

## Monitoring of Chinese White Dolphins in Southwest Lantau Waters

9<sup>th</sup> Monthly Progress Report (November 2015)

submitted to Environmental Project Office for the HZMB HKLR, HZMB HKBCF and TM-CLKL – Investigation

Submitted by

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### 1. Introduction

- 1.1. In March 2015, Hong Kong Cetacean Research Project (HKCRP) was appointed by the Environmental Project Office for the HZMB Hong Kong Projects to undertake a monitoring study of Chinese White Dolphins in Southwest Lantau (SWL) waters.
- 1.2. The objectives of the monitoring study are to quantify the abundance and density of Chinese White Dolphins in SWL waters, to identify individuals during the monitoring surveys, and to analyze their range use and movement patterns in Hong Kong and the wider Pearl River Estuary waters.
- 1.3. The monitoring study will supplement the on-going EM&A monitoring results of the HZMB Hong Kong Projects in North and West Lantau waters, and provide a more complete picture of dolphin usage and movements between different survey areas in western Hong Kong waters.
- 1.4. The present report is the ninth monthly progress report under this dolphin monitoring study submitted to the Environmental Project Office, summarizing the survey findings during the month of November 2015.

### 2. Monitoring Methodology

#### 2.1. Vessel-based Line-transect Survey

- 2.1.1. According to the requirement of the technical proposal submitted to the Environmental

Project Office, dolphin monitoring programme should cover all transect lines in SWL survey area (see Figure 1) once per month upon instruction. The co-ordinates of all transect lines conducted during the dolphin monitoring survey are shown in Table 1.

Table 1. Co-ordinates of transect lines in SWL survey area (corresponding to transect line layout as shown in Figure 1)

Line #		Northing	Easting		Line #		Northing	Easting	
SWL001	1	806180	802510		SWL007	13	807380	808520	
	2	804250	802510			14	805600	808520	
SWL002	3	806710	803480		SWL008	15	804400	808520	
	4	803450	803480			16	803000	808520	
SWL003	5	807270	804500		SWL009	17	802100	808520	
	6	802690	804500			18	800470	808520	
SWL004	7	807590	805450		SWL010	19	807380	809550	
	8	802295	805450			20	805050	809550	
SWL005	9	808490	806500			21	804400	809550	
	10	801410	806500			22	800470	809550	
SWL006	11	808500	807430			23	807380	810550	
	12	801250	807430			24	800470	810550	
						25	809410	811510	
						26	801470	811510	

- 2.1.2. The HKCRP survey team used standard line-transect methods (Buckland et al. 2001) to conduct the systematic vessel surveys, and followed the same technique of data collection that has been adopted over the last 17 years of marine mammal monitoring surveys in Hong Kong developed by HKCRP (see Hung 2014). For each monitoring vessel survey, a 15-m inboard vessel with an open upper deck (about 4.5 m above water surface) was used to make observations from the flying bridge area.
- 2.1.3. Two experienced observers from HKCRP (a data recorder and a primary observer) made up the on-effort survey team, and the survey vessel transited different transect lines at a

constant speed of 13-15 km per hour. The data recorder searched with unaided eyes and filled out the datasheets, while the primary observer searched for dolphins and porpoises continuously through 7 x 50 *Fujinon* marine binoculars. Both observers searched the sea ahead of the vessel, between 270° and 90° (in relation to the bow, which is defined as 0°). One to two additional experienced observer was available on the boat to work in shift (i.e. rotate every 30 minutes) in order to minimize fatigue of the survey team members. All observers were experienced in small cetacean survey techniques and identifying local cetacean species.

- 2.1.4. During on-effort survey periods, the survey team recorded effort data including time, position (latitude and longitude), weather conditions (Beaufort sea state and visibility), and distance traveled in each series (a continuous period of search effort) with the assistance of a handheld GPS (*Garmin eTrex Legend*).
- 2.1.5. Data including time, position and vessel speed were also automatically and continuously logged by handheld GPS throughout the entire survey for subsequent review.
- 2.1.6. When dolphins were sighted, the survey team would end the survey effort, and immediately record the initial sighting distance and angle of the dolphin group from the survey vessel, as well as the sighting time and position. Then the research vessel was diverted from its course to approach the animals for species identification, group size estimation, assessment of group composition, and behavioural observations. The perpendicular distance (PSD) of the dolphin group to the transect line was later calculated from the initial sighting distance and angle.
- 2.1.7. Survey effort being conducted along the parallel transect lines that were perpendicular to the coastlines (as indicated in Figure 1) was labeled as “primary” survey effort, while the survey effort conducted along the connecting lines between parallel lines as well as the section around the Soko Islands was labeled as “secondary” survey effort. Both primary and secondary survey effort were presented as on-effort survey effort in this report.
- 2.1.8. Encounter rates of Chinese White Dolphins (number of on-effort sightings per 100 km of survey effort and number of dolphins from all on-effort sightings per 100 km of survey effort) were calculated in SWL survey area in relation to the amount of survey effort conducted during each month of monitoring survey. Only data collected under Beaufort 3 or below condition would be used for encounter rate analysis. Dolphin encounter rates were calculated using the combined survey effort from both primary and secondary lines for comparison to the historical data collected by HKCRP in this survey area. For the historical data, the encounter rates were calculated by pooling all relevant survey effort

and dolphin sightings to calculate a single index.

## 2.2. Photo-identification Work

- 2.2.1. When a group of Chinese White Dolphins were sighted during the line-transect survey, the survey team would end effort and approach the group slowly from the side and behind to take photographs of them. Every attempt was made to photograph every dolphin in the group, and even photograph both sides of the dolphins, since the colouration and markings on both sides may not be symmetrical.
- 2.2.2. A professional digital camera (*Canon EOS 7D* model), equipped with long telephoto lenses (100-400 mm zoom), were available on board for researchers to take sharp, close-up photographs of dolphins as they surfaced. The images were shot at the highest available resolution and stored on Compact Flash memory cards for downloading onto a computer.
- 2.2.3. All digital images taken in the field were first examined, and those containing potentially identifiable individuals were sorted out. These photographs would then be examined in greater detail, and were carefully compared to the existing Chinese White Dolphin photo-identification catalogue maintained by HKCRP since 1995. For individual dolphins that are not readily identifiable from the catalogue but have distinct features on their bodies, they will be placed in a pool of “potential new individuals”, with decision being made at the end of each year on whether any of them should be incorporated into the photo-ID catalogue.
- 2.2.4. Chinese White Dolphins can be identified by their natural markings, such as nicks, cuts, scars and deformities on their dorsal fin and body, and their unique spotting patterns were also used as secondary identifying features (Jefferson 2000).
- 2.2.5. All photographs of each individual were then compiled and arranged in chronological order, with data including the date and location first identified (initial sighting), re-sightings, associated dolphins, distinctive features, and age classes entered into a computer database.

## 3. Monitoring Results

### 3.1. Vessel-based Line-transect Survey

- 3.1.1. One set of systematic line-transect vessel survey was conducted under the present

monitoring study on November 9<sup>th</sup>, 2015, to cover all transect lines in SWL survey area once (the survey route and track log are presented in Figure 2 and Appendix I respectively).

- 3.1.2. In addition, three line-transect surveys were also conducted under the AFCD long-term marine mammal monitoring programme in SWL survey area on November 5<sup>th</sup> (with lines no. SWL002, SWL004, SWL006, SWL008 and SWL010 covered), November 18<sup>th</sup> (with lines no. SWL005, SWL007 and SWL009 covered) and November 23<sup>rd</sup> (with lines no. SWL002, SWL004, SWL006, SWL008 and SWL010 covered). Such monitoring data were also incorporated into the present study for various analyses.
- 3.1.3. For the present study alone, a total of 71.02 km of survey effort was collected from 11:01 to 16:26 (i.e. 5 hours and 25 minutes of survey time) on November 9<sup>th</sup>, with 100% of the total survey effort being conducted under favourable weather conditions (i.e. Beaufort Sea State 3 or below with good visibility) (Appendix II). The total survey effort conducted on primary and secondary lines were 54.24 km and 16.78 km respectively.
- 3.1.4. For the combined monitoring dataset from both the present study and AFCD monitoring study, a total of 167.82 km of survey effort was collected SWL waters in November 2015.
- 3.1.5. During this month, five groups of 30 Chinese White Dolphins were sighted from the present study's survey and two of the three AFCD monitoring surveys conducted in SWL survey area (Appendix III). All five dolphin groups were sighted during on-effort search, and four of the five on-effort sightings were made on primary lines. One of these dolphin groups was associated with an operating gill-netter.
- 3.1.6. Distribution of dolphin sightings made in November 2015 is shown in Figure 3. Four of the five dolphin groups were distributed between Fan Lau and Kau Ling Chung, while another sighting of a lone dolphin was located to the west of Tai A Chau (Figure 3).
- 3.1.7. Encounter rates of Chinese White Dolphins deduced from the survey effort and on-effort sighting data made under favourable conditions (Beaufort 3 or below) in November 2015 are shown in Table 2. Comparison of encounter rates was also made to the one deduced in autumn months (September-November) in the past decade (2005-14) (Table 2).
- 3.1.8. From the combined data of HYD-HZMB and AFCD monitoring surveys, the overall encounter rate based on the number of dolphin sightings (ER(STG)) deduced in November 2015 in SWL waters were lower than the one deduced from the historical data during the autumn months of 2004-15, while the encounter rate based on total number of

dolphins (ER(ANI)) was similar to the one deduced from the historical data (Table 2).

Table 2. Overall dolphin encounter rates (sightings per 100 km of survey effort) from the present monitoring survey and combined database with AFCD monitoring survey conducted in November 2015 (primary lines only, as well as both primary lines and secondary lines were used) in Southwest Lantau survey area in comparison to the ones deduced during autumn months (September-November 2005-14) in the past decade

	<b>Encounter rate (STG)</b> (no. of on-effort dolphin sightings per 100 km of survey effort)		<b>Encounter rate (ANI)</b> (no. of dolphins from all on-effort sightings per 100 km of survey effort)	
	Primary Lines Only	Both Primary and Secondary Lines	Primary Lines Only	Both Primary and Secondary Lines
<b>HYD-HZMB data (November 2015)</b>	5.53	4.22	29.50	22.53
<b>Combined data (November 2015)</b>	3.30	3.05	23.13	18.33
<b>Historical Data (Autumn 2005-14)</b>		4.29		17.05

3.1.9. The average group size of Chinese White Dolphins in November 2015 was 6.0 individuals per group, which was much higher than the average group size in autumn months of 2005-14 (4.0). Two of the five dolphin groups were fairly large with 10 and 12 animals respectively, while another two dolphin groups were very small with only 1-2 animals per group.

### 3.2. Photo-identification Work

3.2.1. Attempts were made to photograph the dolphins sighted during all surveys conducted in November 2015.

3.2.2. Among the 30 dolphins sighted during this month's surveys, 16 individual dolphins were identified and re-sighted 17 times in total (Appendices IV and V). Two of these individuals (NL33 and WL94) were accompanied by their young calves.

3.2.3. The locations where most individuals being re-sighted were well within their past home ranges in SWL and WL waters. However, two individuals (NL33 and WL46) were primarily sighted in North Lantau waters in the past, but have shown up in SWL survey area during this month's surveys. In fact, these two individuals were never sighted in SWL waters before, but showed up there for the first time during this monitoring month.

#### 4. References

- Buckland, S. T., Anderson, D. R., Burnham, K. P., Laake, J. L., Borchers, D. L., and Thomas, L. 2001. Introduction to distance sampling: estimating abundance of biological populations. Oxford University Press, London.
- Hung, S. K. 2014. Monitoring of Marine Mammals in Hong Kong waters: final report (2013-14). An unpublished report submitted to the Agriculture, Fisheries and Conservation Department, 231 pp.
- Jefferson, T. A. 2000. Population biology of the Indo-Pacific hump-backed dolphin in Hong Kong waters. Wildlife Monographs 144:1-65.

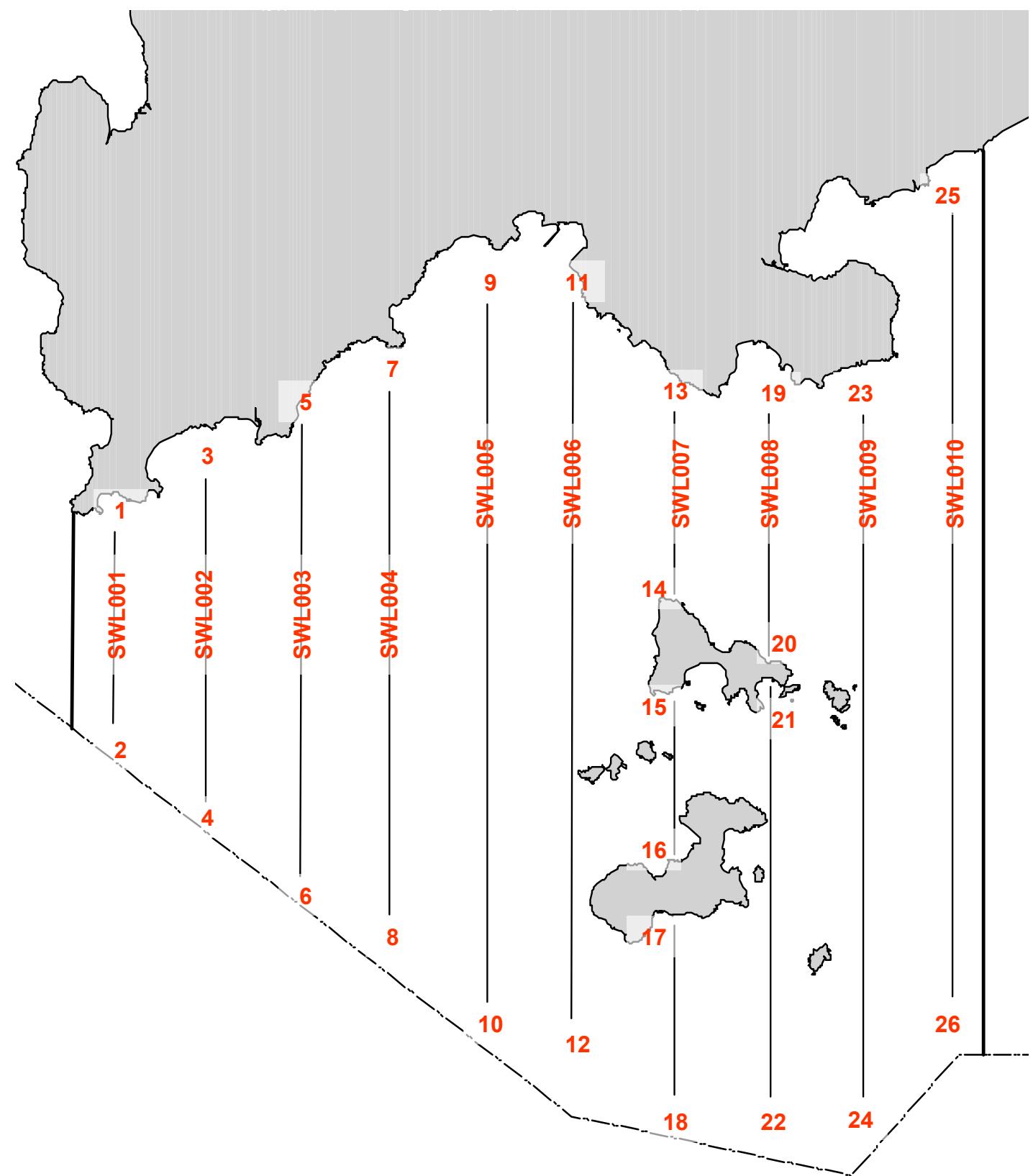


Figure 1. Survey Lines and associated coordinates in Southwest Lantau survey area

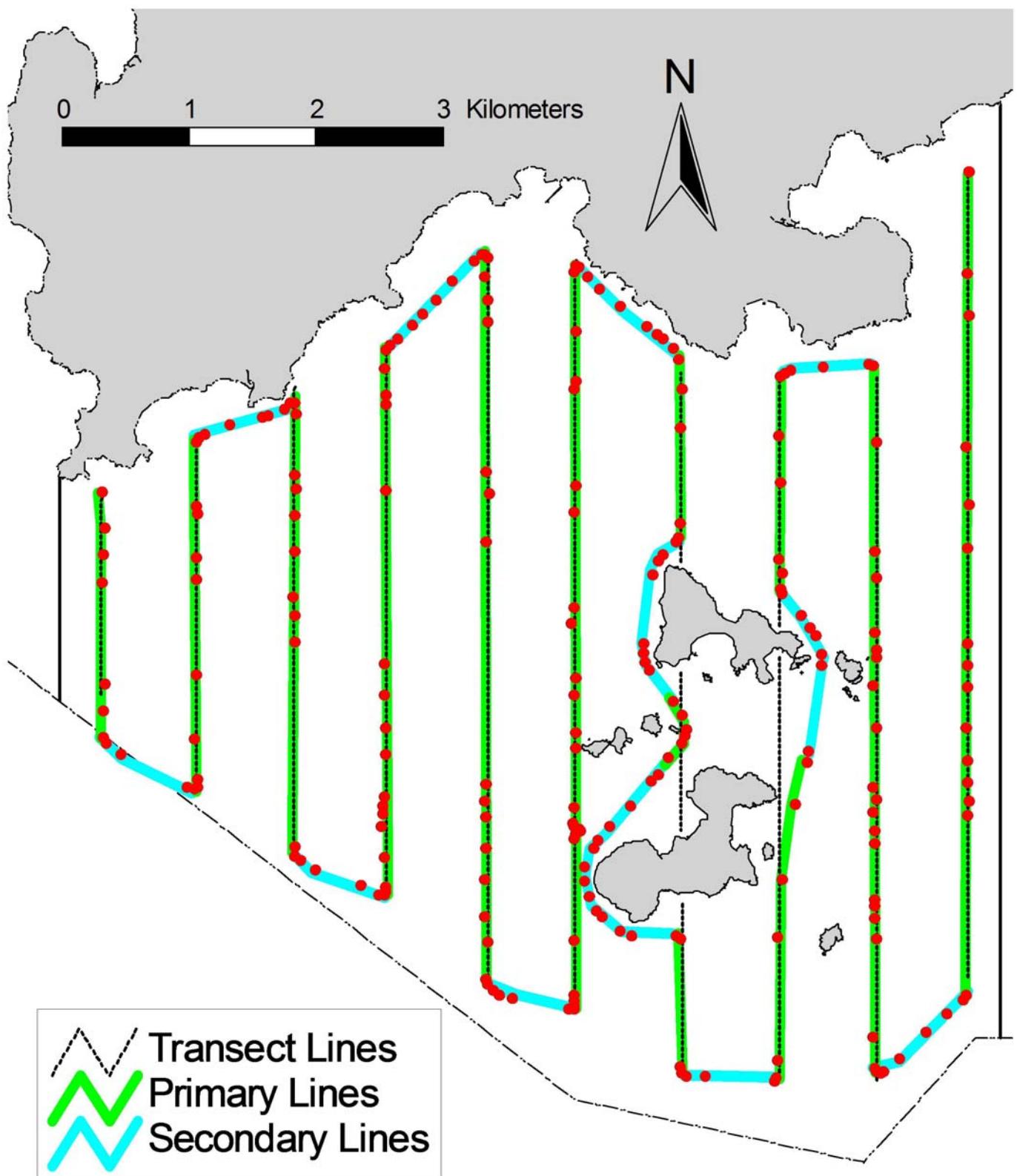


Figure 2. Survey Route on November 9<sup>th</sup>, 2015 (note: red dots represent the tracked positions of survey boat logged continuously by GPS throughout the course of the survey)

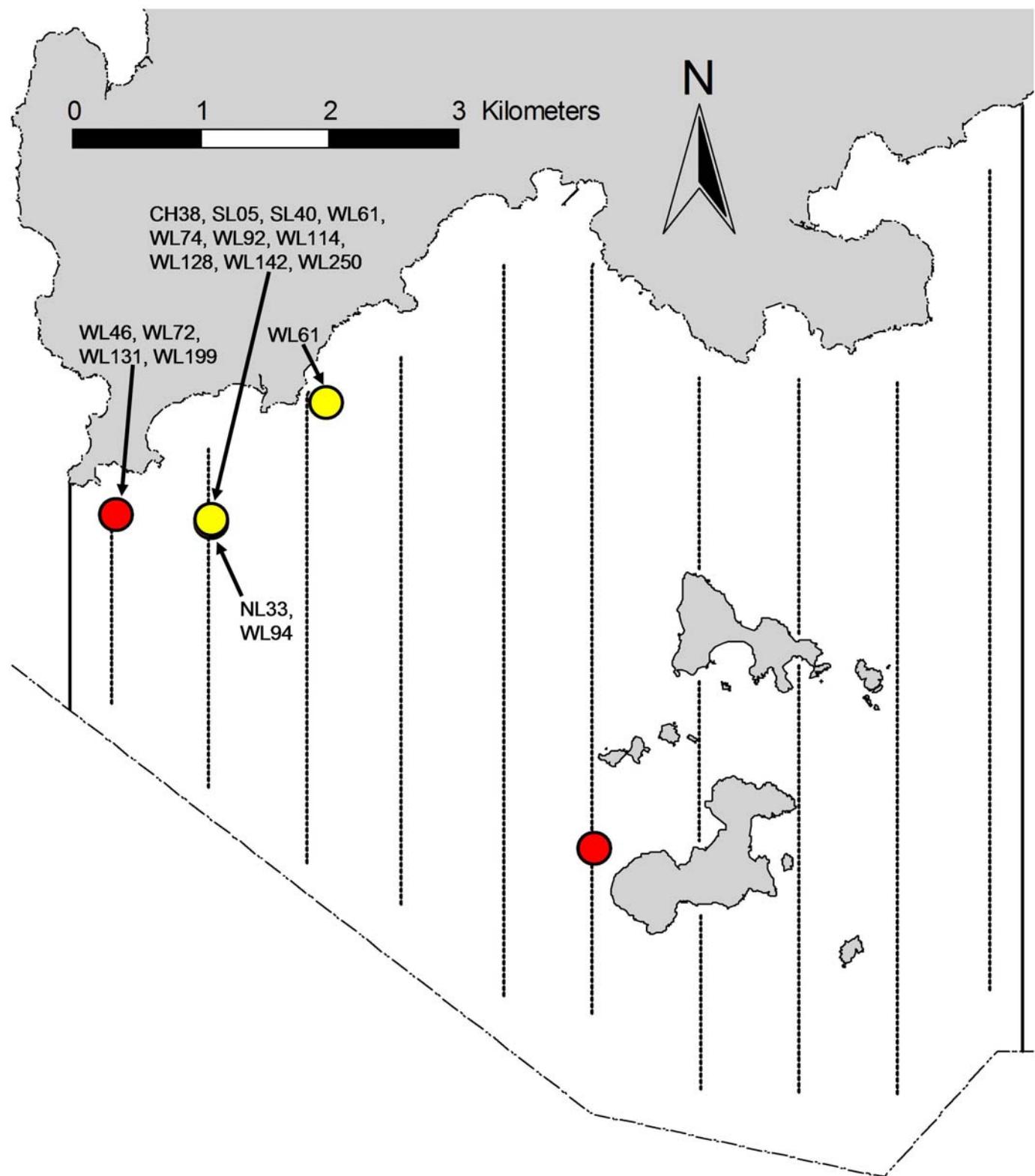


Figure 3. Distribution of Chinese White Dolphin sightings during November 2015 monitoring surveys in Southwest Lantau survey area, with identified individuals indicated for their corresponding sightings (red dot: HYD-HZMB sighting; yellow dot: AFCD sighting)

## Appendix I. Track Log of Southwest Lantau Survey on Nov. 9th, 2015

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 11:01	ON	N22.19432 E113.84939			
9/11/2015 11:01	ON	N22.19366 E113.84949	74 m	0:00:19	14 kph
9/11/2015 11:01	ON	N22.19314 E113.84957	58 m	0:00:19	11 kph
9/11/2015 11:02	OFF	N22.19286 E113.84967	33 m	0:00:17	7 kph
9/11/2015 11:02	OFF	N22.19263 E113.84978	28 m	0:00:20	5 kph
9/11/2015 11:02	OFF	N22.19243 E113.84991	26 m	0:00:22	4 kph
9/11/2015 11:03	OFF	N22.19230 E113.85004	19 m	0:00:19	4 kph
9/11/2015 11:03	OFF	N22.19220 E113.85015	16 m	0:00:18	3 kph
9/11/2015 11:03	OFF	N22.19212 E113.85027	16 m	0:00:18	3 kph
9/11/2015 11:03	OFF	N22.19205 E113.85038	14 m	0:00:16	3 kph
9/11/2015 11:04	OFF	N22.19197 E113.85052	16 m	0:00:20	3 kph
9/11/2015 11:04	OFF	N22.19193 E113.85061	10 m	0:00:13	3 kph
9/11/2015 11:04	OFF	N22.19188 E113.85073	14 m	0:00:19	3 kph
9/11/2015 11:05	OFF	N22.19184 E113.85086	14 m	0:00:19	3 kph
9/11/2015 11:05	OFF	N22.19180 E113.85097	12 m	0:00:15	3 kph
9/11/2015 11:05	OFF	N22.19176 E113.85109	13 m	0:00:17	3 kph
9/11/2015 11:05	OFF	N22.19173 E113.85121	12 m	0:00:17	3 kph
9/11/2015 11:06	OFF	N22.19169 E113.85132	12 m	0:00:17	3 kph
9/11/2015 11:06	OFF	N22.19165 E113.85145	14 m	0:00:19	3 kph
9/11/2015 11:06	OFF	N22.19161 E113.85156	12 m	0:00:19	2 kph
9/11/2015 11:07	OFF	N22.19154 E113.85169	15 m	0:00:18	3 kph
9/11/2015 11:07	OFF	N22.19149 E113.85170	6 m	0:00:04	5 kph
9/11/2015 11:07	OFF	N22.19142 E113.85155	18 m	0:00:15	4 kph
9/11/2015 11:07	OFF	N22.19169 E113.85124	44 m	0:00:15	11 kph
9/11/2015 11:07	OFF	N22.19200 E113.85085	53 m	0:00:16	12 kph
9/11/2015 11:08	OFF	N22.19241 E113.85031	72 m	0:00:22	12 kph
9/11/2015 11:08	OFF	N22.19272 E113.84978	65 m	0:00:20	12 kph
9/11/2015 11:08	OFF	N22.19260 E113.84952	30 m	0:00:12	9 kph
9/11/2015 11:09	ON	N22.19217 E113.84957	47 m	0:00:14	12 kph
9/11/2015 11:09	ON	N22.19153 E113.84968	73 m	0:00:18	15 kph
9/11/2015 11:09	ON	N22.19106 E113.84970	52 m	0:00:13	14 kph
9/11/2015 11:09	ON	N22.19055 E113.84969	57 m	0:00:14	15 kph
9/11/2015 11:10	ON	N22.18999 E113.84968	62 m	0:00:15	15 kph
9/11/2015 11:10	ON	N22.18936 E113.84963	71 m	0:00:17	15 kph
9/11/2015 11:10	ON	N22.18879 E113.84962	63 m	0:00:15	15 kph
9/11/2015 11:10	ON	N22.18826 E113.84963	59 m	0:00:14	15 kph
9/11/2015 11:11	ON	N22.18773 E113.84961	60 m	0:00:14	15 kph
9/11/2015 11:11	ON	N22.18700 E113.84953	81 m	0:00:19	15 kph
9/11/2015 11:11	ON	N22.18623 E113.84949	86 m	0:00:20	15 kph
9/11/2015 11:12	ON	N22.18557 E113.84953	74 m	0:00:17	16 kph
9/11/2015 11:12	ON	N22.18485 E113.84955	81 m	0:00:19	15 kph
9/11/2015 11:12	ON	N22.18398 E113.84952	97 m	0:00:22	16 kph
9/11/2015 11:12	ON	N22.18329 E113.84952	76 m	0:00:17	16 kph
9/11/2015 11:13	ON	N22.18257 E113.84957	81 m	0:00:18	16 kph
9/11/2015 11:13	ON	N22.18170 E113.84960	98 m	0:00:22	16 kph
9/11/2015 11:13	ON	N22.18090 E113.84956	89 m	0:00:20	16 kph
9/11/2015 11:14	ON	N22.18022 E113.84954	75 m	0:00:17	16 kph
9/11/2015 11:14	ON	N22.17946 E113.84963	85 m	0:00:19	16 kph
9/11/2015 11:14	ON	N22.17863 E113.84963	93 m	0:00:21	16 kph
9/11/2015 11:15	ON	N22.17795 E113.84962	75 m	0:00:17	16 kph
9/11/2015 11:15	ON	N22.17726 E113.84967	77 m	0:00:17	16 kph
9/11/2015 11:15	ON	N22.17649 E113.84963	86 m	0:00:19	16 kph
9/11/2015 11:16	ON	N22.17569 E113.84957	89 m	0:00:20	16 kph
9/11/2015 11:16	ON	N22.17493 E113.84960	85 m	0:00:19	16 kph
9/11/2015 11:16	ON	N22.17421 E113.84958	80 m	0:00:18	16 kph
9/11/2015 11:17	ON	N22.17338 E113.84954	93 m	0:00:21	16 kph
9/11/2015 11:17	ON	N22.17274 E113.84956	71 m	0:00:16	16 kph
9/11/2015 11:17	ON	N22.17258 E113.84957	18 m	0:00:04	16 kph
9/11/2015 11:17	ON	N22.17202 E113.84997	74 m	0:00:17	16 kph
9/11/2015 11:18	ON	N22.17142 E113.85074	103 m	0:00:23	16 kph
9/11/2015 11:18	ON	N22.17103 E113.85140	81 m	0:00:18	16 kph
9/11/2015 11:18	ON	N22.17085 E113.85178	45 m	0:00:10	16 kph
9/11/2015 11:18	ON	N22.17047 E113.85257	91 m	0:00:20	16 kph
9/11/2015 11:19	ON	N22.17019 E113.85324	77 m	0:00:17	16 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 11:19	ON	N22.16985 E113.85412	98 m	0:00:22	16 kph
9/11/2015 11:19	ON	N22.16953 E113.85492	90 m	0:00:20	16 kph
9/11/2015 11:20	ON	N22.16920 E113.85568	86 m	0:00:19	16 kph
9/11/2015 11:20	ON	N22.16883 E113.85656	100 m	0:00:22	16 kph
9/11/2015 11:20	ON	N22.16853 E113.85732	86 m	0:00:19	16 kph
9/11/2015 11:21	ON	N22.16820 E113.85813	91 m	0:00:20	16 kph
9/11/2015 11:21	ON	N22.16800 E113.85885	77 m	0:00:18	15 kph
9/11/2015 11:21	ON	N22.16823 E113.85910	36 m	0:00:12	11 kph
9/11/2015 11:22	ON	N22.16875 E113.85921	59 m	0:00:18	12 kph
9/11/2015 11:22	ON	N22.16932 E113.85920	64 m	0:00:19	12 kph
9/11/2015 11:22	ON	N22.16981 E113.85911	55 m	0:00:17	12 kph
9/11/2015 11:22	ON	N22.17027 E113.85899	53 m	0:00:16	12 kph
9/11/2015 11:23	ON	N22.17075 E113.85896	53 m	0:00:16	12 kph
9/11/2015 11:23	ON	N22.17129 E113.85895	61 m	0:00:18	12 kph
9/11/2015 11:23	ON	N22.17192 E113.85886	70 m	0:00:21	12 kph
9/11/2015 11:24	ON	N22.17247 E113.85884	62 m	0:00:18	12 kph
9/11/2015 11:24	ON	N22.17306 E113.85889	66 m	0:00:19	13 kph
9/11/2015 11:24	ON	N22.17362 E113.85892	62 m	0:00:18	12 kph
9/11/2015 11:25	ON	N22.17420 E113.85892	65 m	0:00:19	12 kph
9/11/2015 11:25	ON	N22.17482 E113.85892	69 m	0:00:20	12 kph
9/11/2015 11:25	ON	N22.17540 E113.85892	65 m	0:00:19	12 kph
9/11/2015 11:25	ON	N22.17592 E113.85895	58 m	0:00:17	12 kph
9/11/2015 11:26	ON	N22.17638 E113.85897	51 m	0:00:15	12 kph
9/11/2015 11:26	ON	N22.17686 E113.85895	53 m	0:00:16	12 kph
9/11/2015 11:26	ON	N22.17747 E113.85900	69 m	0:00:20	12 kph
9/11/2015 11:27	ON	N22.17805 E113.85901	64 m	0:00:18	13 kph
9/11/2015 11:27	ON	N22.17858 E113.85902	60 m	0:00:17	13 kph
9/11/2015 11:27	ON	N22.17911 E113.85899	58 m	0:00:17	12 kph
9/11/2015 11:28	ON	N22.17972 E113.85892	68 m	0:00:20	12 kph
9/11/2015 11:28	ON	N22.18031 E113.85889	66 m	0:00:19	12 kph
9/11/2015 11:28	ON	N22.18088 E113.85895	64 m	0:00:18	13 kph
9/11/2015 11:28	ON	N22.18152 E113.85899	71 m	0:00:20	13 kph
9/11/2015 11:29	ON	N22.18234 E113.85901	92 m	0:00:26	13 kph
9/11/2015 11:29	ON	N22.18304 E113.85898	77 m	0:00:22	13 kph
9/11/2015 11:30	ON	N22.18350 E113.85896	52 m	0:00:15	13 kph
9/11/2015 11:30	ON	N22.18417 E113.85897	75 m	0:00:21	13 kph
9/11/2015 11:30	ON	N22.18484 E113.85897	75 m	0:00:21	13 kph
9/11/2015 11:31	ON	N22.18535 E113.85893	56 m	0:00:16	13 kph
9/11/2015 11:31	ON	N22.18592 E113.85890	64 m	0:00:18	13 kph
9/11/2015 11:31	ON	N22.18648 E113.85891	62 m	0:00:17	13 kph
9/11/2015 11:31	ON	N22.18702 E113.85894	61 m	0:00:17	13 kph
9/11/2015 11:32	ON	N22.18785 E113.85893	92 m	0:00:25	13 kph
9/11/2015 11:32	ON	N22.18846 E113.85891	69 m	0:00:19	13 kph
9/11/2015 11:32	ON	N22.18912 E113.85892	73 m	0:00:20	13 kph
9/11/2015 11:33	ON	N22.18982 E113.85898	78 m	0:00:21	13 kph
9/11/2015 11:33	ON	N22.19055 E113.85900	81 m	0:00:21	14 kph
9/11/2015 11:33	ON	N22.19120 E113.85897	72 m	0:00:19	14 kph
9/11/2015 11:34	ON	N22.19183 E113.85898	71 m	0:00:20	13 kph
9/11/2015 11:34	ON	N22.19211 E113.85901	31 m	0:00:14	8 kph
9/11/2015 11:34	OFF	N22.19228 E113.85905	20 m	0:00:13	5 kph
9/11/2015 11:34	OFF	N22.19233 E113.85906	5 m	0:00:04	5 kph
9/11/2015 11:35	OFF	N22.19246 E113.85912	16 m	0:00:14	4 kph
9/11/2015 11:35	OFF	N22.19257 E113.85918	14 m	0:00:17	3 kph
9/11/2015 11:35	OFF	N22.19276 E113.85928	23 m	0:00:18	5 kph
9/11/2015 11:35	OFF	N22.19301 E113.85952	37 m	0:00:18	7 kph
9/11/2015 11:36	OFF	N22.19324 E113.85977	37 m	0:00:14	10 kph
9/11/2015 11:36	OFF	N22.19375 E113.86016	69 m	0:00:18	14 kph
9/11/2015 11:36	OFF	N22.19438 E113.86034	73 m	0:00:19	14 kph
9/11/2015 11:37	OFF	N22.19488 E113.86046	57 m	0:00:15	14 kph
9/11/2015 11:37	OFF	N22.19560 E113.86052	81 m	0:00:22	13 kph
9/11/2015 11:37	OFF	N22.19615 E113.86031	65 m	0:00:19	12 kph
9/11/2015 11:38	OFF	N22.19687 E113.86004	85 m	0:00:24	13 kph
9/11/2015 11:38	OFF	N22.19726 E113.85982	49 m	0:00:18	10 kph
9/11/2015 11:38	OFF	N22.19753 E113.85967	34 m	0:00:23	5 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 11:39	OFF	N22.19774 E113.85959	25 m	0:00:28	3 kph
9/11/2015 11:39	OFF	N22.19785 E113.85960	13 m	0:00:20	2 kph
9/11/2015 11:39	OFF	N22.19793 E113.85962	9 m	0:00:17	2 kph
9/11/2015 11:40	OFF	N22.19802 E113.85967	11 m	0:00:22	2 kph
9/11/2015 11:40	OFF	N22.19813 E113.85970	12 m	0:00:22	2 kph
9/11/2015 11:40	OFF	N22.19816 E113.85946	26 m	0:00:16	6 kph
9/11/2015 11:41	OFF	N22.19797 E113.85922	33 m	0:00:17	7 kph
9/11/2015 11:41	OFF	N22.19774 E113.85900	34 m	0:00:16	8 kph
9/11/2015 11:41	OFF	N22.19753 E113.85882	31 m	0:00:14	8 kph
9/11/2015 11:41	OFF	N22.19726 E113.85862	36 m	0:00:18	7 kph
9/11/2015 11:42	OFF	N22.19715 E113.85856	13 m	0:00:09	5 kph
9/11/2015 11:42	OFF	N22.19711 E113.85855	5 m	0:00:04	4 kph
9/11/2015 11:42	OFF	N22.19697 E113.85859	16 m	0:00:18	3 kph
9/11/2015 11:42	OFF	N22.19692 E113.85861	6 m	0:00:06	4 kph
9/11/2015 11:42	OFF	N22.19667 E113.85871	29 m	0:00:23	5 kph
9/11/2015 11:43	OFF	N22.19655 E113.85875	14 m	0:00:17	3 kph
9/11/2015 11:43	OFF	N22.19649 E113.85878	7 m	0:00:17	2 kph
9/11/2015 11:43	OFF	N22.19648 E113.85881	3 m	0:00:18	0.7 kph
9/11/2015 11:44	OFF	N22.19647 E113.85883	3 m	0:00:20	0.6 kph
9/11/2015 11:44	OFF	N22.19647 E113.85889	6 m	0:00:21	1.0 kph
9/11/2015 11:44	OFF	N22.19646 E113.85891	2 m	0:00:11	0.6 kph
9/11/2015 11:44	OFF	N22.19630 E113.85877	23 m	0:00:12	7 kph
9/11/2015 11:45	OFF	N22.19599 E113.85871	35 m	0:00:11	11 kph
9/11/2015 11:45	OFF	N22.19558 E113.85886	49 m	0:00:13	13 kph
9/11/2015 11:45	OFF	N22.19500 E113.85908	68 m	0:00:17	14 kph
9/11/2015 11:45	OFF	N22.19443 E113.85924	66 m	0:00:17	14 kph
9/11/2015 11:46	OFF	N22.19378 E113.85951	78 m	0:00:19	15 kph
9/11/2015 11:46	OFF	N22.19340 E113.85964	44 m	0:00:11	14 kph
9/11/2015 11:46	OFF	N22.19289 E113.85979	59 m	0:00:15	14 kph
9/11/2015 11:46	OFF	N22.19227 E113.85990	69 m	0:00:19	13 kph
9/11/2015 11:47	OFF	N22.19174 E113.85994	59 m	0:00:17	13 kph
9/11/2015 11:47	OFF	N22.19129 E113.85993	50 m	0:00:15	12 kph
9/11/2015 11:47	ON	N22.19110 E113.85962	39 m	0:00:14	10 kph
9/11/2015 11:47	ON	N22.19124 E113.85922	44 m	0:00:15	10 kph
9/11/2015 11:48	ON	N22.19169 E113.85915	50 m	0:00:14	13 kph
9/11/2015 11:48	ON	N22.19231 E113.85909	69 m	0:00:18	14 kph
9/11/2015 11:48	ON	N22.19299 E113.85888	79 m	0:00:21	14 kph
9/11/2015 11:49	ON	N22.19367 E113.85885	76 m	0:00:19	14 kph
9/11/2015 11:49	ON	N22.19427 E113.85883	67 m	0:00:17	14 kph
9/11/2015 11:49	ON	N22.19480 E113.85883	59 m	0:00:14	15 kph
9/11/2015 11:49	ON	N22.19542 E113.85888	69 m	0:00:17	15 kph
9/11/2015 11:50	ON	N22.19600 E113.85885	64 m	0:00:16	14 kph
9/11/2015 11:50	ON	N22.19675 E113.85887	83 m	0:00:20	15 kph
9/11/2015 11:50	ON	N22.19705 E113.85889	34 m	0:00:08	15 kph
9/11/2015 11:50	ON	N22.19723 E113.85892	21 m	0:00:05	15 kph
9/11/2015 11:51	ON	N22.19787 E113.85890	71 m	0:00:17	15 kph
9/11/2015 11:51	ON	N22.19798 E113.85889	12 m	0:00:03	14 kph
9/11/2015 11:51	ON	N22.19875 E113.85890	86 m	0:00:20	15 kph
9/11/2015 11:51	ON	N22.19919 E113.85924	60 m	0:00:15	14 kph
9/11/2015 11:51	ON	N22.19939 E113.85987	69 m	0:00:17	15 kph
9/11/2015 11:52	ON	N22.19958 E113.86045	63 m	0:00:15	15 kph
9/11/2015 11:52	ON	N22.19991 E113.86138	103 m	0:00:24	15 kph
9/11/2015 11:52	ON	N22.20017 E113.86227	96 m	0:00:22	16 kph
9/11/2015 11:53	ON	N22.20041 E113.86315	95 m	0:00:22	16 kph
9/11/2015 11:53	ON	N22.20062 E113.86393	83 m	0:00:19	16 kph
9/11/2015 11:53	ON	N22.20078 E113.86475	87 m	0:00:20	16 kph
9/11/2015 11:54	ON	N22.20093 E113.86558	86 m	0:00:20	16 kph
9/11/2015 11:54	ON	N22.20110 E113.86622	69 m	0:00:16	16 kph
9/11/2015 11:54	ON	N22.20138 E113.86703	89 m	0:00:21	15 kph
9/11/2015 11:55	ON	N22.20173 E113.86782	90 m	0:00:21	15 kph
9/11/2015 11:55	ON	N22.20216 E113.86852	86 m	0:00:20	15 kph
9/11/2015 11:55	ON	N22.20222 E113.86893	43 m	0:00:12	13 kph
9/11/2015 11:56	ON	N22.20190 E113.86909	38 m	0:00:13	11 kph
9/11/2015 11:56	ON	N22.20133 E113.86913	64 m	0:00:18	13 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 11:56	ON	N22.20069 E113.86910	72 m	0:00:19	14 kph
9/11/2015 11:56	ON	N22.20003 E113.86906	73 m	0:00:20	13 kph
9/11/2015 11:57	ON	N22.19948 E113.86901	62 m	0:00:17	13 kph
9/11/2015 11:57	ON	N22.19889 E113.86900	66 m	0:00:18	13 kph
9/11/2015 11:57	ON	N22.19820 E113.86897	77 m	0:00:21	13 kph
9/11/2015 11:58	ON	N22.19757 E113.86891	70 m	0:00:19	13 kph
9/11/2015 11:58	ON	N22.19708 E113.86891	55 m	0:00:15	13 kph
9/11/2015 11:58	ON	N22.19645 E113.86891	70 m	0:00:19	13 kph
9/11/2015 11:59	ON	N22.19588 E113.86886	64 m	0:00:18	13 kph
9/11/2015 11:59	ON	N22.19520 E113.86891	75 m	0:00:20	14 kph
9/11/2015 11:59	ON	N22.19455 E113.86899	73 m	0:00:19	14 kph
9/11/2015 12:00	ON	N22.19405 E113.86896	56 m	0:00:15	13 kph
9/11/2015 12:00	ON	N22.19346 E113.86888	66 m	0:00:18	13 kph
9/11/2015 12:00	ON	N22.19289 E113.86888	63 m	0:00:17	13 kph
9/11/2015 12:00	ON	N22.19228 E113.86890	68 m	0:00:18	14 kph
9/11/2015 12:01	ON	N22.19155 E113.86888	81 m	0:00:22	13 kph
9/11/2015 12:01	ON	N22.19093 E113.86892	69 m	0:00:18	14 kph
9/11/2015 12:01	ON	N22.19030 E113.86898	71 m	0:00:18	14 kph
9/11/2015 12:02	ON	N22.18973 E113.86894	64 m	0:00:17	13 kph
9/11/2015 12:02	ON	N22.18907 E113.86890	73 m	0:00:19	14 kph
9/11/2015 12:02	ON	N22.18836 E113.86894	80 m	0:00:20	14 kph
9/11/2015 12:03	ON	N22.18773 E113.86892	70 m	0:00:18	14 kph
9/11/2015 12:03	ON	N22.18707 E113.86887	74 m	0:00:19	14 kph
9/11/2015 12:03	ON	N22.18638 E113.86892	76 m	0:00:19	14 kph
9/11/2015 12:04	ON	N22.18563 E113.86885	84 m	0:00:21	14 kph
9/11/2015 12:04	ON	N22.18498 E113.86883	73 m	0:00:18	15 kph
9/11/2015 12:04	ON	N22.18413 E113.86893	95 m	0:00:23	15 kph
9/11/2015 12:05	ON	N22.18338 E113.86900	84 m	0:00:20	15 kph
9/11/2015 12:05	ON	N22.18298 E113.86895	44 m	0:00:11	14 kph
9/11/2015 12:05	ON	N22.18223 E113.86889	84 m	0:00:21	14 kph
9/11/2015 12:05	ON	N22.18160 E113.86887	71 m	0:00:17	15 kph
9/11/2015 12:06	ON	N22.18101 E113.86886	65 m	0:00:16	15 kph
9/11/2015 12:06	ON	N22.18038 E113.86888	71 m	0:00:17	15 kph
9/11/2015 12:06	ON	N22.17962 E113.86888	84 m	0:00:20	15 kph
9/11/2015 12:07	ON	N22.17897 E113.86887	72 m	0:00:17	15 kph
9/11/2015 12:07	ON	N22.17837 E113.86888	67 m	0:00:16	15 kph
9/11/2015 12:07	ON	N22.17780 E113.86889	63 m	0:00:15	15 kph
9/11/2015 12:07	ON	N22.17715 E113.86891	72 m	0:00:17	15 kph
9/11/2015 12:08	ON	N22.17639 E113.86890	85 m	0:00:20	15 kph
9/11/2015 12:08	ON	N22.17560 E113.86887	88 m	0:00:21	15 kph
9/11/2015 12:08	ON	N22.17495 E113.86887	73 m	0:00:17	15 kph
9/11/2015 12:09	ON	N22.17425 E113.86889	78 m	0:00:18	16 kph
9/11/2015 12:09	ON	N22.17343 E113.86895	91 m	0:00:21	16 kph
9/11/2015 12:09	ON	N22.17274 E113.86892	77 m	0:00:18	15 kph
9/11/2015 12:10	ON	N22.17194 E113.86886	89 m	0:00:21	15 kph
9/11/2015 12:10	ON	N22.17123 E113.86888	78 m	0:00:18	16 kph
9/11/2015 12:10	ON	N22.17048 E113.86894	84 m	0:00:19	16 kph
9/11/2015 12:11	ON	N22.16971 E113.86892	86 m	0:00:20	16 kph
9/11/2015 12:11	ON	N22.16889 E113.86889	92 m	0:00:21	16 kph
9/11/2015 12:11	ON	N22.16813 E113.86892	84 m	0:00:19	16 kph
9/11/2015 12:11	ON	N22.16759 E113.86892	61 m	0:00:14	16 kph
9/11/2015 12:12	ON	N22.16696 E113.86890	70 m	0:00:16	16 kph
9/11/2015 12:12	ON	N22.16627 E113.86883	78 m	0:00:18	16 kph
9/11/2015 12:12	ON	N22.16568 E113.86882	65 m	0:00:15	16 kph
9/11/2015 12:13	ON	N22.16501 E113.86885	75 m	0:00:17	16 kph
9/11/2015 12:13	ON	N22.16497 E113.86885	4 m	0:00:01	16 kph
9/11/2015 12:13	ON	N22.16433 E113.86885	71 m	0:00:16	16 kph
9/11/2015 12:13	ON	N22.16351 E113.86885	92 m	0:00:21	16 kph
9/11/2015 12:13	ON	N22.16287 E113.86888	71 m	0:00:16	16 kph
9/11/2015 12:14	ON	N22.16213 E113.86900	84 m	0:00:19	16 kph
9/11/2015 12:14	ON	N22.16160 E113.86948	76 m	0:00:17	16 kph
9/11/2015 12:14	ON	N22.16120 E113.87016	83 m	0:00:18	17 kph
9/11/2015 12:15	ON	N22.16084 E113.87096	92 m	0:00:20	17 kph
9/11/2015 12:15	ON	N22.16054 E113.87180	93 m	0:00:20	17 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 12:15	ON	N22.16027 E113.87266	94 m	0:00:20	17 kph
9/11/2015 12:16	ON	N22.16004 E113.87351	92 m	0:00:20	16 kph
9/11/2015 12:16	ON	N22.15985 E113.87424	78 m	0:00:17	17 kph
9/11/2015 12:16	ON	N22.15963 E113.87497	78 m	0:00:17	17 kph
9/11/2015 12:17	ON	N22.15940 E113.87568	78 m	0:00:17	17 kph
9/11/2015 12:17	ON	N22.15907 E113.87650	93 m	0:00:20	17 kph
9/11/2015 12:17	ON	N22.15874 E113.87724	84 m	0:00:18	17 kph
9/11/2015 12:17	ON	N22.15865 E113.87745	23 m	0:00:05	17 kph
9/11/2015 12:18	ON	N22.15856 E113.87795	53 m	0:00:14	14 kph
9/11/2015 12:18	ON	N22.15887 E113.87817	42 m	0:00:14	11 kph
9/11/2015 12:18	ON	N22.15933 E113.87822	51 m	0:00:15	12 kph
9/11/2015 12:18	ON	N22.15976 E113.87823	48 m	0:00:14	12 kph
9/11/2015 12:18	ON	N22.16022 E113.87822	51 m	0:00:15	12 kph
9/11/2015 12:19	ON	N22.16075 E113.87815	60 m	0:00:18	12 kph
9/11/2015 12:19	ON	N22.16145 E113.87811	78 m	0:00:22	13 kph
9/11/2015 12:19	ON	N22.16203 E113.87809	65 m	0:00:19	12 kph
9/11/2015 12:20	ON	N22.16271 E113.87805	76 m	0:00:22	12 kph
9/11/2015 12:20	ON	N22.16337 E113.87803	73 m	0:00:21	13 kph
9/11/2015 12:21	ON	N22.16401 E113.87789	74 m	0:00:22	12 kph
9/11/2015 12:21	ON	N22.16469 E113.87781	76 m	0:00:22	12 kph
9/11/2015 12:21	ON	N22.16532 E113.87787	70 m	0:00:20	13 kph
9/11/2015 12:22	ON	N22.16592 E113.87792	67 m	0:00:19	13 kph
9/11/2015 12:22	ON	N22.16652 E113.87794	67 m	0:00:19	13 kph
9/11/2015 12:22	ON	N22.16730 E113.87805	87 m	0:00:24	13 kph
9/11/2015 12:23	ON	N22.16787 E113.87808	63 m	0:00:18	13 kph
9/11/2015 12:23	ON	N22.16847 E113.87810	67 m	0:00:19	13 kph
9/11/2015 12:23	ON	N22.16918 E113.87810	80 m	0:00:23	12 kph
9/11/2015 12:24	ON	N22.16987 E113.87804	77 m	0:00:22	13 kph
9/11/2015 12:24	ON	N22.17057 E113.87808	78 m	0:00:22	13 kph
9/11/2015 12:24	ON	N22.17111 E113.87812	61 m	0:00:17	13 kph
9/11/2015 12:25	ON	N22.17181 E113.87811	77 m	0:00:22	13 kph
9/11/2015 12:25	ON	N22.17234 E113.87806	60 m	0:00:17	13 kph
9/11/2015 12:25	ON	N22.17293 E113.87810	66 m	0:00:18	13 kph
9/11/2015 12:26	ON	N22.17348 E113.87817	61 m	0:00:17	13 kph
9/11/2015 12:26	ON	N22.17403 E113.87803	63 m	0:00:19	12 kph
9/11/2015 12:26	ON	N22.17463 E113.87799	67 m	0:00:19	13 kph
9/11/2015 12:26	ON	N22.17511 E113.87803	54 m	0:00:15	13 kph
9/11/2015 12:27	ON	N22.17578 E113.87797	75 m	0:00:21	13 kph
9/11/2015 12:27	ON	N22.17639 E113.87795	68 m	0:00:19	13 kph
9/11/2015 12:27	ON	N22.17687 E113.87796	54 m	0:00:15	13 kph
9/11/2015 12:28	ON	N22.17753 E113.87796	73 m	0:00:20	13 kph
9/11/2015 12:28	ON	N22.17809 E113.87802	63 m	0:00:17	13 kph
9/11/2015 12:28	ON	N22.17857 E113.87803	53 m	0:00:15	13 kph
9/11/2015 12:28	ON	N22.17908 E113.87804	56 m	0:00:16	13 kph
9/11/2015 12:29	ON	N22.17969 E113.87805	69 m	0:00:19	13 kph
9/11/2015 12:29	ON	N22.18031 E113.87806	69 m	0:00:19	13 kph
9/11/2015 12:29	ON	N22.18094 E113.87804	70 m	0:00:19	13 kph
9/11/2015 12:30	ON	N22.18152 E113.87802	65 m	0:00:18	13 kph
9/11/2015 12:30	ON	N22.18208 E113.87806	63 m	0:00:17	13 kph
9/11/2015 12:30	ON	N22.18258 E113.87807	55 m	0:00:15	13 kph
9/11/2015 12:31	ON	N22.18321 E113.87800	71 m	0:00:19	13 kph
9/11/2015 12:31	ON	N22.18385 E113.87802	71 m	0:00:19	14 kph
9/11/2015 12:31	ON	N22.18460 E113.87806	83 m	0:00:22	14 kph
9/11/2015 12:32	ON	N22.18532 E113.87805	80 m	0:00:21	14 kph
9/11/2015 12:32	ON	N22.18599 E113.87813	75 m	0:00:19	14 kph
9/11/2015 12:32	ON	N22.18664 E113.87814	72 m	0:00:19	14 kph
9/11/2015 12:32	ON	N22.18714 E113.87812	56 m	0:00:15	13 kph
9/11/2015 12:33	ON	N22.18789 E113.87808	83 m	0:00:22	14 kph
9/11/2015 12:33	ON	N22.18868 E113.87810	89 m	0:00:23	14 kph
9/11/2015 12:34	ON	N22.18937 E113.87803	77 m	0:00:20	14 kph
9/11/2015 12:34	ON	N22.19019 E113.87811	92 m	0:00:23	14 kph
9/11/2015 12:34	ON	N22.19095 E113.87811	84 m	0:00:21	14 kph
9/11/2015 12:35	ON	N22.19157 E113.87800	70 m	0:00:18	14 kph
9/11/2015 12:35	ON	N22.19202 E113.87798	51 m	0:00:13	14 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 12:35	ON	N22.19277 E113.87805	84 m	0:00:21	14 kph
9/11/2015 12:35	ON	N22.19330 E113.87805	59 m	0:00:15	14 kph
9/11/2015 12:36	ON	N22.19393 E113.87803	70 m	0:00:17	15 kph
9/11/2015 12:36	ON	N22.19445 E113.87807	58 m	0:00:14	15 kph
9/11/2015 12:36	ON	N22.19507 E113.87803	70 m	0:00:18	14 kph
9/11/2015 12:37	ON	N22.19586 E113.87802	88 m	0:00:22	14 kph
9/11/2015 12:37	ON	N22.19672 E113.87809	96 m	0:00:24	14 kph
9/11/2015 12:37	ON	N22.19749 E113.87813	86 m	0:00:21	15 kph
9/11/2015 12:38	ON	N22.19836 E113.87801	98 m	0:00:24	15 kph
9/11/2015 12:38	ON	N22.19900 E113.87801	71 m	0:00:18	14 kph
9/11/2015 12:38	ON	N22.19982 E113.87808	92 m	0:00:22	15 kph
9/11/2015 12:39	ON	N22.20049 E113.87807	74 m	0:00:18	15 kph
9/11/2015 12:39	ON	N22.20126 E113.87807	87 m	0:00:21	15 kph
9/11/2015 12:39	ON	N22.20209 E113.87808	92 m	0:00:22	15 kph
9/11/2015 12:40	ON	N22.20287 E113.87812	87 m	0:00:21	15 kph
9/11/2015 12:40	ON	N22.20357 E113.87807	78 m	0:00:19	15 kph
9/11/2015 12:40	ON	N22.20442 E113.87801	96 m	0:00:23	15 kph
9/11/2015 12:41	ON	N22.20528 E113.87799	96 m	0:00:23	15 kph
9/11/2015 12:41	ON	N22.20607 E113.87802	88 m	0:00:21	15 kph
9/11/2015 12:42	ON	N22.20685 E113.87814	87 m	0:00:20	16 kph
9/11/2015 12:42	ON	N22.20737 E113.87859	74 m	0:00:17	16 kph
9/11/2015 12:42	ON	N22.20790 E113.87926	91 m	0:00:21	16 kph
9/11/2015 12:43	ON	N22.20850 E113.87999	101 m	0:00:23	16 kph
9/11/2015 12:43	ON	N22.20909 E113.88065	94 m	0:00:22	15 kph
9/11/2015 12:43	ON	N22.20962 E113.88116	79 m	0:00:19	15 kph
9/11/2015 12:44	ON	N22.21022 E113.88175	90 m	0:00:21	15 kph
9/11/2015 12:44	ON	N22.21079 E113.88244	95 m	0:00:22	16 kph
9/11/2015 12:44	ON	N22.21137 E113.88310	94 m	0:00:22	15 kph
9/11/2015 12:45	ON	N22.21191 E113.88365	83 m	0:00:20	15 kph
9/11/2015 12:45	ON	N22.21251 E113.88422	88 m	0:00:21	15 kph
9/11/2015 12:45	ON	N22.21305 E113.88476	82 m	0:00:19	16 kph
9/11/2015 12:46	ON	N22.21370 E113.88550	105 m	0:00:24	16 kph
9/11/2015 12:46	ON	N22.21427 E113.88621	97 m	0:00:23	15 kph
9/11/2015 12:47	ON	N22.21487 E113.88701	106 m	0:00:25	15 kph
9/11/2015 12:47	ON	N22.21540 E113.88774	96 m	0:00:23	15 kph
9/11/2015 12:47	ON	N22.21541 E113.88814	41 m	0:00:12	12 kph
9/11/2015 12:47	ON	N22.21511 E113.88828	36 m	0:00:12	11 kph
9/11/2015 12:48	ON	N22.21451 E113.88818	68 m	0:00:19	13 kph
9/11/2015 12:48	ON	N22.21405 E113.88815	51 m	0:00:14	13 kph
9/11/2015 12:48	ON	N22.21342 E113.88810	70 m	0:00:19	13 kph
9/11/2015 12:49	ON	N22.21275 E113.88813	74 m	0:00:20	13 kph
9/11/2015 12:49	ON	N22.21207 E113.88820	76 m	0:00:20	14 kph
9/11/2015 12:49	ON	N22.21142 E113.88825	72 m	0:00:19	14 kph
9/11/2015 12:50	ON	N22.21075 E113.88827	75 m	0:00:20	13 kph
9/11/2015 12:50	ON	N22.21012 E113.88825	71 m	0:00:19	13 kph
9/11/2015 12:50	ON	N22.20939 E113.88831	81 m	0:00:21	14 kph
9/11/2015 12:50	ON	N22.20892 E113.88831	53 m	0:00:14	14 kph
9/11/2015 12:51	ON	N22.20841 E113.88828	56 m	0:00:15	13 kph
9/11/2015 12:51	ON	N22.20790 E113.88828	57 m	0:00:15	14 kph
9/11/2015 12:51	ON	N22.20729 E113.88827	68 m	0:00:18	14 kph
9/11/2015 12:51	ON	N22.20678 E113.88826	57 m	0:00:15	14 kph
9/11/2015 12:52	ON	N22.20630 E113.88827	53 m	0:00:14	14 kph
9/11/2015 12:52	ON	N22.20572 E113.88831	65 m	0:00:17	14 kph
9/11/2015 12:52	ON	N22.20509 E113.88832	71 m	0:00:19	13 kph
9/11/2015 12:53	ON	N22.20453 E113.88825	63 m	0:00:17	13 kph
9/11/2015 12:53	ON	N22.20389 E113.88823	71 m	0:00:19	13 kph
9/11/2015 12:53	ON	N22.20327 E113.88830	69 m	0:00:18	14 kph
9/11/2015 12:53	ON	N22.20278 E113.88828	55 m	0:00:15	13 kph
9/11/2015 12:54	ON	N22.20213 E113.88829	72 m	0:00:19	14 kph
9/11/2015 12:54	ON	N22.20134 E113.88829	88 m	0:00:23	14 kph
9/11/2015 12:54	ON	N22.20066 E113.88827	76 m	0:00:20	14 kph
9/11/2015 12:55	ON	N22.20008 E113.88825	65 m	0:00:17	14 kph
9/11/2015 12:55	ON	N22.19945 E113.88829	70 m	0:00:18	14 kph
9/11/2015 12:55	ON	N22.19867 E113.88827	87 m	0:00:23	14 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 12:56	ON	N22.19799 E113.88819	76 m	0:00:20	14 kph
9/11/2015 12:56	ON	N22.19737 E113.88824	70 m	0:00:18	14 kph
9/11/2015 12:56	ON	N22.19671 E113.88821	73 m	0:00:19	14 kph
9/11/2015 12:57	ON	N22.19620 E113.88821	57 m	0:00:15	14 kph
9/11/2015 12:57	ON	N22.19556 E113.88832	72 m	0:00:18	14 kph
9/11/2015 12:57	ON	N22.19490 E113.88844	75 m	0:00:19	14 kph
9/11/2015 12:58	ON	N22.19424 E113.88846	74 m	0:00:19	14 kph
9/11/2015 12:58	ON	N22.19358 E113.88842	73 m	0:00:19	14 kph
9/11/2015 12:58	ON	N22.19304 E113.88838	61 m	0:00:16	14 kph
9/11/2015 12:58	ON	N22.19252 E113.88836	58 m	0:00:15	14 kph
9/11/2015 12:59	ON	N22.19192 E113.88834	67 m	0:00:17	14 kph
9/11/2015 12:59	ON	N22.19129 E113.88833	70 m	0:00:18	14 kph
9/11/2015 12:59	ON	N22.19068 E113.88826	69 m	0:00:18	14 kph
9/11/2015 13:00	ON	N22.19001 E113.88825	74 m	0:00:19	14 kph
9/11/2015 13:00	ON	N22.18930 E113.88827	79 m	0:00:20	14 kph
9/11/2015 13:00	ON	N22.18870 E113.88827	67 m	0:00:17	14 kph
9/11/2015 13:00	ON	N22.18817 E113.88828	59 m	0:00:15	14 kph
9/11/2015 13:01	ON	N22.18764 E113.88829	59 m	0:00:15	14 kph
9/11/2015 13:01	ON	N22.18708 E113.88828	62 m	0:00:16	14 kph
9/11/2015 13:01	ON	N22.18638 E113.88828	78 m	0:00:20	14 kph
9/11/2015 13:02	ON	N22.18571 E113.88827	75 m	0:00:19	14 kph
9/11/2015 13:02	ON	N22.18511 E113.88827	67 m	0:00:17	14 kph
9/11/2015 13:02	ON	N22.18455 E113.88828	63 m	0:00:16	14 kph
9/11/2015 13:03	ON	N22.18388 E113.88828	74 m	0:00:19	14 kph
9/11/2015 13:03	ON	N22.18310 E113.88828	87 m	0:00:22	14 kph
9/11/2015 13:03	ON	N22.18241 E113.88832	77 m	0:00:19	15 kph
9/11/2015 13:03	ON	N22.18181 E113.88832	67 m	0:00:17	14 kph
9/11/2015 13:04	ON	N22.18113 E113.88830	75 m	0:00:19	14 kph
9/11/2015 13:04	ON	N22.18051 E113.88828	69 m	0:00:17	15 kph
9/11/2015 13:04	ON	N22.17988 E113.88831	70 m	0:00:17	15 kph
9/11/2015 13:05	ON	N22.17914 E113.88835	83 m	0:00:20	15 kph
9/11/2015 13:05	ON	N22.17857 E113.88832	64 m	0:00:16	14 kph
9/11/2015 13:05	ON	N22.17792 E113.88828	72 m	0:00:18	14 kph
9/11/2015 13:06	ON	N22.17726 E113.88828	73 m	0:00:18	15 kph
9/11/2015 13:06	ON	N22.17637 E113.88833	100 m	0:00:24	15 kph
9/11/2015 13:06	ON	N22.17568 E113.88828	77 m	0:00:19	15 kph
9/11/2015 13:07	ON	N22.17490 E113.88821	86 m	0:00:21	15 kph
9/11/2015 13:07	ON	N22.17439 E113.88820	57 m	0:00:14	15 kph
9/11/2015 13:07	ON	N22.17375 E113.88823	72 m	0:00:17	15 kph
9/11/2015 13:07	ON	N22.17307 E113.88829	76 m	0:00:18	15 kph
9/11/2015 13:08	ON	N22.17225 E113.88830	92 m	0:00:22	15 kph
9/11/2015 13:08	ON	N22.17166 E113.88826	65 m	0:00:16	15 kph
9/11/2015 13:08	ON	N22.17087 E113.88829	89 m	0:00:21	15 kph
9/11/2015 13:09	ON	N22.17004 E113.88829	92 m	0:00:22	15 kph
9/11/2015 13:09	ON	N22.16924 E113.88829	88 m	0:00:21	15 kph
9/11/2015 13:09	ON	N22.16847 E113.88830	86 m	0:00:20	15 kph
9/11/2015 13:10	ON	N22.16774 E113.88826	81 m	0:00:19	15 kph
9/11/2015 13:10	ON	N22.16699 E113.88821	84 m	0:00:20	15 kph
9/11/2015 13:10	ON	N22.16625 E113.88830	83 m	0:00:19	16 kph
9/11/2015 13:11	ON	N22.16563 E113.88834	69 m	0:00:16	15 kph
9/11/2015 13:11	ON	N22.16495 E113.88828	76 m	0:00:18	15 kph
9/11/2015 13:11	ON	N22.16419 E113.88825	85 m	0:00:20	15 kph
9/11/2015 13:12	ON	N22.16351 E113.88826	76 m	0:00:18	15 kph
9/11/2015 13:12	ON	N22.16282 E113.88826	77 m	0:00:18	15 kph
9/11/2015 13:12	ON	N22.16208 E113.88825	82 m	0:00:19	16 kph
9/11/2015 13:13	ON	N22.16135 E113.88823	82 m	0:00:19	16 kph
9/11/2015 13:13	ON	N22.16068 E113.88823	74 m	0:00:17	16 kph
9/11/2015 13:13	ON	N22.16002 E113.88822	74 m	0:00:17	16 kph
9/11/2015 13:13	ON	N22.15935 E113.88824	74 m	0:00:17	16 kph
9/11/2015 13:14	ON	N22.15872 E113.88827	70 m	0:00:16	16 kph
9/11/2015 13:14	ON	N22.15795 E113.88823	85 m	0:00:20	15 kph
9/11/2015 13:14	ON	N22.15733 E113.88821	69 m	0:00:16	16 kph
9/11/2015 13:15	ON	N22.15671 E113.88820	70 m	0:00:16	16 kph
9/11/2015 13:15	ON	N22.15608 E113.88823	70 m	0:00:16	16 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 13:15	ON	N22.15532 E113.88831	84 m	0:00:19	16 kph
9/11/2015 13:16	ON	N22.15445 E113.88836	97 m	0:00:22	16 kph
9/11/2015 13:16	ON	N22.15379 E113.88828	74 m	0:00:17	16 kph
9/11/2015 13:16	ON	N22.15308 E113.88830	79 m	0:00:18	16 kph
9/11/2015 13:16	ON	N22.15237 E113.88831	79 m	0:00:18	16 kph
9/11/2015 13:17	ON	N22.15179 E113.88831	65 m	0:00:15	16 kph
9/11/2015 13:17	ON	N22.15117 E113.88826	69 m	0:00:16	15 kph
9/11/2015 13:17	ON	N22.15070 E113.88843	55 m	0:00:13	15 kph
9/11/2015 13:17	ON	N22.15017 E113.88897	82 m	0:00:18	16 kph
9/11/2015 13:18	ON	N22.14980 E113.88965	81 m	0:00:18	16 kph
9/11/2015 13:18	ON	N22.14960 E113.89036	76 m	0:00:17	16 kph
9/11/2015 13:18	ON	N22.14946 E113.89104	72 m	0:00:16	16 kph
9/11/2015 13:19	ON	N22.14935 E113.89172	72 m	0:00:16	16 kph
9/11/2015 13:19	ON	N22.14919 E113.89254	86 m	0:00:19	16 kph
9/11/2015 13:19	ON	N22.14916 E113.89267	14 m	0:00:03	16 kph
9/11/2015 13:19	ON	N22.14903 E113.89357	95 m	0:00:21	16 kph
9/11/2015 13:19	ON	N22.14901 E113.89370	14 m	0:00:03	16 kph
9/11/2015 13:19	ON	N22.14898 E113.89392	22 m	0:00:05	16 kph
9/11/2015 13:20	ON	N22.14893 E113.89431	41 m	0:00:09	16 kph
9/11/2015 13:20	ON	N22.14880 E113.89514	87 m	0:00:19	16 kph
9/11/2015 13:20	ON	N22.14874 E113.89545	33 m	0:00:07	17 kph
9/11/2015 13:20	ON	N22.14855 E113.89637	96 m	0:00:21	17 kph
9/11/2015 13:20	ON	N22.14849 E113.89662	27 m	0:00:06	16 kph
9/11/2015 13:21	ON	N22.14851 E113.89718	57 m	0:00:15	14 kph
9/11/2015 13:21	ON	N22.14881 E113.89732	36 m	0:00:12	11 kph
9/11/2015 13:21	ON	N22.14928 E113.89726	52 m	0:00:15	12 kph
9/11/2015 13:21	ON	N22.14983 E113.89722	62 m	0:00:18	12 kph
9/11/2015 13:22	ON	N22.15035 E113.89721	57 m	0:00:16	13 kph
9/11/2015 13:22	ON	N22.15087 E113.89720	59 m	0:00:17	12 kph
9/11/2015 13:22	ON	N22.15136 E113.89716	55 m	0:00:16	12 kph
9/11/2015 13:23	ON	N22.15197 E113.89716	67 m	0:00:19	13 kph
9/11/2015 13:23	ON	N22.15257 E113.89722	67 m	0:00:19	13 kph
9/11/2015 13:23	ON	N22.15318 E113.89717	68 m	0:00:20	12 kph
9/11/2015 13:23	ON	N22.15368 E113.89717	56 m	0:00:16	13 kph
9/11/2015 13:24	ON	N22.15418 E113.89721	56 m	0:00:16	13 kph
9/11/2015 13:24	ON	N22.15474 E113.89721	62 m	0:00:18	12 kph
9/11/2015 13:24	ON	N22.15540 E113.89718	74 m	0:00:21	13 kph
9/11/2015 13:25	ON	N22.15603 E113.89716	70 m	0:00:20	13 kph
9/11/2015 13:25	ON	N22.15676 E113.89720	81 m	0:00:23	13 kph
9/11/2015 13:25	ON	N22.15732 E113.89725	63 m	0:00:18	13 kph
9/11/2015 13:26	ON	N22.15789 E113.89719	64 m	0:00:19	12 kph
9/11/2015 13:26	ON	N22.15854 E113.89716	72 m	0:00:21	12 kph
9/11/2015 13:26	ON	N22.15911 E113.89725	64 m	0:00:18	13 kph
9/11/2015 13:27	ON	N22.15966 E113.89728	61 m	0:00:18	12 kph
9/11/2015 13:27	ON	N22.16023 E113.89723	64 m	0:00:19	12 kph
9/11/2015 13:27	ON	N22.16085 E113.89718	69 m	0:00:20	13 kph
9/11/2015 13:28	ON	N22.16164 E113.89723	88 m	0:00:25	13 kph
9/11/2015 13:28	ON	N22.16230 E113.89727	73 m	0:00:21	13 kph
9/11/2015 13:28	ON	N22.16301 E113.89721	80 m	0:00:23	12 kph
9/11/2015 13:29	ON	N22.16368 E113.89722	74 m	0:00:24	11 kph
9/11/2015 13:29	OFF	N22.16395 E113.89728	31 m	0:00:20	6 kph
9/11/2015 13:30	OFF	N22.16411 E113.89736	19 m	0:00:21	3 kph
9/11/2015 13:30	OFF	N22.16418 E113.89743	11 m	0:00:18	2 kph
9/11/2015 13:30	OFF	N22.16423 E113.89752	11 m	0:00:23	2 kph
9/11/2015 13:31	OFF	N22.16426 E113.89759	8 m	0:00:18	2 kph
9/11/2015 13:31	OFF	N22.16426 E113.89767	8 m	0:00:17	2 kph
9/11/2015 13:31	OFF	N22.16428 E113.89775	9 m	0:00:18	2 kph
9/11/2015 13:31	OFF	N22.16452 E113.89764	28 m	0:00:16	6 kph
9/11/2015 13:32	ON	N22.16481 E113.89720	56 m	0:00:18	11 kph
9/11/2015 13:32	ON	N22.16511 E113.89700	39 m	0:00:12	12 kph
9/11/2015 13:32	ON	N22.16566 E113.89716	63 m	0:00:17	13 kph
9/11/2015 13:33	ON	N22.16641 E113.89722	84 m	0:00:23	13 kph
9/11/2015 13:33	ON	N22.16701 E113.89721	67 m	0:00:18	13 kph
9/11/2015 13:33	ON	N22.16770 E113.89721	77 m	0:00:22	13 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 13:34	ON	N22.16840 E113.89716	78 m	0:00:22	13 kph
9/11/2015 13:34	ON	N22.16905 E113.89719	72 m	0:00:20	13 kph
9/11/2015 13:34	ON	N22.16975 E113.89718	78 m	0:00:22	13 kph
9/11/2015 13:35	ON	N22.17037 E113.89716	69 m	0:00:19	13 kph
9/11/2015 13:35	ON	N22.17103 E113.89722	75 m	0:00:21	13 kph
9/11/2015 13:35	ON	N22.17168 E113.89725	72 m	0:00:20	13 kph
9/11/2015 13:36	ON	N22.17231 E113.89722	70 m	0:00:20	13 kph
9/11/2015 13:36	ON	N22.17303 E113.89731	80 m	0:00:22	13 kph
9/11/2015 13:36	ON	N22.17363 E113.89726	67 m	0:00:19	13 kph
9/11/2015 13:37	ON	N22.17430 E113.89717	75 m	0:00:21	13 kph
9/11/2015 13:37	ON	N22.17509 E113.89714	89 m	0:00:24	13 kph
9/11/2015 13:37	ON	N22.17568 E113.89717	66 m	0:00:18	13 kph
9/11/2015 13:38	ON	N22.17641 E113.89719	80 m	0:00:22	13 kph
9/11/2015 13:38	ON	N22.17714 E113.89720	82 m	0:00:22	13 kph
9/11/2015 13:38	ON	N22.17786 E113.89725	80 m	0:00:22	13 kph
9/11/2015 13:39	ON	N22.17864 E113.89720	87 m	0:00:24	13 kph
9/11/2015 13:39	ON	N22.17930 E113.89716	73 m	0:00:20	13 kph
9/11/2015 13:40	ON	N22.17999 E113.89712	77 m	0:00:21	13 kph
9/11/2015 13:40	ON	N22.18054 E113.89705	62 m	0:00:17	13 kph
9/11/2015 13:40	ON	N22.18111 E113.89701	63 m	0:00:17	13 kph
9/11/2015 13:40	ON	N22.18181 E113.89697	78 m	0:00:21	13 kph
9/11/2015 13:41	ON	N22.18221 E113.89687	46 m	0:00:13	13 kph
9/11/2015 13:41	ON	N22.18272 E113.89687	56 m	0:00:15	14 kph
9/11/2015 13:41	ON	N22.18315 E113.89699	50 m	0:00:13	14 kph
9/11/2015 13:41	ON	N22.18352 E113.89709	43 m	0:00:11	14 kph
9/11/2015 13:42	ON	N22.18406 E113.89724	62 m	0:00:16	14 kph
9/11/2015 13:42	ON	N22.18463 E113.89725	64 m	0:00:17	14 kph
9/11/2015 13:42	ON	N22.18529 E113.89725	73 m	0:00:19	14 kph
9/11/2015 13:43	ON	N22.18602 E113.89724	81 m	0:00:21	14 kph
9/11/2015 13:43	ON	N22.18679 E113.89724	86 m	0:00:22	14 kph
9/11/2015 13:43	ON	N22.18755 E113.89722	84 m	0:00:22	14 kph
9/11/2015 13:44	ON	N22.18823 E113.89721	76 m	0:00:20	14 kph
9/11/2015 13:44	ON	N22.18885 E113.89719	70 m	0:00:18	14 kph
9/11/2015 13:44	ON	N22.18959 E113.89720	82 m	0:00:21	14 kph
9/11/2015 13:45	ON	N22.19034 E113.89719	83 m	0:00:22	14 kph
9/11/2015 13:45	ON	N22.19096 E113.89716	70 m	0:00:18	14 kph
9/11/2015 13:45	ON	N22.19176 E113.89720	89 m	0:00:23	14 kph
9/11/2015 13:46	ON	N22.19259 E113.89723	92 m	0:00:24	14 kph
9/11/2015 13:46	ON	N22.19345 E113.89719	96 m	0:00:25	14 kph
9/11/2015 13:46	ON	N22.19422 E113.89727	86 m	0:00:22	14 kph
9/11/2015 13:47	ON	N22.19499 E113.89732	86 m	0:00:22	14 kph
9/11/2015 13:47	ON	N22.19575 E113.89731	85 m	0:00:22	14 kph
9/11/2015 13:48	ON	N22.19649 E113.89725	83 m	0:00:22	14 kph
9/11/2015 13:48	ON	N22.19712 E113.89719	70 m	0:00:18	14 kph
9/11/2015 13:48	ON	N22.19789 E113.89718	86 m	0:00:22	14 kph
9/11/2015 13:49	ON	N22.19875 E113.89715	96 m	0:00:25	14 kph
9/11/2015 13:49	ON	N22.19946 E113.89718	79 m	0:00:20	14 kph
9/11/2015 13:49	ON	N22.20010 E113.89717	71 m	0:00:18	14 kph
9/11/2015 13:50	ON	N22.20080 E113.89716	78 m	0:00:20	14 kph
9/11/2015 13:50	ON	N22.20147 E113.89718	75 m	0:00:19	14 kph
9/11/2015 13:50	ON	N22.20218 E113.89719	78 m	0:00:20	14 kph
9/11/2015 13:51	ON	N22.20281 E113.89715	71 m	0:00:18	14 kph
9/11/2015 13:51	ON	N22.20350 E113.89712	77 m	0:00:19	15 kph
9/11/2015 13:51	ON	N22.20417 E113.89722	75 m	0:00:19	14 kph
9/11/2015 13:52	ON	N22.20495 E113.89722	87 m	0:00:22	14 kph
9/11/2015 13:52	ON	N22.20572 E113.89719	86 m	0:00:22	14 kph
9/11/2015 13:52	ON	N22.20649 E113.89718	86 m	0:00:22	14 kph
9/11/2015 13:53	ON	N22.20723 E113.89719	82 m	0:00:21	14 kph
9/11/2015 13:53	ON	N22.20794 E113.89721	79 m	0:00:20	14 kph
9/11/2015 13:53	ON	N22.20862 E113.89724	75 m	0:00:19	14 kph
9/11/2015 13:54	ON	N22.20946 E113.89717	94 m	0:00:24	14 kph
9/11/2015 13:54	ON	N22.21027 E113.89718	90 m	0:00:23	14 kph
9/11/2015 13:54	ON	N22.21108 E113.89721	90 m	0:00:23	14 kph
9/11/2015 13:55	ON	N22.21168 E113.89717	67 m	0:00:17	14 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 13:55	ON	N22.21235 E113.89720	75 m	0:00:19	14 kph
9/11/2015 13:55	ON	N22.21301 E113.89722	73 m	0:00:19	14 kph
9/11/2015 13:56	ON	N22.21387 E113.89714	97 m	0:00:25	14 kph
9/11/2015 13:56	ON	N22.21437 E113.89729	58 m	0:00:17	12 kph
9/11/2015 13:56	ON	N22.21431 E113.89755	28 m	0:00:11	9 kph
9/11/2015 13:57	ON	N22.21391 E113.89792	58 m	0:00:17	12 kph
9/11/2015 13:57	ON	N22.21346 E113.89842	71 m	0:00:18	14 kph
9/11/2015 13:57	ON	N22.21294 E113.89905	88 m	0:00:22	14 kph
9/11/2015 13:58	ON	N22.21243 E113.89974	91 m	0:00:23	14 kph
9/11/2015 13:58	ON	N22.21192 E113.90036	85 m	0:00:21	15 kph
9/11/2015 13:58	ON	N22.21126 E113.90112	108 m	0:00:27	14 kph
9/11/2015 13:59	ON	N22.21077 E113.90169	80 m	0:00:20	14 kph
9/11/2015 13:59	ON	N22.21040 E113.90221	68 m	0:00:17	14 kph
9/11/2015 13:59	ON	N22.20997 E113.90285	82 m	0:00:20	15 kph
9/11/2015 14:00	ON	N22.20947 E113.90360	95 m	0:00:23	15 kph
9/11/2015 14:00	ON	N22.20904 E113.90436	91 m	0:00:22	15 kph
9/11/2015 14:00	ON	N22.20870 E113.90494	71 m	0:00:17	15 kph
9/11/2015 14:01	ON	N22.20835 E113.90550	71 m	0:00:17	15 kph
9/11/2015 14:01	ON	N22.20791 E113.90611	79 m	0:00:19	15 kph
9/11/2015 14:01	ON	N22.20752 E113.90659	66 m	0:00:16	15 kph
9/11/2015 14:02	ON	N22.20711 E113.90703	64 m	0:00:16	14 kph
9/11/2015 14:02	ON	N22.20669 E113.90740	61 m	0:00:15	15 kph
9/11/2015 14:02	ON	N22.20623 E113.90770	60 m	0:00:15	14 kph
9/11/2015 14:02	ON	N22.20565 E113.90781	65 m	0:00:17	14 kph
9/11/2015 14:03	ON	N22.20510 E113.90780	62 m	0:00:17	13 kph
9/11/2015 14:03	ON	N22.20462 E113.90783	53 m	0:00:14	14 kph
9/11/2015 14:03	ON	N22.20409 E113.90784	60 m	0:00:16	13 kph
9/11/2015 14:03	ON	N22.20361 E113.90786	53 m	0:00:14	14 kph
9/11/2015 14:04	ON	N22.20296 E113.90791	72 m	0:00:19	14 kph
9/11/2015 14:04	ON	N22.20256 E113.90790	45 m	0:00:12	13 kph
9/11/2015 14:04	ON	N22.20210 E113.90789	51 m	0:00:14	13 kph
9/11/2015 14:04	ON	N22.20167 E113.90787	48 m	0:00:13	13 kph
9/11/2015 14:05	ON	N22.20116 E113.90787	57 m	0:00:15	14 kph
9/11/2015 14:05	ON	N22.20056 E113.90791	67 m	0:00:17	14 kph
9/11/2015 14:05	ON	N22.20003 E113.90794	59 m	0:00:15	14 kph
9/11/2015 14:05	ON	N22.19943 E113.90796	67 m	0:00:17	14 kph
9/11/2015 14:06	ON	N22.19882 E113.90791	69 m	0:00:18	14 kph
9/11/2015 14:06	ON	N22.19815 E113.90787	74 m	0:00:19	14 kph
9/11/2015 14:06	ON	N22.19745 E113.90792	78 m	0:00:20	14 kph
9/11/2015 14:07	ON	N22.19692 E113.90796	59 m	0:00:15	14 kph
9/11/2015 14:07	ON	N22.19636 E113.90796	61 m	0:00:16	14 kph
9/11/2015 14:07	ON	N22.19579 E113.90791	64 m	0:00:17	13 kph
9/11/2015 14:07	ON	N22.19520 E113.90791	66 m	0:00:17	14 kph
9/11/2015 14:08	ON	N22.19445 E113.90796	84 m	0:00:21	14 kph
9/11/2015 14:08	ON	N22.19397 E113.90795	52 m	0:00:13	15 kph
9/11/2015 14:08	ON	N22.19337 E113.90789	68 m	0:00:17	14 kph
9/11/2015 14:09	ON	N22.19272 E113.90789	72 m	0:00:18	14 kph
9/11/2015 14:09	ON	N22.19214 E113.90792	65 m	0:00:16	15 kph
9/11/2015 14:09	ON	N22.19164 E113.90791	55 m	0:00:14	14 kph
9/11/2015 14:09	ON	N22.19098 E113.90786	73 m	0:00:19	14 kph
9/11/2015 14:10	ON	N22.19038 E113.90771	69 m	0:00:18	14 kph
9/11/2015 14:10	ON	N22.18986 E113.90741	66 m	0:00:18	13 kph
9/11/2015 14:10	ON	N22.18944 E113.90689	71 m	0:00:20	13 kph
9/11/2015 14:11	ON	N22.18906 E113.90635	70 m	0:00:20	13 kph
9/11/2015 14:11	ON	N22.18876 E113.90600	48 m	0:00:14	12 kph
9/11/2015 14:11	ON	N22.18832 E113.90560	64 m	0:00:18	13 kph
9/11/2015 14:12	ON	N22.18775 E113.90527	72 m	0:00:20	13 kph
9/11/2015 14:12	ON	N22.18708 E113.90500	80 m	0:00:22	13 kph
9/11/2015 14:12	ON	N22.18651 E113.90486	65 m	0:00:18	13 kph
9/11/2015 14:13	ON	N22.18583 E113.90475	77 m	0:00:21	13 kph
9/11/2015 14:13	ON	N22.18511 E113.90462	81 m	0:00:22	13 kph
9/11/2015 14:13	ON	N22.18449 E113.90452	70 m	0:00:19	13 kph
9/11/2015 14:14	ON	N22.18374 E113.90440	85 m	0:00:23	13 kph
9/11/2015 14:14	ON	N22.18296 E113.90433	88 m	0:00:23	14 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 14:14	ON	N22.18224 E113.90420	81 m	0:00:22	13 kph
9/11/2015 14:15	ON	N22.18154 E113.90408	79 m	0:00:21	13 kph
9/11/2015 14:15	ON	N22.18103 E113.90405	57 m	0:00:15	14 kph
9/11/2015 14:15	ON	N22.18005 E113.90411	109 m	0:00:28	14 kph
9/11/2015 14:16	ON	N22.17933 E113.90426	82 m	0:00:21	14 kph
9/11/2015 14:16	ON	N22.17864 E113.90467	88 m	0:00:22	14 kph
9/11/2015 14:16	ON	N22.17807 E113.90517	82 m	0:00:20	15 kph
9/11/2015 14:17	ON	N22.17748 E113.90574	88 m	0:00:21	15 kph
9/11/2015 14:17	ON	N22.17686 E113.90633	92 m	0:00:22	15 kph
9/11/2015 14:17	ON	N22.17631 E113.90681	78 m	0:00:19	15 kph
9/11/2015 14:18	ON	N22.17588 E113.90718	61 m	0:00:15	15 kph
9/11/2015 14:18	ON	N22.17532 E113.90762	77 m	0:00:19	15 kph
9/11/2015 14:18	ON	N22.17462 E113.90806	90 m	0:00:22	15 kph
9/11/2015 14:19	ON	N22.17392 E113.90839	85 m	0:00:22	14 kph
9/11/2015 14:19	ON	N22.17336 E113.90852	64 m	0:00:17	13 kph
9/11/2015 14:19	ON	N22.17278 E113.90839	66 m	0:00:18	13 kph
9/11/2015 14:20	ON	N22.17208 E113.90799	88 m	0:00:23	14 kph
9/11/2015 14:20	ON	N22.17145 E113.90736	95 m	0:00:25	14 kph
9/11/2015 14:21	ON	N22.17087 E113.90672	92 m	0:00:24	14 kph
9/11/2015 14:21	ON	N22.17019 E113.90613	97 m	0:00:25	14 kph
9/11/2015 14:21	ON	N22.16941 E113.90555	105 m	0:00:26	15 kph
9/11/2015 14:22	ON	N22.16884 E113.90494	89 m	0:00:22	15 kph
9/11/2015 14:22	ON	N22.16803 E113.90412	123 m	0:00:31	14 kph
9/11/2015 14:23	ON	N22.16726 E113.90348	109 m	0:00:28	14 kph
9/11/2015 14:23	ON	N22.16648 E113.90281	111 m	0:00:29	14 kph
9/11/2015 14:24	ON	N22.16582 E113.90208	105 m	0:00:28	13 kph
9/11/2015 14:24	ON	N22.16531 E113.90145	87 m	0:00:23	14 kph
9/11/2015 14:25	ON	N22.16472 E113.90075	98 m	0:00:26	14 kph
9/11/2015 14:25	ON	N22.16418 E113.90016	86 m	0:00:23	13 kph
9/11/2015 14:25	ON	N22.16348 E113.89957	99 m	0:00:26	14 kph
9/11/2015 14:26	ON	N22.16279 E113.89908	92 m	0:00:24	14 kph
9/11/2015 14:26	ON	N22.16203 E113.89867	95 m	0:00:24	14 kph
9/11/2015 14:27	ON	N22.16122 E113.89834	96 m	0:00:24	14 kph
9/11/2015 14:27	ON	N22.16053 E113.89819	78 m	0:00:19	15 kph
9/11/2015 14:27	ON	N22.15985 E113.89821	75 m	0:00:18	15 kph
9/11/2015 14:27	ON	N22.15918 E113.89842	78 m	0:00:18	16 kph
9/11/2015 14:28	ON	N22.15847 E113.89868	84 m	0:00:20	15 kph
9/11/2015 14:28	ON	N22.15787 E113.89905	77 m	0:00:18	15 kph
9/11/2015 14:28	ON	N22.15727 E113.89950	82 m	0:00:19	15 kph
9/11/2015 14:29	ON	N22.15678 E113.89998	73 m	0:00:17	16 kph
9/11/2015 14:29	ON	N22.15624 E113.90065	91 m	0:00:21	16 kph
9/11/2015 14:29	ON	N22.15582 E113.90124	77 m	0:00:18	15 kph
9/11/2015 14:30	ON	N22.15545 E113.90186	77 m	0:00:18	15 kph
9/11/2015 14:30	ON	N22.15526 E113.90240	59 m	0:00:14	15 kph
9/11/2015 14:30	ON	N22.15513 E113.90299	63 m	0:00:15	15 kph
9/11/2015 14:30	ON	N22.15510 E113.90354	57 m	0:00:14	15 kph
9/11/2015 14:31	ON	N22.15511 E113.90425	73 m	0:00:18	15 kph
9/11/2015 14:31	ON	N22.15510 E113.90501	78 m	0:00:19	15 kph
9/11/2015 14:31	ON	N22.15511 E113.90568	69 m	0:00:17	15 kph
9/11/2015 14:32	ON	N22.15511 E113.90632	65 m	0:00:16	15 kph
9/11/2015 14:32	ON	N22.15511 E113.90691	61 m	0:00:15	15 kph
9/11/2015 14:32	ON	N22.15509 E113.90754	66 m	0:00:16	15 kph
9/11/2015 14:32	ON	N22.15484 E113.90786	43 m	0:00:12	13 kph
9/11/2015 14:32	ON	N22.15441 E113.90788	48 m	0:00:13	13 kph
9/11/2015 14:33	ON	N22.15377 E113.90780	71 m	0:00:18	14 kph
9/11/2015 14:33	ON	N22.15316 E113.90780	68 m	0:00:17	14 kph
9/11/2015 14:33	ON	N22.15269 E113.90783	52 m	0:00:13	14 kph
9/11/2015 14:34	ON	N22.15214 E113.90785	61 m	0:00:15	15 kph
9/11/2015 14:34	ON	N22.15156 E113.90787	65 m	0:00:16	15 kph
9/11/2015 14:34	ON	N22.15094 E113.90790	69 m	0:00:17	15 kph
9/11/2015 14:34	ON	N22.15027 E113.90791	74 m	0:00:18	15 kph
9/11/2015 14:35	ON	N22.14961 E113.90788	74 m	0:00:18	15 kph
9/11/2015 14:35	ON	N22.14917 E113.90787	49 m	0:00:12	15 kph
9/11/2015 14:35	ON	N22.14861 E113.90787	62 m	0:00:15	15 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 14:35	ON	N22.14798 E113.90791	70 m	0:00:17	15 kph
9/11/2015 14:36	ON	N22.14737 E113.90795	67 m	0:00:16	15 kph
9/11/2015 14:36	ON	N22.14688 E113.90796	55 m	0:00:13	15 kph
9/11/2015 14:36	ON	N22.14623 E113.90793	72 m	0:00:17	15 kph
9/11/2015 14:36	ON	N22.14566 E113.90787	64 m	0:00:15	15 kph
9/11/2015 14:37	ON	N22.14494 E113.90789	80 m	0:00:19	15 kph
9/11/2015 14:37	ON	N22.14452 E113.90792	47 m	0:00:11	15 kph
9/11/2015 14:37	ON	N22.14394 E113.90795	64 m	0:00:15	15 kph
9/11/2015 14:37	ON	N22.14341 E113.90791	60 m	0:00:14	15 kph
9/11/2015 14:38	ON	N22.14285 E113.90807	64 m	0:00:16	14 kph
9/11/2015 14:38	ON	N22.14263 E113.90858	58 m	0:00:15	14 kph
9/11/2015 14:38	ON	N22.14256 E113.90906	51 m	0:00:12	15 kph
9/11/2015 14:38	ON	N22.14254 E113.90975	71 m	0:00:17	15 kph
9/11/2015 14:39	ON	N22.14257 E113.91047	74 m	0:00:18	15 kph
9/11/2015 14:39	ON	N22.14259 E113.91114	70 m	0:00:17	15 kph
9/11/2015 14:39	ON	N22.14257 E113.91173	61 m	0:00:15	15 kph
9/11/2015 14:40	ON	N22.14253 E113.91246	75 m	0:00:18	15 kph
9/11/2015 14:40	ON	N22.14248 E113.91335	92 m	0:00:22	15 kph
9/11/2015 14:40	ON	N22.14243 E113.91409	76 m	0:00:18	15 kph
9/11/2015 14:40	ON	N22.14236 E113.91474	68 m	0:00:16	15 kph
9/11/2015 14:41	ON	N22.14230 E113.91535	64 m	0:00:15	15 kph
9/11/2015 14:41	ON	N22.14223 E113.91605	72 m	0:00:17	15 kph
9/11/2015 14:41	ON	N22.14217 E113.91676	73 m	0:00:17	15 kph
9/11/2015 14:42	ON	N22.14217 E113.91736	63 m	0:00:15	15 kph
9/11/2015 14:42	ON	N22.14245 E113.91759	39 m	0:00:12	12 kph
9/11/2015 14:42	ON	N22.14290 E113.91766	51 m	0:00:14	13 kph
9/11/2015 14:42	ON	N22.14340 E113.91771	55 m	0:00:15	13 kph
9/11/2015 14:43	ON	N22.14401 E113.91784	69 m	0:00:18	14 kph
9/11/2015 14:43	ON	N22.14450 E113.91783	55 m	0:00:15	13 kph
9/11/2015 14:43	ON	N22.14502 E113.91777	59 m	0:00:16	13 kph
9/11/2015 14:43	ON	N22.14567 E113.91781	72 m	0:00:19	14 kph
9/11/2015 14:44	ON	N22.14643 E113.91785	85 m	0:00:22	14 kph
9/11/2015 14:44	ON	N22.14703 E113.91780	68 m	0:00:18	14 kph
9/11/2015 14:44	ON	N22.14780 E113.91778	85 m	0:00:22	14 kph
9/11/2015 14:45	ON	N22.14854 E113.91779	82 m	0:00:21	14 kph
9/11/2015 14:45	ON	N22.14923 E113.91781	78 m	0:00:20	14 kph
9/11/2015 14:45	ON	N22.14972 E113.91782	55 m	0:00:14	14 kph
9/11/2015 14:46	ON	N22.15034 E113.91778	69 m	0:00:18	14 kph
9/11/2015 14:46	ON	N22.15087 E113.91780	59 m	0:00:15	14 kph
9/11/2015 14:46	ON	N22.15153 E113.91784	74 m	0:00:19	14 kph
9/11/2015 14:46	ON	N22.15210 E113.91786	63 m	0:00:16	14 kph
9/11/2015 14:47	ON	N22.15274 E113.91788	72 m	0:00:18	14 kph
9/11/2015 14:47	ON	N22.15349 E113.91785	84 m	0:00:21	14 kph
9/11/2015 14:47	ON	N22.15423 E113.91781	82 m	0:00:21	14 kph
9/11/2015 14:48	ON	N22.15486 E113.91780	71 m	0:00:18	14 kph
9/11/2015 14:48	ON	N22.15555 E113.91783	76 m	0:00:19	14 kph
9/11/2015 14:48	ON	N22.15636 E113.91788	91 m	0:00:23	14 kph
9/11/2015 14:49	ON	N22.15704 E113.91793	76 m	0:00:19	14 kph
9/11/2015 14:49	ON	N22.15771 E113.91798	75 m	0:00:19	14 kph
9/11/2015 14:49	ON	N22.15839 E113.91802	76 m	0:00:19	14 kph
9/11/2015 14:50	ON	N22.15922 E113.91810	93 m	0:00:23	15 kph
9/11/2015 14:50	ON	N22.16006 E113.91819	94 m	0:00:23	15 kph
9/11/2015 14:50	ON	N22.16071 E113.91832	73 m	0:00:18	15 kph
9/11/2015 14:51	ON	N22.16136 E113.91846	73 m	0:00:18	15 kph
9/11/2015 14:51	ON	N22.16197 E113.91859	70 m	0:00:17	15 kph
9/11/2015 14:51	ON	N22.16269 E113.91873	82 m	0:00:20	15 kph
9/11/2015 14:52	ON	N22.16316 E113.91883	53 m	0:00:13	15 kph
9/11/2015 14:52	ON	N22.16370 E113.91894	61 m	0:00:15	15 kph
9/11/2015 14:52	ON	N22.16432 E113.91906	70 m	0:00:17	15 kph
9/11/2015 14:52	ON	N22.16483 E113.91914	57 m	0:00:14	15 kph
9/11/2015 14:53	ON	N22.16541 E113.91924	66 m	0:00:16	15 kph
9/11/2015 14:53	ON	N22.16596 E113.91933	62 m	0:00:15	15 kph
9/11/2015 14:53	ON	N22.16669 E113.91945	82 m	0:00:20	15 kph
9/11/2015 14:53	ON	N22.16721 E113.91957	60 m	0:00:15	14 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 14:54	ON	N22.16784 E113.91979	74 m	0:00:19	14 kph
9/11/2015 14:54	ON	N22.16831 E113.91996	55 m	0:00:14	14 kph
9/11/2015 14:54	ON	N22.16892 E113.92016	71 m	0:00:18	14 kph
9/11/2015 14:55	ON	N22.16944 E113.92031	60 m	0:00:15	14 kph
9/11/2015 14:55	ON	N22.16992 E113.92043	55 m	0:00:14	14 kph
9/11/2015 14:55	ON	N22.17050 E113.92057	66 m	0:00:17	14 kph
9/11/2015 14:55	ON	N22.17115 E113.92074	75 m	0:00:19	14 kph
9/11/2015 14:56	ON	N22.17153 E113.92084	43 m	0:00:11	14 kph
9/11/2015 14:56	ON	N22.17198 E113.92092	50 m	0:00:13	14 kph
9/11/2015 14:56	ON	N22.17253 E113.92100	62 m	0:00:16	14 kph
9/11/2015 14:56	ON	N22.17306 E113.92109	59 m	0:00:15	14 kph
9/11/2015 14:57	ON	N22.17358 E113.92117	59 m	0:00:15	14 kph
9/11/2015 14:57	ON	N22.17404 E113.92126	51 m	0:00:13	14 kph
9/11/2015 14:57	ON	N22.17464 E113.92135	67 m	0:00:17	14 kph
9/11/2015 14:57	ON	N22.17517 E113.92144	60 m	0:00:15	14 kph
9/11/2015 14:58	ON	N22.17589 E113.92158	81 m	0:00:20	15 kph
9/11/2015 14:58	ON	N22.17663 E113.92175	85 m	0:00:21	15 kph
9/11/2015 14:58	ON	N22.17744 E113.92192	91 m	0:00:22	15 kph
9/11/2015 14:59	ON	N22.17828 E113.92206	95 m	0:00:23	15 kph
9/11/2015 14:59	ON	N22.17905 E113.92216	86 m	0:00:21	15 kph
9/11/2015 15:00	ON	N22.18002 E113.92210	108 m	0:00:27	14 kph
9/11/2015 15:00	ON	N22.18095 E113.92182	107 m	0:00:26	15 kph
9/11/2015 15:00	ON	N22.18171 E113.92147	92 m	0:00:22	15 kph
9/11/2015 15:01	ON	N22.18239 E113.92103	89 m	0:00:21	15 kph
9/11/2015 15:01	ON	N22.18296 E113.92052	82 m	0:00:20	15 kph
9/11/2015 15:01	ON	N22.18345 E113.92005	73 m	0:00:18	15 kph
9/11/2015 15:02	ON	N22.18392 E113.91959	71 m	0:00:18	14 kph
9/11/2015 15:02	ON	N22.18439 E113.91910	73 m	0:00:18	15 kph
9/11/2015 15:02	ON	N22.18492 E113.91856	81 m	0:00:20	15 kph
9/11/2015 15:03	ON	N22.18541 E113.91805	76 m	0:00:19	14 kph
9/11/2015 15:03	ON	N22.18586 E113.91790	52 m	0:00:15	12 kph
9/11/2015 15:03	ON	N22.18657 E113.91806	81 m	0:00:21	14 kph
9/11/2015 15:03	ON	N22.18724 E113.91809	74 m	0:00:19	14 kph
9/11/2015 15:04	ON	N22.18795 E113.91797	81 m	0:00:21	14 kph
9/11/2015 15:04	ON	N22.18852 E113.91781	65 m	0:00:17	14 kph
9/11/2015 15:04	ON	N22.18915 E113.91784	70 m	0:00:18	14 kph
9/11/2015 15:05	ON	N22.18985 E113.91780	78 m	0:00:20	14 kph
9/11/2015 15:05	ON	N22.19049 E113.91779	71 m	0:00:18	14 kph
9/11/2015 15:05	ON	N22.19112 E113.91781	71 m	0:00:18	14 kph
9/11/2015 15:06	ON	N22.19169 E113.91781	63 m	0:00:16	14 kph
9/11/2015 15:06	ON	N22.19230 E113.91781	68 m	0:00:17	14 kph
9/11/2015 15:06	ON	N22.19298 E113.91785	76 m	0:00:19	14 kph
9/11/2015 15:06	ON	N22.19352 E113.91790	60 m	0:00:15	14 kph
9/11/2015 15:07	ON	N22.19424 E113.91789	81 m	0:00:20	15 kph
9/11/2015 15:07	ON	N22.19477 E113.91790	59 m	0:00:15	14 kph
9/11/2015 15:07	ON	N22.19525 E113.91792	54 m	0:00:14	14 kph
9/11/2015 15:08	ON	N22.19595 E113.91789	78 m	0:00:20	14 kph
9/11/2015 15:08	ON	N22.19672 E113.91783	86 m	0:00:22	14 kph
9/11/2015 15:08	ON	N22.19732 E113.91784	67 m	0:00:17	14 kph
9/11/2015 15:09	ON	N22.19797 E113.91785	72 m	0:00:18	14 kph
9/11/2015 15:09	ON	N22.19865 E113.91782	76 m	0:00:19	14 kph
9/11/2015 15:09	ON	N22.19943 E113.91782	87 m	0:00:22	14 kph
9/11/2015 15:10	ON	N22.20016 E113.91788	81 m	0:00:21	14 kph
9/11/2015 15:10	ON	N22.20069 E113.91791	59 m	0:00:15	14 kph
9/11/2015 15:10	ON	N22.20140 E113.91788	79 m	0:00:20	14 kph
9/11/2015 15:11	ON	N22.20213 E113.91791	81 m	0:00:21	14 kph
9/11/2015 15:11	ON	N22.20269 E113.91792	63 m	0:00:16	14 kph
9/11/2015 15:11	ON	N22.20333 E113.91792	71 m	0:00:18	14 kph
9/11/2015 15:11	ON	N22.20400 E113.91793	75 m	0:00:19	14 kph
9/11/2015 15:12	ON	N22.20462 E113.91796	70 m	0:00:18	14 kph
9/11/2015 15:12	ON	N22.20502 E113.91828	55 m	0:00:15	13 kph
9/11/2015 15:12	ON	N22.20518 E113.91886	63 m	0:00:16	14 kph
9/11/2015 15:13	ON	N22.20524 E113.91949	65 m	0:00:16	15 kph
9/11/2015 15:13	ON	N22.20532 E113.92011	64 m	0:00:16	15 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 15:13	ON	N22.20541 E113.92084	76 m	0:00:19	14 kph
9/11/2015 15:13	ON	N22.20547 E113.92146	64 m	0:00:16	14 kph
9/11/2015 15:14	ON	N22.20554 E113.92232	88 m	0:00:22	14 kph
9/11/2015 15:14	ON	N22.20560 E113.92320	91 m	0:00:23	14 kph
9/11/2015 15:14	ON	N22.20562 E113.92377	59 m	0:00:15	14 kph
9/11/2015 15:15	ON	N22.20565 E113.92457	83 m	0:00:21	14 kph
9/11/2015 15:15	ON	N22.20570 E113.92542	87 m	0:00:22	14 kph
9/11/2015 15:15	ON	N22.20574 E113.92607	68 m	0:00:17	14 kph
9/11/2015 15:16	ON	N22.20580 E113.92685	80 m	0:00:20	14 kph
9/11/2015 15:16	ON	N22.20586 E113.92733	51 m	0:00:15	12 kph
9/11/2015 15:16	ON	N22.20532 E113.92743	42 m	0:00:13	12 kph
9/11/2015 15:16	ON	N22.20485 E113.92739	53 m	0:00:14	14 kph
9/11/2015 15:17	ON	N22.20426 E113.92745	65 m	0:00:17	14 kph
9/11/2015 15:17	ON	N22.20364 E113.92749	70 m	0:00:18	14 kph
9/11/2015 15:17	ON	N22.20307 E113.92751	63 m	0:00:16	14 kph
9/11/2015 15:18	ON	N22.20247 E113.92751	67 m	0:00:17	14 kph
9/11/2015 15:18	ON	N22.20198 E113.92747	55 m	0:00:14	14 kph
9/11/2015 15:18	ON	N22.20148 E113.92744	56 m	0:00:14	14 kph
9/11/2015 15:18	ON	N22.20083 E113.92750	73 m	0:00:18	15 kph
9/11/2015 15:19	ON	N22.20019 E113.92759	72 m	0:00:18	14 kph
9/11/2015 15:19	ON	N22.19955 E113.92758	71 m	0:00:18	14 kph
9/11/2015 15:19	ON	N22.19888 E113.92764	75 m	0:00:19	14 kph
9/11/2015 15:20	ON	N22.19821 E113.92763	74 m	0:00:19	14 kph
9/11/2015 15:20	ON	N22.19746 E113.92760	83 m	0:00:21	14 kph
9/11/2015 15:20	ON	N22.19701 E113.92758	51 m	0:00:13	14 kph
9/11/2015 15:20	ON	N22.19643 E113.92756	64 m	0:00:16	14 kph
9/11/2015 15:21	ON	N22.19593 E113.92757	56 m	0:00:14	14 kph
9/11/2015 15:21	ON	N22.19530 E113.92759	71 m	0:00:18	14 kph
9/11/2015 15:21	ON	N22.19482 E113.92757	53 m	0:00:14	14 kph
9/11/2015 15:21	ON	N22.19428 E113.92754	61 m	0:00:16	14 kph
9/11/2015 15:22	ON	N22.19386 E113.92752	47 m	0:00:12	14 kph
9/11/2015 15:22	ON	N22.19326 E113.92753	67 m	0:00:17	14 kph
9/11/2015 15:22	ON	N22.19255 E113.92759	79 m	0:00:20	14 kph
9/11/2015 15:22	ON	N22.19204 E113.92757	57 m	0:00:15	14 kph
9/11/2015 15:23	ON	N22.19145 E113.92756	67 m	0:00:17	14 kph
9/11/2015 15:23	ON	N22.19082 E113.92757	70 m	0:00:18	14 kph
9/11/2015 15:23	ON	N22.19030 E113.92753	58 m	0:00:15	14 kph
9/11/2015 15:24	ON	N22.18963 E113.92746	75 m	0:00:19	14 kph
9/11/2015 15:24	ON	N22.18905 E113.92745	64 m	0:00:16	14 kph
9/11/2015 15:24	ON	N22.18853 E113.92750	59 m	0:00:15	14 kph
9/11/2015 15:24	ON	N22.18798 E113.92755	62 m	0:00:16	14 kph
9/11/2015 15:25	ON	N22.18747 E113.92756	57 m	0:00:15	14 kph
9/11/2015 15:25	ON	N22.18681 E113.92759	73 m	0:00:19	14 kph
9/11/2015 15:25	ON	N22.18618 E113.92758	69 m	0:00:18	14 kph
9/11/2015 15:26	ON	N22.18559 E113.92756	66 m	0:00:17	14 kph
9/11/2015 15:26	ON	N22.18514 E113.92751	51 m	0:00:13	14 kph
9/11/2015 15:26	ON	N22.18469 E113.92748	50 m	0:00:13	14 kph
9/11/2015 15:26	ON	N22.18409 E113.92748	67 m	0:00:17	14 kph
9/11/2015 15:26	ON	N22.18363 E113.92750	51 m	0:00:13	14 kph
9/11/2015 15:27	ON	N22.18310 E113.92752	58 m	0:00:15	14 kph
9/11/2015 15:27	ON	N22.18254 E113.92750	63 m	0:00:16	14 kph
9/11/2015 15:27	ON	N22.18200 E113.92748	61 m	0:00:16	14 kph
9/11/2015 15:28	ON	N22.18146 E113.92748	60 m	0:00:16	13 kph
9/11/2015 15:28	ON	N22.18095 E113.92751	56 m	0:00:15	14 kph
9/11/2015 15:28	ON	N22.18038 E113.92758	64 m	0:00:17	14 kph
9/11/2015 15:28	ON	N22.17979 E113.92762	66 m	0:00:18	13 kph
9/11/2015 15:29	ON	N22.17926 E113.92758	59 m	0:00:16	13 kph
9/11/2015 15:29	ON	N22.17861 E113.92748	73 m	0:00:19	14 kph
9/11/2015 15:29	ON	N22.17793 E113.92744	76 m	0:00:20	14 kph
9/11/2015 15:30	ON	N22.17731 E113.92743	70 m	0:00:18	14 kph
9/11/2015 15:30	ON	N22.17679 E113.92745	58 m	0:00:15	14 kph
9/11/2015 15:30	ON	N22.17634 E113.92745	50 m	0:00:13	14 kph
9/11/2015 15:30	ON	N22.17574 E113.92743	67 m	0:00:17	14 kph
9/11/2015 15:31	ON	N22.17516 E113.92743	65 m	0:00:16	15 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 15:31	ON	N22.17457 E113.92747	65 m	0:00:16	15 kph
9/11/2015 15:31	ON	N22.17395 E113.92753	69 m	0:00:17	15 kph
9/11/2015 15:31	ON	N22.17348 E113.92756	53 m	0:00:13	15 kph
9/11/2015 15:32	ON	N22.17293 E113.92753	61 m	0:00:15	15 kph
9/11/2015 15:32	ON	N22.17228 E113.92750	72 m	0:00:18	14 kph
9/11/2015 15:32	ON	N22.17170 E113.92752	65 m	0:00:16	15 kph
9/11/2015 15:32	ON	N22.17106 E113.92754	71 m	0:00:18	14 kph
9/11/2015 15:33	ON	N22.17045 E113.92755	68 m	0:00:17	14 kph
9/11/2015 15:33	ON	N22.16978 E113.92754	75 m	0:00:19	14 kph
9/11/2015 15:33	ON	N22.16923 E113.92749	62 m	0:00:16	14 kph
9/11/2015 15:34	ON	N22.16874 E113.92743	54 m	0:00:14	14 kph
9/11/2015 15:34	ON	N22.16818 E113.92741	63 m	0:00:16	14 kph
9/11/2015 15:34	ON	N22.16764 E113.92749	60 m	0:00:15	14 kph
9/11/2015 15:34	ON	N22.16719 E113.92755	51 m	0:00:13	14 kph
9/11/2015 15:35	ON	N22.16670 E113.92751	54 m	0:00:14	14 kph
9/11/2015 15:35	ON	N22.16605 E113.92738	74 m	0:00:19	14 kph
9/11/2015 15:35	ON	N22.16544 E113.92740	68 m	0:00:17	14 kph
9/11/2015 15:35	ON	N22.16483 E113.92749	68 m	0:00:17	14 kph
9/11/2015 15:36	ON	N22.16438 E113.92754	51 m	0:00:13	14 kph
9/11/2015 15:36	ON	N22.16382 E113.92754	62 m	0:00:16	14 kph
9/11/2015 15:36	ON	N22.16332 E113.92747	57 m	0:00:15	14 kph
9/11/2015 15:36	ON	N22.16268 E113.92746	71 m	0:00:19	14 kph
9/11/2015 15:37	ON	N22.16211 E113.92749	63 m	0:00:17	13 kph
9/11/2015 15:37	ON	N22.16151 E113.92749	67 m	0:00:18	13 kph
9/11/2015 15:37	ON	N22.16102 E113.92751	55 m	0:00:15	13 kph
9/11/2015 15:38	ON	N22.16052 E113.92753	55 m	0:00:15	13 kph
9/11/2015 15:38	ON	N22.15984 E113.92752	76 m	0:00:21	13 kph
9/11/2015 15:38	ON	N22.15941 E113.92754	47 m	0:00:13	13 kph
9/11/2015 15:38	ON	N22.15886 E113.92752	62 m	0:00:17	13 kph
9/11/2015 15:39	ON	N22.15830 E113.92745	63 m	0:00:17	13 kph
9/11/2015 15:39	ON	N22.15768 E113.92745	69 m	0:00:18	14 kph
9/11/2015 15:39	ON	N22.15717 E113.92754	57 m	0:00:15	14 kph
9/11/2015 15:40	ON	N22.15657 E113.92761	67 m	0:00:18	13 kph
9/11/2015 15:40	ON	N22.15603 E113.92762	60 m	0:00:16	13 kph
9/11/2015 15:40	ON	N22.15542 E113.92764	68 m	0:00:18	14 kph
9/11/2015 15:40	ON	N22.15484 E113.92770	65 m	0:00:17	14 kph
9/11/2015 15:41	ON	N22.15434 E113.92765	56 m	0:00:15	13 kph
9/11/2015 15:41	ON	N22.15375 E113.92761	65 m	0:00:17	14 kph
9/11/2015 15:41	ON	N22.15323 E113.92760	58 m	0:00:15	14 kph
9/11/2015 15:41	ON	N22.15269 E113.92759	60 m	0:00:16	14 kph
9/11/2015 15:42	ON	N22.15214 E113.92756	61 m	0:00:16	14 kph
9/11/2015 15:42	ON	N22.15153 E113.92754	69 m	0:00:18	14 kph
9/11/2015 15:42	ON	N22.15097 E113.92751	61 m	0:00:16	14 kph
9/11/2015 15:43	ON	N22.15035 E113.92748	70 m	0:00:18	14 kph
9/11/2015 15:43	ON	N22.14977 E113.92748	65 m	0:00:17	14 kph
9/11/2015 15:43	ON	N22.14918 E113.92749	66 m	0:00:17	14 kph
9/11/2015 15:43	ON	N22.14848 E113.92750	78 m	0:00:20	14 kph
9/11/2015 15:44	ON	N22.14789 E113.92752	65 m	0:00:17	14 kph
9/11/2015 15:44	ON	N22.14736 E113.92754	59 m	0:00:15	14 kph
9/11/2015 15:44	ON	N22.14679 E113.92750	64 m	0:00:17	14 kph
9/11/2015 15:45	ON	N22.14609 E113.92744	77 m	0:00:20	14 kph
9/11/2015 15:45	ON	N22.14545 E113.92750	72 m	0:00:18	14 kph
9/11/2015 15:45	ON	N22.14492 E113.92755	59 m	0:00:15	14 kph
9/11/2015 15:45	ON	N22.14440 E113.92751	58 m	0:00:15	14 kph
9/11/2015 15:46	ON	N22.14387 E113.92750	59 m	0:00:15	14 kph
9/11/2015 15:46	ON	N22.14340 E113.92754	53 m	0:00:13	15 kph
9/11/2015 15:46	ON	N22.14307 E113.92771	41 m	0:00:12	12 kph
9/11/2015 15:46	ON	N22.14297 E113.92814	45 m	0:00:13	12 kph
9/11/2015 15:46	ON	N22.14306 E113.92848	37 m	0:00:10	13 kph
9/11/2015 15:47	ON	N22.14340 E113.92907	71 m	0:00:19	13 kph
9/11/2015 15:47	ON	N22.14371 E113.92950	57 m	0:00:15	14 kph
9/11/2015 15:47	ON	N22.14416 E113.93011	81 m	0:00:21	14 kph
9/11/2015 15:48	ON	N22.14462 E113.93067	77 m	0:00:20	14 kph
9/11/2015 15:48	ON	N22.14505 E113.93110	65 m	0:00:17	14 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 15:48	ON	N22.14544 E113.93147	57 m	0:00:15	14 kph
9/11/2015 15:48	ON	N22.14580 E113.93182	54 m	0:00:14	14 kph
9/11/2015 15:49	ON	N22.14621 E113.93224	63 m	0:00:16	14 kph
9/11/2015 15:49	ON	N22.14662 E113.93269	65 m	0:00:17	14 kph
9/11/2015 15:49	ON	N22.14699 E113.93319	66 m	0:00:17	14 kph
9/11/2015 15:50	ON	N22.14740 E113.93375	74 m	0:00:19	14 kph
9/11/2015 15:50	ON	N22.14776 E113.93426	66 m	0:00:17	14 kph
9/11/2015 15:50	ON	N22.14820 E113.93485	78 m	0:00:20	14 kph
9/11/2015 15:51	ON	N22.14862 E113.93540	73 m	0:00:19	14 kph
9/11/2015 15:51	ON	N22.14888 E113.93575	46 m	0:00:12	14 kph
9/11/2015 15:51	ON	N22.14912 E113.93607	43 m	0:00:11	14 kph
9/11/2015 15:51	ON	N22.14946 E113.93651	58 m	0:00:15	14 kph
9/11/2015 15:51	ON	N22.14980 E113.93674	46 m	0:00:12	14 kph
9/11/2015 15:52	ON	N22.15034 E113.93681	60 m	0:00:15	14 kph
9/11/2015 15:52	ON	N22.15081 E113.93681	52 m	0:00:13	15 kph
9/11/2015 15:52	ON	N22.15148 E113.93683	75 m	0:00:18	15 kph
9/11/2015 15:52	ON	N22.15217 E113.93685	77 m	0:00:19	15 kph
9/11/2015 15:53	ON	N22.15277 E113.93684	66 m	0:00:16	15 kph
9/11/2015 15:53	ON	N22.15330 E113.93681	60 m	0:00:15	14 kph
9/11/2015 15:53	ON	N22.15388 E113.93684	64 m	0:00:16	14 kph
9/11/2015 15:54	ON	N22.15438 E113.93686	56 m	0:00:14	14 kph
9/11/2015 15:54	ON	N22.15495 E113.93682	63 m	0:00:16	14 kph
9/11/2015 15:54	ON	N22.15556 E113.93680	68 m	0:00:17	14 kph
9/11/2015 15:54	ON	N22.15632 E113.93684	84 m	0:00:21	14 kph
9/11/2015 15:55	ON	N22.15699 E113.93684	75 m	0:00:19	14 kph
9/11/2015 15:55	ON	N22.15760 E113.93685	67 m	0:00:17	14 kph
9/11/2015 15:55	ON	N22.15827 E113.93686	75 m	0:00:19	14 kph
9/11/2015 15:56	ON	N22.15890 E113.93687	71 m	0:00:18	14 kph
9/11/2015 15:56	ON	N22.15947 E113.93683	64 m	0:00:16	14 kph
9/11/2015 15:56	ON	N22.15993 E113.93685	51 m	0:00:13	14 kph
9/11/2015 15:56	ON	N22.16052 E113.93690	66 m	0:00:17	14 kph
9/11/2015 15:57	ON	N22.16110 E113.93688	65 m	0:00:17	14 kph
9/11/2015 15:57	ON	N22.16173 E113.93688	69 m	0:00:18	14 kph
9/11/2015 15:57	ON	N22.16214 E113.93692	47 m	0:00:12	14 kph
9/11/2015 15:57	ON	N22.16259 E113.93693	50 m	0:00:13	14 kph
9/11/2015 15:58	ON	N22.16319 E113.93690	66 m	0:00:17	14 kph
9/11/2015 15:58	ON	N22.16371 E113.93688	58 m	0:00:15	14 kph
9/11/2015 15:58	ON	N22.16417 E113.93686	51 m	0:00:13	14 kph
9/11/2015 15:58	ON	N22.16457 E113.93680	45 m	0:00:12	14 kph
9/11/2015 15:59	ON	N22.16526 E113.93678	76 m	0:00:19	14 kph
9/11/2015 15:59	ON	N22.16581 E113.93687	63 m	0:00:16	14 kph
9/11/2015 15:59	ON	N22.16632 E113.93700	58 m	0:00:15	14 kph
9/11/2015 16:00	ON	N22.16701 E113.93703	77 m	0:00:20	14 kph
9/11/2015 16:00	ON	N22.16745 E113.93697	50 m	0:00:13	14 kph
9/11/2015 16:00	ON	N22.16800 E113.93689	61 m	0:00:16	14 kph
9/11/2015 16:00	ON	N22.16873 E113.93683	82 m	0:00:21	14 kph
9/11/2015 16:01	ON	N22.16940 E113.93681	74 m	0:00:19	14 kph
9/11/2015 16:01	ON	N22.17005 E113.93688	74 m	0:00:19	14 kph
9/11/2015 16:01	ON	N22.17068 E113.93689	70 m	0:00:18	14 kph
9/11/2015 16:02	ON	N22.17141 E113.93684	81 m	0:00:21	14 kph
9/11/2015 16:02	ON	N22.17210 E113.93679	77 m	0:00:20	14 kph
9/11/2015 16:02	ON	N22.17283 E113.93672	82 m	0:00:21	14 kph
9/11/2015 16:03	ON	N22.17357 E113.93666	82 m	0:00:21	14 kph
9/11/2015 16:03	ON	N22.17419 E113.93666	69 m	0:00:18	14 kph
9/11/2015 16:03	ON	N22.17495 E113.93672	85 m	0:00:22	14 kph
9/11/2015 16:04	ON	N22.17564 E113.93672	77 m	0:00:20	14 kph
9/11/2015 16:04	ON	N22.17598 E113.93673	37 m	0:00:10	13 kph
9/11/2015 16:04	ON	N22.17663 E113.93675	73 m	0:00:19	14 kph
9/11/2015 16:04	ON	N22.17722 E113.93675	66 m	0:00:17	14 kph
9/11/2015 16:05	ON	N22.17788 E113.93676	74 m	0:00:19	14 kph
9/11/2015 16:05	ON	N22.17851 E113.93677	70 m	0:00:18	14 kph
9/11/2015 16:05	ON	N22.17910 E113.93675	66 m	0:00:17	14 kph
9/11/2015 16:06	ON	N22.17965 E113.93677	62 m	0:00:16	14 kph
9/11/2015 16:06	ON	N22.18031 E113.93684	73 m	0:00:19	14 kph

## Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
9/11/2015 16:06	ON	N22.18102 E113.93685	80 m	0:00:21	14 kph
9/11/2015 16:07	ON	N22.18155 E113.93679	59 m	0:00:15	14 kph
9/11/2015 16:07	ON	N22.18211 E113.93677	62 m	0:00:16	14 kph
9/11/2015 16:07	ON	N22.18267 E113.93685	62 m	0:00:16	14 kph
9/11/2015 16:07	ON	N22.18332 E113.93691	73 m	0:00:19	14 kph
9/11/2015 16:08	ON	N22.18395 E113.93691	70 m	0:00:18	14 kph
9/11/2015 16:08	ON	N22.18469 E113.93687	82 m	0:00:21	14 kph
9/11/2015 16:08	ON	N22.18536 E113.93684	75 m	0:00:19	14 kph
9/11/2015 16:09	ON	N22.18610 E113.93685	82 m	0:00:21	14 kph
9/11/2015 16:09	ON	N22.18667 E113.93684	63 m	0:00:16	14 kph
9/11/2015 16:09	ON	N22.18727 E113.93679	67 m	0:00:17	14 kph
9/11/2015 16:10	ON	N22.18808 E113.93680	91 m	0:00:23	14 kph
9/11/2015 16:10	ON	N22.18882 E113.93681	82 m	0:00:21	14 kph
9/11/2015 16:10	ON	N22.18945 E113.93681	71 m	0:00:18	14 kph
9/11/2015 16:11	ON	N22.19023 E113.93685	87 m	0:00:22	14 kph
9/11/2015 16:11	ON	N22.19083 E113.93686	67 m	0:00:17	14 kph
9/11/2015 16:11	ON	N22.19137 E113.93685	59 m	0:00:15	14 kph
9/11/2015 16:11	ON	N22.19195 E113.93685	65 m	0:00:16	15 kph
9/11/2015 16:12	ON	N22.19268 E113.93689	81 m	0:00:20	15 kph
9/11/2015 16:12	ON	N22.19343 E113.93691	84 m	0:00:21	14 kph
9/11/2015 16:12	ON	N22.19419 E113.93687	85 m	0:00:21	15 kph
9/11/2015 16:13	ON	N22.19492 E113.93682	81 m	0:00:20	15 kph
9/11/2015 16:13	ON	N22.19576 E113.93685	93 m	0:00:23	15 kph
9/11/2015 16:14	ON	N22.19648 E113.93688	81 m	0:00:20	15 kph
9/11/2015 16:14	ON	N22.19709 E113.93685	68 m	0:00:17	14 kph
9/11/2015 16:14	ON	N22.19788 E113.93677	88 m	0:00:22	14 kph
9/11/2015 16:14	ON	N22.19846 E113.93671	65 m	0:00:16	15 kph
9/11/2015 16:15	ON	N22.19923 E113.93672	85 m	0:00:21	15 kph
9/11/2015 16:15	ON	N22.19980 E113.93676	64 m	0:00:16	14 kph
9/11/2015 16:15	ON	N22.20053 E113.93679	81 m	0:00:20	15 kph
9/11/2015 16:16	ON	N22.20107 E113.93677	60 m	0:00:15	14 kph
9/11/2015 16:16	ON	N22.20183 E113.93679	84 m	0:00:21	14 kph
9/11/2015 16:16	ON	N22.20257 E113.93681	83 m	0:00:21	14 kph
9/11/2015 16:17	ON	N22.20335 E113.93682	87 m	0:00:22	14 kph
9/11/2015 16:17	ON	N22.20427 E113.93682	103 m	0:00:26	14 kph
9/11/2015 16:18	ON	N22.20512 E113.93684	94 m	0:00:24	14 kph
9/11/2015 16:18	ON	N22.20585 E113.93685	82 m	0:00:21	14 kph
9/11/2015 16:18	ON	N22.20669 E113.93680	93 m	0:00:24	14 kph
9/11/2015 16:19	ON	N22.20753 E113.93684	94 m	0:00:24	14 kph
9/11/2015 16:19	ON	N22.20830 E113.93689	85 m	0:00:22	14 kph
9/11/2015 16:19	ON	N22.20920 E113.93694	101 m	0:00:26	14 kph
9/11/2015 16:20	ON	N22.21007 E113.93688	97 m	0:00:25	14 kph
9/11/2015 16:20	ON	N22.21077 E113.93683	79 m	0:00:20	14 kph
9/11/2015 16:21	ON	N22.21154 E113.93689	85 m	0:00:22	14 kph
9/11/2015 16:21	ON	N22.21227 E113.93690	82 m	0:00:21	14 kph
9/11/2015 16:21	ON	N22.21308 E113.93683	90 m	0:00:23	14 kph
9/11/2015 16:22	ON	N22.21382 E113.93678	83 m	0:00:21	14 kph
9/11/2015 16:22	ON	N22.21466 E113.93686	94 m	0:00:24	14 kph
9/11/2015 16:22	ON	N22.21550 E113.93681	94 m	0:00:24	14 kph
9/11/2015 16:23	ON	N22.21653 E113.93686	115 m	0:00:30	14 kph
9/11/2015 16:23	ON	N22.21743 E113.93685	100 m	0:00:25	14 kph
9/11/2015 16:24	ON	N22.21844 E113.93681	112 m	0:00:28	14 kph
9/11/2015 16:24	ON	N22.21977 E113.93680	148 m	0:00:37	14 kph
9/11/2015 16:25	ON	N22.22073 E113.93681	107 m	0:00:27	14 kph
9/11/2015 16:25	ON	N22.22179 E113.93685	118 m	0:00:30	14 kph
9/11/2015 16:26	ON	N22.22278 E113.93685	111 m	0:00:28	14 kph

## Appendix II. Survey Effort Database in SWL (November 2015)

(Abbreviations: BEAU = Beaufort Sea State; P = Primary Line Effort; S = Secondary Line Effort)

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
5-Nov-15	SW LANTAU	2	3.43	AUTUMN	STANDARD31516	HKCRP	P
5-Nov-15	SW LANTAU	3	18.31	AUTUMN	STANDARD31516	HKCRP	P
5-Nov-15	SW LANTAU	4	1.21	AUTUMN	STANDARD31516	HKCRP	P
5-Nov-15	SW LANTAU	2	1.20	AUTUMN	STANDARD31516	HKCRP	S
5-Nov-15	SW LANTAU	3	4.18	AUTUMN	STANDARD31516	HKCRP	S
5-Nov-15	SW LANTAU	4	2.94	AUTUMN	STANDARD31516	HKCRP	S
9-Nov-15	SW LANTAU	0	0.56	AUTUMN	STANDARD31516	HYD-HZMB	P
9-Nov-15	SW LANTAU	1	20.73	AUTUMN	STANDARD31516	HYD-HZMB	P
9-Nov-15	SW LANTAU	2	32.95	AUTUMN	STANDARD31516	HYD-HZMB	P
9-Nov-15	SW LANTAU	1	4.03	AUTUMN	STANDARD31516	HYD-HZMB	S
9-Nov-15	SW LANTAU	2	12.75	AUTUMN	STANDARD31516	HYD-HZMB	S
18-Nov-15	SW LANTAU	2	14.52	AUTUMN	STANDARD31516	HKCRP	P
18-Nov-15	SW LANTAU	2	9.48	AUTUMN	STANDARD31516	HKCRP	S
23-Nov-15	SW LANTAU	1	4.08	AUTUMN	STANDARD31516	HKCRP	P
23-Nov-15	SW LANTAU	2	25.47	AUTUMN	STANDARD31516	HKCRP	P
23-Nov-15	SW LANTAU	3	0.99	AUTUMN	STANDARD31516	HKCRP	P
23-Nov-15	SW LANTAU	2	8.80	AUTUMN	STANDARD31516	HKCRP	S
23-Nov-15	SW LANTAU	3	2.19	AUTUMN	STANDARD31516	HKCRP	S

### **Appendix III. Chinese White Dolphin Sighting Database in SWL (November 2015)**

(Abbreviations: STG# = Sighting Number; HRD SZ = Dolphin Herd Size; BEAU = Beaufort Sea State; PSD = Perpendicular Distance; ND = Not Determined; BOAT ASSOC. = Fishing Boat Association P/S: Sighting Made on Primary/Secondary Line§

DATE	STG #	TIME	HRD SZ	AREA	BEAU	PSD	EFFORT	TYPE	NORTHING	EASTING	SEASON	BOAT ASSOC.	P/S
05-Nov-15	1	1410	2	SW LANTAU	3	68	ON	HKCRP	807164	804675	AUTUMN	NONE	S
09-Nov-15	1	1101	10	SW LANTAU	1	61	ON	HYD-HZMB	806084	802518	AUTUMN	NONE	P
09-Nov-15	2	1134	5	SW LANTAU	1	251	ON	HYD-HZMB	805993	803487	AUTUMN	GILLNET	P
09-Nov-15	3	1329	1	SW LANTAU	1	800	ON	HYD-HZMB	802840	807431	AUTUMN	NONE	P
23-Nov-15	6	1131	12	SW LANTAU	1	160	ON	HKCRP	806026	803487	AUTUMN	NONE	P

**Appendix IV. Individual dolphins identified during HYD-HZMB and AFCD monitoring surveys in SWL waters in November 2015**

ID#	DATE	STG#	TYPE	AREA
CH38	23/11/15	6	HKCRP	SW LANTAU
NL33	09/11/15	2	HYD-HZMB	SW LANTAU
SL05	23/11/15	6	HKCRP	SW LANTAU
SL40	23/11/15	6	HKCRP	SW LANTAU
WL46	09/11/15	1	HYD-HZMB	SW LANTAU
WL61	05/11/15	1	HKCRP	SW LANTAU
	23/11/15	6	HKCRP	SW LANTAU
WL72	09/11/15	1	HYD-HZMB	SW LANTAU
WL74	23/11/15	6	HKCRP	SW LANTAU
WL92	23/11/15	6	HKCRP	SW LANTAU
WL94	09/11/15	2	HYD-HZMB	SW LANTAU
WL114	23/11/15	6	HKCRP	SW LANTAU
WL128	23/11/15	6	HKCRP	SW LANTAU
WL131	09/11/15	1	HYD-HZMB	SW LANTAU
WL142	23/11/15	6	HKCRP	SW LANTAU
WL199	09/11/15	1	HYD-HZMB	SW LANTAU
WL250	23/11/15	6	HKCRP	SW LANTAU

WL61\_20151105\_1



WL46\_20151109\_1



WL72\_20151109\_1



WL131\_20151109\_1



WL199\_20151109\_1



NL33\_20151109\_2



WL94\_20151109\_2



CH38\_20151123\_6



SL05\_20151123\_6



Appendix V. Photographs of Identified Individual Dolphins in November 2015 in SWL waters

SL40\_20151123\_6



WL61\_20151123\_6



WL74\_20151123\_6



WL92\_20151123\_6



WL114\_20151123\_6



WL128\_20151123\_6



WL142\_20151123\_6



WL250\_20151123\_6



Appendix V (cont'd).