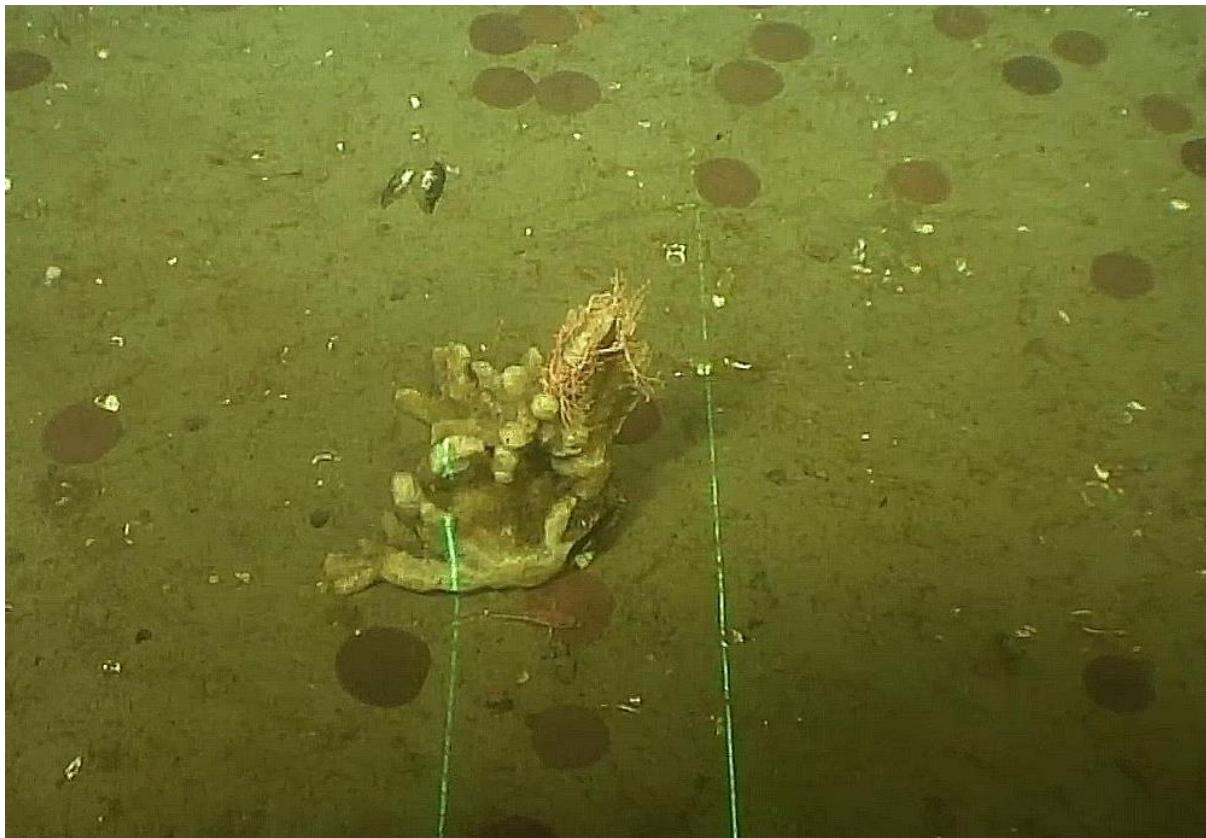


EXXONMOBIL CANADA LTD.

EL 1167 GALE N-66 PRE-DRILLING
SEABED INVESTIGATION SURVEY
2023 REPORT: ANCHOR SURVEY
ADDENDUM

JUNE 1, 2023





EL 1167 GALE N-66
PRE-DRILLING
SEABED
INVESTIGATION
SURVEY
2023 REPORT: ANCHOR
SURVEY ADDENDUM

EXXONMOBIL CANADA LTD.

FINAL

PROJECT NO.: TE22752004.3000
DATE: JUNE 1, 2023

WSP E&I CANADA LIMITED
36 PIPPY PLACE
ST. JOHN'S, NL, A1B 3X4

T: +1 709-722-7023
F: +1 709-722-7353
WSP.COM

SIGNATURES

PREPARED BY

Lara Miles, M.Sc.
Intermediate Ecologist

Olufemi Ajiboye, M.Sc.
Environmental Biologist

Kyle Millar, M.Sc.
Environmental Biologist

APPROVED¹ BY *(must be reviewed for technical accuracy prior to approval)*

Justin So, M.Sc.
Senior Biologist / Marine Sciences Team Lead

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PRODUCTION TEAM

CLIENT

Reviewer Derek Sullivan, Exploration SSHE Lead

WSP

Author Lara Miles, Intermediate Ecologist

Author Olufemi Ajiboye, Environmental Biologist

Author Kyle Millar, Environmental Biologist

Author Juanita Abbott, Senior GIS Specialist

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ABBREVIATIONS

C-NLOPB	Canada-Newfoundland & Labrador Offshore Petroleum Board
DFO	Fisheries and Oceans Canada
EIS	Environmental impact statement
EL	Exploration license
EMCL	ExxonMobil Canada Limited
ESRI	Environmental Systems Research Institute
GIS	Geographic Information System
HD	High definition
HiPAP	High Precision Acoustic Positioning System
IAAC	Impact Assessment Agency of Canada
MODU	Mobile offshore drilling unit
NAD 83	North American Datum 1983
NAFO	Northwest Atlantic Fisheries Organization
ROV	Remotely operated vehicle
SBM	Synthetic-based mud
sp.	Species
Stdev.	Standard deviation
UTM	Universal Transverse Mercator
WBM	Water-based mud

Units

%	percent
cm	centimeters

ind.	individual
km	kilometers
m	meters
mm	millimeters
n	number

1 INTRODUCTION

WSP E & I Canada Limited (WSP), was contracted by ExxonMobil Canada Limited (EMCL) to conduct a pre-drilling benthic survey at the Gale N-66 wellsite within Exploration Licence (EL) 1167 (Figure 1-1). EL 1167 was formed in November 2022 when EL 1151 and EL 1163 were consolidated. This pre-drilling seabed survey for fish and fish habitat is in accordance with the Jeanne D'Arc Exploration Drilling Project Decision Statement (IAAC 2020). Activities associated with this seabed survey are covered under the ExxonMobil Canada Eastern NL Geophysical Program 2015-2024.

1.1 PROJECT LOCATION

The Project Area is located 366 km east of St. Johns on the Eastern Grand Banks of Newfoundland in approximately 170 m of water depth.

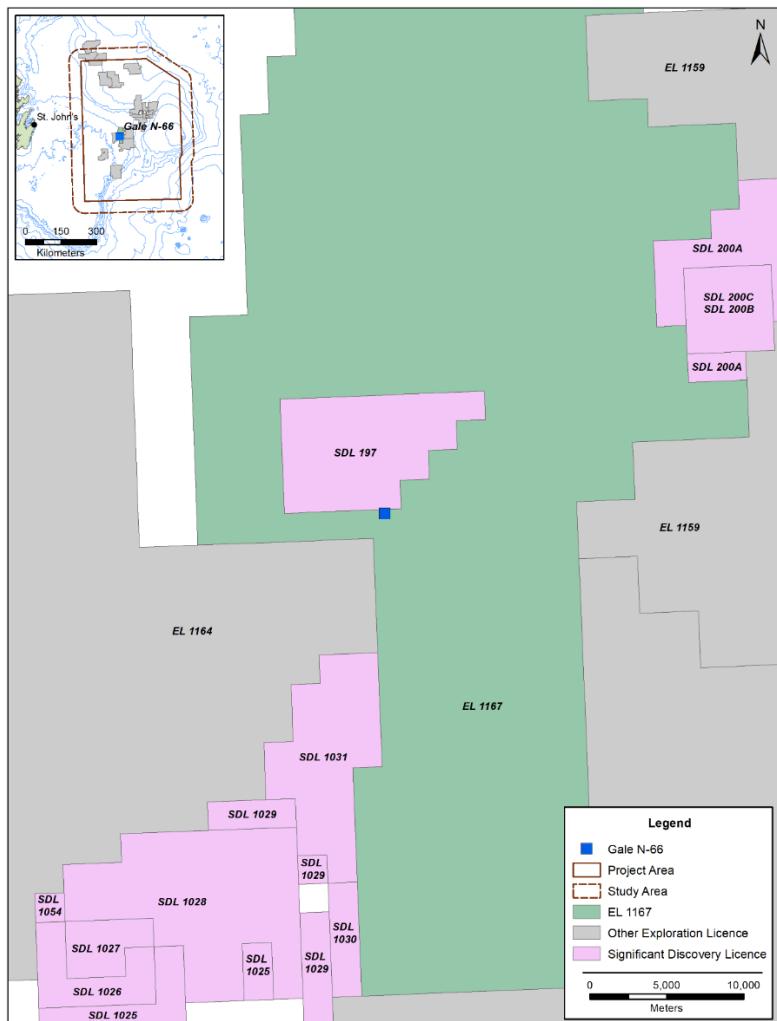


Figure 1-1 Location of EL 1167 Gale N-66 well.

1.2 PRE-DRILLING SEABED SURVEY SCOPE

The objective of the pre-drilling seabed survey was to confirm the presence or absence of any aggregations of habitat-forming corals or sponges and identify any other environmentally sensitive habitats within the predicted drill cuttings deposition footprint. The survey followed the approved plan (CAEL-EF-OOREF-01-006-5002-000; EMCL 2022) which was developed in consultations with both Fisheries and Oceans Canada (DFO) and the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB). The survey design had two components, a 500 m x 500 m grid survey around the wellsite and an eight anchor pattern survey. The results from the 500 m x 500 m grid survey and the presence of habitat-forming aggregations in the anchor pattern have been submitted to the regulators (WSP 2023a, WSP 2023b). This is an addendum to those reports and presents the habitat characterization of the anchor pattern.

1.3 REGULATORY GUIDANCE

To mitigate potential effects on cold-water corals from normal drilling activities, the C-NLOPB applies the following coral guidance prior to operation authorization.

The C-NLOPB guidance indicates that drilling activities shall not occur within 100 m of coral colonies defined as either:

- The presence of *Desmophyllum pertusum* reef complex and/or,
 - The presence of five or more large corals (above 30 cm in height or width) within 100 m² area.
-

1.4 DRILL CUTTINGS MODELLING

The seabed survey design was developed around using the predicted drill cuttings dispersion model described in the *Jeanne D'Arc Basin Exploration Drilling Project: Environmental Impact Statement* (Section 2.6.1 in Stantec 2018). Discharging cuttings into the local environment may increase the sedimentation in the vicinity of the well location. The drill cuttings dispersion model predicts the distribution of accumulations of released water-based muds (WBM) and synthetic-based muds (SBM) during normal drilling activities. WBM mixed cuttings have a medium grain class size (2 mm to 130 mm) and are released at the seabed and while cuttings mixed with SBM are finer (< 0.06 mm) and released near the surface. Studies investigating the effects of sedimentation on benthic invertebrates at well locations have found the effects to be generally localized to the cuttings pile (Neff et al. 2000, Gates and Jones 2012). In areas outside of the drill centre cuttings pile, a predicted-no-effect threshold (PNET) for non-toxic sedimentation accumulation has been estimated to be 6.5 mm based on averaged burial

tolerances of benthic invertebrates (Kjeilen-Eilertsen et al. 2004, Smit et al. 2006). An accumulation threshold of 1.5 mm has been proposed as a lower limit for sensitive taxa (Kjeilen-Eilertsen et al. 2004). A PNET range between 1.5 mm and 6.5 mm (combined discharges) was considered in the survey design.

To account for variable environmental conditions, four seasonal models were run for conditions observed at eight wells at similar depths to Gale N-66 well. The total cuttings discharged material (WBM and SBM) was modelled (Stantec 2018). The seasonal models predict that the majority of released cuttings would accumulate within 200 m from the wellhead (Figure 1-2).

Table 1-1 Summary table of predicted drill cuttings dispersion extent and deposition.

Distance from Drill Centre	Cuttings Deposition Description
< 100 m to <300 m	Cuttings patches of 1 to 10 mm with portions as high as 25 to 50 mm thick.
>300 m to 500 m	Thin cuttings patch up to 0.1 mm thick
500 m to 12 km	Thin cuttings patch up to 0.2 mm thick

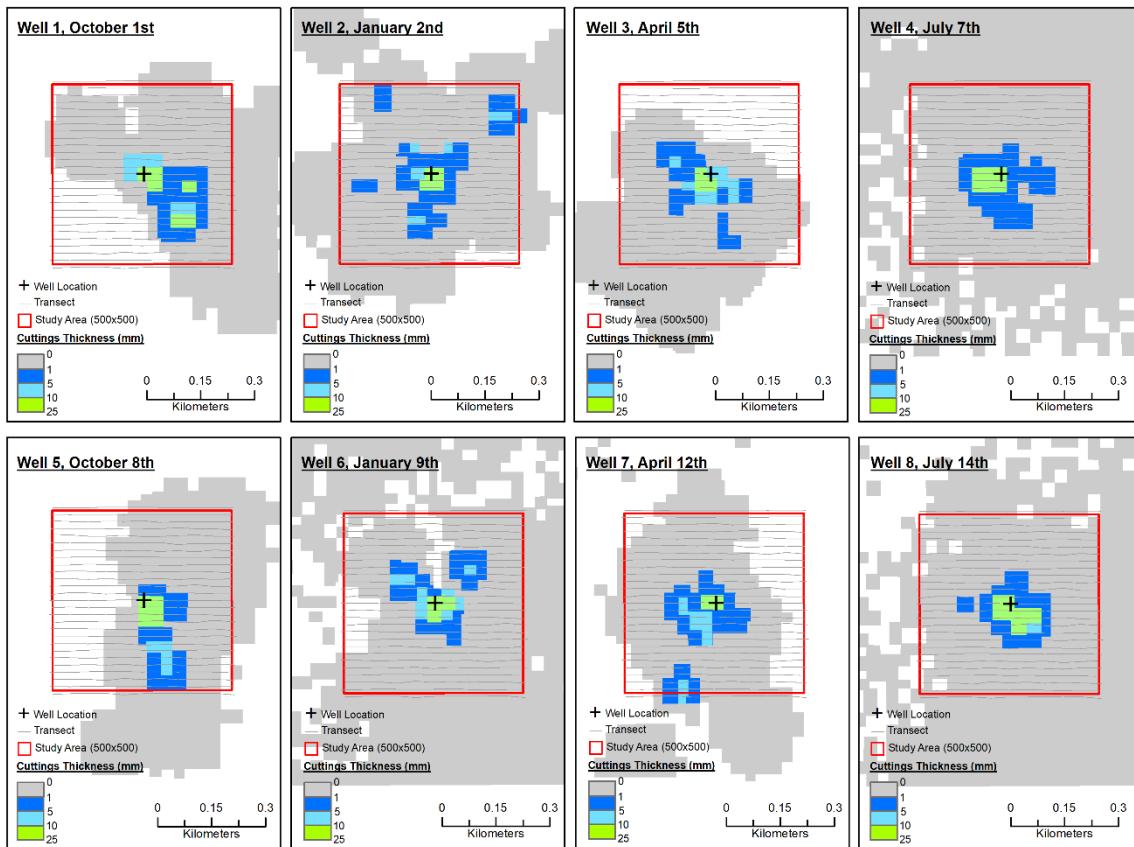


Figure 1-2 Predicted drill cutting footprint (WBMs and SBMs) all four seasonal models at eight wells with actual survey transects overlaid.

1.5 PRE-DRILLING SEABED SURVEY DESIGN

The pre-drilling survey design encompassed areas predicted to experience cutting accumulations exceeding the 1.5 mm PNENT. The survey consisted of a 500 m by 500 m grid centred on the proposed drill center and an eight anchor layout pattern (Figure 1-3). The grid was composed of 27 horizontal transect lines (spaced 20 m apart). The anchor layout survey consisted of eight transects extending approximately 2 km from the well centre with a 100 m x 100 m grid at the end of each anchor transect (anchor location).

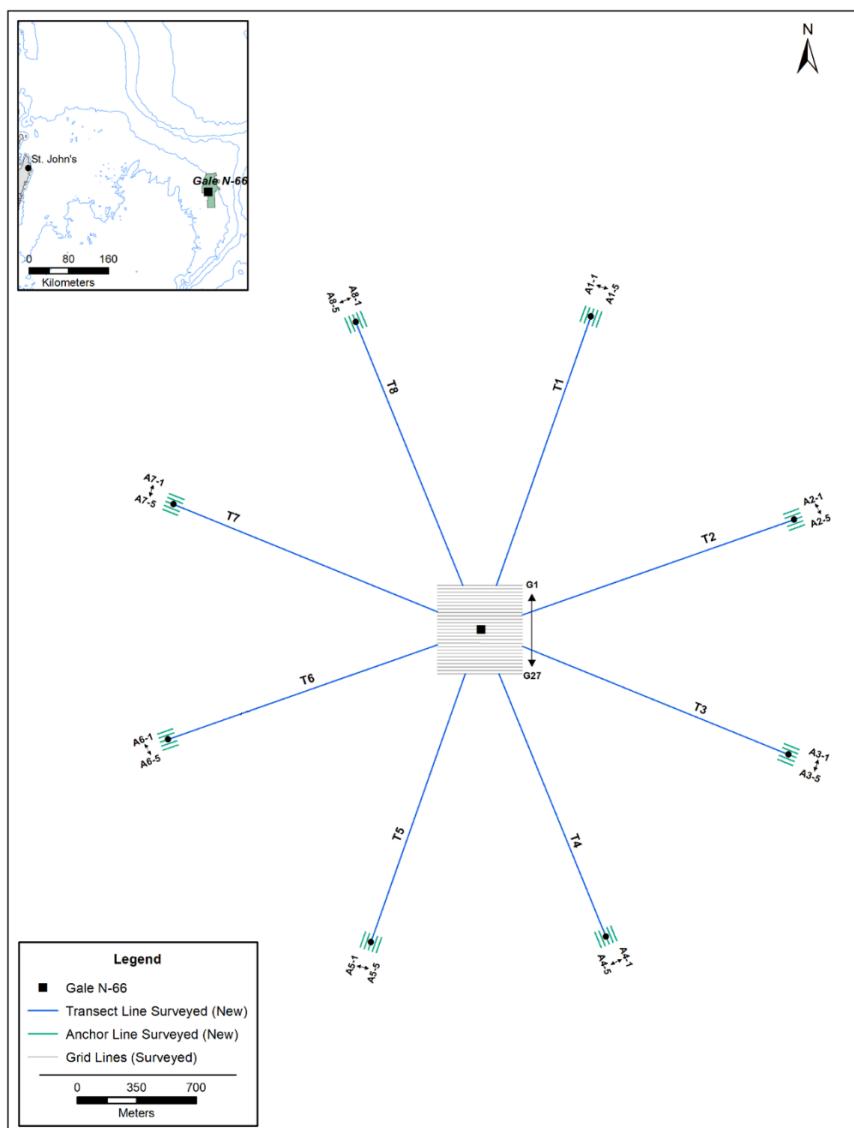


Figure 1-3 Pre-drilling seabed survey design for Gale N-66.

2 METHODOLOGY

The prior survey in November 2022 surveyed the Gale N-66 grid around the well centre (WSP 2023a). The eight anchor pattern was surveyed in April 2023.

2.1 SEABED SURVEY

The eight anchor survey was conducted from April 13th to April 14th, 2023, onboard the *MV Paul A. Sacuta* using a Millennium 191 remotely operated vehicle (ROV) (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 of fauna were taken opportunistically. Video and still imagery were used to identify the benthic fauna (including corals and sponges).

EMCL was responsible for chartering the vessel and ROV support services required to conduct the anchor survey. The onboard WSP biologists were responsible for the execution of the survey plan and providing direction to the ROV operators to ensure the collection of video and images appropriate for characterizing cold-water corals and sponge groups and general characterization of fish and other invertebrates.

The survey video and still imagery were geo-referenced using the ship's HiPAP system. The HD video was encoded with a digital overlay that displayed depth (m), coordinates (UTM and NAD83), heading, date and time (Newfoundland Standard Time), and altitude above the seafloor. Still images were encoded with a date/time stamp and numbered sequentially. During the survey, fixes were taken for the start and end of each transect. The ROV travelled at an altitude <2 m above the seafloor and an estimated field of view of 1.80 m. Scaling line lasers were spaced 20 cm apart.

Table 2-1 Survey parameters.

Survey	Pre-drilling 2023
Area	Anchor
Water Depth (m)	170
No. of Transects	48
No. of Transect Sections	345
Distance Covered (m)	20,000
Field of View (m)	1.80
Section Length (m)	50
Laser Distance (cm)	20
Notes:	
Field of view was determined from 20 randomly selected images from throughout the survey area.	



Figure 2-1 Millennium 191 ROV used for the 2022 EL 1167 pre-drilling survey.

2.2 VISUAL ANALYSIS

The benthic video was analyzed for surficial geology, coral and sponge abundance, density, and condition, as well as invertebrate and fish taxa abundance and density. Survey transects were sectioned into 50 m bins (linear distance) for analysis.

2.2.1 SURFICIAL SUBSTRATE

The surficial substrate was characterized as percent coverage of the seafloor for each substrate type present along the 50 m (linear distance) transect sections. Substrate type was determined using the Udden-Wentworth Scale and categorized into a substrate class (Table 2-2) (Wentworth 1922).

Table 2-2 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

2.2.2 CORAL AND SPONGES

Corals and sponges were identified visually using a Northwest Atlantic Fisheries Organization (NAFO) area guide (Kenchington et al. 2015) (Table 2-3) and put into functional groups based on DFO guidance . Corals and sponges were enumerated and densities per transect section were geo-referenced and mapped.

Pre-drilling coral and sponge condition was also visually assessed. Coral condition is characterized by an individual's physical appearance and consists of three categories: Good, Damaged and Dead. It can be difficult to visually determine if a sponge is dead thus, sponge condition is based on the amount of visible sedimentation on an individual and consists of three categories: Good, Sediment Veneer, and Covered. Descriptions of the condition codes used for corals and sponges are presented in Table 2-4.

Table 2-3 Summary table of coral and sponge functional groups (based on Annex A of DFO 2022).

Functional Groups	Example Taxa
Corals	
Black	<i>Stauropathes</i> sp.
Branching, Small Gorgonians	<i>Acanella</i> sp.
Branching, Large Gorgonians	<i>Paragorgia</i> sp.
Sea Pens	<i>Anthoptilum</i> sp.
Other (Soft corals, Hard Corals)	<i>Duva</i> sp., <i>Desmophyllum dianthus</i>
Sponges	
Solid/Massive	<i>Geodia</i> sp.
Thin-walled	<i>Asconema</i> sp.
Other Sponge (Leaf/Vase-Shaped, Round with Projections, Stalked, Other) ¹	<i>Polymastiidae</i> sp.
Note: Species identifications based on Kenchington et al. 2015 ¹ this excludes encrusting sponges	

Table 2-4 Coral and sponge condition categories with descriptions.

Coral Condition		Sponge Condition	
Condition	Description	Condition	Description
Good (G)	Coral is oriented upright (or expected orientation for species) with polyps extended and no visible sedimentation.	Good (G)	No signs of dislodgement, unusually clean surface (i.e., no visual signs of sedimentation) and tight shape
Damaged (Dm)	The coral appears in one of the following states: bent over or lying flat on the seafloor, covered by accumulated sediment, a percentage of polyps are missing, or the polyps are withdrawn and appear closed.	Sediment Veneer Present (SV)	Surface of a sponge has a veneer of sedimentation.
Dead (D)	Coral has no visible live polyps or skeleton is completely bare	Covered (C)	The base of the sponge or a portion of the body is obscured by accumulated sediment.

2.2.3 OTHER TAXA

All other invertebrate taxa were identified to phylum (e.g., arthropods, molluscs etc.), and fish were identified to functional groups as described in Table 7 of Ollerhead et al. (2017). Taxa abundances were enumerated in each 50 m transect section and reported as densities. However as in the grid survey, sand dollars were numerous throughout the survey and thus, their abundances were estimated in each transect bin. Representative photos of all taxa groups were taken opportunistically.

Table 2-5 Summary table of fish functional groups.

Functional Groups	Example Taxa
Benthivore	Wolfish, grenadiers
Piscivore	Greenland halibut
Planktivore	Lanternfish
Plank-piscivore	Redfish
Unknown Fish	Fish unable to be identified to a particular functional group

Note: Functional groups are based on Ollerhead et al. 2017

2.3 MAPPING

All datasets (ROV transects, and survey observations) were plotted using GIS software ArcGIS 10.8.1 (ESRI 2020) in NAD83 UTM datum zone 23. Fine-grained substrates are the primary surficial substrate for a majority of the Newfoundland Offshore thus, to depict the distribution of any hard substrates present, the largest substrate observed with the highest percent coverage for each transect section was mapped. Faunal densities were mapped per each 50 m transect bin. Coral and sponge condition were mapped by percent “Good” present for each transect bin.

3 RESULTS

The following are the results for the 2023 seabed anchor pattern survey. The faunal observation datasets per transect section are presented in Appendix A. Visibility of the seafloor was good throughout the survey with little turbidity in the water column and the ROV remained < 2 m above the seafloor.

3.1 SURFICIAL SUBSTRATE

The seafloor consisted primarily of a fine-grained substrate matrix with secondary substrates consisting of shell hash and sporadic coarse (boulders and rubble) and medium (cobble and gravel) substrates (Figure 3-1, Figure 3-2). Shells were observed throughout the survey area and were composed mainly of bivalve and gastropod shells. Figure 3-2 displays the spatial distribution of the largest secondary substrate observed in each transect bin.

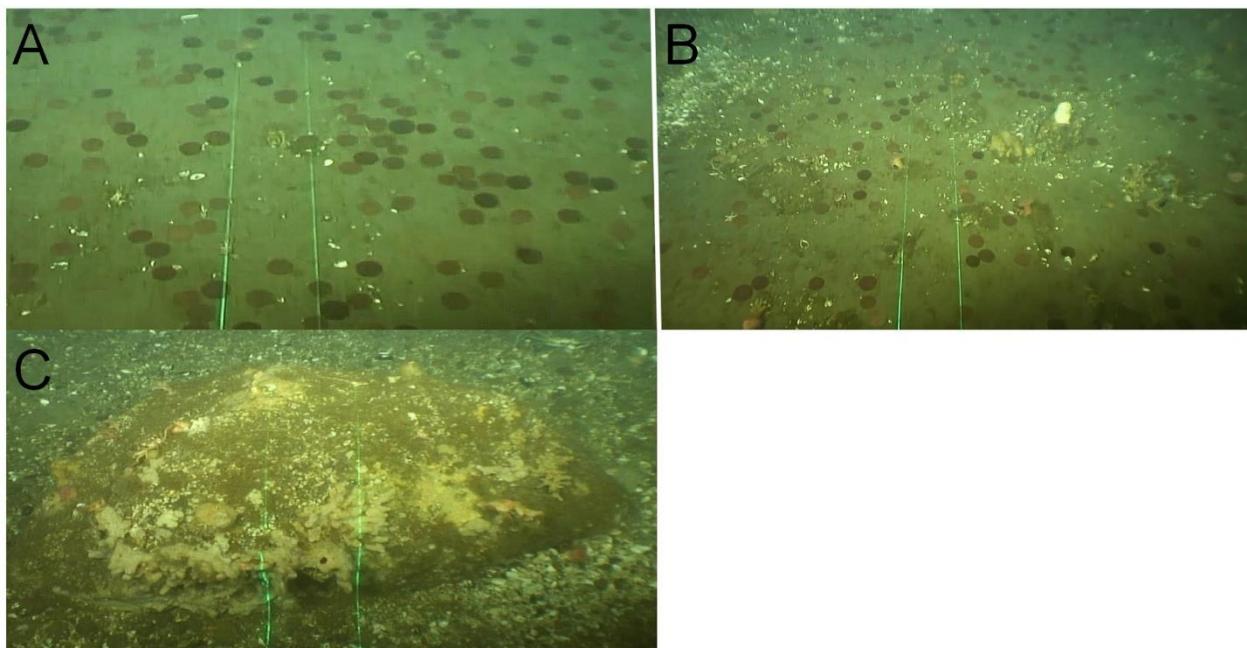


Figure 3-1 Examples of surficial substrate categories observed at Gale N-66 Anchors. A) fines, B) shell hash and medium, C) shell hash and coarse. Green scaling-lasers are 20 cm apart.

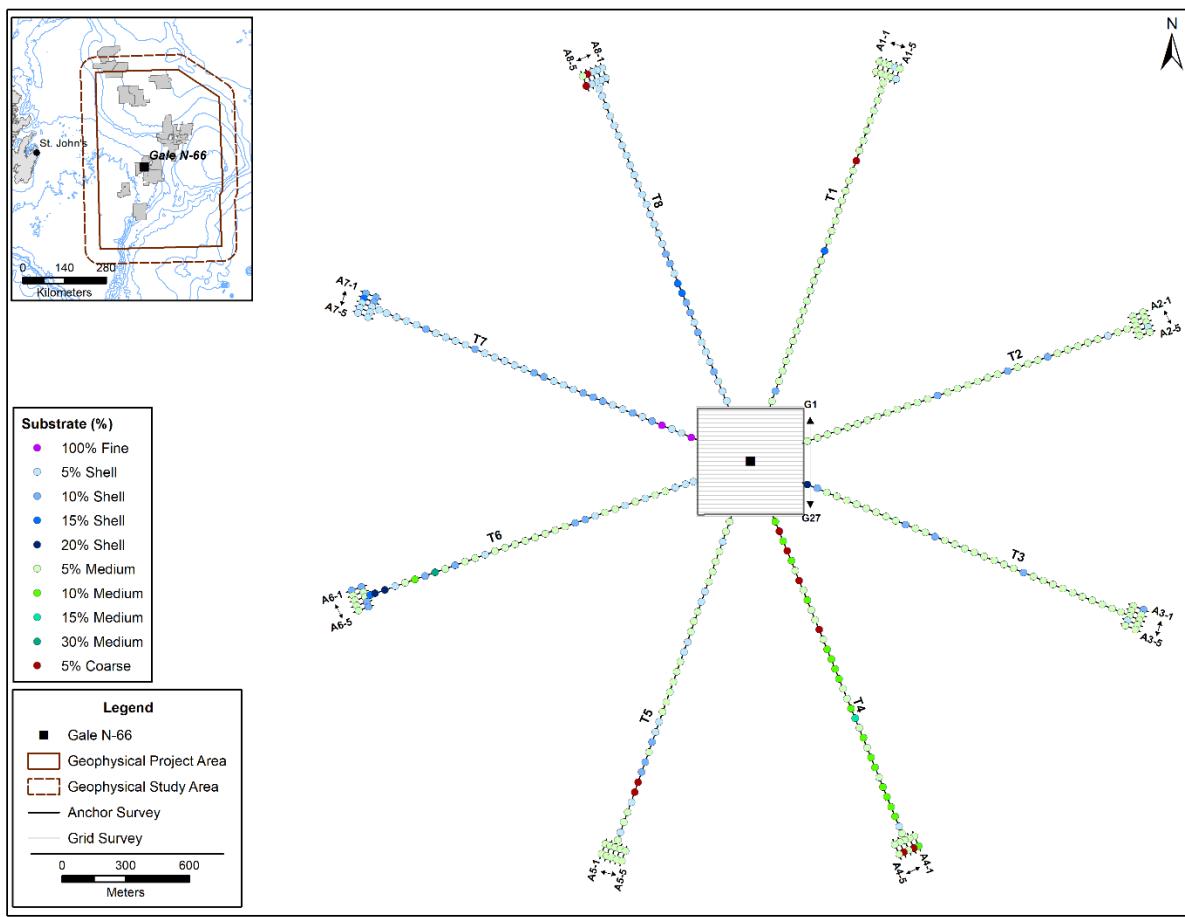


Figure 3-2 Distribution of largest secondary surficial substrate class present observed in the Gale N-66 anchor pattern survey. Primary substrate throughout area is Fine.

3.2 CORALS AND SPONGES

3.2.1 CORAL FUNCTIONAL GROUPS

Soft coral species (“Other” coral functional group) were the only corals observed within the anchor pattern survey area (Figure 3-3, Figure 3-4). A total of 21,633 individual corals were observed with densities ranging between 0.01 ind./m² (excluding zero) and 5.36 ind./m² (Table 3-1).

Coral condition was assessed visually and categorized into one of three classifications. Of the total corals observed, 99.98% were in an upright position with all polyps intact and classified as ‘Good’ (Table 3-2). No corals were observed as ‘Dead,’ and <0.1% were classified as ‘Damaged.’ The coral condition distribution of percent ‘Good’ is presented in Figure 3-5.

Table 3-1 Summary statistics for coral functional groups within the dispersion area survey.

Taxa Group	Area	Mean	St. dev.	Median	Min ¹	Max
Other Coral (Soft Corals)	Anchor	0.72	0.728	0.48	0.01	5.36

Notes:
Total number of survey sections: Anchor (n=345).
Sections were 50 m linear distance with an average field of view width of 1.80 m.
¹Minimum density is the lowest non-zero value.
Other Corals (Soft Coral) n= 21,633 ind.

Table 3-2 Summary of coral conditions percent observed within the grid seabed survey.

Taxa Group	Area	Good	Damaged	Dead
Other Coral (Soft Corals)	Anchor	99.98%	<0.1%	0%

Notes:
Total number of survey sections: Anchor (n=345).
Totals: Good n=21,629, Damaged n=4, Dead n=0.
Sections were 50 m linear distance with an average field of view width of 1.80 m.



Figure 3-3 Representative photos of the coral functional group ‘other’. Green scaling-lasers are 20 cm apart.

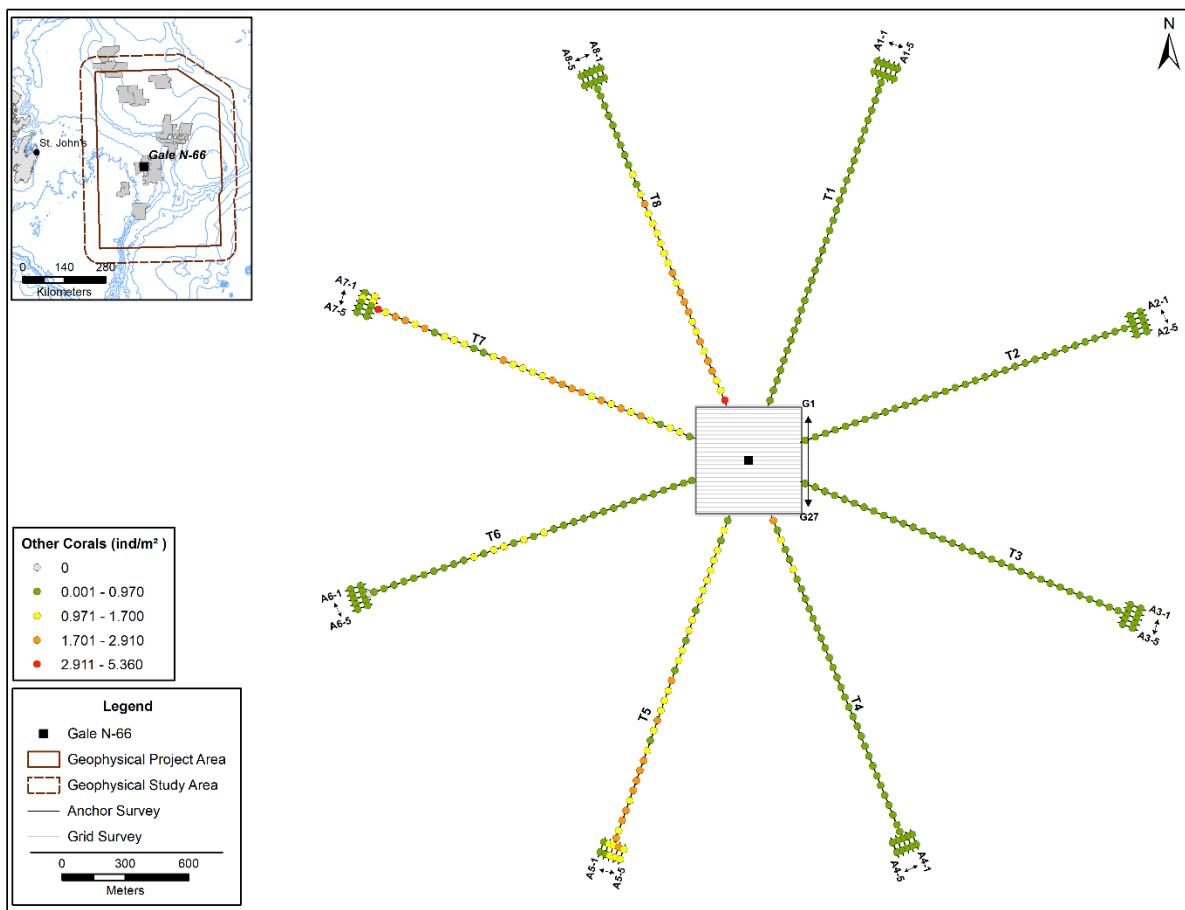
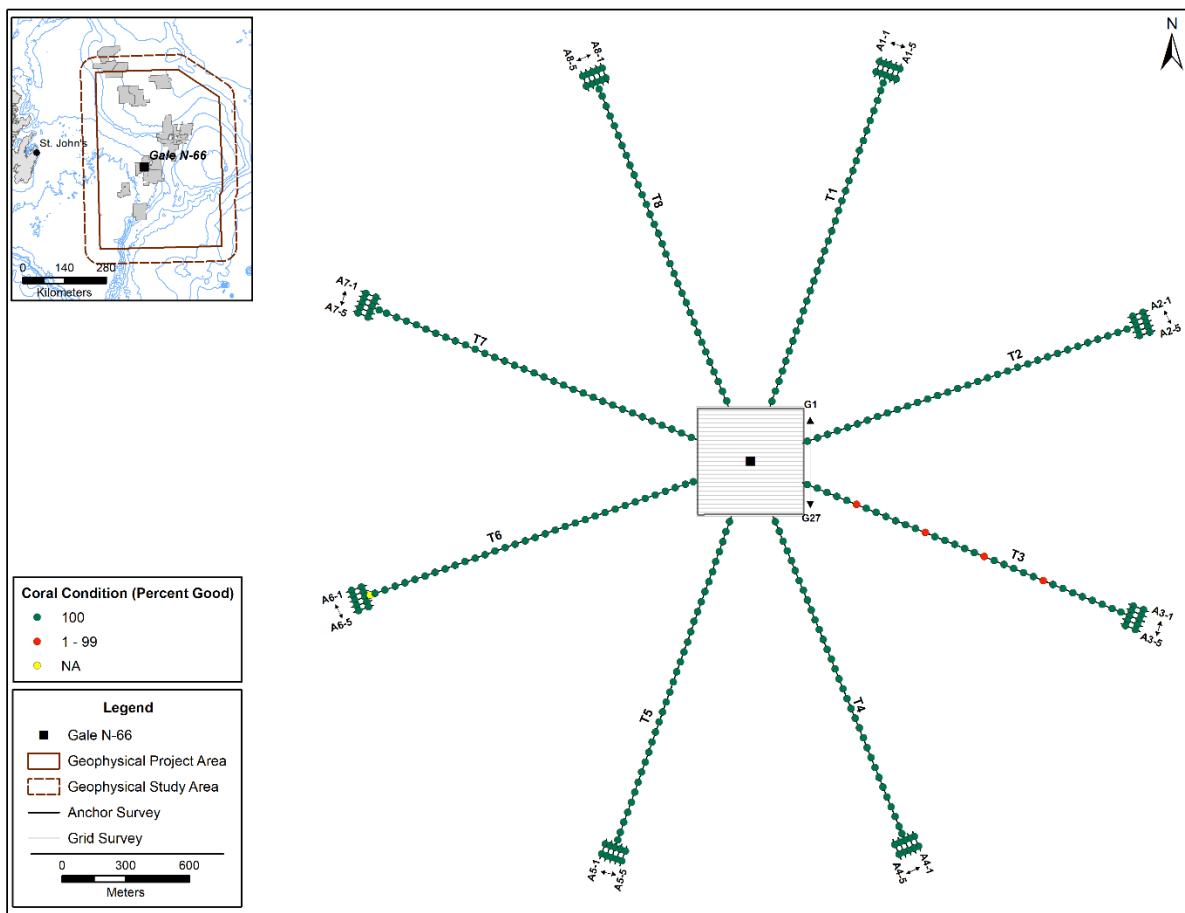


Figure 3-4 Distribution of soft coral densities (ind./m²) observed in the Gale N-66 pre-drilling anchor pattern survey.



not necessarily indicate the overall health of a sponge. Of the sponges observed, 21% did not have a visible sediment veneer on their surface and were classified as ‘Good’ while, 79% had a sediment veneer. The distribution of sponges with the ‘Good’ condition category is presented in Figure 3-10. Sponges with a visible sediment veneer were more prevalent to the southwest along transects T-5 and T-6.

Table 3-3 Summary statistics for sponge morphological groups within the survey area.

Taxa Group	Area	Mean	St. dev.	Median	Min ¹	Max
Solid / Massive	Anchor	0.07	0.07	0.06	0.01	0.51
Thin-walled	Anchor	0.00	0.00	0.00	0.01	0.01
Other Sponges	Anchor	0.06	0.11	0.03	0.01	1.18

Notes: Total number of survey sections: Anchor (n=345).
Sections were 50 m linear distance with an average field of view width of 1.80 m.
¹Minimum density is the lowest non-zero value.

Table 3-4 Summary statistics for sponge condition within the survey area.

Taxa Group	Area	Good	Sediment Veneer	Covered
Total Sponge	Anchor	21%	79%	0%

Notes: Total number of survey sections: Anchor (n=345).
Totals: Good n=861, Sediment Veneer n=3150, Covered n=0.
Sections were 50 m linear distance with an average field of view of 1.80 m.
¹Minimum density is the lowest non-zero value.

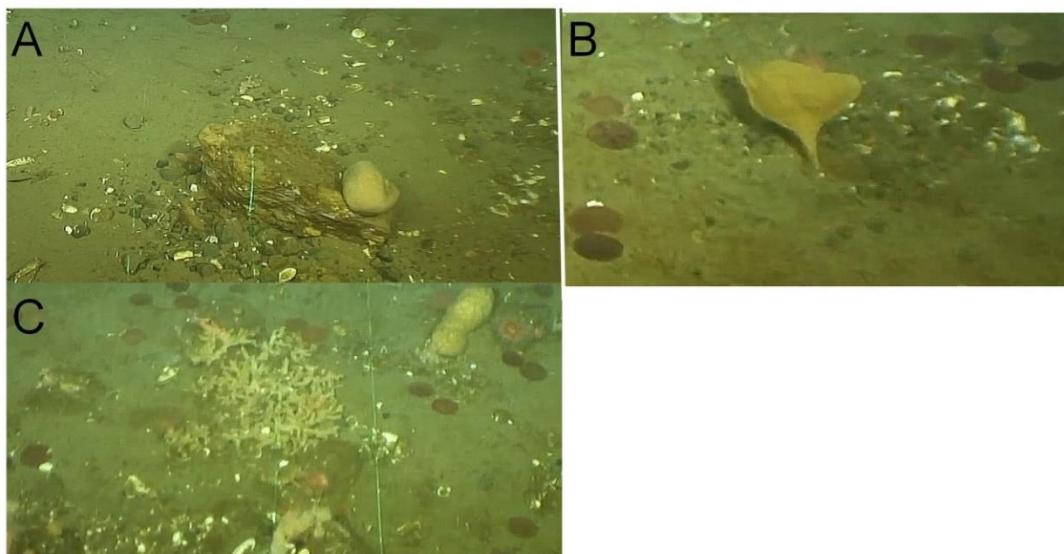


Figure 3-6 Representative photos from each sponge morphological group and sponge conditions: A) solid/massive sponge with a sediment veneer, B) other sponge (leaf/vase-shaped) with a sediment veneer, C) other sponge in good condition. Green scaling-lasers are 20 cm apart.

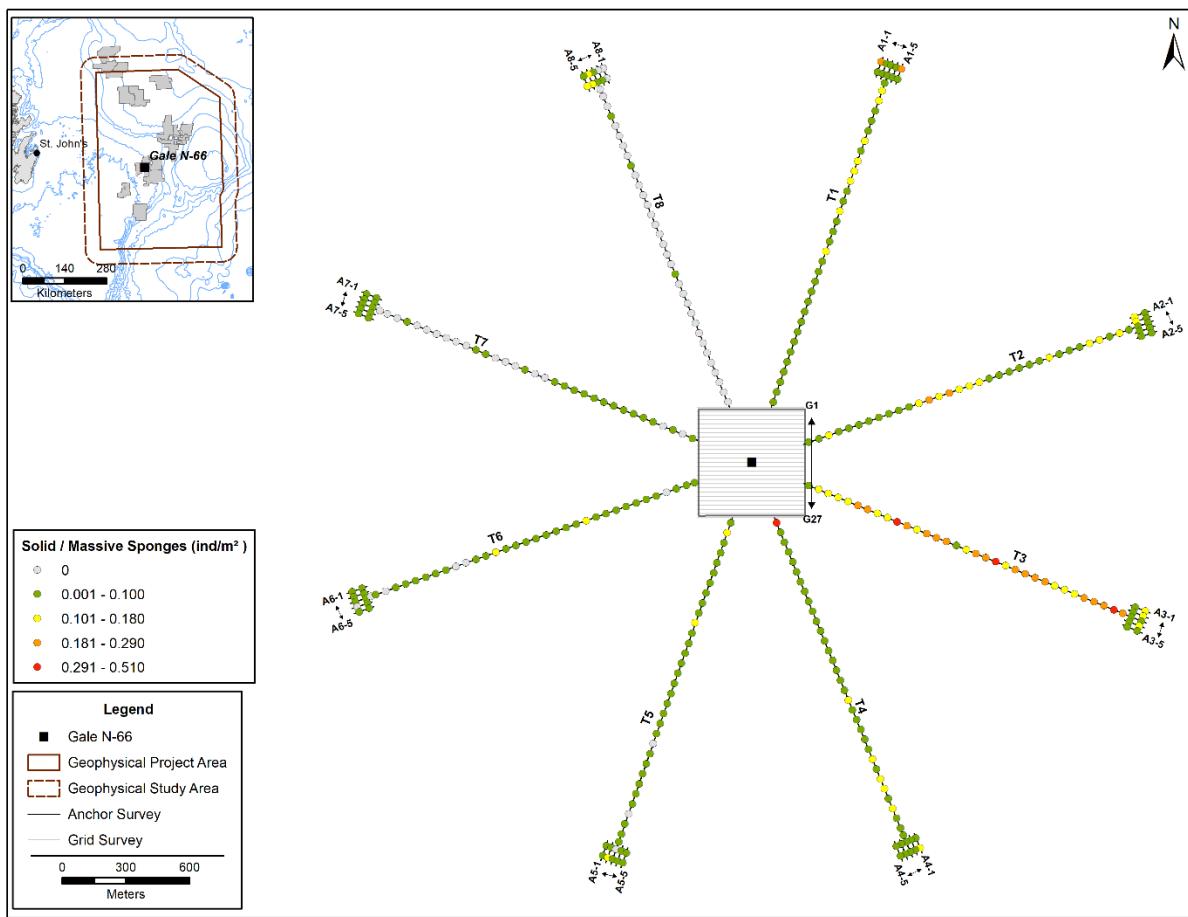


Figure 3-7 Distribution of solid/massive sponge densities (ind./m²) observed in the Gale N-66 pre-drilling anchor pattern survey.

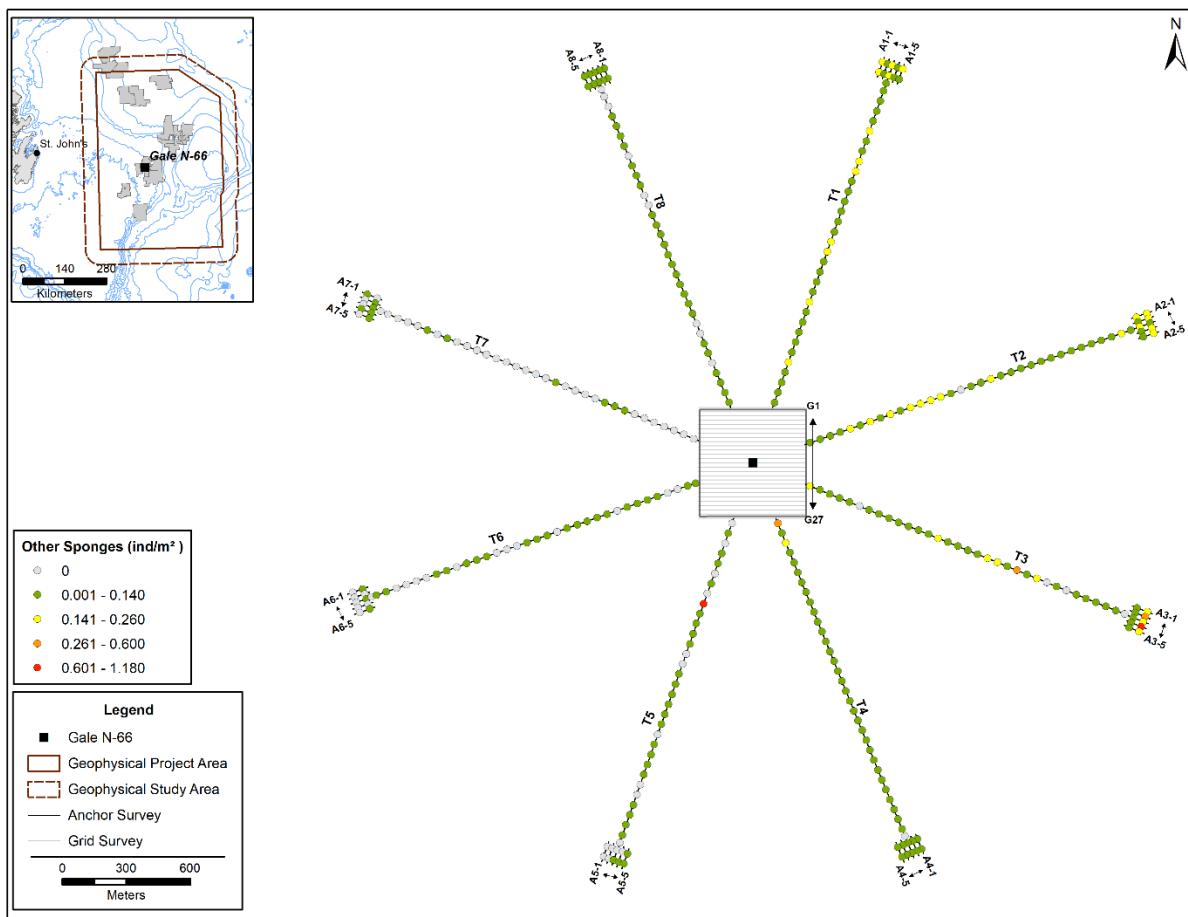


Figure 3-8 Distribution of other sponge densities (ind./m²) observed in the Gale N-66 pre-drilling anchor pattern survey.

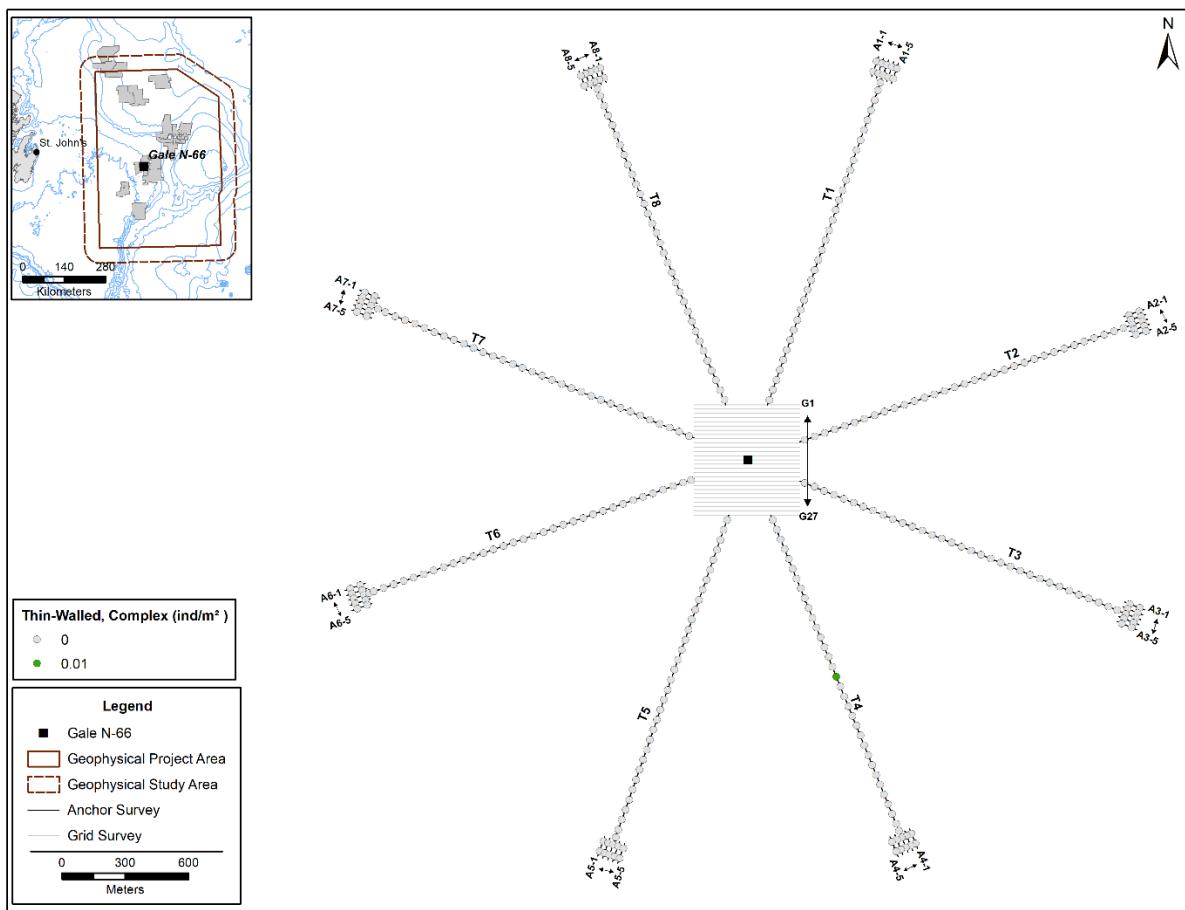


Figure 3-9 Distribution of thin-walled/complex sponge densities (ind./m²) observed in the Gale N-66 pre-drilling anchor pattern survey.

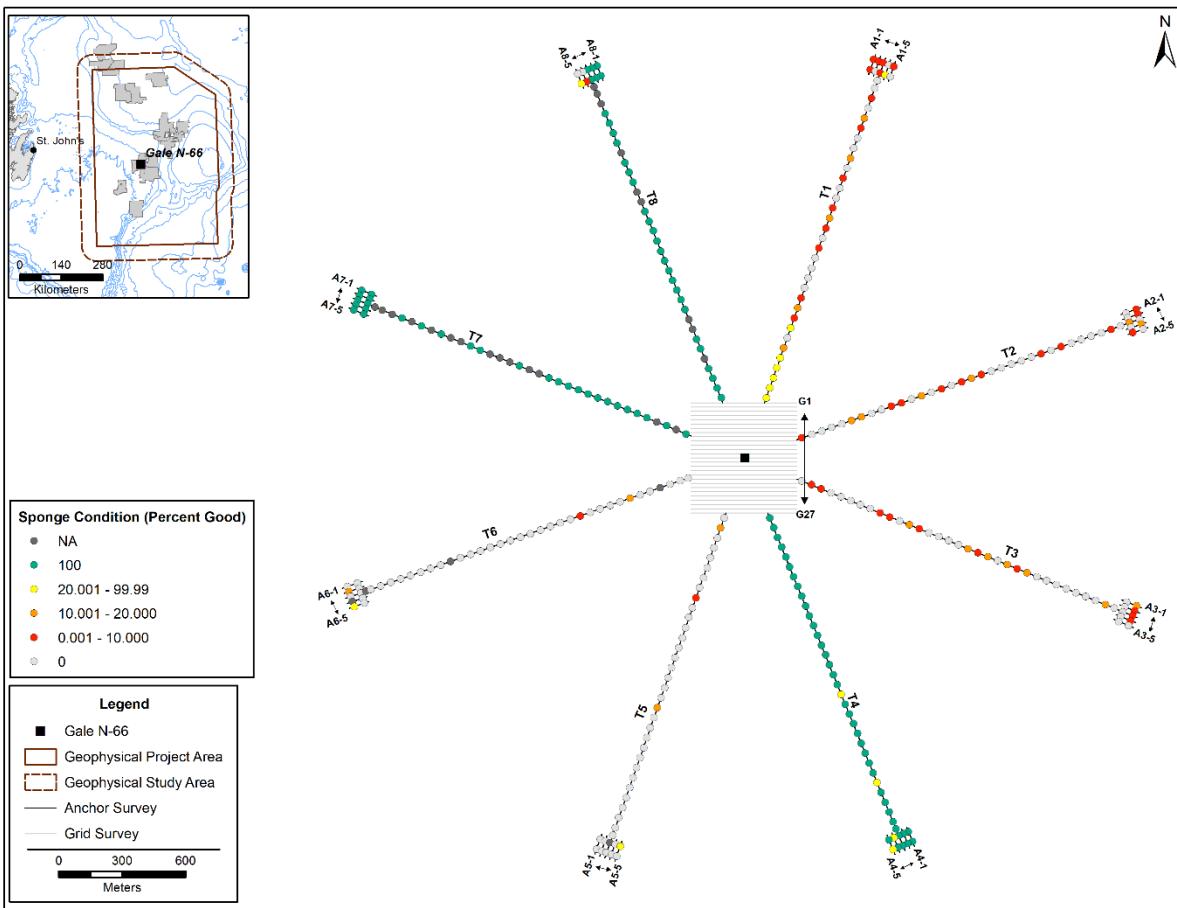


Figure 3-10 Distribution of percent sponges observed in 'Good' condition in the Gale N-66 pre-drilling anchor pattern survey.

3.3 OTHER TAXA

3.3.1 FISH FUNCTIONAL GROUPS

Two fish functional groups were observed throughout the survey area (Table 3-5, density maps are presented in Appendix B). Benthivores were the most commonly observed group and consisted mainly of flatfish (Table 3-5, Figure 3-11 A). Benthivore density ranged between 0.01 ind./m² to 0.09 ind./m² with an average density of 0.01 ind./m². 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 (Figure 3-11 B, C). Unknown fish density ranged between 0.01 ind./m² to 3.34 ind./m² and with a mean density of 0.02 ind./m². A large school of fish (Unknown fish 1) was observed along Transect T-6.

Table 3-5 Summary statistics for fish functional groups within the dispersion area survey.

Taxa Group	Area	Mean	St. dev.	Median	Min ¹	Max
Benthivores	Anchor	0.01	0.02	0.00	0.01	0.09
Unknown	Anchor	0.02	0.20	0.00	0.01	3.34

Notes: Total number of survey sections: Anchor (n=345).
 Sections were 50 m linear distance with an average field of view of 1.80 m.
¹Minimum density is the lowest non-zero value.
 Unknown fish includes juveniles and unidentified fish.

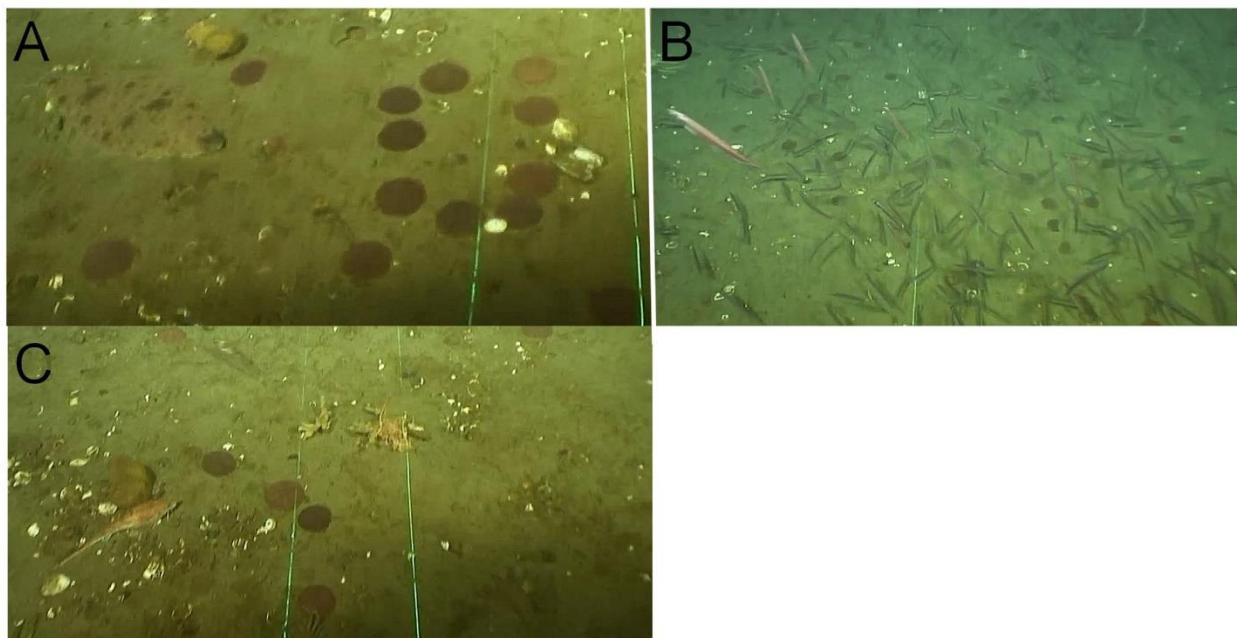


Figure 3-11 Representative fish species from the benthivore and unknown functional groups: A) benthivore (flatfish), B) unknown fish 1, C) unknown fish 2 (likely an Alligatorfish). Green scaling-lasers are 20 cm apart.

3.3.2 INVERTEBRATES (NON-CORAL AND SPONGE)

Invertebrate taxa (other than corals and sponges) were also observed and enumerated (Figure 3-12, Table 3-6, density maps presented in Appendix B). Echinoderms were the most commonly observed invertebrate group (mean density of 14.66 ind./m²). As was observed in the grid survey, sand dollars were found in high abundances compared to all other taxa (Table 3-6, Figure 3-12 A). Cnidarians (other than corals) were the second most common group (mean density of 0.43 ind./m²), with sea anemones as the most abundant taxa (Figure 3-12 B). Arthropods were also observed throughout the survey area and consisted mainly of crabs. Total arthropod densities had a mean density of with densities ranging between 0.014 ind./m² throughout the survey area (Figure 3-12 C). Molluscs such as gastropods and scallops were observed at relatively low densities (mean density of 0.02 ind./m²).

Table 3-6 Summary statistics for invertebrate groups (excluding corals and sponges) within the dispersion area survey.

Taxa Group	Area	Mean	St. dev.	Median	Min ¹	Max
Echinoderms	Anchor	14.66	9.24	13.77	0.56	78.90
Cnidarians	Anchor	0.43	0.19	0.42	0.01	1.72
Molluscs	Anchor	0.02	0.03	0.01	0.01	0.18
Arthropods	Anchor	0.14	0.09	0.13	0.01	0.54

Notes: Total number of survey sections: Anchor (n=345).

Sections were 50 m linear distance with an average field of view of 1.80 m.

¹Minimum density is the lowest non-zero value.

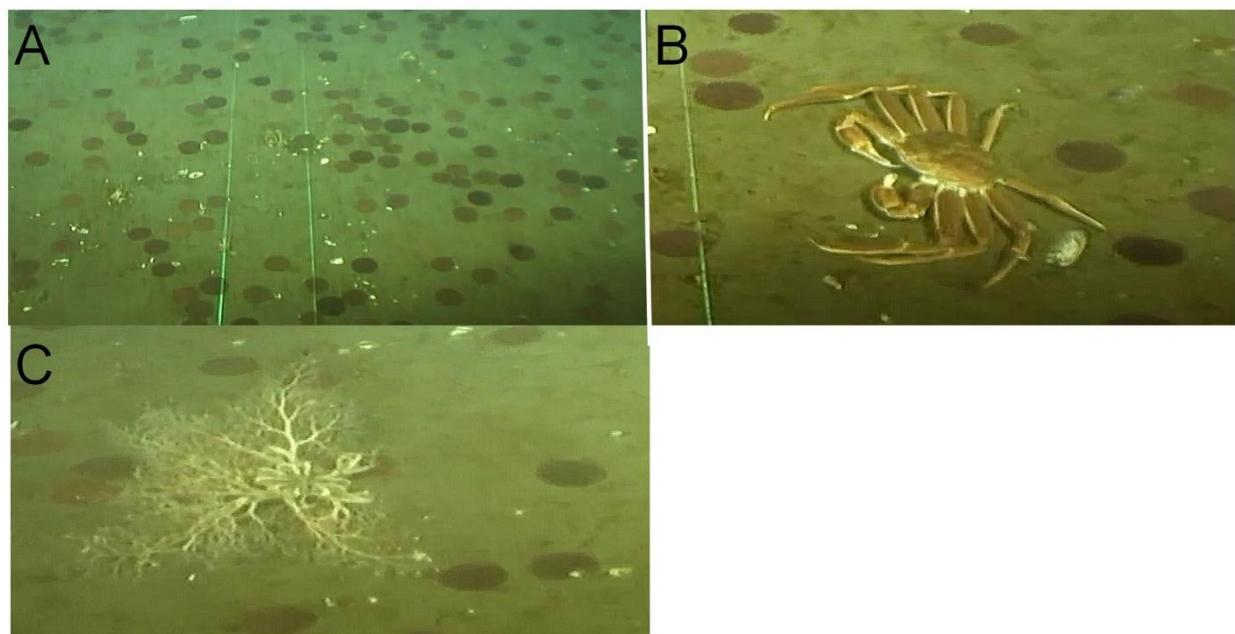


Figure 3-12 Representative images of invertebrate groups: A) echinoderms (sand dollars), B) arthropod (snow crab), and C) echinoderm (basketstar). Green scaling-lasers are 20 cm apart.

4 SUMMARY AND CONCLUSIONS

The C-NLOPB guidance (presented in Section 1.3) indicates that drilling activities shall not occur within 100 m of coral colonies defined as either:

- The presence of *Desmophyllum pertusum* reef complex and/or,
- The presence of five or more large corals (above 30 cm in height or width) within 100 m² area.

As stated in the anchor pattern determination report, there were no reef-forming hard corals (*Desmophyllum pertusum*) or aggregations of corals or sponges (5 or more individuals over 30 cm in measurements within 100 m² area) observed anywhere in the Gale N-66 survey area (Grid and Anchor).

Corals from the “Other” functional group (soft corals) were the only corals observed in the study area. There were three sponge morphological groups observed in the area including solid/massive, thin-walled, and “Other.” Over 99 percent of corals and 21 percent of sponges observed were considered to be in “Good” condition.

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APPENDIX

A PRE-DRILLING
 VIDEO
 OBSERVATION DATA

APPENDIX

Table A-1 Taxa Abundances for Anchor 1 transects (all sections)

APPENDIX

Table A-2 Taxa Abundances for Anchor 2 transects (all sections)

APPENDIX

Table A-3 Taxa Abundances for Anchor 3 transects (all sections)

APPENDIX

Table A-4 Taxa Abundances for Anchor 4 transects (all sections)

APPENDIX

Table A-5 Taxa Abundances for Anchor 5 transects (all sections)

APPENDIX

Table A-6 Taxa Abundances for Anchor 6 transects (all sections)

Wellsite	Date	Line	Section	Time Start	Time End	Easting_m_-	Northing_m_-	Easting_m_-	Northing_m_-	Depth (m)	Length	FOV	Area	Bedrock	Coarse	Medium	Fine	Organic Detritus	Shell	Good	Damaged	Dead	Good	Sediment Vener	Covered	Sea Urchins	Sea Stars	Brittle Star	Basket Stars	Sea Cucumbers	Sand Dollar	Sea Anemones	Jellyfish	Hydroids	Ctenophores	Shrimp	Crab	Bivalves	Scallop	Gastropods	Cephalopods	Soft Corals	Solid / Massive	Leaf / Vase Shaped	Round with Projections	Thin-Walled, Complex	Other	Skates	Flatfish	Gadid	Epibiont	Sculpin	Oceanic out	Offshore (juveniles, unknowns)	Unknown/other/debris	Unkn 1	Unkn 2	Unkn 3	Unkn 4	Unkn 5	Unkn 6	Unkn 7	Unkn 8	Unkn 9	Unkn 10	Unkn 11	Unkn 12	Unkn 13	Unkn 14	Unkn 15	Unkn 16	Unkn 17	Unkn 18	Unkn 19	Unkn 20	Unkn 21	Unkn 22	Unkn 23	Unkn 24	Unkn 25	Unkn 26	Unkn 27	Unkn 28	Unkn 29	Unkn 30	Unkn 31	Unkn 32	Unkn 33	Unkn 34	Unkn 35	Unkn 36	Unkn 37	Unkn 38	Unkn 39	Unkn 40	Unkn 41	Unkn 42	Unkn 43	Unkn 44	Unkn 45	Unkn 46	Unkn 47	Unkn 48	Unkn 49	Unkn 50	Unkn 51	Unkn 52	Unkn 53	Unkn 54	Unkn 55	Unkn 56	Unkn 57	Unkn 58	Unkn 59	Unkn 60	Unkn 61	Unkn 62	Unkn 63	Unkn 64	Unkn 65	Unkn 66	Unkn 67	Unkn 68	Unkn 69	Unkn 70	Unkn 71	Unkn 72	Unkn 73	Unkn 74	Unkn 75	Unkn 76	Unkn 77	Unkn 78	Unkn 79	Unkn 80	Unkn 81	Unkn 82	Unkn 83	Unkn 84	Unkn 85	Unkn 86	Unkn 87	Unkn 88	Unkn 89	Unkn 90	Unkn 91	Unkn 92	Unkn 93	Unkn 94	Unkn 95	Unkn 96	Unkn 97	Unkn 98	Unkn 99	Unkn 100	Unkn 101	Unkn 102	Unkn 103	Unkn 104	Unkn 105	Unkn 106	Unkn 107	Unkn 108	Unkn 109	Unkn 110	Unkn 111	Unkn 112	Unkn 113	Unkn 114	Unkn 115	Unkn 116	Unkn 117	Unkn 118	Unkn 119	Unkn 120	Unkn 121	Unkn 122	Unkn 123	Unkn 124	Unkn 125	Unkn 126	Unkn 127	Unkn 128	Unkn 129	Unkn 130	Unkn 131	Unkn 132	Unkn 133	Unkn 134	Unkn 135	Unkn 136	Unkn 137	Unkn 138	Unkn 139	Unkn 140	Unkn 141	Unkn 142	Unkn 143	Unkn 144	Unkn 145	Unkn 146	Unkn 147	Unkn 148	Unkn 149	Unkn 150	Unkn 151	Unkn 152	Unkn 153	Unkn 154	Unkn 155	Unkn 156	Unkn 157	Unkn 158	Unkn 159	Unkn 160	Unkn 161	Unkn 162	Unkn 163	Unkn 164	Unkn 165	Unkn 166	Unkn 167	Unkn 168	Unkn 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APPENDIX

Table A-7 Taxa Abundances for Anchor 7 transects (all sections)

APPENDIX

Table A-8 Taxa Abundances for Anchor 8 transects (all sections)

APPENDIX

B

INVERTEBRATE AND
FISH DENSITY MAPS

APPENDIX

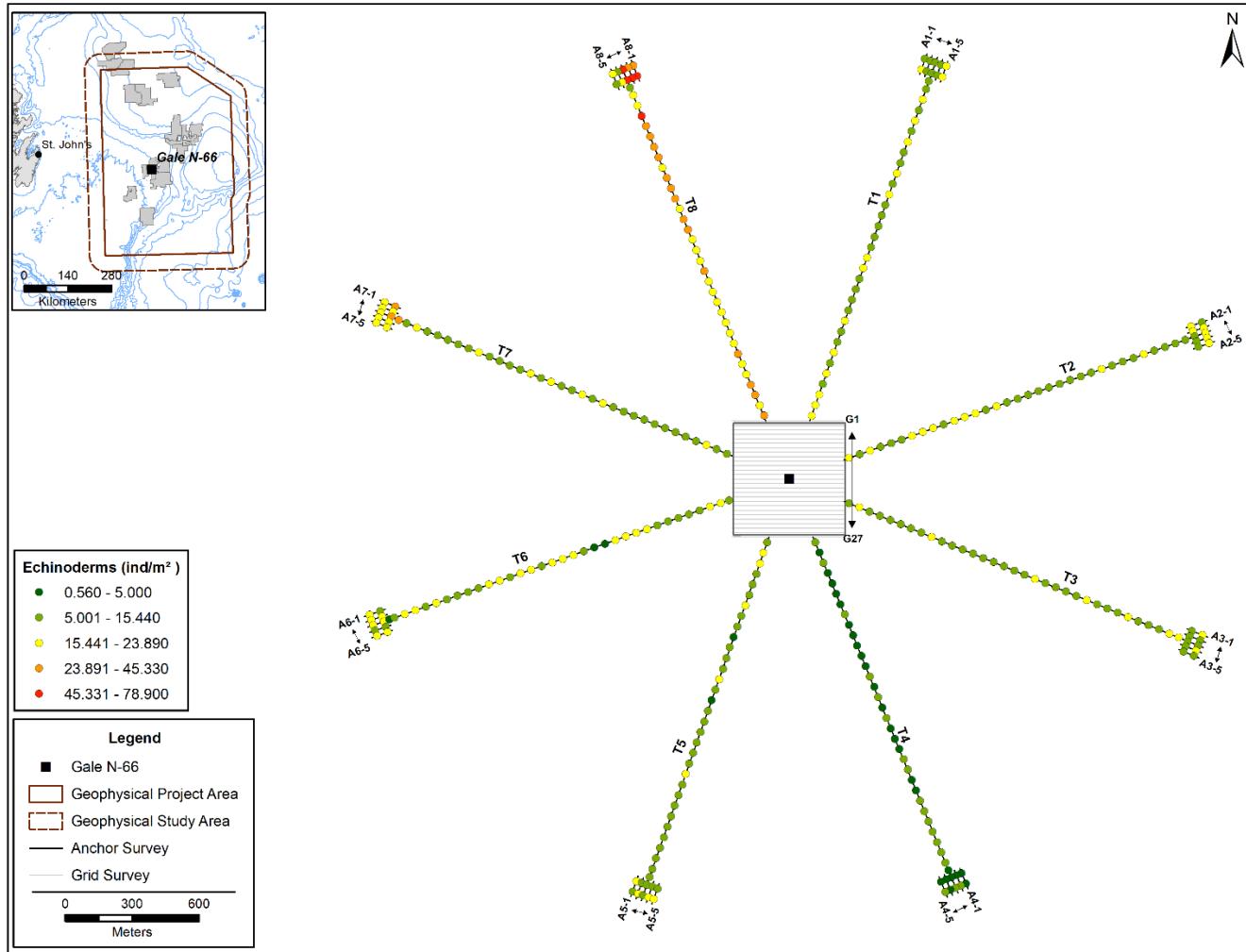


Figure B-1 Distribution of echinoderm densities (ind./m²) observed in the Gale N-66 anchor pattern survey.

APPENDIX

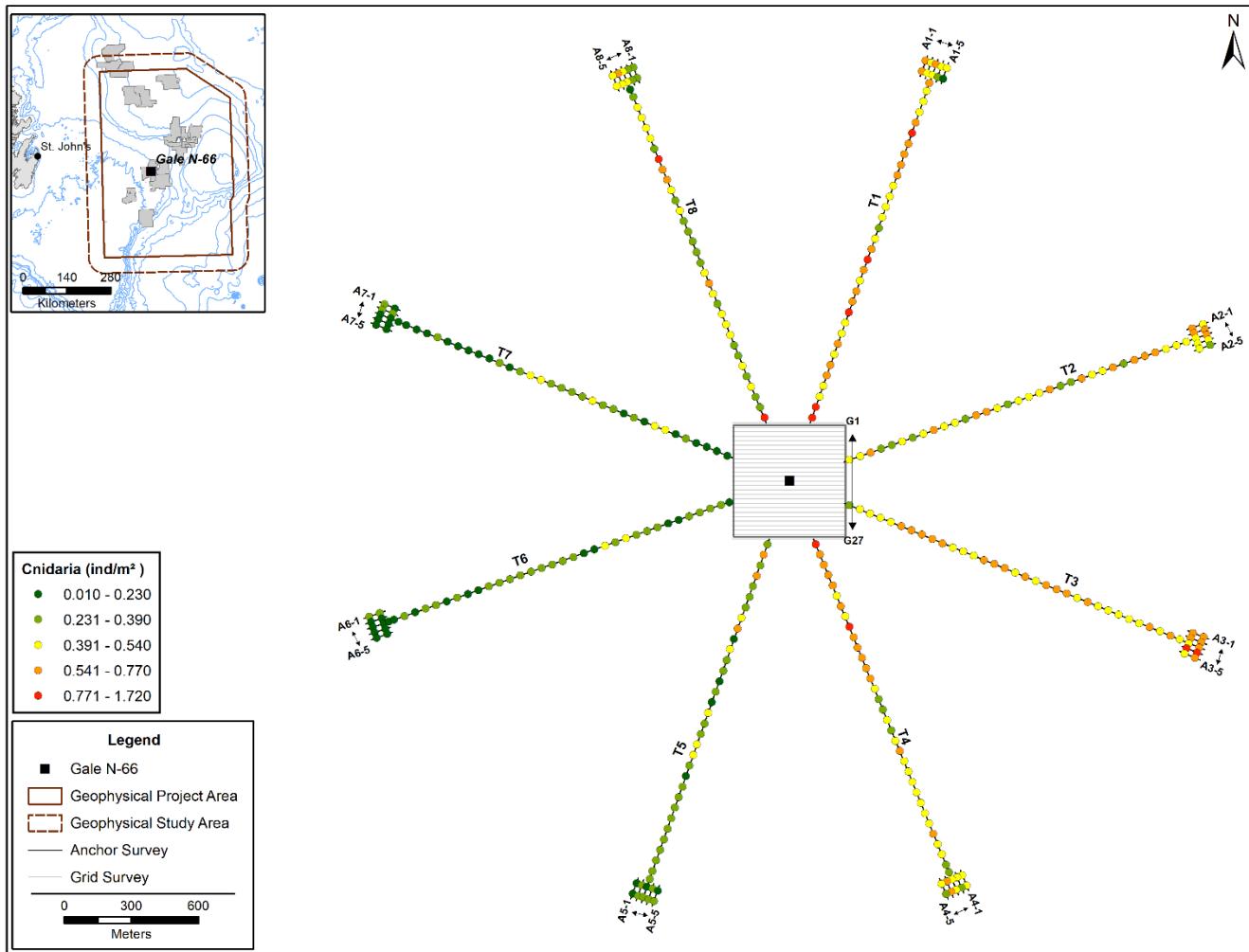


Figure B-2 Distribution of cnidarians (other than corals) densities (ind./m²) observed in the Gale N-66 anchor pattern survey.

APPENDIX

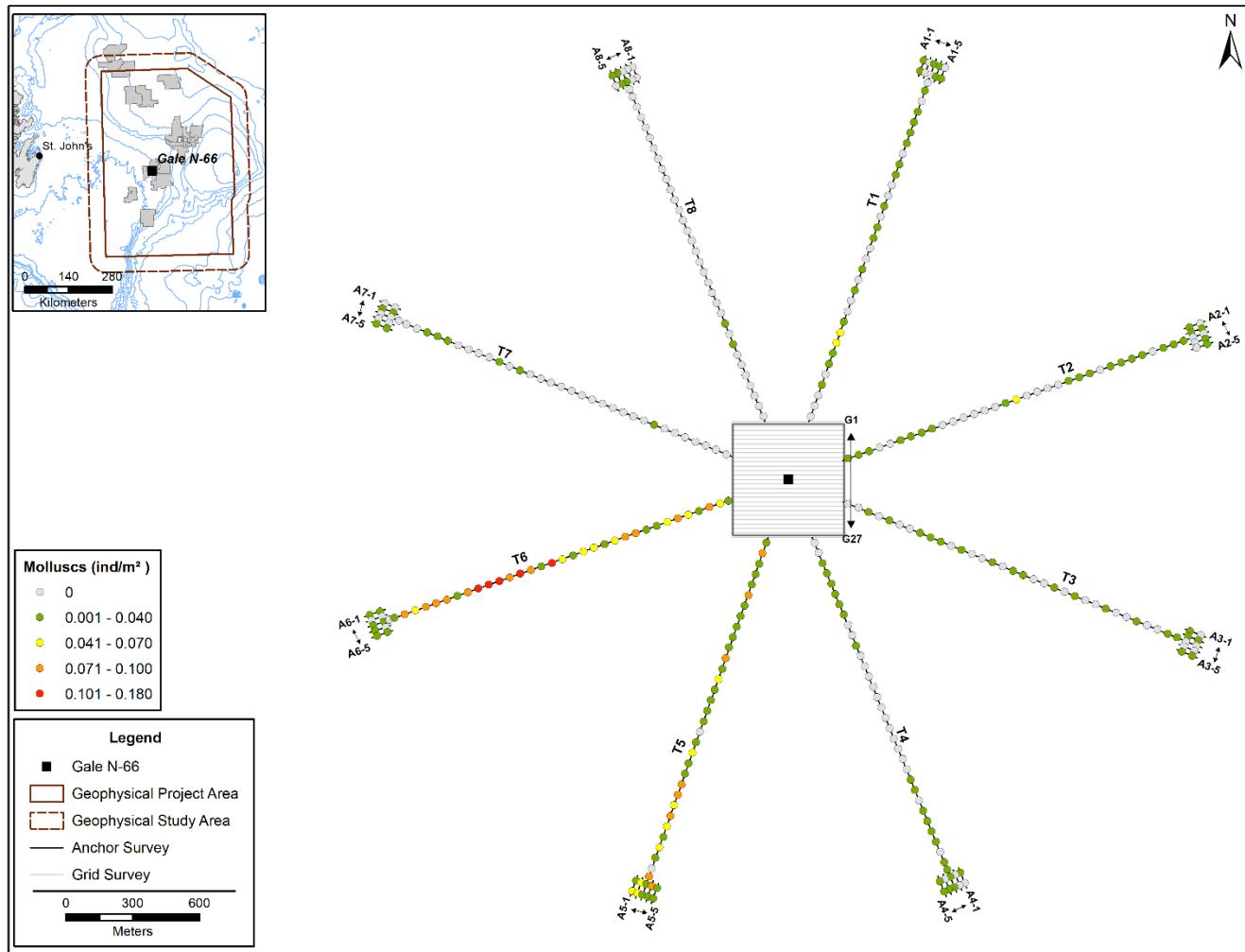


Figure B-3 Distribution of mollusc densities (ind./m²) observed in the Gale N-66 anchor pattern survey.

APPENDIX

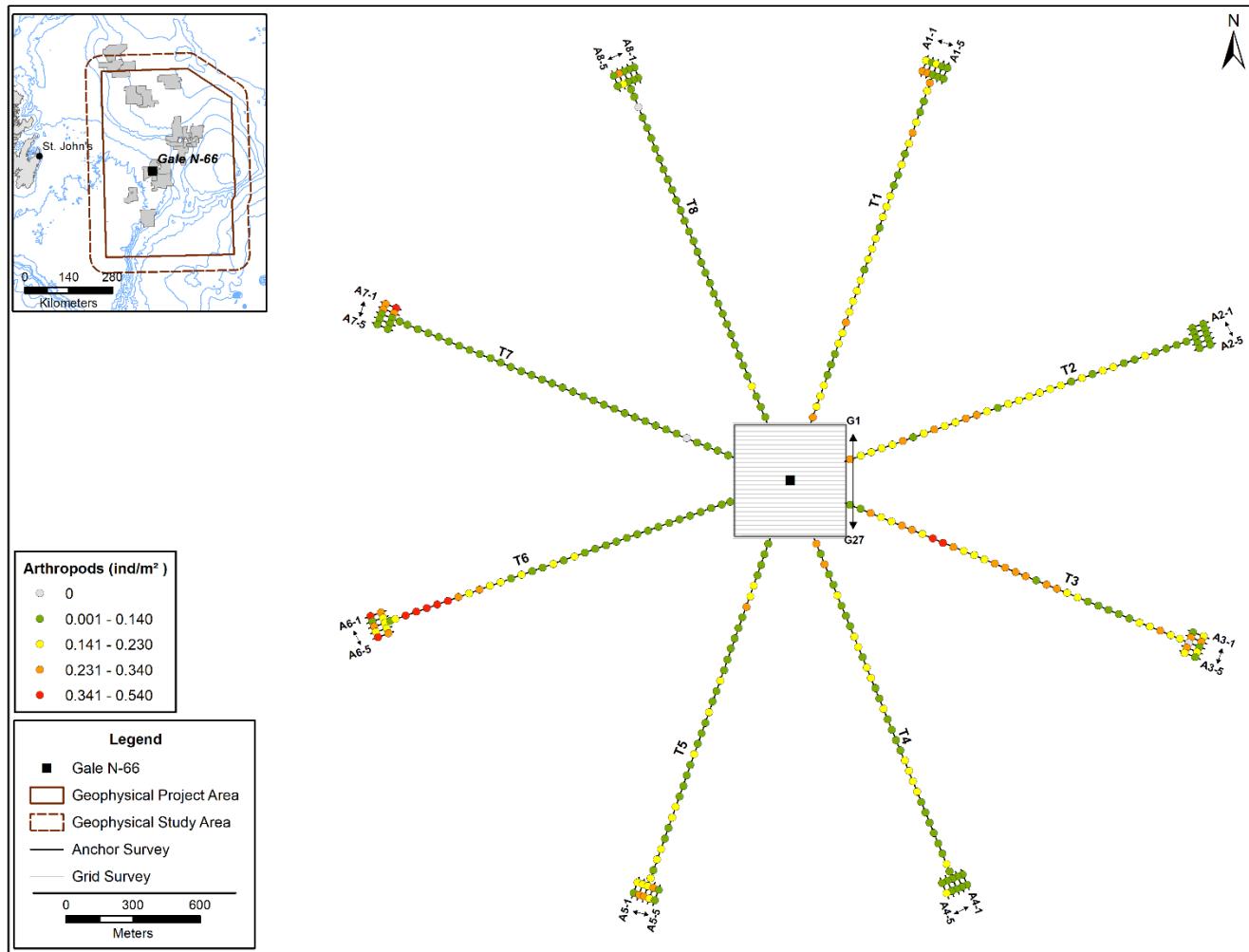


Figure B-4 Distribution of arthropod densities (ind./m²) observed in the Gale N-66 anchor pattern survey.

APPENDIX

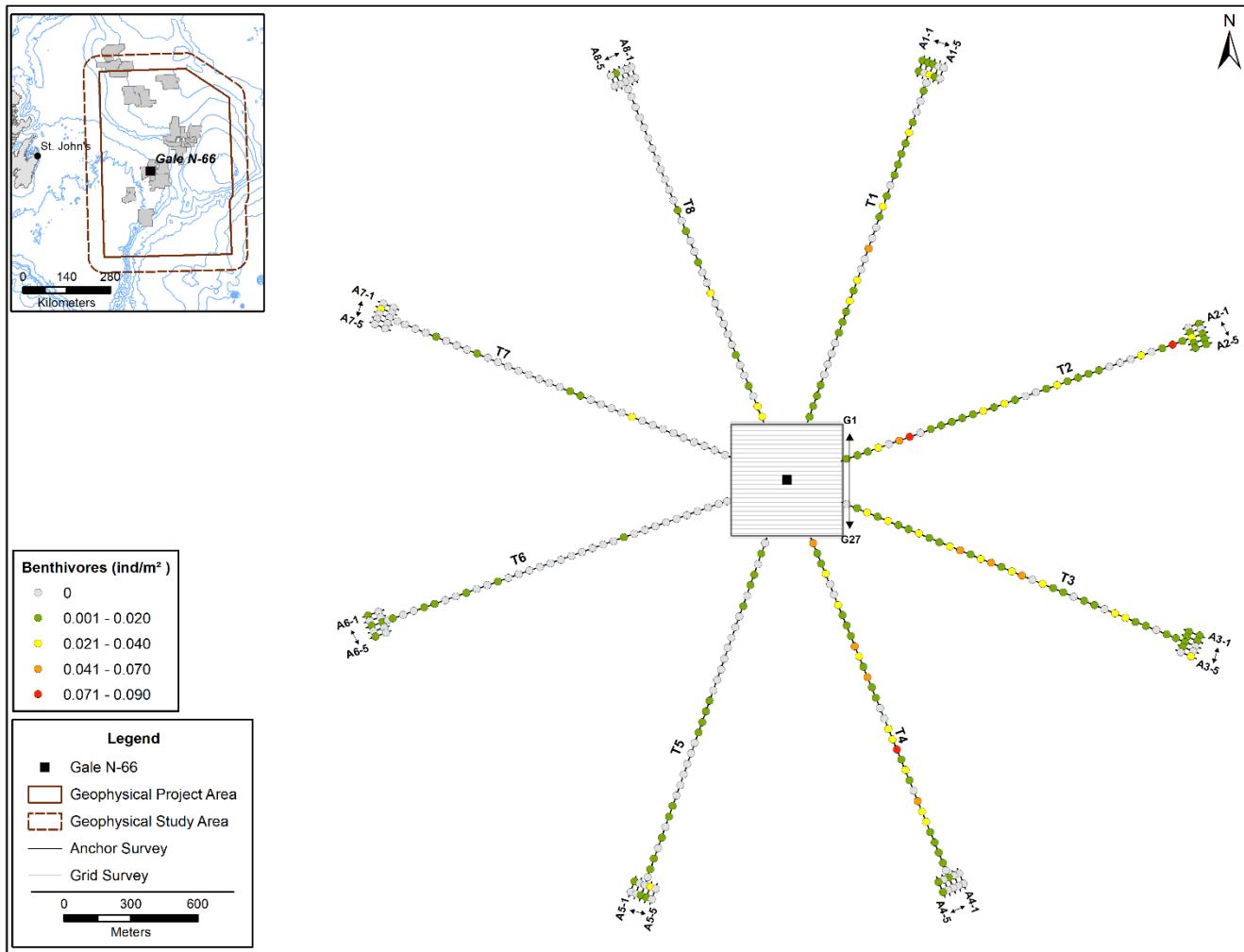


Figure B-5 Distribution of benthivore densities (ind/m^2) observed in the Gale N-66 anchor pattern survey.

APPENDIX

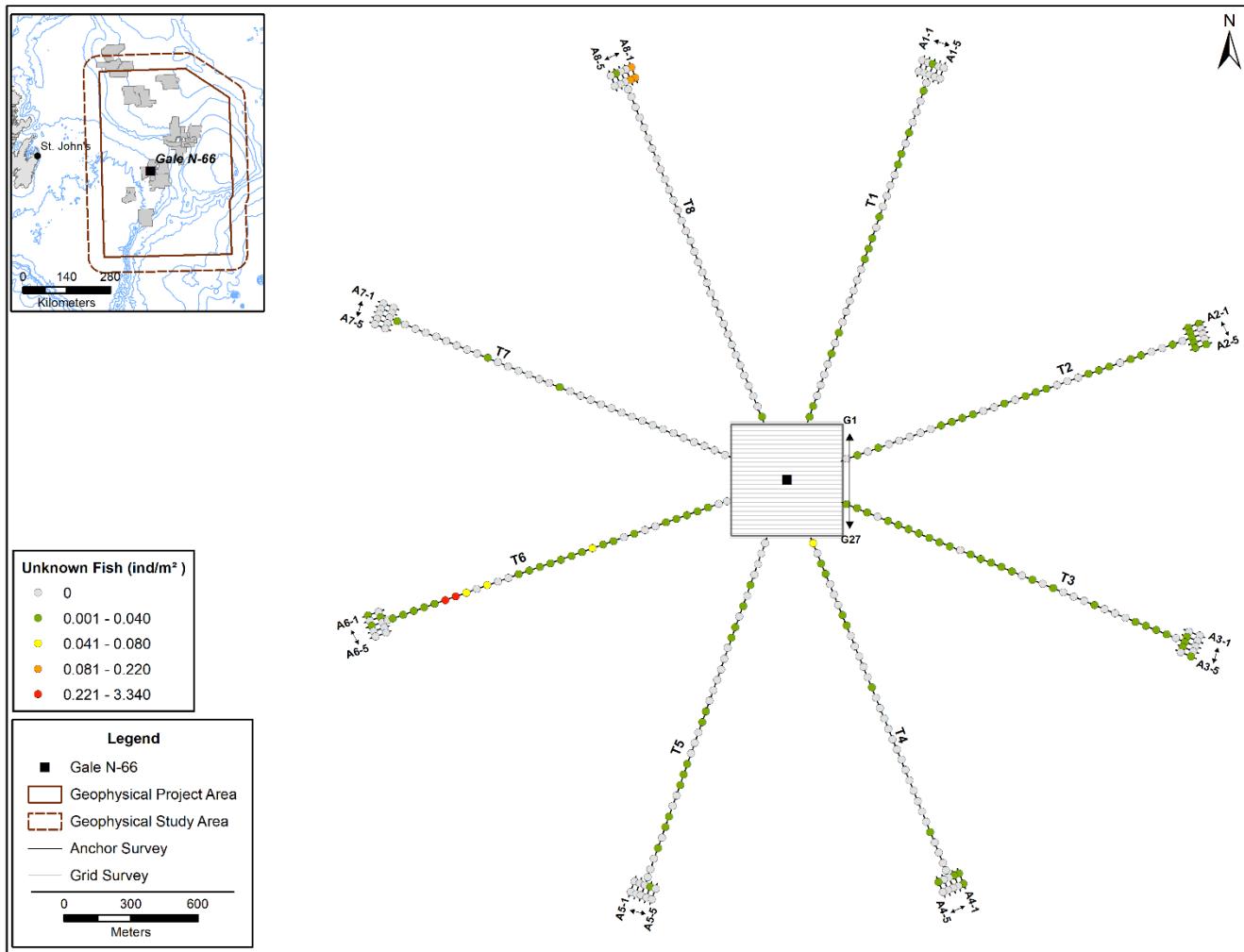


Figure B-6 Distribution of unknown fish densities (ind./m²) observed in the Gale N-66 anchor pattern survey.