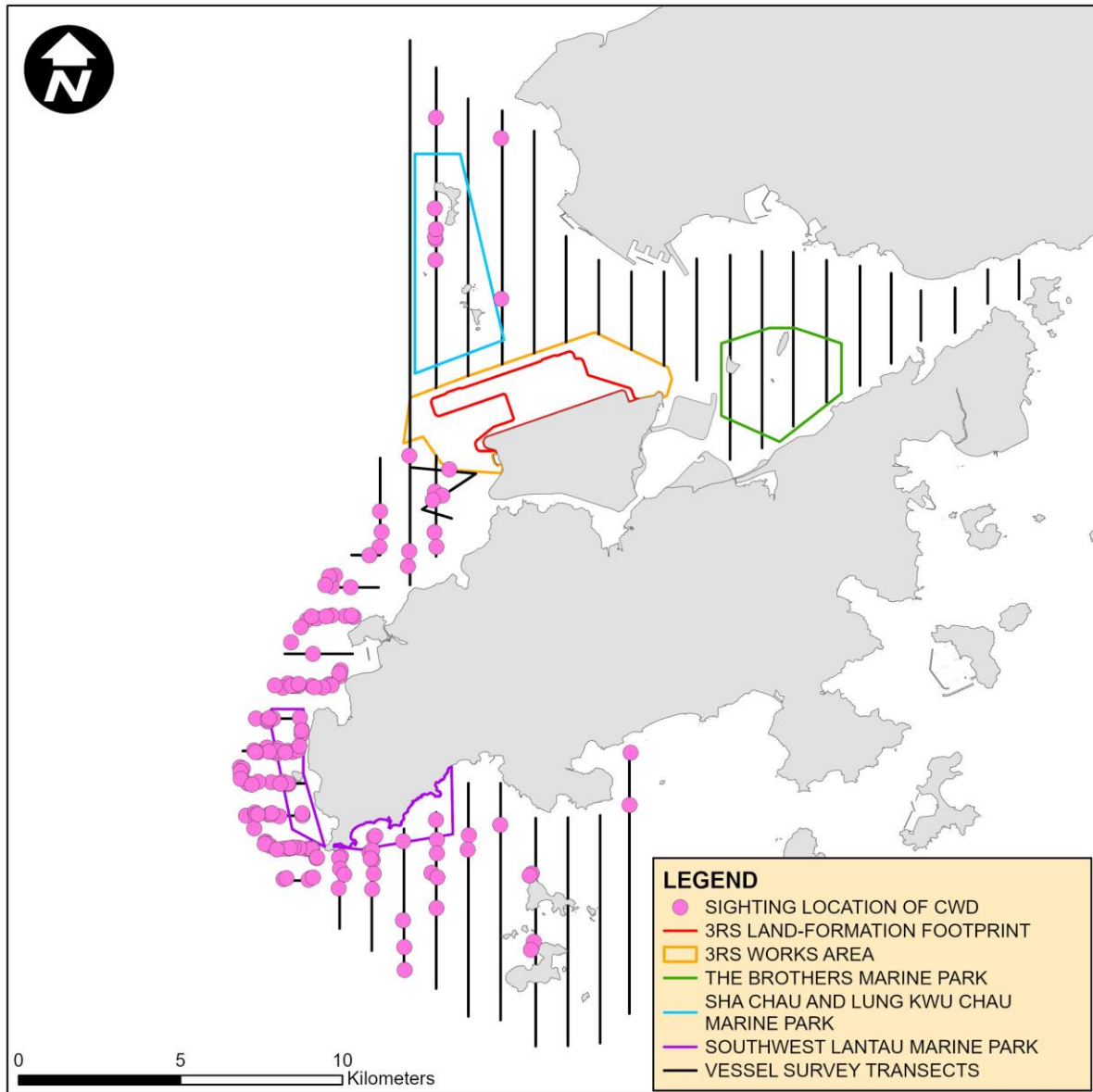


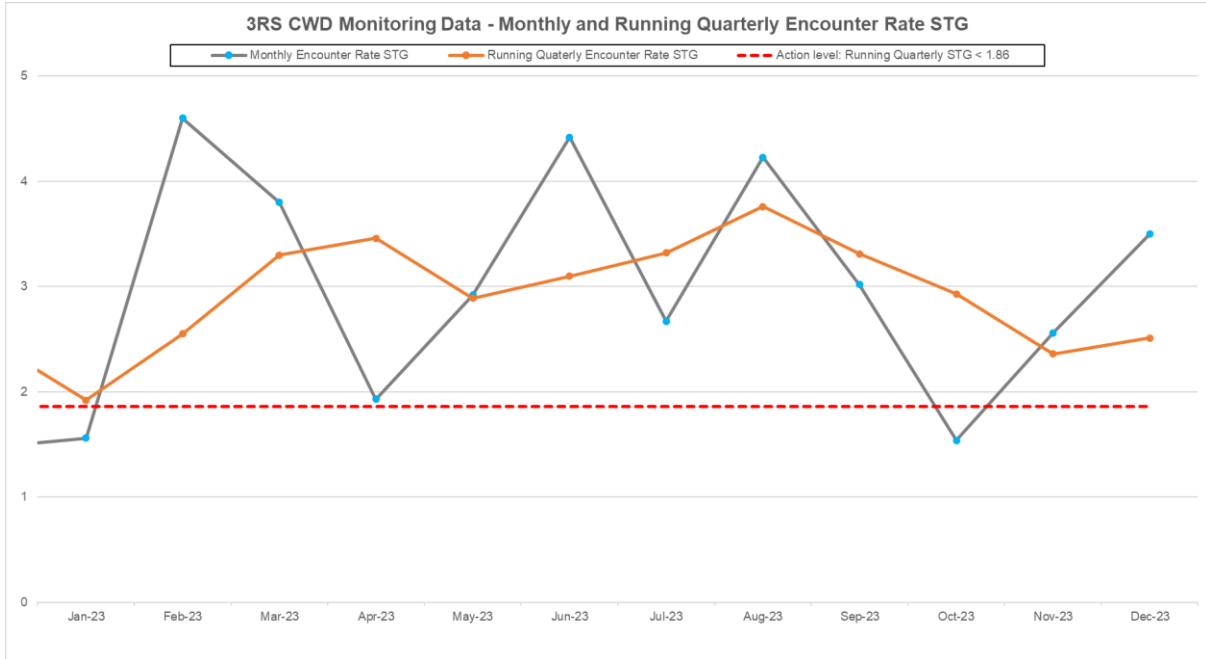
# **Appendix F. Chinese White Dolphin Monitoring Results**

Figure 1: Sightings Distribution of Chinese White Dolphins in 2023

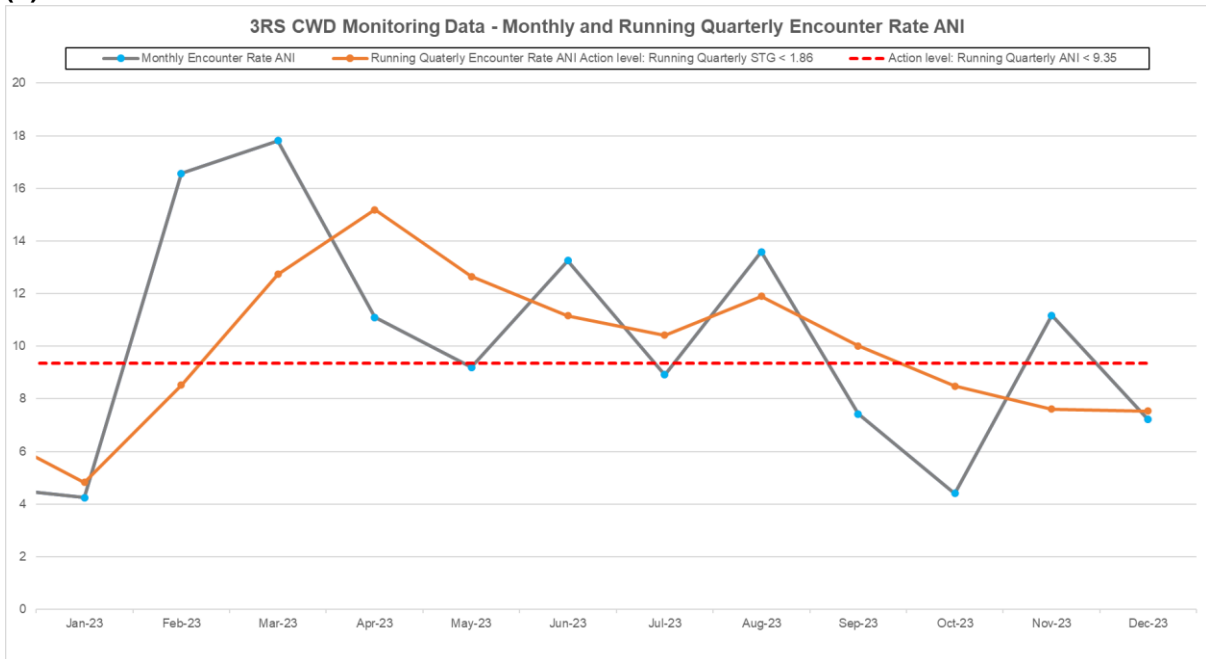


**Figure 2: Graphical Presentation of Monthly and Running Quarterly Encounter Rates in the Reporting Period (January to December 2023)**

**(a) Encounter Rate STG**



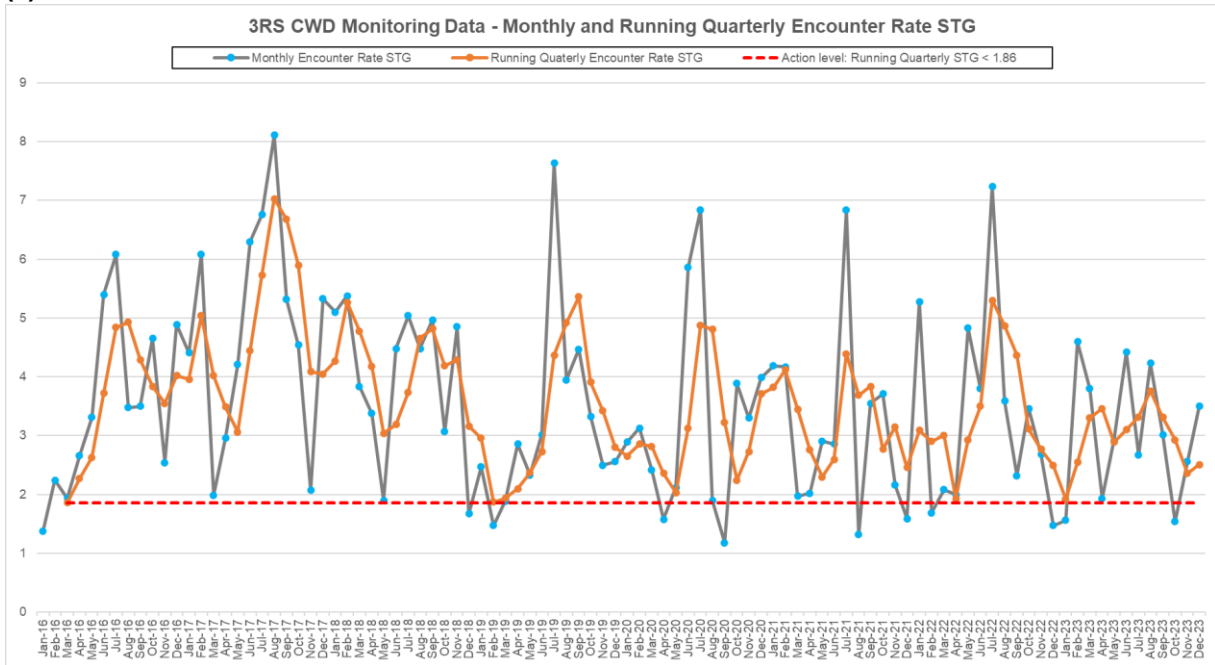
**(b) Encounter Rate ANI**



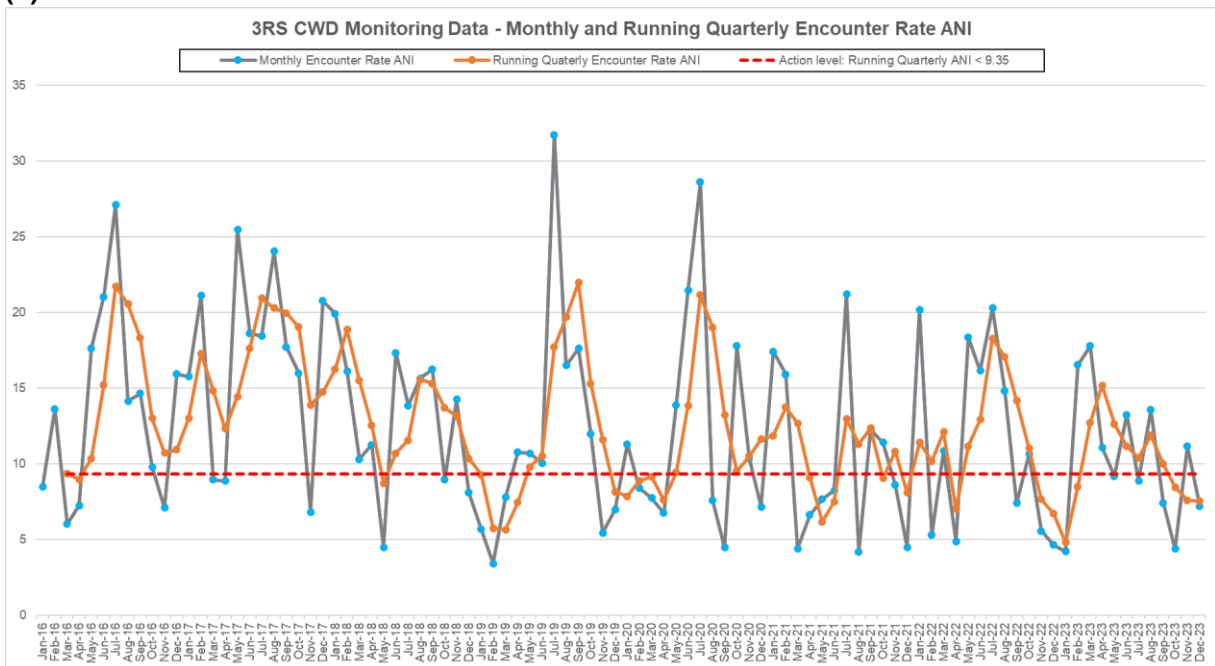
Notes: Limit Level = Two consecutive running quarterly STG < 1.86 & ANI < 9.35.  
 Action Level and/or Limit Level will be triggered if both STG and ANI fall below the criteria.

**Figure 3: Graphical Presentation of Monthly and Running Quarterly Encounter Rates from January 2016 to December 2023**

**(a) Encounter Rate STG**

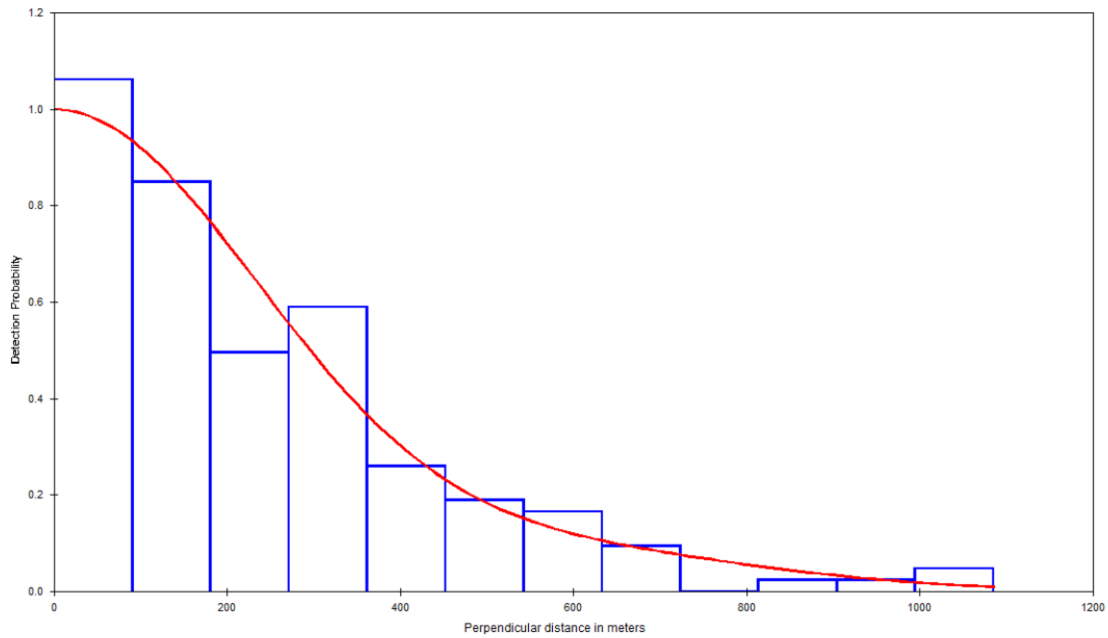


**(b) Encounter Rate ANI**



Notes: Limit Level = Two consecutive running quarterly STG < 1.86 & ANI < 9.35.  
 Action Level and/or Limit Level will be triggered if both STG and ANI fall below the criteria.

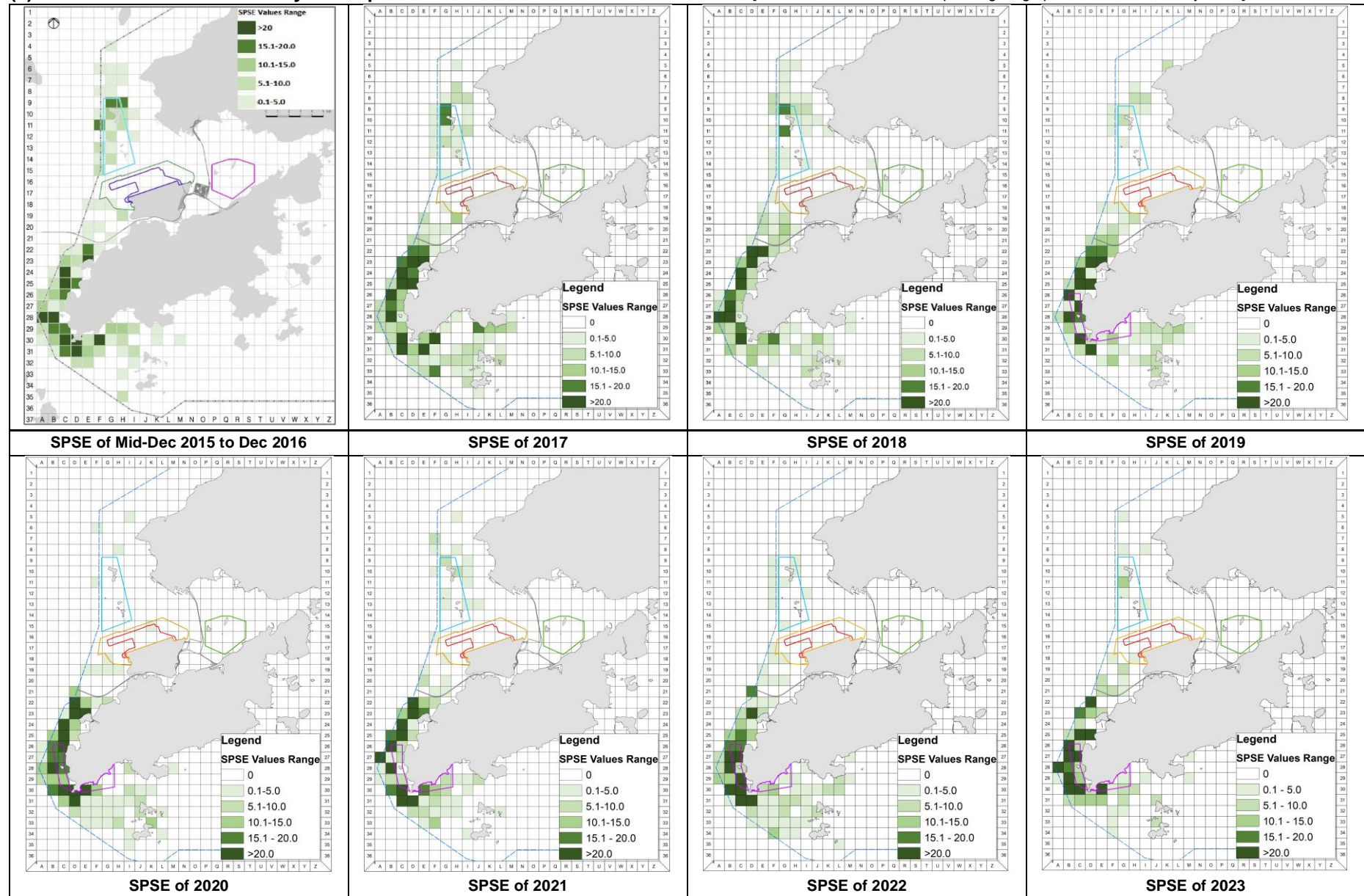
**Figure 4: Fitted Detection Function of the 2023 CWD Sightings, Pooled from All Western Hong Kong Survey Areas (truncation distance = 1,200 m)**



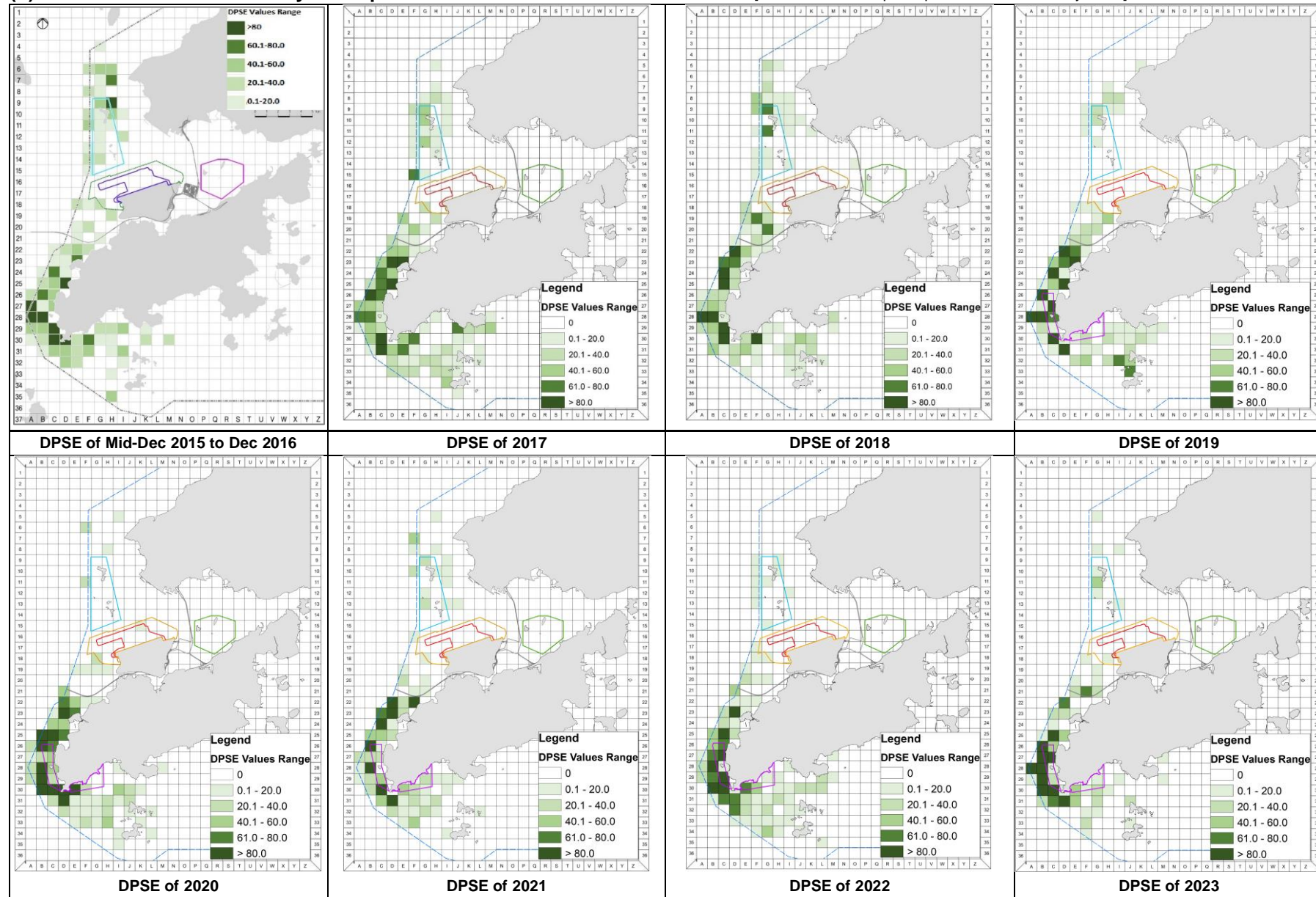
Note: Detection function used a Half-Normal model with a cosine adjustment.

**Figure 5: Quantitative Grid Analysis for CWDs**

**(a) SPSE with Corrected Survey Effort per km<sup>2</sup> of Year 2023 and Previous Years [SPSE = no. of on-effort dolphin sightings per 100 units of survey effort]**

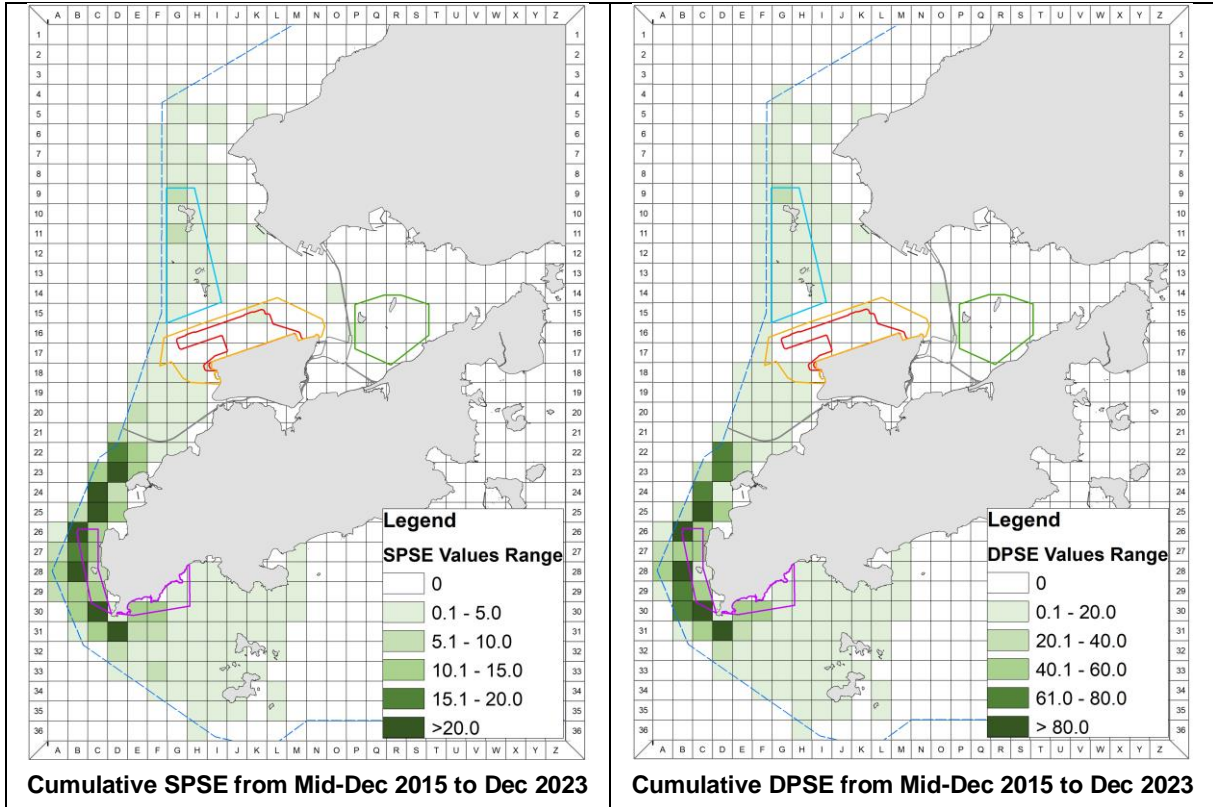


**(b) DPSE with Corrected Survey Effort per km<sup>2</sup> of Year 2023 and Previous Years [DPSE = no. of dolphins per 100 units of survey effort]**



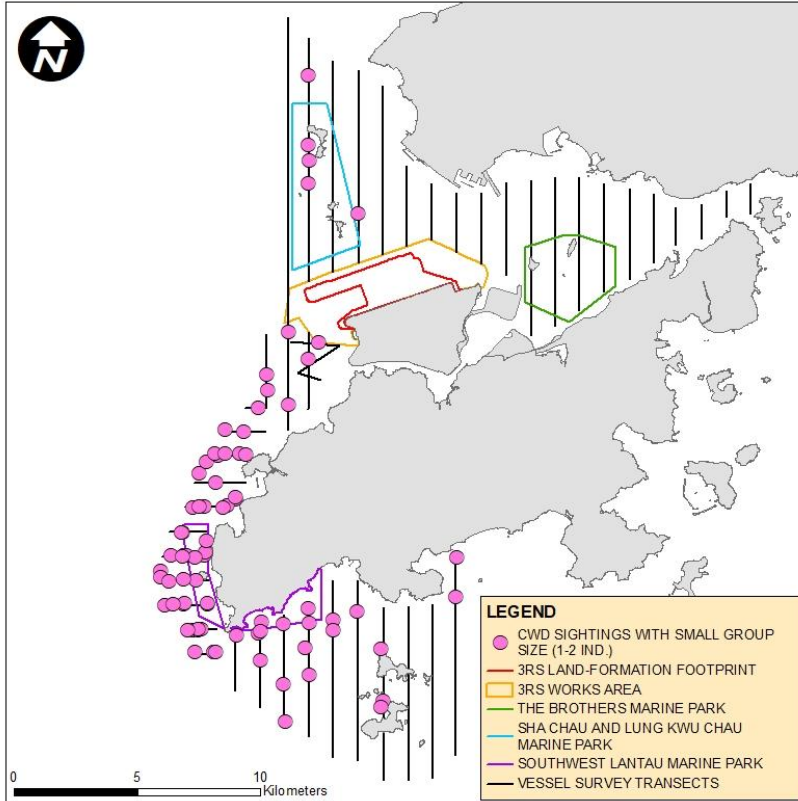
**Figure 6: Cumulative SPSE and DPSE of CWDs with Corrected Survey Effort per km<sup>2</sup> from Dec 2015 to Dec 2023**

[SPSE = no. of on-effort dolphin sightings per 100 units of survey effort, DPSE = no. of dolphins per 100 units of survey effort]





**Figure 7: Sightings Distribution of Chinese White Dolphins with Different Group Sizes in 2023**  
**(a) Small Group Size (1 to 2 dolphins)**



**(b) Medium Group Size (3 to 9 dolphins) and Large Group Size (10 or more dolphins)**

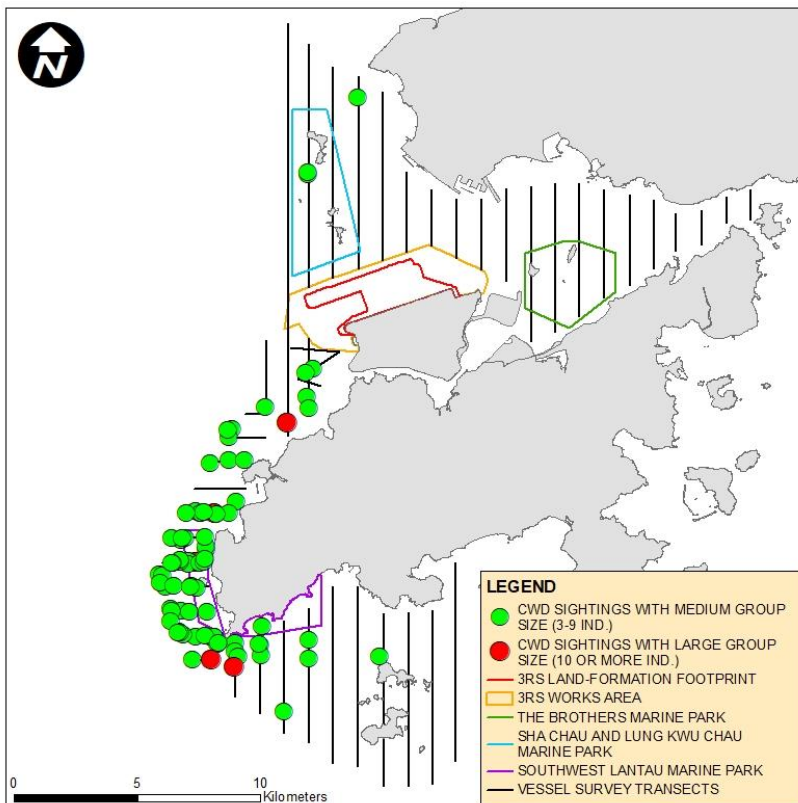


Figure 8: Sighting Locations of CWD Groups Engaged in Different Activities in 2023

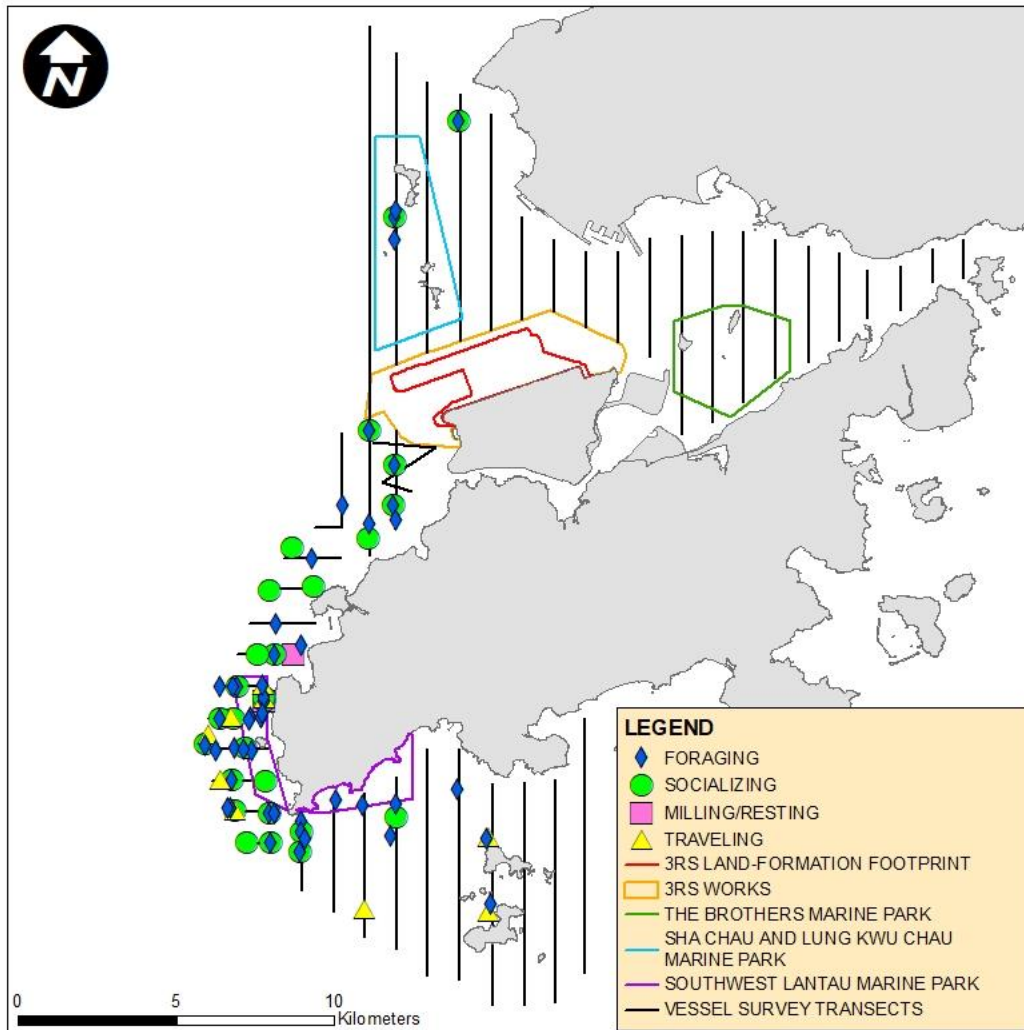


Figure 9: Sighting Locations of CWD Groups in Association with Fishing Boat in 2023

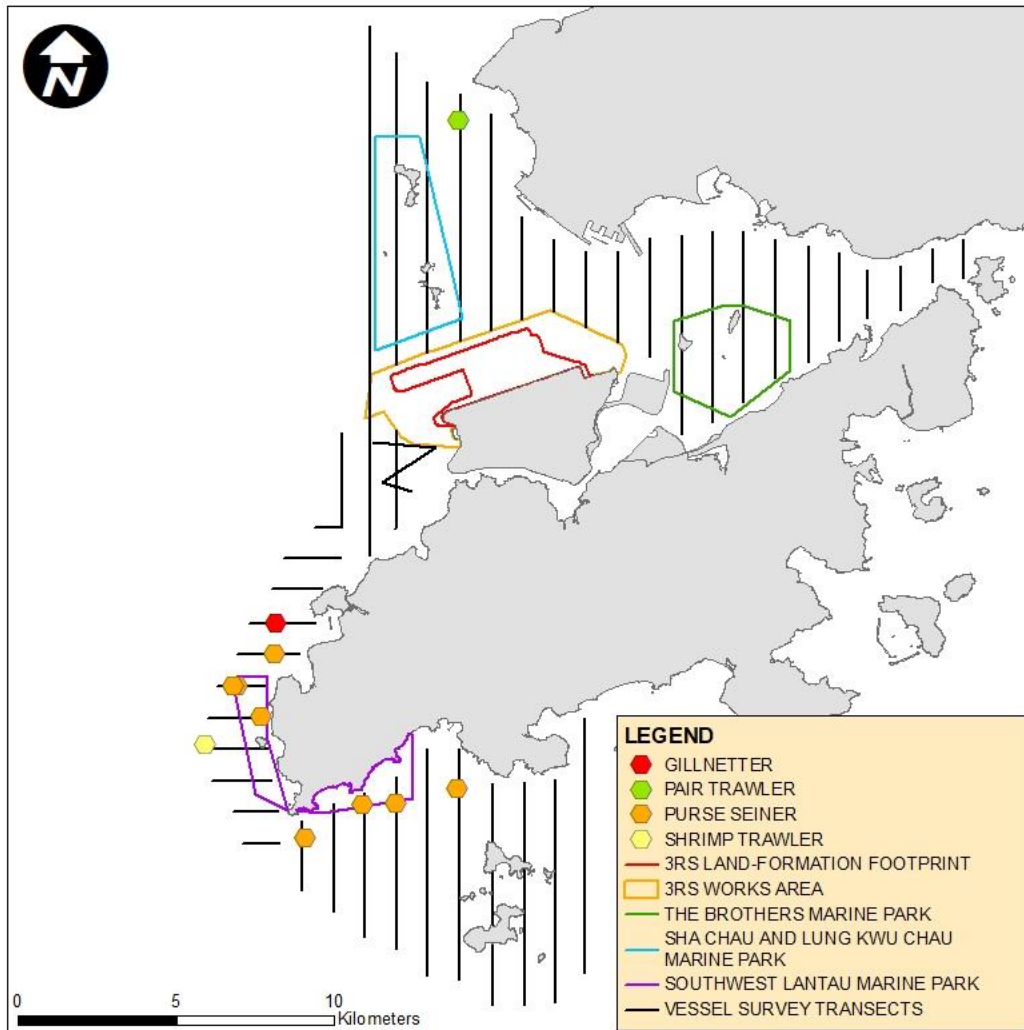
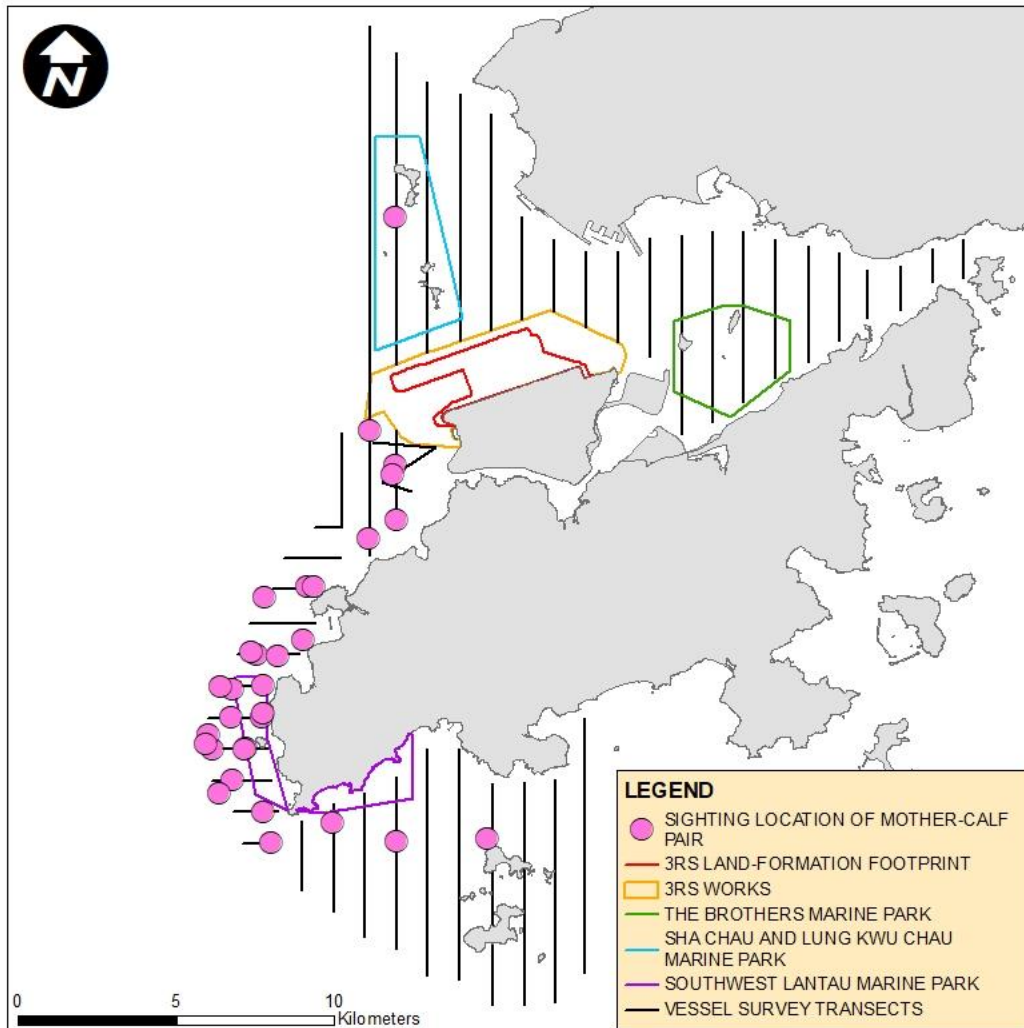
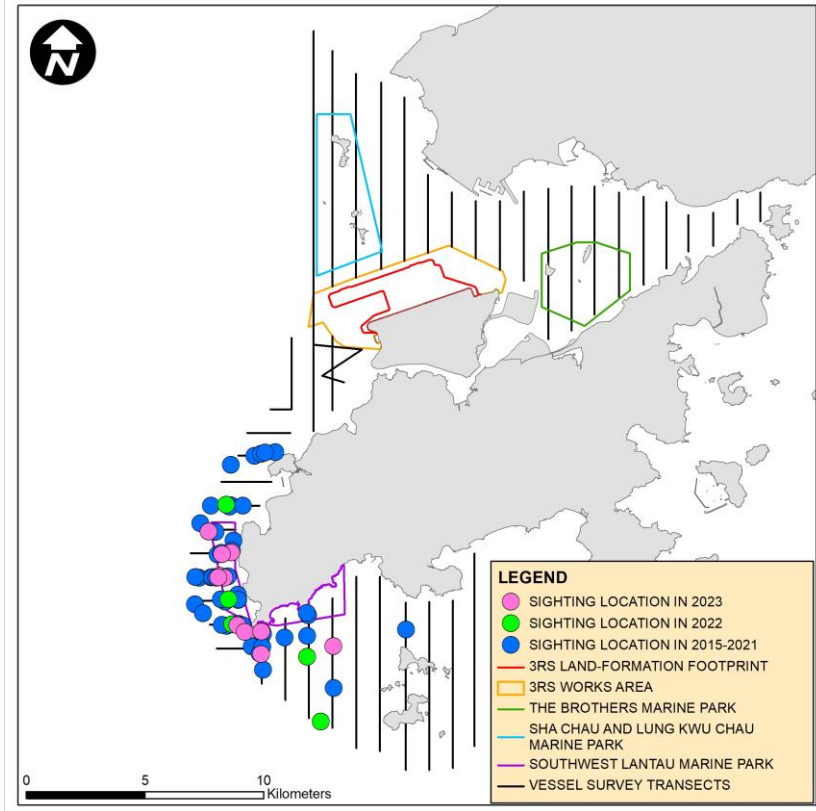


Figure 10: Sighting Locations of Mother-Calf Pairs in 2023

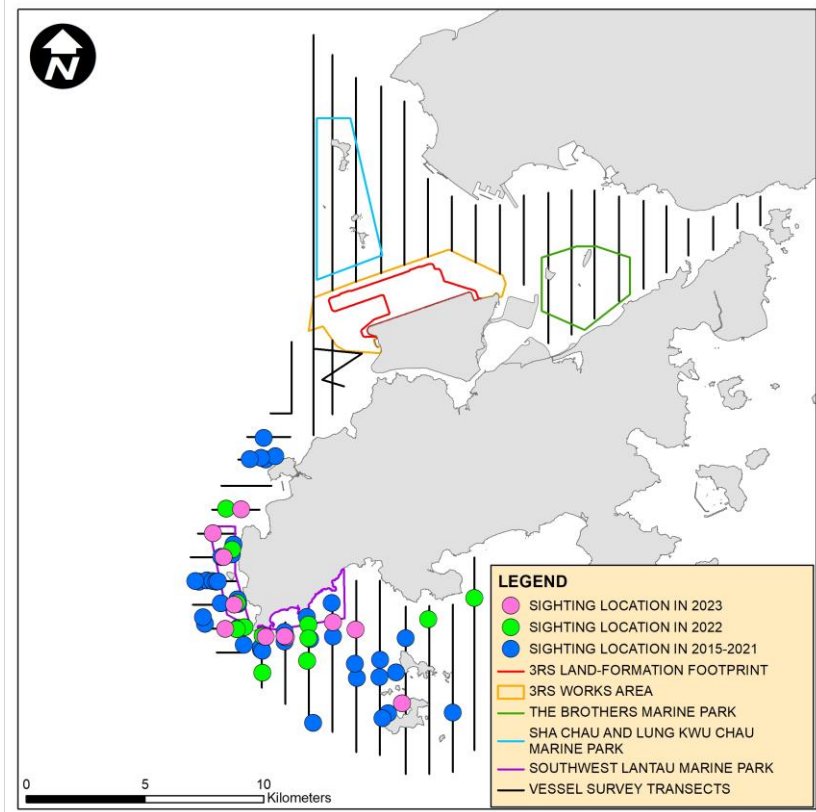


**Figure 11: Photo Identification – Re-sighting Locations**

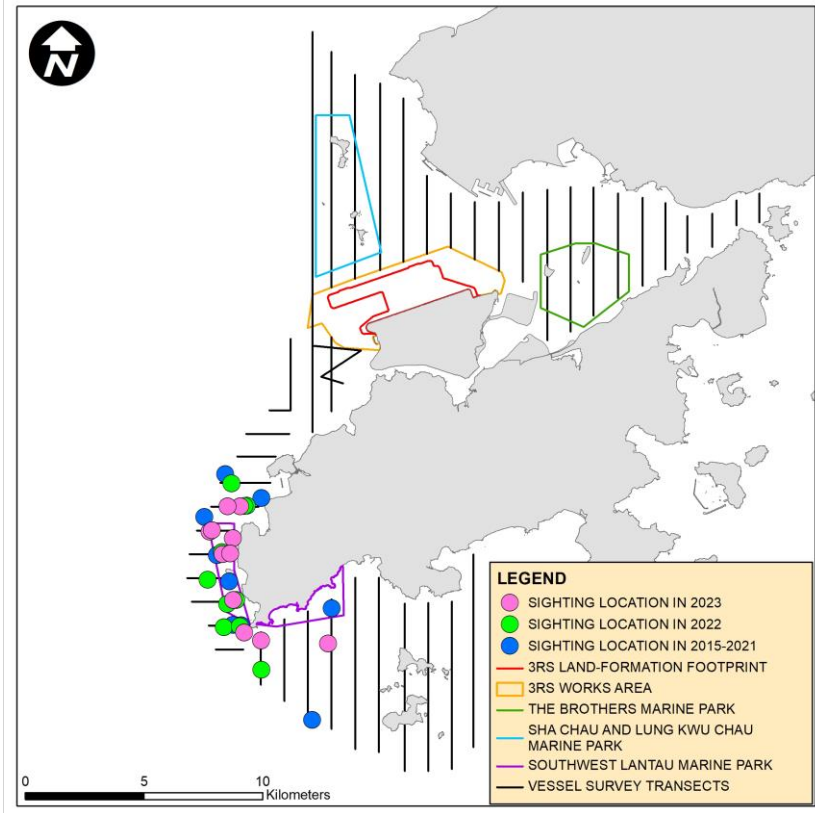
(a) SLMM003 – the most frequently re-sighted animal in 2023 and the 2<sup>nd</sup> most frequently sighted animal overall



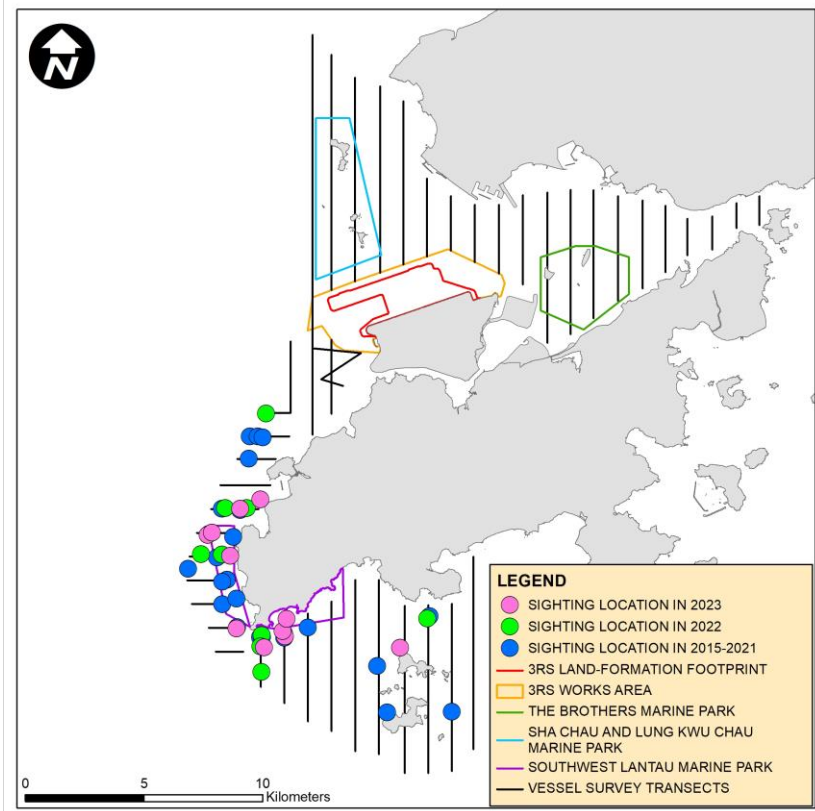
(b) SLMM037 – the most frequently re-sighted animal in 2023 and the 2<sup>nd</sup> most frequently sighted animal overall



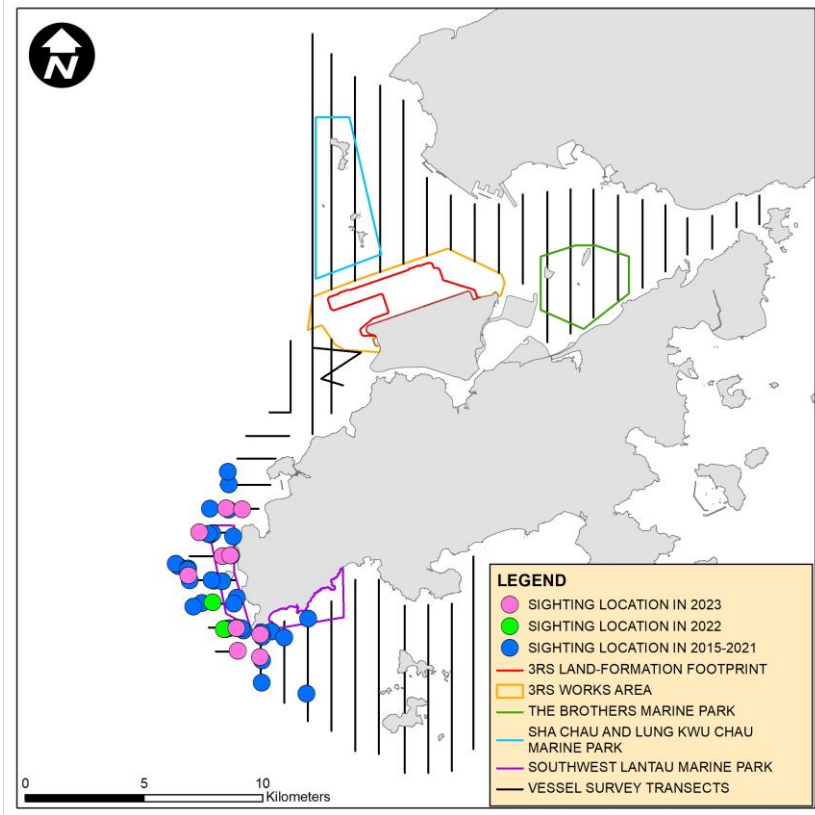
(c) SLMM044 – the most frequently resighted animal in 2023



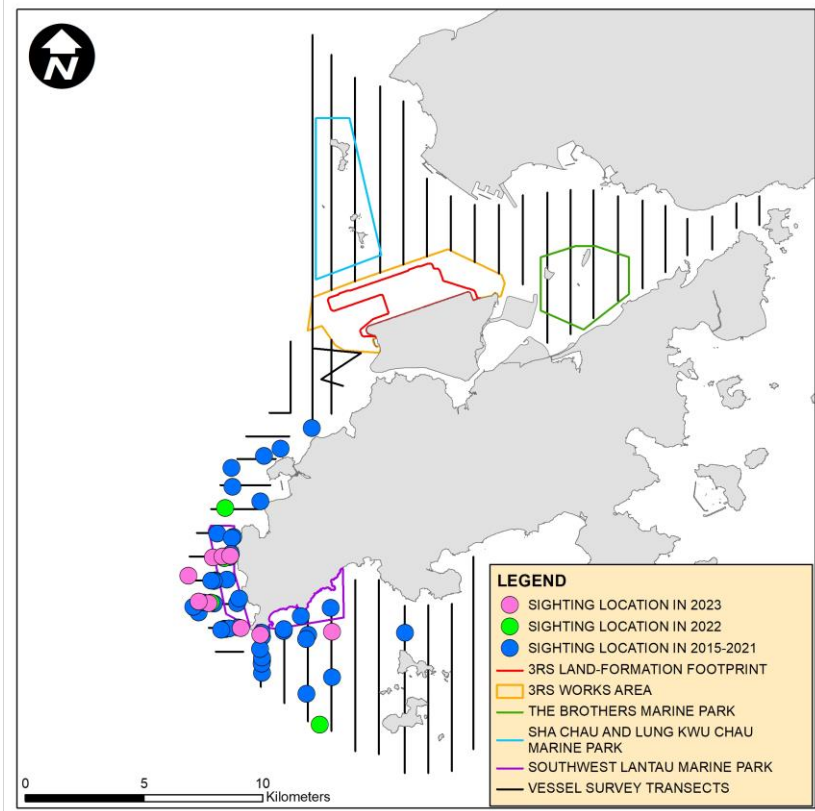
(d) WLMM056 – the most frequently resighted animal in 2023



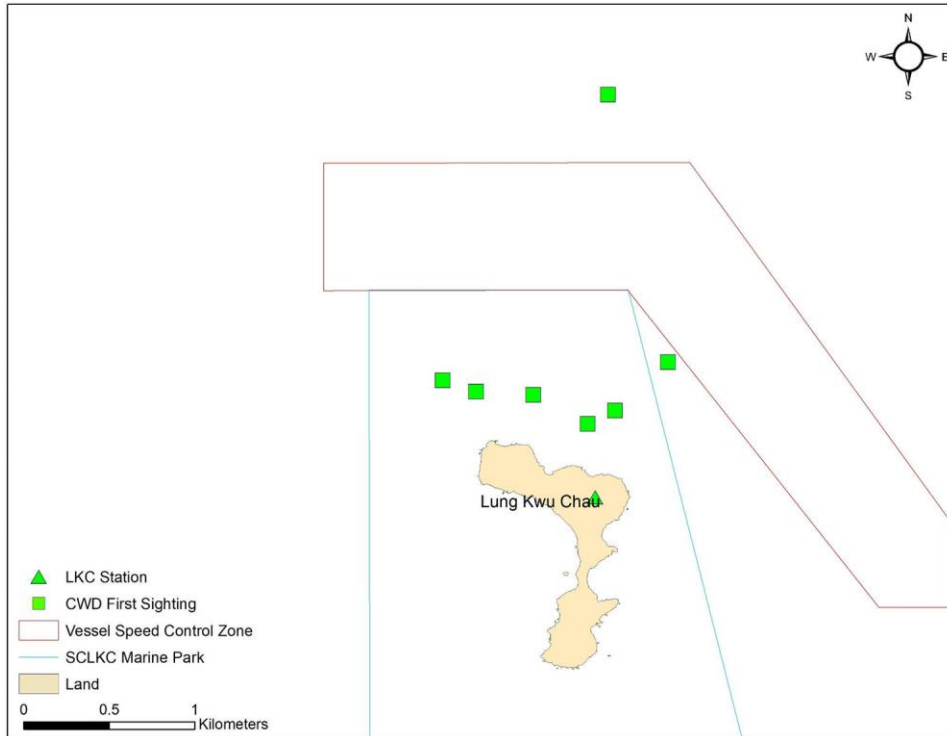
(e) WLMM007 – the 2<sup>nd</sup> most frequently resighted animal in 2023



(f) SLMM010 – the 3<sup>rd</sup> most frequently resighted animal in 2023 and the 3<sup>rd</sup> most frequently sighted animal overall

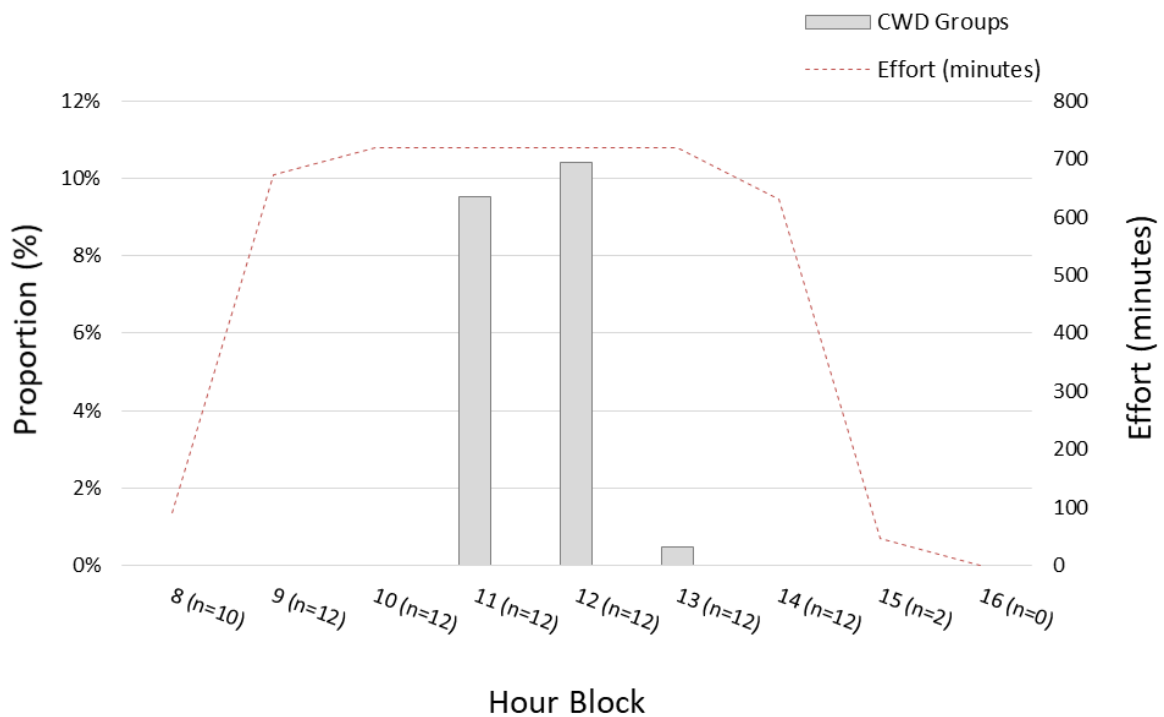


**Figure 12: Plots of First Sightings of All CWD Groups (prior to filtering short-track data) Obtained from Land-based Station at Lung Kwu Chau in 2023**



**Figure 13: Proportion of CWD Total Track Time, per Total Effort Time, from Lung Kwu Chau (prior to filtering short-track data) Based on Time of Day in 2023**

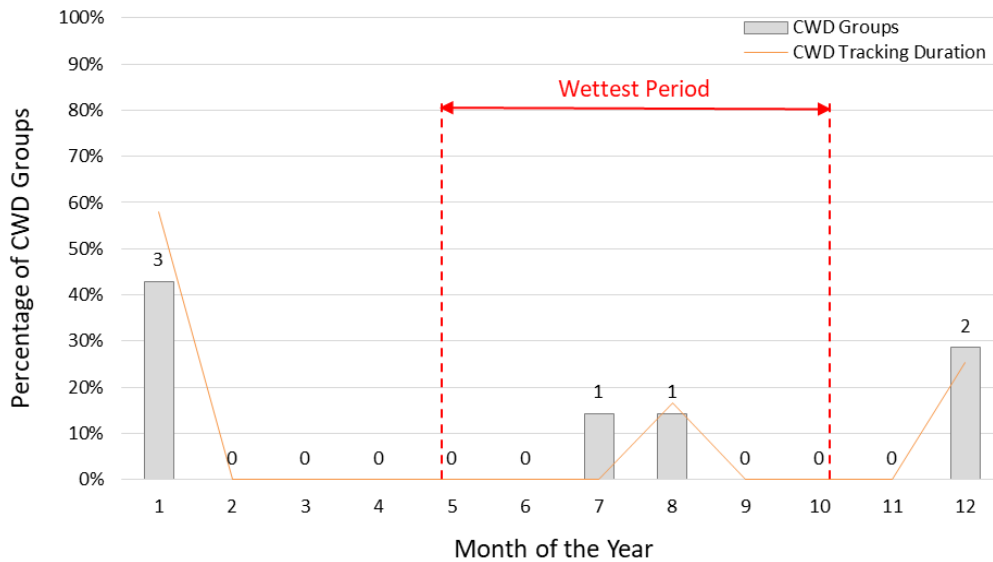
[The x-axis represents the hour block during which theodolite tracking surveys were conducted. The "n" in parentheses represents the number of days that survey effort was carried out during the associated hour block.]



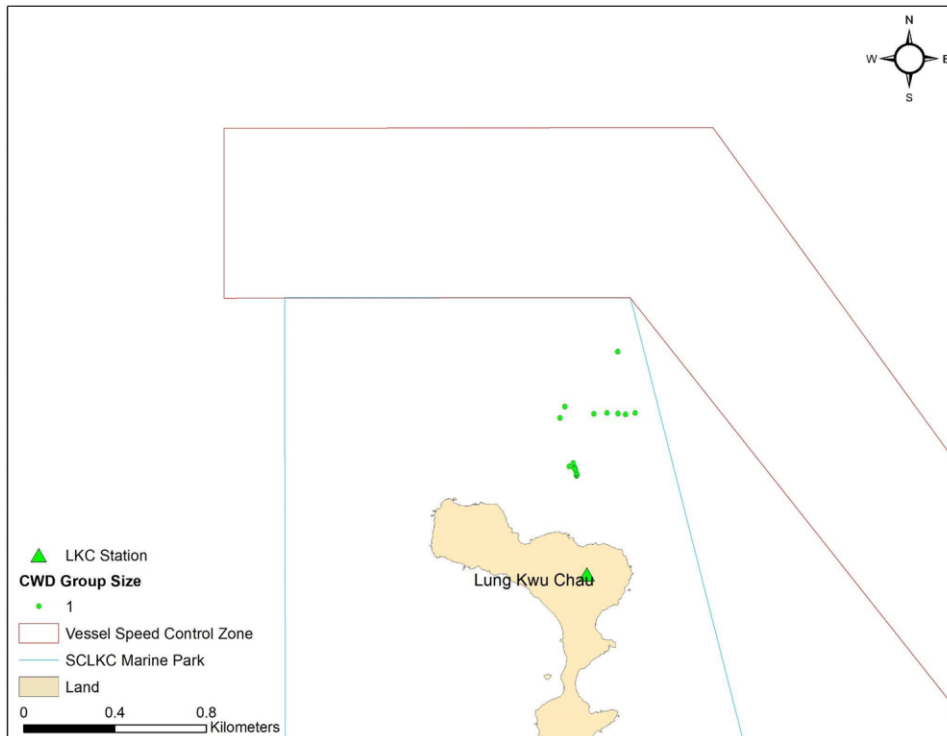


**Figure 14: Total Number of CWD Groups Sighted and Tracked from Lung Kwu Chau Based on Month of the Year in 2023**

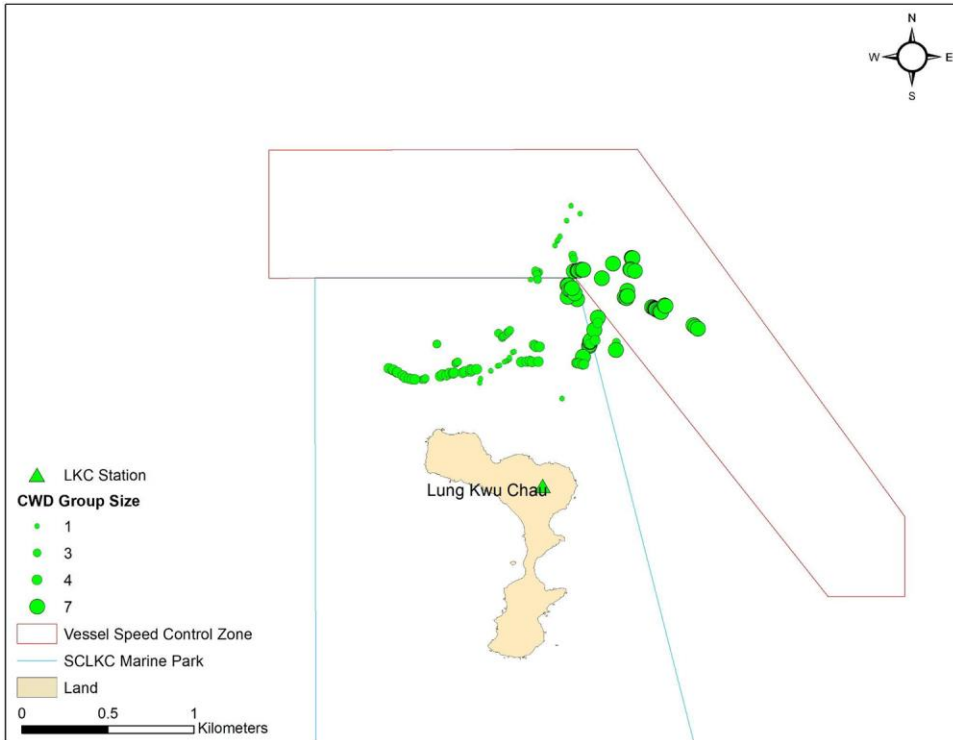
[The grey bars represent the percentage of number of groups tracked per month, while the numbers above the bars indicate the total number of CWD groups tracked per study period (prior to filtering short-track data). The orange line represents the percentage of total time spent tracking dolphins per month. The 'wettest period' is based on total monthly rainfall that varies from year to year.]



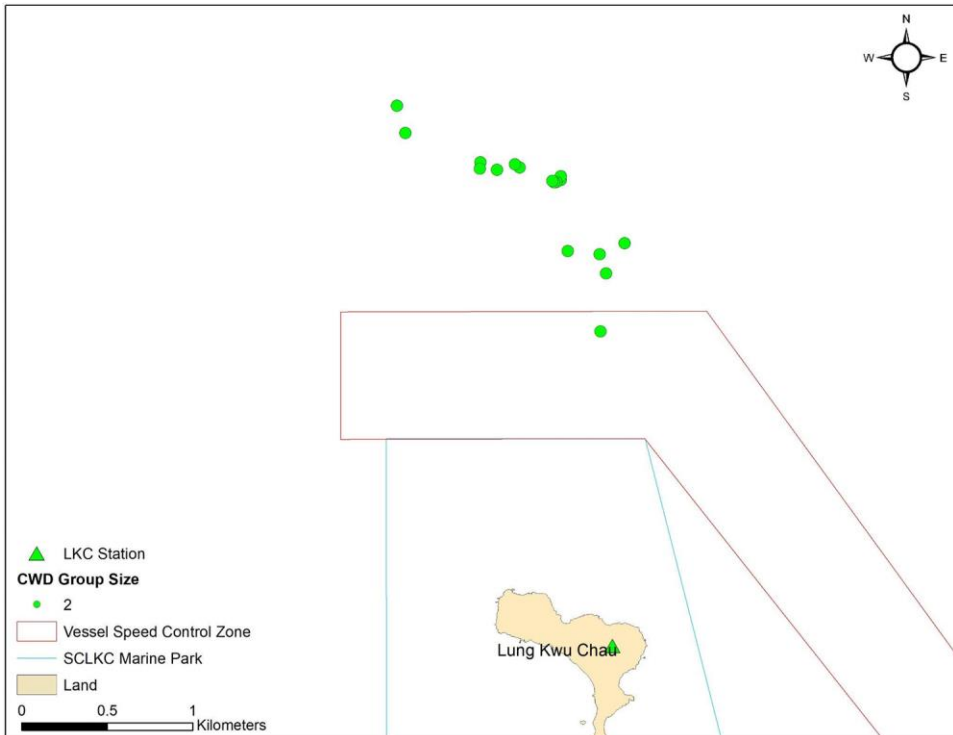
**Figure 15: Plots of CWD Positions (prior to filtering short-track data) relative to Group Size tracked within Sha Chau and Lung Kwu Chau Marine Park in 2023**



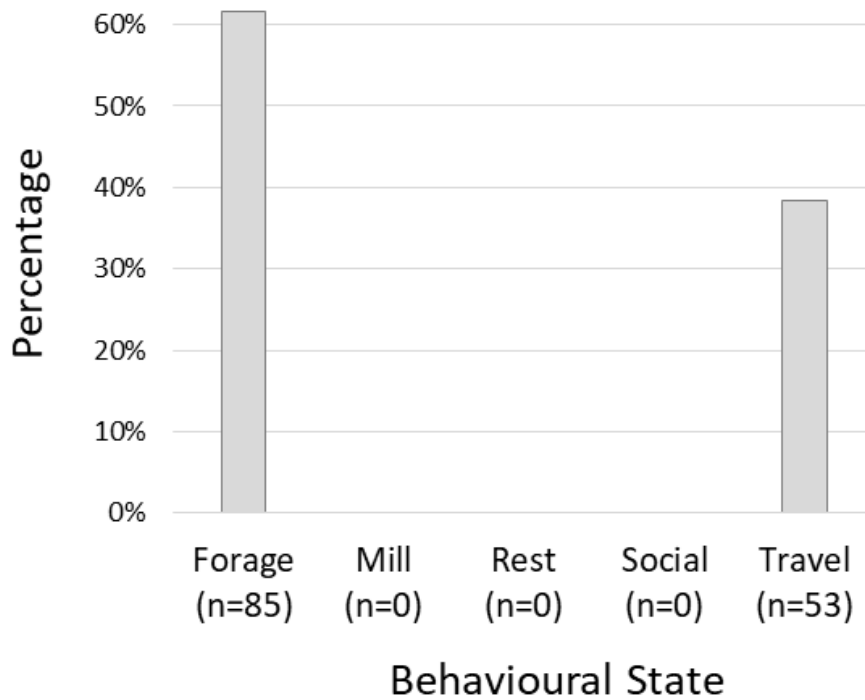
**Figure 16: Plots of CWD Positions (prior to filtering short-track data) relative to Group Size crossing the boundary of Sha Chau and Lung Kwu Chau Marine Park in 2023**



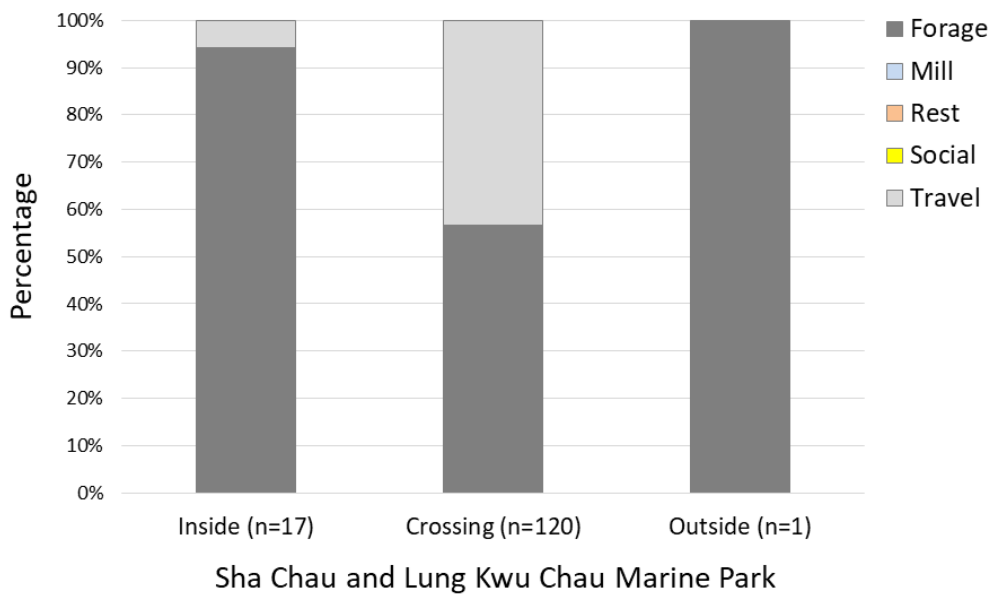
**Figure 17: Plots of CWD Positions (prior to filtering short-track data) relative to Group Size tracked outside Sha Chau and Lung Kwu Chau Marine Park in 2023**



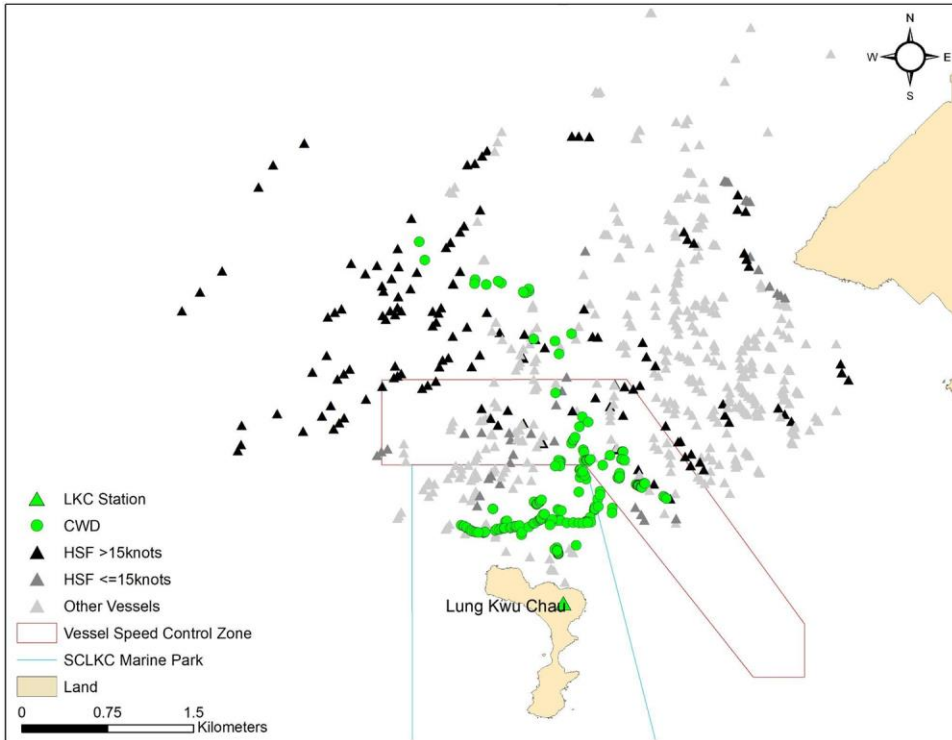
**Figure 18: Percentages of CWD Behavioural States (prior to filtering short-track data), excluding Unknown Category, recorded from Lung Kwu Chau in 2023**



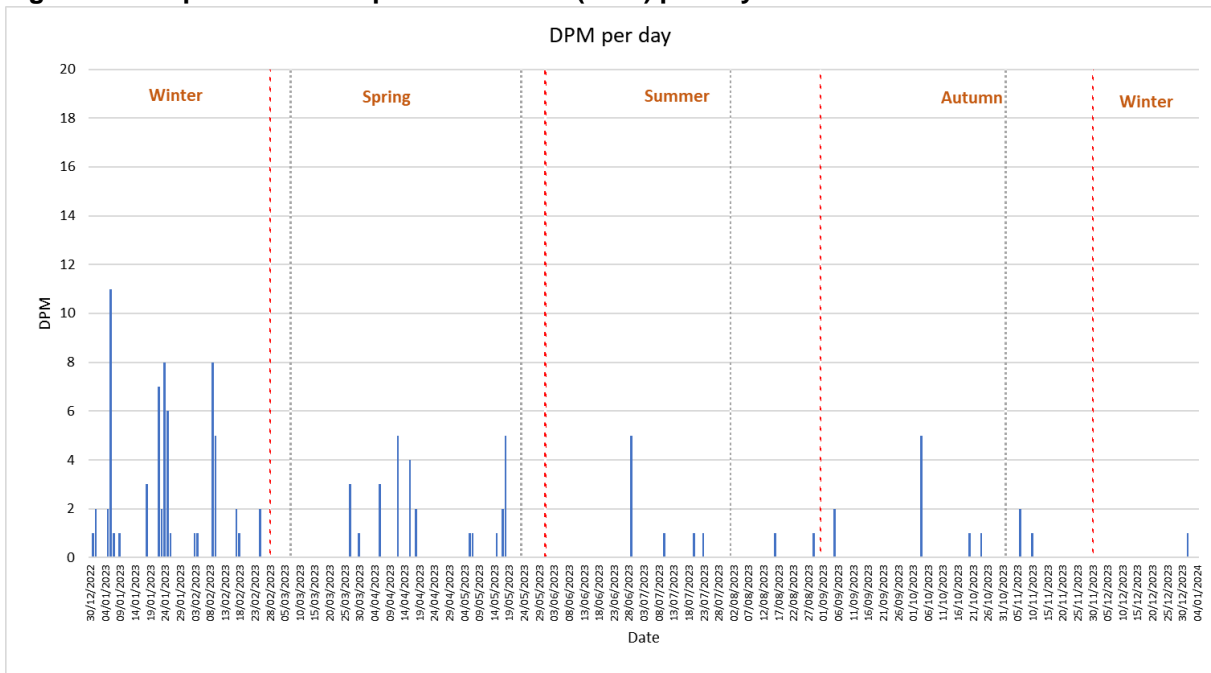
**Figure 19: Stacked Bar Graph showing percentages of CWD Behavioural States (prior to filtering short-track data), excluding Unknown Category, relative to the Sha Chau and Lung Kwu Chau Marine Park Location, recorded from Lung Kwu Chau in 2023**



**Figure 20: Plots of All Vessel Positions and All CWD Positions obtained from Lung Kwu Chau in 2023**

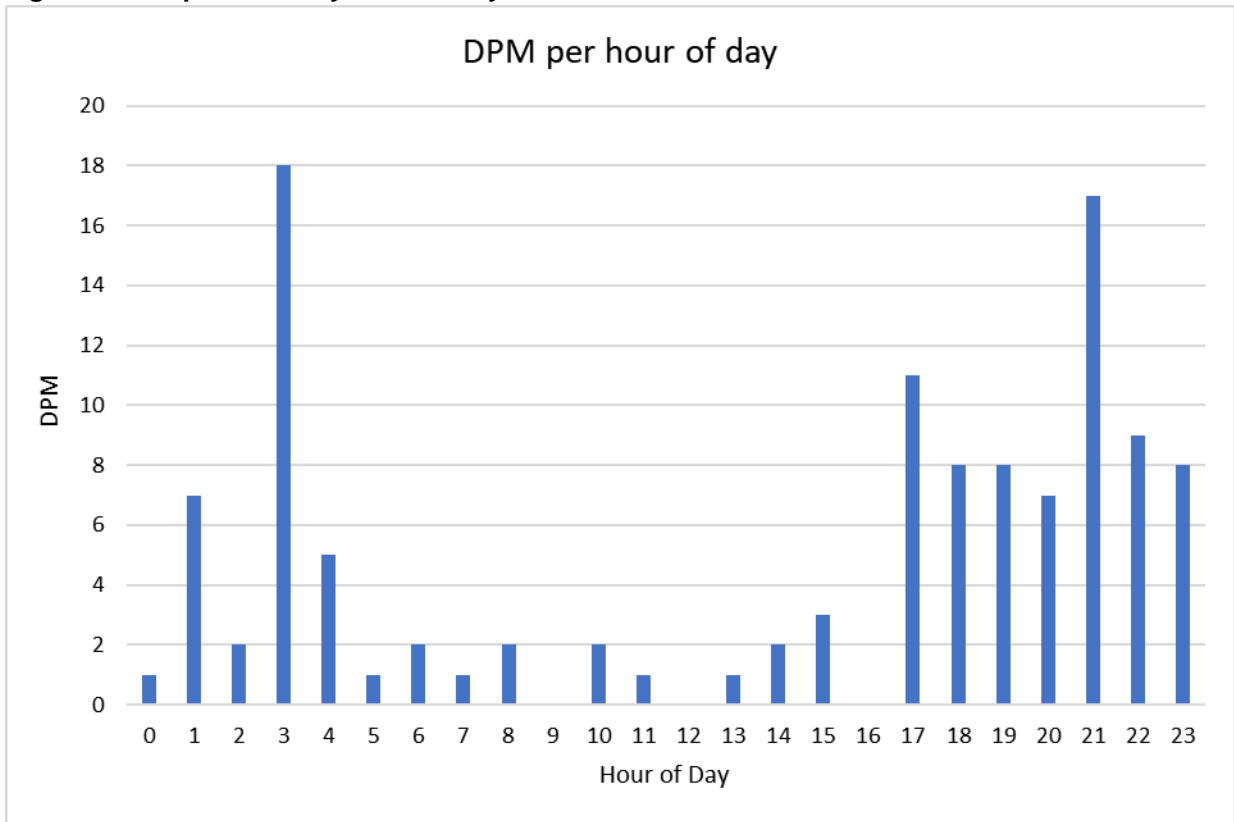


**Figure 21: Dolphin detection positive minute (DPM) per day in 2023**

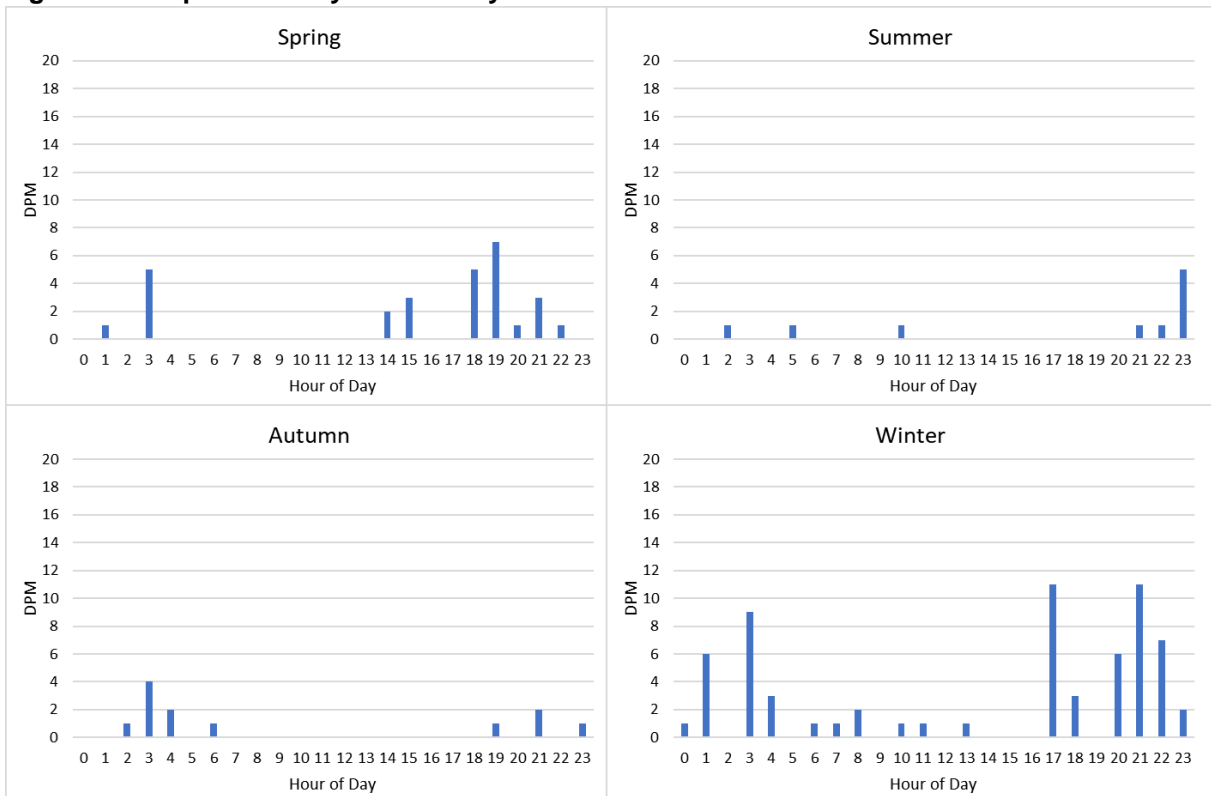


[Grey dotted lines indicate deployment/retrieval of PAM device; red dotted lines indicate the solar seasons]

**Figure 22: Dolphin DPM by Hour of Day in 2023**



**Figure 23: Dolphin DPM by Hour of Day and Solar Season in 2023**



[Winter = Dec-Jan-Feb, Spring = Mar-Apr-May, Summer = Jun-Jul-Aug, Autumn = Sep-Oct-Nov]

**Table 1: CWD Vessel Survey Effort by Survey Areas in 2023**

Survey Area	Survey Effort (km)	Survey Effort under Favourable Weather Condition (km)
NEL	1130.0	1111.1
NWL	1799.6	1736.0
AW	114.4	114.4
WL	673.6	623.9
SWL	1667.3	1649.4
<b>Combined</b>	<b>5384.9</b>	<b>5234.8</b>

**Table 2: CWD Sightings by Survey Areas in 2023**

Survey Area	No. of Sighting (On-effort)	No. of Dolphin (On-effort)	No. of On-effort Sighting under Favourable Weather Condition	No. of On-effort Dolphin under Favourable Weather Condition
NEL	0	0	0	0
NWL	14	53	14	53
AW	3	7	3	7
WL	111	385	111	385
SWL	32	97	32	97
<b>Combined</b>	<b>160</b>	<b>542</b>	<b>160</b>	<b>542</b>

**Table 3: CWD Encounter Rates by Survey Areas**

Survey Area	Encounter Rate (STG)		Encounter Rate (ANI)	
	2022	2023	2022	2023
NEL	0	0	0	0
NWL	0.88	0.81	2.18	3.05
AW	0.94	2.62	0.94	6.12
WL	15.55	17.79	58.09	61.71
SWL	3.68	1.94	11.89	5.88
<b>Combined</b>	<b>3.36</b>	<b>3.06</b>	<b>11.57</b>	<b>10.35</b>

**Table 4: Summary of Monthly and Running Quarterly Encounter Rates STG and ANI in 2023**

Encounter Rate	Winter		Spring			Summer			Autumn			Winter
	Jan 23	Feb 23	Mar 23	Apr 23	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Nov 23	Dec 23
Monthly STG	1.56	4.60	3.80	1.93	2.92	4.42	2.67	4.23	3.02	1.54	2.56	3.50
Monthly ANI	4.24	16.56	17.81	11.10	9.20	13.25	8.91	13.58	7.43	4.41	11.17	7.22
Running Quarterly STG	1.92	2.55	3.30	3.46	2.89	3.10	3.32	3.76	3.31	2.93	2.36	2.51
Running Quarterly ANI	4.83	8.52	12.73	15.19	12.65	11.16	10.42	11.90	10.01	8.48	7.61	7.54

**Table 5: CWD Line Transects Parameters and Estimates of Density and Abundance for Western Hong Kong, 2023**

Time Period	Stratum	No. of Sightings*	Average Group Size	Trackline Detection Prob. - g(0)	Individual Density (no./100km <sup>2</sup> )	Abundance	95% CI (Abund.)	%CV
Jan-Dec 2023	AW	3	2.3	1.0	21.23	1	0-49	103.7
Jan-Dec 2023	DB	1	3.0	1.0	2.10	1	0-4	102.6
Jan-Dec 2023	NEL	0	0	1.0	0.00	0	N/A	N/A
Jan-Dec 2023	NWL	14	4.5	1.0	5.49	4	2-8	37.8
Jan-Dec 2023	SWL	32	2.4	1.0	7.23	5	2-10	34.7
Jan-Dec 2023	WL	111	3.5	1.0	93.17	30	22-42	16.2
<b>Jan-Dec 2023</b>	<b>Pooled^</b>	<b>158</b>	<b>3.1</b>	<b>1.0</b>	<b>15.92</b>	<b>40</b>	<b>30-53</b>	<b>14.35</b>
Jan-Dec 2023	Winter#	42	2.6	1.0	18.62	40	23-68	27.0
Jan-Dec 2023	Spring#	38	4.3	1.0	30.30	65	37-116	29.1
Jan-Dec 2023	Summer#	50	3.2	1.0	21.60	47	26-82	28.7
Jan-Dec 2023	Autumn#	31	3.5	1.0	14.54	31	18-55	29.0

\* After truncation

^ Pooled abundance not including Airport West (AW). Note that the pooled estimates do not necessarily add up to the sum of the individual stratum estimates, as these are computed separately.

# The seasonal estimates do not include AW.

**Table 6: Average Group Sizes of CWDs by Survey Areas in 2023**

Survey Area	Average Group Size of CWDs
NEL	0.00
NWL	3.79
AW	2.33
WL	3.47
SWL	3.03
Overall	3.39 ± 2.82

**Table 7: Average Group Sizes of CWDs by Seasons in 2023**

Solar Season	Average Group Size of CWDs
Spring	4.38
Summer	3.16
Autumn	3.23
Winter	2.90

**Table 8: Percentage of CWD Groups recorded as Exhibiting Various Behaviours/Activities, and recorded as having Association with Fishing Boat**

Survey Area	Year	Activity				Fishing Boat Association
		Feeding	Travelling	Socialising	Resting/Milling	
AW	2022	-	-	-	-	-
	2023	-	-	-	-	-
NEL	2022	-	-	-	-	-
	2023	-	-	-	-	-
NWL	2022	20%	7%	13%	-	7%
	2023	64%	-	43%	-	7%
WL	2022	27%	19%	21%	1%	6%
	2023	26%	5%	16%	2%	5%
SWL	2022	32%	13%	20%	2%	13%
	2023	34%	9%	9%	-	13%
Overall	2022	28%	16%	20%	1%	8%
	2023	31%	6%	17%	1%	7%



**Table 9: Summary of Photo Identification in 2023**

Individual ID	Date of sighting (dd-mmm-yy)	Sighting No.	Area
NLMM001	20-Feb-23	1	NWL
	9-Jun-23	2	WL
	21-Sep-23	2	WL
	15-Nov-23	2	WL
NLMM009	16-Feb-23	2	NWL
		3	NWL
NLMM013	21-Feb-23	1	WL
	13-Jun-23	1	NWL
NLMM015	16-Feb-23	3	NWL
NLMM016	16-Feb-23	3	NWL
	1-Mar-23	5	WL
	7-Mar-23	2	NWL
	13-Sep-23	1	SWL
NLMM020	16-Feb-23	1	NWL
	13-Apr-23	1	WL
		2	WL
	9-Jun-23	5	WL
NLMM021	6-Jan-23	2	NWL
	1-Mar-23	2	WL
	13-Apr-23	1	WL
NLMM023	20-Oct-23	1	WL
	6-Nov-23	8	SWL
NLMM027	16-Feb-23	4	NWL
	22-Feb-23	1	AW
	3-Mar-23	1	NWL
	13-Apr-23	1	WL
	2-Aug-23	10	SWL
NLMM028	6-Jan-23	2	NWL
	21-Sep-23	3	WL
NLMM040	9-Jan-23	1	NWL
		2	NWL
	16-Feb-23	1	NWL
	1-Mar-23	4	WL
	3-Mar-23	1	NWL
	2-Jun-23	3	WL
NLMM041	9-Jan-23	1	NWL
		2	NWL
	16-Feb-23	1	NWL
	1-Mar-23	4	WL
	3-Mar-23	1	NWL
	13-Oct-23	1	WL
NLMM052	16-Feb-23	2	NWL
		3	NWL
NLMM055	21-Feb-23	1	WL
	7-Jul-23	3	WL
NLMM058	20-Sep-23	2	WL
	6-Nov-23	8	SWL
NLMM060	16-Feb-23	1	NWL

Individual ID	Date of sighting (dd-mmm-yy)	Sighting No.	Area
NLMM063	2-Jun-23	8	WL
	21-Sep-23	3	WL
NLMM065	16-Feb-23	3	NWL
NLMM070	8-Aug-23	3	WL
NLMM078	22-Feb-23	9	WL
NLMM081	1-Mar-23	2	WL
	2-Mar-23	1	WL
NLMM085	6-Jan-23	2	NWL
NLMM086	6-Jan-23	1	NWL
NLMM087	6-Jan-23	1	NWL
NLMM088	20-Feb-23	1	NWL
NLMM089	7-Mar-23	1	NWL
SLMM002	22-Feb-23	7	WL
	1-Mar-23	6	WL
	2-Aug-23	10	SWL
	3-Aug-23	4	SWL
	21-Sep-23	5	WL
	27-Dec-23	7	WL
SLMM003	22-Feb-23	7	WL
	2-Mar-23	3	WL
	13-Apr-23	5	WL
	18-Apr-23	2	WL
	23-May-23	4	WL
	1-Jun-23	2	SWL
	2-Aug-23	4	SWL
	6-Nov-23	8	SWL
	13-Nov-23	1	WL
2		WL	
27-Dec-23	5	WL	
SLMM007	22-Feb-23	6	WL
	1-Mar-23	6	WL
	13-Apr-23	5	WL
	18-Apr-23	1	WL
	2-Jun-23	8	WL
	7-Jul-23	3	WL
	13-Oct-23	4	WL
SLMM010	22-Feb-23	9	WL
	1-Mar-23	6	WL
	2-Mar-23	2	WL
	18-Apr-23	3	WL
	1-Jun-23	2	SWL
	9-Jun-23	5	WL
	11-Jul-23	3	WL
	3-Aug-23	3	SWL
	13-Nov-23	1	WL
SLMM014	13-Jan-23	3	SWL
	22-Feb-23	10	WL
	1-Mar-23	7	WL
	2-Mar-23	3	WL
	9-Mar-23	9	SWL

Individual ID	Date of sighting (dd-mmm-yy)	Sighting No.	Area
	18-Apr-23	3	WL
	13-Jul-23	2	SWL
	13-Oct-23	4	WL
SLMM022	2-Aug-23	9	SWL
		10	SWL
	8-Aug-23	3	WL
	15-Nov-23	5	WL
SLMM023	2-Mar-23	2	WL
		3	WL
	4-May-23	4	WL
	7-Jul-23	3	WL
	11-Jul-23	1	WL
	13-Oct-23	4	WL
	27-Dec-23	9	WL
	SLMM025	21-Feb-23	4
2-Mar-23		2	WL
23-May-23		1	WL
		4	WL
SLMM027	2-Mar-23	2	WL
	4-May-23	2	WL
		4	WL
		4	WL
	23-May-23	1	WL
		3	WL
		4	WL
8-Aug-23	6	WL	
SLMM029	9-Jun-23	3	WL
	3-Aug-23	3	SWL
SLMM030	16-Feb-23	1	NWL
SLMM031	13-Jan-23	5	SWL
	21-Feb-23	5	WL
	22-Feb-23	10	WL
	1-Mar-23	7	WL
	9-Mar-23	9	SWL
	18-Apr-23	3	WL
	27-Dec-23	6	WL
8		WL	
SLMM034	18-May-23	2	SWL
	6-Nov-23	7	SWL
		8	SWL
		11-Dec-23	1
		2	SWL
SLMM035	13-Jan-23	5	SWL
	22-Feb-23	8	WL
		10	WL
	1-Mar-23	7	WL
	2-Mar-23	3	WL
	9-Mar-23	9	SWL
SLMM037	22-Feb-23	10	WL
	2-Mar-23	2	WL
	9-Mar-23	9	SWL

Individual ID	Date of sighting (dd-mmm-yy)	Sighting No.	Area
	13-Apr-23	1	WL
		2	WL
	18-May-23	1	SWL
	2-Jun-23	9	SWL
	11-Jul-23	6	WL
	2-Aug-23	8	SWL
	27-Oct-23	2	SWL
	11-Dec-23	2	SWL
SLMM044	21-Feb-23	4	WL
	2-Mar-23	1	WL
		2	WL
	13-Apr-23	1	WL
		2	WL
	11-Jul-23	1	WL
	12-Jul-23	4	SWL
	2-Aug-23	10	SWL
	21-Sep-23	7	WL
	13-Nov-23	1	WL
27-Dec-23	9	WL	
SLMM049	1-Mar-23	6	WL
	2-Mar-23	2	WL
		3	WL
	13-Apr-23	2	WL
	4-May-23	4	WL
	3-Aug-23	3	SWL
	13-Sep-23	1	SWL
	21-Sep-23	7	WL
SLMM050	4-May-23	2	WL
	27-Dec-23	7	WL
SLMM052	13-Apr-23	5	WL
	2-Jun-23	3	WL
		5	WL
	7-Jul-23	3	WL
	11-Jul-23	3	WL
	2-Aug-23	4	SWL
	8-Aug-23	4	WL
13-Oct-23	4	WL	
SLMM055	6-Nov-23	7	SWL
SLMM058	21-Feb-23	2	WL
	22-Feb-23	3	WL
	1-Mar-23	5	WL
	2-Mar-23	1	WL
		2	WL
	27-Dec-23	7	WL
SLMM059	21-Sep-23	4	WL
		6	WL
SLMM060	9-Mar-23	1	SWL
	2-Aug-23	1	SWL
	13-Sep-23	1	SWL
	13-Oct-23	3	WL

Individual ID	Date of sighting (dd-mmm-yy)	Sighting No.	Area
SLMM064	13-Oct-23	4	WL
SLMM070	9-Jun-23	5	WL
	15-Nov-23	5	WL
SLMM071	16-Feb-23	1	NWL
SLMM073	22-Feb-23	6	WL
	1-Mar-23	6	WL
	13-Apr-23	5	WL
	2-Jun-23	8	WL
	7-Jul-23	3	WL
SLMM074	22-Feb-23	3	WL
	1-Mar-23	2	WL
WLMM001	1-Mar-23	5	WL
	4-May-23	3	WL
	2-Aug-23	8	SWL
		10	SWL
	8-Aug-23	4	WL
	6-Nov-23	8	SWL
	27-Dec-23	7	WL
WLMM003	2-Mar-23	2	WL
	21-Sep-23	2	WL
		3	WL
	13-Nov-23	1	WL
WLMM004	7-Jul-23	3	WL
WLMM005	1-Mar-23	5	WL
	7-Jul-23	3	WL
WLMM007	22-Feb-23	6	WL
	2-Mar-23	2	WL
		3	WL
		4-May-23	2
	1-Jun-23	2	SWL
	7-Jul-23	3	WL
	11-Jul-23	3	WL
	13-Oct-23	4	WL
	6-Nov-23	8	SWL
13-Nov-23	1	WL	
WLMM018	4-May-23	2	WL
	8-Aug-23	5	WL
WLMM019	9-Jan-23	3	NWL
WLMM027	1-Mar-23	1	AW
WLMM028	16-Feb-23	1	NWL
	1-Mar-23	5	WL
	7-Jul-23	3	WL
	11-Jul-23	5	WL
	3-Aug-23	4	SWL
WLMM029	22-Feb-23	3	WL
	3-Mar-23	1	NWL
WLMM030	2-Jun-23	8	WL
	7-Jul-23	3	WL
WLMM043	6-Jan-23	1	NWL
	9-Jan-23	3	NWL

Individual ID	Date of sighting (dd-mmm-yy)	Sighting No.	Area
	1-Mar-23	5	WL
	13-Apr-23	1	WL
	2-Jun-23	8	WL
	20-Sep-23	1	WL
	21-Sep-23	2	WL
WLMM056	22-Feb-23	7	WL
	2-Mar-23	3	WL
	9-Mar-23	9	SWL
	10-Mar-23	2	SWL
	13-Apr-23	1	WL
		2	WL
	4-May-23	1	WL
	3-Aug-23	4	SWL
	13-Sep-23	1	SWL
	6-Nov-23	7	SWL
13-Nov-23	1	WL	
WLMM058	8-Aug-23	5	WL
WLMM062	2-Jun-23	1	WL
WLMM063	16-Feb-23	1	NWL
	13-Apr-23	4	WL
	18-Apr-23	1	WL
WLMM065	22-Feb-23	7	WL
	4-May-23	6	WL
	6-Nov-23	7	SWL
		8	SWL
WLMM067	9-Jan-23	3	NWL
	1-Mar-23	6	WL
	13-Apr-23	4	WL
	11-Jul-23	3	WL
WLMM068	27-Dec-23	4	WL
WLMM070	22-Feb-23	4	WL
WLMM071	6-Jan-23	1	NWL
	2-Jun-23	6	WL
	9-Jun-23	1	WL
	15-Nov-23	1	AW
WLMM073	4-May-23	6	WL
	23-May-23	1	WL
		4	WL
	8-Aug-23	6	WL
WLMM077	2-Jun-23	3	WL
WLMM079	22-Feb-23	7	WL
	13-Apr-23	5	WL
	18-Apr-23	1	WL
	4-May-23	2	WL
	2-Jun-23	3	WL
		5	WL
	7-Jul-23	3	WL
	13-Nov-23	2	WL
WLMM080	21-Feb-23	1	WL
	2-Mar-23	2	WL

Individual ID	Date of sighting (dd-mmm-yy)	Sighting No.	Area
	11-Jul-23	1	WL
WLMM086	4-May-23	3	WL
	2-Jun-23	1	WL
WLMM093	3-Aug-23	4	SWL
	8-Aug-23	2	WL
WLMM102	7-Jul-23	3	WL
	3-Aug-23	4	SWL
	8-Aug-23	2	WL
WLMM103	1-Mar-23	4	WL
	2-Jun-23	5	WL
WLMM109	2-Mar-23	1	WL
	13-Oct-23	4	WL
	27-Dec-23	7	WL
WLMM111	4-May-23	5	WL
WLMM112	27-Dec-23	4	WL
WLMM113	27-Dec-23	4	WL
WLMM114	22-Feb-23	6	WL
	2-Mar-23	2	WL
	13-Apr-23	1	WL
	18-May-23	1	SWL
	23-May-23	4	WL
	9-Jun-23	5	WL
WLMM118	2-Mar-23	2	WL
	9-Jun-23	5	WL
	8-Aug-23	6	WL
	6-Nov-23	8	SWL
WLMM122	9-Jan-23	3	NWL
WLMM135	22-Feb-23	2	WL
WLMM141	21-Feb-23	1	WL
WLMM147	22-Feb-23	7	WL
	4-May-23	2	WL
	2-Jun-23	5	WL
	7-Jul-23	3	WL
WLMM149	13-Oct-23	1	WL
WLMM150	2-Mar-23	1	WL
	6-Nov-23	8	SWL
WLMM152	4-May-23	5	WL
WLMM159	4-May-23	2	WL
		6	WL
	9-Jun-23	5	WL
WLMM160	11-Jul-23	5	WL
WLMM162	27-Dec-23	4	WL
WLMM167	7-Jul-23	3	WL
WLMM168	9-Jun-23	1	WL
	6-Nov-23	8	SWL
WLMM174	2-Mar-23	1	WL
WLMM181	1-Mar-23	2	WL
		3	WL
WLMM182	1-Mar-23	2	WL
WLMM183	1-Mar-23	4	WL

<b>Individual ID</b>	<b>Date of sighting (dd-mmm-yy)</b>	<b>Sighting No.</b>	<b>Area</b>
WLMM184	1-Mar-23	4	WL
WLMM185	1-Mar-23	4	WL
WLMM186	1-Mar-23	5	WL
WLMM187	4-May-23	6	WL
WLMM188	2-Jun-23	3	WL
WLMM189	11-Jul-23	5	WL
WLMM190	8-Aug-23	5	WL
WLMM191	20-Sep-23	2	WL
WLMM192	13-Oct-23	4	WL
WLMM193	15-Nov-23	1	AW
WLMM194	27-Dec-23	8	WL



**Table 10: Land-based Survey, Theodolite Effort and CWD Group Summary in 2023**

Land-based Station	# of Survey Sessions	Survey Effort (hh:mm)	# CWD Groups Sighted	CWD Group Sighting per Survey Hr	# Groups After Filtering	# of 10-minutes segments
Sha Chau	12	72:00	0	0	0	0
Lung Kwu Chau	12	72:00	7	0.10	6	10
<b>TOTAL</b>	<b>24</b>	<b>144:00</b>	<b>7</b>	<b>0.05</b>	<b>6</b>	<b>10</b>

**Table 11: Land-based CWD Focal Group Size Summary in 2023**

Category	n (sample size)	Minimum # Individuals	Maximum # Individuals	Mean Grp Size	Standard Deviation
Lung Kwu Chau Station Total	7	1	7	2.7	2.2
Winter	5	1	7	3.4	2.3
Spring	0	0	0	0	0
Summer	2	1	1	1	0
Autumn	0	0	0	0	0
Dry	5	1	7	3.4	2.3
Wet	2	1	1	1	0
Inside SCLKCMP boundary	2	1	1	1	0
Crossing SCLKCMP boundary	4	1	7	3.8	2.5
Outside SCLKCMP boundary	1	2	2	2	0
No vessel	4	1	3	1.8	1
High speed ferry within 500 m	0	0	0	0	0
Other vessels within 500 m	3	1	7	4	3

**Table 12: CWD Mean Swimming Speed, Reorientation Rate, and Linearity based on Vessel Presence recorded from Lung Kwu Chau in 2023 (based on filtered short-track segments)**

Vessel Type	Segment Sample Size	Mean Speed (Std. dev.)	Mean Reorientation Rate (Std. dev.)	Mean Linearity (Std. dev.)
No vessel	3	5.79 (2.06)	29.19 (24.90)	0.75 (0.31)
High speed ferry	0	0	0	0
Other vessels	7	3.37 (1.07)	28.06 (25.84)	0.76 (0.22)

**Table 13: Summary of PAM Deployments and Dolphin Detections, 30 Dec 2022 to 3 Jan 2024**

Site	Dep #	Deployment date (dd/mm/yyyy)	Retrieval date (dd/mm/yyyy)	Dep days	Logged days	Dolphin DPM	Dolphin DPD	DPD % of days
A5	1	30/12/2022	07/03/2023	68	68.0	65	19	27.94%
A5	2	07/03/2023	23/05/2023	78	78.0	28	11	14.10%
A5	3	23/05/2023	01/08/2023	71	71.0	8	4	5.63%
A5	4	01/08/2023	01/11/2023	93	93.0	11	6	6.45%
A5	5	01/11/2023	04/01/2024	65	65.0	4	3	4.61%
<b>A5</b>	<b>Total</b>	<b>30/12/2022</b>	<b>04/01/2024</b>	<b>375</b>	<b>374.99</b>	<b>116</b>	<b>43</b>	<b>11.47%</b>

Remarks:

Dep = Deployment

DPD = detection positive days (days with one or more dolphin detections)

DPM = detection positive minutes (minutes with at least one dolphin click train detected)

DPD % = detection positive days as a percentage of total logged days

**Table 14: Summary of PAM Deployments and Dolphin Detections in Previous Year (10 Jan 2022 to 30 Dec 2022)**

Site	Dep #	Deployment date (dd/mm/yyyy)	Retrieval date (dd/mm/yyyy)	Dep days	Logged days	Dolphin DPM	Dolphin DPD	DPD % of days
A5	1	10/01/2022	08/03/2022	58	58.0	84	16	27.60%
A5	2	08/03/2022	16/05/2022	70	70.0	28	12	17.15%
A5	3	16/05/2022	11/08/2022	88	88.0	17	9	10.23%
A5	4	11/08/2022	20/10/2022	71	71.0	0	0	0%
A5	5	20/10/2022	30/12/2022	72	72.0	86	15	20.84%
<b>A5</b>	<b>Total</b>	<b>10/01/2022</b>	<b>30/12/2022</b>	<b>359</b>	<b>358.9</b>	<b>215</b>	<b>52</b>	<b>14.49%</b>

Remarks:

Dep = Deployment

DPD = detection positive days (days with one or more dolphin detections)

DPM = detection positive minutes (minutes with at least one dolphin click train detected)

DPD % = detection positive days as a percentage of total logged days

**CWD Small Vessel Line-transect Survey**

**Survey Effort Data**

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
06-Jan-23	NWL	2	27.910	WINTER	32166	3RS ET	P
06-Jan-23	NWL	3	34.020	WINTER	32166	3RS ET	P
06-Jan-23	NWL	2	5.290	WINTER	32166	3RS ET	S
06-Jan-23	NWL	3	6.780	WINTER	32166	3RS ET	S
09-Jan-23	NWL	2	22.370	WINTER	32166	3RS ET	P
09-Jan-23	NWL	3	39.710	WINTER	32166	3RS ET	P
09-Jan-23	NWL	2	3.350	WINTER	32166	3RS ET	S
09-Jan-23	NWL	3	8.820	WINTER	32166	3RS ET	S
10-Jan-23	SWL	2	56.930	WINTER	32166	3RS ET	P
10-Jan-23	SWL	2	13.570	WINTER	32166	3RS ET	S
12-Jan-23	AW	2	2.890	WINTER	32166	3RS ET	P
12-Jan-23	AW	3	1.690	WINTER	32166	3RS ET	P
12-Jan-23	WL	2	17.170	WINTER	32166	3RS ET	P
12-Jan-23	WL	3	2.500	WINTER	32166	3RS ET	P
12-Jan-23	WL	2	9.830	WINTER	32166	3RS ET	S
12-Jan-23	WL	3	1.100	WINTER	32166	3RS ET	S
13-Jan-23	SWL	1	3.380	WINTER	32166	3RS ET	P
13-Jan-23	SWL	2	50.173	WINTER	32166	3RS ET	P
13-Jan-23	SWL	1	2.050	WINTER	32166	3RS ET	S
13-Jan-23	SWL	2	16.697	WINTER	32166	3RS ET	S
16-Jan-23	NEL	2	8.200	WINTER	32166	3RS ET	P
16-Jan-23	NEL	3	28.750	WINTER	32166	3RS ET	P
16-Jan-23	NEL	2	4.200	WINTER	32166	3RS ET	S
16-Jan-23	NEL	3	6.150	WINTER	32166	3RS ET	S
16-Jan-23	DB	3	7.660	WINTER	32166	3RS ET	P
16-Jan-23	DB	3	3.940	WINTER	32166	3RS ET	S
17-Jan-23	DB	2	7.360	WINTER	32166	3RS ET	P
17-Jan-23	DB	2	4.340	WINTER	32166	3RS ET	S
17-Jan-23	NEL	2	28.590	WINTER	32166	3RS ET	P
17-Jan-23	NEL	3	8.380	WINTER	32166	3RS ET	P
17-Jan-23	NEL	2	10.130	WINTER	32166	3RS ET	S
18-Jan-23	WL	3	15.140	WINTER	32166	3RS ET	P
18-Jan-23	WL	4	5.200	WINTER	32166	3RS ET	P
18-Jan-23	WL	3	7.360	WINTER	32166	3RS ET	S
18-Jan-23	WL	4	3.200	WINTER	32166	3RS ET	S
18-Jan-23	AW	2	4.760	WINTER	32166	3RS ET	P
07-Feb-23	SWL	1	2.430	WINTER	32166	3RS ET	P
07-Feb-23	SWL	2	43.158	WINTER	32166	3RS ET	P
07-Feb-23	SWL	3	8.780	WINTER	32166	3RS ET	P
07-Feb-23	SWL	2	12.322	WINTER	32166	3RS ET	S
07-Feb-23	SWL	3	3.000	WINTER	32166	3RS ET	S
08-Feb-23	DB	2	7.510	WINTER	32166	3RS ET	P
08-Feb-23	DB	3	3.990	WINTER	32166	3RS ET	S
08-Feb-23	NEL	2	22.760	WINTER	32166	3RS ET	P
08-Feb-23	NEL	3	14.500	WINTER	32166	3RS ET	P
08-Feb-23	NEL	2	7.170	WINTER	32166	3RS ET	S
08-Feb-23	NEL	3	2.970	WINTER	32166	3RS ET	S
13-Feb-23	SWL	2	51.784	WINTER	32166	3RS ET	P

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
13-Feb-23	SWL	3	1.500	WINTER	32166	3RS ET	P
13-Feb-23	SWL	2	16.273	WINTER	32166	3RS ET	S
14-Feb-23	DB	3	7.590	WINTER	32166	3RS ET	P
14-Feb-23	DB	3	4.010	WINTER	32166	3RS ET	S
14-Feb-23	NEL	2	26.770	WINTER	32166	3RS ET	P
14-Feb-23	NEL	3	9.330	WINTER	32166	3RS ET	P
14-Feb-23	NEL	4	1.180	WINTER	32166	3RS ET	P
14-Feb-23	NEL	2	8.820	WINTER	32166	3RS ET	S
14-Feb-23	NEL	3	0.800	WINTER	32166	3RS ET	S
16-Feb-23	NWL	2	10.780	WINTER	32166	3RS ET	P
16-Feb-23	NWL	3	51.368	WINTER	32166	3RS ET	P
16-Feb-23	NWL	2	3.860	WINTER	32166	3RS ET	S
16-Feb-23	NWL	3	7.940	WINTER	32166	3RS ET	S
20-Feb-23	NWL	2	11.500	WINTER	32166	3RS ET	P
20-Feb-23	NWL	3	50.750	WINTER	32166	3RS ET	P
20-Feb-23	NWL	2	4.200	WINTER	32166	3RS ET	S
20-Feb-23	NWL	3	7.850	WINTER	32166	3RS ET	S
21-Feb-23	AW	2	4.700	WINTER	32166	3RS ET	P
21-Feb-23	WL	2	4.530	WINTER	32166	3RS ET	P
21-Feb-23	WL	3	12.181	WINTER	32166	3RS ET	P
21-Feb-23	WL	4	2.220	WINTER	32166	3RS ET	P
21-Feb-23	WL	5	0.370	WINTER	32166	3RS ET	P
21-Feb-23	WL	2	5.229	WINTER	32166	3RS ET	S
21-Feb-23	WL	3	1.159	WINTER	32166	3RS ET	S
21-Feb-23	WL	4	3.810	WINTER	32166	3RS ET	S
22-Feb-23	AW	3	3.970	WINTER	32166	3RS ET	P
22-Feb-23	WL	3	15.367	WINTER	32166	3RS ET	P
22-Feb-23	WL	4	1.380	WINTER	32166	3RS ET	P
22-Feb-23	WL	3	7.158	WINTER	32166	3RS ET	S
22-Feb-23	WL	4	2.670	WINTER	32166	3RS ET	S
01-Mar-23	AW	2	4.970	SPRING	32166	3RS ET	P
01-Mar-23	WL	2	11.695	SPRING	32166	3RS ET	P
01-Mar-23	WL	2	6.491	SPRING	32166	3RS ET	S
02-Mar-23	AW	2	1.190	SPRING	32166	3RS ET	P
02-Mar-23	AW	3	3.880	SPRING	32166	3RS ET	P
02-Mar-23	WL	2	3.848	SPRING	32166	3RS ET	P
02-Mar-23	WL	3	15.030	SPRING	32166	3RS ET	P
02-Mar-23	WL	4	1.200	SPRING	32166	3RS ET	P
02-Mar-23	WL	2	2.520	SPRING	32166	3RS ET	S
02-Mar-23	WL	3	6.430	SPRING	32166	3RS ET	S
02-Mar-23	WL	4	1.030	SPRING	32166	3RS ET	S
03-Mar-23	NWL	2	41.440	SPRING	32166	3RS ET	P
03-Mar-23	NWL	3	21.770	SPRING	32166	3RS ET	P
03-Mar-23	NWL	2	11.390	SPRING	32166	3RS ET	S
06-Mar-23	NEL	2	5.820	SPRING	32166	3RS ET	P
06-Mar-23	NEL	3	31.280	SPRING	32166	3RS ET	P
06-Mar-23	NEL	2	3.950	SPRING	32166	3RS ET	S
06-Mar-23	NEL	3	5.650	SPRING	32166	3RS ET	S
06-Mar-23	DB	2	7.890	SPRING	32166	3RS ET	P

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
06-Mar-23	DB	2	3.640	SPRING	32166	3RS ET	S
07-Mar-23	NWL	2	38.700	SPRING	32166	3RS ET	P
07-Mar-23	NWL	3	23.095	SPRING	32166	3RS ET	P
07-Mar-23	NWL	2	5.645	SPRING	32166	3RS ET	S
07-Mar-23	NWL	3	4.860	SPRING	32166	3RS ET	S
09-Mar-23	SWL	2	53.106	SPRING	32166	3RS ET	P
09-Mar-23	SWL	2	15.716	SPRING	32166	3RS ET	S
10-Mar-23	SWL	2	6.340	SPRING	32166	3RS ET	P
10-Mar-23	SWL	3	36.560	SPRING	32166	3RS ET	P
10-Mar-23	SWL	4	10.900	SPRING	32166	3RS ET	P
10-Mar-23	SWL	2	0.800	SPRING	32166	3RS ET	S
10-Mar-23	SWL	3	11.640	SPRING	32166	3RS ET	S
10-Mar-23	SWL	4	4.000	SPRING	32166	3RS ET	S
13-Mar-23	NEL	2	36.470	SPRING	32166	3RS ET	P
13-Mar-23	NEL	2	10.830	SPRING	32166	3RS ET	S
13-Mar-23	DB	2	7.310	SPRING	32166	3RS ET	P
13-Mar-23	DB	2	4.090	SPRING	32166	3RS ET	S
11-Apr-23	DB	2	7.790	SPRING	32166	3RS ET	P
11-Apr-23	DB	2	4.310	SPRING	32166	3RS ET	S
11-Apr-23	NEL	2	26.630	SPRING	32167	3RS ET	P
11-Apr-23	NEL	3	10.200	SPRING	32166	3RS ET	P
11-Apr-23	NEL	2	7.570	SPRING	32166	3RS ET	S
11-Apr-23	NEL	3	2.300	SPRING	32166	3RS ET	S
12-Apr-23	SWL	1	22.368	SPRING	32166	3RS ET	P
12-Apr-23	SWL	2	30.970	SPRING	32166	3RS ET	P
12-Apr-23	SWL	1	10.270	SPRING	32166	3RS ET	S
12-Apr-23	SWL	2	5.460	SPRING	32166	3RS ET	S
13-Apr-23	WL	2	10.107	SPRING	32166	3RS ET	P
13-Apr-23	WL	3	8.141	SPRING	32166	3RS ET	P
13-Apr-23	WL	2	4.103	SPRING	32166	3RS ET	S
13-Apr-23	WL	3	6.578	SPRING	32166	3RS ET	S
13-Apr-23	AW	3	4.900	SPRING	32166	3RS ET	P
14-Apr-23	SWL	2	44.965	SPRING	32166	3RS ET	P
14-Apr-23	SWL	3	9.510	SPRING	32166	3RS ET	P
14-Apr-23	SWL	2	13.425	SPRING	32166	3RS ET	S
14-Apr-23	SWL	3	2.000	SPRING	32166	3RS ET	S
18-Apr-23	AW	3	4.720	SPRING	32166	3RS ET	P
18-Apr-23	WL	3	19.170	SPRING	32166	3RS ET	P
18-Apr-23	WL	3	10.170	SPRING	32166	3RS ET	S
19-Apr-23	DB	3	6.860	SPRING	32166	3RS ET	P
19-Apr-23	DB	4	0.300	SPRING	32166	3RS ET	P
19-Apr-23	DB	3	1.860	SPRING	32166	3RS ET	S
19-Apr-23	DB	4	2.080	SPRING	32166	3RS ET	S
19-Apr-23	NEL	3	25.790	SPRING	32166	3RS ET	P
19-Apr-23	NEL	4	10.700	SPRING	32166	3RS ET	P
19-Apr-23	NEL	3	8.980	SPRING	32166	3RS ET	S
19-Apr-23	NEL	4	0.900	SPRING	32166	3RS ET	S
20-Apr-23	NWL	2	61.800	SPRING	32166	3RS ET	P
20-Apr-23	NWL	2	13.600	SPRING	32166	3RS ET	S

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
21-Apr-23	NWL	3	41.400	SPRING	32166	3RS ET	P
21-Apr-23	NWL	4	22.400	SPRING	32166	3RS ET	P
21-Apr-23	NWL	3	9.300	SPRING	32166	3RS ET	S
21-Apr-23	NWL	4	1.900	SPRING	32166	3RS ET	S
04-May-23	WL	2	9.370	SPRING	32166	3RS ET	P
04-May-23	WL	3	5.924	SPRING	32166	3RS ET	P
04-May-23	WL	2	4.130	SPRING	32166	3RS ET	S
04-May-23	WL	3	4.963	SPRING	32166	3RS ET	S
04-May-23	AW	2	4.790	SPRING	32166	3RS ET	P
09-May-23	DB	2	7.470	SPRING	32166	3RS ET	P
09-May-23	DB	2	4.230	SPRING	32166	3RS ET	S
09-May-23	NEL	2	20.000	SPRING	32166	3RS ET	P
09-May-23	NEL	3	17.600	SPRING	32166	3RS ET	P
09-May-23	NEL	2	6.500	SPRING	32166	3RS ET	S
09-May-23	NEL	3	3.100	SPRING	32166	3RS ET	S
10-May-23	DB	2	1.520	SPRING	32166	3RS ET	P
10-May-23	DB	3	6.050	SPRING	32166	3RS ET	P
10-May-23	DB	2	0.910	SPRING	32166	3RS ET	S
10-May-23	DB	3	3.120	SPRING	32166	3RS ET	S
10-May-23	NEL	2	2.640	SPRING	32166	3RS ET	P
10-May-23	NEL	3	32.710	SPRING	32166	3RS ET	P
10-May-23	NEL	4	1.700	SPRING	32166	3RS ET	P
10-May-23	NEL	2	1.980	SPRING	32166	3RS ET	S
10-May-23	NEL	3	8.370	SPRING	32166	3RS ET	S
11-May-23	NWL	2	14.500	SPRING	32166	3RS ET	P
11-May-23	NWL	3	48.500	SPRING	32166	3RS ET	P
11-May-23	NWL	2	2.100	SPRING	32166	3RS ET	S
11-May-23	NWL	3	9.800	SPRING	32166	3RS ET	S
15-May-23	SWL	2	53.890	SPRING	32166	3RS ET	P
15-May-23	SWL	2	16.110	SPRING	32166	3RS ET	S
16-May-23	NWL	2	29.700	SPRING	32166	3RS ET	P
16-May-23	NWL	3	34.100	SPRING	32166	3RS ET	P
16-May-23	NWL	2	6.400	SPRING	32166	3RS ET	S
16-May-23	NWL	3	5.000	SPRING	32166	3RS ET	S
18-May-23	SWL	2	48.250	SPRING	32166	3RS ET	P
18-May-23	SWL	3	4.660	SPRING	32166	3RS ET	P
18-May-23	SWL	2	15.050	SPRING	32166	3RS ET	S
18-May-23	SWL	3	1.060	SPRING	32166	3RS ET	S
23-May-23	AW	3	4.630	SPRING	32166	3RS ET	P
23-May-23	WL	2	9.160	SPRING	32166	3RS ET	P
23-May-23	WL	3	10.106	SPRING	32166	3RS ET	P
23-May-23	WL	2	2.470	SPRING	32166	3RS ET	S
23-May-23	WL	3	7.890	SPRING	32166	3RS ET	S
01-Jun-23	SWL	1	6.440	SUMMER	32166	3RS ET	P
01-Jun-23	SWL	2	34.380	SUMMER	32166	3RS ET	P
01-Jun-23	SWL	3	12.900	SUMMER	32166	3RS ET	P
01-Jun-23	SWL	2	15.380	SUMMER	32166	3RS ET	S
01-Jun-23	SWL	3	1.000	SUMMER	32166	3RS ET	S
02-Jun-23	WL	2	16.884	SUMMER	32166	3RS ET	P

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
02-Jun-23	WL	2	8.320	SUMMER	32166	3RS ET	S
02-Jun-23	AW	1	4.790	SUMMER	32166	3RS ET	P
05-Jun-23	NWL	2	3.480	SUMMER	32166	3RS ET	P
05-Jun-23	NWL	3	49.220	SUMMER	32166	3RS ET	P
05-Jun-23	NWL	4	10.900	SUMMER	32166	3RS ET	P
05-Jun-23	NWL	3	9.600	SUMMER	32166	3RS ET	S
05-Jun-23	NWL	4	2.500	SUMMER	32166	3RS ET	S
08-Jun-23	SWL	2	0.700	SUMMER	32166	3RS ET	P
08-Jun-23	SWL	3	51.824	SUMMER	32166	3RS ET	P
08-Jun-23	SWL	4	1.013	SUMMER	32166	3RS ET	P
08-Jun-23	SWL	2	1.800	SUMMER	32166	3RS ET	S
08-Jun-23	SWL	3	13.880	SUMMER	32166	3RS ET	S
09-Jun-23	AW	2	4.650	SUMMER	32166	3RS ET	P
09-Jun-23	WL	1	1.930	SUMMER	32166	3RS ET	P
09-Jun-23	WL	2	14.782	SUMMER	32166	3RS ET	P
09-Jun-23	WL	1	2.240	SUMMER	32166	3RS ET	S
09-Jun-23	WL	2	5.948	SUMMER	32166	3RS ET	S
09-Jun-23	WL	3	0.300	SUMMER	32166	3RS ET	S
13-Jun-23	NWL	2	59.180	SUMMER	32166	3RS ET	P
13-Jun-23	NWL	3	3.100	SUMMER	32166	3RS ET	P
13-Jun-23	NWL	2	12.420	SUMMER	32166	3RS ET	S
14-Jun-23	DB	2	7.390	SUMMER	32166	3RS ET	P
14-Jun-23	DB	2	3.710	SUMMER	32166	3RS ET	S
14-Jun-23	NEL	2	37.440	SUMMER	32166	3RS ET	P
14-Jun-23	NEL	2	10.060	SUMMER	32166	3RS ET	S
20-Jun-23	NEL	2	33.080	SUMMER	32166	3RS ET	P
20-Jun-23	NEL	3	4.120	SUMMER	32166	3RS ET	P
20-Jun-23	NEL	2	10.200	SUMMER	32166	3RS ET	S
20-Jun-23	DB	3	1.500	SUMMER	32166	3RS ET	P
20-Jun-23	DB	4	6.060	SUMMER	32166	3RS ET	P
20-Jun-23	DB	3	2.020	SUMMER	32166	3RS ET	S
20-Jun-23	DB	4	1.820	SUMMER	32166	3RS ET	S
04-Jul-23	NEL	2	34.860	SUMMER	32166	3RS ET	P
04-Jul-23	NEL	3	2.000	SUMMER	32166	3RS ET	P
04-Jul-23	NEL	2	10.040	SUMMER	32166	3RS ET	S
04-Jul-23	DB	3	7.260	SUMMER	32166	3RS ET	P
04-Jul-23	DB	3	4.340	SUMMER	32166	3RS ET	S
06-Jul-23	NWL	2	15.200	SUMMER	32166	3RS ET	P
06-Jul-23	NWL	3	48.600	SUMMER	32166	3RS ET	P
06-Jul-23	NWL	3	11.700	SUMMER	32166	3RS ET	S
07-Jul-23	AW	3	4.720	SUMMER	32166	3RS ET	P
07-Jul-23	WL	3	18.416	SUMMER	32166	3RS ET	P
07-Jul-23	WL	3	9.974	SUMMER	32166	3RS ET	S
07-Jul-23	WL	4	1.030	SUMMER	32166	3RS ET	S
10-Jul-23	DB	3	7.640	SUMMER	32166	3RS ET	P
10-Jul-23	DB	3	3.960	SUMMER	32166	3RS ET	S
10-Jul-23	NEL	2	10.000	SUMMER	32166	3RS ET	P
10-Jul-23	NEL	3	26.250	SUMMER	32166	3RS ET	P
10-Jul-23	NEL	2	3.950	SUMMER	32166	3RS ET	S

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
10-Jul-23	NEL	3	6.700	SUMMER	32166	3RS ET	S
11-Jul-23	WL	2	0.914	SUMMER	32166	3RS ET	P
11-Jul-23	WL	3	16.632	SUMMER	32166	3RS ET	P
11-Jul-23	WL	3	9.308	SUMMER	32166	3RS ET	S
11-Jul-23	AW	3	4.730	SUMMER	32166	3RS ET	P
12-Jul-23	SWL	2	42.491	SUMMER	32166	3RS ET	P
12-Jul-23	SWL	3	12.177	SUMMER	32166	3RS ET	P
12-Jul-23	SWL	2	12.122	SUMMER	32166	3RS ET	S
12-Jul-23	SWL	3	3.070	SUMMER	32166	3RS ET	S
13-Jul-23	SWL	2	31.460	SUMMER	32166	3RS ET	P
13-Jul-23	SWL	3	21.490	SUMMER	32166	3RS ET	P
13-Jul-23	SWL	2	12.180	SUMMER	32166	3RS ET	S
13-Jul-23	SWL	3	4.500	SUMMER	32166	3RS ET	S
14-Jul-23	NWL	2	63.800	SUMMER	32166	3RS ET	P
14-Jul-23	NWL	2	11.700	SUMMER	32166	3RS ET	S
02-Aug-23	SWL	2	35.924	SUMMER	32166	3RS ET	P
02-Aug-23	SWL	3	14.605	SUMMER	32166	3RS ET	P
02-Aug-23	SWL	2	13.071	SUMMER	32166	3RS ET	S
02-Aug-23	SWL	3	2.370	SUMMER	32166	3RS ET	S
03-Aug-23	SWL	2	50.260	SUMMER	32166	3RS ET	P
03-Aug-23	SWL	3	3.500	SUMMER	32166	3RS ET	P
03-Aug-23	SWL	2	14.140	SUMMER	32166	3RS ET	S
03-Aug-23	SWL	3	1.100	SUMMER	32166	3RS ET	S
08-Aug-23	AW	2	4.770	SUMMER	32166	3RS ET	P
08-Aug-23	WL	2	5.650	SUMMER	32166	3RS ET	P
08-Aug-23	WL	3	13.958	SUMMER	32166	3RS ET	P
08-Aug-23	WL	2	3.236	SUMMER	32166	3RS ET	S
08-Aug-23	WL	3	6.443	SUMMER	32166	3RS ET	S
09-Aug-23	NWL	1	3.200	SUMMER	32166	3RS ET	P
09-Aug-23	NWL	2	58.200	SUMMER	32166	3RS ET	P
09-Aug-23	NWL	3	2.100	SUMMER	32166	3RS ET	P
09-Aug-23	NWL	1	12.2	SUMMER	32166	3RS ET	S
16-Aug-23	NEL	2	19.31	SUMMER	32166	3RS ET	P
16-Aug-23	NEL	3	17.6	SUMMER	32166	3RS ET	P
16-Aug-23	NEL	2	8.19	SUMMER	32166	3RS ET	S
16-Aug-23	NEL	3	1.8	SUMMER	32166	3RS ET	S
16-Aug-23	DB	2	0.833	SUMMER	32166	3RS ET	P
16-Aug-23	DB	3	6.787	SUMMER	32166	3RS ET	P
16-Aug-23	DB	3	3.78	SUMMER	32166	3RS ET	S
17-Aug-23	NEL	2	37.41	SUMMER	32166	3RS ET	P
17-Aug-23	NEL	2	9.99	SUMMER	32166	3RS ET	S
17-Aug-23	DB	2	7.39	SUMMER	32166	3RS ET	P
17-Aug-23	DB	2	3.81	SUMMER	32166	3RS ET	S
22-Aug-23	NWL	2	63.5	SUMMER	32166	3RS ET	P
22-Aug-23	NWL	2	12.2	SUMMER	32166	3RS ET	S
24-Aug-23	AW	2	4.8	SUMMER	32166	3RS ET	P
24-Aug-23	WL	2	13.49	SUMMER	32166	3RS ET	P
24-Aug-23	WL	3	6.15	SUMMER	32166	3RS ET	P
24-Aug-23	WL	2	6.47	SUMMER	32166	3RS ET	S



DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
24-Aug-23	WL	3	3.42	SUMMER	32166	3RS ET	S
06-Sep-23	NEL	1	2.34	AUTUMN	32166	3RS ET	P
06-Sep-23	NEL	2	34.54	AUTUMN	32166	3RS ET	P
06-Sep-23	NEL	1	0.67	AUTUMN	32166	3RS ET	S
06-Sep-23	NEL	2	9.25	AUTUMN	32166	3RS ET	S
06-Sep-23	DB	2	7.29	AUTUMN	32166	3RS ET	P
06-Sep-23	DB	2	3.91	AUTUMN	32166	3RS ET	S
13-Sep-23	SWL	3	55.03	AUTUMN	32166	3RS ET	P
13-Sep-23	SWL	3	14.57	AUTUMN	32166	3RS ET	S
15-Sep-23	NEL	2	13.6	AUTUMN	32166	3RS ET	P
15-Sep-23	NEL	3	23.82	AUTUMN	32166	3RS ET	P
15-Sep-23	NEL	2	5.98	AUTUMN	32166	3RS ET	S
15-Sep-23	NEL	3	4.2	AUTUMN	32166	3RS ET	S
15-Sep-23	DB	2	7.27	AUTUMN	32166	3RS ET	P
15-Sep-23	DB	2	4.23	AUTUMN	32166	3RS ET	S
18-Sep-23	SWL	2	17.1	AUTUMN	32166	3RS ET	P
18-Sep-23	SWL	3	36.7	AUTUMN	32166	3RS ET	P
18-Sep-23	SWL	2	2.74	AUTUMN	32166	3RS ET	S
18-Sep-23	SWL	3	13	AUTUMN	32166	3RS ET	S
20-Sep-23	WL	1	9.19	AUTUMN	32166	3RS ET	P
20-Sep-23	WL	2	7.4	AUTUMN	32166	3RS ET	P
20-Sep-23	WL	3	1.904	AUTUMN	32166	3RS ET	P
20-Sep-23	WL	1	4.95	AUTUMN	32166	3RS ET	S
20-Sep-23	WL	2	4.11	AUTUMN	32166	3RS ET	S
20-Sep-23	WL	3	2.186	AUTUMN	32166	3RS ET	S
20-Sep-23	AW	1	4.63	AUTUMN	32166	3RS ET	P
21-Sep-23	AW	2	4.56	AUTUMN	32166	3RS ET	P
21-Sep-23	WL	1	3.93	AUTUMN	32166	3RS ET	P
21-Sep-23	WL	2	12.869	AUTUMN	32166	3RS ET	P
21-Sep-23	WL	2	11.546	AUTUMN	32166	3RS ET	S
22-Sep-23	NWL	2	63.9	AUTUMN	32166	3RS ET	P
22-Sep-23	NWL	2	12	AUTUMN	32166	3RS ET	S
25-Sep-23	NWL	2	1.62	AUTUMN	32166	3RS ET	P
25-Sep-23	NWL	3	43.48	AUTUMN	32166	3RS ET	P
25-Sep-23	NWL	4	18.2	AUTUMN	32166	3RS ET	P
25-Sep-23	NWL	3	8.9	AUTUMN	32166	3RS ET	S
25-Sep-23	NWL	4	3.2	AUTUMN	32166	3RS ET	S
06-Oct-23	DB	2	3.18	SUMMER	32166	3RS ET	P
06-Oct-23	DB	3	4.27	SUMMER	32166	3RS ET	P
06-Oct-23	DB	2	1.94	SUMMER	32166	3RS ET	S
06-Oct-23	DB	3	1.91	SUMMER	32166	3RS ET	S
06-Oct-23	NEL	2	26.24	AUTUMN	32166	3RS ET	P
06-Oct-23	NEL	3	10.33	AUTUMN	32166	3RS ET	P
06-Oct-23	NEL	4	0.77	AUTUMN	32166	3RS ET	P
06-Oct-23	NEL	2	6.37	AUTUMN	32166	3RS ET	S
06-Oct-23	NEL	3	4.39	AUTUMN	32166	3RS ET	S
12-Oct-23	NWL	2	11.4	AUTUMN	32166	3RS ET	P
12-Oct-23	NWL	3	52.8	AUTUMN	32166	3RS ET	P
12-Oct-23	NWL	2	4.3	AUTUMN	32166	3RS ET	S

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
12-Oct-23	NWL	3	7.3	AUTUMN	32166	3RS ET	S
13-Oct-23	AW	2	1.7	AUTUMN	32166	3RS ET	P
13-Oct-23	AW	3	3.03	AUTUMN	32166	3RS ET	P
13-Oct-23	WL	2	11.126	AUTUMN	32166	3RS ET	P
13-Oct-23	WL	3	7.776	AUTUMN	32166	3RS ET	P
13-Oct-23	WL	2	4.944	AUTUMN	32166	3RS ET	S
13-Oct-23	WL	3	5.384	AUTUMN	32166	3RS ET	S
16-Oct-23	NWL	3	63.8	AUTUMN	32166	3RS ET	P
16-Oct-23	NWL	3	11.8	AUTUMN	32166	3RS ET	S
17-Oct-23	DB	3	4.98	AUTUMN	32166	3RS ET	P
17-Oct-23	DB	4	2.38	AUTUMN	32166	3RS ET	P
17-Oct-23	DB	3	3.04	AUTUMN	32166	3RS ET	S
17-Oct-23	DB	4	1.1	AUTUMN	32166	3RS ET	S
17-Oct-23	NEL	2	1.7	AUTUMN	32166	3RS ET	P
17-Oct-23	NEL	3	33.64	AUTUMN	32166	3RS ET	P
17-Oct-23	NEL	2	4.5	AUTUMN	32166	3RS ET	S
17-Oct-23	NEL	3	7.26	AUTUMN	32166	3RS ET	S
20-Oct-23	AW	3	4.52	AUTUMN	32166	3RS ET	P
20-Oct-23	WL	2	4.763	AUTUMN	32166	3RS ET	P
20-Oct-23	WL	3	15.33	AUTUMN	32166	3RS ET	P
20-Oct-23	WL	2	2.967	AUTUMN	32166	3RS ET	S
20-Oct-23	WL	3	7.67	AUTUMN	32166	3RS ET	S
26-Oct-23	SWL	3	53.33	AUTUMN	32166	3RS ET	P
26-Oct-23	SWL	4	1.1	AUTUMN	32166	3RS ET	P
26-Oct-23	SWL	3	14.97	AUTUMN	32166	3RS ET	S
26-Oct-23	SWL	4	0.9	AUTUMN	32166	3RS ET	S
27-Oct-23	SWL	2	8.81	AUTUMN	32166	3RS ET	P
27-Oct-23	SWL	3	45.261	AUTUMN	32166	3RS ET	P
27-Oct-23	SWL	2	3.59	AUTUMN	32166	3RS ET	S
27-Oct-23	SWL	3	12.389	AUTUMN	32166	3RS ET	S
06-Nov-23	SWL	2	35.185	AUTUMN	32166	3RS ET	P
06-Nov-23	SWL	3	16.77	AUTUMN	32166	3RS ET	P
06-Nov-23	SWL	2	12.371	AUTUMN	32166	3RS ET	S
06-Nov-23	SWL	3	3.57	AUTUMN	32166	3RS ET	S
07-Nov-23	DB	2	0.34	AUTUMN	32166	3RS ET	P
07-Nov-23	DB	3	7.11	AUTUMN	32166	3RS ET	P
07-Nov-23	DB	2	1	AUTUMN	32166	3RS ET	S
07-Nov-23	DB	3	2.85	AUTUMN	32166	3RS ET	S
07-Nov-23	NEL	2	12.86	AUTUMN	32166	3RS ET	P
07-Nov-23	NEL	3	18.4	AUTUMN	32166	3RS ET	P
07-Nov-23	NEL	1	5	AUTUMN	32166	3RS ET	P
07-Nov-23	NEL	2	7.64	AUTUMN	32166	3RS ET	S
07-Nov-23	NEL	3	1.1	AUTUMN	32166	3RS ET	S
07-Nov-23	NEL	1	1.7	AUTUMN	32166	3RS ET	S
09-Nov-23	NWL	2	0.9	AUTUMN	32166	3RS ET	P
09-Nov-23	NWL	3	59.3	AUTUMN	32166	3RS ET	P
09-Nov-23	NWL	3	10.2	AUTUMN	32166	3RS ET	S
09-Nov-23	NWL	4	3.5	AUTUMN	32166	3RS ET	P
09-Nov-23	NWL	4	1	AUTUMN	32166	3RS ET	S

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
13-Nov-23	AW	3	6.49	AUTUMN	32166	3RS ET	P
13-Nov-23	WL	3	9.799	AUTUMN	32166	3RS ET	P
13-Nov-23	WL	3	8.121	AUTUMN	32166	3RS ET	S
13-Nov-23	WL	4	9.56	AUTUMN	32166	3RS ET	P
13-Nov-23	WL	4	2.89	AUTUMN	32166	3RS ET	S
14-Nov-23	NWL	2	22.6	AUTUMN	32166	3RS ET	P
14-Nov-23	NWL	3	41	AUTUMN	32166	3RS ET	P
14-Nov-23	NWL	3	6	AUTUMN	32166	3RS ET	S
14-Nov-23	NWL	2	5.8	AUTUMN	32166	3RS ET	S
15-Nov-23	AW	2	1.34	AUTUMN	32166	3RS ET	P
15-Nov-23	AW	3	2.96	AUTUMN	32166	3RS ET	P
15-Nov-23	WL	2	0.25	AUTUMN	32166	3RS ET	P
15-Nov-23	WL	3	18.362	AUTUMN	32166	3RS ET	P
15-Nov-23	WL	2	1.13	AUTUMN	32166	3RS ET	S
15-Nov-23	WL	3	8.41	AUTUMN	32166	3RS ET	S
16-Nov-23	DB	4	7.53	AUTUMN	32166	3RS ET	P
16-Nov-23	DB	4	3.67	AUTUMN	32166	3RS ET	S
16-Nov-23	NEL	4	3.6	AUTUMN	32166	3RS ET	P
16-Nov-23	NEL	2	6.91	AUTUMN	32166	3RS ET	P
16-Nov-23	NEL	3	26.11	AUTUMN	32166	3RS ET	P
16-Nov-23	NEL	2	2.96	AUTUMN	32166	3RS ET	S
16-Nov-23	NEL	3	7.02	AUTUMN	32166	3RS ET	S
20-Nov-23	SWL	2	36.96	AUTUMN	32166	3RS ET	P
20-Nov-23	SWL	3	15.97	AUTUMN	32166	3RS ET	P
20-Nov-23	SWL	2	13.26	AUTUMN	32166	3RS ET	S
20-Nov-23	SWL	3	3.3	AUTUMN	32166	3RS ET	S
04-Dec-23	NWL	2	26.3	WINTER	32166	3RS ET	P
04-Dec-23	NWL	3	37.6	WINTER	32166	3RS ET	P
04-Dec-23	NWL	2	6.3	WINTER	32166	3RS ET	S
04-Dec-23	NWL	3	4.9	WINTER	32166	3RS ET	S
11-Dec-23	SWL	1	4.81	WINTER	32166	3RS ET	P
11-Dec-23	SWL	2	48.72	WINTER	32166	3RS ET	P
11-Dec-23	SWL	2	15.11	WINTER	32166	3RS ET	S
13-Dec-23	DB	2	7.64	WINTER	32166	3RS ET	P
13-Dec-23	DB	2	3.66	WINTER	32166	3RS ET	S
13-Dec-23	NEL	3	36.57	WINTER	32166	3RS ET	P
13-Dec-23	NEL	3	10.23	WINTER	32166	3RS ET	S
14-Dec-23	NWL	2	54	WINTER	32166	3RS ET	P
14-Dec-23	NWL	3	9.8	WINTER	32166	3RS ET	P
14-Dec-23	NWL	2	9.6	WINTER	32166	3RS ET	S
14-Dec-23	NWL	3	1.4	WINTER	32166	3RS ET	S
18-Dec-23	DB	3	7.42	WINTER	32166	3RS ET	P
18-Dec-23	DB	3	3.98	WINTER	32166	3RS ET	S
18-Dec-23	NEL	2	29.453	WINTER	32166	3RS ET	P
18-Dec-23	NEL	3	7.597	WINTER	32166	3RS ET	P
18-Dec-23	NEL	2	5.64	WINTER	32166	3RS ET	S
18-Dec-23	NEL	3	4.2	WINTER	32166	3RS ET	S
19-Dec-23	AW	3	4.89	WINTER	32166	3RS ET	P
19-Dec-23	WL	3	8.79	WINTER	32166	3RS ET	P

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
19-Dec-23	WL	4	3.8	WINTER	32166	3RS ET	P
19-Dec-23	WL	5	6.6	WINTER	32166	3RS ET	P
19-Dec-23	WL	3	4.71	WINTER	32166	3RS ET	S
19-Dec-23	WL	4	1.8	WINTER	32166	3RS ET	S
19-Dec-23	WL	5	3	WINTER	32166	3RS ET	S
27-Dec-23	AW	2	4.74	WINTER	32166	3RS ET	P
27-Dec-23	WL	2	11.071	WINTER	32166	3RS ET	P
27-Dec-23	WL	3	3.212	WINTER	32166	3RS ET	P
27-Dec-23	WL	2	9.414	WINTER	32166	3RS ET	S
27-Dec-23	WL	3	1.09	WINTER	32166	3RS ET	S
28-Dec-23	SWL	2	33.05	WINTER	32166	3RS ET	P
28-Dec-23	SWL	3	20.81	WINTER	32166	3RS ET	P
28-Dec-23	SWL	2	11.57	WINTER	32166	3RS ET	S
28-Dec-23	SWL	3	3.49	WINTER	32166	3RS ET	S

**CWD Small Vessel Line-transect Survey**

**Sighting Data**

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
06-Jan-23	1	1048	CWD	5	NWL	3	98	ON	3RS ET	22.2845	113.8776	WINTER	NONE	P
06-Jan-23	2	1303	CWD	3	NWL	3	399	ON	3RS ET	22.3944	113.8973	WINTER	PAIR TRAWLER	P
09-Jan-23	1	1013	CWD	2	NWL	2	51	ON	3RS ET	22.3058	113.8700	WINTER	NONE	P
09-Jan-23	2	1056	CWD	2	NWL	2	19	ON	3RS ET	22.2958	113.8777	WINTER	NONE	P
09-Jan-23	3	1144	CWD	4	NWL	3	351	ON	3RS ET	22.3661	113.8778	WINTER	NONE	P
13-Jan-23	1	1106	FP	2	SWL	2	7	ON	3RS ET	22.1527	113.9276	WINTER	NONE	P
13-Jan-23	2	1220	FP	1	SWL	2	64	ON	3RS ET	22.1579	113.8989	WINTER	NONE	S
13-Jan-23	3	1228	CWD	1	SWL	2	57	ON	3RS ET	22.1703	113.9076	WINTER	NONE	P
13-Jan-23	4	1327	FP	2	SWL	2	60	ON	3RS ET	22.1494	113.8887	WINTER	NONE	S
13-Jan-23	5	1516	CWD	2	SWL	2	56	ON	3RS ET	22.1940	113.8498	WINTER	NONE	P
07-Feb-23	1	1109	FP	3	SWL	2	143	ON	3RS ET	22.1557	113.9258	WINTER	NONE	P
07-Feb-23	2	1200	FP	3	SWL	2	76	ON	3RS ET	22.1520	113.9175	WINTER	NONE	P
07-Feb-23	3	1209	FP	7	SWL	2	47	ON	3RS ET	22.1418	113.9107	WINTER	NONE	S
07-Feb-23	4	1232	FP	2	SWL	2	64	ON	3RS ET	22.1770	113.9058	WINTER	NONE	P
07-Feb-23	5	1258	FP	6	SWL	2	39	ON	3RS ET	22.1976	113.8973	WINTER	NONE	P
07-Feb-23	6	1307	FP	1	SWL	2	380	ON	3RS ET	22.1823	113.8972	WINTER	NONE	P
13-Feb-23	1	1034	FP	1	SWL	2	14	ON	3RS ET	22.1841	113.9358	WINTER	NONE	P
13-Feb-23	2	1036	FP	5	SWL	2	10	ON	3RS ET	22.1815	113.9359	WINTER	NONE	P
13-Feb-23	3	1254	FP	2	SWL	2	74	ON	3RS ET	22.1731	113.8965	WINTER	NONE	P
13-Feb-23	4	1321	FP	1	SWL	2	109	ON	3RS ET	22.1754	113.8879	WINTER	NONE	P
13-Feb-23	5	1335	FP	2	SWL	2	60	ON	3RS ET	22.2072	113.8878	WINTER	NONE	P
13-Feb-23	6	1417	FP	2	SWL	2	17	ON	3RS ET	22.1751	113.8690	WINTER	NONE	P
16-Feb-23	1	1036	CWD	16	NWL	3	38	ON	3RS ET	22.2750	113.8697	WINTER	NONE	P
16-Feb-23	2	1151	CWD	2	NWL	3	56	ON	3RS ET	22.3604	113.8777	WINTER	NONE	P
16-Feb-23	3	1202	CWD	7	NWL	3	87	ON	3RS ET	22.3668	113.8776	WINTER	NONE	P
16-Feb-23	4	1325	CWD	2	NWL	3	129	ON	3RS ET	22.3496	113.8975	WINTER	NONE	P
20-Feb-23	1	1118	CWD	2	NWL	3	120	ON	3RS ET	22.3748	113.8775	WINTER	NONE	P
21-Feb-23	1	1020	CWD	4	WL	3	52	ON	3RS ET	22.2804	113.8611	WINTER	NONE	P
21-Feb-23	2	1027	CWD	1	WL	3	109	ON	3RS ET	22.2780	113.8581	WINTER	NONE	P
21-Feb-23	3	1036	CWD	3	WL	3	493	ON	3RS ET	22.2724	113.8478	WINTER	NONE	S
21-Feb-23	4	1126	CWD	2	WL	2	37	ON	3RS ET	22.2319	113.8284	WINTER	NONE	P

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
21-Feb-23	5	1206	CWD	1	WL	3	97	ON	3RS ET	22.2055	113.8383	WINTER	NONE	P
22-Feb-23	1	0941	CWD	3	AW	3	42	ON	3RS ET	22.2947	113.8799	WINTER	NONE	P
22-Feb-23	2	1031	CWD	3	WL	3	284	ON	3RS ET	22.2693	113.8469	WINTER	NONE	P
22-Feb-23	3	1050	CWD	3	WL	3	48	ON	3RS ET	22.2599	113.8395	WINTER	NONE	P
22-Feb-23	4	1125	CWD	2	WL	3	70	ON	3RS ET	22.2443	113.8493	WINTER	NONE	S
22-Feb-23	5	1137	CWD	1	WL	3	217	ON	3RS ET	22.2420	113.8461	WINTER	NONE	P
22-Feb-23	6	1150	CWD	4	WL	3	313	ON	3RS ET	22.2415	113.8352	WINTER	NONE	P
22-Feb-23	7	1206	CWD	7	WL	3	270	ON	3RS ET	22.2316	113.8277	WINTER	NONE	P
22-Feb-23	8	1221	CWD	2	WL	3	29	ON	3RS ET	22.2236	113.8368	WINTER	PURSE SEINER	S
22-Feb-23	9	1236	CWD	3	WL	3	361	ON	3RS ET	22.2230	113.8298	WINTER	NONE	P
22-Feb-23	10	1308	CWD	4	WL	3	55	ON	3RS ET	22.2054	113.8381	WINTER	NONE	P
01-Mar-23	1	1116	CWD	1	AW	2	384	ON	3RS ET	22.3020	113.8820	SPRING	NONE	P
01-Mar-23	2	1202	CWD	7	WL	2	79	ON	3RS ET	22.2721	113.8461	SPRING	NONE	P
01-Mar-23	3	1258	CWD	2	WL	2	852	ON	3RS ET	22.2537	113.8347	SPRING	NONE	S
01-Mar-23	4	1315	CWD	6	WL	2	569	ON	3RS ET	22.2422	113.8338	SPRING	NONE	P
01-Mar-23	5	1343	CWD	7	WL	2	84	ON	3RS ET	22.2280	113.8379	SPRING	NONE	S
01-Mar-23	6	1420	CWD	7	WL	2	249	ON	3RS ET	22.2056	113.8281	SPRING	NONE	P
01-Mar-23	7	1447	CWD	3	WL	2	345	ON	3RS ET	22.1962	113.8339	SPRING	NONE	P
02-Mar-23	1	1039	CWD	6	WL	2	116	ON	3RS ET	22.2294	113.8379	SPRING	NONE	S
02-Mar-23	2	1051	CWD	14	WL	2	296	ON	3RS ET	22.2234	113.8338	SPRING	NONE	P
02-Mar-23	3	1153	CWD	7	WL	3	156	ON	3RS ET	22.1960	113.8395	SPRING	NONE	P
03-Mar-23	1	1050	CWD	5	NWL	3	167	ON	3RS ET	22.2804	113.8782	SPRING	NONE	P
06-Mar-23	1	1307	CWD	3	DB	2	350	ON	3RS ET	22.4274	113.8774	SPRING	NONE	S
07-Mar-23	1	1034	CWD	1	NWL	3	597	ON	3RS ET	22.2792	113.8700	SPRING	NONE	P
07-Mar-23	2	1140	CWD	1	NWL	2	122	ON	3RS ET	22.4001	113.8778	SPRING	NONE	P
09-Mar-23	1	1036	CWD	1	SWL	2	701	ON	3RS ET	22.2231	113.9365	SPRING	NONE	P
09-Mar-23	2	1112	FP	1	SWL	2	138	ON	3RS ET	22.1655	113.9358	SPRING	NONE	P
09-Mar-23	3	1116	FP	1	SWL	2	21	ON	3RS ET	22.1619	113.9356	SPRING	NONE	P
09-Mar-23	4	1121	FP	1	SWL	2	8	ON	3RS ET	22.1544	113.9359	SPRING	NONE	P
09-Mar-23	5	1124	FP	1	SWL	2	6	ON	3RS ET	22.1526	113.9363	SPRING	NONE	P
09-Mar-23	6	1232	FP	2	SWL	2	252	ON	3RS ET	22.1416	113.9120	SPRING	NONE	S
09-Mar-23	7	1259	FP	1	SWL	2	122	ON	3RS ET	22.1798	113.9040	SPRING	NONE	S
09-Mar-23	8	1345	FP	1	SWL	2	74	ON	3RS ET	22.1521	113.8976	SPRING	NONE	P

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
09-Mar-23	9	1513	CWD	5	SWL	2	389	ON	3RS ET	22.1930	113.8593	SPRING	NONE	P
10-Mar-23	1	1416	FP	2	SWL	2	29	ON	3RS ET	22.1643	113.8681	SPRING	NONE	P
10-Mar-23	2	1438	CWD	2	SWL	3	211	ON	3RS ET	22.1951	113.8583	SPRING	NONE	P
12-Apr-23	1	1042	FP	5	SWL	2	366	ON	3RS ET	22.1836	113.9358	SPRING	NONE	P
12-Apr-23	2	1047	FP	1	SWL	2	20	ON	3RS ET	22.1789	113.9355	SPRING	NONE	P
12-Apr-23	3	1050	FP	2	SWL	1	205	ON	3RS ET	22.1732	113.9358	SPRING	NONE	P
12-Apr-23	4	1055	FP	4	SWL	1	95	ON	3RS ET	22.1660	113.9362	SPRING	NONE	P
12-Apr-23	5	1100	FP	4	SWL	1	47	ON	3RS ET	22.1591	113.9364	SPRING	NONE	P
12-Apr-23	6	1103	FP	1	SWL	1	78	ON	3RS ET	22.1554	113.9362	SPRING	NONE	P
12-Apr-23	7	1109	FP	2	SWL	1	149	ON	3RS ET	22.1469	113.9315	SPRING	NONE	S
12-Apr-23	8	1119	FP	1	SWL	1	22	ON	3RS ET	22.1586	113.9276	SPRING	NONE	P
12-Apr-23	9	1124	FP	4	SWL	1	54	ON	3RS ET	22.1661	113.9276	SPRING	NONE	P
12-Apr-23	10	1218	FP	1	SWL	1	157	ON	3RS ET	22.1444	113.9080	SPRING	NONE	P
12-Apr-23	11	1226	FP	4	SWL	1	205	ON	3RS ET	22.1563	113.9008	SPRING	NONE	S
12-Apr-23	12	1311	FP	3	SWL	1	53	ON	3RS ET	22.1824	113.8971	SPRING	NONE	P
13-Apr-23	1	1057	CWD	10	WL	3	623	ON	3RS ET	22.2416	113.8409	SPRING	PURSE SEINER	P
13-Apr-23	2	1127	CWD	9	WL	2	11	ON	3RS ET	22.2324	113.8294	SPRING	PURSE SEINER	P
13-Apr-23	3	1146	CWD	2	WL	2	268	ON	3RS ET	22.2237	113.8286	SPRING	NONE	P
13-Apr-23	4	1156	CWD	3	WL	3	11	ON	3RS ET	22.2188	113.8195	SPRING	NONE	S
13-Apr-23	5	1213	CWD	8	WL	3	355	ON	3RS ET	22.2148	113.8322	SPRING	NONE	P
14-Apr-23	1	1400	FP	1	SWL	2	9	ON	3RS ET	22.1593	113.8730	SPRING	NONE	S
18-Apr-23	1	1049	CWD	7	WL	3	26	ON	3RS ET	22.2459	113.8496	SPRING	NONE	S
18-Apr-23	2	1148	CWD	3	WL	3	296	ON	3RS ET	22.2141	113.8340	SPRING	NONE	P
18-Apr-23	3	1226	CWD	4	WL	3	282	ON	3RS ET	22.1962	113.8412	SPRING	NONE	P
04-May-23	1	1054	CWD	1	WL	2	409	ON	3RS ET	22.2451	113.8491	SPRING	NONE	S
04-May-23	2	1117	CWD	7	WL	3	130	ON	3RS ET	22.2324	113.8242	SPRING	NONE	S
04-May-23	3	1138	CWD	2	WL	3	179	ON	3RS ET	22.2321	113.8278	SPRING	NONE	P
04-May-23	4	1158	CWD	3	WL	3	335	ON	3RS ET	22.2241	113.8307	SPRING	NONE	P
04-May-23	5	1219	CWD	3	WL	3	163	ON	3RS ET	22.2143	113.8218	SPRING	NONE	P
04-May-23	6	1251	CWD	4	WL	3	212	ON	3RS ET	22.1968	113.8287	SPRING	NONE	S
04-May-23	7	1302	CWD	5	WL	3	379	ON	3RS ET	22.1962	113.8402	SPRING	NONE	P
15-May-23	1	1115	FP	2	SWL	2	44	ON	3RS ET	22.1744	113.9284	SPRING	NONE	P
18-May-23	1	1402	CWD	2	SWL	2	299	ON	3RS ET	22.1987	113.8785	SPRING	PURSE SEINER	P

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
18-May-23	2	1512	CWD	1	SWL	2	366	ON	3RS ET	22.1993	113.8596	SPRING	NONE	S
23-May-23	1	1116	CWD	4	WL	3	162	ON	3RS ET	22.2227	113.8306	SPRING	NONE	P
23-May-23	2	1145	CWD	1	WL	3	59	ON	3RS ET	22.2144	113.8338	SPRING	NONE	P
23-May-23	3	1216	CWD	3	WL	3	31	ON	3RS ET	22.1960	113.8410	SPRING	NONE	P
23-May-23	4	1231	CWD	5	WL	3	200	ON	3RS ET	22.1935	113.8425	SPRING	NONE	S
01-Jun-23	1	1318	FP	4	SWL	2	385	ON	3RS ET	22.1541	113.8882	SUMMER	NONE	P
01-Jun-23	2	1505	CWD	3	SWL	2	79	ON	3RS ET	22.1936	113.8492	SUMMER	NONE	P
02-Jun-23	1	1054	CWD	3	WL	2	591	ON	3RS ET	22.2417	113.8469	SUMMER	NONE	P
02-Jun-23	2	1112	CWD	1	WL	2	698	ON	3RS ET	22.2410	113.8323	SUMMER	NONE	P
02-Jun-23	3	1130	CWD	9	WL	2	30	ON	3RS ET	22.2327	113.8374	SUMMER	NONE	P
02-Jun-23	4	1153	CWD	1	WL	2	336	ON	3RS ET	22.2247	113.8372	SUMMER	NONE	S
02-Jun-23	5	1206	CWD	4	WL	2	100	ON	3RS ET	22.2237	113.8276	SUMMER	NONE	P
02-Jun-23	6	1217	CWD	4	WL	2	161	ON	3RS ET	22.2184	113.8204	SUMMER	NONE	S
02-Jun-23	7	1250	CWD	1	WL	2	1085	ON	3RS ET	22.2053	113.8213	SUMMER	NONE	P
02-Jun-23	8	1259	CWD	5	WL	2	153	ON	3RS ET	22.1964	113.8373	SUMMER	NONE	P
02-Jun-23	9	1332	CWD	2	SWL	2	N/A	OFF	3RS ET	22.1932	113.8510	SUMMER	PURSE SEINER	N/A
08-Jun-23	1	1446	CWD	1	SWL	3	223	ON	3RS ET	22.1958	113.8591	SUMMER	NONE	P
08-Jun-23	2	1457	CWD	4	SWL	3	321	ON	3RS ET	22.1892	113.8596	SUMMER	NONE	P
09-Jun-23	1	1058	CWD	2	WL	1	191	ON	3RS ET	22.2579	113.8376	SUMMER	NONE	S
09-Jun-23	2	1137	CWD	3	WL	2	105	ON	3RS ET	22.2325	113.8282	SUMMER	PURSE SEINER	P
09-Jun-23	3	1154	CWD	1	WL	2	580	ON	3RS ET	22.2291	113.8379	SUMMER	NONE	S
09-Jun-23	4	1203	CWD	3	WL	2	1060	ON	3RS ET	22.2243	113.8275	SUMMER	NONE	P
09-Jun-23	5	1253	CWD	6	WL	2	280	ON	3RS ET	22.2062	113.8240	SUMMER	NONE	P
09-Jun-23	6	1315	CWD	4	WL	2	100	ON	3RS ET	22.1981	113.8271	SUMMER	NONE	S
09-Jun-23	7	1328	CWD	1	WL	2	22	ON	3RS ET	22.1879	113.8407	SUMMER	NONE	P
13-Jun-23	1	1128	CWD	1	NWL	2	137	ON	3RS ET	22.3690	113.8779	SUMMER	NONE	P
07-Jul-23	1	1101	CWD	1	WL	3	268	ON	3RS ET	22.241465	113.836801	SUMMER	NONE	P
07-Jul-23	2	1200	CWD	1	WL	3	91	ON	3RS ET	22.196109	113.832519	SUMMER	NONE	P
07-Jul-23	3	1215	CWD	15	WL	3	134	ON	3RS ET	22.187467	113.840116	SUMMER	NONE	P
11-Jul-23	1	1056	CWD	3	WL	3	275	ON	3RS ET	22.241645	113.835777	SUMMER	NONE	P
11-Jul-23	2	1133	CWD	4	WL	3	35	ON	3RS ET	22.223005	113.824736	SUMMER	NONE	P
11-Jul-23	3	1142	CWD	5	WL	3	6	ON	3RS ET	22.216027	113.819765	SUMMER	NONE	S
11-Jul-23	4	1214	CWD	3	WL	3	390	ON	3RS ET	22.205179	113.831298	SUMMER	NONE	P



DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
11-Jul-23	5	1219	CWD	3	WL	3	170	ON	3RS ET	22.197487	113.827743	SUMMER	NONE	S
11-Jul-23	6	1248	CWD	1	WL	3	26	ON	3RS ET	22.196189	113.834526	SUMMER	NONE	P
11-Jul-23	7	1307	CWD	2	WL	3	339	ON	3RS ET	22.188088	113.841400	SUMMER	NONE	S
12-Jul-23	1	1047	FP	3	SWL	2	46	ON	3RS ET	22.1590	113.9357	SUMMER	NONE	P
12-Jul-23	2	1123	FP	2	SWL	2	39	ON	3RS ET	22.2022	113.9274	SUMMER	NONE	P
12-Jul-23	3	1145	FP	1	SWL	2	211	ON	3RS ET	22.1711	113.9188	SUMMER	NONE	P
12-Jul-23	4	1350	CWD	1	SWL	2	145	ON	3RS ET	22.189450	113.876910	SUMMER	NONE	P
13-Jul-23	1	1054	FP	1	SWL	2	34	ON	3RS ET	22.1510	113.9363	SUMMER	NONE	P
13-Jul-23	2	1227	CWD	1	SWL	2	61	ON	3RS ET	22.189361	113.906986	SUMMER	NONE	S
02-Aug-23	1	1023	CWD	1	SWL	2	477	ON	3RS ET	22.208496	113.936182	SUMMER	NONE	P
02-Aug-23	2	1202	FP	11	SWL	2	94	ON	3RS ET	22.1441	113.91764	SUMMER	NONE	P
02-Aug-23	3	1346	CWD	1	SWL	3	102	ON	3RS ET	22.199993	113.888076	SUMMER	NONE	P
02-Aug-23	4	1416	CWD	4	SWL	3	171	ON	3RS ET	22.188207	113.878646	SUMMER	NONE	P
02-Aug-23	5	1444	CWD	1	SWL	3	247	ON	3RS ET	22.162357	113.868907	SUMMER	NONE	P
02-Aug-23	6	1458	CWD	8	SWL	3	523	ON	3RS ET	22.168728	113.868811	SUMMER	NONE	P
02-Aug-23	7	1529	CWD	1	SWL	2	294	ON	3RS ET	22.198243	113.868397	SUMMER	PURSE SEINER	P
02-Aug-23	8	1549	CWD	3	SWL	2	225	ON	3RS ET	22.193412	113.858655	SUMMER	NONE	P
02-Aug-23	9	1605	CWD	2	SWL	2	202	ON	3RS ET	22.184851	113.859123	SUMMER	NONE	P
02-Aug-23	10	1630	CWD	8	SWL	2	272	ON	3RS ET	22.190554	113.849472	SUMMER	NONE	P
03-Aug-23	1	1152	FP	2	SWL	2	157	ON	3RS ET	22.1564	113.91727	SUMMER	NONE	P
03-Aug-23	2	1310	FP	3	SWL	2	208	ON	3RS ET	22.1495	113.89398	SUMMER	NONE	S
03-Aug-23	3	1352	CWD	4	SWL	2	346	ON	3RS ET	22.194928	113.878481	SUMMER	NONE	P
03-Aug-23	4	1523	CWD	5	SWL	3	343	ON	3RS ET	22.188937	113.850768	SUMMER	PURSE SEINER	P
08-Aug-23	1	1111	CWD	1	WL	2	108	ON	3RS ET	22.223379	113.830134	SUMMER	NONE	P
08-Aug-23	2	1131	CWD	2	WL	3	53	ON	3RS ET	22.214665	113.828900	SUMMER	NONE	P
08-Aug-23	3	1155	CWD	3	WL	2	473	ON	3RS ET	22.205493	113.824258	SUMMER	NONE	P
08-Aug-23	4	1213	CWD	3	WL	2	15	ON	3RS ET	22.201743	113.823813	SUMMER	NONE	S
08-Aug-23	5	1226	CWD	4	WL	3	23	ON	3RS ET	22.197417	113.826944	SUMMER	NONE	S
08-Aug-23	6	1256	CWD	6	WL	3	537	ON	3RS ET	22.187618	113.832602	SUMMER	NONE	P
24-Aug-23	1	1118	CWD	2	WL	3	108	ON	3RS ET	22.217616	113.819630	SUMMER	NONE	S
24-Aug-23	2	1147	CWD	2	WL	3	204	ON	3RS ET	22.205600	113.828620	SUMMER	NONE	P
13-Sep-23	1	1227	CWD	6	SWL	3	19	ON	3RS ET	22.188770	113.906269	AUTUMN	NONE	P
18-Sep-23	1	1029	FP	2	SWL	2	365	ON	3RS ET	22.197349	113.93566	AUTUMN	NONE	P

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
18-Sep-23	2	1037	FP	3	SWL	2	55	ON	3RS ET	22.184478	113.93564	AUTUMN	NONE	P
18-Sep-23	3	1053	FP	6	SWL	2	198	ON	3RS ET	22.153702	113.93678	AUTUMN	NONE	P
20-Sep-23	1	1030	CWD	2	WL	1	234	ON	3RS ET	22.261023	113.850934	AUTUMN	NONE	P
20-Sep-23	2	1042	CWD	2	WL	1	265	ON	3RS ET	22.260349	113.842286	AUTUMN	NONE	P
20-Sep-23	3	1112	CWD	1	WL	1	290	ON	3RS ET	22.241103	113.844249	AUTUMN	NONE	P
20-Sep-23	4	1124	CWD	1	WL	1	236	ON	3RS ET	22.241593	113.834837	AUTUMN	NONE	P
21-Sep-23	1	1034	CWD	3	WL	2	138	ON	3RS ET	22.261205	113.846830	AUTUMN	NONE	P
21-Sep-23	2	1122	CWD	3	WL	2	297	ON	3RS ET	22.223088	113.835249	AUTUMN	NONE	P
21-Sep-23	3	1156	CWD	6	WL	2	77	ON	3RS ET	22.214777	113.824979	AUTUMN	NONE	P
21-Sep-23	4	1223	CWD	1	WL	2	163	ON	3RS ET	22.206057	113.829026	AUTUMN	NONE	P
21-Sep-23	5	1231	CWD	2	WL	2	41	ON	3RS ET	22.205669	113.824873	AUTUMN	NONE	P
21-Sep-23	6	1247	CWD	1	WL	2	22	ON	3RS ET	22.196451	113.835611	AUTUMN	NONE	P
21-Sep-23	7	1254	CWD	3	WL	2	913	ON	3RS ET	22.193651	113.842627	AUTUMN	NONE	S
21-Sep-23	8	1319	CWD	1	WL	2	634	ON	3RS ET	22.187905	113.833459	AUTUMN	NONE	P
13-Oct-23	1	1028	CWD	2	WL	2	243	ON	3RS ET	22.260779	113.853468	AUTUMN	NONE	S
13-Oct-23	2	1043	CWD	2	WL	2	34	ON	3RS ET	22.260956	113.840829	AUTUMN	NONE	P
13-Oct-23	3	1058	CWD	1	WL	3	91	ON	3RS ET	22.250437	113.841275	AUTUMN	GILLNETTER	P
13-Oct-23	4	1117	CWD	9	WL	2	126	ON	3RS ET	22.241167	113.841706	AUTUMN	NONE	P
13-Oct-23	5	1149	CWD	3	WL	2	139	ON	3RS ET	22.241672	113.829845	AUTUMN	NONE	P
20-Oct-23	1	1149	CWD	2	WL	2	15	ON	3RS ET	22.196308	113.834539	AUTUMN	NONE	P
27-Oct-23	1	1202	FP	2	SWL	3	45	ON	3RS ET	22.151171	113.908504	AUTUMN	NONE	P
27-Oct-23	2	1216	CWD	1	SWL	2	128	ON	3RS ET	22.168029	113.906685	AUTUMN	NONE	S
06-Nov-23	1	1038	FP	6	SWL	2	144	ON	3RS ET	22.179714	113.936292	AUTUMN	NONE	P
06-Nov-23	2	1041	FP	4	SWL	2	55	ON	3RS ET	22.174271	113.936089	AUTUMN	NONE	P
06-Nov-23	3	1050	FP	3	SWL	2	442	ON	3RS ET	22.159022	113.936224	AUTUMN	NONE	P
06-Nov-23	4	1058	FP	1	SWL	2	52	ON	3RS ET	22.145772	113.931080	AUTUMN	NONE	S
06-Nov-23	5	1102	FP	5	SWL	2	113	ON	3RS ET	22.147034	113.927694	AUTUMN	NONE	P
06-Nov-23	6	1114	FP	2	SWL	2	40	ON	3RS ET	22.168425	113.927825	AUTUMN	NONE	P
06-Nov-23	7	1435	CWD	5	SWL	2	160	ON	3RS ET	22.199740	113.860026	AUTUMN	NONE	S
06-Nov-23	8	1509	CWD	15	SWL	3	398	ON	3RS ET	22.185090	113.849075	AUTUMN	NONE	P
13-Nov-23	1	1121	CWD	8	WL	3	32	ON	3RS ET	22.223555	113.836856	AUTUMN	NONE	S
13-Nov-23	2	1204	CWD	5	WL	3	4	ON	3RS ET	22.214224	113.831569	AUTUMN	NONE	P
15-Nov-23	1	0939	CWD	3	AW	2	463	ON	3RS ET	22.293376	113.877038	AUTUMN	NONE	P

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
15-Nov-23	2	1022	CWD	1	WL	3	247	ON	3RS ET	22.284568	113.861728	AUTUMN	NONE	P
15-Nov-23	3	1102	CWD	1	WL	3	208	ON	3RS ET	22.260917	113.845227	AUTUMN	NONE	P
15-Nov-23	4	1131	CWD	3	WL	3	449	ON	3RS ET	22.242099	113.836970	AUTUMN	NONE	P
15-Nov-23	5	1205	CWD	3	WL	3	190	ON	3RS ET	22.224754	113.837304	AUTUMN	NONE	S
15-Nov-23	6	1213	CWD	2	WL	3	470	ON	3RS ET	22.223496	113.823713	AUTUMN	NONE	P
15-Nov-23	7	1220	CWD	2	WL	3	650	ON	3RS ET	22.215539	113.819722	AUTUMN	SHRIMP TRAWLER	S
20-Nov-23	1	1042	FP	2	SWL	3	180	ON	3RS ET	22.173928	113.935982	AUTUMN	NONE	P
20-Nov-23	2	1104	FP	1	SWL	2	37	ON	3RS ET	22.158240	113.927296	AUTUMN	NONE	P
20-Nov-23	3	1115	FP	2	SWL	2	233	ON	3RS ET	22.180467	113.928151	AUTUMN	NONE	P
20-Nov-23	4	1156	FP	2	SWL	2	113	ON	3RS ET	22.146640	113.917842	AUTUMN	NONE	P
11-Dec-23	1	1243	CWD	1	SWL	2	285	ON	3RS ET	22.202903	113.897445	WINTER	PURSE SEINER	P
11-Dec-23	2	1339	CWD	2	SWL	2	180	ON	3RS ET	22.195981	113.887741	WINTER	NONE	P
11-Dec-23	3	1423	CWD	2	SWL	2	274	ON	3RS ET	22.179612	113.878398	WINTER	NONE	P
11-Dec-23	4	1445	CWD	2	SWL	2	594	ON	3RS ET	22.176185	113.868402	WINTER	NONE	P
27-Dec-23	1	1004	CWD	1	WL	2	489	ON	3RS ET	22.290284	113.861290	WINTER	NONE	P
27-Dec-23	2	1033	CWD	2	WL	2	16	ON	3RS ET	22.269684	113.844927	WINTER	NONE	S
27-Dec-23	3	1041	CWD	1	WL	2	1	ON	3RS ET	22.269091	113.852531	WINTER	NONE	P
27-Dec-23	4	1057	CWD	5	WL	2	413	ON	3RS ET	22.261197	113.852742	WINTER	NONE	P
27-Dec-23	5	1154	CWD	1	WL	2	72	ON	3RS ET	22.222960	113.833060	WINTER	NONE	P
27-Dec-23	6	1203	CWD	2	WL	2	26	ON	3RS ET	22.223131	113.828200	WINTER	NONE	P
27-Dec-23	7	1216	CWD	6	WL	2	420	ON	3RS ET	22.223018	113.824091	WINTER	NONE	P
27-Dec-23	8	1239	CWD	2	WL	3	99	ON	3RS ET	22.213960	113.823082	WINTER	NONE	P
27-Dec-23	9	1253	CWD	2	WL	2	631	ON	3RS ET	22.206000	113.838122	WINTER	NONE	P
27-Dec-23	10	1310	CWD	1	WL	2	12	ON	3RS ET	22.195912	113.830588	WINTER	NONE	P
28-Dec-23	1	1313	FP	1	SWL	2	29	ON	3RS ET	22.151581	113.889482	WINTER	NONE	S
28-23	2	1348	CWD	1	SWL	2	43	ON	3RS ET	22.204239	113.878238	WINTER	NONE	P

Abbreviations: STG# = Sighting Number; GP SZ = Dolphin Group Size; BEAU = Beaufort Sea State; PSD = Perpendicular Distance (in metres); N/A = Not Applicable;  
 DEC LAT = Latitude (WGS84 in Decimal), DEC LON = Longitude (WGS84 in Decimal); BOAT ASSOC. = Fishing Boat Association

**CWD Small Vessel Line-transect Survey**

**Photo Identification – Residency Pattern of Selected Dolphin Individuals**

ID	Residency	2015	2016	2017	2018	2019	2020				2021				2022				2023				#STG
							SP	SU	AU	WI	SP	SU	AU	WI	SP	SU	AU	WI	SP	SU	AU	WI	
NLMM001	SR		1	1	3	4						1		1						1	2	1	15
NLMM002	SR		8	2	4	1																	15
NLMM004	SR		4	7	7	6				2													26
NLMM006	SR		10	1	5	4																	20
NLMM009	SR		3	6	5	2		2				4		3		1						2	28
NLMM013	SR		10	2	7	5		1				3	1				1	1		1		1	33
NLMM015	SR		1	3	5	2		2	1			7				2	1					1	25
NLMM016	SR		1	5	2	6							1		1		1	2			1	1	21
NLMM019	SR		4	7	2	6		1															20
NLMM020	SR		2	7	2	4		1				1		1				2	1			1	22
NLMM023	SR		2	5	6	1			2			1		3			1				2		23
NLMM027	SR		2	3		2		1					1	1		1	1		2	1		2	17
NLMM052	SR			3	4	1		2						3	1							2	16
NLMM063	SR				9	6		3				2		1		1		1		1	1		25
SLMM002	YR	1	6	1	3	5	4		1					3	4	3		1	2	1	2		37
SLMM003	YR	1	3	1	9	8	3	2	4	7	2	3	4	1	4	1			4	2	3	2	64
SLMM007	YR	1	4	3	4	5	2	2	2	3	1		3	2	1		1	5	3	2	1	1	46
SLMM010	YR	1	9	5	6	5	1	2	5	1	2	4	2	1	3			1	3	4	1	1	57
SLMM011	SV		7	6		3	2																18
SLMM012	SR	1	3	2	4	7	2	1	3	3		3	1	4	5	2		1					42
SLMM014	YR		8	11	7	4	4	4	1	3	2	2	3	6		5	2		4	1	1	2	70
SLMM022	SR		7	3	2	5			1	2			1	1						3	1		26
SLMM023	YR		2	7	2	1	3		3	2		1	1	1		1	3	1	3	2	1	1	35

ID	Residency	2015	2016	2017	2018	2019	2020				2021				2022				2023				#STG
							SP	SU	AU	WI	SP	SU	AU	WI	SP	SU	AU	WI	SP	SU	AU	WI	
SLMM025	SR		1	1	1	3	1	4	2				1	2	4	1	1		3			1	26
SLMM027	SR		1	3	5	1		1		1		1	1	1	1	1			6	1			24
SLMM028	SR		5	5	6	4	2	2															24
SLMM030	SR		4	6	3	2	2				1		1	1				1				1	22
SLMM031	SR		4	5	2	2	4		1	2	1		1	3			1	1	3			5	35
SLMM034	SR		3	2	4	3	5				1	1				1			1		2	2	25
SLMM035	SR		1		1	1				2				2		1	2	2	3			3	18
SLMM037	YR		3	4	2	5	2	1	3	6	4	4	3	4	2	5	3	2	5	3	1	2	64
SLMM044	YR		2		4	1	2							3	1	2	4	4	3	2	2		30
SLMM049	SR		2	3	3	7	1	4	2	1	1	1	1		1	3	1	5	1	2		40	
SLMM052	YR	1	1	7	5	8	3	2	2	2	1		1	1	3	1	1	1	1	6	1		48
SLMM058	SR			1	4	2	1			2			1	3			2		3			3	22
SLMM060	SR			1	3	2		2				1		3	2	2	1		1	1	2		21
SLMM073	SR								1		1		2	2				4	2	2		1	15
WLMM001	YR	1	1	8	11	5	1	2		4		2	1	5	3		1	4	2	3	1	1	56
WLMM003	SR	1	1	3	2	2		1		3			1			3		3	1		3		24
WLMM004	SR	1		3	5	4		1		1	2		1			1				1			20
WLMM006	SR	1	1	4	6	3	2			1				2									20
WLMM007	YR	1	4	6	4	6	3	1	4	1	2		3			1	2		3	3	3	1	48
WLMM008	SR	1	1	6	1	3		2	1					1									16
WLMM009	SR	1	1	4	5	1	1	2		1		1											17
WLMM018	SR		3	3	2	1	1	1	1	1	1					1	2		1	1			19
WLMM019	SR		1	3	2	2		1				2	1			2		1				1	16
WLMM027	SR		9	6	7	5	2				1							2	1				33

ID	Residency	2015	2016	2017	2018	2019	2020				2021				2022				2023				#STG
							SP	SU	AU	WI	SP	SU	AU	WI	SP	SU	AU	WI	SP	SU	AU	WI	
WLMM028	SR		4	2	6	1	2	1	1	3	1	2		2				2	1	3		1	32
WLMM029	SR		3	2	6	4	2	1		1	1	1		2		1	1	2	1			1	29
WLMM030	SR		4	3	1	2		3			1		1						2				17
WLMM043	YR		3	6	6	8		3			4	3	2	2		1		2	1	2	2		45
WLMM054	SR		3	4	6	7							1										21
WLMM056	YR		1	3	4	7	1		2	2			1	3	5	3	1		6	1	3	1	44
WLMM060	SR		1	4	7	2	1	1	2														18
WLMM063	SR		1	3	5	4		1		1	2	1	1		1	2		1	2			1	26
WLMM065	SR			5	6	4			1	1	1	1	1				3	1		2	1		28
WLMM067	SR			2	1	6					1	1	1	2	3		2	2	1		1		23
WLMM071	SR			6	9	3		1	2	1			2	4	1	1	1		2	1	1		35
WLMM073	SR			2	3	2	2	2	3			1	2		2			1	3	1			24
WLMM078	SR			3	6	6																	15
WLMM079	YR			5	5	10		3	5	1	1	1	4	1	3	2		1	3	3	1	1	50
WLMM109	SR				4	1		2		1				2	1	1	1	1			1	1	16
WLMM114	SR				6	2	4	2	3	3	1	3	2	3	3		2	2	4	1		1	42
WLMM131	SR				1	6	2	4	1	1	2	2	2	3		3	3	1					31

\* Residency: YR = Year-round Resident; SR = Seasonal Resident; SV = Seasonal Visitor  
 Seasons: AU = Autumn; SP = Spring; SU = Summer; WI = Winter,  
 #STG = Total number of sightings

**CWD Land-based Theodolite Tracking**

**CWD Groups by Survey Date**

Date	Station	Start Time	End Time	Duration	Beaufort Range	Visibility Range	No. of Focal Follow Dolphin Groups Tracked	Group Size Range
17/Jan/23	Sha Chau	10:42	16:42	6:00	2	3	0	-
19/Jan/23	Lung Kwu Chau	08:42	14:42	6:00	2-3	3	2	3-4
15/Feb/23	Sha Chau	10:37	16:37	6:00	2-3	3	0	-
23/Feb/23	Lung Kwu Chau	08:55	14:55	6:00	2	2	0	-
3/Mar/23	Lung Kwu Chau	9:23	15:23	6:00	2-3	2	0	-
24/Mar/23	Sha Chau	10:38	16:38	6:00	2	1	0	-
24/Apr/23	Lung Kwu Chau	8:51	14:51	6:00	2-3	2-3	0	-
25/Apr/23	Sha Chau	10:45	16:45	6:00	3	4	0	-
24/May/23	Lung Kwu Chau	09:24	15:24	6:00	3	3	0	-
25/May/23	Sha Chau	10:48	16:48	6:00	3	1	0	-
19/Jun/23	Lung Kwu Chau	08:54	14:54	6:00	2	1	1	1
26/Jun/23	Sha Chau	10:40	16:40	6:00	2	1	0	-
20/Jul/23	Lung Kwu Chau	08:42	14:42	6:00	2	1	1	1
21/Jul/23	Sha Chau	11:07	17:07	6:00	2-3	1	0	-
15/Aug/23	Lung Kwu Chau	8:49	14:49	6:00	2	1	1	1
23/Aug/23	Sha Chau	10:39	16:39	6:00	2	1	0	-
21/Sep/23	Lung Kwu Chau	8:59	14:59	6:00	1	1	0	-
26/Sep/23	Sha Chau	10:53	16:53	6:00	2-3	1	0	-
5/Oct/23	Lung Kwu Chau	08:54	14:54	6:00	3	1	0	-
11/Oct/23	Sha Chau	10:44	16:44	6:00	2	1	0	-
13/Nov/23	Lung Kwu Chau	8:55	14:55	6:00	3	2	0	-
16/Nov/23	Sha Chau	10:42	16:42	6:00	3	2-3	0	-
15/Dec/23	Lung Kwu Chau	8:49	14:49	6:00	2	2	2	1-2
27/Dec/23	Sha Chau	10:37	16:37	6:00	3	2-3	0	-

Visibility Range: 1=Excellent, 2=Good, 3=Fair, 4=Poor

## Annex 1 List of References (Tom, Bernd and Sarah to update)

### CWD Monitoring:

- Buckland, S. T., D. R. Anderson, K. P. Burnham, J. L. Laake, D. L. Borchers and L. Thomas. 2001. Introduction to Distance Sampling: Estimating Abundance of Biological Populations. Oxford University Press.
- Buckland, S. T., D. R. Anderson, K. P. Burnham, J. L. Laake, D. L. Borchers and L. Thomas. 2004. Advanced Distance Sampling. Oxford University Press.
- Buckstaff, K.C., Wells, R.S., Gannon, J.G., Nowacek, D.P. 2013. Responses of bottlenose dolphins (*Tursiops truncatus*) to construction and demolition of coastal marine structures. *Aquat. Mamm.* 39, 174-186. (doi: 10.1578/AM.39.2.2013.174)
- Castellote, M., Clark, C.W., Lammers, M.O. 2012. Acoustic and behavioral changes by fin whales (*Balaenoptera physalus*) in response to shipping and airgun noise. *Biol. Conserv.* 147, 115-122. (doi:10.1016/j.biocon.2011.12.021)
- Chen, T., Hung, S.K., Qiu, Y., Jia, X. & Jefferson, T.A. 2010. Distribution, abundance, and individual movements of Indo-Pacific humpback dolphins (*Sousa chinensis*) in the Pearl River Estuary, China. *Mammalia*, 74, 117-125.
- Chilvers, B. L., P. J. Corkeron and M. L. Puotinen. 2003. Influence of trawling on the behaviour and spatial distribution of Indo-Pacific bottlenose dolphins (*Tursiops aduncus*) in Moreton Bay, Australia. *Canadian Journal of Zoology* 81:1947-1955.
- Finneran, J.J., Schlundt, C.E., Branstetter, B.K., Trickey, J.S., Bowman, V., Jenkins, K. 2015. Effects of multiple impulses from a seismic air gun on bottlenose dolphin hearing and behavior. *J. Acoust. Soc. Amer.* 137, 1634-1646. (doi: <http://dx.doi.org/10.1121/1.4916591>)
- Gailey, G. & Ortega-Ortiz, J.G. 2002. A note on a computer-based system for theodolite tracking of cetaceans. *Journal of Cetacean Research and Management*, 4, 213-218.
- Gailey, G., Würsig, B. & McDonald, T.L. 2007. Abundance, behavior, and movement patterns of western gray whales in relation to a 3-D seismic survey, Northeast Sakhalin Island, Russia. *Environmental Monitoring and Assessment*, 134, 75-91.
- Hastie T., Tibshirani R. 1986. Generalized additive models. *Statistical Science*:297-310.
- Hoyt, E. 2011. *Marine Protected Areas for Whales, Dolphins, and Porpoises*, Second Edition. Earthscan Press, London, UK. 464 pp.
- Huang, S., Karczmarski, L., Chen, J., Zhou, R., Wen, L., Zhang, H., Li, H. & Wu, Y. 2012. Demography and population trends of the largest population of Indo-Pacific humpback dolphins. *Biological Conservation*, 147:234-242.
- Hung, S.K. 2008. Habitat use of Indo-Pacific humpback dolphins (*Sousa chinensis*) in Hong Kong. Ph.D. dissertation. University of Hong Kong, Hong Kong, 266 p.
- Hung, S.K. 2016. Monitoring of Marine Mammals in Hong Kong Waters (2015 – 2016) Final Report (1 April 2015 to 31 March 2016). Agriculture, Fisheries and Conservation Department of the Hong Kong SAR Government.
- Jefferson, T.A. 2000. Population biology of the Indo-Pacific hump-backed dolphin in Hong Kong waters. *Wildlife Monographs*, 144, 65 pp.



Jefferson, T.A. 2018. Hong Kong's Indo-Pacific humpback dolphins (*Sousa chinensis*): Assessing past and future anthropogenic impacts and working toward sustainability. *Aquatic Mammals* 44:711-728.

Jefferson, T.A. and S. Leatherwood. 1997. Distribution and abundance of Indo-Pacific hump-backed dolphins (*Sousa chinensis* Osbeck, 1765) in Hong Kong waters. *Asian Marine Biology* 14:93-110.

Jefferson, T. A., E. A. Becker and S. L. Huang. (2023). Influences of natural and anthropogenic habitat variables on Indo-Pacific humpback dolphins *Sousa chinensis* in Hong Kong. *Endangered Species Research*, 51, 143-160. <https://doi.org/10.3354/esr01249>

Lammers, M.O., Brainard, R.E., Au, W.W.L., Mooney, T.A. & Wong, K.B. 2008. An ecological acoustic recorder (EAR) for long-term monitoring of biological and anthropogenic sounds on coral reefs and other marine habitats. *Journal of the Acoustical Society of America*, 123, 1720-1728.

Lundquist, D., Gemmell, N.J. & Würsig, B. 2012. Behavioural responses of dusky dolphin groups (*Lagenorhynchus obscurus*) to tour vessels off Kaikoura, New Zealand. *PLoS ONE*, 7, 9pp.

Lusseau, D. 2006. The short-term behavioral reactions of bottlenose dolphins to interactions with boats in Doubtful Sound, New Zealand. *Marine Mammal Science*, 22(4), 802-818.

Marques, F. F. C. and S. T. Buckland. 2003. Incorporating covariates into standard line transect analyses. *Biometrics* 59:924-935.

Marques, F. F. C. and S. T. Buckland. 2004. Covariate models for the detection function. Pages 31-47 in S. T. Buckland, D. R. Anderson, K. P. Burnham, J. L. Laake, D. L. Borchers and L. Thomas, eds. *Advanced Distance Sampling*. Oxford University Press.

Mott MacDonald. 2014. Expansion of Hong Kong International Airport into a Three-Runway System Environmental Impact Assessment Report. The Airport Authority Hong Kong, Hong Kong.

Munger, L., Lammers, M.O., Cifuentes, M., Würsig, B., Jefferson, T.A. & Hung, S.K. 2016. Indo-Pacific humpback dolphin occurrence north of Lantau Island, Hong Kong, based on year-round passive acoustic monitoring. *Journal of the Acoustical Society of America*, 140, 2754–2765.

Mott MacDonald 2014. Expansion of Hong Kong International Airport into a Three-Runway System. Environmental Impact Assessment Report. Final report to the Hong Kong SAR Government.

Mott MacDonald 2019. Chinese White Dolphin Monitoring Annual Review Report – January 2018 to December 2018. Final report to the Hong Kong SAR Government.

Nowacek, D.P., Thorne, L.H., Johnston, D.W., Tyack, P.L. 2007. Responses of cetaceans to anthropogenic noise. *Mamm. Rev.* 372, 81-115. (doi: 10.1111/j.1365-2907.2007.00104.x)

Piwetz, S., Hung, S., Wang, J., Lundquist, D. & Würsig, B. 2012. Influence of vessel traffic on movements of Indo-Pacific Humpback dolphins (*Sousa chinensis*) off Lantau Island, Hong Kong. *Aquatic Mammals*, 38, 325-331.

Quinn, G. P., & Keough, M. J. 2002. Experimental design and data analysis for biologists. Cambridge University Press.

Rolland, R.M., Parks, S.E., Hunt, K.E., Castellote, M., Corkeron, P.J., Nowacek, D.P., Wasser, S.K., and Kraus, S.D. 2012. Evidence that ship noise increases stress in right whales. *Proc. R. Soc. B* 279, 2363-2368. (doi: 10.1098/rspb.2011.2429)

Sims, P.Q., Vaughn, R., Hung, S.K. & Würsig, B. 2012a. Sounds of Indo-Pacific humpback dolphins (*Sousa chinensis*) in West Hong Kong: A preliminary description. *J. Acoust. Soc. Am.* 131: EL48-EL53.

Sims, P.Q., Hung, S.K. & Würsig, B. 2012b. High-speed vessel noises in West Hong Kong waters and their contributions relative to Indo-Pacific humpback dolphins (*Sousa chinensis*). *Journal of Marine Biology*, 2012, 11 pp.

Thomas, L., S. T. Buckland, E. A. Rexstad, J. L. Laake, S. Strindberg, S. L. Hedley, J. R. B. Bishop, T. A. Marques and K. P. Burnham. 2010. Distance software: design and analysis of distance sampling surveys for estimating population size. *Journal of Applied Ecology* 47:5-14.

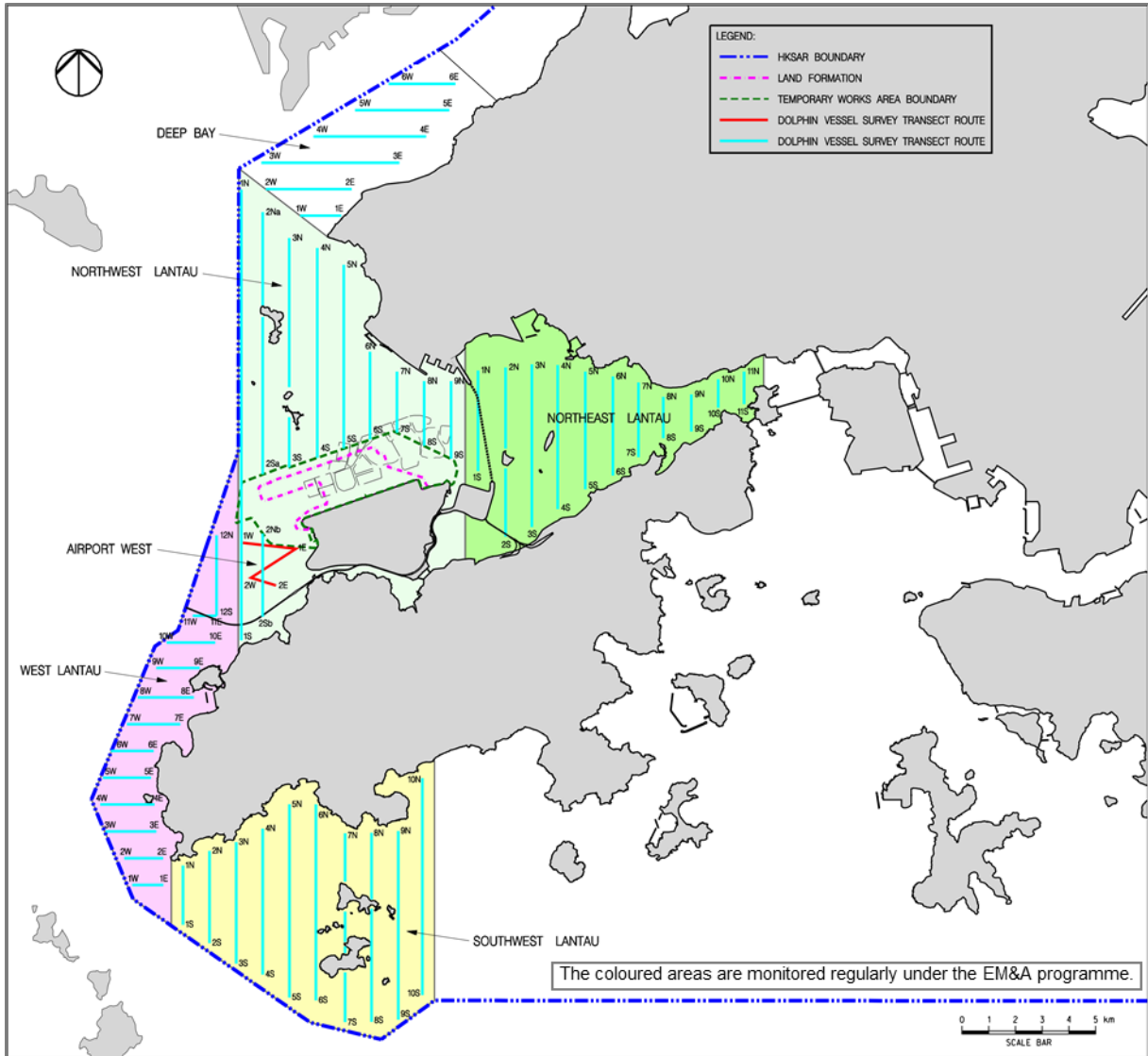
Turchin, P. 1998. *Quantitative Analysis of Movement: Measuring and modelling population redistribution in animals and plants*. Sinauer Associates, Inc., U.S.A.

Wiggins, S.M. & Hildebrand, J. 2007. High-frequency Acoustic Recording Package (HARP) for broadband, long-term marine mammal monitoring. In: *Symposium on Underwater Technology and Workshop on Scientific Use of Submarine Cables and Related Technologies* (ed. by Anonymous), pp. 551-557.

Wood S. 2006. *Generalized additive models: an introduction with R* CRC press.

Würsig, B., Cipriano, F. & Würsig, M. 1991. Dolphin movement patterns: information from radio and theodolite tracking studies. In: *Dolphin societies: Discoveries and puzzles* (ed. by K. Pryor & K.S. Norris), pp. 79-111. University of California Press.

Reference: Additional Vessel Survey for CWD Monitoring in Deep Bay Area



The additional survey in Deep Bay (DB) was conducted on a voluntary basis at the same frequency of two surveys per month.

All DB data were for reference and used only for density and abundance estimation.

(Note: The transect route in the DB survey area could not be fully travelled due to obstruction by the existing oyster culture rafts.)