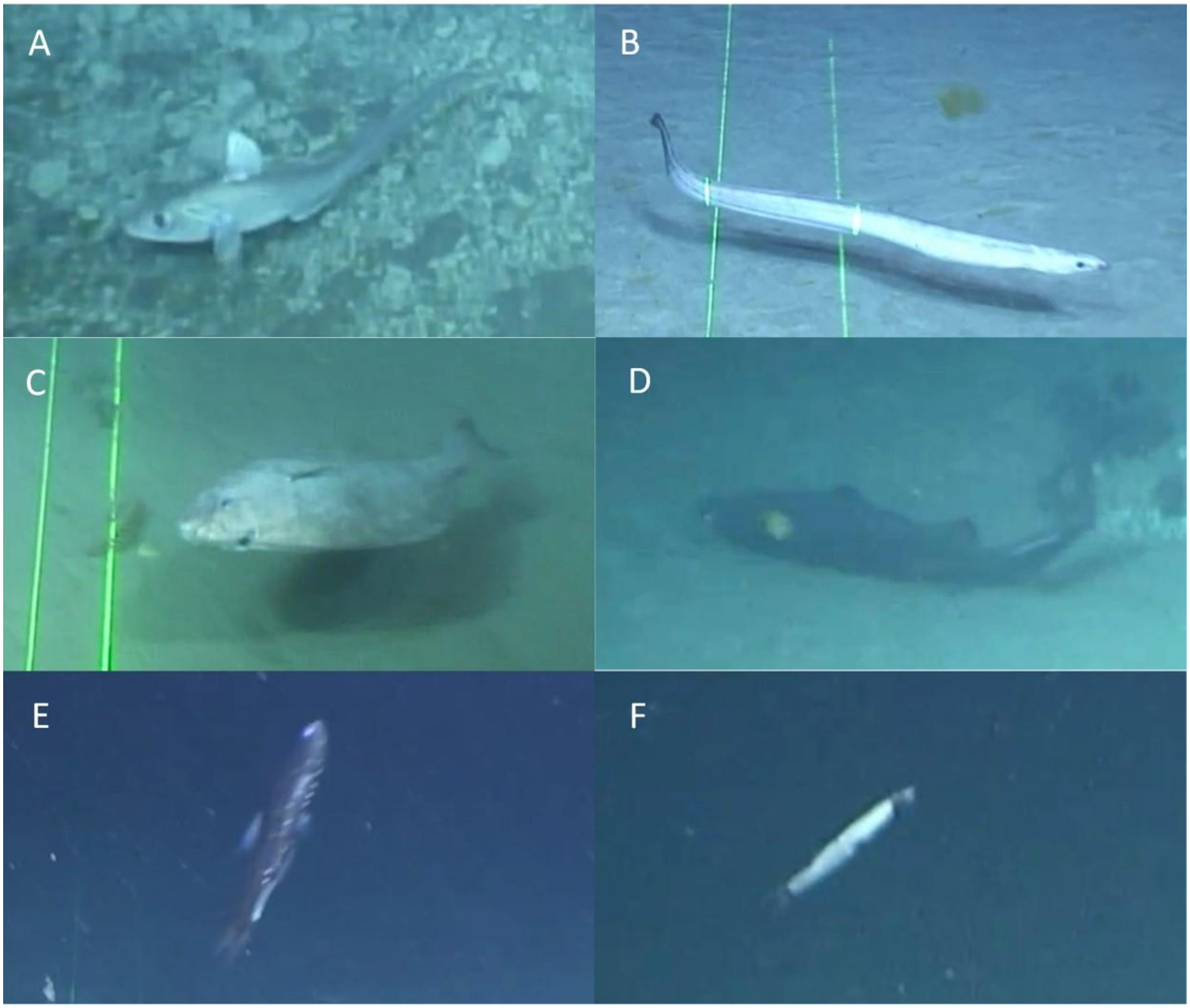


Figure 3-19 Representative fish species from each functional group: A) grenadier (benthivore), B) longnose eel (benthivore), C) Greenland halibut (piscivore), D) black dogfish (piscivore), E) lanternfish (Planktivore), and F) unknown fish. Lasers are 10 cm apart.

3.4 Other Observations

No observations of macroflora were recorded or expected at Hampden K-41, as it is below the photic zone. While no anthropogenic debris was noted, marks on the seafloor were observed in many grid lines (Figure 3-20). The single straight-line marks are possibly from the 2018 baseline survey (Figure 3-20 A), while multiple parallel lines may be several ROV passes or evidence of trawling (Figure 3-20 B).

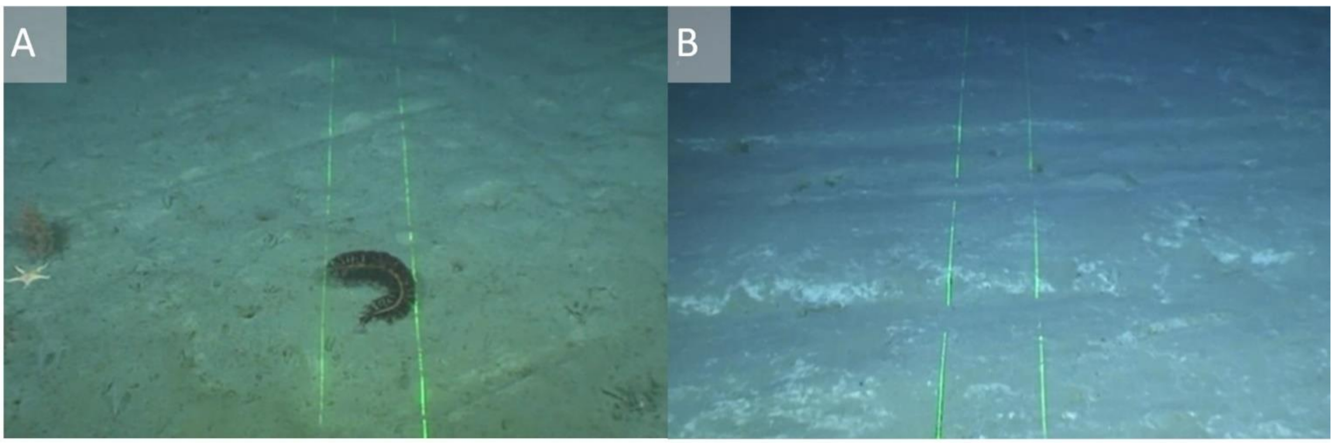


Figure 3-20 Seabed marks made by ROV or possibly trawling, A) straight-line seabed marks, B) multiple parallel lines.

4.0 SUMMARY AND CONCLUSIONS

Based on the results summarized above, some general conclusions can be drawn related to the Conditions 3.12.2.2, and 3.12.2.3 of the Decision Statement. The specific conditions and the determination are provided below.

Condition 3.12.1 *– for every well, measure the concentration of synthetic-based drilling fluids retained on discharged drill cuttings as described in the Offshore Waste Treatment Guidelines to verify that the discharge meets, at a minimum, the performance targets set out in the Guidelines and any applicable legislative requirements, and report the results to the Board;*

This condition is discussed in the EL1165A Drill Cutting Monitoring Report. The report describes how the drilling program was reduced and only WBM were released during drilling.

Condition 3.12.2.1 *- Measurement of sediment deposition extent and thickness post drilling to verify the drill waste deposition modeling predictions;*

This condition is discussed in the EL1165A Drill Cutting Monitoring Report (Wood 2020a). The report concluded that the majority of the cuttings observed were within 50 m of the drill center.

Condition 3.12.2.2 *- Benthic fauna surveys to verify the effectiveness of mitigation measures;*

Mitigations implemented to reduce the potential harm from drilling activities to deep-sea corals included identifying coral clusters which was completed in 2018 (RPS 2018, EMCL 2019b). Other mitigations include assessing the presence and condition of corals within the survey area post-drilling and assess whether these results change the conclusion of the original environmental assessment. Post-drilling surveys were completed in 2020 and compared to observations made in the pre-drilling survey in 2018. Densities decreases of corals and sponges (i.e., more sessile species) compared to those observed in 2018, were mainly limited to within 50 m of the drill center. In transects with corals present, their overall condition was considered good (e.g., upright, polyps extended, and without visible sedimentation) for both the 2018 and 2020 observations. Sponge condition was characterized by the presence or absence of a sediment veneer (or covered). In 2020, there was an increase of sponges observed with a veneer, however over 70% of sponges in both surveys (2018 and 2020) had sediment veneers which is indicative of natural sedimentation rates. With the similarity in coral and sponge densities and distributions in the pre- and post- drilling surveys and the overall coral condition being good in both surveys (2018 and 2020), it is therefore concluded that the drilling activities observed were within the EIS predictions of the project not resulting in significant adverse environmental effects.

Condition 3.12.2.3 *– Report the information collected as identified in conditions 3.12.2.1 and 3.12.2.2, including a comparison of modelling results to in situ results, to the C-NLOPB within 60 days following the drilling of the first well in each exploration licence.*

As described in the preceding sections of this report, the pre-drilling survey results were compared to *in situ* post-drilling survey results and found that effects to corals and sponges from drilling activities were limited to within 50 m of the drill center. Information collected as identified in condition 3.12.2.1 is presented in Wood 2020a.

5.0 CLOSURE

This report of the biological environment observed at EL 1165A has been prepared for the exclusive use of ExxonMobil Canada Ltd.. The project was conducted using standard practices by qualified Wood staff and in accordance with verbal and written requests from the client.

Yours sincerely,

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6.0 REFERENCES

Amec Foster Wheeler. 2017. Statoil Canada Ltd.-Flemish Pass Exploration Drilling Project 2018-2028, ExxonMobil Canada Ltd.-Eastern Newfoundland Offshore Exploration Drilling Project 2018-2030: Drill Cuttings Modelling. Report prepared for Statoil Canada Ltd. And ExxonMobil Canada Properties Ltd. Amec Foster Wheeler Project No. TF1654118. 131.

CEA Agency (Canadian Environmental Assessment Agency). 2019. Decision statement issued under Section 54 of the Canadian Environmental Act, 2012.

Cochrane, S. K. J., Ekehaug, S., Pettersen, R., Refit, E. C., Hansen, I. M., Aas, L. M. S. (2019). Detection of deposited drill cuttings on the sea floor-A comparison between underwater hyperspectral imagery and the human eye. *Marine Pollution Bulletin*. 145:67-80.

EMCL (ExxonMobil Canada Ltd.). 2017. Eastern Newfoundland Offshore Exploration Drilling Project Environmental Impact Statement. https://www.ceaa-acee.gc.ca/050/documents/ p80132/121318E.pdf

EMCL (ExxonMobil Canada Ltd.). 2019a. Eastern Newfoundland Offshore Geophysical, Geochemical, Environmental and Geotechnical Programs 2015-2024. 2019 Environmental Assessment Update. Page ii + 77 p. ME2078301, Report prepared by Wood Environment & Infrastructure Solutions for ExxonMobil Canada.

EMCL (ExxonMobil Canada Ltd.). 2019b. Risk Management Summary Report-Marine Environmental Risk Assessment, Hampden Well Location (EL 1134) and Harp Well Location (EL 1135) Drilling-Seabed.

EMCL (ExxonMobil Canada Ltd.). 2020. 2019 Eastern Newfoundland Offshore Exploration Drilling Project- EL 1134 and EL 1134. Drilling discharges follow-up program: drill cutting measurements and benthic habitat monitoring. Prepared by Wood Environment & Infrastructure Solutions for ExxonMobil Canada.

Fang, J. K. H., Rooks, C. A., Krogness, C. M., Kutti, T., Hoffmann, F., Bannister, R. J. (2018).Impact of particulate sediment, bentonite and barite (oil-drilling waste) on net fluxes of oxygen and nitrogen in Arctic-boreal sponges. *Environmental Pollution*. 238:948-958.

Gates, A. R., Benfield, M. C., Booth, D. J., Fowler, A. M., Skropeta, D., Jones D. O. B. (2017). Deep-sea observations at hydrocarbon drilling locations: Contributions from the SERPENT Project after 120 field visits. *Deep-sea Research II. 137*:463-479

Jones, D. O. B., Gates, A. R., Huvenne, V. A. I., Phillips, A. B., Bett, B. J. (2019). Autonomous marine environmental monitoring: Application in decommissioned oil fields. *Science of the Total Environment*. 668:835-853

Kelly, J., R. Power, L. Noble, J. Meade, K. Reid, S. Kuehnemund, C. Varley, C. Grant, M. Roberge, E. Lee, and M. Teasdale. 2009. A System for Characterizing and Quantifying Coastal Marine Habitat in Newfoundland. Draft.

Kenchington, E., L. Beazley, F. J. Murillo, G. Tompkins MacDonald, and E. Baker. 2015. Coral, sponge, and other vulnerable marine ecosystem indicator identification guide, NAFO area. NAFO Scientific Council Studies Number 47:1–74.

Liefmann, S., Jarnegren, J., Johnsen, G., Murray, F. (2018). Eco-physiological response of cold-water soft corals to anthropogenic sedimentation and particle shape. *Journal of Experimental Marine Biology and Ecology*. 504:61-71

Ollerhead, L. H. N., M. Gullage, N. Trip, and N. Wells. 2017. Development of Spatially Referenced Data Layers for Use in the Identification and Delineation of Candidate Ecologically and Biologically Significant Areas in the Newfoundland and Labrador Shelves Bioregion. DFO Canadian Science Advisory Secretariat Research Document 2017/036:v + 38 p.

RPS Energy Canada Ltd. 2018. Cold Water Coral and Sponge Report August 2018 Flemish Pass EL1134 - Offshore Newfoundland. CS00415.1, Made for ExxonMobil Canada Properties.

Sameoto, J. A., Lawton, P., and M. B. Strong. 2008. An approach to the development of a relational database and GIS applicable scheme for the analysis of video-based surveys of benthic habitats. Canadian Technical Report of Fisheries and Aquatic Sciences 2818.

Schneider, C. A., W. S. Rasband, and K. W. Eliceiri. 2012. NIH Image to ImageJ: 25 years of image analysis. Nature Methods 9:671–675.

Wentworth, C. K. 1922. A Scale of Grade and Class Terms for Clastic Sediments. The Journal of Geology 30:377–392.

Wood. 2018. Drill cutting dispersion modelling, exploration drilling, EL 1134. Report prepared for ExxonMobil Canada Ltd. Wood Project No. TA1878307.

Wood. 2020a. EL1165A Drilling discharges follow-up program: Drill cuttings measurements and monitoring 2020 Report. Prepared by Wood Environment & Infrastructure Solutions for ExxonMobil Canada. Wood Project No. ME2078301

APPENDIX A: SURVEY COORDINATES

Table A-1 Start and end coordinates for the central box grid transects surveyed in EL 1165A

Transect	Length (m)	UTM Coordinates (NAD83, Zone 22)			
		Start Easting	Start Northing	End Easting	End Northing
G-01	205.9	814268.37	5214530.63	814474.54	5214532.58
G-02	216.7	814478.97	5214524.62	814262.70	5214525.54
G-03	200	814271.12	5214519.06	814471.12	5214517.34
G-04	200.6	814468.65	5214510.56	814268.31	5214515.17
G-05	201.9	814265.67	5214507.45	814467.61	5214510.53
G-06	151	814467.69	5214501.5	814267.32	5214502.15
G-07	205.7	814471.95	5214495.55	814266.74	5214499.50
G-08	202.2	814270.64	5214487.12	814472.34	5214485.11
G-09	200	814467.96	5214484.16	814268.14	5214483.88
G-10	202.5	814269.04	5214476.85	814471.74	5214473.28
G-11	200	814467.9	5214473.63	814268.2	5214471.54
G-12	200.5	814268.1	5214464.14	814468.6	5214465.86
G-13	202.1	814469.6	5214459.96	814267.4	5214461.03
G-14	201.8	814269.2	5214454.27	814471.0	5214453.00
G-15	202.9	814472.2	5214446.86	814268.9	5214448.52
G-16	203.1	814267.8	5214442.04	814470.8	5214441.69
G-17	207.3	814476.2	5214434.81	814269.0	5214435.05
G-18	203.9	814266.9	5214431.00	814471.3	5214428.30
G-19	204.3	814470.9	5214422.52	814266.4	5214422.57
G-20	206.1	814262.0	5214416.78	814468.5	5214417.39
G-21	207.4	814472.1	5214408.19	814262.9	5214411.32
G-22	203.9	814273.7	5214403.77	814477.9	5214405.33
G-23	203.9	814472.7	5214399.09	814268.5	5214399.10
G-24	203.4	814266.8	5214391.23	814470.5	5214392.71
G-25	215.7	814477.2	5214386.19	814262.4	5214387.15
G-26	209.9	814261.9	5214382.88	814471.8	5214381.16
G-27	200	814269.8	5214382.86	814467.9	5214374.89
G-28	210	814469.8	5214368.09	814259.4	5214370.92
G-29	204.3	814262.4	5214363.99	814467.3	5214359.31
G-30	210.5	814473.9	5214357.47	814263.3	5214359.40
G-31	205.5	814265.3	5214355.41	814470.4	5214351.72
G-32	211.5	814480.3	5214345.98	814268.3	5214348.12
G-33	206.9	814264.3	5214338.16	814471.8	5214338.78
G-34	202.8	814468.1	5214328.96	814265.5	5214330.44

APPENDIX B: POST-DRILLING VIDEO OBSERVATION DATA

Table B 1 Observations for the 200 x 200 m survey grids 1 to 10.

EL1165a Hampden 2020 Benthic Survey Data															Coral Condition (%)						Sponge Conition (%)			Density by Group (Ind/m²)																				
Date	Line	Section	Time Start (NDT)	Time End (NDT)	Start Northing	Start Easting	End Northing	End Easting	Depth (m)	Distance (m)	Area (sqm) 1.95 m FOV	Coarse	Medium	Fine	Polyps Missing	Covered	Dead	Withdrawn	Bent	Good	Veneer Present	Covered	Veneer Not Present	Echinoderms	Cnidaria	Molluscs	Brachiopods	Other Inverts	Soft Corals	Black Corals	Hard Corals	Branching corals	Sea Pens	Solid / Massive	Leaf / Vase Shaped	Round with Projections	Thin-Walled, Complex	Stalked	Sponge Other	Benthivores	Piscivores	Plank-Piscivore	Planktivores	Unknown
26-May-20	G1	1	6:34:31	6:37:22	814268.4	5214530.6	814318.7	5214530.8	1180	50.3	99.6	10	0	90	0.0	0.0	0.0	0.0	38.9	61.1	89.5	0.0	10.5	0.231	0.040	0.030	0.000	0.010	0.110	0.000	0.000	0.000	0.331	0.361	0.010	0.000	0.000	0.000	0.000	0.040	0.000	0.000	0.000	0.010
26-May-20	G1	2	6:37:22	6:42:34	814318.7	5214530.8	814368.3	5214531.7	1180	49.6	98.3	5	0	95	0.0	0.0	0.0	0.0	27.8	72.2	93.0	0.0	7.0	0.163	0.041	0.010	0.020	0.041	0.092	0.000	0.000	0.020	0.529	0.356	0.000	0.051	0.000	0.000	0.000	0.041	0.000	0.000	0.010	0.000
26-May-20	G1	3	6:42:34	6:45:07	814368.3	5214531.7	814418.7	5214530.4	1180	50.4	99.8	10	0	90	0.0	0.0	0.0	0.0	0.0	100.0	94.7	0.0	5.3	0.180	0.261	0.030	0.000	0.010	0.130	0.000	0.000	0.000	0.361	0.170	0.000	0.010	0.000	0.000	0.000	0.010	0.000	0.000	0.020	0.030
26-May-20	G1	4	6:45:07	6:47:15	814418.7	5214530.4	814468.7	5214530.2	1180	50.0	99.0	10	0	90	0.0	0.0	0.0	0.0	5.9	94.1	25.0	0.0	75.0	0.323	0.111	0.020	0.000	0.020	0.121	0.000	0.000	0.000	0.424	0.030	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.030
26-May-20	G1	5	6:47:15	6:49:56	814468.7	5214530.2	814474.5	5214532.6	1180	6.3	12.6	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.637	0.318	0.000	0.000	0.000	0.955	0.000	0.000	0.000	0.159	0.000	0.000	0.080	0.080	0.000	0.000	0.000	0.000	0.000	0.000	0.080
26-May-20	G2	1	6:58:28	7:00:45	814479.0	5214524.6	814428.6	5214524.7	1180	50.4	99.8	10	0	90	0.0	0.0	0.0	0.0	7.1	92.9	50.0	0.0	50.0	0.331	0.070	0.020	0.020	0.010	0.110	0.000	0.000	0.020	0.250	0.070	0.000	0.020	0.010	0.000	0.000	0.010	0.000	0.000	0.000	0.020
26-May-20	G2	2	7:00:45	7:03:21	814428.6	5214524.7	814379.5	5214525.0	1180	49.1	97.2	5	0	95	0.0	0.0	0.0	0.0	17.6	82.4	57.1	0.0	42.9	0.144	0.175	0.051	0.000	0.010	0.165	0.000	0.000	0.000	0.298	0.021	0.000	0.010	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.010
26-May-20	G2	3	7:03:21	7:08:05	814379.5	5214525.0	814326.9	5214525.7	1180	52.6	104.2	5	0	95	0.0	0.0	0.0	0.0	9.1	90.9	89.8	0.0	10.2	0.144	0.115	0.048	0.010	0.000	0.125	0.000	0.000	0.010	0.038	0.442	0.000	0.019	0.000	0.000	0.000	0.029	0.000	0.000	0.000	0.000
26-May-20	G2	4	7:08:05	7:10:45	814326.9	5214525.7	814279.7	5214525.4	1180	47.2	93.4	10	0	90	0.0	0.0	0.0	0.0	7.1	92.9	78.6	0.0	21.4	0.246	0.118	0.043	0.021	0.011	0.171	0.000	0.000	0.021	0.021	0.310	0.011	0.118	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.011
26-May-20	G2	5	7:10:45	7:12:32	814279.7	5214525.4	814262.7	5214525.5	1180	17.0	33.7	0	0	100	0.0	0.0	0.0	0.0	25.0	75.0	69.2	0.0	30.8	0.178	0.267	0.000	0.030	0.000	0.178	0.000	0.000	0.030	0.505	0.267	0.000	0.089	0.000	0.000	0.000	0.089	0.000	0.000	0.000	0.000
26-May-20	G3	1	7:26:08	7:31:16	814271.2	5214518.9	814320.6	5214518.7	1180	49.4	97.8	5	0	95	0.0	0.0	0.0	7.1	0.0	92.9	94.6	0.0	5.4	0.235	0.123	0.031	0.000	0.010	0.051	0.000	0.000	0.000	0.348	0.440	0.000	0.020	0.000	0.000	0.000	0.072	0.000	0.000	0.000	0.031
26-May-20	G3	2	7:31:16	7:36:41	814320.6	5214518.7	814369.2	5214517.9	1180	48.6	96.2	10	0	90	0.0	0.0	0.0	0.0	14.3	85.7	98.9	0.0	1.1	0.166	0.094	0.042	0.021	0.031	0.125	0.000	0.000	0.021	0.385	0.800	0.000	0.010	0.000	0.000	0.000	0.042	0.000	0.000	0.000	0.010
26-May-20	G3	3	7:36:41	7:39:13	814369.2	5214517.9	814421.6	5214518.2	1180	52.4	103.8	0	0	100	0.0	0.0	0.0	0.0	9.5	90.5	100.0	0.0	0.0	0.125	0.135	0.010	0.029	0.000	0.010	0.000	0.000	0.029	0.337	0.809	0.000	0.039	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
26-May-20	G3	4	7:39:13	7:43:34	814421.6	5214518.2	814471.1	5214517.3	1180	49.5	98.1	15	0	85	0.0	0.0	0.0	0.0	0.0	100.0	53.3	0.0	46.7	0.255	0.214	0.000	0.010	0.010	0.530	0.000	0.000	0.010	0.438	0.082	0.000	0.020	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.000
26-May-20	G4	1	7:48:59	7:55:17	814468.7	5214510.6	814415.5	5214514.7	1180	53.3	105.5	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	11.1	0.0	88.9	0.199	0.171	0.000	0.009	0.000	0.133	0.000	0.000	0.009	0.199	0.057	0.000	0.019	0.000	0.000	0.000	0.019	0.000	0.000	0.000	0.000
26-May-20	G4	2	7:55:17	7:57:33	814415.5	5214514.7	814371.7	5214512.4	1180	43.8	86.8	10	0	90	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.104	0.138	0.000	0.000	0.000	0.035	0.000	0.000	0.000	0.081	0.403	0.000	0.035	0.000	0.000	0.000	0.012	0.000	0.000	0.000	0.000
26-May-20	G4	3	7:57:33	8:04:36	814371.7	5214512.4	814318.2	5214515.4	1180	53.7	106.3	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	94.6	0.0	5.4	0.264	0.094	0.009	0.009	0.009	0.169	0.000	0.000	0.009	0.292	1.176	0.000	0.028	0.000	0.000	0.000	0.075	0.000	0.000	0.000	0.000
26-May-20	G4	4	8:04:36	8:08:15	814318.2	5214515.4	814268.9	5214515.2	1180	49.2	97.4	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	70.8	0.0	29.2	0.308	0.133	0.021	0.000	0.000	0.092	0.000	0.000	0.000	0.236	0.185	0.010	0.021	0.000	0.000	0.000	0.051	0.000	0.000	0.000	0.010
26-May-20	G4	5	8:08:15	8:08:52	814268.9	5214515.2	814268.3	5214515.2	1180	0.6	1.2	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26-May-20	G5	1	8:15:34	8:20:01	814265.7	5214507.5	814317.0	5214505.8	1180	51.4	101.7	10	0	90	0.0	0.0	0.0	0.0	0.0	100.0	44.4	0.0	55.6	0.138	0.079	0.039	0.000	0.000	0.039	0.000	0.000	0.000	0.010	0.187	0.000	0.029	0.000	0.000	0.000	0.010	0.010	0.000	0.000	0.020
26-May-20	G5	2	8:20:01	8:22:37	814317.0	5214505.8	814365.4	5214508.8	1180	48.5	96.0	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	80.9	0.0	19.1	0.156	0.052	0.031	0.000	0.000	0.073	0.000	0.000	0.000	0.167	0.042	0.000	0.010	0.021	0.000	0.000	0.010	0.000	0.000	0.000	0.000
26-May-20	G5	3	8:22:37	8:27:35	814365.4	5214508.8	814413.2	5214510.6	1180	47.8	94.6	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	33.3	0.0	66.7	0.021	0.021	0.000	0.000	0.000	0.042	0.000	0.000	0.000	0.042	0.053	0.000	0.011	0.000	0.000	0.000	0.032	0.011	0.000	0.000	0.011
26-May-20	G5	4	8:27:35	8:30:52	814413.2	5214510.6	814465.9	5214510.7	1180	52.7	104.4	10	0	90	0.0	0.0	0.0	0.0	15.4	84.6	25.0	0.0	75.0	0.172	0.096	0.010	0.000	0.010	0.125	0.000	0.000	0.000	0.307	0.038	0.000	0.019	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.010
26-May-20	G5	5	8:30:52	8:31:02	814465.9	5214510.7	814467.6	5214510.5	1180	1.7	3.4	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.582	0.000	0.291	0.000	0.000	0.000	0.000	0.000	0.000	0.291	1.455	0.000	0.000	0.000	0.000	0.000	0.291	0.000	0.000	0.000	0.000
26-May-20	G6	1	9:02:41	9:05:32	814321.5	5214505.0	814267.3	5214502.1	1180	54.2	107.4	10	0	90	0.0	0.0	0.0	0.0	6.7	93.3	94.9	0.0	5.1	0.298	0.177	0.019	0.056	0.000	0.261	0.000	0.000	0.019	0.251	0.056	0.037	0.270	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.019
26-May-20	G6	2	3:39:04	3:40:45	814320.2	5214500.9	814354.3	5214501.1	1180	34.0	67.4	5	0	95	0.0	0.0	0.0	0.0	20.0	80.0	100.0	0.0	0.0	0.074	0.015	0.015	0.000	0.000	0.030	0.000	0.000	0.000	0.059	0.000	0.045	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.045
26-May-20	G6	3	3:48:48	3:50:32	814366.9	5214500.0	814392.7	5214501.7	1180	25.9	51.2	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.039	0.000	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.020	0.000	0.039	0.039	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.039
26-May-20	G6	4	8:37:11	8:41:19	814467.7	5214501.5	814430.8	5214503.7	1180	36.9	73.1	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	NA	0.014	0.137	0.027	0.027	0.000	0.068	0.000	0.000	0.000	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.000	0.000	0.014	0.014
26-May-20	G7	1	2:34:03	2:39:28	814472.0	5214495.6	814422.0	5214496.3	1180	50.0	99.0	10	0	90	0.0	0.0	0.0	0.0	0.0	100.0	38.1	0.0	61.9	0.242	0.051	0.061	0.020	0.040	0.172	0.000	0.000	0.020	0.212	0.152	0.020	0.040	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.010
26-May-20	G7	2	2:39:28	2:44:43	814422.0	5214496.3	814369.8	5214501.1	1180	52.4	103.7	10	0	90	0.0	0.0	0.0	0.0	25.0	75.0	72.7	0.0	27.3	0.029	0.019	0.000	0.000	0.010	0.067	0.000	0.000	0.000	0.058	0.202	0.000	0.010	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
26-May-20	G7	3	2:44:43	2:48:16	814369.8	5214501.1	814322.4	5214497.3	1180	47.6	94.3	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	79.4	0.0	20.6	0.106	0.021	0.011	0.021	0.000	0.011	0.000	0.000	0.021	0.021	0.297	0.011	0.053	0.000	0.000	0.000	0.042	0.000	0.000	0.000	0.000
26-May-20	G7	4	2:48:16	2:51:35	814322.4	5214497.3	814272.4	5214497.5	1180	50.0	99.0	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	68.8	0.0	31.3	0.212	0.162	0.020	0.010	0.010	0.111	0.000	0.000	0.010	0.141	0.172	0.010	0.020	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.020
26-May-20	G7	5	2:51:35	2:52:43	814272.4	5214497.5	814266.7	5214499.5	1180	6.0	11.8	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.338	0.169	0.000	0.000	0.000	0.084	0.000	0.000	0.000	0.338	0.169	0.000	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26-May-20	G8	1	2:13:03	2:17:03	814270.6	5214487.1	814322.1	5214485.6	1180	51.4	101.9	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	16.7	0.0	83.3	0.098	0.029	0.059	0.000	0.000	0.049	0.000	0.000	0.000	0.088	0.020	0.000	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020
26-May-20	G8	2	2:17:03	2:21:47	814322.1	5214485.6	814370.3	5214485.7	1180	48.3	95.6	5	0	95	0.0	0.0	0.0	0.0	20.0	80.0	96.9	0.0	3.1	0.157	0.031	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.042	0.617	0.010	0.031	0.000	0.000	0.000	0.031	0.000	0.000	0.000	0.010
26-May-20	G8	3	2:21:47	2:25:00	814370.3	5214485.7	814422.3	5214485.9	1180	52.0	102.9	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.049	0.000	0.000	0.000	0.000
26-May-20	G8	4	2:25:00	2:28:33	814422.3	5214485.9	814470.7	5214485.4	1180	48.4	95.8	10	0	90	0.0	0.0	0.0	0.0	9.1	90.9	30.0	0.0	70.0	0.146	0.063	0.010	0.000	0.021	0.198	0.000	0.000	0.000	0.198	0.052	0.000	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010
26-May-20	G8	5	2:28:33	2:28:56	814470.7	5214485.4	814472.3	5214485.1	1180	1.7	3.4	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26-May-20	G9	1	1:41:07	1:44:49	814468.0	5214484.2	814419.1	5214484.0	1180	48.8	96.7	5	0	95	0.0	0.0	0.0	0.0	20.0	80.0	40.0	0.0	60.0	0.103	0.052	0.031	0.010	0.010	0.269	0.000	0.000	0.010	0.124	0.021	0.000	0.031	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.010
26-May-20	G9	2	1:44:49	1:50:15	814419.1	5214484.0	814369.0	5214484.3	1180	50.2	99.3	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.010
26-May-20	G9	3	1:50:15	1:58:35	814369.0	5214484.3	814318.0	5214484.7	1180	50.9	100.8	5	0	95	0.0	0.0	0.0	0.0	20.0	80.0	98.6	0.0	1.4	0.149	0.040	0.020	0.000	0.000	0.188	0.000	0.000	0.000	0.079	0.069	0.010	0.030	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.010
26-May-20	G9	4	1:58:35	2:02:06	814318.0	5214484.7	814268.1	5214483.9	1180	49.9	98.8	10	0	90	0.0	0.0	0.0	0.0	0.0	100.0	75.8	0.0	24.2	0.314	0.152	0.020	0.020	0.000	0.030	0.000	0.000	0.020	0.213	0.253	0.020	0.051	0.000	0.000	0.000	0.051	0.000	0.000	0.000	0.010
26-May-20	G10	1	1:01:50	1:08:06	814269.0	5214476.8	814322.2	5214474.2	1180	53.2	105.4	5	0	95	6.7	0.0	0.0	0.0	6.7	86.7	92.5	0.0	7.5	0.142	0.066	0.019	0.019	0.019	0.114	0.000	0.000	0.000	0.152	0.456	0.000	0.028	0.019	0.000	0.000	0.009	0.000	0.000	0.000	0.000
26-May-20	G10	2	1:08:06	1:11:23	814322.2	5214474.2	814368.6	5214474.1	1180	46.4	91.9	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.044	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.011	0.174	0.000	0.011	0.000	0.000	0.000	0.022	0.000	0.000	0.000	0.000
26-May-20	G10	3	1:11:23	1:31:29	814368.6	5214474.1	814418.7	5214475.8	1180	50.1	99.2	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.000	0.000	0.000	0.000	0.010	0.071	0.000	0.000	0.000	0.040	0.081	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
26-May-20	G10	4	1:31:29	1:34:54	814418.7	5214475.8	814467.6	5214474.0	1180	48.9	96.8	5	5	90	0.0	0.0	0.0	0.0	0.0	100.0	71.4	0.0	28.6	0.145	0.155	0.010	0.010	0.010	0.196	0.000	0.000	0.010	0.238	0.010	0.000	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26-May-20	G10	5	1:34:54	1:35:56	814467.6	5214474.0	814471.7	5214473.3	1180	4.2	8.4	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: NA indicates sections without any observations to report.

Table B 2 Observations for the 200 x 200 m survey grids 11 to 20.

EL1165a Hampden 2020 Benthic Survey Data															Coral Condition (%)						Sponge Conition (%)		
Date	Line	Section	Time Start (NDT)	Time End (NDT)	Start Northing	Start Easting	End Northing	End Easting	Depth (m)	Distance (m)	Area (sqm) 1.95 m FOV	Coarse	Medium	Fine	Polyps Missing	Covered	Dead	Withdrawn	Bent	Good	Veneer Present	Covered	Veneer Not Present
26-May-20	G11	1	0:37:45	0:42:36	814467.9	5214473.6	814417.5	5214473.2	1180	50.4	99.8	0	0	100	0.0	0.0	0.0	0.0	11.1	88.9	85.7	0.0	14.3
26-May-20	G11	2	0:42:36	0:47:36	814417.5	5214473.2	814368.5	5214471.9	1180	49.1	97.1	5	0	95	0.0	0.0	0.0	0.0	50.0	50.0	94.6	0.0	5.4
26-May-20	G11	3	0:47:36	0:52:25	814368.5	5214471.9	814317.0	5214472.2	1180	51.4	101.8	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	97.0	0.0	3.0
26-May-20	G11	4	0:52:25	0:56:34	814317.0	5214472.2	814268.2	5214471.5	1180	48.8	96.7	0	0	100	0.0	0.0	0.0	0.0	6.7	93.3	88.6	0.0	11.4
26-May-20	G12	1	0:17:00	0:20:55	814268.1	5214464.1	814318.1	5214464.9	1180	50.0	99.0	10	0	90	0.0	0.0	0.0	0.0	0.0	100.0	57.7	0.0	42.3
26-May-20	G12	2	0:20:55	0:24:50	814318.1	5214464.9	814367.9	5214464.9	1180	49.8	98.7	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	57.9	0.0	42.1
26-May-20	G12	3	0:24:50	0:29:18	814367.9	5214464.9	814419.0	5214465.1	1180	51.1	101.2	0	0	100	0.0	0.0	0.0	0.0	5.9	94.1	67.7	0.0	32.3
26-May-20	G12	4	0:29:18	0:32:35	814419.0	5214465.1	814467.7	5214465.6	1180	48.7	96.4	10	0	90	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
26-May-20	G12	5	0:32:35	0:33:06	814467.7	5214465.6	814468.6	5214465.9	1180	0.9	1.8	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
25-May-20	G13	1	23:52:42	23:57:57	814469.8	5214459.5	814420.4	5214460.7	1180	49.4	97.8	10	0	90	0.0	0.0	0.0	0.0	0.0	100.0	44.4	0.0	55.6
25-May-20	G13	2	23:57:57	0:03:36	814420.4	5214460.7	814369.9	5214460.5	1180	50.5	100.0	0	0	100	0.0	0.0	0.0	0.0	0.0	NA	50.0	0.0	50.0
26-May-20	G13	3	0:03:36	0:07:44	814369.9	5214460.5	814320.2	5214460.1	1180	49.7	98.4	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	66.7	0.0	33.3
26-May-20	G13	4	0:07:44	0:11:04	814320.2	5214460.1	814270.5	5214461.0	1180	49.7	98.3	10	0	90	0.0	0.0	0.0	0.0	6.7	93.3	77.4	0.0	22.6
26-May-20	G13	5	0:11:04	0:11:53	814270.5	5214461.0	814267.4	5214461.0	1180	3.1	6.2	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0
25-May-20	G14	1	23:32:07	23:35:15	814269.2	5214454.3	814314.2	5214452.7	1180	45.1	89.2	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	75.0	0.0	25.0
25-May-20	G14	2	23:35:15	23:39:51	814314.2	5214452.7	814368.8	5214453.8	1180	54.6	108.1	5	0	95	100.0	0.0	0.0	0.0	0.0	0.0	33.3	16.7	50.0
25-May-20	G14	3	23:39:51	23:43:21	814368.8	5214453.8	814420.3	5214452.8	1180	51.6	102.1	0	0	100	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	NA
25-May-20	G14	4	23:43:21	23:45:46	814420.3	5214452.8	814468.5	5214453.0	1180	48.1	95.3	15	0	85	0.0	0.0	0.0	0.0	6.7	93.3	22.2	0.0	77.8
25-May-20	G14	5	23:45:46	23:46:27	814468.5	5214453.0	814471.0	5214453.0	1180	2.5	5.0	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	NA
25-May-20	G15	1	23:08:54	23:13:59	814472.2	5214446.9	814422.4	5214447.6	1180	49.9	98.7	5	5	90	0.0	5.6	0.0	22.2	16.7	55.6	70.6	0.0	29.4
25-May-20	G15	2	23:13:59	23:17:17	814422.4	5214447.6	814372.4	5214447.6	1180	49.9	98.9	0	0	100	0.0	0.0	0.0	0.0	0.0	NA	0.0	0.0	NA
25-May-20	G15	3	23:17:17	23:22:08	814372.4	5214447.6	814322.4	5214448.4	1180	50.0	99.0	0	0	100	0.0	0.0	0.0	0.0	0.0	NA	40.0	0.0	60.0
25-May-20	G15	4	23:22:08	23:26:41	814322.4	5214448.4	814272.7	5214447.8	1180	49.7	98.5	10	0	90	0.0	0.0	0.0	0.0	10.0	90.0	100.0	0.0	0.0
25-May-20	G15	5	23:26:41	23:27:12	814272.7	5214447.8	814268.9	5214448.5	1180	3.8	7.6	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0
25-May-20	G16	1	22:43:47	22:46:54	814267.8	5214442.0	814316.7	5214437.2	1180	49.1	97.3	5	0	95	0.0	0.0	7.1	0.0	7.1	85.7	69.2	0.0	30.8
25-May-20	G16	2	22:46:54	22:50:36	814316.7	5214437.2	814368.0	5214442.1	1180	51.5	102.1	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
25-May-20	G16	3	22:50:36	23:00:32	814368.0	5214442.1	814418.6	5214441.6	1180	50.7	100.3	0	0	100	0.0	0.0	0.0	0.0	40.0	60.0	100.0	0.0	0.0
25-May-20	G16	4	23:00:32	23:03:20	814418.6	5214441.6	814467.3	5214440.9	1180	48.7	96.4	15	0	85	0.0	0.0	0.0	18.2	18.2	63.6	55.6	0.0	44.4
25-May-20	G16	5	23:03:20	23:04:02	814467.3	5214440.9	814470.8	5214441.7	1180	3.5	7.0	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	50.0	0.0	50.0
25-May-20	G17	1	22:17:17	22:21:55	814476.2	5214434.8	814424.4	5214435.0	1180	51.8	102.6	10	0	90	0.0	0.0	0.0	7.7	38.5	53.8	69.2	0.0	30.8
25-May-20	G17	2	22:21:55	22:25:38	814424.4	5214435.0	814376.4	5214434.8	1180	48.0	95.0	0	0	100	0.0	0.0	0.0	0.0	50.0	50.0	0.0	100.0	0.0
25-May-20	G17	3	22:25:38	22:31:43	814376.4	5214434.8	814326.1	5214435.1	1180	50.3	99.5	0	5	95	0.0	33.3	0.0	0.0	33.3	33.3	66.7	0.0	33.3
25-May-20	G17	4	22:31:43	22:35:16	814326.1	5214435.1	814276.3	5214434.6	1180	49.8	98.6	5	0	95	0.0	0.0	0.0	0.0	33.3	66.7	91.7	0.0	8.3
25-May-20	G17	5	22:35:16	22:36:30	814276.3	5214434.6	814269.0	5214435.1	1180	7.4	14.6	0	0	100	0.0	0.0	0.0	50.0	0.0	50.0	100.0	0.0	0.0
25-May-20	G18	1	21:49:28	21:54:46	814266.9	5214431.0	814317.9	5214428.6	1180	51.1	101.1	5	0	95	0.0	8.3	0.0	0.0	33.3	58.3	89.3	0.0	10.7
25-May-20	G18	2	21:54:46	21:58:27	814317.9	5214428.6	814366.9	5214429.9	1180	49.0	96.9	0	0	100	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
25-May-20	G18	3	21:58:27	22:02:18	814366.9	5214429.9	814415.5	5214429.2	1180	48.6	96.3	0	0	100	0.0	0.0	0.0	0.0	0.0	NA	0.0	0.0	NA
25-May-20	G18	4	22:02:18	22:05:26	814415.5	5214429.2	814466.4	5214428.6	1180	50.9	100.8	5	0	95	0.0	0.0	0.0	8.3	41.7	50.0	50.0	0.0	50.0
25-May-20	G18	5	22:05:26	22:06:12	814466.4	5214428.6	814471.3	5214428.3	1180	4.9	9.7	0	0	100	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	NA
25-May-20	G19	1	21:22:24	21:29:11	814470.9	5214422.5	814420.7	5214422.6	1180	50.2	99.5	5	0	95	0.0	0.0	0.0	0.0	42.9	57.1	20.0	0.0	80.0
25-May-20	G19	2	21:29:11	21:34:45	814420.7	5214422.6	814371.1	5214422.6	1180	49.6	98.2	0	0	100	0.0	0.0	0.0	0.0	66.7	33.3	0.0	100.0	0.0
25-May-20	G19	3	21:34:45	21:39:03	814371.1	5214422.6	814321.0	5214422.8	1180	50.1	99.2	0	0	100	0.0	0.0	0.0	0.0	50.0	50.0	100.0	0.0	0.0
25-May-20	G19	4	21:39:03	21:43:19	814321.0	5214422.8	814270.8	5214422.2	1180	50.2	99.3	10	0	90	0.0	0.0	0.0	0.0	38.5	61.5	47.4	0.0	52.6
25-May-20	G19	5	21:43:19	21:43:42	814270.8	5214422.2	814266.4	5214422.6	1180	4.4	8.7	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0
25-May-20	G20	1	21:00:16	21:04:37	814262.0	5214416.8	814312.2	5214417.6	1180	50.2	99.4	10	0	90	0.0	0.0	0.0	0.0	0.0	100.0	77.8	0.0	22.2
25-May-20	G20	2	21:04:37	21:08:08	814312.2	5214417.6	814361.8	5214418.1	1180	49.6	98.3	0	0	100	0.0	0.0	0.0	0.0	20.0	80.0	90.0	0.0	10.0
25-May-20	G20	3	21:08:08	21:13:44	814361.8	5214418.1	814412.4	5214417.7	1180	50.5	100.1	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	NA
25-May-20	G20	4	21:13:44	21:17:05	814412.4	5214417.7	814461.7	5214417.5	1180	49.3	97.6	10	0	90	0.0	0.0	0.0	0.0	20.0	80.0	60.0	0.0	40.0
25-May-20	G20	5	21:17:05	21:18:31	814461.7	5214417.5	814468.5	5214417.4	1180	6.8	13.4	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0

			Density by Group (Ind/m²)																				
Date	Line	Section	Echinoderms	Cnidaria	Molluscs	Brachiopods	Other Inverts	Soft Corals	Black Corals	Hard Corals	Branching corals	Sea Pens	Solid / Massive	Leaf / Vase Shaped	Round with Projections	Thin-Walled, Complex	Stalked	Sponge Other	Benthivores	Piscivores	Plank-Piscivore	Planktivores	Unknown
26-May-20	G11	1	0.190	0.110	0.000	0.000	0.010	0.020	0.000	0.000	0.000	0.140	0.140	0.000	0.010	0.010	0.000	0.000	0.010	0.000	0.000	0.000	0.010
26-May-20	G11	2	0.103	0.021	0.000	0.000	0.021	0.021	0.000	0.000	0.000	0.072	0.360	0.000	0.000	0.000	0.000	0.000	0.031	0.000	0.000	0.000	0.000
26-May-20	G11	3	0.098	0.000	0.010	0.000	0.010	0.000	0.000	0.000	0.000	0.020	0.383	0.000	0.010	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
26-May-20	G11	4	0.134	0.145	0.010	0.010	0.010	0.238	0.000	0.000	0.010	0.217	0.300	0.000	0.083	0.000	0.000	0.000	0.031	0.000	0.000	0.000	0.000
26-May-20	G12	1	0.222	0.101	0.061	0.000	0.000	0.212	0.000	0.000	0.000	0.232	0.020	0.000	0.071	0.010	0.000	0.000	0.020	0.010	0.000	0.000	0.000
26-May-20	G12	2	0.020	0.020	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.030	0.193	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26-May-20	G12	3	0.000	0.030	0.010	0.000	0.020	0.000	0.000	0.000	0.000	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.010
26-May-20	G12	4	0.145	0.104	0.010	0.031	0.000	0.332	0.000	0.000	0.000	0.166	0.135	0.010	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26-May-20	G12	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G13	1	0.102	0.102	0.000	0.010	0.000	0.256	0.000	0.000	0.010	0.133	0.164	0.010	0.010	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.000
25-May-20	G13	2	0.010	0.010	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.000
26-May-20	G13	3	0.020	0.010	0.000	0.000	0.030	0.223	0.000	0.000	0.000	0.010	0.051	0.000	0.010	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.020
26-May-20	G13	4	0.203	0.051	0.000	0.000	0.000	0.153	0.000	0.000	0.000	0.254	0.234	0.010	0.092	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.020
26-May-20	G13	5	0.324	0.000	0.000	0.000	0.000	0.162	0.000	0.000	0.000	0.162	0.485	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G14	1	0.134	0.056	0.022	0.000	0.000	0.078	0.000	0.000	0.000	0.134	0.191	0.000	0.078	0.000	0.000	0.000	0.022	0.000	0.000	0.000	0.000
25-May-20	G14	2	0.000	0.009	0.009	0.009	0.009	0.000	0.000	0.000	0.009	0.000	0.056	0.000	0.000	0.000	0.000	0.000	0.037	0.000	0.000	0.000	0.009
25-May-20	G14	3	0.010	0.069	0.000	0.010	0.010	0.000	0.000	0.000	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.049	0.000	0.000	0.000	0.000
25-May-20	G14	4	0.199	0.157	0.000	0.021	0.000	0.367	0.000	0.000	0.021	0.283	0.220	0.021	0.021	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.010
25-May-20	G14	5	0.801	0.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G15	1	0.152	0.162	0.000	0.051	0.000	0.324	0.000	0.000	0.010	0.132	0.122	0.010	0.030	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.010
25-May-20	G15	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.010
25-May-20	G15	3	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.050	0.000	0.000	0.000	0.000	0.000	0.050	0.000	0.000	0.000	0.010
25-May-20	G15	4	0.122	0.071	0.020	0.000	0.000	0.152	0.000	0.000	0.000	0.010	0.376	0.000	0.000	0.010	0.000	0.000	0.061	0.000	0.000	0.000	0.000
25-May-20	G15	5	0.529	0.265	0.132	0.000	0.000	0.397	0.000	0.000	0.000	0.132	0.529	0.000	0.265	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G16	1	0.093	0.051	0.010	0.010	0.010	0.062	0.000	0.000	0.010	0.185	0.113	0.000	0.021	0.000	0.000	0.000	0.031	0.000	0.000	0.000	0.000
25-May-20	G16	2	0.000	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.088	0.000	0.010	0.000	0.000	0.000	0.000	0.049	0.000	0.000	0.000	0.000
25-May-20	G16	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.060	0.010	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
25-May-20	G16	4	0.187	0.104	0.000	0.135	0.010	0.342	0.000	0.000	0.010	0.166	0.021	0.093	0.073	0.000	0.010	0.000	0.010	0.000	0.000	0.000	0.000
25-May-20	G16	5	0.142	0.427	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.142	0.000	0.000	0.000	0.000
25-May-20	G17	1	0.127	0.224	0.019	0.010	0.019	0.107	0.000	0.000	0.010	0.107	0.049	0.000	0.078	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
25-May-20	G17	2	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G17	3	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.060	0.000	0.000	0.030	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.010
25-May-20	G17	4	0.172	0.122	0.010	0.000	0.020	0.030	0.000	0.000	0.000	0.091	0.051	0.000	0.051	0.000	0.000	0.000	0.041	0.000	0.000	0.000	0.000
25-May-20	G17	5	0.137	0.412	0.069	0.000	0.069	0.206	0.000	0.000	0.000	0.069	0.069	0.000	0.275	0.000	0.000	0.000	0.069	0.000	0.000	0.000	0.000
25-May-20	G18	1	0.099	0.079	0.000	0.020	0.030	0.040	0.000	0.000	0.020	0.129	0.020	0.010	0.059	0.010	0.000	0.000	0.010	0.000	0.000	0.000	0.000
25-May-20	G18	2	0.000	0.010	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.021	0.000	0.031	0.000	0.000	0.000	0.000
25-May-20	G18	3	0.000	0.010	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000
25-May-20	G18	4	0.139	0.188	0.000	0.020	0.020	0.010	0.000	0.000	0.020	0.089	0.060	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G18	5	0.616	0.205	0.000	0.103	0.000	0.000	0.000	0.000	0.103	0.205	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G19	1	0.121	0.070	0.000	0.000	0.010	0.121	0.000	0.000	0.000	0.090	0.020	0.020	0.010	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.000
25-May-20	G19	2	0.000	0.031	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.041	0.000	0.010	0.000	0.000	0.000	0.000	0.020	0.000	0.000	0.010	0.000
25-May-20	G19	3	0.000	0.010	0.000	0.000	0.030	0.000	0.000	0.000	0.000	0.040	0.030	0.000	0.000	0.000	0.000	0.000	0.040	0.000	0.000	0.000	0.000
25-May-20	G19	4	0.232	0.282	0.000	0.000	0.000	0.121	0.000	0.000	0.000	0.262	0.131	0.000	0.091	0.000	0.000	0.000	0.050	0.000	0.000	0.000	0.000
25-May-20	G19	5	0.229	0.344	0.115	0.115	0.000	0.000	0.000	0.000	0.115	0.000	0.229	0.000	0.229	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G20	1	0.151	0.070	0.020	0.020	0.010	0.121	0.000	0.000	0.020	0.141	0.241	0.000	0.040	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.000
25-May-20	G20	2	0.000	0.031	0.000	0.000	0.031	0.020	0.000	0.000	0.000	0.031	0.051	0.000	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G20	3	0.000	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.000	0.000	0.000	0.000
25-May-20	G20	4	0.102	0.031	0.000	0.061	0.020	0.328	0.000	0.000	0.020	0.092	0.010	0.020	0.031	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
25-May-20	G20	5	0.373	0.224	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.075	0.000	0.000	0.000	0.000

Note: NA indicates sections without any observations to report.

Table B 3 Observations for the 200 x 200 m survey grids 21 to 30.

EL1165a Hampden 2020 Benthic Survey Data															Coral Condition (%)						Sponge Conition (%)			Density by Group (Ind/m²)																				
Date	Line	Section	Time Start (NDT)	Time End (NDT)	Start Northing	Start Easting	End Northing	End Easting	Depth (m)	Distance (m)	Area (sqm) 1.95 m FOV	Coarse	Medium	Fine	Polyps Missing	Covered	Dead	Withdrawn	Bent	Good	Veneer Present	Covered	Veneer Not Present	Echinoderms	Cnidaria	Molluscs	Brachiopods	Other Inverts	Soft Corals	Black Corals	Hard Corals	Branching corals	Sea Pens	Solid / Massive	Leaf / Vase Shaped	Round with Projections	Thin-Walled, Complex	Stalked	Sponge Other	Benthivores	Piscivores	Plank-Piscivore	Planktivores	Unknown
25-May-20	G21	1	11:21:28	11:23:59	814472.1	5214408.2	814420.5	5214413.2	1180	51.8	102.6	15	0	85	0.0	0.0	0.0	0.0	21.4	78.6	33.3	0.0	66.7	0.156	0.039	0.010	0.019	0.019	0.253	0.000	0.000	0.019	0.136	0.039	0.000	0.010	0.010	0.000	0.000	0.019	0.000	0.000	0.000	0.000
25-May-20	G21	2	11:23:59	11:28:59	814420.5	5214413.2	814370.5	5214410.0	1180	50.1	99.2	0	0	100	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	NA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
25-May-20	G21	3	11:28:59	11:33:39	814370.5	5214410.0	814323.1	5214416.7	1180	47.9	94.9	0	0	100	0.0	0.0	0.0	0.0	66.7	33.3	100.0	0.0	0.0	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000
25-May-20	G21	4	11:33:39	11:35:59	814323.1	5214416.7	814270.5	5214410.9	1180	52.9	104.7	10	0	90	0.0	0.0	0.0	0.0	12.5	87.5	100.0	0.0	0.0	0.115	0.076	0.000	0.010	0.010	0.010	0.000	0.000	0.010	0.105	0.010	0.000	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G21	5	11:35:59	11:37:32	814270.5	5214410.9	814262.9	5214411.3	1180	7.6	15.1	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.331	0.265	0.066	0.729	0.000	0.133	0.000	0.000	0.066	0.133	0.133	0.000	0.398	0.000	0.000	0.000	0.000	0.000	0.000	0.066	0.000
25-May-20	G22	1	11:02:52	11:05:28	814273.7	5214403.8	814325.6	5214400.4	1180	52.0	103.0	10	0	90	0.0	0.0	0.0	0.0	13.3	86.7	91.7	0.0	8.3	0.078	0.087	0.029	0.117	0.010	0.223	0.000	0.000	0.019	0.175	0.175	0.019	0.039	0.000	0.000	0.000	0.019	0.000	0.000	0.010	0.000
25-May-20	G22	2	11:05:28	11:10:34	814325.6	5214400.4	814373.2	5214402.9	1180	47.7	94.4	0	0	100	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.021	0.011	0.000	0.000	0.032	0.000	0.000	0.000	0.000	0.011	0.053	0.011	0.011	0.000	0.000	0.000	0.032	0.000	0.000	0.000	0.011
25-May-20	G22	3	11:10:34	11:12:51	814373.2	5214402.9	814422.2	5214402.7	1180	49.0	97.1	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.000	0.041	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.031	0.021	0.010	0.021	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.010
25-May-20	G22	4	11:12:51	11:15:28	814422.2	5214402.7	814474.7	5214405.6	1180	52.6	104.1	10	0	90	0.0	0.0	0.0	6.3	31.3	62.5	71.4	0.0	28.6	0.183	0.106	0.000	0.019	0.000	0.259	0.000	0.000	0.019	0.308	0.106	0.019	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G22	5	11:15:28	11:16:07	814474.7	5214405.6	814477.9	5214405.3	1180	3.2	6.4	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.315	0.000	0.000	0.000	0.000	0.157	0.000	0.000	0.000	0.787	0.315	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G23	1	10:44:55	10:47:30	814472.7	5214399.1	814425.0	5214409.3	1180	48.7	96.5	10	0	90	0.0	0.0	0.0	0.0	17.6	82.4	42.9	0.0	57.1	0.187	0.073	0.000	0.010	0.021	0.259	0.000	0.000	0.010	0.228	0.031	0.031	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G23	2	10:47:30	10:50:30	814425.0	5214409.3	814373.4	5214399.2	1180	52.6	104.2	5	0	95	0.0	0.0	0.0	0.0	0.0	NA	100.0	0.0	0.0	0.000	0.000	0.000	0.000	0.019	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.010	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
25-May-20	G23	3	10:50:30	10:54:12	814373.4	5214399.2	814323.9	5214400.7	1180	49.5	98.0	5	0	95	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.051	0.041	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
25-May-20	G23	4	10:54:12	10:56:40	814323.9	5214400.7	814272.3	5214398.8	1180	51.7	102.3	10	0	90	0.0	16.7	0.0	0.0	25.0	58.3	100.0	0.0	0.0	0.117	0.098	0.000	0.039	0.000	0.117	0.000	0.000	0.039	0.215	0.068	0.020	0.039	0.000	0.000	0.000	0.029	0.000	0.000	0.000	0.000
25-May-20	G23	5	10:56:40	10:57:30	814272.3	5214398.8	814268.5	5214399.1	1180	3.8	7.6	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.791	0.000	0.000	0.000	0.000	0.527	0.000	0.000	0.000	0.000	0.000	0.264	0.132	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G24	1	10:26:16	10:29:11	814266.8	5214391.2	814314.2	5214392.1	1180	47.3	93.7	5	0	95	0.0	0.0	0.0	0.0	25.0	75.0	100.0	0.0	0.0	0.160	0.032	0.000	0.011	0.000	0.011	0.000	0.000	0.011	0.267	0.085	0.032	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G24	2	10:29:11	10:32:16	814314.2	5214392.1	814365.5	5214393.2	1180	51.4	101.7	0	0	100	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.010	0.010	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.029	0.118	0.000	0.029	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
25-May-20	G24	3	10:32:16	10:36:50	814365.5	5214393.2	814417.0	5214393.6	1180	51.5	101.9	10	0	90	0.0	0.0	0.0	0.0	33.3	66.7	100.0	0.0	0.0	0.059	0.029	0.000	0.010	0.010	0.088	0.000	0.000	0.010	0.010	0.971	0.020	0.167	0.000	0.000	0.000	0.029	0.000	0.000	0.000	0.000
25-May-20	G24	4	10:36:50	10:39:22	814417.0	5214393.6	814466.2	5214393.2	1180	49.1	97.3	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	25.0	0.0	75.0	0.175	0.123	0.000	0.021	0.000	0.123	0.000	0.000	0.021	0.288	0.031	0.010	0.021	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000
25-May-20	G24	5	10:39:22	10:40:18	814466.2	5214393.2	814470.5	5214392.7	1180	4.4	8.7	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.000	0.229	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.229	0.000	0.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G25	1	10:06:27	10:09:03	814477.2	5214386.2	814425.6	5214387.0	1180	51.5	102.0	15	0	85	0.0	0.0	0.0	0.0	47.1	52.9	85.7	0.0	14.3	0.196	0.059	0.020	0.157	0.000	0.402	0.000	0.000	0.010	0.284	0.059	0.039	0.039	0.000	0.000	0.000	0.059	0.000	0.000	0.000	0.000
25-May-20	G25	2	10:09:03	10:11:30	814425.6	5214387.0	814377.4	5214389.6	1180	48.3	95.6	10	0	90	0.0	8.3	0.0	0.0	8.3	83.3	86.5	0.0	13.5	0.052	0.084	0.010	0.063	0.010	0.146	0.000	0.000	0.010	0.157	0.272	0.021	0.094	0.000	0.000	0.000	0.031	0.000	0.000	0.000	0.010
25-May-20	G25	3	10:11:30	10:16:24	814377.4	5214389.6	814329.2	5214390.1	1180	48.2	95.4	0	0	100	0.0	0.0	0.0	0.0	0.0	NA	100.0	0.0	0.0	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.010	0.031	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G25	4	10:16:24	10:19:19	814329.2	5214390.1	814278.8	5214386.1	1180	50.6	100.1	5	0	95	0.0	0.0	0.0	0.0	41.7	58.3	68.0	0.0	32.0	0.060	0.050	0.000	0.010	0.000	0.070	0.000	0.000	0.010	0.230	0.150	0.020	0.070	0.010	0.000	0.000	0.010	0.000	0.000	0.000	0.000
25-May-20	G25	5	10:19:19	10:21:05	814278.8	5214386.1	814262.4	5214387.1	1180	16.5	32.6	10	0	90	0.0	0.0	0.0	0.0	0.0	100.0	82.4	0.0	17.6	0.153	0.000	0.031	0.092	0.031	0.460	0.000	0.000	0.031	0.552	0.031	0.061	0.153	0.000	0.000	0.000	0.031	0.000	0.000	0.000	0.031
25-May-20	G26	1	9:39:15	9:50:48	814261.9	5214382.9	814307.1	5214383.5	1180	45.2	89.4	10	0	90	0.0	0.0	0.0	0.0	33.3	66.7	96.0	0.0	4.0	0.101	0.168	0.034	0.000	0.011	0.190	0.000	0.000	0.000	0.134	0.134	0.034	0.145	0.000	0.000	0.000	0.011	0.000	0.000	0.022	0.000
25-May-20	G26	2	9:50:48	9:54:48	814307.1	5214383.5	814362.1	5214383.1	1180	55.0	108.9	0	0	100	0.0	12.5	0.0	0.0	37.5	50.0	89.5	0.0	10.5	0.046	0.009	0.000	0.000	0.009	0.000	0.000	0.000	0.000	0.064	0.055	0.009	0.055	0.000	0.000	0.000	0.009	0.000	0.000	0.000	0.018
25-May-20	G26	3	9:54:48	9:58:47	814362.1	5214383.1	814411.7	5214381.6	1180	49.7	98.4	5	0	95	0.0	0.0	0.0	0.0	16.7	83.3	96.2	0.0	3.8	0.071	0.041	0.000	0.030	0.010	0.122	0.000	0.000	0.000	0.122	0.691	0.030	0.122	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G26	4	9:58:47	10:01:25	814411.7	5214381.6	814465.1	5214380.8	1180	53.4	105.7	5	0	95	0.0	0.0	0.0	0.0	18.8	81.3	100.0	0.0	0.0	0.123	0.151	0.000	0.028	0.019	0.142	0.000	0.000	0.028	0.369	0.047	0.000	0.009	0.000	0.000	0.000	0.028	0.000	0.000	0.000	0.000
25-May-20	G26	5	10:01:25	10:01:43	814465.1	5214380.8	814471.8	5214381.2	1180	6.7	13.2	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	50.0	0.0	50.0	0.151	0.302	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.453	0.000	0.076	0.000	0.000	0.000	0.000	0.076	0.000	0.000	0.000	0.000
25-May-20	G27	1	8:48:20	8:50:07	814269.8	5214382.9	814313.1	5214374.1	1180	44.1	87.4	5	0	95	0.0	0.0	0.0	0.0	12.5	87.5	100.0	0.0	0.0	0.057	0.034	0.000	0.011	0.011	0.046	0.000	0.000	0.011	0.217	0.206	0.000	0.034	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.011
25-May-20	G27	2	8:50:07	8:55:01	814313.1	5214374.1	814365.0	5214377.0	1180	52.0	103.0	0	0	100	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.000	0.010	0.000	0.000	0.010	0.010	0.000	0.000	0.000	0.058	0.039	0.000	0.019	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000
25-May-20	G27	3	8:55:01	9:00:52	814365.0	5214377.0	814417.0	5214374.2	1180	52.1	103.1	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	93.8	0.0	6.3	0.078	0.058	0.000	0.000	0.010	0.126	0.000	0.000	0.000	0.029	0.233	0.010	0.281	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.010
25-May-20	G27	4	9:00:52	9:04:52	814417.0	5214374.2	814467.9	5214374.9	1180	50.9	100.8	10	0	90	0.0	0.0	0.0	8.3	33.3	58.3	50.0	0.0	50.0	0.119	0.179	0.010	0.000	0.000	0.149	0.000	0.000	0.000	0.268	0.040	0.010	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.010
25-May-20	G28	1	8:28:21	8:31:52	814469.8	5214368.1	814420.3	5214369.0	1180	49.5	98.0	10	0	90	0.0	0.0	0.0	0.0	44.4	55.6	40.0	0.0	60.0	0.122	0.133	0.010	0.020	0.010	0.245	0.000	0.000	0.020	0.357	0.020	0.000	0.051	0.010	0.000	0.000	0.020	0.000	0.000	0.000	0.000
25-May-20	G28	2	8:31:52	8:36:00	814420.3	5214369.0	814369.7	5214369.3	1180	50.6	100.3	5	0	95	0.0	0.0	0.0	0.0	16.7	83.3	95.7	0.0	4.3	0.040	0.020	0.000	0.000	0.000	0.110	0.000	0.000	0.000	0.130	0.459	0.070	0.160	0.000	0.000	0.000	0.040	0.000	0.000	0.000	0.000
25-May-20	G28	3	8:36:00	8:37:56	814369.7	5214369.3	814320.3	5214370.1	1180	49.4	97.7	0	0	100	0.0	0.0	0.0	0.0	66.7	33.3	100.0	0.0	0.0	0.072	0.020	0.000	0.010	0.000	0.000	0.000	0.000	0.010	0.174	0.082	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.020
25-May-20	G28	4	8:37:56	8:40:25	814320.3	5214370.1	814270.9	5214372.1	1180	49.5	98.0	10	0	90	0.0	0.0	0.0	0.0	43.8	56.3	87.5	0.0	12.5	0.224	0.122	0.000	0.031	0.020	0.122	0.000	0.000	0.031	0.337	0.133	0.031	0.051	0.000	0.000	0.000	0.051	0.000	0.000	0.010	0.000
25-May-20	G28	5	8:40:25	8:41:19	814270.9	5214372.1	814259.4	5214370.9	1180	11.5	22.8	0	0	0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.000	0.000	0.000	0.044	0.000	0.571	0.000	0.000	0.044	0.483	0.263	0.176	0.220	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G29	1	8:06:34	8:10:34	814262.4	5214364.0	814312.2	5214363.0	1180	49.8	98.6	10	0	90	0.0	0.0	0.0	0.0	18.2	81.8	100.0	0.0	0.0	0.112	0.041	0.000	0.000	0.010	0.162	0.000	0.000	0.000	0.132	0.010	0.000	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010
25-May-20	G29	2	8:10:34	8:13:56	814312.2	5214363.0	814362.5	5214361.7	1180	50.4	99.7	5	0	95	0.0	0.0	0.0	0.0	0.0	NA	100.0	0.0	0.0	0.000	0.010	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.010	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G29	3	8:13:56	8:19:41	814362.5	5214361.7	814411.0	5214361.6	1180	48.5	96.1	5	0	95	0.0	0.0	0.0	0.0	33.3	66.7	100.0	0.0	0.0	0.021	0.062	0.000	0.010	0.021	0.062	0.000	0.000	0.010	0.094	0.281	0.062	0.125	0.000	0.000	0.000	0.042	0.000	0.000	0.000	0.000
25-May-20	G29	4	8:19:41	8:22:24	814411.0	5214361.6	814462.7	5214359.9	1180	51.6	102.3	10	0	90	0.0	0.0	0.0	0.0	12.5	87.5	50.0	0.0	50.0	0.117	0.284	0.000	0.020	0.000	0.166	0.000	0.000	0.020	0.362	0.020	0.029	0.029	0.000	0.000	0.000	0.039	0.000	0.000	0.000	0.000
25-May-20	G29	5	8:22:24	8:22:50	814462.7	5214359.9	814467.3	5214359.3	1180	4.7	9.2	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-May-20	G30	1	7:44:53	7:51:08	814473.9	5214357.5	814424.4	5214358.7	1180	49.6	98.2	10	0	90	0.0	0.0	0.0	0.0	14.3	85.7	58.3	0.0	41.7	0.173	0.224	0.020	0.061	0.000	0.255	0.000	0.000	0.010	0.061	0.031	0.031	0.010	0.010	0.000	0.000	0.031	0.000	0.000	0.000	0.000
25-May-20	G30	2	7:51:08	7:53:56	814424.4	5214358.7	814374.5	5214358.3	1180	49.9	98.7	10	0	90	0.0	0.0	0.0	0.0	25.0	75.0	93.5	0.0	6.5	0.030	0.081	0.010	0.041	0.000	0.091	0.000	0.000	0.020	0.020	0.182	0.081	0.061	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.010
25-May-20	G30	3	7:53:56	7:57:28	814374.5	5214358.3	814326.0	5214359.4	1180	48.5	96.0	5	0	95	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.083	0.052	0.000	0.010	0.010	0.042	0.000	0.000	0.000	0.135	0.042	0.062	0.010	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.010
25-May-20	G30	4	7:57:28	7:59:54	814326.0	5214359.4	814278.3	5214360.1	1180	47.7	94.5	10	0	90	0.0	0.0	0.0	0.0	7.7	92.3	90.9	0.0	9.1	0.201	0.148	0.000	0.011	0.000	0.243	0.000	0.000	0.011	0.286	0.222	0.032	0.063	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000
25-May-20	G30	5	7:59:54	8:01:20	814278.3	5214360.1	814263.3	5214359.4	1180	15.0	29.8	0	0	100	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.000	0.034	0.000	0.034	0.000	0.034	0.000	0.000	0.034	0.235	0.168	0.034	0.168	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: NA indicates sections without any observations to report.

Table B 4 Observations for the 200 x 200 m survey grids 31 to 34.

EL1165a Hampden 2020 Benthic Survey Data

Date	Line	Section	Time Start (NDT)	Time End (NDT)	Start Northing	Start Easting	End Northing	End Easting	Depth (m)	Distance (m)	Area (sqm) 1.95 m FOV	Coarse	Medium	Fine
25-May-20	G31	1	7:12:58	7:16:56	814265.3	5214355.4	814314.6	5214349.9	1180	49.6	98.2	10	0	90
25-May-20	G31	2	7:16:56	7:17:53	814314.6	5214349.9	814329.8	5214347.0	1180	15.4	30.5	0	0	100
25-May-20	G31	3	7:17:53	7:20:34	814329.8	5214347.0	814362.4	5214353.7	1180	33.3	65.9	5	0	95
25-May-20	G31	4	7:20:34	7:36:32	814362.4	5214353.7	814465.1	5214350.3	1180	102.8	203.5	10	0	90
25-May-20	G31	5	7:36:32	7:37:52	814465.1	5214350.3	814470.4	5214351.7	1180	5.5	10.9	0	0	0
25-May-20	G32	1	6:46:45	6:49:57	814480.3	5214346.0	814430.5	5214346.2	1180	49.8	98.6	10	0	90
25-May-20	G32	2	6:49:57	6:52:46	814430.5	5214346.2	814380.3	5214347.3	1180	50.2	99.3	5	0	95
25-May-20	G32	3	6:52:46	6:59:15	814380.3	5214347.3	814331.8	5214346.8	1180	48.5	96.1	5	0	95
25-May-20	G32	4	6:59:15	7:02:04	814331.8	5214346.8	814279.4	5214346.6	1180	52.4	103.7	5	0	95
25-May-20	G32	5	7:02:04	7:02:38	814279.4	5214346.6	814268.3	5214348.1	1180	11.2	22.2	0	0	0
25-May-20	G33	1	6:21:17	6:25:12	814264.3	5214338.2	814313.5	5214337.8	1180	49.2	97.4	10	0	90
25-May-20	G33	2	6:25:12	6:27:55	814313.5	5214337.8	814359.2	5214336.8	1180	45.7	90.5	5	0	95
25-May-20	G33	3	6:27:55	6:34:43	814359.2	5214336.8	814413.6	5214333.0	1180	54.5	108.0	15	0	85
25-May-20	G33	4	6:34:43	6:37:36	814413.6	5214333.0	814463.1	5214337.4	1180	49.7	98.4	5	0	95
25-May-20	G33	5	6:37:36	6:38:06	814463.1	5214337.4	814471.8	5214338.8	1180	8.8	17.4	0	0	0
25-May-20	G34	1	5:51:13	5:55:01	814468.1	5214329.0	814419.7	5214329.5	1180	48.4	95.9	10	0	90
25-May-20	G34	2	5:55:01	6:05:30	814419.7	5214329.5	814368.5	5214330.2	1180	51.2	101.3	5	0	95
25-May-20	G34	3	6:05:30	6:08:19	814368.5	5214330.2	814318.4	5214329.9	1180	50.1	99.3	5	0	95
25-May-20	G34	4	6:08:19	6:11:12	814318.4	5214329.9	814269.1	5214330.6	1180	49.3	97.6	10	0	90
25-May-20	G34	5	6:11:12	6:11:21	814269.1	5214330.6	814265.5	5214330.4	1180	3.6	7.0	0	0	0

		Coral Condition (%)						Sponge Conition (%)		
Line	Section	Polyps Missing	Covered	Dead	Withdrawn	Bent	Good	Veneer Present	Covered	Veneer Not Present
G31	1	0.0	0.0	0.0	4.2	20.8	75.0	86.8	0.0	13.2
G31	2	0.0	0.0	0.0	0.0	33.3	66.7	100.0	0.0	0.0
G31	3	0.0	0.0	0.0	0.0	50.0	50.0	61.9	0.0	38.1
G31	4	0.0	2.9	0.0	2.9	5.7	88.6	60.4	0.0	39.6
G31	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
G32	1	0.0	0.0	0.0	0.0	16.7	83.3	95.0	0.0	5.0
G32	2	0.0	0.0	0.0	0.0	25.0	75.0	87.5	0.0	12.5
G32	3	0.0	0.0	0.0	0.0	28.6	71.4	82.4	0.0	17.6
G32	4	0.0	0.0	0.0	0.0	9.5	90.5	97.6	0.0	2.4
G32	5	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0
G33	1	0.0	0.0	0.0	4.3	0.0	95.7	100.0	0.0	0.0
G33	2	0.0	0.0	0.0	16.7	8.3	75.0	87.5	0.0	12.5
G33	3	0.0	0.0	0.0	5.9	29.4	64.7	83.3	0.0	16.7
G33	4	0.0	0.0	0.0	0.0	20.0	80.0	94.4	0.0	5.6
G33	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
G34	1	0.0	0.0	0.0	0.0	27.3	72.7	7.1	0.0	92.9
G34	2	0.0	0.0	0.0	8.3	8.3	83.3	96.9	0.0	3.1
G34	3	0.0	0.0	0.0	0.0	11.8	88.2	89.7	0.0	10.3
G34	4	6.7	0.0	0.0	0.0	26.7	66.7	97.0	0.0	3.0
G34	5	NA	NA	NA	NA	NA	NA	NA	NA	NA

		Density by Group (Ind/m²)									
Line	Section	Echinoderms	Cnidaria	Molluscs	Brachiopods	Other Inverts	Soft Corals	Black Corals	Hard Corals	Branching corals	Sea Pens
G31	1	0.255	0.143	0.010	0.061	0.000	0.010	0.000	0.000	0.061	0.031
G31	2	0.033	0.000	0.000	0.033	0.000	0.033	0.000	0.000	0.033	0.230
G31	3	0.015	0.030	0.000	0.015	0.000	0.091	0.000	0.000	0.015	0.091
G31	4	0.108	0.172	0.000	0.064	0.000	0.020	0.000	0.000	0.020	0.413
G31	5	0.000	0.000	0.000	0.092	0.000	0.368	0.000	0.000	0.092	0.368
G32	1	0.385	0.112	0.010	0.142	0.010	0.284	0.000	0.000	0.030	0.041
G32	2	0.081	0.020	0.000	0.030	0.000	0.020	0.000	0.000	0.030	0.211
G32	3	0.104	0.010	0.010	0.010	0.010	0.010	0.000	0.000	0.010	0.010
G32	4	0.299	0.096	0.000	0.048	0.010	0.174	0.000	0.000	0.048	0.443
G32	5	0.000	0.000	0.000	0.000	0.000	0.271	0.000	0.000	0.000	0.361
G33	1	0.288	0.257	0.010	0.041	0.000	0.041	0.000	0.000	0.041	0.390
G33	2	0.055	0.033	0.000	0.000	0.011	0.166	0.000	0.000	0.000	0.144
G33	3	0.139	0.065	0.009	0.028	0.000	0.157	0.000	0.000	0.009	0.241
G33	4	0.244	0.254	0.000	0.010	0.010	0.030	0.000	0.000	0.010	0.518
G33	5	0.000	0.000	0.000	0.000	0.000	0.115	0.000	0.000	0.000	0.402
G34	1	0.396	0.136	0.052	0.167	0.000	0.469	0.000	0.000	0.031	0.917
G34	2	0.128	0.099	0.000	0.020	0.000	0.375	0.000	0.000	0.020	0.188
G34	3	0.161	0.071	0.000	0.191	0.000	0.282	0.000	0.000	0.020	0.272
G34	4	0.225	0.174	0.010	0.061	0.000	0.031	0.000	0.000	0.031	0.481
G34	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.284

		Density by Group (Ind/m²) (continued)										
Line	Section	Solid / Massive	Leaf / Vase Shaped	Round with Projections	Thin-Walled, Complex	Stalked	Sponge Other	Benthivores	Piscivores	Plank-Piscivore	Planktivores	Unknown
G31	1	0.234	0.041	0.316	0.010	0.000	0.000	0.031	0.000	0.000	0.010	0.000
G31	2	0.164	0.000	0.230	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G31	3	0.091	0.015	0.227	0.000	0.000	0.000	0.015	0.000	0.000	0.000	0.015
G31	4	0.079	0.059	0.088	0.000	0.000	0.000	0.029	0.000	0.000	0.005	0.000
G31	5	0.000	0.184	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G32	1	0.041	0.010	0.030	0.030	0.000	0.000	0.030	0.000	0.000	0.010	0.030
G32	2	0.091	0.091	0.121	0.000	0.000	0.000	0.030	0.000	0.000	0.030	0.010
G32	3	0.062	0.010	0.062	0.000	0.000	0.000	0.021	0.000	0.000	0.010	0.000
G32	4	0.231	0.048	0.106	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.019
G32	5	0.181	0.000	0.181	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G33	1	0.421	0.092	0.216	0.000	0.000	0.000	0.041	0.000	0.000	0.000	0.010
G33	2	0.066	0.011	0.033	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.011
G33	3	0.046	0.102	0.130	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G33	4	0.071	0.000	0.142	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.010
G33	5	0.057	0.000	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G34	1	0.000	0.000	0.063	0.000	0.000	0.000	0.031	0.000	0.000	0.000	0.031
G34	2	0.148	0.049	0.148	0.010	0.000	0.000	0.039	0.000	0.000	0.000	0.000
G34	3	0.091	0.050	0.111	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.010
G34	4	0.225	0.051	0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
G34	5	0.000	0.142	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: NA indicates sections without any observations to report.

APPENDIX C: INVERTEBRATE DENSITY FIGURES

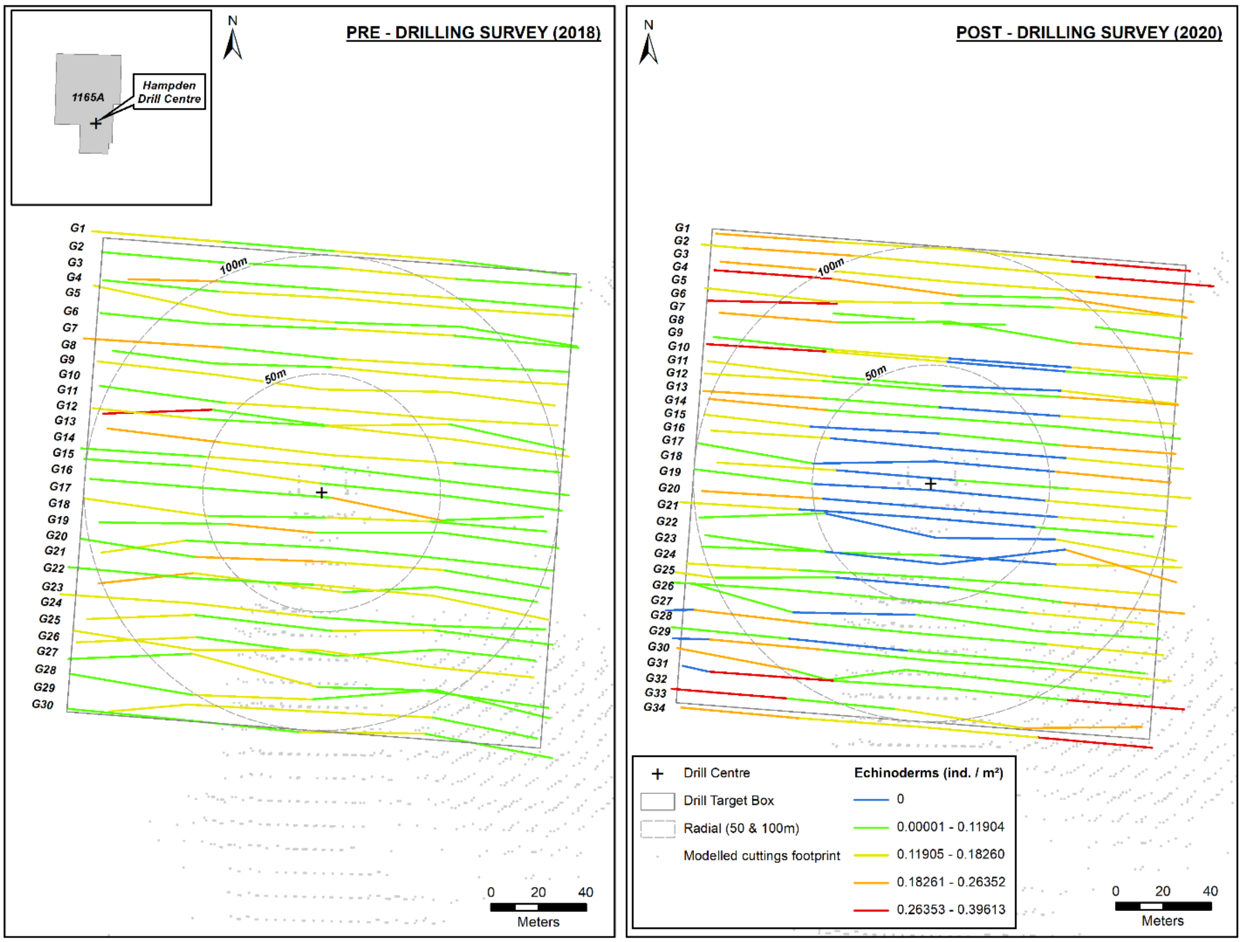

Figure C1 Distribution of echinoderm densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

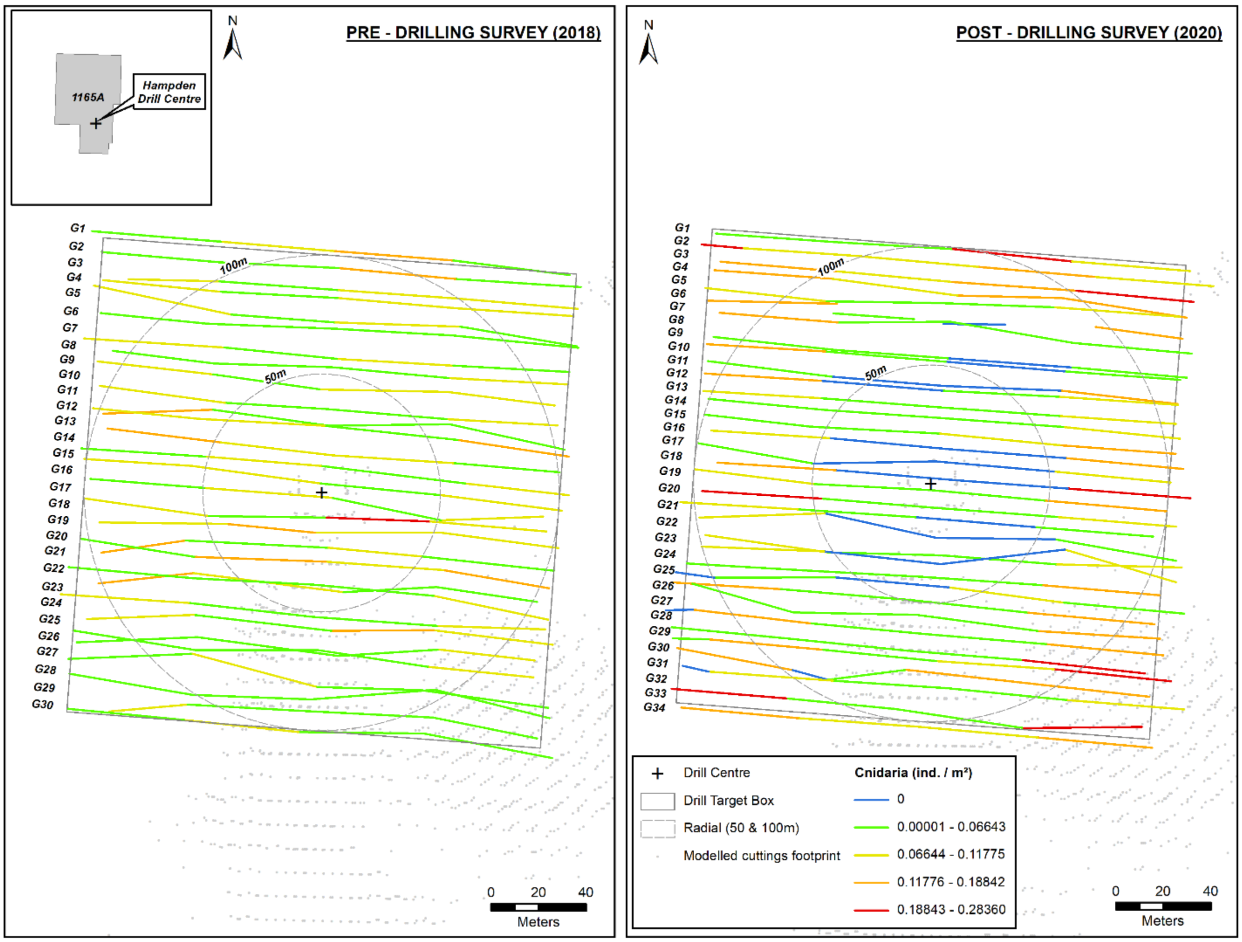

Figure C2 Distribution of cnidaria (other than corals) densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

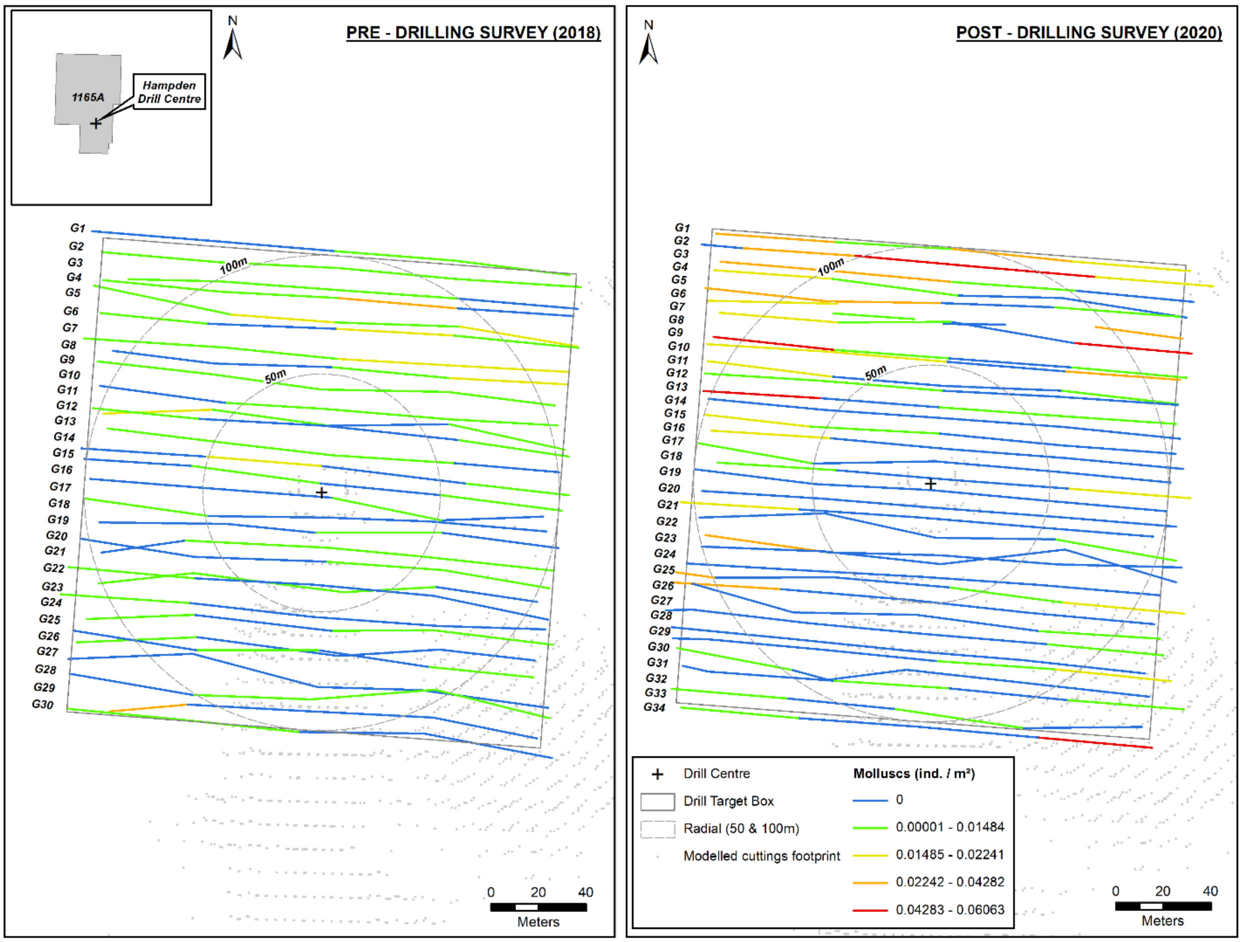

Figure C3 Distribution of molluscs densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

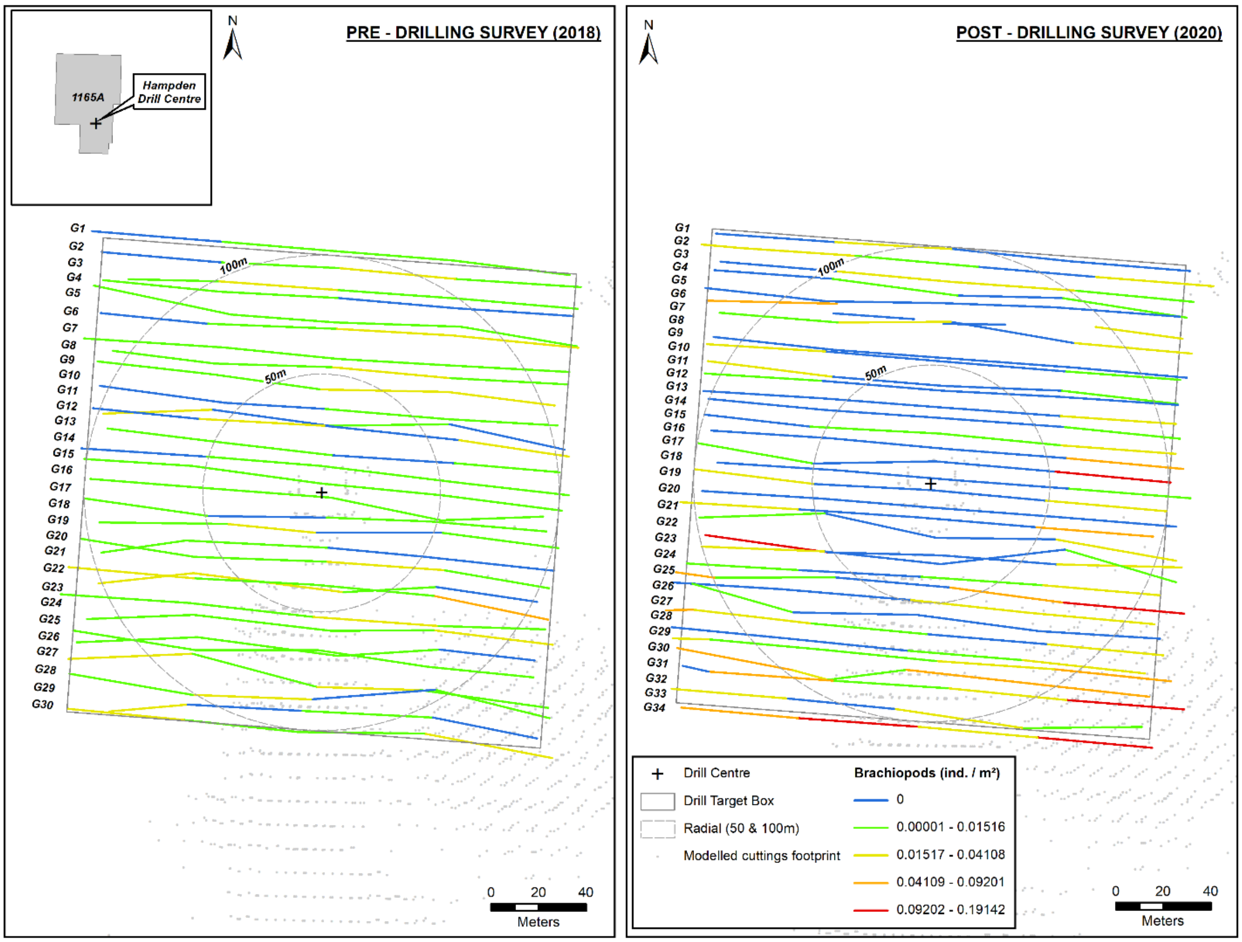

Figure C4 Distribution of brachiopods densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

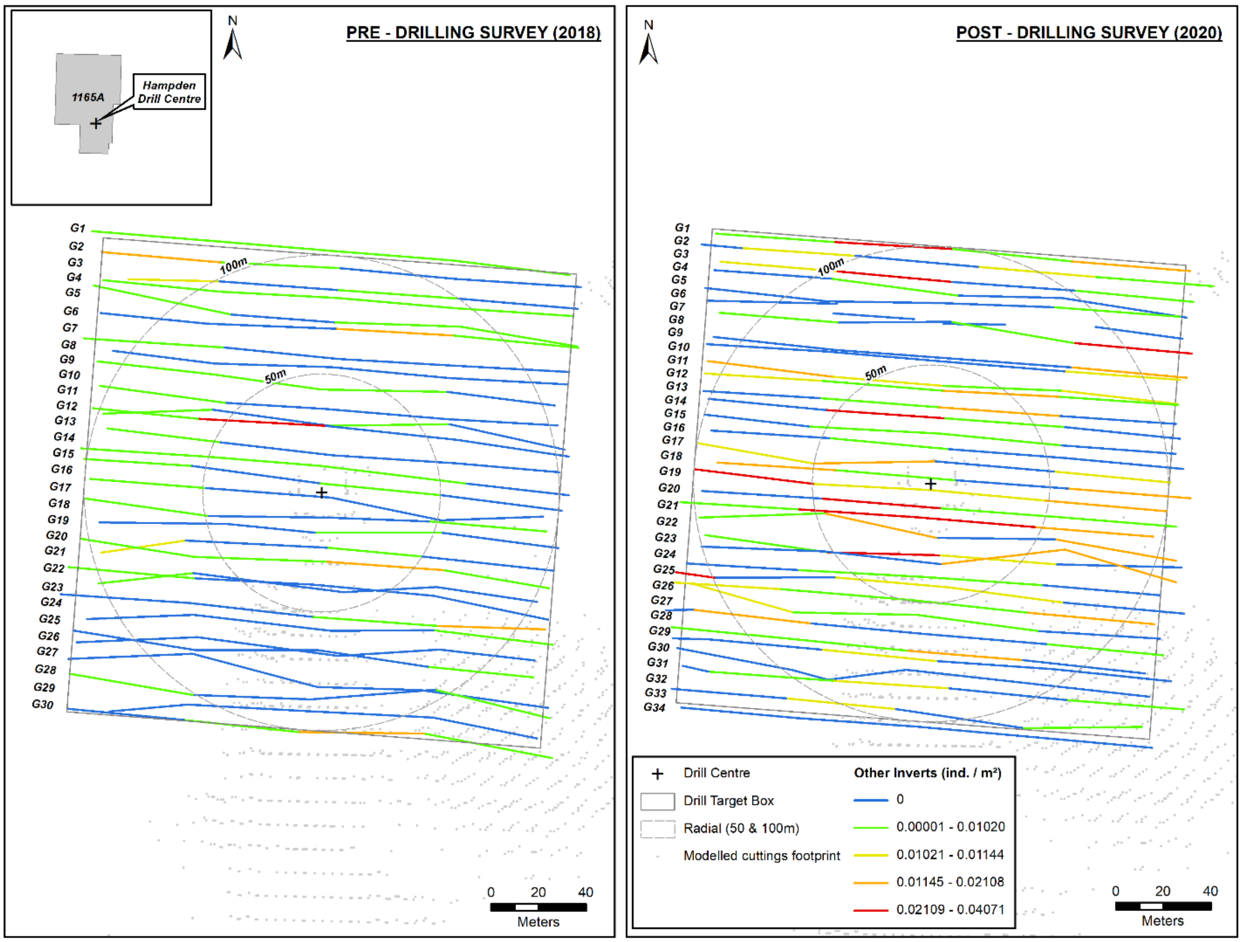

Figure C5 **Distribution of other invertebrate densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).**

APPENDIX D: FISH DENSITY FIGURES

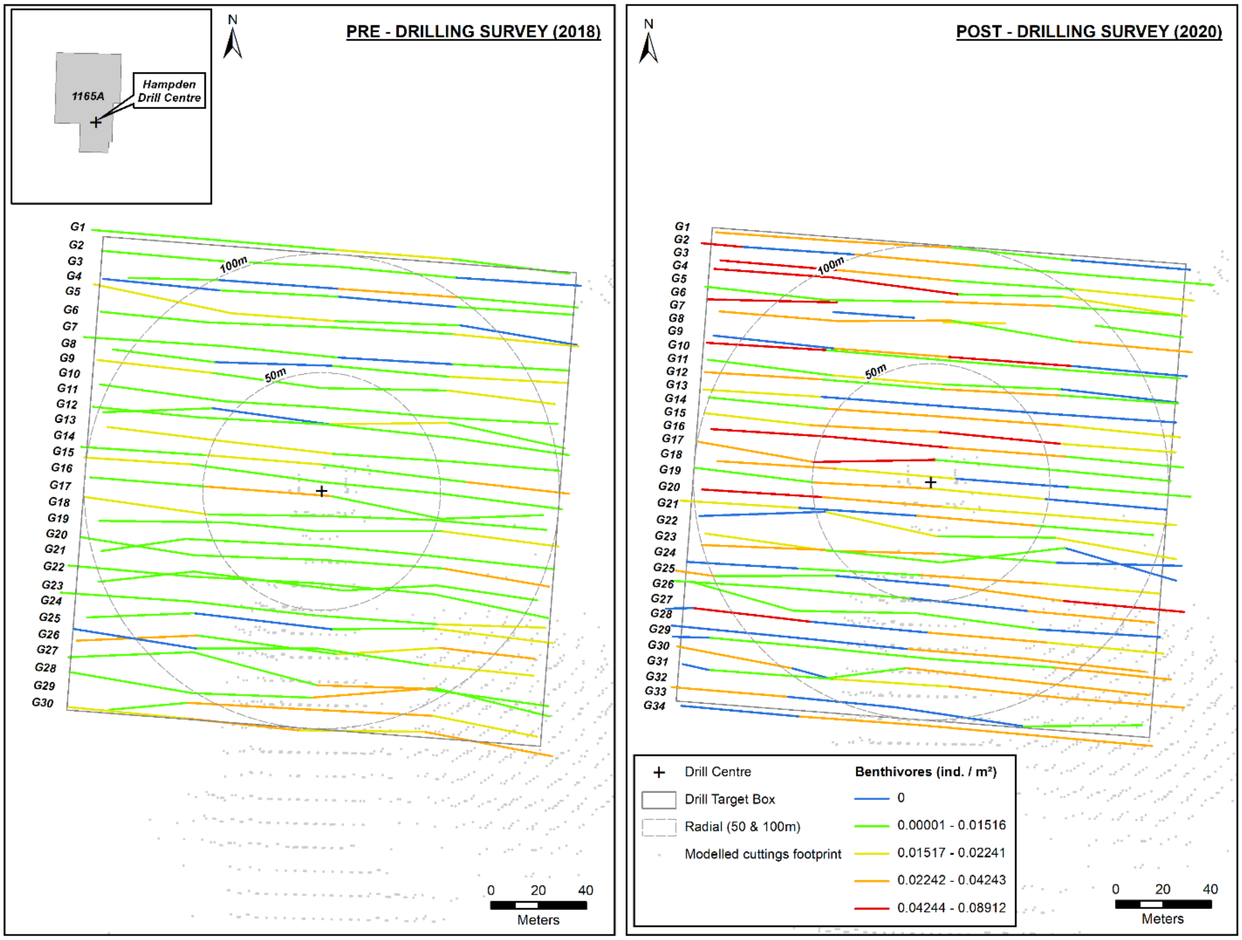

Figure D1 **Distribution of benthivore densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).**

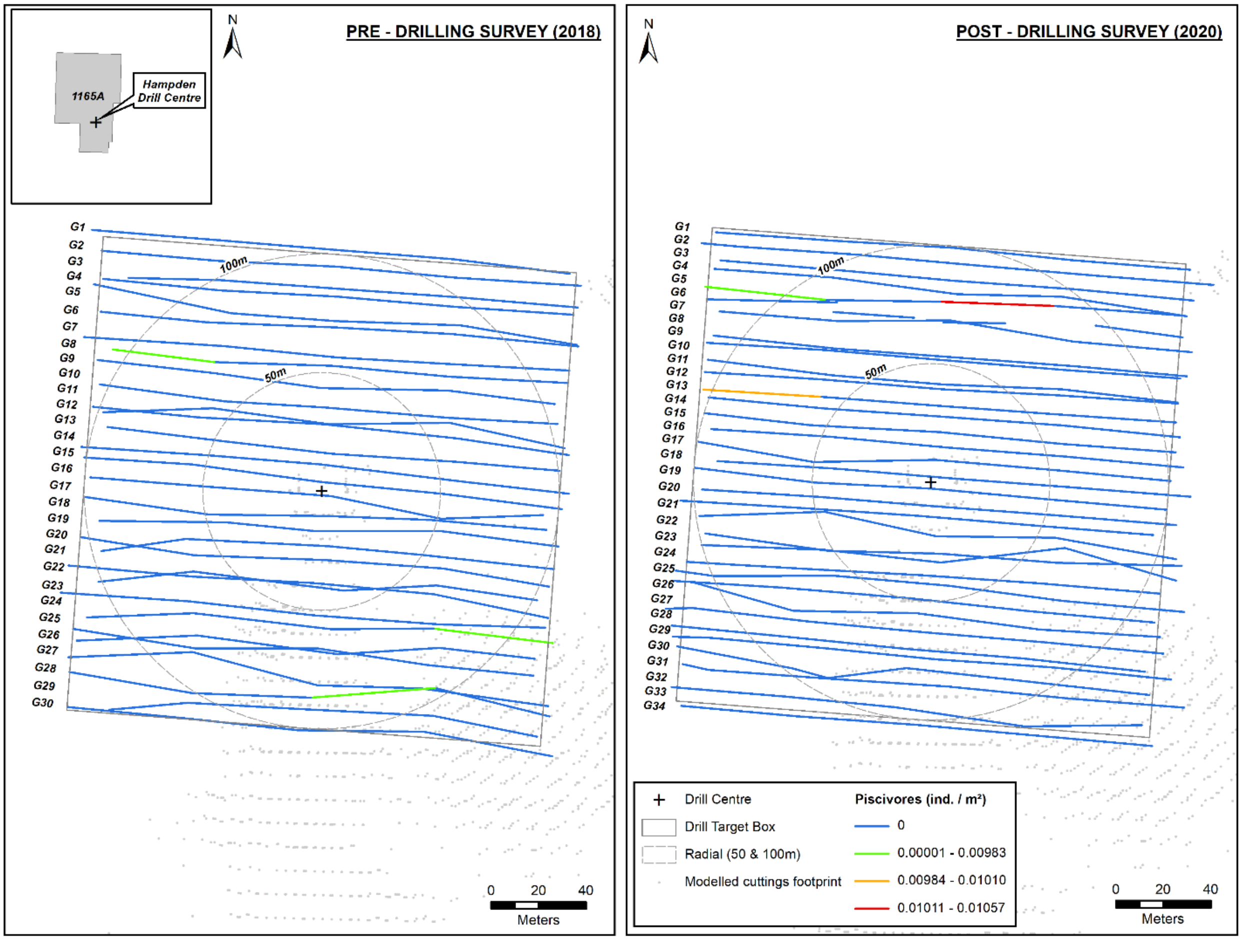

Figure D2 Distribution of piscivores densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

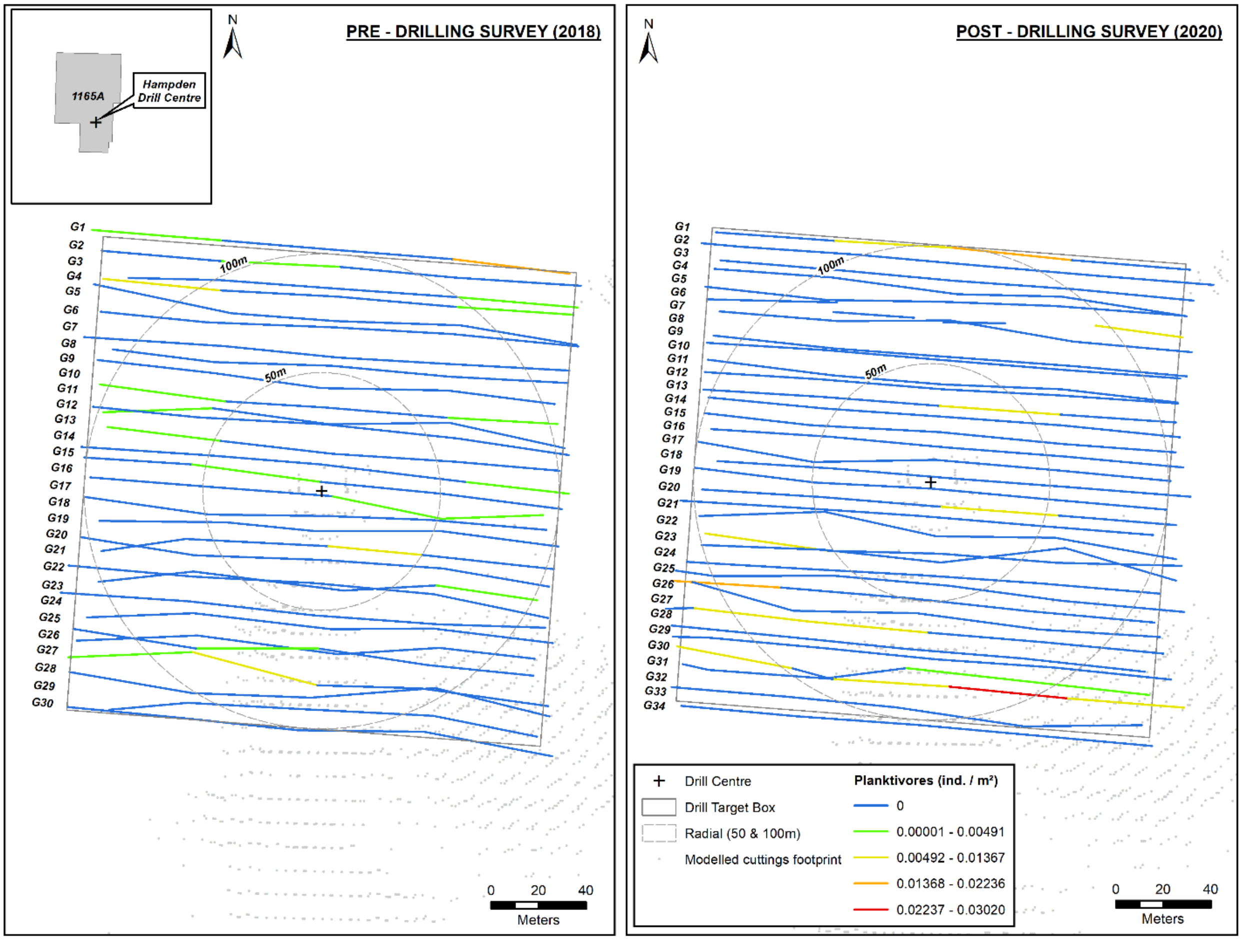

Figure D3 Distribution of planktivores densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).

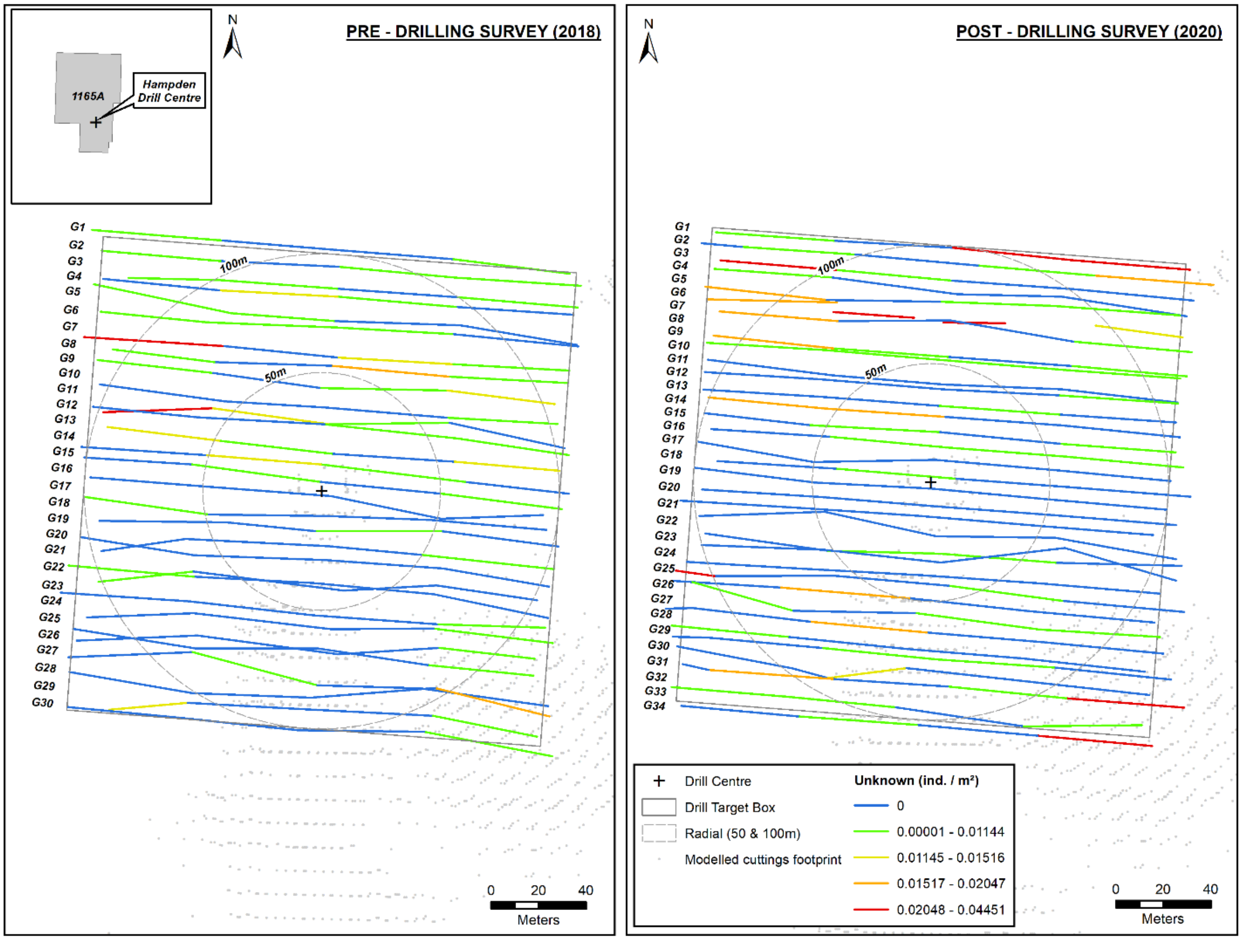

Figure D4 Distribution of unknown fish densities (ind./m^2) observed in the pre-drilling survey (2018) and in the post-drilling survey (2020).