

## NOTICE TO MARINERS

### Firefly Offshore Wind Farm Marine Survey

Date of Issue	24. June, 2022
Notice to Mariner Number	Firefly-S-04

### Marine Survey Information

Location Description	Firefly offshore wind farm and export cable corridor
Work Location	Details in table below
Work Scopes	Underwater noise, Seabird & Marine mammal, Marine physics Sea water and sediment, Marine ecosystem
Estimated Start Date	July 01, 2022
Estimated End Date	July 31, 2022

### <Detail Schedule>

Date	Survey
07/01~04, 07/13~15. July. 2022	Marine physics
07/05~12. July. 2022	Marine ecosystem, Sea water and sediment
07/21~24. July. 2022	Seabird and Marine mammal
07/27~31. July. 2022	Underwater noise

### Description of Hazard/Operation

The survey vessel M/V Dolphin Wind will undertake Seabird & Marine mammal Survey works along with the Firefly offshore wind farm areas and export cable route in Ulsan offshore and coastal areas.

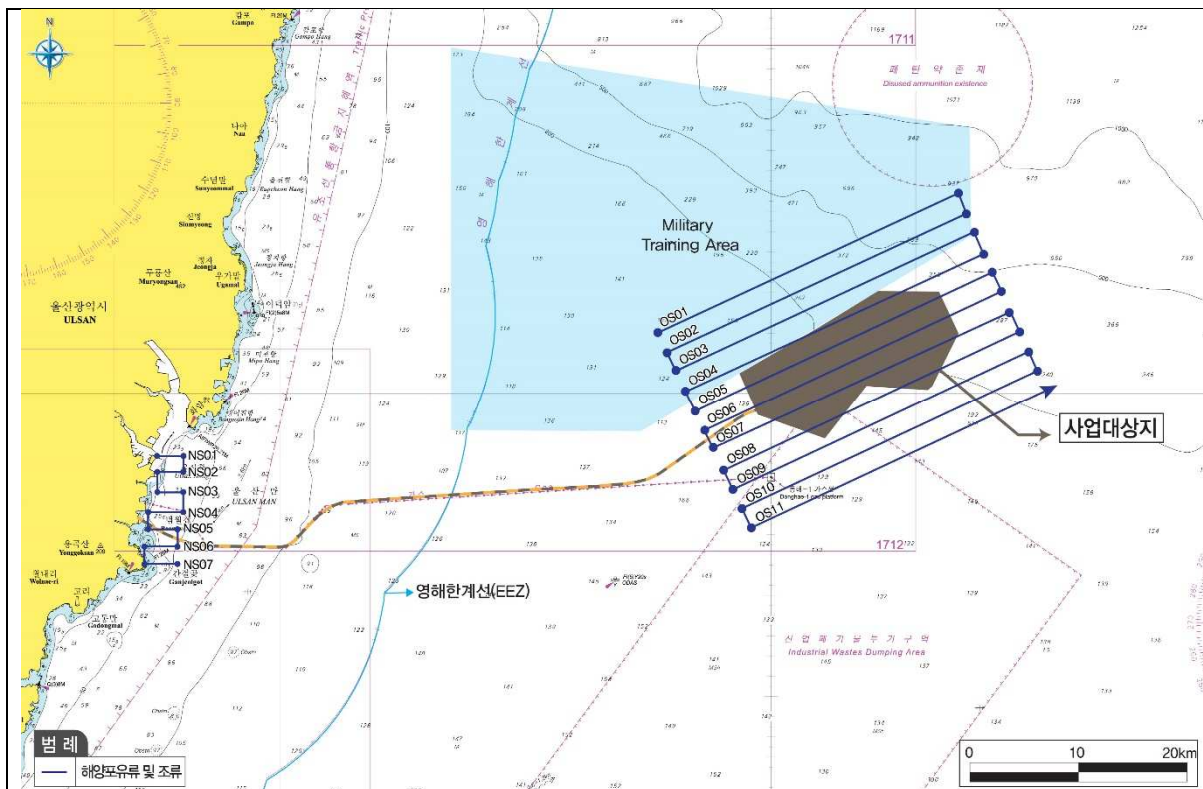
During the operations, the vessel will be restricted in its ability to maneuver and will display the appropriate day shapes and lights. Vessels sailing around the area need to keep safety distance (at least 500m) from the Marine Survey vessel and slow down to minimise the disturbance in sailing.

### Contact Details

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Marine survey Coordination	Jongjin beek - Sekwang Engineering Consultants Co., LTD. <a href="mailto:joyhymn@empas.com">joyhymn@empas.com</a> / Mobile: +82-(0)10-3686-8431

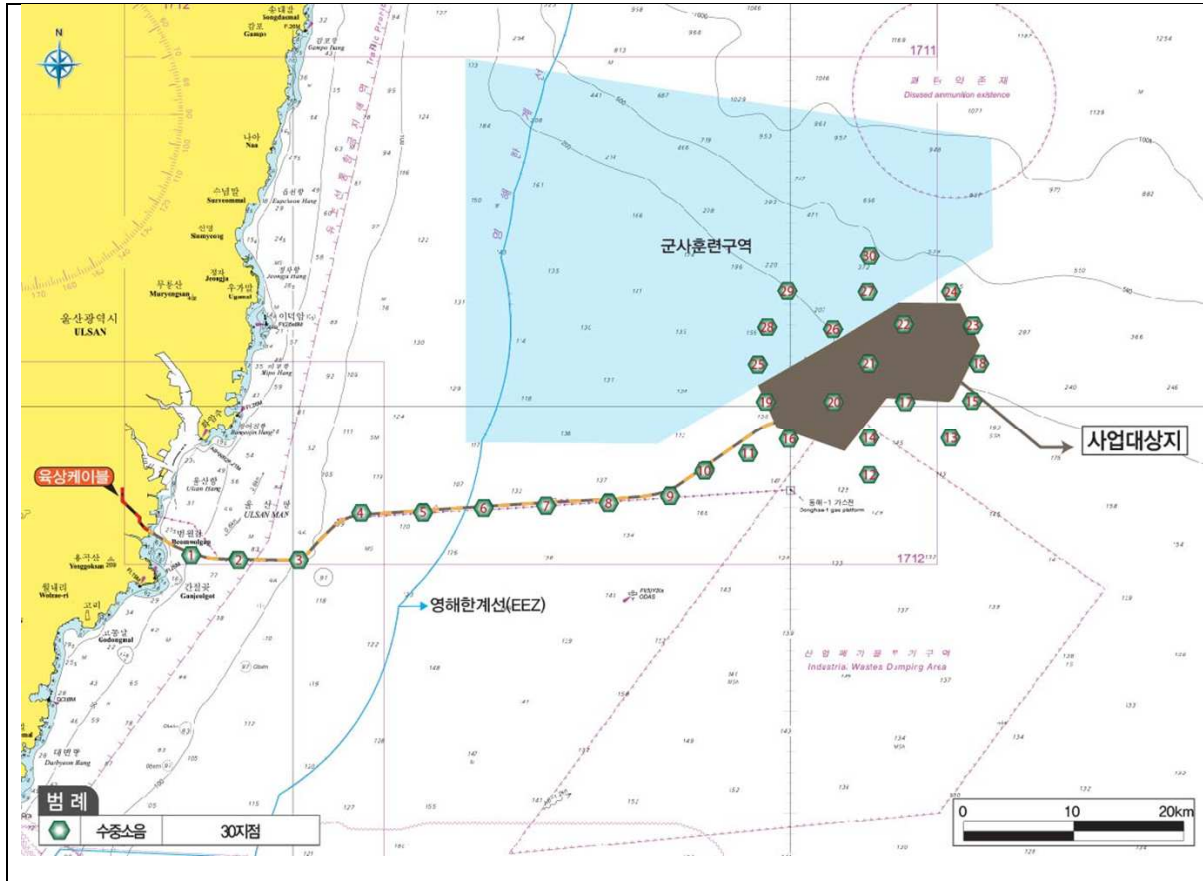
Supporting Information

Vessel Name: M/V Dolphin Wind	Vessel Contact Details	
	Call Sign	D7XA
	MMSI	441419000
	IMO	9776353
	VHF Ch.	16
	Sat. Tel.	+881-6326-77854
	Vessel Details	
	Length	35.53 m
	Breadth	10.0m
	Draft	4.0m
	Gross Tonnage	293ton
Year Built	2017	
Other Information		
Marine survey vessel		



Map of marine survey points (Seabird and Marine mammal)

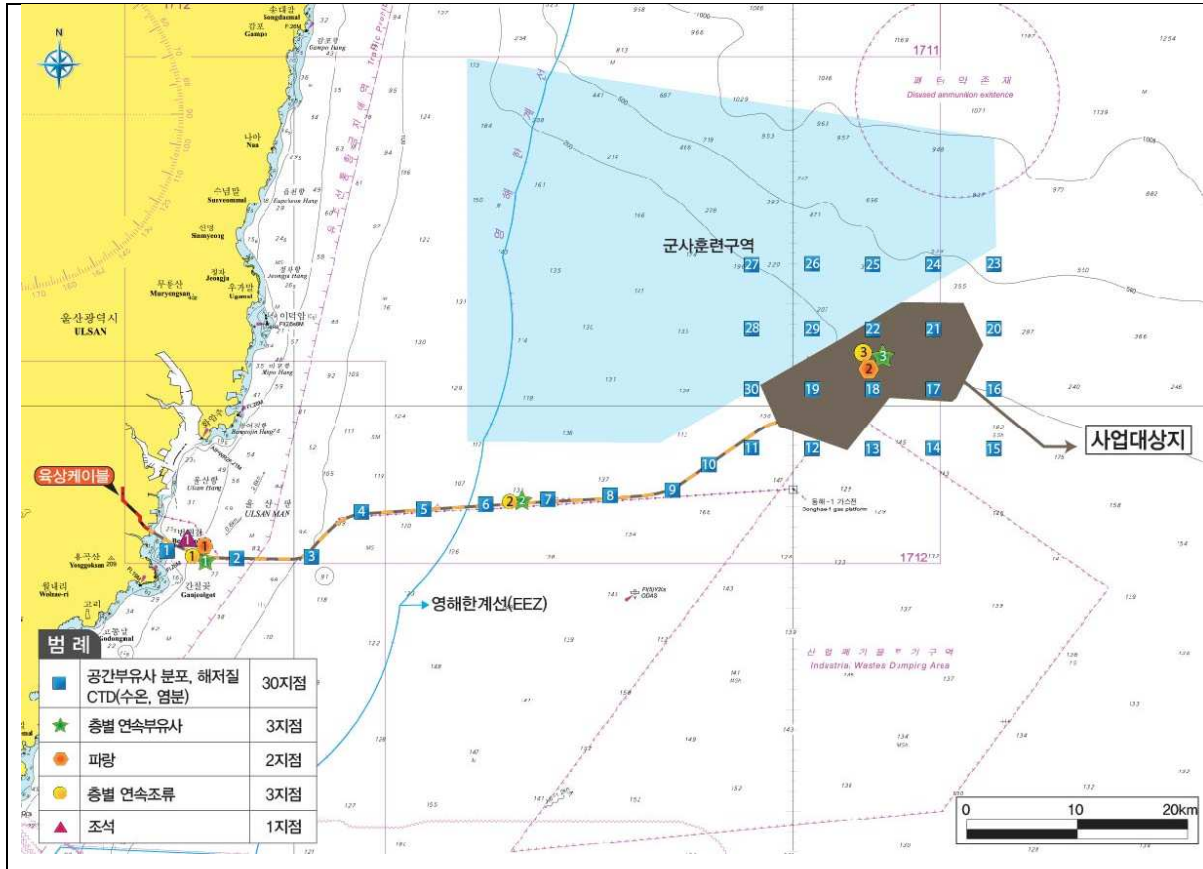
Category		Location	Coordinates	
			Latitude	Longitude
NS01	Start	Nearshore transect	35°26'52.02"N	129°22'26.75"E
NS01	End	Nearshore transect	35°26'49.66"N	129°24'4.96"E
NS02	Start	Nearshore transect	35°26'3.25"N	129°22'26.56"E
NS02	End	Nearshore transect	35°26'4.00"N	129°24'4.47"E
NS03	Start	Nearshore transect	35°25'2.15"N	129°22'26.75"E
NS03	End	Nearshore transect	35°25'2.39"N	129°24'4.11"E
NS04	Start	Nearshore transect	35°24'2.61"N	129°21'52.58"E
NS04	End	Nearshore transect	35°24'3.36"N	129°24'3.96"E
NS05	Start	Nearshore transect	35°23'11.69"N	129°21'53.52"E
NS05	End	Nearshore transect	35°23'10.98"N	129°23'41.90"E
NS06	Start	Nearshore transect	35°22'20.25"N	129°21'38.86"E
NS06	End	Nearshore transect	35°22'20.31"N	129°23'42.75"E
NS07	Start	Nearshore transect	35°21'28.76"N	129°21'40.84"E
NS07	End	Nearshore transect	35°21'28.82"N	129°23'42.06"E
OS01	Start	Offshore transect	35°32'57.58 "N	129°52'59.14 "E
OS01	End	Offshore transect	35°39'45.00 "N	130°11'21.36 "E
OS02	Start	Offshore transect	35°31'57.54 "N	129°53'32.31 "E
OS02	End	Offshore transect	35°38'45.99 "N	130°11'51.53 "E
OS03	Start	Offshore transect	35°31'8.92 "N	129°54'6.50 "E
OS03	End	Offshore transect	35°37'53.58 "N	130°12'19.69 "E
OS04	Start	Offshore transect	35°30'6.97 "N	129°54'40.19 "E
OS04	End	Offshore transect	35°36'48.21 "N	130°12'54.65 "E
OS05	Start	Offshore transect	35°29'9.19 "N	129°55'16.46 "E
OS05	End	Offshore transect	35°35'55.57 "N	130°13'23.61 "E
OS06	Start	Offshore transect	35°28'11.75 "N	129°55'51.03 "E
OS06	End	Offshore transect	35°34'59.62 "N	130°13'59.15 "E
OS07	Start	Offshore transect	35°27'20.14 "N	129°56'22.68 "E
OS07	End	Offshore transect	35°33'56.07 "N	130°14'28.22 "E
OS08	Start	Offshore transect	35°26'11.65 "N	129°57'0.81 "E
OS08	End	Offshore transect	35°33'0.97 "N	130°15'6.52 "E
OS09	Start	Offshore transect	35°25'18.04 "N	129°57'35.11 "E
OS09	End	Offshore transect	35°32'0.66 "N	130°15'40.44 "E
OS10	Start	Offshore transect	35°24'21.68 "N	129°58'7.27 "E
OS10	End	Offshore transect	35°31'5.73 "N	130°16'10.61 "E
OS11	Start	Offshore transect	35°23'25.45 "N	129°58'41.45 "E
OS11	End	Offshore transect	35°30'8.60 "N	130°16'45.77 "E



Map of marine survey points (Underwater noise)

Category	Survey Point	Survey Point		Remarks
		N	E	
Undrewater noise	St-1	35° 22.559'N	129° 23.948'E	Nearshore transect
	St-2	35° 22.367'N	129° 26.701'E	Nearshore transect
	St-3	35° 22.384'N	129° 30.403'E	Nearshore transect
	St-4	35° 24.574'N	129° 34.146'E	Nearshore transect
	St-5	35° 24.746'N	129° 37.876'E	Nearshore transect
	St-6	35° 24.932'N	129° 41.596'E	Nearshore transect
	St-7	35° 25.101'N	129° 45.329'E	Offshore transect
	St-8	35° 25.283'N	129° 49.057'E	Offshore transect
	St-9	35° 25.614'N	129° 52.800'E	Offshore transect
	St-10	35° 26.877'N	129° 54.983'E	Offshore transect
	St-11	35° 27.673'N	129° 57.544'E	Offshore transect

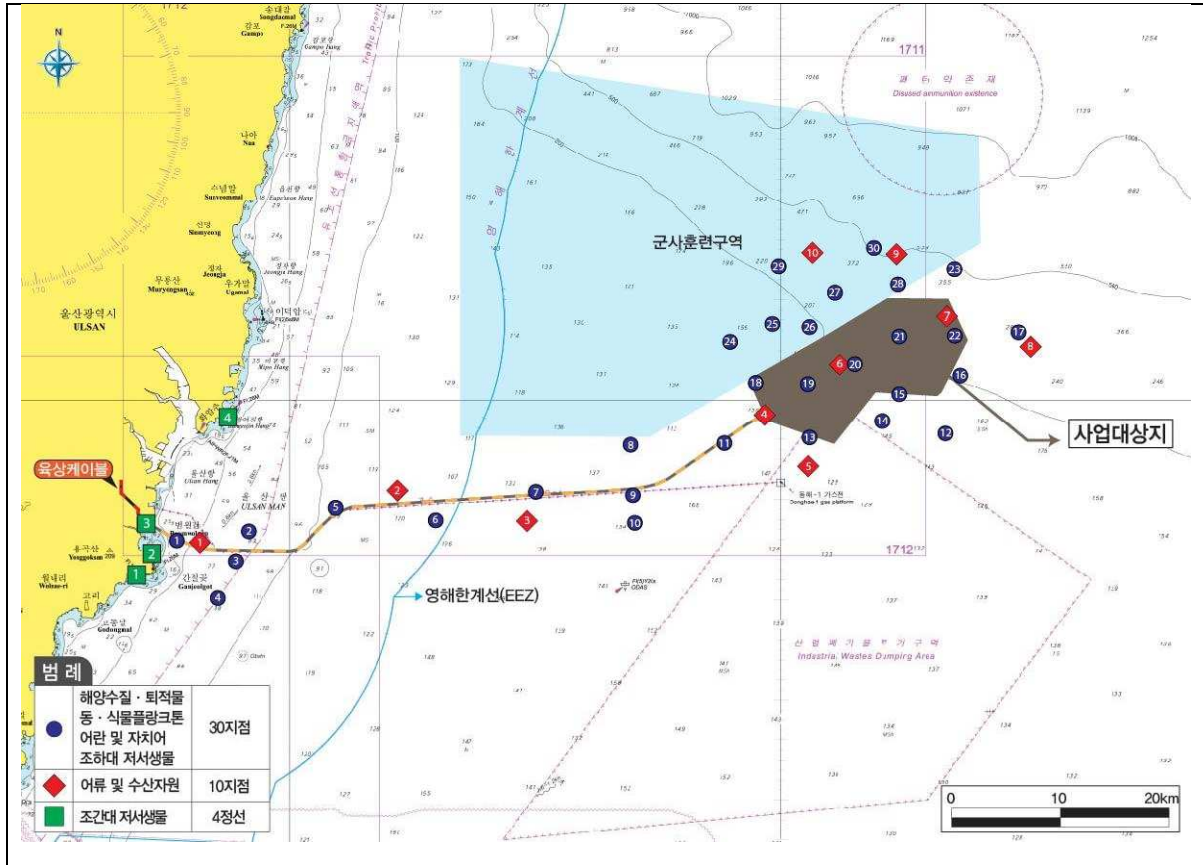
St-12	35° 26.611'N	130° 4.856'E	Offshore transect
St-13	35° 28.422'N	130° 9.731'E	Offshore transect
St-14	35° 28.422'N	130° 4.853'E	Offshore transect
St-15	35° 30.234'N	130° 11.045'E	Offshore transect
St-16	35° 28.422'N	129° 59.994'E	Offshore transect
St-17	35° 30.234'N	130° 6.927'E	Offshore transect
St-18	35° 32.045'N	130° 11.447'E	Offshore transect
St-19	35° 30.234'N	129° 58.673'E	Offshore transect
St-20	35° 30.234'N	130° 2.773'E	Offshore transect
St-21	35° 32.045'N	130° 4.856'E	Offshore transect
St-22	35° 33.817'N	130° 6.927'E	Offshore transect
St-23	35° 33.817'N	130° 11.081'E	Offshore transect
St-24	35° 35.585'N	130° 9.791'E	Offshore transect
St-25	35° 32.045'N	129° 58.253'E	Offshore transect
St-26	35° 33.817'N	130° 2.773'E	Offshore transect
St-27	35° 35.585'N	130° 4.853'E	Offshore transect
St-28	35° 33.817'N	129° 58.619'E	Offshore transect
St-29	35° 35.585'N	129° 59.909'E	Offshore transect
St-30	35° 37.376'N	130° 4.856'E	Offshore transect



Map of marine survey points (Marine physics)

Category		Survey Point		Remarks
		N	E	
Steady SS Continuous Tide	PC-1	35°22' 36.01 "N	129°24' 00.64 "E	Nearshore transect
	PC-2	35°25' 04.73 "N	129°42' 22.56 "E	Offshore transect
	PC-3	35°30' 39.22 "N	130°04' 49.95 "E	Offshore transect
Spatial Distribution	GS-01	35°22' 33.56 "N	129°23' 56.88 "E	Nearshore transect
	GS-02	35°22' 22.03 "N	129°26' 42.60 "E	Nearshore transect
	GS-03	35°22' 23.02 "N	129°30' 24.21 "E	Nearshore transect
	GS-04	35°24' 34.42 "N	129°34' 8.79 "E	Nearshore transect
	GS-05	35°24' 44.77 "N	129°37' 52.59 "E	Nearshore transect
	GS-06	35°24' 55.89 "N	129°41' 35.76 "E	Offshore transect
	GS-07	35°25' 6.80 "N	129°45' 19.74 "E	Offshore transect
	GS-08	35°25' 16.99 "N	129°49' 3.43 "E	Offshore transect
	GS-09	35°25' 36.87 "N	129°52' 47.99 "E	Offshore transect

GS-10	35°26' 52.59 "N	129°54' 58.97 "E	Offshore transect
GS-11	35°27' 40.39 "N	129°57' 32.62 "E	Offshore transect
GS-12	35°27' 37.90 "N	130°1' 10.35 "E	Offshore transect
GS-13	35°27' 34.95 "N	130°4' 48.83 "E	Offshore transect
GS-14	35°27' 36.86 "N	130°8'27.49 "E	Offshore transect
GS-15	35°27' 35.22 "N	130°12'4.14 "E	Offshore transect
GS-16	35°30' 34.18 "N	130°12' 04.58 "E	Offshore transect
GS-17	35°30' 32.33 "N	130°08' 26.35 "E	Offshore transect
GS-18	35°30' 35.50 "N	130°04' 49.75 "E	Offshore transect
GS-19	35°30' 34.46 "N	130°01' 11.17 "E	Offshore transect
GS-20	35°33' 31.80 "N	130°12' 07.39 "E	Offshore transect
GS-21	35°33' 32.10 "N	130°08' 28.78 "E	Offshore transect
GS-22	35°33' 32.50 "N	130°04' 51.47 "E	Offshore transect
GS-23	35°36' 44.71 "N	130°12' 07.66 "E	Offshore transect
GS-24	35°36' 44.19 "N	130°08' 30.49 "E	Offshore transect
GS-25	35°36' 45.31 "N	130°04' 52.97 "E	Offshore transect
GS-26	35°36' 47.83 "N	130°01' 14.69 "E	Offshore transect
GS-27	35°36' 46.58 "N	129°57' 35.75 "E	Offshore transect
GS-28	35°33' 37.10 "N	129°57' 36.05 "E	Offshore transect
GS-29	35°33' 33.98 "N	130°01' 13.72 "E	Offshore transect
GS-30	35°30' 37.52 "N	129°57' 32.96 "E	Offshore transect



Map of marine survey points (Marine ecosystem and Sea water, sediment)

Category		Survey Point		Remarks
		N	E	
Marine ecosystem Sea water and sediment	St-1	35° 22.751'N	129° 23.195'E	Nearshore transect
	St-2	35° 23.387'N	129° 27.550'E	Nearshore transect
	St-3	35° 21.837'N	129° 26.769'E	Nearshore transect
	St-4	35° 20.063'N	129° 25.671'E	Nearshore transect
	St-5	35° 24.456'N	129° 32.910'E	Nearshore transect
	St-6	35° 23.945'N	129° 38.939'E	Nearshore transect
	St-7	35° 25.382'N	129° 45.040'E	Offshore transect
	St-8	35° 27.755'N	129° 51.047'E	Offshore transect
	St-9	35° 25.242'N	129° 51.095'E	Offshore transect
	St-10	35° 23.883'N	129° 51.166'E	Offshore transect
	St-11	35° 27.800'N	129° 56.624'E	Offshore transect
	St-12	35° 28.251'N	130° 10.204'E	Offshore transect



St-13	35° 28.107'N	130° 1.836'E	Offshore transect
St-14	35° 28.869'N	130° 6.345'E	Offshore transect
St-15	35° 30.242'N	130° 7.345'E	Offshore transect
St-16	35° 31.069'N	130° 11.168'E	Offshore transect
St-17	35° 33.340'N	130° 14.727'E	Offshore transect
St-18	35° 30.830'N	129° 58.617'E	Offshore transect
St-19	35° 30.775'N	130° 1.839'E	Offshore transect
St-20	35° 31.966'N	130° 4.307'E	Offshore transect
St-21	35° 33.075'N	130° 7.374'E	Offshore transect
St-22	35° 33.108'N	130° 10.809'E	Offshore transect
St-23	35° 36.474'N	130° 10.861'E	Offshore transect
St-24	35° 32.844'N	129° 57.050'E	Offshore transect
St-25	35° 33.811'N	129° 59.614'E	Offshore transect
St-26	35° 33.576'N	130° 1.885'E	Offshore transect
St-27	35° 35.226'N	130° 3.525'E	Offshore transect
St-28	35° 35.714'N	130° 7.362'E	Offshore transect
St-29	35° 36.661'N	130° 0.020'E	Offshore transect
St-30	35° 37.519'N	130° 5.818'E	Offshore transect