

**Walrus Islands State Game Sanctuary
Annual Management Report
2012**

**Edward W. Weiss
Stephanie K. Sell**



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January 2013

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Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft ³ /s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

<i>all atomic symbols</i>	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of) pH	
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

<i>all commonly-accepted abbreviations; e.g., Mr., Mrs., AM, PM, etc.</i>	
<i>all commonly-accepted professional titles; e.g., Dr., Ph.D., R.N., etc.</i>	
Alaska Administrative Code	AAC
Alaska Department of Fish and Game	ADF&G
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
<i>et alii</i> (and others)	et al.
<i>et cetera</i> (and so forth)	etc.
<i>exempli gratia</i> (for example)	e.g.
Federal Information Code	FIC
<i>id est</i> (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	\$, ¢
months (tables and figures):	first
three	letters (Jan,...,Dec)
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Mathematics, statistics

<i>all standard mathematical signs, symbols and abbreviations</i>	
alternate hypothesis	H _A
approximately	~
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ ² , etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	log ₂ , etc.
mean	\bar{x}
minute (angular)	'
not significant	NS
null hypothesis	H ₀
percent	%
plus or minus	±
population size	N
probability	P
sample size	n
second (angular)	"
standard deviation	σ or s
standard error (of the mean)	s \bar{x}
type I error probability	P _a
type II error probability	P _b
variance	σ ² or s ²

Cover Photo: Pacific walrus (*Odobenus rosmarus divergens*) disburse from First Beach haul out during thunderstorm July 7, 2012, Round Island, Alaska. Walrus Islands State Game Sanctuary. Photo © 2012 ADF&G, by Diane Calamar Okonek.

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2012**

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Executive Summary

Established in 1960, the Walrus Islands State Game Sanctuary; a group of seven islands (Round Island, Summit Island, Crooked Island, High Island, Black Rock and The Twins) and their adjacent waters in northern Bristol Bay; protects one of the largest terrestrial haulout sites in North America for Pacific walrus. The sanctuary also protects important habitats for several species of seabirds, Steller sea lions and other marine and terrestrial birds and mammals. Per AS 16.20.090 – 098, the Alaska Department of Fish and Game (ADF&G) manages the sanctuary primarily to protect these important habitats and wildlife species, and secondarily to provide these resources for public use and enjoyment. The ADF&G staffs a camp at Round Island May through August to protect and monitor walruses, other terrestrial and marine wildlife, and to operate a visitor use program.

Walrus counts for the 2012 field season were conducted from May 15 to August 21 and September 9 to October 8. The maximum count (east and west side beaches combined) was 3,289 on June 22. For comparison with historical counts which have typically been of east side beaches, the maximum count for east side beaches of 2,830 also occurred on June 22nd. The daily mean count from the east side beaches was 679 walrus, lower than the 2007 - 2011 mean of 801. The daily mean count for all beaches combined was 697.

Steller sea lions were monitored at their Round Island haulout site. Sea lions were monitored May 15 – August 21 and September 9 to October 8. The maximum count was 330 individuals on July 16th, and the minimum count of 66 individuals occurred on May 17th. The mean number of sea lions present on Round Island during the 2012 season was 190, down from 2011, but above the 2007 – 2011 mean of 124. Thirty-two branded Steller sea lions were documented during 2012 from three different branding locations, with nearly half (15) of the brands observed being new to Round Island.

Sanctuary staff also monitored phenology and productivity of several nesting seabird species. Pelagic cormorants, black-legged kittiwakes, and common murres were monitored at traditional plots on Observation Point and Second Beach May 18 - August 16. Overall black-legged kittiwakes and common murre productivity was poor during 2012 with most of the nests failing early in the season. Relatively few pelagic cormorants nested in view of historic observation sites, but productivity for the few nests monitored was above the 10 year mean. A concise summary of phenology and productivity for all three species for year 2007-2012, is provided in Table 1.

The availability of commercial transport between June 12 and July 15th allowed for an increase in visitation during the 2012 season. There were a total of 60 visitors to Round Island in 2012, including visits by 15 persons involved in administrative duties. The 45 general public visitors were from 22 individual groups and were comprised of 41 overnight campers and four day visitors. The mean group size was two (range: 1 – 7). Most visitors were Alaska residents (24) and the remainder hailed from California, Iowa, Illinois, Maryland, New York, Oregon,

Vermont, Washington, and the United Kingdom. There were 188 visitor use days and 315 staff use days for a total of 503 user days between May 15th and October 8th.

A joint effort between the Alaska SeaLife Center (ASLC), ADF&G, and US Fish and Wildlife Service (USFWS) allowed remote cameras to be set up at select walrus haulouts within Bristol Bay, including Round Island, to monitor potential disturbances to walrus. The project has been ongoing since 2011 and earlier problems were overcome in 2012 resulting in a complete season of data collection at Round Island. Alaska SeaLife Center staff are currently analyzing data and preliminary results are pending.

There were three documented violations of the 3-mile restricted zone around the island (Alaska State Regulation – 5AAC 92.066). All three incidents involved vessels passing by the east side of Round Island at about two miles distance, that were hailed by staff on marine VHF Ch16. Two of these ignored hails and were addressed through post season notifications. The other corrected their course and coordinated changes to chart software. Out of date charts carried by operators and incorrect chart software seem to be a source of continuing violations by vessels passing within the 3-mile restricted area.

Round Island staff and volunteers constructed a new environmentally friendly composting public toilet facility in the campground. The Clivus Multrum system was purchased through the National Park Service's National Natural Landmarks program and ADF&G funds and staff time were used to construct the building. Staff also continued corrective actions on the Round Island trail system using Geoblock 5150 panels on muddy erosive spots. These panels provide load support, reduce erosion, and aid walkers when the trail is slippery, while allowing for the growth of vegetation through the panels.

I. Introduction

The Walrus Islands State Game Sanctuary (WISGS) was created in 1960 by the Alaska State Legislature. The sanctuary protects a group of seven craggy islands (Round Island, Summit Island, Crooked Island, High Island, Black Rock and The Twins) and their adjacent waters in northern Bristol Bay, approximately 65 miles southwest of Dillingham, Alaska (Figure 1). The sanctuary was created to protect the last remaining terrestrial haulout for Pacific walruses (*Odobenus rosmarus divergens*) in North America (Alaska Statute 16.20.090). At the time all other haulouts had been abandoned due to anthropogenic disturbances, mostly related to commercial hunting.

Today, the sanctuary continues to provide important habitat for walruses; Round Island being the primary active haulout of four sites within Bristol Bay. The sanctuary also protects important habitats for many species of seabirds, the endangered western stock of Steller sea lions (*Eumetopias jubatus*), and other marine and terrestrial wildlife species.

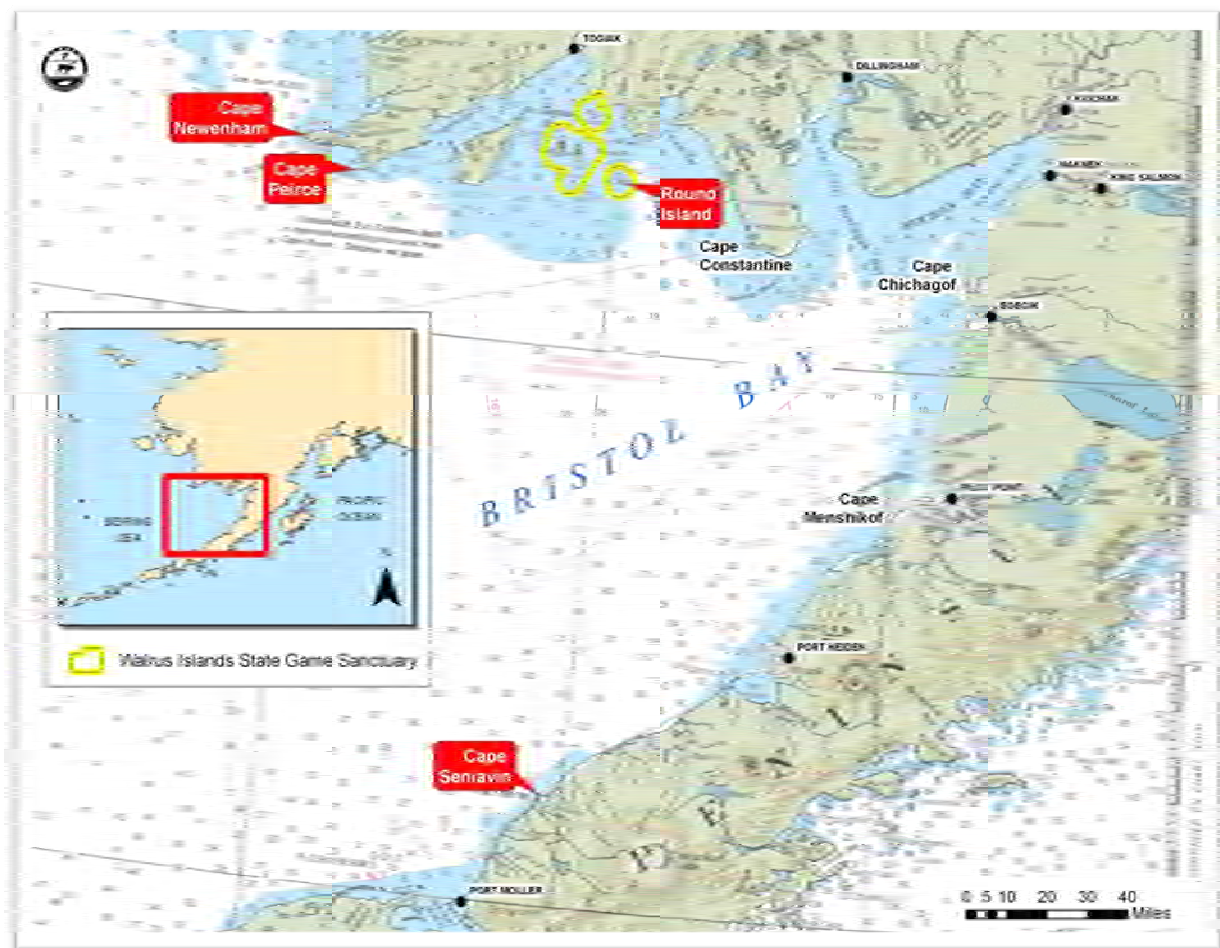


Figure 1. Map of Bristol Bay showing the locations of the Walrus Islands State Game Sanctuary, Round Island, and the four major terrestrial Pacific walrus haulout sites in the United States.

The Alaska Department of Fish and Game (ADF&G) manages the sanctuary primarily to protect these habitats and wildlife species, and secondarily to provide for public use and enjoyment of these resources including the opportunity for scientific and educational study, viewing, and photography. Since 1989, all access to Round Island and its surrounding waters within a three mile radius requires an access permit issued by the ADF&G, Division of Wildlife Conservation. In addition, restrictions have been placed on visitor numbers and their activities in order to preserve the important resources at Round Island (Alaska Administrative Code 5 AAC 92.066).

ADF&G staffs the Round Island field camp with two technicians through the spring and summer season. Staff duties consist primarily of the protection of sanctuary resources; enforcement of sanctuary laws, regulations and policies; monitoring the sanctuary wildlife including walruses, seabirds, Steller sea lions and other species; managing the visitor use and access permit program; and maintaining trails and facilities.

Wildlife Research & Monitoring

Walrus Monitoring Surveys

Walrus monitoring protocols used in collecting daily walrus observations on Round Island were established jointly by the U.S Geological Survey, Biological Resources Division (USGS BRD), the US Fish and Wildlife Service (USFWS), and ADF&G staff in 1997 and refined in 2002. Nine beaches are counted daily on the East side of the island: Second Prime (SP), Second Beach (SB), First Prime (FP), First Beach (FB), Campground (CG), Boat Cove (BC), Flat Rock (FR), North Boat Cove (NBC), and Main Beach (MB; Figure 2). Surveys of the West side of the island regularly include West Main beach (WM) as trail conditions and weather allow. Counts of WM are generated for non-survey days from Alaska SeaLife Center (ASLC) photos taken at the scheduled survey time. The remainder of the west side beaches south of West Cape are only observable by boat and done opportunistically as weather allows. No regular boat counts of west side beaches were conducted in 2012, one boat survey of Round Island and the other adjacent islands was conducted June 29th with no walrus being noted on the west side of Round Island. Weather data (max/min temperature, barometric pressure, wind speed and direction, and cloud cover) were collected at the time of survey using a TMDavis weather station mounted on top of the cabin in 2009.

As evidenced by the USFWS camera overlooking MB, Pacific walrus were present on the MB haulout at Round Island through November 10, 2011 and began hauling out at the MB haulout again about May 3, 2012; shortly after shore fast ice disappeared. A few groups of walrus or Steller Sea lions were noted passing by in offshore waters as early as April 26th.

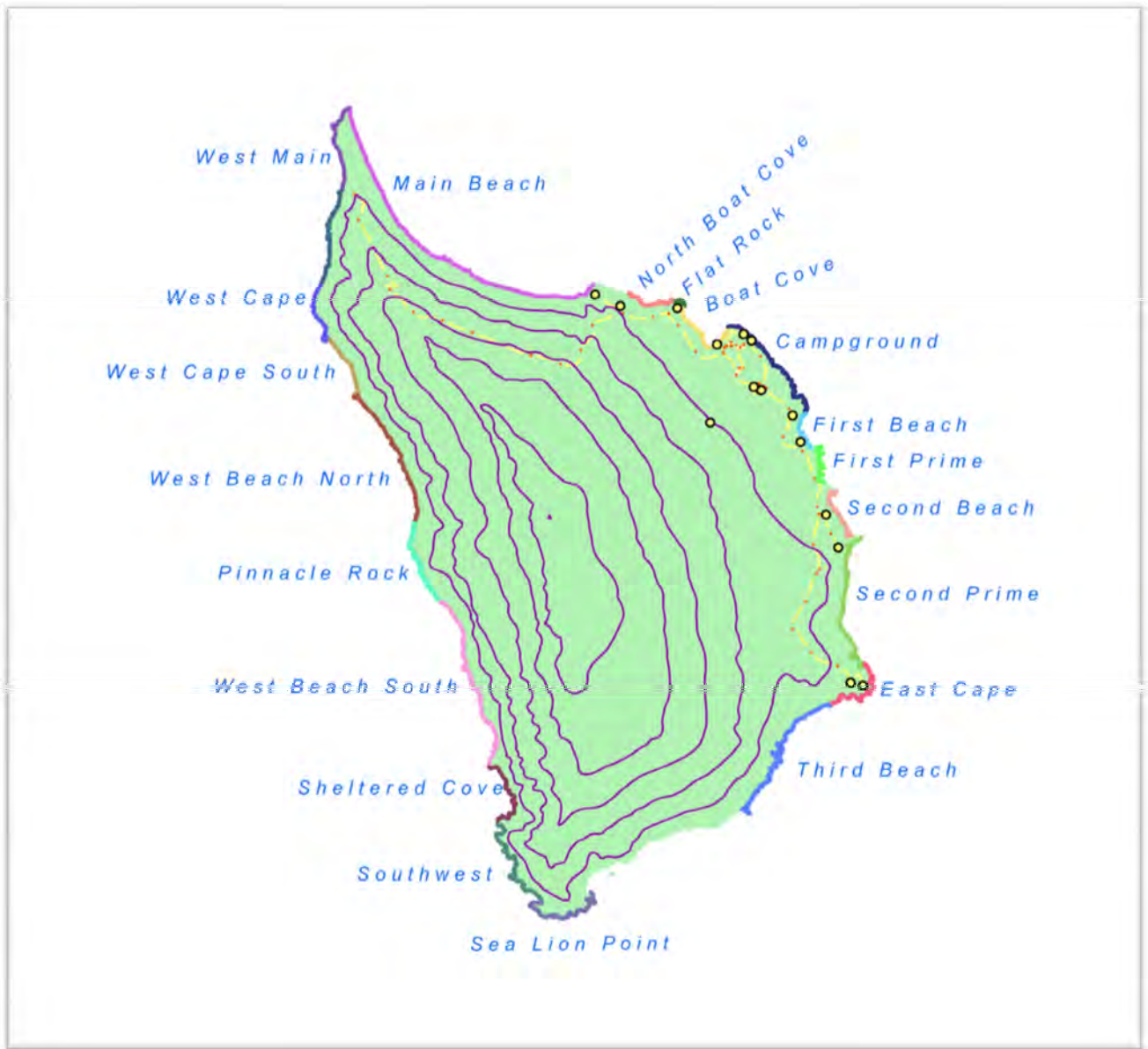


Figure 2. Round Island walrus, seabird & Steller sea lion monitoring locations; East Cape (EC), Second Prime (SP), Second Beach (SB), First Prime (FP), First Beach (FB), Camp Ground (CG), Boat Cove (BC), North Boat Cove (NBC), Observation Point (OP), Main Beach (MB), and West Main Beach (WM).

Regular walrus survey counts for the 2012 field season were conducted beginning May 15 when staff arrived on the island through August 21; and again between September 8th and October 8th, following a 17 day hiatus from the island. East side beaches were counted 126 out of the total 129 days that staff were on the island. Daily counts are summarized in Figure 3 and Appendix A; and detailed in Appendix B. The first survey of WM beach was conducted May 18, however, regular surveys did not commence until May 22 because snow and trail conditions made access unsafe. WM was physically surveyed on 67 days, with post season photo counts of the ASLC camera data providing counts on 44 of the remaining days up until September 26th; for

a total of 111 WM count days. The combined east and west side beaches, currently known to support haulouts, were surveyed a total of 111 of the 129 days staff was on the island. Additional WM counts between September 27th and October 8th will be added after ASLC cameras are downloaded in spring 2013. This will bring combined east and west side beach counts up to an expected 123 of 129 days.

One aerial survey was conducted around the perimeter of Round Island on May 18, 2012, during helicopter transits by staff. Approximately 40 walrus were noted on WM beach with no walrus noted elsewhere on the island.

The maximum walrus count of 3,289 occurred on June 22, 2012; from combined counts of east and west side beaches (Figure 3). This was about 23% less than the 2011 maximum count of 4,245 and about 10% less than the 10 year long term average high count of 3,647. Walrus numbers were above 100 animals for 99 of the 126 survey days with a daily mean of 717 walrus on east and west side beaches through the period. Walrus numbers dropped below 25 on only 9 of the 126 survey days, and walrus were completely absent from Round Island on only 3 days. No boat counts were conducted this season; however a photo survey of the WISGS was conducted by boat on June 29th and documented walrus herds present on Round Island that can be used to conduct photo counts.

The maximum count on east side beaches (2,830) also occurred on June 22. The mean count for east side beaches was 679 which represents about a 16% decrease from the 2011 east side mean count of 807 and the prior 5-year mean of 801. On WM beach the maximum count of 664 occurred on June 16 and walrus were not present on WM, 72 of the 111 days it was counted. The mean count for WM beach was 34 which is a 78% decrease from the WM mean of 154 walrus in 2011.

The annual peak count of walruses at Round Island varies significantly between years (Figure 4) with the highest count estimate documented as 15,000 during a 1978 aerial survey. The lowest annual peak count was 1,746 in 1998 (Raymond 1998). It is unknown how Round Island counts correlate to fluctuations in Pacific walrus populations or variability in movements of walrus within Bristol Bay and the Bering Sea. Fluctuations in yearly peak counts may be attributed to the movement of walruses between the United States and Russia and more locally between several Bristol Bay haulouts. Historically, major walrus haulout sites within Bristol Bay included: Amak Island, Port Moller, Cape Seniavin (located between Port Moller and Port Heiden), Cape Peirce, Cape Newenham, and two islands within the WISGS (Round and Big Twin) (Frost et al. 1982). The southwestern shoreline of Hagemeister Island has also recently emerged as a significant walrus haulout in this region (MacDonald and Winfree 2008). Between feeding bouts, walruses in Bristol Bay repeatedly utilize only these few specific sites to rest. During the mid-1900's, with the exception of Round Island, all terrestrial haulouts were abandoned. This abandonment was presumably caused by commercial hunting pressure as well as other disturbances (Fay 1982). The parameters that define a specific haulout site for walruses versus all available coastal locations within Bristol Bay are not well understood but may be influenced by prey abundance and distribution, walrus densities, physical terrain, or remoteness from disturbances.

The USFWS Togiak National Wildlife Refuge conducts aerial surveys of walrus haulouts annually at Hagemeister Island, Cape Pierce and Cape Newenham and remote camera counts of individual beaches at Cape Pierce and Hagemeister Island (Michael Winfree, pers. comm.). Additionally, the ASLC collected photo data for counts at Cape Seniavin, Round Island and Cape Pierce connected with their Pacific Walrus Haulout Monitoring and Disturbance Project. Preliminary results from both these sources were unavailable at the time of this writing for comparison with Round Island, however, it is expected that the USFWS will compile data from all major Bristol Bay haulouts, including Round Island, in their report on the Marine Mammal Haulout Use in Bristol Bay and Southern Kuskokwim Bay (Patrick Walsh, pers. comm.).

Observer variability counts

Variability counts, to check and calibrate observer variability during walrus surveys, are typically only conducted for MB from the OP viewpoint. The half mile distance and view aspect between the observer and the walrus makes the counting of individual animals difficult. However, variability counts at other beaches and viewpoints do occur during training and orientation of new staff. During variability counts, visual counts are conducted by each staff member at the same time from the same viewpoint and are also cross referenced with photos taken during the same period. Photo counts are then conducted later using ArcView GIS software.

During 2012 variability counts were only conducted on five occasions during July 16 – 20, 2012 in order to calibrate counts between existing and new incoming staff. These counts were made at MB and involved approximately 300 – 1, 200 walrus. Based on those few variability counts, late season haulout counts may be more conservative than early season counts; with the late season observer estimating the number of walrus on MB by about 18% and 29% less, respectively, on the May 10 and May 12th surveys. Variability results are presented in Appendix C.

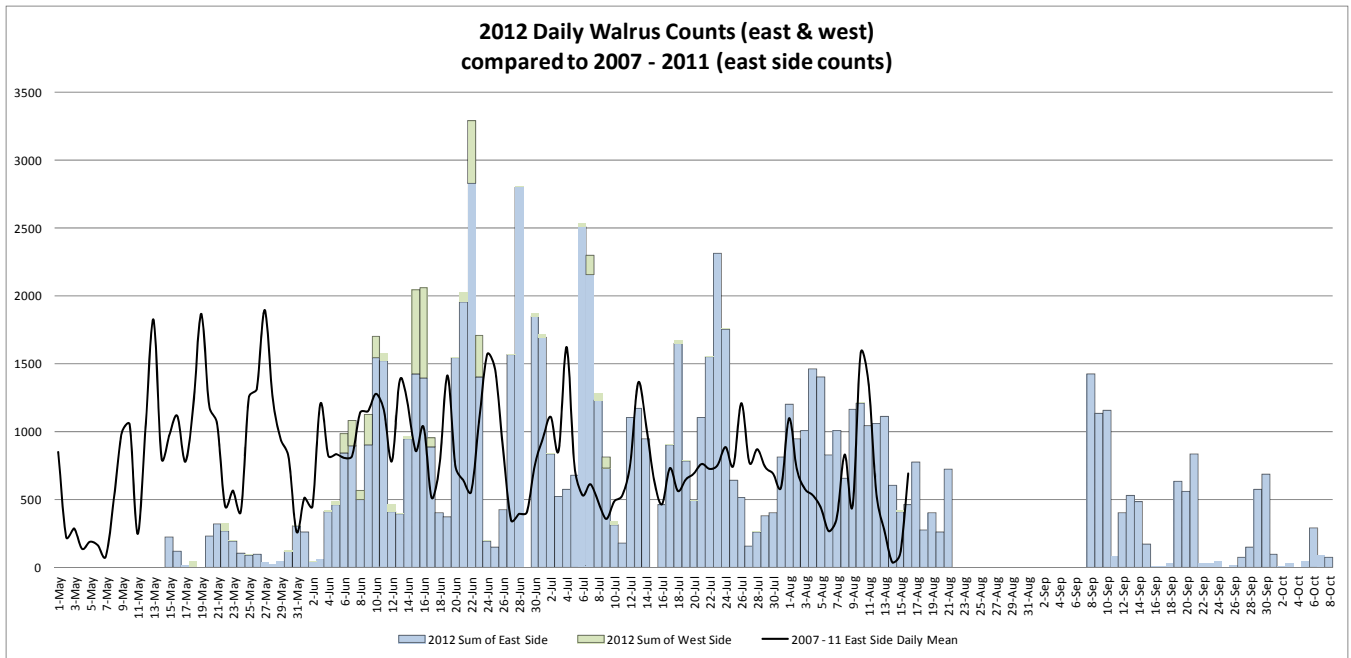


Figure 3. 2012 Pacific walrus hauled out daily at Round Island, compared to 2007 - 2011 means.

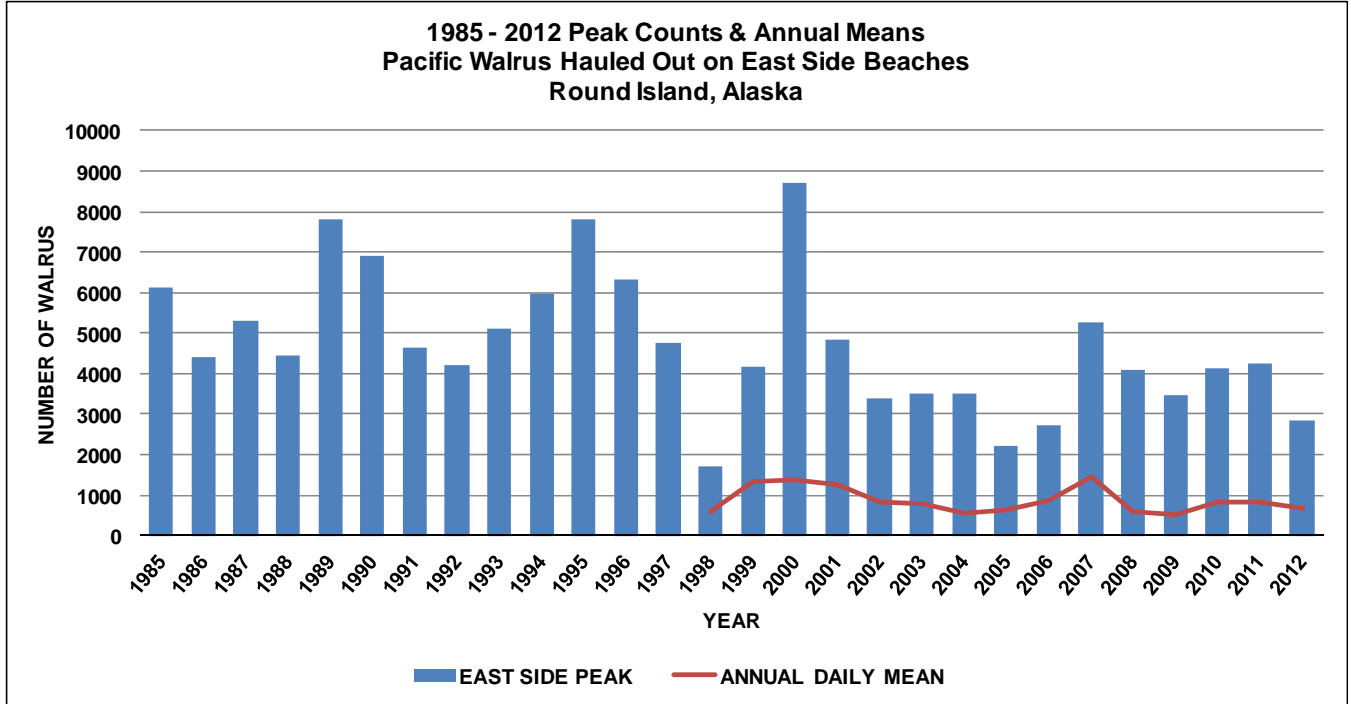


Figure 4. 1985 – 2012 peak and annual mean Pacific walrus counts, Round Island, east side beaches.

Walrus Disturbance Monitoring

ADF&G staff also monitors and documents the response of walrus to both authorized and unauthorized access and other anthropogenic activities around the island. When walrus were in sight of observers, the number of affected animals and the degree of their response, to visitor access or other anthropogenic events, was recorded using three distinct behaviors (head raising, reorienting, and dispersing) as measures of quantifying the levels of disturbance (Salter 1979, Kruse 1997). These observations vary and generally range between well documented observations during access or violation events and more opportunistic observations of audible or visible events observed during normal duties or occurring outside 3 miles. Activities, such as boat arrivals and departures, which had a time greater than an hour apart were counted and documented as two separate events. Anthropogenic events and walrus response records are included in Appendix D.

During the 2012 season, staff made an effort to record all anthropogenic events visually or audibly discernible at Round Island. In all some 330 anthropogenic events were documented, 222 events inside the 3 mile restricted area and 108 events (mainly vessel or plane transits) outside which were clearly audible or seen from Round Island. Walrus hauled out at Round Island were only observed during 10 of these outside events; during which no disturbances were noted. Approximately 115 of the events were air traffic audible at high altitudes passing over the island.

Of the 222 events documented inside the 3 mile restricted area; the walrus herd was observed during 142 of these events and dispersal type disturbances occurred during 43 of these. Twenty-two disturbances were from unknown (n=17) or natural causes (n=5) with fifteen of these dispersals involving 25 or more animals. Natural causes included four occurrences of thunderstorms and one occurrence of ravens harassing walrus which eventually led to 28 of 78 walrus dispersing. Two dispersal events of 25 or more animals were caused by overhead aircraft at higher altitudes; a jet dispersing 32 walrus from SB on July 7 and a large prop plane dispersed about 500 animals from MB on June 10th. The most significant dispersals occurred on four occasions; the June 10th plane incident noted above, a thunderstorm that spooked 350 walrus from MB on June 16th and during two disturbances of unknown nature where about 600 and 800 walrus dispersed from MB on June 30 and July 5, respectively.

With resumption of some commercial access availability in 2012 there was an increase in the number of authorized vessel approaches to the island. Sixty-seven of the anthropogenic events recorded involved authorized visitor transport boats or staff helicopters approaching or departing the island. These management and visitor operations caused dispersals of 1 – 11 (mean 4.5) walrus from FR and/or BC on 16 occasions. Walrus head raises at FR were noted on five additional occasions.

Steller Sea Lion Monitoring

Steller sea lion (SSL) typically haul out at East Cape (EC), located on the eastern tip of Round Island. SSL counts are conducted from four viewpoints (V1, V2, V3 and V4) at EC following protocols established by the ADF&G Division of Wildlife Conservation Marine Mammals Program. SSL numbers are recorded, visible brands photographed and injuries, entanglements, suckling behavior, and any unusual conditions are noted. Data is compiled with other ADF&G Marine Mammal program data and forwarded to the National Marine Fisheries Service National Marine Mammal Laboratory (NMFS NMML). Count data are presented in Figure 5 and Figure 6. Count and brand resight details are contained in Appendix E.

Eighty-eight of a possible 99 land counts were conducted during the normal monitoring season from May 5 - August 21, 2012 and an additional 27 out of 32 were conducted during the late season monitoring September 8 – October 8, 2012. During the 2012 normal monitoring season the mean number of SSL present on Round Island was 190; the maximum count of 330 sea lions occurred on June 16th and the minimum count of 66 occurred on May 17th. However, the actual lowest count of the season was a count of 21 on October 2nd during the extended monitoring season. And the mean number present, including the extended season, was 176. The 2012 mean is about a 7% decrease from the 2011 mean of 203 and above the five year (2008 – 2012) average of the annual means of 144. Figure 5 shows the daily number of SSL present at the EC haulout during 2012 compared to the daily mean for the past five years, 2007 – 2011. Figure 6 shows the annual mean number of SSL present on Round Island between 1999 and 2012. A viewpoint change implemented towards the end of 2008 has increased visibility of the whole haul-out, however, inhibits the ability to make direct comparisons of historical means.

Thirty-two individual brands were observed at EC, Round Island in 2012, although this number could change slightly pending photo-confirmation of brands. These brands originated from only three branding locations, as compared to six branding locations during the 2011 season. In 2012, twenty-four of the brand re-sights originated from Ugamak Island in the eastern Aleutians (A brands), five from Sugarloaf Island near Kodiak, Alaska (X brand), and three from Medny Island in Russia (M brand). Nearly half (15) of the brands observed during 2012 were new to Round Island; this included two adults and 13 younger SSLs (ages 1-4). Interestingly, seven of the new brands were males from the more distant rookeries: five from Sugarloaf Island and two from Medny Island. One Steller sea lion (X557), born and tagged on Sugarloaf Island in 2010, spent a good portion of the summer at Round Island (May 29 – October 3). It was then present on a haulout at Cape Chukotski in Chukotka, Russia on October 28th; a journey of at least 640 miles in 25 days or less (L. Jemison, pers. com.). As noted above, three other Steller sea lions tagged at Medny Island, Russia also spent a portion of the summer at Round Island.

Two SSLs were seen entangled in marine debris. One juvenile, seen on multiple occasions between June 27th and August 5th, had what appeared to be a black rubber band tightly encircling its neck. A sub-adult male was seen at least once (May 17th) with material cutting deeply into his neck. Several eye injuries were also noted in mid-July.

One interesting piece of information apparent from the extended fall monitoring was a notable increase in use of the EC haulout by females with young pups during the fall. According to Lauri Jemison, ADF&G, as the rookeries break up in late July and August the females with their pups begin to move around. The increase in pups observed at Round Island during

September and October 2012 fit into this movement pattern and may indicate that Round Island is an important stopover for these post-natal females and young. While historically an occasional pup or two have been noted during the normal Round Island season, the Round Island camp is typically demobilized prior to the fall period when these pups show up.

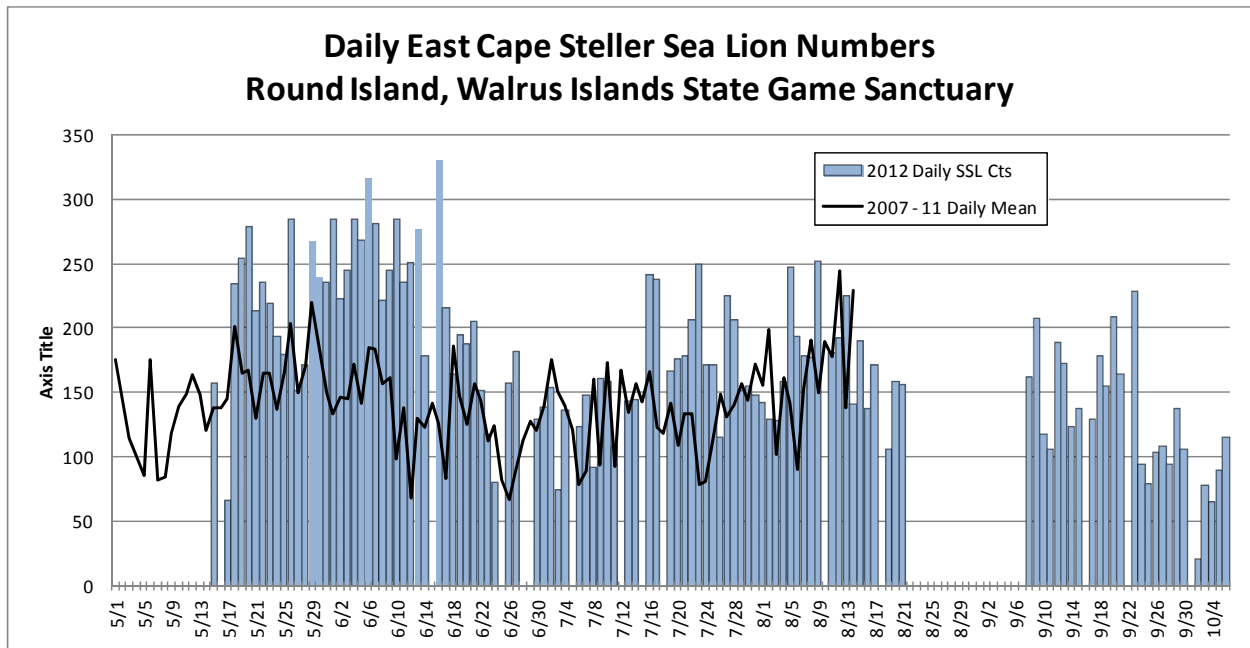


Figure 5. 2012 Steller sea lions hauled out at East Cape, Round Island; daily numbers compared to 2007 – 2011 daily mean. (*Data prior to 2009 may be underrepresented. A new viewpoint established during the 2008 season allows better visibility and more complete counts of the whole haulout.)

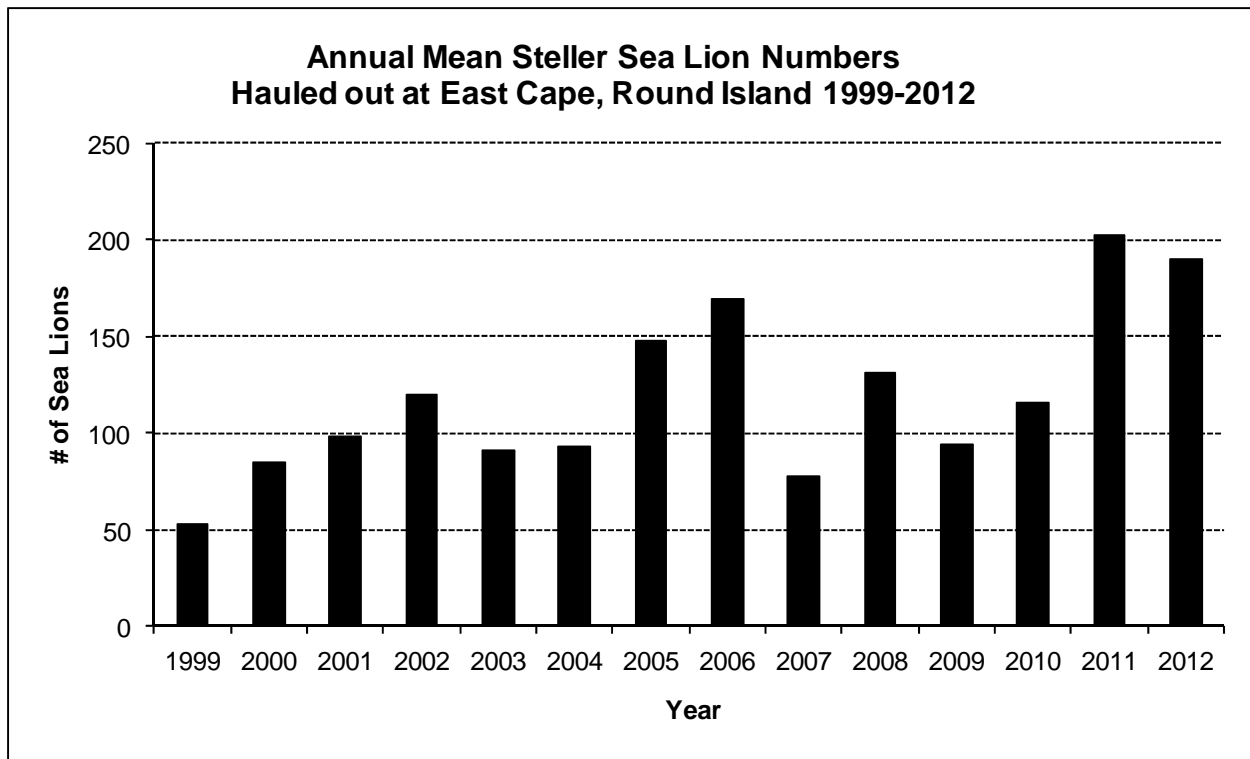


Figure 6. 1999-2012 Mean number of Steller sea lions hauled out at East Cape, Round Island. (*Data prior to 2009 may be underrepresented. A new viewpoint established during the 2008 season allows better visibility and more complete counts of the whole haulout.)

Seabird Monitoring

Three species of colonial nesting seabirds were monitored throughout the summer at four sites on Round Island. Nesting chronology and nest productivity data were collected for the following species; pelagic cormorants (*Phalacrocorax pelagicus*; PECO) at SB, First Prime (FP) and Observation Point (OP); black-legged kittiwakes (*Rissa tridactyla*; BLKI) on Plots 2 and 3 at OP; and common murre (*Uria aalge*; COMU) on Plots 2 and 4 at OP. Population index counts for all three species were also conducted on Plots 1 - 5 at OP. Phenology and productivity data for all three species for years 2007 – 2012 are summarized in Table 1. Seabird population and productivity monitoring data are provided to Don Dragoo at the USFWS Maritime National Wildlife Refuge for inclusion in the USFWS's statewide seabird-monitoring program.

Overall BLKI and COMU productivity on the Round Island plots was poor during 2012 with most of the nests failing early in the season. Relatively few PECO nested in view of historic observation sites, but productivity for the few nests monitored was above the 10 year mean. Details on productivity and phenology for each species are provided below.

Pelagic cormorant productivity monitoring

PECO returned to Round Island about April 29, 2012 as evidenced by the USFWS camera overlooking MB. Adults were present on the island at the time of staff arrival on May 15th and had already begun establishing nest sites. PECO productivity monitoring was conducted from May 16 through August 18, 2012. Of the four locations historically monitored (SP, SB, First Beach North (FBN) & First Beach South (FBS)), PECO nesting was observed at SB and OP; and an additional site at FP during 2012. A total of 15 nests were initially monitored. Two nests were monitored at OP; ten at SB and three at FP. Only the nests at SB and FP survived; the two nests at OP failing by May 29th. The first PECO egg was observed at OP, SB and FP on May 16th, 26th and 30th, respectively. Collectively an averaged date of May 24 was set for the first egg. All of the remaining 13 nests fledged chicks, 29 in total. The first chicks were observed at SB on June 24 and at FP on July 3; with an averaged date of June 26th. Productivity for PECO in 2012 was 1.93 chicks/nest (Table 1) compared to 0.50 chicks/nest in 2011 and the ten year average of 1.93 chicks/nest. Complete productivity observations for PECO plot(s) are presented in Appendix F.

Black-legged kittiwake productivity monitoring

BLKI returned to Round Island about April 17, 2012 as evidenced by the USFWS camera overlooking MB. BLKI productivity monitoring was conducted from May 30 through August 12, 2012 on Plots 2 & 3 at OP. The first day that eggs were observed was May 30th at OP3 and June 4 at OP2 for an averaged first egg date of June 2. Nests were continually added to the plots as eggs were laid, resulting in 54 nests monitored; 27 on OP2 and 27 on OP3. The first chicks were observed at both plots on June 30, 2012. The maximum chick count was 30 on July 7th with 5 chicks surviving to fledge from both plots. Productivity for BLKIs in 2012 was 0.09 chicks/nest (Table 1) compared to 0.28 chicks/nest in 2011 and a ten year average of 0.27 chicks/nest. Complete productivity observations for BLKI plot(s) are presented in Appendix G.

Table 1. 2007 - 2012 Seabird Phenology and Productivity Summary, Round Island, AK

BLACK LEGGED KITTIWAKES		2012	2011	2010	2009	2008	2007
	BLKI	#	#	#	#	#	#
	Nests or pairs	54	53	50	51	48	37
	Eggs laid	78	89	86	84	71	51
	Chicks hatched	30	51	53	32	35	25
	# Nests that fledged chicks	5	15	21	0	21	14
	Chicks fledged	5	15	21	0	21	14
	Productivity (chicks/nests)	0.09	0.28	0.42	0.00	0.44	0.38
	Mean Clutch Size	1.4	1.7	1.7	1.6	1.5	1.4
		%	%	%	%	%	%
	Laying Success	--	--	--	--	--	--
	Hatching Success	38	57	62	38	49	49
	Fledging Success	17	29	40	0	60	56
	Reproductive Success	6	17	24	0	30	27
	Nesting success	9	28	42	0	44	38
	Date of 1st egg	6/2	5/30	5/29	6/6	6/5	6/12
	Date of 1st chick	6/29	6/27	6/23	7/1	6/29	7/4
	Max chick count	30	51	52	33	30	25
	Date of max chick count	7/7	7/2	6/30	7/10	7/15	7/15
COMMON MURRES		#	#	#	#	#	#
	COMU	#	#	#	#	#	#
	Nests or pairs	30	67	59	46	52	52
	Eggs laid	30	67	59	46	52	52
	Chicks hatched	3	14	12	1	42	31
	# Nests that fledged chicks	3	7	3	0	28	25
	Chicks fledged	3	7	3	0	28	25
	Productivity (chicks/nests)	0.10	0.10	0.05	0.00	0.54	0.48
	Mean Clutch Size	1.0	1.0	1.0	1.0	1.0	1.0
		%	%	%	%	%	%
	Laying Success	--	--	--	--	--	--
	Hatching Success	10	21	20	2	81	60
	Fledging Success	100	50	25	0	67	81
	Reproductive Success	10	10	5	0	54	48
	Nesting success	10	10	5	0	54	48
	Date of 1st egg	6/16	6/8	6/14	6/14	6/16	6/16
	Date of 1st chick	7/20	7/16	7/17	7/20	7/19	7/20
	Max chick count	3	14	12	1	39	31
	Date of max chick count	7/20	7/20	7/21	7/20	8/1	7/27
PELAGIC CORMORANT		#	#	#	#	#	#
	PECO	#	#	#	#	#	#
	Nests or pairs	15	16	17	37	59	50
	Eggs laid	42	45	47	114	174	156
	Chicks hatched	31	18	3	81	129	132
	# Nests that fledged chicks	13	3	0	26	39	43
	Chicks fledged	29	8	0	60	96	119
	Productivity (chicks/nests)	1.93	0.50	0.00	1.62	1.63	2.38
	Mean Clutch Size	2.8	2.8	2.8	3.1	2.9	3.1
		%	%	%	%	%	%
	Laying Success	--	--	--	--	--	--
	Hatching Success	74	40	6	71	74	85
	Fledging Success	94	44	0	74	74	90
	Reproductive Success	69	18	0	53	55	76
	Nesting success	87	19	0	70	66	86
	Date of 1st egg	5/24	5/25	5/11	5/23	5/18	5/13
	Date of 1st chick	6/26	6/24	6/14	6/20	6/19	6/15
	Max chick count	31	18	3	81	105	132
	Date of max chick count	7/17	7/10	6/20	7/18	7/20	7/9
	<i>Mean Clutch Size = eggs / nests with eggs</i>			<i>Fledging Success = % chicks hatched that fledge</i>			
	<i>Laying Success = % nests w ≥ 1 egg</i>			<i>Reproductive Success = % eggs laid that fledge</i>			
	<i>Hatching Success = % eggs laid that hatch</i>			<i>Nesting Success = % nests where ≥ 1 chick fledges</i>			

Common murre productivity monitoring

COMU productivity monitoring was conducted from June 16 through August 12, 2012 on Plots 2 & 4 at OP. A total of 30 nest sites were monitored at OP2 (n=5), and OP4 (n=25). Typically COMUs are monitored at Plot 1 also, however due to early abandonment or rapid failure of nesting sites in 2012 no nests were monitored on OP1. The date of first egg sightings was June 16 at both plots. All five nests monitored at OP2 were preyed upon and failed by July 1, before any chicks hatched. The first COMU chick was observed at OP4 on July 20, which was five days later than the 2011 season. July 20th, was also the day the maximum number of chicks were observed (3), with most nests having failed prior to chick hatching. Of the 3 chicks that hatched, all 3 survived to fledge (chicks older than 15 days were assumed to have fledged). Productivity was half the ten year average productivity of 0.20 chicks/nest, with a rate of 0.10 chicks/nest (Table 1), as was the case in 2011. Phenology and productivity data are summarized in Tables 2. Complete productivity observations for COMU plot(s) are presented in Appendix H.

We do not believe that productivity on these OP plots is representative of the PECO, BLKI, or COMU population island wide due to the location of our plots being on the fringe of the colonies. Predation by fox and ravens is regularly observed on these plots and they are believed to be more vulnerable to predation than other parts of the colony. Staff have noticed that there appear to be more chicks observed on the steeper and less accessible cliffs around the island, however, with the number of fox and ravens regularly observed with eggs or chicks it is difficult to speculate on the population success as a whole.

Population counts

Six population index counts of the five OP plots were conducted for BLKI, COMU, and PECO, between June 23 and July 16 as weather permitted (Appendix I). All population index counts began after the observation of the first COMU egg. All population index counts for OP3 were conducted from the OP4 viewpoint instead of the main OP viewpoint due to a more complete view of all birds and nests on that plot. On average there were 320 BLKI, 278 BLKI nests, and 812 COMU across all plots.

Other Observations

During the monitoring season ADF&G staff also record general and unusual observations, which include, but are not limited to; wildlife and blooming plant sightings, the presence of beach cast-marine mammals, and general environmental conditions. Daily observations for the 2012 season are summarized in Appendix J.

Weather

Weather data is gathered on a daily basis connected with walrus monitoring surveys. Intended for use in correlating walrus numbers to environmental conditions such as tides, storms, wind and wave state; this data also serves to provide a summary of daily weather conditions on

Round Island. A Davis weather station (2009) and data logger (2010) enhance collection of basic weather data (temperature min/max, precipitation, wind speed & direction, barometric pressure, cloud cover) for Round Island and will enable more enhanced capture of weather data allowing hourly reporting.

The Davis weather station was working well during the 2012 season; however, difficulties in downloading or a malfunction in the data logger resulted in loss of electronic data between mid May and September 6. Daily minimum & maximum temperatures, precipitation, winds, barometer and cloud cover recorded manually in conjunction with walrus and Steller sea lion surveys along with surviving electronic data will be archived into the Round Island database.

A summary of minimum & maximum temperatures, precipitation and cloud cover for the period 2008 – 2012 is provided in Table 2, below. Daily weather data as recorded during surveys for 2012 is presented in Appendix K.

Table 2. Weather summary, Round Island, Alaska.

	2012	2011	2010	2009	2008
Monthly Average Temp (max/min)					
May	49/40	46/39	48 / 37	54 / 39	49 / 34
June	54/43	47/42*	52 / 43	52 / 43	54 / 40
July	52/45	53/42*	52 / 45	57 / 50	57 / 43
Aug	55/49	52/46	51 / 47	57 / 53	69 / 48
# days precip	26	37	28	15	18
# days <25% overcast	17	9	9	21	15
# days >50% overcast	83	78	73	55	64

* Indicates 6-13 days of data were not recorded.

Marine mammals

There were fewer observations of Gray whales (*Eschrichtius robustus*) passing the island on their migration north, however, staff did not arrive on the island until May 15th; likely missing the greater part of the migration. Gray whales are typically observed along the eastern shores of Round Island in late April through mid to late May. Numerous Humpback whales (*Megaptera novaeangliae*) were regularly observed June 5 – 21, 2012 in the area east and northeast of Round Island. On one occasion they spent some time breaching, slapping, vocalizing and interact on surface with Steller sea lions east of the cabin. Humpback whales are usually observed in the offshore waters east of Round Island from early June through mid July. Only three orca whales (*Orcinus orca*) were noted this year, on August 20th a male, female and a calf were observed north to northeast of the island heading in a westerly direction past MB.

A spotted seal (*Phoca larga*) was observed hauled out in Boat Cove for a short period July 12th and 13th.

Terrestrial Mammals

Conservative estimates of 10-15 different red fox (*Vulpes vulpes*) were identified along the trail system during 2012. At least two fox kits were known to be born this season; one to a pair of fox denning behind the cabin in camp and another in the EC area.

As has been observed in the past, tundra voles (*Microtus oeconomus*), lemmings (*lemmus trimucronatus*) and montane shrews (*Sorex monticolus*) were all found laying dead on trails at various times throughout the season. On one occasion a lemming found in the trail appeared to have died in the process of giving birth.

Birds

Several bird species not previously documented at Round Island were reported as being observed in 2012. A Surf scoter (*Melanitta perspicillata*) was reported along the shore near the campground on May 20. A sharptail sandpiper (*Calidris acuminata*) was clearly sighted near the campground on September 23, following a series of storms. And a Greater white fronted goose (*Anser albifrons*) was reported as flying past the cabin on May 24. An unconfirmed sighting of a bird tentatively identified as a Dusky Thrush (*Turdus eunomus*) was made near the summit on September 21. While staff recollection and identification of the sharptail sandpiper are clear and confident; recollections of the other events were unclear and no photo documentation or confirmation were available. As no photo documentation exists for these sightings and they are rare first time events; any addition to the Round Island bird list should remain provisional and as an accidental until confirmed sightings can be made.

Remote Camera Observations

The USFWS Togiak National Wildlife Refuge supplied a Reconyx camera to overlook the MB haulout beginning August 2011. The intent was to gather additional information on walrus presence and numbers at Round Island during fall and winter when ADF&G staff are not present on the island. Staff moved the location of the camera June 4, 2012, from above OP to a site closer to MB along the Traverse Trail. Photo data (Aug 2011 – Sept 2012) was downloaded provided to the USFWS and reviewed for effectiveness. Picture quality from both locations does not allow for detailed counting of the herd. In order to get photos of a quality suitable for providing detailed counts it may be necessary to place cameras at multiple locations closer to the haulout or obtain cameras capable of higher resolution images.

In addition, the ASLC provided cameras, connected with their Pacific Walrus Haulout Disturbance Monitoring project, which overlooked the haulouts at FB and WM between May and October 2012. ASLC researchers Lori Polasek, and Terril Efird were on island May 15 - 18 to install Reconyx remote cameras at FB and WM viewpoints. The newer Reconyx cameras worked effectively capturing photo data on all but two days through September 26th.

Review of photos from both these projects provided a wealth of information that complements and fills out the normal ADF&G Pacific walrus, marine seabird and Steller Sea Lion monitoring.

In addition to pertinent observations noted in other sections of this report a few other relevant observations include:

- The majority of seabirds (BLKI, COMU, and PECO) left the island by September 13, 2011 with most of the remaining ones being driven off by storms that occurred September 15 – 18, 2011. These species showed back up the latter part of April 2012 with BLKI first being noted April 17; COMU first noted on April 19 and PECO being noted on April 29.
- Pacific walrus were present on the MB haulout at least through November 10, 2011. The camera was obscured by ice and moisture for a period after that but walrus were definitely gone by December 7, 2011.
- The first pack ice moved into the area December 14, 2011 and aside from periodic shifting and clearing was present through April 17, 2012. Significant amounts of shore fast ice were present along MB through April 21, 2012 with isolated pockets persisting into the third week of May. However, significant thawing and clearing occurred during the last week of April and walrus moved onto the tip of MB shortly thereafter on May 3rd.

Additional cameras were placed at several sites around the island for winter monitoring 2012 – 13.

Invertebrates

In the past, various invertebrate specimens have been collected, preserved and sent to Dr. Dereck Sikes, Curator of Insect, Assistant Professor of Entomology, University of Alaska Museum, and Kenelm W. Philip, Senior Research Associate, Institute of Arctic Biology, University of Alaska, Fairbanks (UAF). Butterfly and moth specimens were collected opportunistically to assist in Mr. Phillip's study to identify moth and butterfly species in Alaska. Due to this effort Mr. Philip, and the Alaska Lepidoptera Survey (ALS) collection, now has a collection of 10 *Arctia opulenta* collected from Round Island in 2009 and 2011. Mr. Philip would like staff to continue collecting additional specimens of *A. opulenta* due to the vast individual variation, in order to better characterize the population as a whole.

During 2012 no invertebrate specimens were collected.

Other Portions of WISGS

Staff were able to conduct a boat survey of Round Island, Crooked Island, High Island, The Twins and Black Rock on June 29, 2012. General wildlife observations were recorded and digital photos were taken of the shorelines of these islands as well as photos of seabird rookeries.

Among the observations made was the presence of large patches of defoliated alder or willow on several of the islands; most notably on High Island, Crooked Island and Round Island. Entomologist Jim Kruse and Forest pathologist Robin Mulvey of the US Forest Service (USFS) were contacted post season to discuss the potential causes of defoliation. Defoliation observations and data gathered through aerial and ground surveys by Forest Health Protection (USFS) and cooperators in the general area of the outbreak over the past 2-3 years suggest that larval stages of the autumnal moth (*Epirrita autumnata*) or the Bruce spanworm (*Operophtera bruceata*) are likely culprits. However, there are a multitude of hardwood defoliators in Alaska, including a variety of geometrid, tortricid and sawfly larvae with diverse hardwood hosts; as well as other agents such as Alder canker, caused by the native fungus *Valsa melandiscus*. Alder canker has affected at least 150,000 acres of alder throughout south-central and interior Alaska, and is most severe on thin-leaf alder. Therefore, ground checks are imperative to accurately identifying the causal agents. It is also important to distinguish between defoliation and stem dieback/mortality. Defoliated plants can generally recover after a few consecutive years of defoliations (outbreaks commonly persist for 3-5 years), whereas mortality of affected stems causes longer-term damage to the host. Staff will continue observations and are exploring the possibility of a site visit by USFS experts during the 2013 season to determine the cause of the defoliation if it continues.

There was a report to staff from a local hunter in Togiak that 200 – 300 walrus were present on the Twins, June 10, 2012.

Public Use & Land Management

To protect sanctuary wildlife and other resources, access to Round Island and the waters within 3 geographical miles of the island are restricted. The 3 mile restriction has been in place since 1989, varying only slightly in the use of nautical versus geographical miles. Three geographic miles is about 10 meters more than 3 nautical miles. Prior to 1989 restrictions applied to Round Island and waters within two miles (5 AAC 83.250, 1985). Visitors and transporters must possess authorization from ADF&G in the form of a Sanctuary Access Permit for the day(s) they plan to visit Round Island (Alaska State Regulation – 5AAC 92.066). All vessels approaching the island must contact ADF&G Round Island staff via marine radio (MVHF Ch. 7) prior to 9:00 a.m. on the day of their visit and again prior to entering the restricted 3-mile area. Once in the area they are required to maintain a course through a designated access corridor to Boat Cove on the northeast side of the island (Figure 7). Since low-flying aircraft can cause major disturbances at walrus haulouts (Fay 1982), all aircraft access to the island is prohibited unless authorized by ADF&G. ADF&G policy requests that all pilots avoid over flights below 5,000 ft. Above Ground Level (AGL) within three miles of the island. Notices regarding these access restrictions are published as a flight advisory on Federal Aviation Administration charts and as an advisory on the National Oceanic and Atmospheric Administration (NOAA) nautical charts. Although ADF&G does not have the authority to regulate airspace, pilots who cause a disturbance can be prosecuted by the USFWS under the Marine Mammals Protection Act (MMPA) for harassment of walrus. All vessel or plane traffic observed within the restricted area is documented and those without authorization are hailed through VHF marine radio or by avionics radio and notified of restrictions and advisories. Violations are reported to appropriate authorities for investigation and prosecution.

Visitor Use

Campers arrive on Round Island after obtaining a permit through the ADF&G website or from the ADF&G Dillingham office. Day visitors are issued permits for \$10.00 per person upon arrival on the island after obtaining access authorization from staff through morning VHF radio contact.

One of the primary goals of the sanctuary staff in managing the visitor program is to balance the quality of the experience for the visitors while protecting wildlife and other resources. When visitors arrive on Round Island, they are given an orientation that includes the visitation regulations and policies, a brief history of the Sanctuary, a safety briefing and a demonstration on how to approach walrus viewpoints without disturbing the animals. All visitors are required to remain on established trails with the exception of going to the summit from EC. To avoid disturbance, visitors are not permitted on the beaches except for staff monitored arrivals and departures from BC or CG. As part of the safety briefing the precipitous and slippery nature of the trails is stressed and visitors are required to sign an Assumption of Risk form. Visitors are also requested to provide emergency contact information in the case of an accident. Staff duties associated with the visitor program include monitoring the VHF marine radio, authorizing access to sanctuary waters, issuing permits, collecting user fees, reviewing sanctuary rules and safety procedures, answering visitor questions, maintaining campground facilities, collecting visitor use data and providing assistance to visitors when needed.

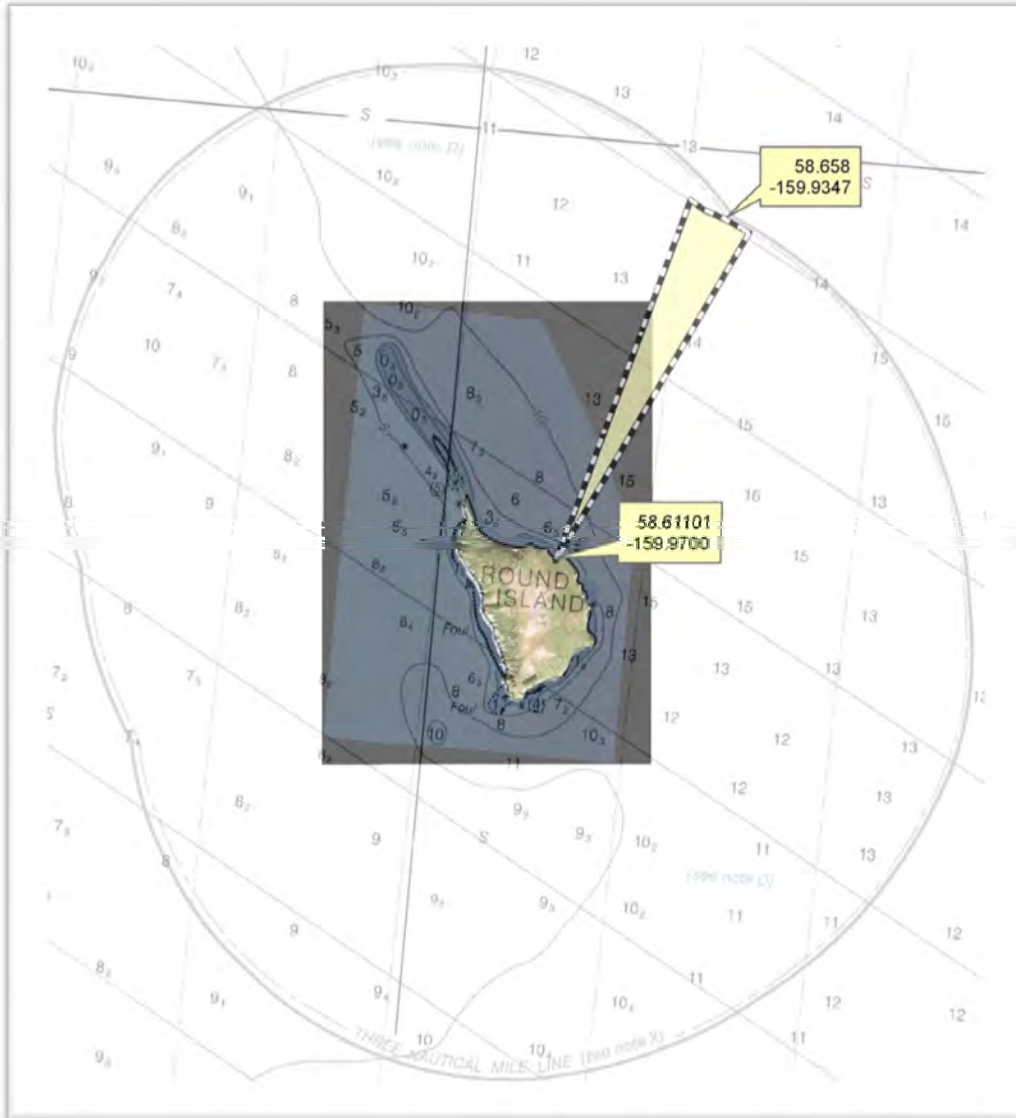


Figure 7. Round Island, Walrus Islands SGS showing 3 NM restricted waters and access corridor.

Visitor use data are summarized in Table 3. The availability of commercial transport provided by Walrus Islands Guide Service between June 12 and July 15th allowed for an increase in visitation during the 2012 season. There were a total of 60 visitors to Round Island in 2012, including visits by 15 persons involved in administrative duties (staff, maintenance, management or training). Of the 45 general public visitors; forty-one were overnight campers and four were day visitors. Public visitors represented 22 individual groups with a mean group size of two (range: 1 – 7). Twenty-four visitors were Alaska residents, the remainder hailed from California, Iowa, Illinois, Maryland, New York, Oregon, Vermont, Washington, and the United Kingdom. Eight additional campers were permitted but did not show up or cancelled.

There were 188 visitor use days and 315 staff use days for a total of 503 user days between May 15th and October 8th. Public visitor use days were split between 184 camper user days and 4 day use days. The average length of stay for campers was 4.5 days.

Historically, visitation to Round Island has been variable (Figure 8). Fluctuations in visitation are generally attributed to a number of social and economic factors including the availability of transportation to the island, national and international economic conditions, periods of opportunistic day visitation, and national and international publicity.

A record number of visitors (303) to Round Island occurred in 1977. However, the inflated visitation that year was due to the approximately 250 day visitors from a small cruise ship. In the 1980's and early 90's, many members of the herring fishing fleet visited Round Island opportunistically during breaks in the fishery. Also during this time, there was national and international publicity of the sanctuary through television programs and magazine articles (Rice 2002). In 1987 a record number of 131 campers visited the island and the number of campers to the island remained high during the late 1980's and early 1990's. After the decline of the fishery in Bristol Bay, a drop in visitation was noted. Visitation generally declined between 1990 (110 campers, 58 day use) and 2004 (19 campers, 55 day use). Between 2005 and 2007, visitation to Round Island rose slightly, and then dipped again from 2008 - 2011 due to complications with commercial transport charters.

Access Violations

Staff documented vessels within the three mile restricted zone on three separate occasions during the 2012 season. On all three occasions the vessels were noted passing by the east side of Round Island at about 2 miles distance and were hailed by staff on marine VHF Ch16. On May 18, 2012 a 90 foot tender passing the island at about 2 miles distance was unsuccessfully hailed and continued on to the east out of the area. Identification and documentation of the vessel led to a follow up notice of violation and warning being prepared to the registered owner. During a May 22, 2012 incident the vessel captain responded and corrected his course after staff informed him of the 3 mile limit. The vessel's chart software erroneously indicated a 2 mile limit, as did their electronic charts. Follow up with the captain and the chart software company confirmed that changes would be made to reflect the correct information. During an August 16, 2012 incident the vessel could not be raised via radio and transited the east side of Round Island at approximately 2 miles distance. Photographic documentation led to a follow up notice of violation and warning being issued to the registered owner. No walrus were known to be disturbed during these incursions.

The ADF&G installed a Garmin GMR18HD radar and GPSMAP 740 series chart plotter system in June of the 2011 season to aid staff in giving proactive warnings to vessels approaching the 3 mile limit and to gather and present sound evidence when violations do occur. When redeployed in spring 2012 radome errors were encountered which were associated with a known manufacturing defect necessitating return of the radome unit to the manufacturer for warranty replacement. Consequently the radar system was not active for the majority of the 2012 season. The new radome will be redeployed in spring 2013. Evaluation of the radar system will continue at that time.

Table 3. 2012 Visitor Use Summary, Round Island, WISGS, Alaska.

State	Visitor Numbers				User Days			
	Admin	Campers	Day Use	Total	Admin	Campers	Day Use	Total
AK	14	24		38	313	105		418
CA		5		5		25		25
IA			2	2			2	2
IL		1		1		3		3
MA	1			1	2			2
MD		1		1		7		7
NY		2	2	4		12	2	14
OR		2		2		6		6
UK		1		1		4		4
VT		2		2		12		12
WA		3		3		10		10
Grand Total	15	41	4	60	315	184	4	503

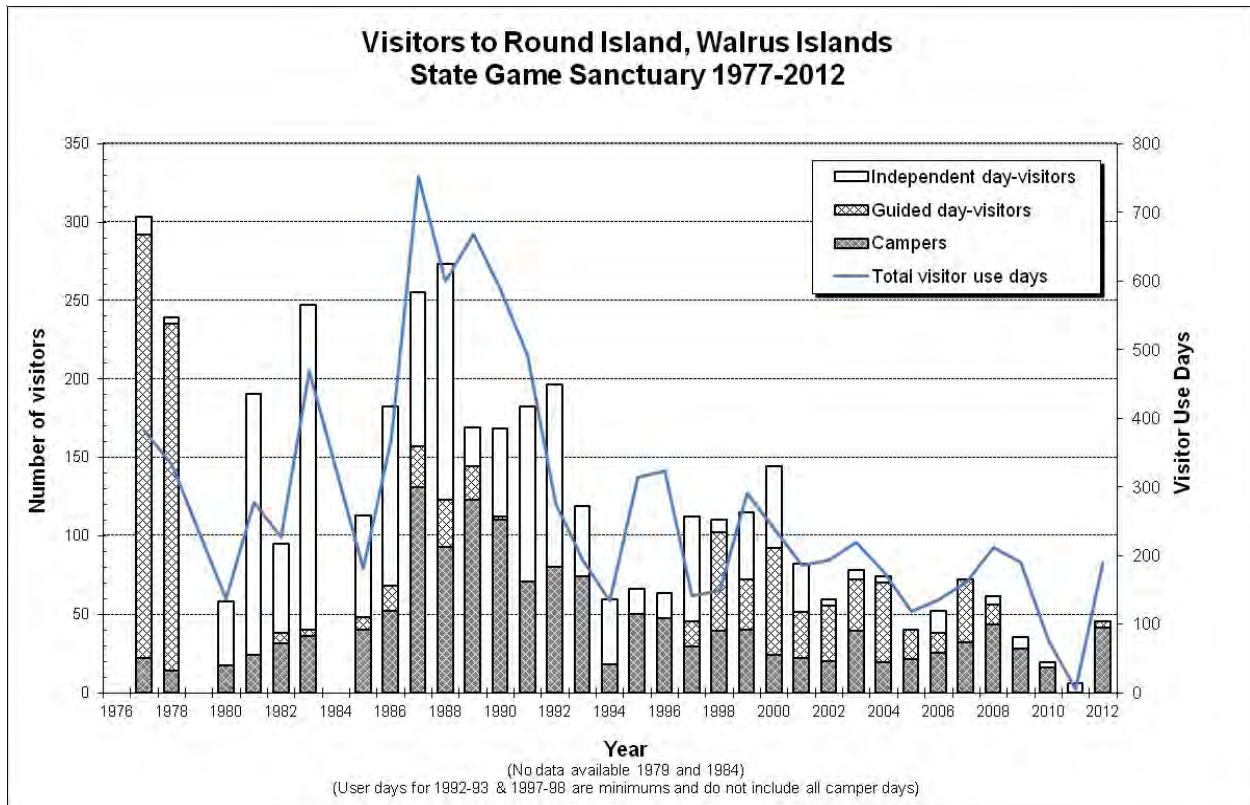


Figure 8. Visitor Use at Round Island, 1977 – 2012.

Subsistence Hunt

Historically, the Pacific walrus has thrived in the Bering and Chukchi seas (Fay 1982). In the 17th century there was an increased demand for walrus ivory, oil, and hides, which corresponded to the arrival of the Europeans. Walrus were hunted extensively until the end of the 19th century when only a fraction of the population remained (Fay 1957).

Round (Qayassiq) Island was a traditional walrus hunting ground for Alaskan Natives and in the early 1990's hunters, mainly from the village of Togiak, petitioned the Alaska Board of Game (BOG) for access to the island for subsistence hunting. This resulted in the formation of the Qayassiq Walrus Commission (QWC) in 1995, which helped to reestablish the Round Island subsistence hunt. The BOG agreed to allow island access between October 1 and 31 for the hunt. The harvest limit was set at ten (including struck and lost animals) by the Cooperative Agreement (ADF&G, Eskimo Walrus Commission (EWC), QWC, and USFWS). Since this time the dates and harvest numbers have changed and in 2003, the BOG extended the dates which are now set from September 10 through October 20 with a limit of 20 walrus. (Subsistence Walrus Hunting on Round Island, Bristol Bay, Alaska Cooperative Agreement). The fall hunt has been intermittently monitored by USFWS & ADF&G staff over the years. State and Federal agencies monitored the hunt from 1995 – 1998 and 2003-2006 but at the present time no agency monitor is required. Currently agencies rely on self monitoring and reporting by hunt captains and the QWC.

For the 2012 Qayassiq subsistence hunt, nine Round Island Hunt Access Permit forms were distributed amongst the hunt captains of Manokotak, Togiak, Clarks Point, Twin Hills and Dillingham at the September 6th, 2012 QWC pre-hunt meeting. Staff was present on Round Island through October 8th and no subsistence hunting occurred from the opening on September 10th through that date. The villages of Dillingham, and Clarks Point reported that they did not hunt at Qayassiq this year due to unpredictable weather. The remaining communities did not complete the permit process, nor notify ADF&G that they would be hunting at Round Island and none filed post hunt reports indicating they had hunted at Round Island. At the time of publication, it is believed that no walrus hunting took place at Round Island in 2012.

There was an additional report of two walrus possibly taken at the Twins in early June. One female was shot but escaped and a second walrus was taken.

Sanctuary Administration & Management

Staffing

ADF&G staff was present on Round Island from May 15 through August 21, 2012 and also September 8 through October 8, 2012 for a fall monitoring period. The F/V Kaylor T, owned by Tom Tressler Jr., transported food and camp supplies from Seward, Alaska to Round Island. Gear and building supplies were loaded on to the Kaylor T at the Seward dock on April 30, 2012. Sanctuary manager Stephanie K. Sell (SKS) arrived on Round Island via Pollux Aviation R44 helicopter on May 15, 2012. Field technician Pauline “Polly” Hessing (PMH) arrived on May 18th. The optimal arrival date of May 1 was delayed because of the presence of sea ice in Togiak Bay and delayed helicopter and boat availability dictated by the start of the herring fishing season. On May 16th the Kaylor T anchored in front of the cabin and coordinated with the Pollux helicopter pilot, Chris Jordon, to sling 14 loads consisting of the outhouse building materials, composting toilet system, spooled boat cable, outboard motor, and 4 brailer bags of food & gear (6,777 lbs. total) from the boat deck to shore in 66 minutes.

ASLC personnel, Lori Polasek, and Terril Efird, deployed to Round Island with the Sanctuary manager Stephanie Sell on May 15th to install remote camera systems at select walrus haulouts and departed May 18, 2012 via Pollux R44 helicopter.

Temporary staffing was used for the FWT III position during the 2012 season. Over the course of the season three staff persons were used; Polly Hessing (May 18 – June 18), Diane Calamar Okonek (DCO; June 18 – July 15), and Teslyn Visscher (TIV; July 12 – August 21). ADF&G Lands and Refuges Manager, Ed Weiss, was also present on Round Island from July 7 - July 15; to assist in construction projects, install additional boat cable anchors, replace the boat cable, and review operations. ADF&G Wildlife Conservation Division Assistant Director Maria Gladziszewski also conducted a site visit July 8 – July 12. Sanctuary manager Stephanie Sell took a Division of Wildlife Conservation assistant area management biologist position in Douglas, AK; leaving Round Island on July 21, 2012. ADF&G biologist Marian Snively staffed the manager lead position for the remainder of the normal season, July 21 – August 21.

Staff transports and resupplies between June 12th and July 15th were done by Terry Johnson of Walrus Islands Guide Service. Staff transports (July 21st) and demobilization (August 21nd) of the normal seasonal staff were done by Paul Markoff of Togiak Outfitters Inc. The scheduled August 20th demobilization of summer seasonal staff was weather delayed until August 21.

ADF&G also staffed Round Island for a special fall monitoring season during 2012. Primary objectives were Steller sea lion monitoring studies, however, staff also continued Pacific walrus monitoring during this period. Temporary seasonal staff Polly Hessing and Elizabeth “Betsy” Vanburg (E_V) deployed to the Round Island field camp on September 9th; then closed and demobilized from camp on October 8, 2012, both via Egli Air Haul Bell Jet Ranger.

Internship Project

Two interns, Malcolm Upton and Petricia Chunak, participated the Bristol Bay Native Association (BBNA) and ADF&G sponsored internship program on Round Island from June 30-July 5, 2012. BBNA and ADF&G continue to make an effort to provide an opportunity for students to gain valuable field experience in wildlife and sanctuary resource management. The internship program provides opportunities for students to gain field experience in wildlife monitoring, as well as sanctuary and visitor management. Interns work side by side with sanctuary staff gaining experience in monitoring pacific walrus, Steller sea lions, marine seabirds as well as other wildlife. They also assist in campground management and maintenance of facilities. During 2012 the project also teamed up with the UAF Bristol Bay Campus to provide intern's exposure to resource sampling techniques in fisheries, habitat and macro-invertebrates.

The program continues to suffer from a lack of candidates that are fully committed. While participants generally benefit from the experience and often show some real aptitude; they are most often in pursuit of careers outside of the biological sciences or natural resource fields and their performance often reflects this. Some of the problems are likely immaturity related to the pre-collegiate age of participants and the rigors of remote field camp living; however, for the significance of the opportunity being provided there also seems to be a fair amount of disinterest in gaining the biological field experience and being at Round Island. It is recommended that future efforts concentrate more on advertisement to and acceptance of individuals who are already enrolled in or committed to a post secondary education in a related biological or natural resources field.

Facilities

Round Island staff performed a number of maintenance, repair or construction projects annually in support of the Round Island facility and visitor safety. This work often includes such things as building and camp maintenance and trail improvements.

The most significant project completed during the 2012 season was construction and installation of a new environmentally friendly public toilet facility in the campground. A Clivus Multrum composting toilet system was purchased through the National Natural Landmarks program and ADF&G funds and staff time were used to construct the building and install it. Sanctuary manager Stephanie Sell and carpenter/volunteer Michael VanderJack along with other staff and volunteers spent approximately one week constructing an outhouse structure and installing the new composting system. A two story design was necessary in order to house the composting unit below and avoid potential disturbance of archaeological resources below ground. The approximately 5 x 9 x 12 feet high building (Figure 9) was built entirely above ground on the site of the existing out house without any significant ground disturbance. A solar panel and battery power the venting system.

Staff continued making improvements to problem areas on the Round Island trail system. During 2012 approximately 80 feet of Geoblock were added to bad spots along the trail system in the BC, NBC, and camp areas. Geoblock 5150 panels, 20 in. x 40 in. (0.5 m x 1 m), are a series of interlocking, high-strength, recycled plastic material, and designed to reduce erosion.

These panels are ripped lengthwise and placed in bad spots in the trail providing a 10 inch wide surface. They provide load support by dispersing the weight over a larger area while allowing for the growth of vegetation through the panels. The panels also aid walkers when the trail is slippery.

Staff also started on replacement and upgrade of the boat cable launching system. New ½ inch wire rope and two new stainless steel plate anchors were transported to the site in spring 2012. In July, Lands and Refuge manager Ed Weiss began preparation for replacement by mounting one steel plate anchor in rock on the southeast end and preparing new wrapped cable anchors at the northwest end. Due to illness and an early departure from the island the project was not completed, but is prepped to finish up in 2013. The second steel plate anchor will be mounted on the existing studs when the old cable comes down.

Figure 9. Campground composting toilet / outhouse construction.



Ivory Collection

Only one stick of ivory was recovered during the 2012 season; from a mortality which wedged itself amongst the rocks on Campground Beach. Three other mortalities were noted ashore at MB and WM; however, staff were unable to access these mortalities and collect any ivory before the mortalities were washed out to sea. Observed mortalities and ivory collected are summarized in Table 4.

Collected ivory was transferred to Jim Woolington, ADF&G Area Wildlife Biologist in Dillingham for tagging by USFWS. The walrus ivory collected from Round Island will be donated to the Eskimo Walrus Commission, for the annual ivory auction to local area native carvers during the Beaver Roundup Festival.

Table 4. Summary of observed walrus mortalities and recovered ivory 2012.

Date	Location	Mortalities Observed	# of tusks ivory present	Beach Cast Ivory	Amount Collected	Comments
5/17	MB	1	1+			On point
5/26	WM	1	2			Skin gone except for on belly, (6/8)-mort moved to main gully, one tusk gone; (6/13) all tusks gone; (6/18) tusk from mort seen on beach, Still on beach (6/21)
6/26	WM	1	1.25			New mort on WM
6/27	MB	1				Center portion of MB, (7/4 still present) Mort gone 8/3 after storm
7/2	Floater	1	unk			Floater seen 1/2 mi offshore from cabin, very decayed
7/2	WM	2	1			Possible mortalities at WM, (7/17 2 mortalities still present, one with 1 tusk, tusks not visible b/c orientation for other) Morts gone 8/3 after storm
7/4	MB	1	unk			Possibly another mort in addition to mort from 6/27
8/5	CG	1	2		1	Floating near shore 8/5-8/6; gone 8/7; appears to be same mort floating near MB, 8/12-14 mort @ CG, tusks wedged unable to collect, 8/15 extracted 1 tusk
8/14	WM	1	unk			Floating ~10m offshore, unable to see tusks
9/15	MB	1	2		0	Below pinnacle; floating @ high tide line after big storm. Unable to access for extraction.
10/2	MB	0	0		0	storms washed mort away

Recommendations and Action Items

- Complete replacement of boat launch system cable.
- Send written notification of the Round Island access regulations to all processors, and air services in the area.
- Continue remote cameras at West side beaches for photo counts when staff cannot monitor regularly.
- Continue trail stabilization work on the hill leading to Observation Point, and trail down to East Cape.
- Replace stovepipe chimney for oil stove on staff cabin.
- Consider purchasing a more efficient heating stove for the staff cabin.
- Update the visitor permit to include the Hazardous Conditions Disclaimer, emergency notification contact information, and visitor phone number and email.
- Update the web site to include automated permitting and visitor comment apps.
- Update the bird list.
- Update visitor pamphlet.
- Consider replacement & upgrade of boat and motor.
- Purchase equipment necessary to monitor air traffic information occurring around the island.

Acknowledgements

Thanks are extended to Polly Hessing, Diane Okonek, Marian Snively and Teslyn Visscher, Round Island field technicians, for all their hard work, assistance in completing this report and stepping up to fill vacancies through the 2012 season. Thanks to Eunice Dyasuk and Jim Woolington in the Dillingham ADF&G office for their continued support during the Round Island field season. Thanks go to Paul Leidberg and Pete Abraham of the USFWS for welcoming staff and volunteers at the bunkhouse in Togiak. To Michael Winfree (USFWS), Lori Polasek and Terril Efird (ASLC) for allowing us to make use of their photo data. A special thanks to Michael VanderJack, Stephanie Sell and Andrew VanderJack in completing planning and construction of the outhouse building on a tight schedule. Thanks also to Brian Barry of Clivus Multrum Inc. for his effort to make it to the island and completing the composting toilet hookup. A special thanks to Stephanie Sell, outgoing sanctuary manager for her hard work and dedication over the last 4 years.

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APPENDICES

APPENDIX A

Appendix A. 2012 Pacific walrus daily count summary, Round Island, Alaska

Date	East Side Total	West Side Total	Total # walrus
5/15/2012	225		225
5/16/2012	115		115
5/17/2012	13		13
5/18/2012	0	40	40
5/19/2012	0		0
5/20/2012	228		228
5/21/2012	317		317
5/22/2012	268	53	321
5/23/2012	190	2	192
5/24/2012	100	0	100
5/25/2012	86	10	96
5/26/2012	94	0	94
5/27/2012	35	0	35
5/28/2012	23		23
5/29/2012	43	0	43
5/30/2012	120	1	121
5/31/2012	304	9	313
6/1/2012	263	0	263
6/2/2012	37	1	38
6/3/2012	59	0	59
6/4/2012	406	5	411
6/5/2012	464	27	491
6/6/2012	839	147	986
6/7/2012	897	181	1078
6/8/2012	498	65	563
6/9/2012	898	225	1123
6/10/2012	1543	159	1702
6/11/2012	1521	50	1571
6/12/2012	406	56	462
6/13/2012	391	7	398
6/14/2012	944	20	964
6/15/2012	1423	624	2047
6/16/2012	1394	664	2058
6/17/2012	890	65	955
6/18/2012	399	0	399
6/19/2012	373	0	373
6/20/2012	1544	9	1553
6/21/2012	1953	69	2022
6/22/2012	2830	459	3289
6/23/2012	1400	310	1710
6/24/2012	191	2	193
6/25/2012	150	0	150
6/26/2012	424	0	424
6/27/2012	1563	1	1564
6/28/2012	2794	3	2797

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Date	East Side Total	West Side Total	Total # walrus
6/29/2012			0
6/30/2012	1850	25	1875
7/1/2012	1694	18	1712
7/2/2012	833	2	835
7/3/2012	518	0	518
7/4/2012	577	0	577
7/5/2012	681	0	681
7/6/2012	2505	30	2535
7/7/2012	2154	147	2301
7/8/2012	1228	53	1281
7/9/2012	727	84	811
7/10/2012	315	17	332
7/11/2012	175	0	175
7/12/2012	1105	0	1105
7/13/2012	1169	0	1169
7/14/2012	944	0	944
7/15/2012		0	0
7/16/2012	461	0	461
7/17/2012	905	1	906
7/18/2012	1648	26	1674
7/19/2012	785	6	791
7/20/2012	494	2	496
7/21/2012	1106	0	1106
7/22/2012	1549	3	1552
7/23/2012	2312	0	2312
7/24/2012	1751	6	1757
7/25/2012	637	0	637
7/26/2012	517	0	517
7/27/2012	159	0	159
7/28/2012	260	5	265
7/29/2012	382	0	382
7/30/2012	403	0	403
7/31/2012	813	0	813
8/1/2012	1204	0	1204
8/2/2012	945	0	945
8/3/2012	1009	0	1009
8/4/2012	1463	0	1463
8/5/2012	1399	0	1399
8/6/2012	828	0	828
8/7/2012	1009	0	1009
8/8/2012	655	0	655
8/9/2012	1163	0	1163
8/10/2012	1205	9	1214
8/11/2012	1045	0	1045
8/12/2012	1061	0	1061
8/13/2012	1111	0	1111

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Date	East Side Total	West Side Total	Total # walrus
8/14/2012	603	0	603
8/15/2012	409	1	410
8/16/2012	465	0	465
8/17/2012	772	0	772
8/18/2012	278	0	278
8/19/2012	399	0	399
8/20/2012	261	0	261
8/21/2012	719	0	719
9/8/2012	1426	0	1426
9/9/2012	1130	0	1130
9/10/2012	1158	0	1158
9/11/2012	78	0	78
9/12/2012	403	0	403
9/13/2012	531	0	531
9/14/2012	487	0	487
9/15/2012	173	0	173
9/16/2012	1	0	1
9/17/2012	2	0	2
9/18/2012	25	0	25
9/19/2012	636	0	636
9/20/2012	562	0	562
9/21/2012	832	0	832
9/22/2012	28	0	28
9/23/2012	26	0	26
9/24/2012	47	0	47
9/25/2012	0	0	0
9/26/2012	12	0	12
9/27/2012	72		72
9/28/2012	149		149
9/29/2012	571	0	571
9/30/2012	687		687
10/1/2012	97		97
10/2/2012	6		6
10/3/2012	25		25
10/4/2012	0		0
10/5/2012	45		45
10/6/2012	290		290
10/7/2012	86		86
10/8/2012	70		70

APPENDIX B

Appendix B. Pacific walrus detailed count data, 2012 Round Island, Alaska

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
5/15/2012	17:00	SKS	SP	11:40	11:54	A			C	0	0	E	From helo on arrival to RI
5/15/2012	17:00	SKS	SB	11:40	11:54	A			C	0	0	E	From helo on arrival to RI
5/15/2012	17:00	SKS	FP	11:40	11:54	A			C	0	0	E	From helo on arrival to RI
5/15/2012	17:00	SKS	FB	11:40	11:54	A			C	0	0	E	From helo on arrival to RI
5/15/2012	17:00	SKS	CG	11:40	11:54	A			C	0	0	E	From helo on arrival to RI
5/15/2012	17:00	SKS	BC	11:40	11:54	A			C	0	0	E	From helo on arrival to RI
5/15/2012	17:00	SKS	FR	11:40	11:54	A			C	0	0	E	From helo on arrival to RI
5/15/2012	17:00	SKS	NBC	11:40	11:54	A			C	0	0	E	From helo on arrival to RI
5/15/2012	17:00	SKS	MB	11:40	11:54	A			C	225	0	F	Estimate from helo on arrival to RI
5/16/2012	14:00	SKS	SP	15:23	15:26	S	4	2	C	0	0	E	
5/16/2012	14:00	SKS	SB	15:28	15:32	S	4	2	C	0	0	E	
5/16/2012	14:00	SKS	FP	15:33	15:34	S	4	2	C	0	0	E	
5/16/2012	14:00	SKS	FB	15:35	15:41	S	4	2	C	0	0	E	
5/16/2012	14:00	SKS	CG	16:06	16:09	S	3	2	C	0	0	E	
5/16/2012	14:00	SKS	BC	16:09	16:18	S	3	2	C	0	0	E	
5/16/2012	14:00	SKS	FR	16:18	16:19	S	3	2	C	0	0	E	
5/16/2012	14:00	SKS	NBC	16:27	16:28	S	3	2	C	0	0	E	
5/16/2012	14:00	SKS	MB	16:29	16:34	S	2	1	C	110	5	G	
5/16/2012	14:00	SKS	WM									N	NO WEST MAIN COUNT, no ASLC photos available.
5/17/2012	14:00	SKS	SP	15:11	15:12	S	5	3	C	0	0	E	
5/17/2012	14:00	SKS	SB	15:05	15:09	S	5	3	C	0	0	E	
5/17/2012	14:00	SKS	FP	15:03	15:04	S	5	3	C	0	0	E	
5/17/2012	14:00	SKS	FB	14:57	15:01	S	5	3	C	0	0	E	
5/17/2012	14:00	SKS	CG	14:10	14:12	S	5	3	C	0	0	E	
5/17/2012	14:00	SKS	BC	14:12	14:20	S	5	3	C	0	0	E	
5/17/2012	14:00	SKS	FR	14:20	14:21	S	5	3	C	0	0	E	
5/17/2012	14:00	SKS	NBC	14:26	14:27	S	5	3	C	0	0	E	
5/17/2012	14:00	SKS	MB	14:28	14:33	S	5	3	C	13	0	G	Mortality on point, 1+ tusk
5/17/2012	14:00	SKS	WM									N	NO WEST MAIN COUNT, no ASLC photos available.
5/18/2012	9:00	SKS	SP	9:41	9:54	A	5	3	C	0	0	E	
5/18/2012	9:00	SKS	SB	9:41	9:54	A	5	3	C	0	0	E	
5/18/2012	9:00	SKS	FP	9:41	9:54	A	5	3	C	0	0	E	
5/18/2012	9:00	SKS	FB	9:41	9:54	A	5	3	C	0	0	E	
5/18/2012	9:00	SKS	CG	9:41	9:54	A	5	3	C	0	0	E	
5/18/2012	9:00	SKS	BC	9:41	9:54	A	5	3	C	0	0	E	
5/18/2012	9:00	SKS	FR	9:41	9:54	A	5	3	C	0	0	E	
5/18/2012	9:00	SKS	NBC	9:41	9:54	A	5	3	C	0	0	E	
5/18/2012	9:00	SKS	MB	9:41	9:54	A	5	3	C	0	0	E	

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Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
5/18/2012	9:00	SKS	WM	9:41	9:54	A	5	3	C	40	0	P	windy bino shake
5/19/2012	9:00	SKS	SP	9:21	9:24	S	3	3	C	0	0	E	
5/19/2012	9:00	SKS	SB	9:27	9:32	S	3	3	C	0	0	E	
5/19/2012	9:00	SKS	FP	9:34	9:35	S	3	3	C	0	0	E	
5/19/2012	9:00	SKS	FB	9:38	9:44	S	4	3	C	0	0	E	
5/19/2012	9:00	SKS	CG	9:51	9:59	S	4	3	C	0	0	E	
5/19/2012	9:00	SKS	BC	9:59	10:16	S	4	3	C	0	0	E	
5/19/2012	9:00	SKS	FR	10:16	10:18	S	4	3	C	0	0	E	
5/19/2012	9:00	SKS	NBC	10:28	10:29	S	4	3	C	0	0	E	
5/19/2012	9:00	SKS	MB	10:33	10:38	S	4	3	C	0	0	E	
5/19/2012	9:00	SKS	WM			S						N	NO WEST MAIN COUNT, no ASLC photos available.
5/20/2012	17:00	PH	SP	17:05	17:08	S	1	1	C	0	0	E	
5/20/2012	17:00	PH	SB	17:11	17:17	S	1	1	C	0	0	E	
5/20/2012	17:00	PH	FP	17:20	17:21	S	1	1	C	0	0	E	
5/20/2012	17:00	PH	FB	17:24	17:27	S	1	1	C	0	0	E	
5/20/2012	17:00	PH	CG	17:45	17:50	S	1	1	C	0	0	E	
5/20/2012	17:00	PH	BC	17:51	18:04	S	1	1	C	0	0	E	
5/20/2012	17:00	PH	FR	18:05	18:08	S	1	1	C	1	1	E	
5/20/2012	17:00	PH	NBC	18:25	18:27	S	1	1	C	0	0	E	
5/20/2012	17:00	PH	MB	18:30	18:38	S	1	1	C	208	18	G	
5/20/2012	17:00	PH	WM			S						N	NO WEST MAIN COUNT, no ASLC photos available.
5/21/2012	14:00	SKS	SP	14:21	14:22	S	1	1	C	0	0	E	
5/21/2012	14:00	SKS	SB	14:24	14:28	S	1	1	C	0	0	E	
5/21/2012	14:00	SKS	FP	14:30	14:31	S	1	1	C	0	0	E	
5/21/2012	14:00	SKS	FB	14:33	14:37	S	1	1	C	0	0	E	
5/21/2012	14:00	SKS	CG	14:45	14:47	S	0	1	C	0	0	E	
5/21/2012	14:00	SKS	BC	14:47	14:54	S	0	0	C	0	0	E	
5/21/2012	14:00	SKS	FR	14:54	14:55	S	1	1	C	4	0	E	
5/21/2012	14:00	SKS	NBC	15:02	15:03	S	2	0	C	0	0	E	
5/21/2012	14:00	SKS	MB	15:04	15:12	S	2	1	C	283	30	G	
5/21/2012	14:00	SKS	WM			S						N	NO WEST MAIN COUNT, no ASLC photos available.
5/22/2012	14:00	PH	SP	14:10	14:12	S	1	0	C	0	0	E	
5/22/2012	14:00	PH	SB	14:18	14:23	S	1	0	C	0	0	E	
5/22/2012	14:00	PH	FP	14:27	14:28	S	1	0	C	0	0	E	
5/22/2012	14:00	PH	FB	14:30	14:35	S	1	0	C	0	0	E	
5/22/2012	14:00	PH	CG	14:50	14:54	S	1	0	C	0	0	E	
5/22/2012	14:00	PH	BC	14:55	15:03	S	1	0	C	0	0	E	
5/22/2012	14:00	PH	FR	15:04	15:05	S	1	0	C	0	0	E	

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Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
5/22/2012	14:00	PH	NBC	15:14	15:15	S	1	0	C	0	0	E	
5/22/2012	14:00	PH	MB	15:25	15:35	S	1	0	C	232	36	G	
5/22/2012	14:00	PH	WM	16:15	16:20	S	1	1	C	52	1	E	
5/23/2012	14:00	PH	SP	14:00	14:05	S	2	0	C	0	0	E	
5/23/2012	14:00	PH	SB	14:10	14:11	S	2	0	C	0	0	E	
5/23/2012	14:00	PH	FP	14:13	14:16	S	3	0	C	0	0	E	
5/23/2012	14:00	PH	FB	14:24	14:26	S	3	0	C	0	0	E	
5/23/2012	14:00	SKS	CG	14:01	14:04	S	2	1	C	0	0	E	
5/23/2012	14:00	SKS	BC	14:04	14:11	S	2	1	C	0	0	E	
5/23/2012	14:00	SKS	FR	14:11	14:12	S	1	1	C	0	0	E	
5/23/2012	14:00	SKS	NBC	14:17	14:18	S	1	0	C	0	1	E	
5/23/2012	14:00	SKS	MB	14:20	14:26	S	1	0	C	170	19	G	
5/23/2012	14:00	SKS	WM	15:31	15:32	S		1	P	2	0	G	No BSS fog @ sea.
5/24/2012	14:00	SKS	SP	14:11	14:12	S	1	0	C	0	0	E	9:00 count changed due to fog
5/24/2012	14:00	SKS	SB	14:05	14:07	S	1	1	C	0	0	E	
5/24/2012	14:00	SKS	FP	14:03	14:04	S	1	1	C	0	0	E	
5/24/2012	14:00	SKS	FB	13:57	14:01	S	1	1	C	0	0	E	
5/24/2012	14:00	PH	CG	14:00	14:05	S	1	1	C	0	0	E	
5/24/2012	14:00	PH	BC	14:06	14:15	S	1	1	C	0	0	E	
5/24/2012	14:00	PH	FR	14:16	14:17	S	1	1	C	0	0	E	
5/24/2012	14:00	PH	NBC	14:18	14:20	S	1	1	C	0	0	E	
5/24/2012	14:00	PH	MB	14:30	14:40	S	1	0	C	94	6	G	
5/24/2012	14:00	PH	WM	16:20	16:21	S	1	1	C	0	0	E	
5/25/2012	9:00	PH	SP	9:37	9:38	S	2	2	C	0	0	E	
5/25/2012	9:00	PH	SB	9:29	9:31	S	2	2	C	0	0	E	
5/25/2012	9:00	PH	FP	9:24	9:25	S	2	2	C	0	0	E	
5/25/2012	9:00	PH	FB	9:15	9:22	S	2	2	C	0	0	E	
5/25/2012	9:00	SKS	CG	9:15	9:17	S	2	2	C	0	0	E	
5/25/2012	9:00	SKS	BC	9:17	9:25	S	2	1	C	0	0	E	
5/25/2012	9:00	SKS	FR	9:25	9:26	S	2	2	C	1	0	E	
5/25/2012	9:00	SKS	NBC	9:31	9:32	S	1	2	C	0	0	E	
5/25/2012	9:00	SKS	MB	9:34	9:38	S	1	2	C	79	6	G	
5/25/2012	9:00	SKS	WM	10:26	10:28	S	1	0	C	0	10	E	
5/26/2012	14:00	SKS	SP	14:20	14:21	S	4	1	C	0	0	E	
5/26/2012	14:00	SKS	SB	14:15	14:18	S	4	1	C	0	1	E	
5/26/2012	14:00	SKS	FP	14:13	14:14	S	4	2	C	0	0	E	
5/26/2012	14:00	SKS	FB	14:08	14:11	S	4	2	C	0	0	E	
5/26/2012	14:00	PH	CG	14:10	14:14	S	4	3	C	0	0	E	
5/26/2012	14:00	PH	BC	14:15	14:22	S	4	3	C	0	0	E	
5/26/2012	14:00	PH	FR	14:23	14:24	S	4	2	C	0	0	E	
5/26/2012	14:00	PH	NBC	14:35	14:36	S	3	2	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
5/26/2012	14:00	PH	MB	14:40	14:50	S	3	2	C	91	2	F	windy
5/26/2012	14:00	PH	WM	16:00	16:01	S	3	2	C	0	0	E	mort on WM, 2 tusks
5/27/2012	9:00	PH	SP	9:28	9:29	S	4	2	C	0	0	E	
5/27/2012	9:00	PH	SB	9:23	9:25	S	4	2	C	0	0	E	
5/27/2012	9:00	PH	FP	9:20	9:21	S	4	2	C	0	0	E	
5/27/2012	9:00	PH	FB	9:15	9:17	S	4	2	C	0	0	E	
5/27/2012	9:00	SKS	CG	9:10	9:12	S	4	2	C	0	0	E	
5/27/2012	9:00	SKS	BC	9:12	9:19	S	4	2	C	0	0	E	
5/27/2012	9:00	SKS	FR	9:19	9:20	S	4	2	C	0	0	E	
5/27/2012	9:00	SKS	NBC	9:24	9:25	S	4	2	C	0	0	E	
5/27/2012	9:00	SKS	MB	9:26	9:30	S	4	2	C	34	1	F	windy
5/27/2012	9:00	SKS	WM	10:17	10:18	S	4	3	C	0	0	E	
5/28/2012	17:00	PH	SP	17:00	17:01	S	6	3	C	0	0	E	
5/28/2012	17:00	PH	SB	17:04	17:06	S	6	3	C	0	0	E	
5/28/2012	17:00	PH	FP	17:10	17:11	S	5	3	C	0	0	E	
5/28/2012	17:00	PH	FB	17:16	17:20	S	5	3	C	0	0	E	
5/28/2012	17:00	PH	CG	17:30	17:34	S	4	3	C	0	0	E	
5/28/2012	17:00	PH	BC	17:35	17:44	S	4	2	C	0	0	E	
5/28/2012	17:00	PH	FR	17:45	17:46	S	4	2	C	0	0	E	
5/28/2012	17:00	PH	NBC	17:53	17:54	S	3	1	C	0	0	E	
5/28/2012	17:00	PH	MB	18:00	18:03	S	3	1	C	21	2	G	
5/28/2012	17:00	PH	WM			S						N	NO WEST MAIN COUNT, no ASLC photos available.
5/29/2012	14:00	PH	SP	14:29	14:30	S	3	2	C	0	0	E	
5/29/2012	14:00	PH	SB	14:18	14:22	S	3	2	C	0	0	E	
5/29/2012	14:00	PH	FP	14:14	14:15	S	3	2	C	0	0	E	
5/29/2012	14:00	PH	FB	14:05	14:10	S	3	2	C	0	0	E	
5/29/2012	14:00	SKS	CG	14:16	14:19	S	3	2	C	0	0	E	
5/29/2012	14:00	SKS	BC	14:19	14:26	S	2	2	C	0	0	E	
5/29/2012	14:00	SKS	FR	14:26	14:27	S	2	2	C	0	0	E	
5/29/2012	14:00	SKS	NBC	14:35	14:36	S	2	2	C	0	0	E	
5/29/2012	14:00	SKS	MB	14:38	14:42	S	2	2	C	43	0	G	
5/29/2012	14:00	SKS	WM	15:41	15:42	S	1	1	C	0	0	E	
5/30/2012	9:00	SKS	SP	9:36	9:37	S	1	2	C	0	0	E	
5/30/2012	9:00	SKS	SB	9:26	9:29	S	1	2	C	0	0	E	
5/30/2012	9:00	SKS	FP	9:22	9:23	S	1	1	C	0	0	E	
5/30/2012	9:00	SKS	FB	9:16	9:20	S	1	1	C	0	0	E	
5/30/2012	9:00	PH	CG	9:15	9:18	S	2	1	C	0	0	E	
5/30/2012	9:00	PH	BC	9:19	9:29	S	2	1	C	0	0	E	
5/30/2012	9:00	PH	FR	9:30	9:31	S	1	1	C	0	0	E	
5/30/2012	9:00	PH	NBC	9:40	9:41	S	1	1	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
5/30/2012	9:00	PH	MB	9:45	9:50	S	1	1	C	103	17	G	
5/30/2012	9:00	PH	WM	10:55	10:56	S	1	1	C	0	1	E	
5/31/2012	9:00	PH	SP	9:25	9:26	S	0	1	C	0	0	E	
5/31/2012	9:00	PH	SB	9:20	9:22	S	0	1	C	0	0	E	
5/31/2012	9:00	PH	FP	9:15	9:16	S	0	1	C	0	0	E	
5/31/2012	9:00	PH	FB	9:07	9:12	S	0	1	C	0	0	E	
5/31/2012	9:00	SKS	CG	9:08	9:10	S	0	0	C	0	0	E	
5/31/2012	9:00	SKS	BC	9:10	9:17	S	0	1	C	0	0	E	
5/31/2012	9:00	SKS	FR	9:17	9:18	S	0	1	C	1	0	E	
5/31/2012	9:00	SKS	NBC	9:25	9:26	S	0	1	C	0	0	E	
5/31/2012	9:00	SKS	MB	9:27	9:38	S	0	1	C	276	27	G	
5/31/2012	9:00	SKS	WM	10:31	10:32	S	0	0	C	2	7	E	
6/1/2012	17:00	SKS	SP	16:53	16:54	S	1	1	C	0	0	E	
6/1/2012	17:00	SKS	SB	16:56	16:59	S	1	1	C	0	0	E	
6/1/2012	17:00	SKS	FP	17:01	17:02	S	1	1	C	0	0	E	
6/1/2012	17:00	SKS	FB	17:03	17:07	S	1	1	C	0	0	E	
6/1/2012	17:00	PH	CG	17:45	17:49	S	2	2	C	0	0	E	
6/1/2012	17:00	PH	BC	17:37	17:44	S	2	2	C	0	0	E	
6/1/2012	17:00	PH	FR	17:35	17:36	S	2	1	C	0	0	E	
6/1/2012	17:00	PH	NBC	17:23	17:24	S	1	1	C	0	2	E	
6/1/2012	17:00	PH	MB	17:10	17:20	S	1	1	C	252	9	G	
6/1/2012	17:00	PH	WM	14:55	14:56	S	1	1	C	0	0	E	
6/2/2012	14:00	PH	SP	14:26	14:27	S	4	1	C	0	0	E	
6/2/2012	14:00	PH	SB	14:18	14:22	S	5	1	C	0	0	E	
6/2/2012	14:00	PH	FP	14:15	14:16	S	5	2	C	0	0	E	
6/2/2012	14:00	PH	FB	14:05	14:11	S	5	2	C	0	0	E	
6/2/2012	14:00	SKS	CG	14:06	14:08	S	5	3	C	0	0	E	
6/2/2012	14:00	SKS	BC	14:08	14:15	S	5	3	C	0	0	E	
6/2/2012	14:00	SKS	FR	14:15	14:16	S	5	3	C	0	0	E	
6/2/2012	14:00	SKS	NBC	14:20	14:21	S	5	3	C	0	0	E	
6/2/2012	14:00	SKS	MB	14:22	14:25	S	5	3	C	34	3	F	
6/2/2012	14:00	SKS	WM	15:03	15:04	S	5	3	C	0	1	E	
6/3/2012	9:00	SKS	SP	9:22	9:23	S	5	1	C	0	0	E	
6/3/2012	9:00	SKS	SB	9:17	9:19	S	5	2	C	0	0	E	
6/3/2012	9:00	SKS	FP	9:14	9:15	S	5	2	C	0	0	E	
6/3/2012	9:00	SKS	FB	9:09	9:13	S	5	2	C	0	0	E	
6/3/2012	9:00	PH	CG	9:10	9:12	S	5	2	C	0	0	E	
6/3/2012	9:00	PH	BC	9:13	9:20	S	4	2	C	0	0	E	
6/3/2012	9:00	PH	FR	9:21	9:22	S	4	2	C	0	0	E	
6/3/2012	9:00	PH	NBC	9:28	9:29	S	4	2	C	0	0	E	
6/3/2012	9:00	PH	MB	9:32	9:35	S	4	2	C	52	7	F	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
6/3/2012	9:00	PH	WM	10:55	10:56	S	4	2	C	0	0	E	
6/4/2012	9:00	PH	SP	9:40	9:41	S	1	1	C	0	0	E	
6/4/2012	9:00	PH	SB	9:28	9:31	S	1	0	C	0	1	E	
6/4/2012	9:00	PH	FP	9:23	9:24	S	1	0	C	0	0	E	
6/4/2012	9:00	PH	FB	9:15	9:20	S	1	0	C	1	0	E	
6/4/2012	9:00	SKS	CG	9:16	9:19	S	1	1	C	0	0	E	
6/4/2012	9:00	SKS	BC	9:19	9:27	S	1	0	C	0	0	E	
6/4/2012	9:00	SKS	FR	9:27	9:30	S	1	1	C	8	0	E	
6/4/2012	9:00	SKS	NBC	9:35	9:36	S	1	1	C	0	0	E	
6/4/2012	9:00	SKS	MB	9:38	9:47	S	1	1	C	386	10	G	
6/4/2012	9:00	SKS	WM	11:30	11:31	S	1	1	C	0	5	E	SKS setting up TNWR camera before WM ct
6/5/2012	9:00	SKS	SP	9:24	9:25	S	3	3	C	0	0	E	
6/5/2012	9:00	SKS	SB	9:16	9:19	S	3	3	C	0	0	E	
6/5/2012	9:00	SKS	FP	9:14	9:15	S	4	3	C	0	0	E	
6/5/2012	9:00	SKS	FB	9:08	9:12	S	4	2	C	0	0	E	
6/5/2012	9:00	PH	CG	9:10	9:14	S	4	2	C	0	1	E	
6/5/2012	9:00	PH	BC	9:15	9:22	S	4	2	C	0	0	E	
6/5/2012	9:00	PH	FR	9:23	9:24	S	4	2	C	0	0	E	
6/5/2012	9:00	PH	NBC	9:30	9:31	S	4	2	C	0	1	E	
6/5/2012	9:00	PH	MB	9:37	9:50	S	3	1	C	450	12	G	
6/5/2012	9:00	PH	WM	11:00	11:02	S	2	1	C	26	1	E	
6/6/2012	9:00	PH	SP	9:35	9:36	S	3	1	C	0	0	E	
6/6/2012	9:00	PH	SB	9:26	9:30	S	3	1	C	0	1	E	
6/6/2012	9:00	PH	FP	9:22	9:23	S	3	1	C	0	0	E	
6/6/2012	9:00	PH	FB	9:16	9:20	S	3	2	C	0	2	E	
6/6/2012	9:00	SKS	CG	9:16	9:19	S	3	2	C	0	2	E	
6/6/2012	9:00	SKS	BC	9:19	9:25	S	3	2	C	0	1	E	
6/6/2012	9:00	SKS	FR	9:25	9:27	S	3	2	C	3	3	E	
6/6/2012	9:00	SKS	NBC	9:32	9:33	S	3	2	C	0	0	E	
6/6/2012	9:00	SKS	MB	9:35	9:49	S	3	2	C	800	27	G	
6/6/2012	9:00	SKS	WM	10:34	10:41	S	2	2	C	134	13	E	
6/7/2012	14:00	SKS	SP	14:12	14:13	S	4	1	C	0	0	E	
6/7/2012	14:00	SKS	SB	14:07	14:10	S	4	2	C	1	0	E	
6/7/2012	14:00	SKS	FP	14:05	14:06	S	4	2	C	0	0	E	
6/7/2012	14:00	SKS	FB	13:59	14:03	S	4	1	C	1	0	E	
6/7/2012	14:00	PH	CG	14:17	14:20	S	5	3	C	0	0	E	
6/7/2012	14:00	PH	BC	14:11	14:15	S	5	3	C	0	0	E	
6/7/2012	14:00	PH	FR	14:09	14:10	S	5	3	C	0	0	E	
6/7/2012	14:00	PH	NBC	14:05	14:06	S	5	3	C	0	0	E	
6/7/2012	14:00	PH	MB	13:55	14:02	S	4	3	C	850	45	F	windy
6/7/2012	14:00	PH	WM	12:30	12:40	S	4	3	C	175	6	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
6/8/2012	9:00	PH	SP	9:27	9:28	S	4	2	C	0	0	E	
6/8/2012	9:00	PH	SB	9:19	9:21	S	4	3	C	0	0	E	
6/8/2012	9:00	PH	FP	9:16	9:17	S	4	3	C	0	0	E	
6/8/2012	9:00	PH	FB	9:10	9:14	S	5	3	C	0	4	E	
6/8/2012	9:00	SKS	CG	9:13	9:16	S	5	2	C	0	1	E	
6/8/2012	9:00	SKS	BC	9:16	9:23	S	5	2	C	0	0	E	
6/8/2012	9:00	SKS	FR	9:23	9:24	S	5	2	C	0	0	E	
6/8/2012	9:00	SKS	NBC	9:29	9:30	S	4	3	C	0	0	E	
6/8/2012	9:00	SKS	MB	9:33	9:42	S	4	3	C	428	65	G	
6/8/2012	9:00	SKS	WM	10:21	10:25	S	3	3	C	58	7	E	
6/9/2012	9:00	SKS	SP	9:33	9:34	S	2	2	C	0	0	E	
6/9/2012	9:00	SKS	SB	9:26	9:28	S	2	2	C	0	0	E	
6/9/2012	9:00	SKS	FP	9:21	9:22	S	2	2	C	0	0	E	
6/9/2012	9:00	SKS	FB	9:15	9:19	S	2	2	C	0	4	E	
6/9/2012	9:00	PH	CG	9:15	9:22	S	2	2	C	1	4	E	
6/9/2012	9:00	PH	BC	9:23	9:33	S	2	1	C	2	1	E	
6/9/2012	9:00	PH	FR	9:34	9:35	S	2	1	C	6	5	E	
6/9/2012	9:00	PH	NBC	9:44	9:45	S	2	1	C	0	3	E	
6/9/2012	9:00	PH	MB	9:48	10:07	S	2	1	C	735	137	G	Note: SKS counted at low tide 15:24
6/9/2012	9:00	PH	WM	11:15	11:25	S	1	1	C	210	15	E	
6/10/2012	14:00	PH	SP	15:25	15:26	S	2	1	C	0	0	E	
6/10/2012	14:00	PH	SB	15:19	15:20	S	2	1	C	0	1	E	
6/10/2012	14:00	PH	FP	15:14	15:15	S	2	0	C	0	1	E	
6/10/2012	14:00	PH	FB	15:07	15:11	S	2	0	C	37	0	E	
6/10/2012	14:00	PH	CG	14:47	14:49	S	2	1	C	0	1	E	
6/10/2012	14:00	PH	BC	14:37	14:46	S	2	1	C	0	2	E	
6/10/2012	14:00	PH	FR	14:35	14:36	S	2	1	C	11	0	E	
6/10/2012	14:00	PH	NBC	14:30	14:31	S	2	1	C	0	1	E	
6/10/2012	14:00	SKS	MB	13:52	14:20	S	1	1	C	1413	76	G	
6/10/2012	14:00	SKS	WM	15:05	15:14	S	2	2	C	154	5	E	
6/11/2012	9:00	SKS	SP	9:32	9:33	S	2	1	C	0	0	E	
6/11/2012	9:00	SKS	SB	9:26	9:29	S	2	1	C	0	4	E	
6/11/2012	9:00	SKS	FP	9:23	9:24	S	2	1	C	0	4	E	
6/11/2012	9:00	SKS	FB	9:09	9:21	S	2	1	C	46	36	E	
6/11/2012	9:00	PH	CG	9:10	9:12	S	2	2	C	0	6	E	
6/11/2012	9:00	PH	BC	9:13	9:22	S	2	1	C	0	7	E	
6/11/2012	9:00	PH	FR	9:23	9:24	S	2	1	C	10	3	E	
6/11/2012	9:00	PH	NBC	9:33	9:34	S	2	1	P	0	5	F	
6/11/2012	9:00	PH	MB	12:10	12:15	S		1	P	1250	150	F	MB obscured during ct time was partly visible on the way back from WM at lower tide. No BSS fog @ sea.

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
6/11/2012	9:00	PH	WM	10:45	10:50	S		2	O	50		P	No water count or BSS fog @ sea.
6/12/2012	17:00	PH	SP	17:07	17:08	S	5	3	C	0	1	E	
6/12/2012	17:00	PH	SB	17:00	17:05	S	5	3	C	3	0	E	
6/12/2012	17:00	PH	FP	16:55	16:56	S	5	3	C	0	0	E	
6/12/2012	17:00	PH	FB	16:50	16:53	S	5	3	C	23	14	E	
6/12/2012	17:00	SKS	CG	17:04	17:07	S	5	3	C	0	3	E	
6/12/2012	17:00	SKS	BC	16:58	17:04	S	5	3	C	0	0	E	
6/12/2012	17:00	SKS	FR	16:57	16:58	S	5	3	C	0	0	E	
6/12/2012	17:00	SKS	NBC	16:53	16:54	S	5	3	C	0	0	E	
6/12/2012	17:00	SKS	MB	16:43	16:51	S	5	3	C	349	13	P	WIND
6/12/2012	17:00	SKS	WM	15:33	15:37	S	5	3	C	54	2	E	
6/13/2012	17:00	SKS	SP	17:03	17:04	S	1	1	C	0	0	E	
6/13/2012	17:00	SKS	SB	17:05	17:07	S	1	1	C	0	0	E	
6/13/2012	17:00	SKS	FP	17:08	17:09	S	1	0	C	0	1	E	
6/13/2012	17:00	SKS	FB	17:10	17:13	S	1	1	C	5	0	E	
6/13/2012	17:00	PH	CG	17:26	17:30	S	1	1	C	0	0	E	
6/13/2012	17:00	PH	BC	17:18	17:25	S	1	1	C	0	0	E	
6/13/2012	17:00	PH	FR	17:16	17:17	S	2	1	C	0	0	E	
6/13/2012	17:00	PH	NBC	17:10	17:11	S	2	1	C	0	0	E	
6/13/2012	17:00	PH	MB	17:00	17:07	S	2	1	C	360	25	G	
6/13/2012	17:00	PH	WM	15:50	15:51	S	2	3	C	2	5	E	
6/14/2012	14:00	PH	SP	14:32	14:33	S	2	2	C	1	1	E	
6/14/2012	14:00	PH	SB	14:25	14:28	S	2	2	C	0	0	E	
6/14/2012	14:00	PH	FP	14:20	14:21	S	2	3	C	0	0	E	
6/14/2012	14:00	PH	FB	14:13	14:17	S	2	3	C	0	2	E	
6/14/2012	14:00	SKS	CG	14:17	14:19	S	2	2	C	0	0	E	
6/14/2012	14:00	SKS	BC	14:19	14:26	S	2	2	C	0	0	E	
6/14/2012	14:00	SKS	FR	14:27	14:28	S	2	2	C	11	1	E	
6/14/2012	14:00	SKS	NBC	14:33	14:34	S	2	2	C	0	0	E	
6/14/2012	14:00	SKS	MB	14:35	14:47	S	2	1	C	854	74	G	
6/14/2012	14:00	SKS	WM	15:26	15:27	S	2	1	C	3	17	E	
6/15/2012	17:00	PH	SP	17:12	17:13	S	3	3	C	0	0	E	
6/15/2012	17:00	PH	SB	17:15	17:17	S	3	3	C	0	0	E	
6/15/2012	17:00	PH	FP	17:21	17:22	S	3	3	C	0	0	E	
6/15/2012	17:00	PH	FB	17:25	17:35	S	4	3	C	43	1	E	
6/15/2012	17:00	PH	CG	17:44	17:48	S	4	3	C	0	1	E	
6/15/2012	17:00	PH	BC	17:49	17:55	S	3	3	C	0	1	E	
6/15/2012	17:00	PH	FR	17:56	17:57	S	3	3	C	15	0	E	
6/15/2012	17:00	PH	NBC	18:05	18:06	S	3	3	C	0	0	E	
6/15/2012	17:00	PH	MB	18:10	18:30	S	3	2	C	1350	12	G	
6/15/2012	17:00	PH	WM	19:35	19:50	S	1	0	C	570	54	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
6/16/2012	9:00	PH	SP	9:41	9:42	S	2	1	C	0	0	E	
6/16/2012	9:00	PH	SB	9:31	9:36	S	2	2	C	24	3	E	
6/16/2012	9:00	PH	FP	9:28	9:29	S	2	2	C	0	0	E	
6/16/2012	9:00	PH	FB	9:15	9:25	S	2	2	C	109	11	E	
6/16/2012	9:00	SKS	CG	9:16	9:19	S	2	2	C	0	0	E	
6/16/2012	9:00	SKS	BC	9:19	9:26	S	2	2	C	1	0	E	
6/16/2012	9:00	SKS	FR	9:26	9:28	S	2	2	C	18	2	E	
6/16/2012	9:00	SKS	NBC	9:33	9:34	S	2	2	C	0	0	E	
6/16/2012	9:00	SKS	MB	9:35	9:50	S	2	2	C	1157	69	G	
6/16/2012	9:00	SKS	WM	10:28	10:45	S	2	2	C	643	21	E	
6/17/2012	14:00	SKS	SP	14:37	14:38	S	5	1	C	0	0	E	
6/17/2012	14:00	SKS	SB	14:24	14:34	S	5	1	C	47	0	E	
6/17/2012	14:00	SKS	FP	14:22	14:23	S	5	1	C	0	0	E	
6/17/2012	14:00	SKS	FB	14:07	14:20	S	5	1	C	117	3	E	
6/17/2012	14:00	PH	CG	14:05	14:10	S	5	2	C	0	0	E	
6/17/2012	14:00	PH	BC	14:11	14:17	S	5	1	C	0	0	E	
6/17/2012	14:00	PH	FR	14:18	14:19	S	5	1	C	3	0	E	
6/17/2012	14:00	PH	NBC	14:25	14:26	S	5	1	C	0	0	E	
6/17/2012	14:00	PH	MB	14:28	14:40	S	5	1	C	680	40	G	
6/17/2012	14:00	PH	WM	15:50	15:55	S	5	3	C	64	1	E	
6/18/2012	17:00	DCO	SP	17:00	17:01	S	4	1	C	0	0	E	
6/18/2012	17:00	DCO	SB	17:06	17:11	S	4	1	C	29	0	E	
6/18/2012	17:00	DCO	FP	17:20	17:21	S	4	1	C	0	0	E	
6/18/2012	17:00	DCO	FB	17:26	17:32	S	4	1	C	42	0	E	
6/18/2012	17:00	SKS	CG	17:19	17:22	S	4	1	C	0	0	E	
6/18/2012	17:00	SKS	BC	17:13	17:19	S	4	1	C	0	0	E	
6/18/2012	17:00	SKS	FR	17:12	17:13	S	4	1	C	0	0	E	
6/18/2012	17:00	SKS	NBC	17:06	17:07	S	4	1	C	0	0	E	
6/18/2012	17:00	SKS	MB	16:55	17:03	S	4	2	C	320	8	G	
6/18/2012	17:00	SKS	WM	16:05	16:06	S	4	3	C	0	0	E	
6/19/2012	9:00	SKS	SP	9:20	9:21	S	3	1	C	0	0	E	
6/19/2012	9:00	SKS	SB	19:14	19:18	S	3	2	C	26	2	E	
6/19/2012	9:00	SKS	FP	9:11	9:12	S	3	2	C	0	0	E	
6/19/2012	9:00	SKS	FB	9:03	9:09	S	3	2	C	39	0	E	
6/19/2012	9:00	DCO	CG	9:03	9:05	S	4	1	C	0	0	E	
6/19/2012	9:00	DCO	BC	9:06	9:10	S	4	1	C	0	0	E	
6/19/2012	9:00	DCO	FR	9:11	9:12	S	4	2	C	0	0	E	
6/19/2012	9:00	DCO	NBC	9:20	9:22	S	3	2	C	0	0	E	
6/19/2012	9:00	DCO	MB	9:25	9:32	S	3	1	C	295	11	G	
6/19/2012	9:00	DCO	WM	10:30	10:31	S	3	2	C	0	0	E	
6/20/2012	14:00	DCO	SP	17:30	17:31	S	2	1	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
6/20/2012	14:00	DCO	SB	17:35	17:38	S	2	1	C	10	0	E	
6/20/2012	14:00	DCO	FP	17:41	17:42	S	2	0	C	0	0	E	
6/20/2012	14:00	DCO	FB	17:45	17:49	S	2	0	C	39	0	E	
6/20/2012	14:00	SKS	CG	17:51	17:53	S	3	2	C	0	0	E	
6/20/2012	14:00	SKS	BC	17:44	17:51	S	3	2	C	0	0	E	
6/20/2012	14:00	SKS	FR	17:42	17:44	S	2	2	C	8	0	E	
6/20/2012	14:00	SKS	NBC	17:38	17:39	S	2	2	C	0	0	E	
6/20/2012	14:00	SKS	MB	17:22	17:36	S	2	2	C	1450	37	G	
6/20/2012	14:00	SKS	WM	16:47	16:48	S	3	3	C	2	7	E	
6/21/2012	14:00	SKS	SP	14:51	14:52	S	2	1	C	2	0	E	
6/21/2012	14:00	SKS	SB	14:39	14:48	S	2	1	C	132	10	E	
6/21/2012	14:00	SKS	FP	14:36	14:37	S	2	0	C	0	4	E	
6/21/2012	14:00	SKS	FB	14:19	14:34	S	2	1	C	146	16	E	
6/21/2012	14:00	DCO	CG	14:22	14:30	S	1	1	C	0	0	E	
6/21/2012	14:00	DCO	BC	14:31	14:39	S	1	1	C	0	0	E	
6/21/2012	14:00	DCO	FR	14:40	14:41	S	1	1	C	13	0	E	
6/21/2012	14:00	DCO	NBC	14:46	14:47	S	1	1	C	0	0	E	
6/21/2012	14:00	DCO	MB	14:50	15:00	S	1	0	C	1600	30	G	
6/21/2012	14:00	DCO	WM	15:55	16:00	S	1	0	C	64	5	G	
6/22/2012	17:00	DCO	SP	17:00	17:01	S	1	0	C	0	0	E	
6/22/2012	17:00	DCO	SB	17:15	17:30	S	1	0	C	197	0	E	
6/22/2012	17:00	DCO	FP	17:33	17:34	S	1	0	C	0	0	E	
6/22/2012	17:00	DCO	FB	17:35	17:45	S	1	0	C	169	4	E	
6/22/2012	17:00	SKS	CG	17:44	17:46	S	1	1	C	0	0	E	
6/22/2012	17:00	SKS	BC	17:31	17:44	S	1	1	C	0	0	E	
6/22/2012	17:00	SKS	FR	17:29	17:31	S	1	1	C	16	0	E	
6/22/2012	17:00	SKS	NBC	17:24	17:25	S	1	0	C	0	0	E	
6/22/2012	17:00	SKS	MB	17:02	17:20	S	1	0	C	2404	40	G	
6/22/2012	17:00	SKS	WM	15:38	15:58	S	1	0	C	432	27	E	
6/23/2012	17:00	SKS	SP	17:25	17:26	S	2	2	C	0	0	E	
6/23/2012	17:00	SKS	SB	17:12	17:22	S	2	1	C	57	0	E	
6/23/2012	17:00	SKS	FP	17:09	17:10	S	2	2	C	0	0	E	
6/23/2012	17:00	SKS	FB	16:56	17:07	S	2	2	C	135	0	E	
6/23/2012	17:00	DCO	CG	17:00	17:02	S	2	1	C	0	0	E	
6/23/2012	17:00	DCO	BC	17:03	17:10	S	2	1	C	0	0	E	
6/23/2012	17:00	DCO	FR	17:10	17:11	S	2	1	C	8	0	E	
6/23/2012	17:00	DCO	NBC	17:15	17:16	S	2	1	C	0	0	E	
6/23/2012	17:00	DCO	MB	17:20	17:21	S	2	1	P	1200	0	F	fog in and out so only one ct was able to be conducted; fog going in and out DCO got a clear view from the TT and felt estimate was good

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
6/23/2012	17:00	DCO	WM	18:20	18:30	S	2	1	C	310	0	E	
6/24/2012	14:00	DCO	SP	14:15	14:16	S	5	3	C	0	0	E	
6/24/2012	14:00	DCO	SB	14:09	14:10	S	5	2	C	0	0	E	
6/24/2012	14:00	DCO	FP	14:05	14:06	S	5	2	C	0	0	E	
6/24/2012	14:00	DCO	FB	14:00	14:01	S	5	2	C	0	0	E	
6/24/2012	14:00	SKS	CG	14:02	14:04	S	5	2	C	0	0	E	
6/24/2012	14:00	SKS	BC	14:04	14:13	S	5	2	C	0	0	E	
6/24/2012	14:00	SKS	FR	14:13	14:14	S	5	2	C	0	0	E	
6/24/2012	14:00	SKS	NBC	14:18	14:19	S	5	2	C	0	0	E	
6/24/2012	14:00	SKS	MB	14:22	14:29	S	5	2	C	183	8	G	
6/24/2012	14:00	SKS	WM	15:08	15:09	S	5	3	C	2	0	E	suspect one walrus is a mortality (new) heavy hemorrhaging in the head
6/25/2012	17:00	DCO	SP	17:21	17:22	S	4	1	C	0	0	E	
6/25/2012	17:00	DCO	SB	17:25	17:27	S	4	1	C	0	0	E	
6/25/2012	17:00	DCO	FP	17:29	17:30	S	4	1	C	0	0	E	
6/25/2012	17:00	DCO	FB	17:36	17:40	S	4	1	C	0	0	E	
6/25/2012	17:00	DCO	CG	17:50	17:52	S	4	2	C	0	0	E	
6/25/2012	17:00	DCO	BC	17:53	18:09	S	4	2	C	0	0	E	
6/25/2012	17:00	DCO	FR	18:10	18:11	S	4	2	C	0	0	E	
6/25/2012	17:00	DCO	NBC	18:17	18:18	S	4	2	C	0	0	E	
6/25/2012	17:00	DCO	MB	18:20	18:25	S	4	1	C	145	5	G	
6/25/2012	17:00	MLS	WM	17:00	17:00	GP	4	3	C	0	0	E	Photo ct from ASLC camera IMG_5930.JPG @ 1700.
6/26/2012	14:00	DCO	SP	14:50	14:53	S	2	1	C	0	0	E	
6/26/2012	14:00	DCO	SB	14:45	14:48	S	2	1	C	1	0	E	
6/26/2012	14:00	DCO	FP	14:42	14:43	S	2	1	C	0	0	E	
6/26/2012	14:00	DCO	FB	14:35	14:39	S	2	1	C	0	0	E	
6/26/2012	14:00	SKS	CG	14:32	14:35	S	2	2	C	0	0	E	
6/26/2012	14:00	SKS	BC	14:35	14:41	S	2	2	C	0	2	E	
6/26/2012	14:00	SKS	FR	14:42	14:43	S	2	1	C	6	1	E	
6/26/2012	14:00	SKS	NBC	14:48	14:49	S	2	1	C	0	0	E	
6/26/2012	14:00	SKS	MB	14:51	14:57	S	2	1	C	370	44	G	
6/26/2012	14:00	SKS	WM	15:34	15:35	S	3	3	C	0	0	E	
6/27/2012	14:00	SKS	SP	14:36	14:37	S	2	1	C	0	0	E	
6/27/2012	14:00	SKS	SB	14:29	14:32	S	2	1	C	9	0	E	
6/27/2012	14:00	SKS	FP	14:27	14:28	S	2	1	C	0	0	E	
6/27/2012	14:00	SKS	FB	14:19	14:24	S	2	2	C	33	1	E	
6/27/2012	14:00	DCO	CG	14:25	14:29	S	2	1	C	0	0	E	
6/27/2012	14:00	DCO	BC	14:30	14:37	S	2	1	C	0	0	E	
6/27/2012	14:00	DCO	FR	14:38	14:40	S	2	1	C	20	0	E	
6/27/2012	14:00	DCO	NBC	14:45	14:46	S	2	1	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
6/27/2012	14:00	DCO	MB	15:00	15:05	S	2	0	C	1450	50	G	
6/27/2012	14:00	DCO	WM	15:53	15:54	S	2	3	C	1	0	E	
6/28/2012	14:00	DCO	SP	15:54	15:55	S	2	0	C	0	0	E	
6/28/2012	14:00	DCO	SB	15:40	15:49	S	2	0	C	192	1	E	
6/28/2012	14:00	DCO	FP	15:35	15:37	S	2	0	C	0	0	E	
6/28/2012	14:00	DCO	FB	14:50	15:07	S	2	0	C	248	6	E	
6/28/2012	14:00	SKS	CG	14:39	14:41	S	2	1	C	0	0	E	
6/28/2012	14:00	SKS	BC	14:41	14:47	S	2	1	C	8	0	E	
6/28/2012	14:00	SKS	FR	14:47	14:50	S	2	1	C	16	0	E	
6/28/2012	14:00	SKS	NBC	14:54	14:55	S	2	1	C	0	0	E	
6/28/2012	14:00	SKS	MB	14:57	15:21	S	2	1	C	2273	50	G	
6/28/2012	14:00	SKS	WM	15:59	16:00	S	3	3	C	3	0	E	
6/29/2012	0:00	SKS	SP	9:21	9:24	S							Photo ct from WISGS survey w Terry Johnson, in file WISGS survey (RI Data 2012)
6/29/2012	0:00	SKS	SB	9:27	9:32	S							
6/29/2012	0:00	SKS	FP	9:34	9:35	S							
6/29/2012	0:00	SKS	FB	9:38	9:44	S							
6/29/2012	0:00	SKS	CG	9:51	9:59	S							
6/29/2012	0:00	SKS	BC	9:59	10:16	S							
6/29/2012	0:00	SKS	FR	10:16	10:18	S							
6/29/2012	0:00	SKS	NBC	10:28	10:29	S							
6/29/2012	0:00	SKS	MB	10:33	10:38	S							
6/29/2012	0:00	SKS	WM			S							
6/30/2012	14:00	DCO	SP	14:40	14:41	S	2	0	C	0	0	E	
6/30/2012	14:00	DCO	SB	14:20	14:29	S	2	0	C	171	3	E	
6/30/2012	14:00	DCO	FP	14:15	14:16	S	2	0	C	2	0	E	
6/30/2012	14:00	DCO	FB	14:00	14:11	S	2	0	C	125	3	G	
6/30/2012	14:00	SKS	CG	13:52	13:55	S	2	0	C	0	0	E	
6/30/2012	14:00	SKS	BC	13:56	14:06	S	2	0	C	0	0	E	
6/30/2012	14:00	SKS	FR	14:06	14:10	S	2	0	C	9	1	E	
6/30/2012	14:00	SKS	NBC	14:24	14:25	S	2	0	C	0	0	E	
6/30/2012	14:00	SKS	MB	14:33	14:45	S	2	0	C	1512	24	G	
6/30/2012	14:00	SKS	WM	15:41	15:43	S	2	1	C	20	5	E	
7/1/2012	14:00	SKS	SP	15:00	15:01	S	2	1	C	0	0	E	
7/1/2012	14:00	SKS	SB	14:33	14:46	S	2	0	C	136	0	E	
7/1/2012	14:00	SKS	FP	14:30	14:31	S	2	0	C	0	0	E	
7/1/2012	14:00	SKS	FB	14:11	14:21	S	2	1	C	93	3	E	
7/1/2012	14:00	DCO	CG	15:46	15:50	S	2	1	C	0	0	E	
7/1/2012	14:00	DCO	BC	15:40	15:45	S	2	1	C	0	0	E	
7/1/2012	14:00	DCO	FR	15:38	15:39	S	2	1	C	7	0	E	
7/1/2012	14:00	DCO	NBC	15:31	15:32	S	2	1	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
7/1/2012	14:00	DCO	MB	15:20	15:23	S	2	1	C	1450	5	G	
7/1/2012	14:00	DCO	WM	14:15	14:16	S	3	2	C	18	0	E	
7/2/2012	17:00	DCO	SP	17:10	17:11	S	2	0	C	0	0	E	
7/2/2012	17:00	DCO	SB	17:26	17:35	S	2	0	C	71	2	E	
7/2/2012	17:00	DCO	FP	17:41	17:42	S	2	0	C	0	0	E	
7/2/2012	17:00	DCO	FB	17:45	17:55	S	2	0	C	61	0	E	
7/2/2012	17:00	SKS	CG	18:38	18:40	S	2	0	C	0	0	E	
7/2/2012	17:00	SKS	BC	18:30	18:38	S	2	0	C	0	0	E	
7/2/2012	17:00	SKS	FR	18:28	18:29	S	2	0	C	6	1	E	
7/2/2012	17:00	SKS	NBC	18:22	18:23	S	2	0	C	0	0	E	
7/2/2012	17:00	SKS	MB	18:07	18:16	S	2	1	C	670	22	G	
7/2/2012	17:00	SKS	WM	17:06	17:07	S	2	2	C	2	0	E	Possible mortalities
7/3/2012	9:00	DCO	SP	9:15	9:16	S	2	1	C	0	0	E	
7/3/2012	9:00	DCO	SB	9:23	9:27	S	2	1	C	23	0	E	
7/3/2012	9:00	DCO	FP	9:30	9:31	S	2	1	C	0	0	E	
7/3/2012	9:00	DCO	FB	9:33	9:37	S	2	1	C	37	3	E	
7/3/2012	9:00	DCO	CG	11:00	11:02	S	2	1	C	0	0	E	
7/3/2012	9:00	DCO	BC	11:03	11:13	S	2	1	C	0	0	E	
7/3/2012	9:00	DCO	FR	11:14	11:15	S	2	1	C	10	0	E	
7/3/2012	9:00	DCO	NBC	11:20	11:23	S	2	1	C	0	0	E	
7/3/2012	9:00	DCO	MB	11:25	11:27	S	2	1	P	420	25	F	Visual estimate through the fog
7/3/2012	9:00	MLS	WM	9:00	9:00	GP		2	C	0	0	F	Photo ct from ASLC camera IMG_2171.JPG @ 0900. Photos blurred from moisture / fog but no walrus discernible.
7/4/2012	17:00	SKS	SP	17:31	17:32	S	2	3	C	0	0	E	
7/4/2012	17:00	SKS	SB	17:24	17:26	S	2	3	C	0	0	E	
7/4/2012	17:00	SKS	FP	17:20	17:21	S	2	2	C	0	0	E	
7/4/2012	17:00	SKS	FB	17:10	17:18	S	2	2	C	41	0	E	
7/4/2012	17:00	DCO	CG	17:20	17:25	S	2	2	C	0	0	E	
7/4/2012	17:00	DCO	BC	17:26	17:35	S	2	2	C	0	0	E	
7/4/2012	17:00	DCO	FR	17:36	17:37	S	2	1	C	0	0	E	
7/4/2012	17:00	DCO	NBC	17:43	17:44	S	2	1	C	0	0	E	
7/4/2012	17:00	DCO	MB	17:49	17:52	S	2	1	C	528	8	G	
7/4/2012	17:00	MLS	WM	17:00	17:00	GP	2	1	C	0	0	E	Photo ct from ASLC camera IMG_3491.JPG @ 1700. No walrus present.
7/5/2012	9:00	DCO	SP	9:12	9:13	S	2	1	C	0	0	E	
7/5/2012	9:00	DCO	SB	9:16	9:20	S	2	1	C	0	0	E	
7/5/2012	9:00	DCO	FP	9:26	9:27	S	2	1	C	0	0	E	
7/5/2012	9:00	DCO	FB	9:31	9:36	S	2	1	C	108	5	E	
7/5/2012	9:00	SKS	CG	9:20	9:22	S	2	2	C	0	0	E	
7/5/2012	9:00	SKS	BC	9:22	9:28	S	2	2	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
7/5/2012	9:00	SKS	FR	9:28	9:30	S	1	2	C	6	8	E	
7/5/2012	9:00	SKS	NBC	9:38	9:39	S	1	2	C	0	0	E	
7/5/2012	9:00	SKS	MB	9:40	9:45	S	1	2	C	510	44	G	
7/5/2012	9:00	MLS	WM	9:00	9:00	GP	0	0	C	0	0	E	Photo ct from ASLC camera IMG_3851.JPG @ 0900. No walrus present.
7/6/2012	14:00	DCO	SP	14:15	14:16	S	1	1	C	0	0	E	
7/6/2012	14:00	DCO	SB	14:22	14:33	S	1	1	C	153	9	E	
7/6/2012	14:00	DCO	FP	14:45	14:46	S	1	1	C	0	0	E	
7/6/2012	14:00	DCO	FB	14:51	14:55	S	1	1	C	225	5	E	
7/6/2012	14:00	SKS	CG	14:12	14:17	S	1	1	C	1	0	E	
7/6/2012	14:00	SKS	BC	14:17	14:24	S	1	1	C	0	0	E	
7/6/2012	14:00	SKS	FR	14:24	14:26	S	1	1	C	6	3	E	
7/6/2012	14:00	SKS	NBC	14:31	14:32	S	1	1	C	0	0	E	
7/6/2012	14:00	SKS	MB	14:33	14:49	S	1	1	C	2014	89	G	
7/6/2012	14:00	MLS	WM	14:00	14:00	GP	1	1	C	30	0	E	Photo ct from ASLC camera IMG_4991.JPG @ 1400
7/7/2012	14:00	DCO	SP	14:20	14:21	S	1	0	C	0	0	E	
7/7/2012	14:00	DCO	SB	14:30	14:39	S	1	0	C	236	11	E	
7/7/2012	14:00	DCO	FP	15:00	15:03	S	1	0	C	39	0	E	
7/7/2012	14:00	DCO	FB	15:07	15:17	S	1	0	C	210	5	E	
7/7/2012	14:00	DCO	CG	15:42	15:44	S	1	0	C	0	3	E	
7/7/2012	14:00	DCO	BC	15:46	15:55	S	1	0	C	0	0	E	
7/7/2012	14:00	DCO	FR	15:56	15:57	S	1	0	C	0	0	E	
7/7/2012	14:00	DCO	NBC	16:09	16:10	S	1	0	C	0	0	E	
7/7/2012	14:00	DCO	MB	16:13	16:16	S	1	0	C	1650	0	G	
7/7/2012	14:00	MLS	WM	14:00	14:00	GP	1	1	C	147	0	E	Photo ct from ASLC camera IMG_5831.JPG @ 1400.
7/8/2012	9:00	DCO	SP	9:38	9:39	S	1	1	C	0	3	E	
7/8/2012	9:00	DCO	SB	9:45	9:57	S	1	1	C	190	32	E	
7/8/2012	9:00	DCO	FP	10:13	10:14	S	1	1	C	32	0	E	
7/8/2012	9:00	DCO	FB	10:22	10:35	S	1	1	C	89	13	E	
7/8/2012	9:00	DCO	CG	11:25	11:29	S	1	1	C	0	0	E	
7/8/2012	9:00	DCO	BC	11:31	11:40	S	3	1	C	0	0	E	
7/8/2012	9:00	DCO	FR	11:41	11:42	S	3	1	C	9	6	E	
7/8/2012	9:00	DCO	NBC	11:50	11:51	S	3	2	C	0	0	E	
7/8/2012	9:00	DCO	MB	12:00	12:07	S	3	2	C	830	24	G	
7/8/2012	9:00	MLS	WM	9:00	9:00	GP		2	C	50	3	E	Photo ct from ASLC camera IMG_6371.JPG @ 09:00.
7/9/2012	9:00	SKS	SP	9:56	9:57	S	2	1	C	0	0	E	
7/9/2012	9:00	SKS	SB	9:41	9:51	S	2	0	C	77	24	E	
7/9/2012	9:00	SKS	FP	9:35	9:40	S	2	1	C	13	2	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
7/9/2012	9:00	SKS	FB	9:16	9:26	S	2	1	C	70	35	E	
7/9/2012	9:00	DCO	CG	9:00	9:12	S	2	0	C	0	5	E	
7/9/2012	9:00	DCO	BC	9:13	9:22	S	2	0	C	0	0	E	
7/9/2012	9:00	DCO	FR	9:24	9:25	S	2	0	C	7	7	E	
7/9/2012	9:00	DCO	NBC	9:34	9:35	S	2	0	C	0	0	E	
7/9/2012	9:00	DCO	MB	9:39	9:47	S	2	0	C	440	47	G	
7/9/2012	9:00	MLS	WM	9:00	9:00	GP		1	C	84	0	E	Photo ct from ASLC camera IMG_7211.JPG @ 09:00.
7/10/2012	14:00	SKS	SP	14:13	14:14	S	2	3	C	0	0	E	
7/10/2012	14:00	SKS	SB	14:07	14:11	S	2	3	C	35	10	E	
7/10/2012	14:00	SKS	FP	14:05	14:06	S	2	3	C	0	0	E	
7/10/2012	14:00	SKS	FB	13:58	14:03	S	2	3	C	34	0	E	
7/10/2012	14:00	DCO	CG	14:01	14:04	S	3	2	C	0	0	E	
7/10/2012	14:00	DCO	BC	14:05	14:45	S	3	2	C	0	0	E	
7/10/2012	14:00	DCO	FR	14:46	14:47	S	3	2	C	0	0	E	
7/10/2012	14:00	DCO	NBC	14:51	14:52	S	3	2	C	0	0	E	
7/10/2012	14:00	DCO	MB	15:00	15:05	S	3	2	C	230	6	G	
7/10/2012	14:00	EWV	WM	14:00	14:00	GP	2	1	C	17	0	E	Photo ct from ASLC camera IMG_8351.JPG @ 1400, counted 18. Review of photos thru IMG_8622.JPG @ 1830 as walrus moved off beach confirms 17 plus 3 morts.
7/11/2012	17:00	DCO	SP	17:00	17:01	S	3	3	C	0	0	E	
7/11/2012	17:00	DCO	SB	17:04	17:08	S	3	3	C	47	5	E	
7/11/2012	17:00	DCO	FP	17:16	17:17	S	3	3	C	0	0	E	
7/11/2012	17:00	DCO	FB	17:20	17:26	S	3	3	C	0	0	E	
7/11/2012	17:00	SKS	CG	17:23	17:26	S	3	3	C	0	0	E	
7/11/2012	17:00	SKS	BC	17:26	17:32	S	3	2	C	0	0	E	
7/11/2012	17:00	SKS	FR	17:32	17:33	S	3	3	C	0	3	E	
7/11/2012	17:00	SKS	NBC	17:37	17:38	S	3	3	C	0	0	E	
7/11/2012	17:00	SKS	MB	17:40	17:44	S	3	2	C	90	30	G	
7/11/2012	17:00	MLS	WM	17:00	17:00	GP	3	0	C	0	0	E	Photo ct from ASLC camera IMG_9371.JPG @ 1700.
7/12/2012	14:00	DCO	SP	14:20	14:21	S	3	1	C	1	0	E	
7/12/2012	14:00	DCO	SB	14:25	14:38	S	3	1	C	167	0	E	
7/12/2012	14:00	DCO	FP	14:41	14:42	S	3	1	C	0	0	E	
7/12/2012	14:00	DCO	FB	14:45	14:47	S	3	1	C	0	0	E	
7/12/2012	14:00	DCO	CG	15:01	15:05	S	3	1	C	0	0	E	
7/12/2012	14:00	DCO	BC	15:06	15:11	S	3	0	C	0	0	E	
7/12/2012	14:00	DCO	FR	15:12	15:13	S	3	1	C	11	0	E	
7/12/2012	14:00	DCO	NBC	15:21	15:22	S	3	1	C	0	0	E	
7/12/2012	14:00	DCO	MB	15:25	15:31	S	3	1	C	900	26	G	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
7/12/2012	14:00	MLS	WM	14:00	14:00	GP	3	1	C	0	0	E	Photo ct from ASLC camera IMG_0032.JPG @ 1400.
7/13/2012	9:00	SKS	SP	9:47	9:50	S	2	2	C	0	0	E	
7/13/2012	9:00	SKS	SB	9:54	10:09	S	2	1	C	147	9	E	
7/13/2012	9:00	SKS	FP	10:11	10:13	S	2	1	C	0	0	E	
7/13/2012	9:00	SKS	FB	10:15	10:30	S	2	1	C	47	4	E	
7/13/2012	9:00	SKS	CG	10:36	10:40	S	2	1	C	0	0	E	
7/13/2012	9:00	SKS	BC	10:40	10:50	S	2	1	C	0	0	E	
7/13/2012	9:00	SKS	FR	10:50	10:54	S	2	1	C	11	0	E	
7/13/2012	9:00	SKS	NBC	11:01	11:03	S	2	1	C	0	0	E	
7/13/2012	9:00	SKS	MB	11:08	11:22	S	2	1	C	900	51	G	
7/13/2012	9:00	MLS	WM	9:00	9:00	GP	2	2	C	0	0	E	Photo ct from ASLC camera IMG_0572.JPG @ 0900. 2 morts present.
7/14/2012	9:00	DCO	SP	9:11	9:12	S	3	2	C	0	0	E	
7/14/2012	9:00	DCO	SB	9:15	9:24	S	3	2	C	109	9	E	
7/14/2012	9:00	DCO	FP	9:28	9:29	S	3	2	C	0	0	E	
7/14/2012	9:00	DCO	FB	9:31	9:37	S	3	2	C	79	5	E	
7/14/2012	9:00	DCO	CG	9:50	9:53	S	3	1	C	0	0	E	
7/14/2012	9:00	DCO	BC	9:54	10:00	S	3	1	C	0	0	E	
7/14/2012	9:00	DCO	FR	10:01	10:02	S	3	1	C	10	2	E	
7/14/2012	9:00	DCO	NBC	10:11	10:12	S	3	1	C	0	0	E	
7/14/2012	9:00	DCO	MB	10:15	10:21	S	3	1	C	700	30	G	
7/14/2012	9:00	MLS	WM	9:00	9:00	GP	3	2	C	0	0	E	Photo ct from ASLC camera IMG_0572.JPG @ 0900. 2 morts present.
7/15/2012	9:00	SKS	SP									N	No Count
7/15/2012	9:00	SKS	SB									N	No Count
7/15/2012	9:00	SKS	FP									N	No Count
7/15/2012	9:00	SKS	FB									N	No Count
7/15/2012	9:00	SKS	CG									N	No Count
7/15/2012	9:00	SKS	BC									N	No Count
7/15/2012	9:00	SKS	FR									N	No Count
7/15/2012	9:00	SKS	NBC									N	No Count
7/15/2012	9:00	SKS	MB									N	No Count
7/15/2012	9:00	MLS	WM	9:00	9:00	GP		1	C	0	0	E	Photo ct from ASLC camera IMG_2252.JPG @ 0900. 2 morts present.
7/16/2012	9:00	SKS	SP	9:19	9:22	S	1	1	C	0	0	E	
7/16/2012	9:00	SKS	SB	9:24	9:28	S	2	1	C	0	0	E	
7/16/2012	9:00	SKS	FP	9:30	9:31	S	2	1	C	0	0	E	
7/16/2012	9:00	SKS	FB	9:32	9:39	S	2	1	C	8	0	E	
7/16/2012	9:00	SKS	CG	9:55	9:59	S	2	1	C	0	0	E	
7/16/2012	9:00	SKS	BC	9:59	10:06	S	2	1	C	0	1	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
7/16/2012	9:00	SKS	FR	10:06	10:09	S	2	1	C	7	0	E	
7/16/2012	9:00	SKS	NBC	10:15	10:17	S	2	1	C	0	0	E	
7/16/2012	9:00	SKS	MB	10:21	10:35	S	2	1	C	430	15	G	Variability count (TIV) 440/14, 500/15, 420/14
7/16/2012	9:00	MLS	WM	9:00	9:00	GP	2	2	C	0	0	E	Photo ct from ASLC camera IMG_2252.JPG @ 0900. 2 morts present.
7/17/2012	9:00	SKS	SP	9:27	9:29	S	1	1	C	0	0	E	
7/17/2012	9:00	SKS	SB	9:31	9:37	S	1	1	C	2	0	E	
7/17/2012	9:00	SKS	FP	9:39	9:40	S	1	1	C	1	0	E	
7/17/2012	9:00	SKS	FB	9:41	10:00	S	1	1	C	98	6	E	
7/17/2012	9:00	SKS	CG	10:10	10:12	S	1	1	C	0	0	E	
7/17/2012	9:00	SKS	BC	10:12	10:20	S	1	1	C	0	0	E	
7/17/2012	9:00	SKS	FR	10:20	10:26	S	1	1	C	18	0	E	
7/17/2012	9:00	SKS	NBC	10:32	10:33	S	1	1	C	0	0	E	
7/17/2012	9:00	TIV	MB	10:35	10:53	S	1	1	C	720	60	G	Variability Count (SKS) 750/60, 800/55, 790/63
7/17/2012	9:00	TIV	WM	12:04	12:06	S	1	2	C	1	0	E	
7/18/2012	14:00	TIV	SP	14:18	14:20	S	3	1	C	0	0	E	
7/18/2012	14:00	TIV	SB	14:25	14:39	S	3	1	C	139	7	E	
7/18/2012	14:00	TIV	FP	14:41	14:42	S	3	1	C	0	0	E	
7/18/2012	14:00	TIV	FB	14:44	15:02	S	3	1	C	229	12	E	
7/18/2012	14:00	TIV	CG	15:09	15:11	S	3	2	C	0	0	E	
7/18/2012	14:00	TIV	BC	15:11	15:19	S	4	3	C	0	1	E	
7/18/2012	14:00	TIV	FR	15:19	15:21	S	4	2	C	8	0	E	
7/18/2012	14:00	TIV	NBC	15:26	15:27	S	4	2	C	0	0	E	
7/18/2012	14:00	SKS	MB	15:30	15:51	S	4	2	C	1208	44	G	Variability count (TIV) 920/53, 920/50, 870/53
7/18/2012	14:00	EWV	WM	14:00	14:00	GP	4	2	C	26	0	E	Photo ct from ASLC camera IMG_5072.JPG @ 1400. Review of photos thru IMG_5260.JPG @ 1708 as walrus moved down beach confirms 26 plus 2 morts.
7/19/2012	17:00	TIV	SP	16:43	16:45	S	4	1	C	3	0	E	
7/19/2012	17:00	TIV	SB	16:48	17:00	S	4	1	C	144	4	E	
7/19/2012	17:00	TIV	FP	17:02	17:03	S	4	1	C	0	0	E	
7/19/2012	17:00	TIV	FB	17:05	17:17	S	4	1	C	126	2	E	
7/19/2012	17:00	TIV	CG	17:24	17:27	S	4	2	C	0	0	E	
7/19/2012	17:00	TIV	BC	17:27	17:34	S	5	2	C	0	1	E	
7/19/2012	17:00	TIV	FR	17:34	17:35	S	4	2	C	0	0	E	
7/19/2012	17:00	TIV	NBC	17:39	17:40	S	4	2	C	0	0	E	
7/19/2012	17:00	TIV	MB	17:42	17:55	S	4	2	C	480	25	G	Variability count (SKS) 480/19, 460/19, 480/22

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
7/19/2012	17:00	EWV	WM	17:00	17:00	GP		3	C	6	0	E	Photo ct from ASLC camera IMG_5072.JPG @ 1400. Review of photos confirms 6 plus 2 morts.
7/20/2012	14:00	TIV	SP	15:03	15:04	S	2	2	C	0	0	E	
7/20/2012	14:00	TIV	SB	14:53	15:01	S	2	2	C	95	1	E	
7/20/2012	14:00	TIV	FP	14:50	14:51	S	2	2	C	0	0	E	
7/20/2012	14:00	TIV	FB	14:39	14:48	S	2	2	C	81	0	E	
7/20/2012	14:00	TIV	CG	14:33	14:23	S	2	2	C	0	0	E	
7/20/2012	14:00	TIV	BC	14:33	14:23	S	2	2	C	0	1	E	
7/20/2012	14:00	TIV	FR	14:33	14:23	S	2	2	C	3	0	E	
7/20/2012	14:00	TIV	NBC	14:20	14:21	S	2	2	C	0	0	E	
7/20/2012	14:00	SKS	MB	14:07	14:19	S	2	2	C	306	7	G	Variability count (TIV) 270/9, 290/8, 260/10
7/20/2012	14:00	MLS	WM	14:00	14:00	GP		2	C	2	0	E	Photo ct from ASLC camera IMG_6752.JPG @ 1400.
7/21/2012	14:00	TIV	SP	13:59	14:01	S	2	1	C	1	0	E	
7/21/2012	14:00	TIV	SB	14:04	14:13	S	2	1	C	60	0	E	
7/21/2012	14:00	TIV	FP	14:15	14:16	S	2	1	C	0	0	E	
7/21/2012	14:00	TIV	FB	14:18	14:29	S	2	1	C	73	1	E	
7/21/2012	14:00	MLS	CG	14:03	14:11	S	1	0	C	0	1	E	
7/21/2012	14:00	MLS	BC	14:11	14:18	S	1	0	C	0	0	E	
7/21/2012	14:00	MLS	FR	14:23	14:24	S	1	0	C	0	0	E	
7/21/2012	14:00	MLS	NBC	15:01	15:02	S	1	0	C	0	0	E	
7/21/2012	14:00	MLS	MB	15:10	15:22	S	1	0	P	950	20	P	Fog; Poor visibility
7/21/2012	14:00	MLS	WM	16:21	16:22	S	2	2	C	0	0	E	
7/22/2012	17:00	MLS	SP	16:56	16:58	S	2	1	C	0	0	E	
7/22/2012	17:00	MLS	SB	17:01	17:09	S	2	1	C	73	0	E	
7/22/2012	17:00	MLS	FP	17:11	17:12	S	2	1	C	0	0	E	
7/22/2012	17:00	MLS	FB	17:14	17:22	S	2	1	C	105	2	E	
7/22/2012	17:00	TIV	CG	18:09	18:12	S	2	1	C	0	1	E	
7/22/2012	17:00	TIV	BC	18:02	18:09	S	2	1	C	0	0	E	
7/22/2012	17:00	TIV	FR	18:00	18:02	S	2	1	C	11	0	E	
7/22/2012	17:00	TIV	NBC	17:55	17:57	S	2	1	C	0	0	E	
7/22/2012	17:00	TIV	MB	17:29	17:52	S	2	1	C	1310	47	G	
7/22/2012	17:00	TIV	WM	16:53	16:54	S	2	1	C	3	0	E	
7/23/2012	14:00	TIV	SP	14:29	14:30	S	1	1	P	2	1	G	
7/23/2012	14:00	TIV	SB	14:17	14:26	S	1	1	C	114	0	E	
7/23/2012	14:00	TIV	FP	14:15	14:16	S	1	1	C	0	0	E	
7/23/2012	14:00	TIV	FB	13:58	14:13	S	1	1	C	175	5	E	
7/23/2012	14:00	MLS	CG	15:24	15:27	S	1	1	C	0	0	E	
7/23/2012	14:00	MLS	BC	15:18	15:23	S	1	1	C	0	0	E	
7/23/2012	14:00	MLS	FR	15:17	15:18	S	1	1	C	15	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
7/23/2012	14:00	MLS	NBC	15:12	15:13	S	1	1	C	0	0	E	
7/23/2012	14:00	MLS	MB	15:06	15:09	S	1	1	P	2000		P	Very foggy, could not count individuals, estimate, no water count
7/23/2012	14:00	MLS	WM	14:04	14:05	S	1	1	C	0	0	E	
7/24/2012	17:00	MLS	SP	17:32	17:33	S	1	0	C	0	0	E	
7/24/2012	17:00	MLS	SB	17:27	17:36	S	1	0	C	136	1	E	
7/24/2012	17:00	MLS	FP	17:25	17:26	S	1	0	C	0	0	E	
7/24/2012	17:00	MLS	FB	17:02	17:12	S	1	0	C	124	9	E	
7/24/2012	17:00	TIV	CG	17:42	17:46	S	2	1	C	2	2	E	
7/24/2012	17:00	TIV	BC	17:36	17:41	S	2	1	C	0	0	E	
7/24/2012	17:00	TIV	FR	17:34	17:36	S	2	0	C	7	3	E	
7/24/2012	17:00	TIV	NBC	17:28	17:29	S	2	0	C	0	1	E	
7/24/2012	17:00	TIV	MB	17:01	17:25	S	2	1	C	1390	76	G	
7/24/2012	17:00	TIV	WM	16:21	16:23	S	2	3	C	0	6	E	
7/25/2012	14:00	TIV	SP	14:34	14:36	S	3	1	C	0	0	E	
7/25/2012	14:00	TIV	SB	14:24	14:31	S	3	1	C	79	1	E	
7/25/2012	14:00	TIV	FP	14:20	14:21	S	3	1	C	0	0	E	
7/25/2012	14:00	TIV	FB	14:07	14:18	S	3	1	C	78	9	E	
7/25/2012	14:00	MLS	CG	14:13	14:17	S	1	0	C	0	2	E	
7/25/2012	14:00	MLS	BC	14:17	14:25	S	1	0	C	0	0	E	
7/25/2012	14:00	MLS	FR	14:26	14:27	S	1	0	C	7	3	E	
7/25/2012	14:00	MLS	NBC	14:32	14:33	S	1	0	C	1	1	E	
7/25/2012	14:00	MLS	MB	14:37	14:43	S	1	0	C	435	21	G	
7/25/2012	14:00	MLS	WM	15:35	15:36	S	1	1	C	0	0	E	
7/26/2012	14:00	MLS	SP	14:10	14:11	S	1	0	C	0	0	E	
7/26/2012	14:00	MLS	SB	14:14	14:19	S	1	0	C	37	4	E	
7/26/2012	14:00	MLS	FP	14:22	14:23	S	1	0	C	0	0	E	
7/26/2012	14:00	MLS	FB	14:25	14:32	S	1	0	C	35	8	E	
7/26/2012	14:00	TIV	CG	13:58	14:01	S	3	1	C	0	0	E	
7/26/2012	14:00	TIV	BC	14:02	14:08	S	3	2	C	0	5	E	
7/26/2012	14:00	TIV	FR	14:09	14:11	S	3	1	C	2	0	E	
7/26/2012	14:00	TIV	NBC	14:16	14:17	S	3	1	C	0	0	E	
7/26/2012	14:00	TIV	MB	14:20	14:36	S	3	1	C	390	36	G	Unknown disturbance during count
7/26/2012	14:00	TIV	WM	15:17	15:19	S	3	3	C	0	0	E	
7/27/2012	17:00	TIV	SP	17:20	17:21	S	3	2	C	0	2	E	
7/27/2012	17:00	TIV	SB	17:14	17:17	S	3	1	C	3	5	E	
7/27/2012	17:00	TIV	FP	17:10	17:12	S	3	1	C	0	1	E	
7/27/2012	17:00	TIV	FB	17:02	17:08	S	3	1	C	23	3	E	
7/27/2012	17:00	MLS	CG	18:19	18:22	S	1	0	C	0	0	E	
7/27/2012	17:00	MLS	BC	18:11	18:08	S	1	0	C	0	0	E	
7/27/2012	17:00	MLS	FR	18:10	18:10	S	1	0	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
7/27/2012	17:00	MLS	NBC	18:05	18:06	S	1	0	C	0	0	E	
7/27/2012	17:00	MLS	MB	17:50	17:52	S	1	0	C	115	7	G	
7/27/2012	17:00	MLS	WM	17:02	17:03	S	2	2	C	0	0	E	
7/28/2012	17:00	MLS	SP	17:00	17:01	S	2	3	C	0	1	E	
7/28/2012	17:00	MLS	SB	17:03	17:06	S	2	3	C	0	0	E	
7/28/2012	17:00	MLS	FP	17:08	17:09	S	2	3	C	0	0	E	
7/28/2012	17:00	MLS	FB	17:11	17:14	S	2	3	C	27	5	E	
7/28/2012	17:00	TIV	CG	17:45	17:48	S	4	2	C	0	4	E	
7/28/2012	17:00	TIV	BC	17:39	17:44	S	4	2	C	0	1	E	
7/28/2012	17:00	TIV	FR	17:36	17:38	S	4	2	C	2	4	E	
7/28/2012	17:00	TIV	NBC	17:33	17:34	S	4	2	C	0	0	E	
7/28/2012	17:00	TIV	MB	17:23	17:30	S	4	2	P	190	26	F	Fog/rain @ MB, partially obs. at times
7/28/2012	17:00	TIV	WM	16:42	16:44	S	3	2	C	0	5	E	
7/29/2012	9:00	TIV	SP	9:30	9:31	S	4	3	C	0	0	E	
7/29/2012	9:00	TIV	SB	9:24	9:28	S	4	2	C	0	0	E	
7/29/2012	9:00	TIV	FP	9:21	9:22	S	4	2	C	0	0	E	
7/29/2012	9:00	TIV	FB	9:07	9:19	S	4	2	C	99	4	E	
7/29/2012	9:00	MLS	CG	9:19	9:22	S	2	2	C	0	0	E	
7/29/2012	9:00	MLS	BC	9:22	9:30	S	2	2	C	0	1	E	
7/29/2012	9:00	MLS	FR	9:30	9:32	S	2	2	C	0	3	E	
7/29/2012	9:00	MLS	NBC	9:40	9:41	S	1	2	C	0	0	E	
7/29/2012	9:00	MLS	MB	9:51	9:56	S	1	2	C	270	5	G	MB #s increased ~2x on way to/back from WM
7/29/2012	9:00	MLS	WM	10:56	10:57	S	3	3	C	0	0	E	
7/30/2012	9:00	MLS	SP	9:35	9:36	S	5	2	C	0	0	E	
7/30/2012	9:00	MLS	SB	9:27	9:31	S	5	2	C	44	4	E	
7/30/2012	9:00	MLS	FP	9:22	9:23	S	5	3	C	0	0	E	
7/30/2012	9:00	MLS	FB	9:11	9:19	S	5	2	C	150	2	E	
7/30/2012	9:00	TIV	CG	9:01	9:05	S	6	3	C	0	0	E	
7/30/2012	9:00	TIV	BC	9:06	9:13	S	6	3	C	0	0	E	
7/30/2012	9:00	TIV	FR	9:14	9:15	S	6	3	C	0	0	E	
7/30/2012	9:00	TIV	NBC	9:20	9:21	S	6	3	C	0	0	E	
7/30/2012	9:00	TIV	MB	9:23	9:30	S	6	3	C	200	3	G	
7/30/2012	9:00	EWV	WM	9:00	9:00	GP	6	3	C	0	0	E	Photo ct from ASLC camera IMG_4853.JPG @ 0900.
7/31/2012	14:00	TIV	SP	15:29	15:30	S	4	3	C	0	0	E	
7/31/2012	14:00	TIV	SB	15:15	15:26	S	4	3	C	54	0	E	
7/31/2012	14:00	TIV	FP	15:12	15:13	S	4	3	C	0	0	E	
7/31/2012	14:00	TIV	FB	14:56	15:05	S	4	3	C	87	4	E	
7/31/2012	14:00	MLS	CG	14:36	14:39	S	3	3	C	0	0	E	
7/31/2012	14:00	MLS	BC	14:26	14:35	S	3	2	C	0	1	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
7/31/2012	14:00	MLS	FR	14:25	14:26	S	3	2	C	3	0	E	
7/31/2012	14:00	MLS	NBC	14:19	14:20	S	3	2	C	0	0	E	
7/31/2012	14:00	MLS	MB	13:53	14:01	S	3	2	C	660	4	G	
7/31/2012	14:00	EWW	WM	14:00	14:00	GP	2	1	C	0	0	E	Photo ct from ASLC camera IMG_5993.JPG @ 1400. Two morts on beach.
8/1/2012	14:00	MLS	SP	13:59	13:59	S	2	2	C	0	0	E	
8/1/2012	14:00	MLS	SB	14:04	14:07	S	2	1	C	48	2	E	
8/1/2012	14:00	MLS	FP	14:10	14:11	S	2	2	C	0	0	E	
8/1/2012	14:00	MLS	FB	14:14	14:17	S	2	2	C	119	3	E	
8/1/2012	14:00	TIV	CG	13:58	14:01	S	3	1	C	0	2	E	
8/1/2012	14:00	TIV	BC	14:01	14:10	S	3	1	C	44	1	E	
8/1/2012	14:00	TIV	FR	14:11	14:12	S	3	1	C	11	0	E	
8/1/2012	14:00	TIV	NBC	14:18	14:19	S	2	1	C	0	0	E	
8/1/2012	14:00	TIV	MB	14:21	14:37	S	2	1	C	920	54	G	
8/1/2012	14:00	TIV	WM	15:29	15:31	S	4	3	C	0	0	E	
8/2/2012	17:00	TIV	SP	16:56	16:58	S	3	2	C	0	0	E	
8/2/2012	17:00	TIV	SB	17:01	17:07	S	3	2	C	20	1	E	
8/2/2012	17:00	TIV	FP	17:10	17:11	S	3	2	C	0	0	E	
8/2/2012	17:00	TIV	FB	17:13	17:30	S	3	2	C	130	4	E	
8/2/2012	17:00	MLS	CG	17:45	18:00	S	2	1	C	0	0	E	
8/2/2012	17:00	MLS	BC	17:20	17:45	S	2	1	C	73	0	E	
8/2/2012	17:00	MLS	FR	17:19	17:20	S	2	1	C	5	1	E	
8/2/2012	17:00	MLS	NBC	17:09	17:09	S	2	2	C	0	0	E	
8/2/2012	17:00	MLS	MB	16:47	16:56	S	2	1	C	692	19	G	
8/2/2012	17:00	EWW	WM	17:00	17:00	GP	2	3	C	0	0	E	Photo ct from ASLC camera IMG_7853.JPG @ 1700.
8/3/2012	9:00	MLS	SP	9:55	9:56	S	2	1	C	0	0	E	
8/3/2012	9:00	MLS	SB	9:43	9:49	S	2	1	C	77	1	E	
8/3/2012	9:00	MLS	FP	9:40	9:41	S	2	1	C	0	0	E	
8/3/2012	9:00	MLS	FB	9:23	9:34	S	2	1	C	178	1	E	
8/3/2012	9:00	TIV	CG	8:58	9:00	S	3	2	C	0	4	E	
8/3/2012	9:00	TIV	BC	9:01	9:17	S	3	2	C	77	6	E	
8/3/2012	9:00	TIV	FR	9:17	9:19	S	2	1	C	8	5	E	
8/3/2012	9:00	TIV	NBC	9:24	9:25	S	2	1	C	0	5	E	
8/3/2012	9:00	TIV	MB	9:27	9:38	S	2	1	C	600	47	G	
8/3/2012	9:00	TIV	WM	10:24	10:26	S	3	3	C	0	0	E	
8/4/2012	9:00	MLS	SP	10:05	10:05	S	2	2	C	0	0	E	
8/4/2012	9:00	MLS	SB	10:12	10:17	S	2	2	C	77	44	E	
8/4/2012	9:00	MLS	FP	10:19	10:19	S	2	2	C	0	0	E	
8/4/2012	9:00	MLS	FB	10:22	10:34	S	3	2	C	189	9	E	
8/4/2012	9:00	MLS	CG	11:11	11:15	S	3	2	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
8/4/2012	9:00	MLS	BC	11:15	11:45	S	3	2	C	1	0	E	
8/4/2012	9:00	MLS	FR	11:45	11:46	S	3	3	C	13	0	E	
8/4/2012	9:00	MLS	NBC	11:59	12:00	S	3	2	C	0	0	E	
8/4/2012	9:00	MLS	MB	12:05	12:21	S	2	2	C	1120	10	G	
8/4/2012	9:00	MLS	WM	9:00	9:00	GP	2	3	P	0	0	F	Photo ct from ASLC camera IMG_9053 - 9203.JPG @ 0900 - 1130. 0900 photos blurred from moisture but no walrus discernible. Review of photos thru 1130 when it clears up confirms none present and none coming or going.
8/5/2012	14:00	MLS	SP	14:14	14:14	S	2	0	C	0	0	E	
8/5/2012	14:00	MLS	SB	14:18	14:37	S	2	0	C	184	4	E	
8/5/2012	14:00	MLS	FP	14:39	14:39	S	2	0	C	0	0	E	
8/5/2012	14:00	MLS	FB	14:41	14:54	S	2	0	C	207	4	E	
8/5/2012	14:00	TIV	CG	13:48	13:51	S	2	1	C	1	0	E	
8/5/2012	14:00	TIV	BC	13:51	13:59	S	2	2	C	1	1	E	
8/5/2012	14:00	TIV	FR	14:00	14:01	S	2	1	C	16	1	E	
8/5/2012	14:00	TIV	NBC	14:06	14:07	S	2	1	C	0	4	E	
8/5/2012	14:00	TIV	MB	14:09	14:25	S	2	1	C	900	76	G	
8/5/2012	14:00	EWV	WM	14:00	14:00	GP	2	2	C	0	0	E	Photo ct from ASLC camera IMG_0194.JPG @ 1400.
8/6/2012	9:00	TIV	SP	9:44	9:46	S	2	1	C	0	7	E	
8/6/2012	9:00	TIV	SB	9:28	9:41	S	2	1	C	151	25	E	
8/6/2012	9:00	TIV	FP	9:24	9:25	S	2	1	C	0	2	E	
8/6/2012	9:00	TIV	FB	9:12	9:22	S	2	1	C	98	29	E	
8/6/2012	9:00	MLS	CG	9:04	9:09	S	3	2	C	0	3	E	
8/6/2012	9:00	MLS	BC	9:09	9:19	S	3	2	C	0	0	E	
8/6/2012	9:00	MLS	FR	9:20	9:21	S	3	2	C	2	6	E	
8/6/2012	9:00	MLS	NBC	9:27	9:27	S	3	2	C	0	0	E	
8/6/2012	9:00	MLS	MB	9:31	9:38	S	3	2	C	490	15	G	
8/6/2012	9:00	MLS	WM	9:00	9:00	GP	2	3	C	0	0	E	Photo ct from ASLC camera IMG_0734.JPG @ 0900.
8/7/2012	9:00	TIV	SP	9:44	9:45	S	2	1	C	0	0	E	
8/7/2012	9:00	TIV	SB	9:32	9:41	S	2	1	C	158	17	E	
8/7/2012	9:00	TIV	FP	9:29	9:30	S	2	1	C	0	0	E	
8/7/2012	9:00	TIV	FB	9:16	9:26	S	2	1	C	98	19	E	
8/7/2012	9:00	MLS	CG	9:15	9:17	S	1	0	C	0	0	E	
8/7/2012	9:00	MLS	BC	9:17	9:23	S	1	0	C	0	0	E	
8/7/2012	9:00	MLS	FR	9:24	9:24	S	1	0	C	8	0	E	
8/7/2012	9:00	MLS	NBC	9:31	9:31	S	1	0	C	0	0	E	
8/7/2012	9:00	MLS	MB	9:34	9:40	S	1	0	C	670	39	G	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
8/7/2012	9:00	MLS	WM	10:25	10:26	S	2	1	C	0	0	E	
8/8/2012	17:00	MLS	SP	17:29	17:30	S	1	1	C	0	1	E	
8/8/2012	17:00	MLS	SB	17:19	17:26	S	1	1	C	75	11	E	
8/8/2012	17:00	MLS	FP	17:16	17:16	S	1	1	C	0	0	E	
8/8/2012	17:00	MLS	FB	17:00	17:07	S	1	1	C	60	4	E	
8/8/2012	17:00	TIV	CG	17:47	17:50	S	1	1	C	0	2	E	
8/8/2012	17:00	TIV	BC	17:40	17:47	S	1	1	C	0	1	E	
8/8/2012	17:00	TIV	FR	17:39	17:40	S	1	1	C	4	2	E	
8/8/2012	17:00	TIV	NBC	17:35	17:36	S	1	1	C	1	0	E	
8/8/2012	17:00	TIV	MB	17:19	17:32	S	1	1	C	450	44	G	
8/8/2012	17:00	TIV	WM	16:33	16:35	S	1	1	C	0	0	E	
8/9/2012	17:00	TIV	SP	17:28	17:29	S	1	0	C	0	0	E	
8/9/2012	17:00	TIV	SB	17:17	17:25	S	0	0	C	119	19	E	
8/9/2012	17:00	TIV	FP	17:14	17:15	S	0	0	C	0	0	E	
8/9/2012	17:00	TIV	FB	16:59	17:11	S	0	0	C	138	26	E	
8/9/2012	17:00	MLS	CG	17:26	17:33	S	0	1	C	0	0	E	
8/9/2012	17:00	MLS	BC	17:19	17:26	S	0	1	C	0	0	E	
8/9/2012	17:00	MLS	FR	17:18	17:18	S	0	1	C	1	0	E	
8/9/2012	17:00	MLS	NBC	17:13	17:13	S	0	1	C	0	0	E	
8/9/2012	17:00	MLS	MB	17:03	17:09	S	0	1	C	840	20	F	Sun very bright, reflection
8/9/2012	17:00	MLS	WM	16:15	16:16	S	0	1	C	0	0	E	
8/10/2012	17:00	MLS	SP	17:46	17:47	S	1	0	C	0	0	E	
8/10/2012	17:00	MLS	SB	17:36	17:40	S	1	0	C	148	5	E	
8/10/2012	17:00	MLS	FP	17:25	17:25	S	1	0	C	0	1	E	
8/10/2012	17:00	MLS	FB	17:05	17:16	S	1	1	C	128	2	E	
8/10/2012	17:00	TIV	CG	17:39	17:42	S	1	1	C	0	0	E	
8/10/2012	17:00	TIV	BC	17:32	17:39	S	1	1	C	0	0	E	
8/10/2012	17:00	TIV	FR	17:30	17:31	S	1	1	C	15	1	E	
8/10/2012	17:00	TIV	NBC	17:26	17:27	S	1	1	C	0	0	E	
8/10/2012	17:00	TIV	MB	17:13	17:23	S	1	1	C	880	25	G	
8/10/2012	17:00	TIV	WM	16:20	16:22	S	1	1	C	6	3	E	
8/11/2012	17:00	TIV	SP	17:20	17:21	S	3	2	C	0	0	E	
8/11/2012	17:00	TIV	SB	17:12	17:18	S	3	2	C	69	0	E	
8/11/2012	17:00	TIV	FP	17:10	17:11	S	3	2	C	0	0	E	
8/11/2012	17:00	TIV	FB	16:57	17:08	S	3	2	C	149	2	E	
8/11/2012	17:00	MLS	CG	17:16	17:21	S	3	1	C	0	0	E	
8/11/2012	17:00	MLS	BC	17:10	17:15	S	3	1	C	0	0	E	
8/11/2012	17:00	MLS	FR	17:09	17:10	S	3	1	C	10	0	E	
8/11/2012	17:00	MLS	NBC	17:05	17:06	S	3	2	C	0	0	E	
8/11/2012	17:00	MLS	MB	16:53	17:02	S	3	2	C	810	5	F	
8/11/2012	17:00	MLS	WM	17:00	17:00	GP	2	2	C	0	0	E	Photo ct from ASLC camera IMG_5414.JPG

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
													@ 1700.
8/12/2012	14:00	MLS	SP	13:55	13:56	S	1	2	C	0	0	E	
8/12/2012	14:00	MLS	SB	14:00	14:06	S	1	2	C	87	1	E	
8/12/2012	14:00	MLS	FP	14:08	14:08	S	1	2	C	0	0	E	
8/12/2012	14:00	MLS	FB	14:13	14:20	S	1	2	C	97	5	E	
8/12/2012	14:00	TIV	CG	14:05	14:07	S	2	1	C	0	0	E	
8/12/2012	14:00	TIV	BC	14:07	14:14	S	2	1	C	0	0	E	
8/12/2012	14:00	TIV	FR	14:14	14:15	S	2	2	C	8	1	E	
8/12/2012	14:00	TIV	NBC	14:20	14:21	S	2	2	C	0	0	E	
8/12/2012	14:00	TIV	MB	14:22	14:38	S	2	2	C	810	52	G	
8/12/2012	14:00	TIV	WM	15:14	15:15	S	1	1	C	0	0	E	
8/13/2012	9:00	TIV	SP	9:32	9:33	S	2	2	C	0	0	E	
8/13/2012	9:00	TIV	SB	9:20	9:30	S	2	2	C	132	1	E	
8/13/2012	9:00	TIV	FP	9:18	9:19	S	2	2	C	0	0	E	
8/13/2012	9:00	TIV	FB	9:06	9:15	S	2	2	C	86	0	E	
8/13/2012	9:00	MLS	CG	9:02	9:06	S	2	1	C	6	0	E	
8/13/2012	9:00	MLS	BC	9:07	9:13	S	2	1	C	0	0	E	
8/13/2012	9:00	MLS	FR	9:14	9:15	S	2	1	C	14	0	E	
8/13/2012	9:00	MLS	NBC	9:21	9:22	S	2	1	C	0	0	E	
8/13/2012	9:00	MLS	MB	9:24	9:31	S	2	1	C	860	12	G	
8/13/2012	9:00	MLS	WM	10:15	10:16	S	1	1	C	0	0	E	
8/14/2012	9:00	MLS	SP	9:39	9:40	S	3	3	C	0	0	E	
8/14/2012	9:00	MLS	SB	9:29	9:34	S	3	3	C	43	0	E	
8/14/2012	9:00	MLS	FP	9:26	9:26	S	3	3	C	0	0	E	
8/14/2012	9:00	MLS	FB	9:14	9:22	S	3	3	C	78	1	E	
8/14/2012	9:00	TIV	CG	9:06	9:08	S	4	3	C	0	0	E	
8/14/2012	9:00	TIV	BC	9:09	9:15	S	4	3	C	0	0	E	
8/14/2012	9:00	TIV	FR	9:15	9:16	S	4	3	C	9	0	E	
8/14/2012	9:00	TIV	NBC	9:20	9:21	S	4	3	C	0	0	E	
8/14/2012	9:00	TIV	MB	9:23	9:33	S	4	3	C	460	12	G	
8/14/2012	9:00	TIV	WM	10:34	10:39	S	3	1	C	0	0	E	
8/15/2012	14:00	TIV	SP	14:15	14:16	S	3	2	C	0	0	E	
8/15/2012	14:00	TIV	SB	14:09	14:13	S	3	1	C	19	1	E	
8/15/2012	14:00	TIV	FP	14:07	14:08	S	3	2	C	0	0	E	
8/15/2012	14:00	TIV	FB	14:00	14:05	S	3	2	C	43	0	E	
8/15/2012	14:00	MLS	CG	13:59	14:01	S	2	1	C	0	0	E	
8/15/2012	14:00	MLS	BC	14:02	14:09	S	2	1	C	0	0	E	
8/15/2012	14:00	MLS	FR	14:10	14:10	S	2	1	C	4	1	E	
8/15/2012	14:00	MLS	NBC	14:16	14:16	S	2	1	C	0	0	E	
8/15/2012	14:00	MLS	MB	14:18	14:18	S	2	1	C	330	11	G	
8/15/2012	14:00	MLS	WM	15:13	15:14	S	1	0	C	1	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
8/16/2012	14:00	MLS	SP	14:22	14:23	S	2	1	C	0	0	E	
8/16/2012	14:00	MLS	SB	14:15	14:19	S	2	1	C	10	0	E	
8/16/2012	14:00	MLS	FP	14:10	14:11	S	2	2	C	0	0	E	
8/16/2012	14:00	MLS	FB	14:01	14:07	S	2	1	C	60	0	E	
8/16/2012	14:00	TIV	CG	14:04	14:06	S	2	1	C	0	0	E	
8/16/2012	14:00	TIV	BC	14:06	14:13	S	2	1	C	0	0	E	
8/16/2012	14:00	TIV	FR	14:13	14:14	S	2	1	C	7	1	E	
8/16/2012	14:00	TIV	NBC	14:18	14:19	S	2	1	C	0	0	E	
8/16/2012	14:00	TIV	MB	14:20	14:29	S	2	1	C	370	17	G	
8/16/2012	14:00	TIV	WM	15:03	15:04	S	2	1	C	0	0	E	
8/17/2012	17:00	TIV	SP	17:04	17:06	S	2	1	C	0	0	E	
8/17/2012	17:00	TIV	SB	17:11	17:15	S	2	1	C	14	0	E	
8/17/2012	17:00	TIV	FP	17:19	17:20	S	2	1	C	0	0	E	
8/17/2012	17:00	TIV	FB	17:22	17:30	S	2	1	C	100	0	E	
8/17/2012	17:00	MLS	CG	16:55	16:58	S	1	0	C	0	0	E	
8/17/2012	17:00	MLS	BC	17:03	17:08	S	1	0	C	0	0	E	
8/17/2012	17:00	MLS	FR	17:08	17:08	S	1	0	C	9	0	E	
8/17/2012	17:00	MLS	NBC	17:13	17:13	S	1	0	C	0	0	E	
8/17/2012	17:00	MLS	MB	17:16	17:19	S	1	0	C	620	29	G	
8/17/2012	17:00	EWW	WM	17:00	17:00	GP		1	C	0	0	E	Photo ct from ASLC camera IMG_0952.JPG @ 1700. No at sea photo to determine BSS.
8/18/2012	17:00	MLS	SP	17:18	17:19	S	6	3	C	0	0	E	
8/18/2012	17:00	MLS	SB	17:10	17:13	S	6	3	C	0	0	E	
8/18/2012	17:00	MLS	FP	17:08	17:08	S	6	3	C	0	0	E	
8/18/2012	17:00	MLS	FB	17:01	17:06	S	6	3	C	24	0	E	
8/18/2012	17:00	TIV	CG	17:02	17:05	S	6	3	C	0	0	E	
8/18/2012	17:00	TIV	BC	17:05	17:11	S	6	3	C	0	0	E	
8/18/2012	17:00	TIV	FR	17:11	17:12	S	6	3	C	0	0	E	
8/18/2012	17:00	TIV	NBC	17:16	17:17	S	6	3	C	0	0	E	
8/18/2012	17:00	TIV	MB	17:19	17:26	S	6	3	C	250	4	F	Difficult to count due to combo fog/rain/wind
8/18/2012	17:00	EWW	WM	17:00	17:00	GP		3	P	0	0	G	Photo ct from ASLC camera IMG_1792.JPG @ 1700. Photo blurred from precipitation but viewable, and compared with numerous subsequent photos. No walrus present. No at sea photo to determine BSS.
8/19/2012	9:00	TIV	SP	9:26	9:27	S	4	2	C	0	0	E	
8/19/2012	9:00	TIV	SB	9:20	9:24	S	4	1	C	0	0	E	
8/19/2012	9:00	TIV	FP	9:18	9:19	S	4	1	C	0	0	E	
8/19/2012	9:00	TIV	FB	9:10	9:16	S	4	2	C	34	0	E	
8/19/2012	9:00	MLS	CG	9:15	9:18	S	3	1	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
8/19/2012	9:00	MLS	BC	9:19	9:26	S	3	1	C	0	0	E	
8/19/2012	9:00	MLS	FR	9:26	9:27	S	2	1	C	2	1	E	
8/19/2012	9:00	MLS	NBC	9:34	9:34	S	2	1	C	2	0	E	
8/19/2012	9:00	MLS	MB	9:36	9:40	S	1	1	C	360	0	G	
8/19/2012	9:00	EWW	WM	9:00	9:00	GP		2	P	0	0	G	Photo ct from ASLC camera IMG_2152.JPG @ 0900. Photo blurred from precipitation but viewable, and compared with numerous subsequent photos. No walrus present. No at sea photo to determine BSS.
8/20/2012	14:00	MLS	SP	13:52	13:52	S	1	1	C	0	0	E	
8/20/2012	14:00	MLS	SB	13:54	13:57	S	1	1	C	0	0	E	
8/20/2012	14:00	MLS	FP	14:00	14:00	S	1	1	C	0	0	E	
8/20/2012	14:00	MLS	FB	14:02	14:10	S	1	1	C	78	9	E	
8/20/2012	14:00	TIV	CG	14:00	14:03	S	4	1	C	0	0	E	
8/20/2012	14:00	TIV	BC	14:03	14:09	S	4	2	C	0	0	E	
8/20/2012	14:00	TIV	FR	14:09	14:10	S	4	2	C	0	0	E	
8/20/2012	14:00	TIV	NBC	14:14	14:15	S	3	2	C	0	2	E	
8/20/2012	14:00	TIV	MB	14:17	14:24	S	3	2	C	150	22	G	
8/20/2012	14:00	EWW	WM	14:00	14:00	GP		2	C	0	0	E	Photo ct from ASLC camera IMG_3292.JPG @ 1700. No at sea photo to determine BSS.
8/21/2012	14:00	TIV	SP	13:50	13:51	S	3	1	C	0	0	E	
8/21/2012	14:00	TIV	SB	13:53	13:56	S	3	1	C	0	0	E	
8/21/2012	14:00	TIV	FP	13:59	14:00	S	3	1	C	0	0	E	
8/21/2012	14:00	TIV	FB	14:02	14:11	S	3	1	C	169	1	E	
8/21/2012	14:00	MLS	CG	14:18	14:22	S	2	1	C	0	0	E	
8/21/2012	14:00	MLS	BC	14:22	14:28	S	2	1	C	0	0	E	
8/21/2012	14:00	MLS	FR	14:28	14:29	S	2	1	C	0	0	E	
8/21/2012	14:00	MLS	NBC	14:34	14:34	S	2	1	C	0	0	E	
8/21/2012	14:00	MLS	MB	14:36	14:43	S	2	1	C	540	9	G	
8/21/2012	14:00	EWW	WM	14:00	14:00	GP		2	C	0	0	E	Photo ct from ASLC camera IMG_4132.JPG @ 1400. No at sea photo to determine BSS.
9/8/2012	17:00	PH	SP	18:40	18:41	S	3	1	C	0	0	E	
9/8/2012	17:00	PH	SB	18:33	18:35	S	3	1	C	0	0	E	
9/8/2012	17:00	PH	FP	18:30	18:31	S	3	1	C	0	0	E	
9/8/2012	17:00	PH	FB	18:20	18:24	S	4	1	C	1	11	E	
9/8/2012	17:00	PH	CG	17:54	17:57	S	4	2	C	0	0	E	
9/8/2012	17:00	PH	BC	17:47	17:53	S	3	2	C	0	0	E	
9/8/2012	17:00	PH	FR	17:45	17:46	S	3	2	C	4	0	E	
9/8/2012	17:00	PH	NBC	17:40	17:41	S	3	1	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
9/8/2012	17:00	PH	MB	17:30	17:37	S	3	1	C	1300	110	G	
9/8/2012	17:00	PH	WM	17:00	17:01	GP				0	0		Ref:ASLC_WM_Photo_cts/9567,9-8
9/9/2012	14:00	PH	SP	14:05	14:06	S	3	1	C	0	0	E	
9/9/2012	14:00	PH	SB	14:10	14:23	S	3	0	C	180	4	E	
9/9/2012	14:00	PH	FP	14:28	14:29	S	3	0	C	0	0	E	
9/9/2012	14:00	PH	FB	14:34	14:43	S	3	0	C	177	1	E	
9/9/2012	14:00	PH	CG	15:07	15:09	S	3	2	C	0	0	E	
9/9/2012	14:00	PH	BC	15:10	15:20	S	3	2	C	0	0	E	
9/9/2012	14:00	PH	FR	15:21	15:22	S	3	2	C	0	0	E	
9/9/2012	14:00	PH	NBC	15:26	15:27	S	3	1	C	0	0	E	
9/9/2012	14:00	PH	MB	15:33	15:40	S	3	1	C	750	18	G	
9/9/2012	14:00	PH	WM	16:45	16:46	S		2	C	0	0	E	
9/10/2012	17:00	PH	SP	16:58	16:59	S	2	2	C	0	0	E	
9/10/2012	17:00	PH	SB	17:03	17:10	S	3	3	C	114	0	E	
9/10/2012	17:00	PH	FP	17:14	17:15	S	3	3	C	0	0	E	
9/10/2012	17:00	PH	FB	17:17	17:24	S	3	3	C	12	0	E	
9/10/2012	17:00	PH	CG	17:40	17:43	S	3	3	C	0	0	E	
9/10/2012	17:00	PH	BC	17:44	17:50	S	2	2	C	0	0	E	
9/10/2012	17:00	PH	FR	17:51	17:52	S	2	2	C	0	3	E	
9/10/2012	17:00	PH	NBC	17:57	17:57	S	2	2	C	0	0	E	
9/10/2012	17:00	PH	MB	18:01	18:10	S	2	2	C	1020	9	G	
9/10/2012	17:00	PH	WM	17:00	17:01	GP				0	0		Ref:ASLC_WM_Photo_cts/1124,9-11
9/11/2012	9:00	PH	SP	9:15	9:16	S	6	3	C	0	0	E	
9/11/2012	9:00	PH	SB	9:20	9:23	S	6	3	C	0	0	E	
9/11/2012	9:00	PH	FP	9:25	9:26	S	6	3	C	0	0	E	
9/11/2012	9:00	PH	FB	9:29	9:32	S	6	3	C	0	0	E	
9/11/2012	9:00	PH	CG	9:37	9:40	S	6	3	C	0	0	E	
9/11/2012	9:00	PH	BC	9:41	9:50	S	6	3	C	0	0	E	
9/11/2012	9:00	PH	FR	9:51	9:52	S	6	3	C	4	0	E	
9/11/2012	9:00	PH	NBC	9:55	9:56	S	6	3	C	0	0	E	
9/11/2012	9:00	PH	MB	10:00	10:06	S	6	3	C	70	4	G	
9/11/2012	9:00	PH	WM	10:00	10:01	GP				0	0		Ref:ASLC_WM_Photo_cts/1534,9-11
9/12/2012	17:00	PH	SP	17:49	17:50	S	2	1	C	0	0	E	
9/12/2012	17:00	PH	SB	17:42	17:45	S	2	1	C	0	0	E	
9/12/2012	17:00	PH	FP	17:38	17:39	S	2	2	C	0	0	E	
9/12/2012	17:00	PH	FB	17:30	17:34	S	2	2	C	0	11	E	
9/12/2012	17:00	PH	CG	17:21	17:24	S	2	2	C	0	0	E	
9/12/2012	17:00	PH	BC	17:13	17:20	S	2	2	C	0	0	E	
9/12/2012	17:00	PH	FR	17:11	17:12	S	2	1	C	11	0	E	
9/12/2012	17:00	PH	NBC	17:03	17:04	S	2	1	C	0	0	E	
9/12/2012	17:00	PH	MB	16:55	17:00	S	2	1	C	340	41	G	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
9/12/2012	17:00	PH	WM	16:10	16:11	S	3	2	C	0	0	E	
9/13/2012	14:00	PH	SP	14:00	14:01	S	2	2	C	0	0	E	
9/13/2012	14:00	PH	SB	14:04	14:07	S	2	2	C	0	0	E	
9/13/2012	14:00	PH	FP	14:10	14:11	S	2	1	C	0	0	E	
9/13/2012	14:00	PH	FB	14:14	14:15	S	2	1	C	23	3	E	
9/13/2012	14:00	PH	CG	14:32	14:35	S	3	2	C	0	0	E	
9/13/2012	14:00	PH	BC	14:36	14:44	S	3	2	C	0	0	E	
9/13/2012	14:00	PH	FR	14:45	14:46	S	2	2	C	0	0	E	
9/13/2012	14:00	PH	NBC	14:50	14:51	S	2	2	C	0	0	E	
9/13/2012	14:00	PH	MB	14:53	14:59	S	2	1	C	450	55	G	
9/13/2012	14:00	PH	WM	14:00	14:01	GP				0	0		Ref:ASLC_WM_Photo_cts/3454,9-13
9/14/2012	17:00	PH	SP	17:10	17:01	S	5	3	C	0	0	E	
9/14/2012	17:00	PH	SB	17:13	17:06	S	5	3	C	0	0	E	
9/14/2012	17:00	PH	FP	17:18	17:11	S	5	3	C	0	0	E	
9/14/2012	17:00	PH	FB	17:22	17:20	S	5	3	C	13	0	E	
9/14/2012	17:00	PH	CG	17:28	17:34	S	5	3	C	0	0	E	
9/14/2012	17:00	PH	BC	17:32	17:44	S	4	3	C	0	0	E	
9/14/2012	17:00	PH	FR	17:39	17:46	S	4	3	C	0	0	E	
9/14/2012	17:00	PH	NBC	17:47	17:54	S	4	3	C	0	0	E	
9/14/2012	17:00	PH	MB	17:50	18:03	S	4	3	C	470	4	G	
9/14/2012	17:00	PH	WM	16:55	0:00	GP				0	0		Ref:ASLC_WM_Photo_cts/4469,9-14
9/15/2012	14:00	PH	SP	14:00	14:01	S	6	3	C	0	0	E	
9/15/2012	14:00	PH	SB	14:05	14:07	S	6	3	C	0	0	E	
9/15/2012	14:00	PH	FP	14:10	14:11	S	6	3	C	0	0	E	
9/15/2012	14:00	PH	FB	14:14	14:17	S	6	3	C	0	0	E	
9/15/2012	14:00	PH	CG	14:30	14:35	S	6	3	C	0	0	E	
9/15/2012	14:00	PH	BC	14:36	14:40	S	6	3	C	0	0	E	
9/15/2012	14:00	PH	FR	14:41	14:42	S	6	3	C	0	0	E	
9/15/2012	14:00	PH	NBC	14:46	14:47	S	6	3	C	0	0	E	
9/15/2012	14:00	PH	MB	14:49	14:55	S	6	3	C	165	8	G	
9/15/2012	14:00	PH	WM	14:50		GP				0	0		Ref:ASLC_WM_Photo_cts/5184,9-15
9/16/2012	14:00	PH	SP	14:05	14:06	S	7	3	C	0	0	E	
9/16/2012	14:00	PH	SB	14:08	14:10	S	7	3	C	0	0	E	
9/16/2012	14:00	PH	FP	14:11	14:12	S	7	3	C	0	0	E	
9/16/2012	14:00	PH	FB	14:13	14:15	S	7	3	C	0	0	E	
9/16/2012	14:00	PH	CG	14:24	14:26	S	6	3	C	0	0	E	
9/16/2012	14:00	PH	BC	14:27	14:35	S	6	3	C	0	0	E	
9/16/2012	14:00	PH	FR	14:36	14:37	S	6	3	C	0	0	E	
9/16/2012	14:00	PH	NBC	14:40	14:41	S	6	3	C	0	0	E	
9/16/2012	14:00	PH	MB	14:45	14:46	S	5	3	C	1	0	E	EXCELLENT AS SO FEW Or ON BEACH
9/16/2012	14:00	PH	WM	13:52		GP				0	0		Ref:ASLC_WM_Photo_cts/5966,9-16

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
9/17/2012	9:00	PH	SP	9:10	9:11	S	3	2	C	0	0	E	
9/17/2012	9:00	PH	SB	9:14	9:17	S	3	2	C	0	0	E	
9/17/2012	9:00	PH	FP	9:20	9:21	S	3	2	C	0	0	E	
9/17/2012	9:00	PH	FB	9:24	9:27	S	3	2	C	0	1	E	
9/17/2012	9:00	PH	CG	9:33	9:36	S	3	2	C	0	0	E	
9/17/2012	9:00	PH	BC	9:37	9:47	S	3	2	C	0	0	E	
9/17/2012	9:00	PH	FR	9:48	9:49	S	3	2	C	1	0	E	
9/17/2012	9:00	PH	NBC	9:55	9:56	S	2	2	C	0	0	E	
9/17/2012	9:00	PH	MB	9:58	10:00	S	2	2	C	0	0	G	
9/17/2012	9:00	PH	WM	13:00	13:01	S	3	3	C	0	0	E	
9/18/2012	9:00	PH	SP	9:05	9:06	S	4	2	C	0	0	E	
9/18/2012	9:00	PH	SB	9:09	9:11	S	4	2	C	0	0	E	
9/18/2012	9:00	PH	FP	9:13	9:14	S	4	2	C	0	0	E	
9/18/2012	9:00	PH	FB	9:16	9:18	S	4	2	C	0	0	E	
9/18/2012	9:00	PH	CG	9:27	9:30	S	3	1	C	0	0	E	
9/18/2012	9:00	PH	BC	9:31	9:41	S	3	1	C	0	0	E	
9/18/2012	9:00	PH	FR	9:42	9:44	S	3	2	C	3	18	E	
9/18/2012	9:00	PH	NBC	9:51	9:52	S	3	2	C	0	0	E	
9/18/2012	9:00	PH	MB	9:55	9:57	S	3	2	C	4	0	E	EXCELLENT BECAUSE SO FEW ANIMALS
9/18/2012	9:00	PH	WM	9:00	9:01	GP				0	0		Ref:ASLC_WM_Photo_cts/7354,9-18
9/19/2012	9:00	PH	SP	9:20	9:21	S	3	1	C	0	0	E	
9/19/2012	9:00	PH	SB	9:24	9:26	S	3	1	C	0	0	E	
9/19/2012	9:00	PH	FP	9:28	9:29	S	3	2	C	0	0	E	
9/19/2012	9:00	PH	FB	9:32	9:35	S	3	2	C	0	0	E	
9/19/2012	9:00	PH	CG	9:45	9:47	S	3	2	C	0	0	E	
9/19/2012	9:00	PH	BC	9:48	9:52	S	3	2	C	0	0	E	
9/19/2012	9:00	PH	FR	9:58	9:54	S	3	2	C	9	0	E	
9/19/2012	9:00	PH	NBC	10:02	10:03	S	3	1	C	0	0	E	
9/19/2012	9:00	PH	MB	10:07	10:15	S	3	1	C	560	67	G	
9/19/2012	9:00	PH	WM	9:00		GP				0	0		Ref:ASLC_WM_Photo_cts/8194,9-19
9/20/2012	9:00	PH	SP	9:13	9:14	S	3	1	C	0	0	E	
9/20/2012	9:00	PH	SB	9:16	9:19	S	3	1	C	0	0	E	
9/20/2012	9:00	PH	FP	9:22	9:23	S	3	1	C	0	0	E	
9/20/2012	9:00	PH	FB	9:24	9:26	S	3	1	C	92	5	E	
9/20/2012	9:00	PH	CG	9:41	9:43	S	3	2	C	0	0	E	
9/20/2012	9:00	PH	BC	9:44	9:47	S	3	2	C	0	0	E	
9/20/2012	9:00	PH	FR	9:48	9:49	S	3	2	C	3	5	E	
9/20/2012	9:00	PH	NBC	9:55	9:56	S	3	3	C	0	0	E	
9/20/2012	9:00	PH	MB	10:00	10:07	S	3	3	C	440	17	G	EXCELLENT BECAUSE SO FEW ANIMALS
9/20/2012	9:00	PH	WM	9:00		GP				0	0		Ref:ASLC_WM_Photo_cts/9034,9-20
9/21/2012	17:00	PH	SP	17:03	17:04	S	4	3	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
9/21/2012	17:00	PH	SB	17:06	17:08	S	4	3	C	0	0	E	
9/21/2012	17:00	PH	FP	17:10	17:11	S	4	2	C	0	0	E	
9/21/2012	17:00	PH	FB	17:14	17:20	S	4	2	C	125	11	E	
9/21/2012	17:00	PH	CG	17:34	17:36	S	4	3	C	0	0	E	
9/21/2012	17:00	PH	BC	17:37	17:48	S	4	3	C	0	0	E	
9/21/2012	17:00	PH	FR	17:44	17:45	S	4	3	C	3	18	E	
9/21/2012	17:00	PH	NBC	17:49	17:50	S	4	3	C	0	0	E	
9/21/2012	17:00	PH	MB	17:55	18:02	S	4	3	C	650	25	G	
9/21/2012	17:00	BV	WM	15:15	15:16	S	4	2	C	0	0	E	
9/22/2012	14:00	PH	SP	14:00	14:01	S	6	3	C	0	0	E	
9/22/2012	14:00	PH	SB	14:04	14:05	S	6	3	C	0	0	E	
9/22/2012	14:00	PH	FP	14:07	14:08	S	6	3	C	0	0	E	
9/22/2012	14:00	PH	FB	14:10	14:15	S	6	3	C	0	0	E	
9/22/2012	14:00	PH	CG	14:23	14:24	S	6	3	C	0	0	E	
9/22/2012	14:00	PH	BC	14:26	14:34	S	6	3	C	0	0	E	
9/22/2012	14:00	PH	FR	14:35	14:36	S	6	3	C	0	0	E	
9/22/2012	14:00	PH	NBC	14:42	14:43	S	6	3	C	0	0	E	
9/22/2012	14:00	PH	MB	14:45	14:46	S	6	3	C	28	0	G	
9/22/2012	14:00	PH	WM	14:00		GP				0	0		Ref:ASLC_WM_Photo_cts/1015,9-22
9/23/2012	9:00	PH	SP	14:01	14:02	S	6	2	C	0	0	E	
9/23/2012	9:00	PH	SB	14:04	14:06	S	6	2	C	0	0	E	
9/23/2012	9:00	PH	FP	14:07	14:08	S	6	2	C	0	0	E	
9/23/2012	9:00	PH	FB	14:11	14:14	S	6	3	C	0	0	E	
9/23/2012	9:00	PH	CG	14:23	14:25	S	6	3	C	0	0	E	
9/23/2012	9:00	PH	BC	14:26	14:33	S	6	3	C	0	0	E	
9/23/2012	9:00	PH	FR	14:34	14:35	S	6	3	C	0	18	E	
9/23/2012	9:00	PH	NBC	14:43	14:44	S	6	3	C	0	0	E	
9/23/2012	9:00	PH	MB	14:45	14:46	S	6	3	C	8	0	G	WIND SHAKES BINOCULARS
9/23/2012	9:00	PH	WM	14:00		GP				0	0		Ref:ASLC_WM_Photo_cts/1855,9-23
9/24/2012	9:00	PH	SP	8:55	8:56	S	6	3	C	0	0	E	LITTLE BEACH AVAILABLE;SOME WALRUS LEAVING
9/24/2012	9:00	PH	SB	8:59	9:01	S	6	3	C	0	0	E	
9/24/2012	9:00	PH	FP	9:03	9:04	S	6	3	C	0	0	E	
9/24/2012	9:00	PH	FB	9:05	9:09	S	6	3	C	0	0	E	
9/24/2012	9:00	PH	CG	9:19	9:22	S	6	3	C	0	0	E	
9/24/2012	9:00	PH	BC	9:23	9:28	S	6	3	C	0	0	E	
9/24/2012	9:00	PH	FR	9:29	9:30	S	6	3	C	0	0	E	
9/24/2012	9:00	PH	NBC	9:36	9:37	S	6	3	C	0	0	E	
9/24/2012	9:00	PH	MB	9:40	9:41	S	6	3	C	45	2	G	
9/24/2012	9:00	PH	WM	9:00		GP				0	0		Ref:ASLC_WM_Photo_cts/2395,9-24
9/25/2012	17:00	PH	SP	17:00	17:01	S	6	3	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
9/25/2012	17:00	PH	SB	17:03	17:05	S	6	3	C	0	0	E	
9/25/2012	17:00	PH	FP	17:07	17:08	S	6	3	C	0	0	E	
9/25/2012	17:00	PH	FB	17:11	17:13	S	6	3	C	0	0	E	
9/25/2012	17:00	PH	CG	17:22	17:24	S	6	3	C	0	0	E	
9/25/2012	17:00	PH	BC	17:25	17:32	S	6	3	C	0	0	E	
9/25/2012	17:00	PH	FR	17:33	17:34	S	6	3	C	0	0	E	
9/25/2012	17:00	PH	NBC	17:40	17:41	S	6	3	C	0	0	E	
9/25/2012	17:00	PH	MB	17:43	17:44	S	6	2	C	0	0	E	EXCELLENT BECAUSE SO FEW ANIMALS
9/25/2012	17:00	PH	WM	17:00		GP				0	0		Ref:ASLC_WM_Photo_cts/3715,9-25
9/26/2012	17:00	PH	SP	17:00	17:01	S	6	3	C	0	4	E	SURVEYING THE LEDGES
9/26/2012	17:00	PH	SB	17:03	17:04	S	6	3	C	0	0	E	
9/26/2012	17:00	PH	FP	17:06	17:07	S	6	3	C	0	0	E	
9/26/2012	17:00	PH	FB	17:10	17:14	S	6	3	C	0	0	E	
9/26/2012	17:00	PH	CG	17:25	17:27	S	6	3	C	0	0	E	
9/26/2012	17:00	PH	BC	17:28	17:37	S	5	3	C	0	0	E	
9/26/2012	17:00	PH	FR	17:38	17:39	S	5	3	C	0	0	E	
9/26/2012	17:00	PH	NBC	17:45	17:46	S	5	3	C	0	0	E	
9/26/2012	17:00	PH	MB	17:47	17:48	S	5	2	C	0	8	E	GROUP OF 14 HANGING OFF BEACH AT 14:01 BUT UNABLE TO HAUL BEC.L OF HIGH SURF
9/26/2012	17:00	PH	WM	14:00	14:01	S	5	3	C	0	0	E	
9/27/2012	9:00	PH	SP	9:05	9:06	S	6	2	C	0	0	E	
9/27/2012	9:00	PH	SB	9:09	9:11	S	6	2	C	0	0	E	
9/27/2012	9:00	PH	FP	9:13	9:14	S	6	2	C	0	0	E	
9/27/2012	9:00	PH	FB	9:17	9:19	S	6	2	C	0	0	E	
9/27/2012	9:00	PH	CG	9:27	9:29	S	6	3	C	0	0	E	
9/27/2012	9:00	PH	BC	9:30	9:38	S	6	3	C	0	0	E	
9/27/2012	9:00	PH	FR	9:39	9:40	S	6	3	C	0	0	E	
9/27/2012	9:00	PH	NBC	9:45	9:46	S	6	3	C	0	0	E	
9/27/2012	9:00	PH	MB	9:49	9:51	S	6	2	C	52	20	G	SAME MORT, 2 TUSKS
9/27/2012	9:00		WM	9:00	0:00								NO COUNT, supplement with WM camera photo count after download in 2013
9/28/2012	14:00	PH	SP	13:45	13:46	S	5	1	C	0	0	E	
9/28/2012	14:00	PH	SB	13:48	13:52	S	5	1	C	0	0	E	
9/28/2012	14:00	PH	FP	13:54	13:55	S	5	2	C	0	0	E	
9/28/2012	14:00	PH	FB	13:57	14:00	S	5	2	C	0	0	E	
9/28/2012	14:00	PH	CG	14:12	14:14	S	5	2	C	0	0	E	
9/28/2012	14:00	PH	BC	14:15	14:22	S	5	3	C	0	0	E	
9/28/2012	14:00	PH	FR	14:23	14:24	S	5	3	C	0	0	E	
9/28/2012	14:00	PH	NBC	14:30	14:31	S	5	3	C	0	0	E	
9/28/2012	14:00	PH	MB	14:33	14:35	S	5	3	C	130	19	G	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
9/28/2012	14:00		WM	14:00	0:00								NO COUNT, supplement with WM camera photo count after download in 2013
9/29/2012	9:00	PH	SP	14:12	14:13	S	3	1	C	0	0	E	COUNT TIME CHANGED DUE TO WEATHER
9/29/2012	9:00	PH	SB	14:15	14:17	S	3	1	C	0	0	E	
9/29/2012	9:00	PH	FP	14:20	14:21	S	3	1	C	0	0	E	
9/29/2012	9:00	PH	FB	14:23	14:25	S	3	1	C	0	0	E	
9/29/2012	9:00	PH	CG	15:00	15:02	S	3	1	C	0	0	E	
9/29/2012	9:00	PH	BC	15:03	15:12	S	3	1	C	0	0	E	
9/29/2012	9:00	PH	FR	15:13	15:14	S	3	1	C	0	0	E	
9/29/2012	9:00	PH	NBC	15:20	15:21	S	3	1	C	0	0	E	
9/29/2012	9:00	PH	MB	15:24	15:30	S	2	1	C	500	71	G	
9/29/2012	9:00	PH	WM	16:15	16:16	S	2	2	C	0	0	E	
9/30/2012	9:00	PH	SP	9:15	9:16	S	2	1	C	0	0	E	
9/30/2012	9:00	PH	SB	9:18	9:21	S	2	1	C	0	0	E	
9/30/2012	9:00	PH	FP	9:24	9:25	S	2	1	C	0	0	E	
9/30/2012	9:00	PH	FB	9:27	9:30	S	2	1	C	0	0	E	
9/30/2012	9:00	PH	CG	9:45	9:46	S	2	1	C	0	0	E	
9/30/2012	9:00	PH	BC	9:47	9:55	S	2	1	C	0	0	E	
9/30/2012	9:00	PH	FR	9:56	9:57	S	2	1	C	0	0	E	
9/30/2012	9:00	PH	NBC	10:04	10:05	S	2	1	C	0	0	E	
9/30/2012	9:00	PH	MB	10:07	10:10	S	2	1	C	650	37	G	SAME MORT AS 9/15
9/30/2012	9:00		WM	9:00	0:00								NO COUNT, supplement with WM camera photo count after download in 2013
10/1/2012	9:00	PH	SP	9:30	9:31	S	4	2	C	0	0	E	
10/1/2012	9:00	PH	SB	9:33	9:36	S	4	2	C	0	0	E	
10/1/2012	9:00	PH	FP	9:38	9:39	S	4	2	C	0	0	E	
10/1/2012	9:00	PH	FB	9:41	9:44	S	4	2	C	0	0	E	
10/1/2012	9:00	PH	CG	9:50	9:53	S	4	2	C	0	0	E	
10/1/2012	9:00	PH	BC	9:54	10:01	S	4	1	C	0	0	E	
10/1/2012	9:00	PH	FR	10:02	10:03	S	4	1	C	0	0	E	
10/1/2012	9:00	PH	NBC	10:09	10:10	S	4	1	C	0	0	E	
10/1/2012	9:00	PH	MB	10:12	10:14	S	4	1	C	45	52	G	SAME MORT AS 9/15
10/1/2012	9:00		WM	9:00	0:00								NO COUNT, supplement with WM camera photo count after download in 2013
10/2/2012	17:00	PH	SP	17:15	17:16	S	6	3	C	0	0	E	
10/2/2012	17:00	PH	SB	17:18	17:21	S	6	3	C	0	0	E	
10/2/2012	17:00	PH	FP	17:23	17:24	S	6	3	C	0	0	E	
10/2/2012	17:00	PH	FB	17:26	17:29	S	6	3	C	0	0	E	
10/2/2012	17:00	PH	CG	17:36	17:39	S	6	3	C	0	0	E	
10/2/2012	17:00	PH	BC	17:40	17:45	S	6	3	C	0	0	E	
10/2/2012	17:00	PH	FR	17:46	17:47	S	6	3	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
10/2/2012	17:00	PH	NBC	17:52	17:53	S	6	3	C	0	0	E	
10/2/2012	17:00	PH	MB	17:55	17:56	S	6	2	C	5	1	E	MORT NOT SEEN
10/2/2012	17:00		WM	17:00	0:00								NO COUNT, supplement with WM camera photo count after download in 2013
10/3/2012	9:00	PH	SP	9:24	9:25	S	6	3	C	0	0	E	
10/3/2012	9:00	PH	SB	9:27	9:29	S	6	3	C	0	0	E	
10/3/2012	9:00	PH	FP	9:31	9:32	S	6	3	C	0	0	E	
10/3/2012	9:00	PH	FB	9:35	9:38	S	6	3	C	0	0	E	
10/3/2012	9:00	PH	CG	9:42	9:44	S	6	3	C	0	0	E	
10/3/2012	9:00	PH	BC	9:45	9:50	S	6	3	C	0	0	E	
10/3/2012	9:00	PH	FR	9:51	9:52	S	6	3	C	0	0	E	
10/3/2012	9:00	PH	NBC	9:57	9:58	S	6	3	C	0	0	E	
10/3/2012	9:00	PH	MB	10:00	10:01	S	6	2	C	25	0	G	
10/3/2012	9:00		WM	9:00	0:00								NO COUNT, supplement with WM camera photo count after download in 2013
10/4/2012	14:00	PH	SP	14:00	14:01	S	5	3	C	0	0	E	
10/4/2012	14:00	PH	SB	14:03	14:07	S	5	3	C	0	0	E	
10/4/2012	14:00	PH	FP	14:09	14:10	S	5	3	C	0	0	E	
10/4/2012	14:00	PH	FB	14:12	14:15	S	5	3	C	0	0	E	
10/4/2012	14:00	PH	CG	14:22	14:24	S	5	3	C	0	0	E	
10/4/2012	14:00	PH	BC	14:25	14:33	S	5	2	C	0	0	E	
10/4/2012	14:00	PH	FR	14:34	14:35	S	5	2	C	0	0	E	
10/4/2012	14:00	PH	NBC	14:40	14:41	S	5	2	C	0	0	E	
10/4/2012	14:00	PH	MB	14:43	14:44	S	5	2	C	0	0	E	EXCELLENT BEC. NO WALRUS PRESENT!
10/4/2012	14:00		WM	14:00	0:00								NO COUNT, supplement with WM camera photo count after download in 2013
10/5/2012	17:00	BV	SP	16:30	16:31	S	4	3	C	0	0	E	
10/5/2012	17:00	BV	SB	16:33	16:37	S	4	3	C	0	0	E	
10/5/2012	17:00	BV	FP	0:00	16:40	S	4	3	C	0	0	E	
10/5/2012	17:00	BV	FB	16:42	16:45	S	4	3	C	0	0	E	
10/5/2012	17:00	PH	CG	16:27	16:30	S	4	3	C	0	0	E	
10/5/2012	17:00	PH	BC	16:21	16:26	S	4	3	C	0	0	E	
10/5/2012	17:00	PH	FR	16:15	16:16	S	4	3	C	0	0	E	
10/5/2012	17:00	PH	NBC	16:10	16:11	S	4	2	C	0	0	E	
10/5/2012	17:00	PH	MB	16:05	16:07	S	4	2	C	35	10	G	
10/5/2012	17:00		WM	17:00	0:00								NO COUNT, supplement with WM camera photo count after download in 2013
10/6/2012	14:00	BV	SP	17:00	17:01	S	2	2	C	0	0	E	TIME CHANGED TO 17:00 BEC. OF DUTY CONFLICTS
10/6/2012	14:00	BV	SB	17:03	17:05	S	2	2	C	0	0	E	
10/6/2012	14:00	BV	FP	17:07	17:08	S	2	2	C	0	0	E	

APPENDIX B

Date	Sched. Time	Observ	Beach	Start Time	End Time	Method	BSS	Beach Cond.	Visibility	Land Count	Water Count	Count Quality	COMMENTS
10/6/2012	14:00	BV	FB	17:11	17:14	S	2	2	C	0	0	E	
10/6/2012	14:00	PH	CG	17:24	17:27	S	2	2	C	0	0	E	
10/6/2012	14:00	PH	BC	17:28	17:35	S	2	2	C	0	0	E	
10/6/2012	14:00	PH	FR	17:36	17:37	S	2	1	C	0	0	E	
10/6/2012	14:00	PH	NBC	17:42	17:43	S	2	1	C	0	0	E	
10/6/2012	14:00	PH	MB	17:45	17:50	S	2	1	C	245	45	G	
10/6/2012	14:00		WM	14:00	0:00								NO COUNT, supplement with WM camera photo count after download in 2013
10/7/2012	14:00	PH	SP	14:00	14:01	S	4	3	C	0	0	E	
10/7/2012	14:00	PH	SB	14:03	14:07	S	4	3	C	0	0	E	
10/7/2012	14:00	PH	FP	14:10	14:12	S	4	3	C	0	0	E	
10/7/2012	14:00	PH	FB	14:13	14:16	S	4	3	C	0	0	E	
10/7/2012	14:00	PH	CG	14:26	14:29	S	4	3	C	0	0	E	
10/7/2012	14:00	PH	BC	14:30	14:36	S	4	3	C	0	0	E	
10/7/2012	14:00	PH	FR	14:37	14:38	S	4	3	C	0	0	E	
10/7/2012	14:00	PH	NBC	14:44	14:45	S	4	2	C	0	0	E	
10/7/2012	14:00	PH	MB	14:47	14:50	S	4	2	C	76	10	G	
10/7/2012	14:00		WM	14:00	0:00								NO COUNT, supplement with WM camera photo count after download in 2013
10/8/2012	14:00	PH	MB	12:45	12:47					50	20	F	ESTIMATED FROM HELI;MAY HAVE BEEN DISTURBED ON HELI'S ARRIVAL @~12:20

APPENDIX C

Appendix C. 2012 walrus monitoring variability count summary.

Date	SKS	TIV	% Difference between Observers
7/16	445	454	2.0
7/17	810	780	-3.8
7/18	1252	973	-28.7
7/19	499	505	1.2
7/20	313	279	-12.2

Walrus count observers: SKS: Stephanie K. Sell; TIV: Teslyn Visscher

APPENDIX D

Appendix D. Anthropogenic and disturbance events, Round Island, Alaska, 2012.

Date	Start time	End time	Event	Source ID	Stimuli Type A/V/S	BMPs / Regs Violation	Closest approach (m)	Altitude (mAGL)	Herd Observed Y/N	Beach ID	Walrus # on beach	# Walrus Disturbed	ND	HR	OR	DS
5/15/12	11:27	11:54	Helo	R44	A	No	2778	92	Y	MB	225	0	225			
5/15/12	12:45	12:55	Helo	R44	A	No	2778	92	Y	MB	225	0	225			
5/16/12	7:20	9:37	Ship	F/V Kaylor T	A	No	2778	0	Y	MB	115	0	115			
5/16/12	7:56	8:00	Helo	R44	A	No	2778	92	Y	MB	115	0	115			
5/16/12	9:55	9:59	Helo	R44	A	No	2778	92	Y	MB	115	0	115			
5/18/12	9:30	9:35	Helo	R44	A	No	2963	92	Y	WM	40	0	40			
5/18/12	9:41	9:54	Helo	R44	A	No	2963	92	Y	WM	40	0	40			
5/18/12	10:12	10:16	Helo	R44	A	No	2963	61	N	WM	40	UNK				
5/18/12	19:10	19:20	Lg Boat	F/V M&M	V	Yes	3218	0	N							
5/19/12	14:35		Lg Boat		A	No	5556	0	N		0					
5/19/12	14:35		Lg Boat		A	No	5556	0	N		0					
5/19/12	14:35		Lg Boat		A	No	11265	0	N		0					
5/19/12	15:38		Lg Boat		A	No	5556	0	N		0					
5/19/12	15:39		Ship		A	No	11265	0	N		0					
5/19/12	15:45		Jet		A	No	0	9,144	N		0					
5/19/12	16:04		Lg Boat		A	No	5556	0	N		0					
5/19/12	17:14		Lg Boat		A	No	5633	0	N		0					
5/19/12	17:15		Lg Boat		A	No	9656	0	N		0					
5/19/12	17:45		Lg Boat		A	No	8047	0	N		0					
5/19/12	19:43		Lg Boat		A	No	6437	0	N		0					
5/20/12	14:58		Jet		A	No	0	9,144	N	MB	221	unk				
5/20/12	15:01		Lg Boat		A	No	9656	0	N	MB	221	unk				
5/20/12	15:04		Jet		A	No	0	9,144	N	MB	221	unk				
5/20/12	15:31		Jet		A	No	0	9,144	N	MB	221	unk				
5/20/12	16:56		Jet		A	No	0	9,144	N	MB	221	unk				
5/20/12	18:20		Ship		A	No	12875	0	N	MB	221	unk				
5/20/12	18:23		Lg Boat		A	No	9656	0	N	MB	221	unk				
5/20/12	19:50		Airplane		A	No	20000	UNK	N	MB	221	unk				
5/21/12	12:17		Lg Boat		A	No	9656	0	N	MB	313	unk				
5/21/12	14:16		Lg Boat		A	No	12875	0	N	MB	314	unk				
5/21/12	15:10		Jet		A	No	0	9,144	Y	MB	315	0	315			
5/22/12	10:32	10:41	Lg Boat	M/V Stimson	A	Yes	3540	0	N	MB	268	unk				
5/22/12	11:00		Lg Boat		A	No	11265	0	N	MB	268	unk				
5/22/12	12:41		Lg Boat		A	No	8851	0	N	MB	268	unk				
5/22/12	14:35	16:00	Lg Boat		A	No	12875	0	N	MB	268	unk				
5/22/12	17:15		Lg Boat		A	No	8047	0	N	MB	268	unk				
5/22/12	17:15		Ship	NONE	UNK	No	32000	0	N	MB	268	unk				
5/22/12	17:15		Sm. Boat	NONE	UNK	No	32000	0	N	MB	268	unk				

APPENDIX D

Date	Start time	End time	Event	Source ID	Stimuli Type A/V/S	BMPs / Regs Violation	Closest approach (m)	Altitude (mAGL)	Herd Observed Y/N	Beach ID	Walrus # on beach	# Walrus Disturbed	ND	HR	OR	DS
5/22/12	17:16		Airplane		A	No	20000	UNK	N	MB	268	unk				
5/22/12	18:40		Airplane		A	No	20000	UNK	N	MB	268	unk				
5/22/12	17:35		Jet		A	No	0	9,144	N	MB	268	unk				
5/22/12	17:30		Ship		A	No	5633	0	N	MB	268	unk				
5/22/12	19:00		Jet		A	No	0	9,144	N	MB	268	unk				
5/23/12	15:44		Ship		A	No	12875	0	Y	MB	189	0	189			
5/24/12	12:37		Jet		A	No	UNK	9,144	N	MB	100	unk				
5/24/12	13:01		Jet		A	No	UNK	9,144	N	MB	100	unk				
5/24/12	14:30		Airplane		A	No	25000	UNK	N	MB	100	unk				
5/24/12	15:00		Airplane		A	No	25000	UNK	N	MB	100	unk				
5/24/12	15:00		Lg Boat		A	No	UNK	0	N	MB	100	unk				
5/24/12	17:36		Lg Boat		A	No	8047	0	N	MB	100	unk				
5/25/12	8:32		Ship		A	No	16093	0	N	MB	85	unk				
5/25/12	10:26		ship		A	No	8047	0	N	MB	85	unk				
5/25/12	11:19		Jet		A	No	0	9,144	Y	MB	85	0	85			
5/25/12	11:22		Airplane		A	No	20000	UNK	Y	MB	85	0	85			
5/25/12	19:22		Lg Boat		A	No	6437	0	N	MB	85	unk				
5/25/12	19:22		Lg Boat		A	No	5556	0	N	MB	85	unk				
5/26/12	17:00		Lg Boat		A	No	UNK	0	N	MB	93	unk				
5/27/12	15:00		Ship		A	No	6437	0	N	MB	35	unk				
5/27/12	17:10		Sm. Boat	NONE	V	No	5556	0	N							
5/27/12	17:10		Sm. Boat	NONE	V	No	5633	0	N							
5/27/12	17:30		Sm. Boat	NONE	V	No	8047	0	N							
5/29/12	12:46		Ship		A	No	8851	0	N							
5/29/12	10:00		Lg Boat		V	No	14484	0	N							
5/29/12	10:00		Lg Boat		V	No	14484	0	N							
5/29/12	10:00		ship		V	No	14484	0	N							
5/29/12	10:00		ship		V	No	14484	0	N							
5/30/12	8:00		Sm. Boat	NONE	V	No	8047	0	N							
5/30/12	8:00		Sm. Boat	NONE	V	No	8047	0	N							
5/30/12	8:00		Sm. Boat	NONE	V	No	8047	0	N							
5/30/12	8:00		Ship		V	No	8047	0	N							
5/30/12	8:00		Ship		V	No	8047	0	N							
5/30/12	8:00		Ship		V	No	8047	0	N							
5/30/12	8:00		Ship		V	No	8047	0	N							
5/30/12	8:00		Ship		V	No	8047	0	N							
5/30/12	1:00		Jet		A	No	0	9,144	N							
5/30/12	3:30		Jet		A	No	0	9,144	N							
5/30/12	11:00		Jet		A	No	0	9,144	N							

APPENDIX D

Date	Start time	End time	Event	Source ID	Stimuli Type A/V/S	BMPs / Regs Violation	Closest approach (m)	Altitude (mAGL)	Herd Observed Y/N	Beach ID	Walrus # on beach	# Walrus Disturbed	ND	HR	OR	DS
5/30/12	13:01		Jet		A	No	0	9,144	N							
5/30/12	15:44		Jet		A	No	0	9,144	N							
5/30/12	21:49		Jet		A	No	0	9,144	N							
5/31/12	9:18		Jet		A	No	0	9,144	Y	MB	276	0	276			
5/31/12	9:18		Jet		A	No	0	9,144	Y	FR	1	0	1			
5/31/12	10:33		Ship		A	No	5556	0	Y	MB	276	0	276			
5/31/12	10:33		Ship		A	No	5556	0	Y	WM	2	0	2			
5/31/12	11:20		Jet		A	No	0	9,144	Y	FR	3	1	2	1		
5/31/12	13:01		Lg Boat	NONE	UNK	No	12875	0	N							
6/1/12			Lg Boat		V	No	14484	0	N							
6/1/12	12:28		Lg Boat		A	No	11265	0	N							
6/1/12	12:28		ship		A	No	28163	0	N							
6/1/12	12:28		ship		A	No	28163	0	N							
6/1/12	12:28		ship		A	No	28163	0	N							
6/1/12	12:28		ship		A	No	28163	0	N							
6/1/12	13:48		Airplane		A	No	20000	UNK	N							
6/1/12	14:42		Jet		A	No	0	9,144	N							
6/1/12	16:30		Jet		A	No	0	9,144	N							
6/1/12	16:45		Jet		A	No	0	9,144	N							
6/1/12	17:04		Jet		A	No	0	9,144	N							
6/1/12	16:00		Airplane		A	No	20000	UNK	N							
6/1/12	18:32		Ship		A	No	8047	0	N							
6/2/12	15:46		ship		A	No	8047	0	N							
6/2/12	15:46		ship		A	No	5633	0	N							
6/3/12	8:45		ship		A	No	5633	0	N							
6/3/12	9:01		ship		A	No	11265	0	N							
6/3/12	20:24		ship		A	No	9656	0	N							
6/4/12	9:35		Lg Boat		A	No	9656	0	N							
6/4/12	11:00		ship		A	No	8047	0	N							
6/4/12	11:00		Ship		A	No	12875	0	N							
6/4/12	15:39		ship		A	No	8851	0	N							
6/4/12	17:22		ship		A	No	12875	0	N							
6/5/12	15:35		Ship		A	No	8047	0	N							
6/5/12	18:30		Ship		A	No	25000	0	N							
6/5/12	21:30		Jet		A	No	0	9,144	N							
6/6/12	9:30	11:00	Ship		A	No	25000	0	N							
6/7/12	8:30		Ship		A	No	8047	0	N							
6/7/12	11:47		Jet		A	No	0	9,144	Y	SP	1	0	1			
6/8/12	11:30		Jet		A	No	0	9,144	N							

APPENDIX D

Date	Start time	End time	Event	Source ID	Stimuli Type A/V/S	BMPs / Regs Violation	Closest approach (m)	Altitude (mAGL)	Herd Observed Y/N	Beach ID	Walrus # on beach	# Walrus Disturbed	ND	HR	OR	DS
6/9/12	11:55		Jet		A	No	0	9,144	N							
6/10/12	14:08		Airplane		A	No	0	1,372	Y	MB	1413	900	513	900	900	500
6/10/12	14:41		Jet		A	No	UNK	9,144	Y	MB	1000	0	1000			
6/10/12	15:05		Airplane		A	No	UNK	UNK	N	WM	154	unk	unk			
6/10/12	15:19		Jet		A	No	0	9,144	Y	WM	154	0	154			
6/10/12	15:19		Jet		A	No	0	9,144	Y	MB	1000	0	1000			
6/10/12	16:21		Jet		A	No	0	9,144	Y	FR	11	0	11			
6/10/12	16:42		Jet		A	No	0	9,144	N							
6/10/12	16:55		Jet		A	No	0	9,144	N							
6/10/12	17:15		Jet		A	No	0	9,144	N							
6/10/12	22:45		Jet		A	No	0	9,144	N							
6/12/12	15:50	15:55	UNK	NONE	UNK	No	UNK	UNK	Y	MB	440	91	349			91
6/14/12	15:15		Jet		A	No	18520	9,144	Y	EC						6
6/15/12	4:30		Ship		A	No	9656	0	N							
6/15/12	7:30	8:00	Sm. Boat	NONE	V	No	5556	0	N							
6/15/12	13:21	13:43	Sm. Boat	M/V Qayassiq	A/V	No	5556	0	Y	FR	15	0	15			
6/15/12	13:43	15:05	Sm. Boat	M/V Qayassiq	V	No	180	0	Y	FR	15	0	15			
6/15/12	15:05		Jet		A	No	UNK	9,144	N							
6/15/12	22:00		Airplane		A	No	UNK	UNK	N							
6/16/12	15:11	15:20	Thunder storm		A/V	No	0	UNK	Y	MB	1200	1200	0	1200	1200	350
6/16/12	15:14		Thunder storm		A/V	No	0	UNK	Y	FR	16	13	3	13		5
6/16/12	16:38		Thunder storm		A/V	No	0	UNK	Y	FB	105	0	105			
6/16/12	16:43		Jet		A	No	0	9,144	Y	FB	105	0	105			
6/16/12	16:56		Thunder storm		A/V	No	0	UNK	Y	FB	105	6	99	6		
6/16/12	18:00		Thunder storm		A/V	No	0	UNK	N							
6/17/12	14:15		Airplane		A	No	20000	UNK	Y	FR	3	0	3			
6/18/12	10:01	10:10	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	0	0	0			
6/18/10	10:10	11:30	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	0	0	0			
6/19/12	10:30	12:30	Sm. Boat		A	No	16093	0	N							
6/21/12	8:33	8:45	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	13	0	13			
6/21/12	8:45	9:15	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	13	0	13			
6/21/12	9:15	20:08	Sm. Boat	M/V Qayassiq	V	No	180	0	Y	FR	6	0	6			
6/22/12	8:25	8:38	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	8	0	8			
6/22/12	8:38	9:00	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	8	0	8			

APPENDIX D

Date	Start time	End time	Event	Source ID	Stimuli Type A/V/S	BMPs / Regs Violation	Closest approach (m)	Altitude (mAGL)	Herd Observed Y/N	Beach ID	Walrus # on beach	# Walrus Disturbed	ND	HR	OR	DS
6/22/12	9:02		Ship		A	No	9656	0	Y	FR	8	0	8			
6/22/12	9:00	12:30	Sm. Boat	M/V Qayassiq	V	No	180	0	Y	FR	12	0	12			
6/22/12	12:30	12:50	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	12	0	12			
6/23/12	14:38		Airplane		A	No	UNK	UNK	N							
6/23/12	12:55	14:00	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	7	0	7			
6/23/12	17:06		Jet		A	No	0	9,144	Y	FB	135	0	135			
6/23/12	17:39		Jet		A	No	0	9,144	N							
6/24/12	14:21		Airplane		A	No	UNK	UNK	Y	MB	183	0	183			
6/25/12	7:30		Ship		V	No	9656	0	N							
6/25/12	10:02	10:26	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	1	0	1			
6/25/12	10:26	11:03	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	1	1				1
6/25/12	14:20	14:21	Airplane		A	No	0	UNK	N							
6/26/12	8:50	9:06	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	3	0	3			
6/26/12	9:06	10:34	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	3	0	3			
6/27/12	9:24	9:40	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	14	0	14			
6/27/12	9:40	10:18	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	14	0	14			
6/28/12	8:28	9:02	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	22	4	18			4
6/28/12	13:08	13:20	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	23	0	23			
6/28/12	13:20	14:15	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	23	0	23			
6/29/12	10:20	10:42	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	18	5	13			5
6/29/12	10:20	10:42	Sm. Boat	M/V Qayassiq	A/V	No	50	0	Y	BC	12	9	3			9
6/29/12	18:00	20:00	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	3	0	3			
6/30/12	16:44	16:48	UNK	NONE	UNK	No	UNK	UNK	Y	MB	1512	800	700		200	600
6/30/12	16:53		Airplane		A	No	20000	UNK	Y	MB	900	UNK				
6/30/12	17:21		Jet		A	No	0	9,144	N							
6/30/12	17:32		Jet		A	No	0	9,144	N							
7/1/12	15:24	15:40	UNK	NONE	UNK	No	UNK	UNK	Y	MB	1450	500	950	400		100
7/2/12	11:35	11:50	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	5	0	5			
7/2/12	11:50	12:30	Sm. Boat	M/V Qayassiq	A/V	No	50	0	Y		5	0	5			
7/2/12	17:20		UNK	NONE	UNK	No	UNK	UNK	Y	MB	670	420	150		50	100
7/2/12	18:14		UNK	NONE	UNK	No	UNK	UNK	Y	MB	700	525	200		450	75
7/2/12	18:37		UNK	NONE	UNK	No	UNK	UNK	Y	MB	~625	440			300	140
7/2/12	20:08		Ship		A	No	12875	0	N							
7/3/12	11:40	12:00	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	0	0	0			
7/3/12	12:00	19:44	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	10	5	5			5
7/4/12	10:00	10:30	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	0	0	0			
7/4/12	10:30	12:45	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	0	0	0			
7/5/12	9:36	9:49	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	6	0	6			
7/5/12	9:49	10:30	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	6	0	6			

APPENDIX D

Date	Start time	End time	Event	Source ID	Stimuli Type A/V/S	BMPs / Regs Violation	Closest approach (m)	Altitude (mAGL)	Herd Observed Y/N	Beach ID	Walrus # on beach	# Walrus Disturbed	ND	HR	OR	DS
7/5/12	20:08		UNK	NONE	UNK	No	UNK	UNK	Y	MB	1500	800	700			800
7/6/12	7:45	8:00	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	12	9	3			9
7/6/12	7:45	8:00	Sm. Boat	M/V Qayassiq	A/V	No	50	0	Y	BC	3	1	2			1
7/6/12	7:45	8:00	Sm. Boat	M/V Qayassiq	A/V	No	120	0	Y	CG	2	0	2			
7/6/12	8:00	8:59	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	12	9	3			
7/6/12	8:00	8:59	Sm. Boat	M/V Qayassiq	A/V	No	50	0	Y	BC	3	1	2			
7/6/12	8:00	8:59	Sm. Boat	M/V Qayassiq	A/V	No	120	0	Y	CG	2	0	2			
7/7/12	8:10	8:27	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	3	3	0			3
7/7/12	8:27	9:35	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	3	3	0			3
7/7/12	10:52		Jet		A	No	0	9,144	N							
7/7/12	14:28		Airplane		A	No	0	UNK	Y	MB	1650	420	1230		400	20
7/7/12	14:30		Jet		A	No	0	9,144	Y	SB	236	132	104	100		32
7/7/12	13:20		Airplane		A	No	0	UNK	N							
7/7/12	18:00	20:00	Thunder storm		A/V	No	0	UNK	Y	FB		100			70	30
7/7/12	18:18		Thunder storm		A/V	No	0	UNK	Y	MB	~1650	700			700	
7/8/12	7:45	7:52	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	8	1	7			1
7/8/12	7:52	9:00	Sm. Boat	M/V Qayassiq	A/V	No	0	0	Y	FR	8	1	7			1
7/9/12	6:59	7:33	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	8	2	6			2
7/9/12	16:45	17:30	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	6	6	0			6
7/9/12	19:10	21:00	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	0	0	0			
7/10/12	9:40	10:00	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	0	0	0			
7/10/12	10:00	14:40	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	0	0	0			
7/10/12	19:10		Jet		A	No	0	9,144	N							
7/11/12	14:36	14:40	Airplane		A	No	0	UNK	Y	MB	~100	0	100			
7/11/12	15:36		Jet		A	No	0	9,144	N							
7/12/12	11:40	12:00	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	12	4	8	2		2
7/12/12	20:40	21:05	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	7	0	7			
7/15/12	9:50	10:20	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	7	7	0	1	1	5
7/15/12	10:20	10:50	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	7	7	0	1	1	5
7/15/12	12:29	12:44	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	6	2	4	2		
7/15/12	12:44	13:13	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	6	2	4	2		
7/15/12	15:45	16:00	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	6	1	5	1		
7/15/12	16:00	16:50	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	6	1	5	1		
7/16/12	8:13	8:27	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	7	0	7			
7/16/12	8:27	8:40	Sm. Boat	M/V Qayassiq	A/V	No	180	0	Y	FR	7	0	7			
7/16/12	10:13	10:15	Airplane		A	No	20000	UNK	Y	FR	7	0	7			
7/16/12	17:45		Jet		A	No	0	9,144	N							

APPENDIX D

Date	Start time	End time	Event	Source ID	Stimuli Type A/V/S	BMPs / Regs Violation	Closest approach (m)	Altitude (mAGL)	Herd Observed Y/N	Beach ID	Walrus # on beach	# Walrus Disturbed	ND	HR	OR	DS
7/16/12	17:51		Airplane		A	No	0	1,524	N							
7/17/12	14:23		Lg Boat		A	No	14484	0	N							
7/17/12	15:39		Jet		A	No	0	3,048	N							
7/17/12	19:01		Jet		A	No	0	9,144	N							
7/18/12	14:21		Lg Boat		V	No	17703	0	N							
7/18/12	15:01		Ship		A	No	8047	0	N							
7/18/12	21:45		Lg Boat		V	No	9656	0	N							
7/19/12	15:34		Jet		A	No	0	9,144	N							
7/19/12	15:38		Jet		A	No	0	9,144	N							
7/19/12	17:40		Airplane		A	No	UNK	UNK	Y	MB	480	0	480			
7/19/12	17:52		Airplane		A	No	UNK	UNK	Y	MB	480	0	480			
7/19/12	20:42		Ravens		A	No	0	1	Y	FB	120	42	78	14		28
7/19/12	21:57		Jet		A	No	0	9,144	N							
7/20/12	14:02		Airplane		A	No	20000	UNK	N							
7/20/12	14:38		Jet		A	No	0	9,144	Y	FB	81	0				
7/20/12	15:39		Jet		A	No	0	9,144	N							
7/20/12	16:04		Jet		A	No	0	9,144	N							
7/21/12	8:16	8:28	Sm. Boat	M/V Lindsey Mary	A/V	No	50	0	Y	FR	11	11				11
7/21/12	16:07		Jet		A	No	0	9,144	N							
7/21/12	17:12		Lg Boat		A	No	16093	0	N							
7/22/12	18:13	18:15	Jet		A	No	0	9,144	Y	FR	11	0				
7/23/12	16:55		Jet		A	No	0	9,144	N							
7/23/12	15:30		Jet		A	No	0	9,144	N							
7/24/12	11:37		Jet		A	No	0	9,144	N							
7/25/12	11:47		Jet		A	No	0	9,144	Y	MB		0				
7/25/12	14:23		Jet		A	No	0	9,144	Y	SB	79	0				
7/25/12	14:58		Lg Boat		A	No	12875	0	N							
7/26/12	0:30		Lg Boat		V	No	16093	0	N							
7/26/12	11:04		Airplane		A	No	0	UNK	N							
7/26/12	14:30		UNK	NONE	UNK	No	UNK	UNK	Y	MB	390	50	340	5	15	30
7/26/12	17:48	18:00	Lg Boat		V	No	6437	0	N							
7/27/12	11:17		Jet		A	No	0	9,144	N							
7/27/12	12:20		Jet		A	No	0	9,144	N							
7/27/12	15:16		Airplane		A	No	20000	UNK	N							
7/27/12	17:11		Boat	NONE	V	No	11265	0	N							
7/28/12	17:45		Jet		A	No	0	9,144	Y	FR	2	0				
7/29/12	1:55		Lg Boat		V	No	16093	0	N							
7/29/12	15:09		Airplane		A	No	20000	UNK	N							

APPENDIX D

Date	Start time	End time	Event	Source ID	Stimuli Type A/V/S	BMPs / Regs Violation	Closest approach (m)	Altitude (mAGL)	Herd Observed Y/N	Beach ID	Walrus # on beach	# Walrus Disturbed	ND	HR	OR	DS
7/30/12			Airplane		NONE	No	0	9,144	N							
7/31/12	8:25	8:45	Sm. Boat	M/V Lindsey Mary	A/V	No	180	0	Y	FR	3	0	3	0	0	0
7/31/12	8:45	9:00	Sm. Boat	M/V Lindsey Mary	A/V	No	180	0	Y	FR	3	3	0	2	0	1
7/31/12	9:04		Jet		A	No	0	9,144	N							
7/31/12	15:00		UNK	NONE	UNK	No	UNK	UNK	Y	FB	87	36	51	5	0	31
8/1/12	11:19		Jet		A	No	0	9,144	N							
8/1/12	12:34		Jet		A	No	0	9,144	Y	SB	~48	0				
8/1/12	13:58		Jet		A	No	0	9,144	N							
8/1/12	16:02		Jet		A	No	0	9,144	Y	MB	~920	0				
8/2/12	11:23		Jet		A	No	0	9,144	Y	FR		0				
8/3/12	10:50		UNK	NONE	UNK	No	UNK	UNK	Y	MB	600	16	584	12	0	4
8/3/12	11:17		Jet		A	No	0	9,144	N							
8/4/12	9:45		UNK	NONE	S?	No	UNK	UNK	Y	BC	60	60	0	0	0	60
8/4/12	10:10		UNK	NONE	UNK	No	UNK	UNK	Y	SB	76	42	34	0	0	42
8/4/12	13:58		Airplane		A	No	0	UNK	N							
8/5/12	15:17		Jet		A	No	0	9,144	N							
8/6/12	12:00		Airplane		A	No	0	UNK	N							
8/6/12	15:15		Jet		A	No	0	9,144	N							
8/6/12	17:01		Boat	NONE	V	No	16093	0	N							
8/7/12	8:10	8:34	Sm. Boat	M/V Lindsey Mary	A/V	No	180	0	Y	FR	6	0	6	0	0	0
8/7/12	8:34	8:53	Sm. Boat	M/V Lindsey Mary	A/V	No	180	0	Y	FR	6	4	2	4	0	0
8/7/12	10:03		Jet		A	No	0	9,144	N							
8/7/12	17:01		Jet		A	No	0	9,144	N							
8/8/12	10:00		Jet		A	No	0	9,144	N							
8/8/12	13:05		Boat	NONE	A	No	12875	0	N							
8/8/12	14:22		Jet		A	No	0	9,144	N							
8/8/12	16:38		Boat	NONE	A	No	UNK	0	N							
8/8/12	16:39		UNK	NONE	UNK	No	UNK	UNK	Y	MB	450	12	438	0	0	12
8/8/12	17:26		Jet		A	No	0	9,144	Y	MB	450	0				
8/8/12	17:36		Jet		A	No	0	9,144	Y	FR	4	0				
8/9/12	10:34		Jet		A	No	0	9,144	N							
8/9/12	11:19		Jet		A	No	0	9,144	N							
8/9/12	12:17		Jet		A	No	0	9,144	N							
8/9/12	15:01		UNK	NONE	UNK	No	UNK	UNK	Y	MB	900	100	800	0	0	100
8/9/12	15:37		Jet		A	No	0	9,144	Y	MB	~840	0				

APPENDIX D

Date	Start time	End time	Event	Source ID	Stimuli Type A/V/S	BMPs / Regs Violation	Closest approach (m)	Altitude (mAGL)	Herd Observed Y/N	Beach ID	Walrus # on beach	# Walrus Disturbed	ND	HR	OR	DS
8/9/12	15:53		Jet		A	No	0	9,144	Y	MB	~840	0				
8/10/12	11:32		Jet		A	No	0	9,144	N							
8/10/12	15:34		Jet		A	No	0	9,144	Y	MB	~880	0				
8/10/12	15:43		Jet		A	No	0	9,144	Y	MB	~880	0				
8/10/12	18:30		Jet		A	No	0	9,144	N							
8/11/12	11:53		Jet		A	No	0	9,144	N							
8/11/12	15:51		Jet		A	No	0	9,144	Y	MB	~810	0				
8/11/12	17:46		Jet		A	No	0	9,144	N							
8/12/12	15:37		Jet		A	No	0	9,144	N							
8/13/12	13:10		Airplane		A	No	20000	UNK	N							
8/13/12	13:20		Boat	NONE	A	No	UNK	0	N							
8/13/12	13:50		Airplane		A	No	20000	UNK	N							
8/13/12	15:58		Jet		A	No	0	9,144	N							
8/15/12	16:27		Lg Boat		A/V	No	16093	0	N							
8/16/12	8:58	9:15	Sm. Boat	ADF&G#1364 7	A/V	Yes	3218	0	Y	FB	53	0	53	0	0	0
8/17/12	16:42		Jet		A	No	0	9,144	N							
8/17/12	17:05		Lg Boat		V	No	20117	0	N							
8/17/12	18:21		Boat	NONE	V	No	4828	0	N							
9/8/12	15:53	15:55	Helo	Bell Ranger Jet	A/V	No	150	92	Y	FB						
9/8/12	17:20	17:23	Jet		A/V	No	UNK	9,144	N							
9/9/12	16:00	16:05	Jet		A	No	UNK	9,144	N							
9/10/12	14:30	17:00	Ship		A/V	No	4828	0	N							
9/12/12	16:15	16:55	Airplane		A	No	UNK	UNK	Y	MB	150	0				
9/12/12	16:40	16:45	UNK	NONE	UNK	No	UNK	UNK	Y	MB	340	150	190	150	150	8
9/12/12	18:00	18:03	Jet		A	No	unk	9,144	N							
9/17/12	14:15	14:16	Jet		A	No	Unk	9,144	N							
9/19/12	10:20	10:25	UNK	NONE	UNK	No	UNK	UNK	Y	MB	560	50	410	50	50	20
9/20/12	10:02	10:05	UNK	NONE	UNK	No	UNK	UNK	Y	MB	350	250	100	250	150	20
9/26/12	17:30	17:32	Jet		A	No	UNK	9,144	Y	MB	0	0				
9/29/12	14:00	15:00	Ship		A/V	NO	11265	0	Y	MB	500	0	500			
9/29/12	17:00	17:05	Jet		A	No	UNK	9,144	N							
9/30/12	16:30	16:40	Jet		A	No	UNK	9,144	N							
10/1/12	10:15	10:20	Airplane		A	No	UNK	305	Y	MB	45	30	UNK	UNK	UNK	UNK
10/7/12	14:50	14:55	Airplane		A	No	0	9,144	Y	MB	76	11	55	10	0	1
10/8/12	12:45	2:50	Helo	Bell Ranger Jet	A/V	No	1600	107	Y	MB	~70	~20	50	UNK	UNK	10

APPENDIX E

Appendix E. Steller sea lion daily count data for 2012, Round Island, Alaska

Date	Start Time	Finish Time	V1 Land	V1 Water	V2 Land	V2 Water	V3 Land	V3 Water	V4 Land	V4 Water	Total Land	Total Water	Total	Brand	Photo	% Certain
5/15/12	1415	1442	87	4	24	0	23	0	19	0	153	4	157	A114	Y	100
														M848	Y	100
5/16/12	NO COUNT	NO COUNT											0			
5/17/12	1448	1521	18	8	8	16	16	0	0	0	42	24	66	X165	Y	100
														A637	Y	100
5/18/12	1603	1644	165	4	12	0	43	1	9	0	229	5	234	A253	Y	100
5/19/12	1331	1414	146	15	19	0	37	2	13	22	215	39	254	M848	Y	100
														X442	Y	100
														A605	Y	100
														A23	Y	
5/20/12	1540	1620	134	32	28	0	34	6	40	5	236	43	279	M848	Y	100
														A420	Y	100
														A372	Y	100
														A460	Y	100
														A462	Y	100
														A291	Y	100
5/21/12	1450	1540	65	18	30	4	32	4	45	15	172	41	213	X442	Y	100
														X425	Y	100
														A637	Y	100
														A372	Y	100
														A460	N	100
5/22/12	1351	1428	92	33	27	2	32	0	30	20	181	55	236	X442	Y	100
														M717	Y	100
														A637	Y	100
														X425	Y	100
														_196	Y	
														A462	Y	100
														A114	Y	100
5/23/12	1500	1550	74	6	30	2	41	8	53	5	198	21	219	A605	Y	100
														A372	Y	100
														A196	Y	100
														A637	N	100
5/24/12	1439	1501	97	13	18	0	32	2	32	0	179	15	194	NONE		
5/25/12	1015	1055	98	7	23	3	24	7	3	15	148	32	180	A637	Y	100
														M848	Y	100
														A230	Y	100
														A420	Y	100
														A114	Y	100
														X425	N	100

APPENDIX E

Date	Start Time	Finish Time	V1 Land	V1 Water	V2 Land	V2 Water	V3 Land	V3 Water	V4 Land	V4 Water	Total Land	Total Water	Total	Brand	Photo	% Certain
5/26/12	1453	1531	134	19	35	3	32	4	48	10	249	36	285	A637	Y	100
														A369	Y	100
														A196	Y	100
5/27/12	955	10:45	100	4	21	0	17	3	3	3	141	10	151	X442	Y	100
														X425	Y	100
														A460	Y	100
5/28/12	1625	1700	120	1	18	1	24	0	4	3	166	5	171	A196	Y	100
														A369	Y	90
5/29/12	1445	1545	138	28	19	3	41	4	31	3	229	38	267	X442	N	100
														X557	Y	100
														A196	Y	100
5/30/12	954	10:22	159	12	19	2	24	11	0	12	202	37	239	A196	Y	100
														X442	Y	100
5/31/12	950	10:50	153	23	17	7	18	10	6	1	194	41	235	A637	Y	100
														A365	Y	100
														A196	Y	100
														A460	Y	100
														A7__	Y	
6/1/12	1429	1506	141	28	20	2	32	5	36	20	229	55	284	A196	Y	100
														A678	Y	100
														A751	Y	100
														A430	Y	100
														A637	Y	100
														X557	Y	100
														A460	Y	100
6/2/12	1450	1600	58	22	30	10	31	4	58	10	177	46	223	A615	Y	100
														A605	Y	100
														A678	Y	100
6/3/12	939	10:10	140	3	41	4	22	1	19	15	222	23	245	A678	Y	100
														A637	Y	100
														A415	Y	100
														A460	Y	100
6/4/12	10:05	11:00	182	10	30	3	31	2	17	10	260	25	285	X442	Y	100
														M848	Y	100
														A637	Y	100
														A196	Y	100
														M902	Y	
6/5/12	943	10:20	193	4	43	3	18	0	7	0	261	7	268	X442	Y	95
														A751	Y	100
														A678	Y	100
														M902	Y	100

APPENDIX E

Date	Start Time	Finish Time	V1 Land	V1 Water	V2 Land	V2 Water	V3 Land	V3 Water	V4 Land	V4 Water	Total Land	Total Water	Total	Brand	Photo	% Certain
6/6/12	1000	1035	227	10	37	0	23	0	17	2	304	12	316	A415	Y	100
														X442	Y	100
														M848	Y	100
6/7/12	1151	1228	189	4	34	1	23	0	24	6	270	11	281	A637	Y	100
														X425	Y	100
														A678	Y	100
6/8/12	955	10:45	156	2	45	0	15	0	4	0	220	2	222	X425	Y	100
														A554	Y	100
														A751	Y	100
														A678	Y	100
6/9/12	950	10:12	176	15	31	0	18	0	0	5	225	20	245	A751	Y	100
6/10/12	1550	1640	121	41	29	2	39	1	45	7	234	51	285	X557	Y	100
6/11/12	948	10:18	190	5	25	0	12	2	0	1	227	8	235	A751	Y	100
6/12/12	1050	1125	178	25	28	0	13	1	4	2	223	28	251	A554	Y	100
6/13/12	1152	1222	125	32	55	2	22	5	35	0	237	39	276	A554	Y	100
6/14/12	1500	1530	12	9	39	9	33	1	54	21	138	40	178	A554	Y	100
														M902	Y	100
6/15/12	NO COUNT	NO COUNT											0			
6/16/12	1010	1035	172	22	64	5	31	0	20	16	287	43	330	X399	Y	100
6/17/12	1500	1521	81	3	67	6	46	0	11	2	205	11	216	none		
6/18/12	1551	1640	0	0	80	0	48	0	31	5	159	5	164	X442	Y	80
														X4__	Y	50
6/19/12	942	10:20	42	17	70	1	40	1	23	1	175	20	195	A637	Y	100
														A751	Y	100
														A554	Y	100
6/20/12	1642	1715	0	0	60	10	25	7	76	10	161	27	188	A751	Y	100
6/21/12	1537	1557	20	0	38	5	39	0	82	21	179	26	205	A751	N	100
														X557	N	100
														X399	N	100
														A637	N	100
														A605	N	100
6/22/12	5/28	7/7	0	4	26	1	35	2	66	18	127	25	152	A751	Y	100
														A605	Y	100
6/23/12	10/8	12/20	3	1	45	0	44	0	20	6	112	6	118	A751	Y	100
														A637	Y	100
6/24/12	7/23	8/12	0	0	29	0	51	0	0	0	80	0	80	A751	N	100
6/25/12	NO COUNT	NO COUNT											0			
6/26/12	2/20	3/24	11	1	44	0	65	0	35	2	155	2	157	A751	Y	100
														A605	Y	100

APPENDIX E

Date	Start Time	Finish Time	V1 Land	V1 Water	V2 Land	V2 Water	V3 Land	V3 Water	V4 Land	V4 Water	Total Land	Total Water	Total	Brand	Photo	% Certain
6/27/12	12/23	2/23	0	0	35	2	55	0	75	15	165	17	182	X399	Y	100
6/28/12	NO COUNT	NO COUNT											0			
6/29/12	NO COUNT	NO COUNT											0			
6/30/12	12/25	2/28	19	2	44	2	49	1	12	1	124	5	129	X425	Y	100
														X399	Y	100
														A605	Y	100
7/1/12	2/27	3/20	12	1	42	1	58	0	19	7	131	8	139	X425	Y	80
7/2/12	6/2	7/6	25	0	42	0	55	0	20	12	142	12	154	A605	Y	100
														X399	Y	100
7/3/12	9/10	9/30	2	1	46	0	27	0	NC	NC	75	0	75	none		
7/4/12	12/5	1/7	0	0	74	0	42	1	19	0	135	1	136	A751	Y	100
7/5/12	NO COUNT	NO COUNT											0			
7/6/12	6/3	9/6	0	0	57	0	41	0	23	3	121	3	124	A751	Y	100
														X399	Y	100
7/7/12	8/22	10/31	0	0	49	0	39	3	57	0	145	3	148	none		
7/8/12	3/24	5/28	0	0	32	0	35	2	23	0	90	2	92	none		
7/9/12	1012	1100	42	9	58	4	41	0	7	0	148	13	161	X399	Y	100
7/10/12	1429	1500	0	0	57	0	45	1	51	5	153	6	159	A605	Y	100
7/11/12	1615	1635	0	0	33	0	34	0	42	0	109	0	109	X557	N	100
														M902	N	100
7/12/12	NO COUNT	NO COUNT											0			
7/13/12	850	9:30	36	7	45	2	30	2	1	20	112	31	143	none		
7/14/12	948	10:22	64	2	40	0	29	1	6	2	139	5	144	A637	Y	100
														A557	Y	100
														A751	Y	100
7/15/12	NO COUNT	NO COUNT											0			
7/16/12	1539	1623	1	4	51	4	71	3	79	28	202	39	241	M902	Y	100
														X557	Y	100
														A554	Y	100
7/17/12	1449	1526	0	17	46	11	42	10	81	31	169	69	238	A554	N	100
														A751	Y	100
														X442	Y	100
7/18/12	NO COUNT	NO COUNT											0			
7/19/12	1550	1622	0	0	33	4	50	0	56	24	139	28	167	M902	Y	100

APPENDIX E

Date	Start Time	Finish Time	V1 Land	V1 Water	V2 Land	V2 Water	V3 Land	V3 Water	V4 Land	V4 Water	Total Land	Total Water	Total	Brand	Photo	% Certain
														A605	Y	100
														A751	Y	100
														X399	Y	100
7/20/12	1520	1548	25	10	39	1	54	2	30	15	148	28	176	X442	Y	100
7/21/12	1308	1340	58	4	37	2	48	0	26	3	169	9	178	X442	Y	100
														A751	Y	100
7/22/12	1532	1635	67	20	22	0	37	1	52	7	178	28	206	X442	Y	100
7/23/12	1445	1525	109	6	37	0	46	0	43	8	235	14	249	X399	Y	101
														X442	Y	102
														A605	Y	103
														A637	Y	104
7/24/12	1754	1856	66	7	29	1	39	2	22	5	156	15	171	X442	Y	100
														X399	Y	100
7/25/12	1452	1535	2	1	28	0	48	0	82	10	160	11	171	X399	Y	101
														A751	Y	102
														A573	Y	103
														A554	Y	104
														X557	Y	105
7/26/12	1308	1350	18	5	25	1	23	1	43	0	109	7	116	A573	N	100
														X557	Y	100
														A751	Y	100
7/27/12	1736	1802	0	0	51	0	64	0	108	2	223	2	225	X399	Y	100
7/28/12	1601	1645	52	3	29	0	40	0	82	0	203	3	206	none		
7/29/12	949	1022	22	5	53	1	40	11	9	10	124	27	151	none		
7/30/12	1006	1048	83	0	28	0	38	2	3	1	152	3	155	none		
7/31/12	1552	1615	45	5	43	0	35	0	18	2	141	7	148	A637	Y	80
														A751	Y	100
														A820	Y	80
8/1/12	1250	1332	31	0	45	0	33	0	31	2	140	2	142	A573	Y	100
														A554	Y	100
8/2/12	1608	1632	7	2	59	0	44	0	15	2	125	4	129	X399	Y	100
8/3/12	1017	1045	35	0	52	0	38	0	3	0	128	0	128	M902	N	100
														A751	N	100
														A637	N	100
																ER_JU_bl packingband
8/4/12	857	945	51	4	54	0	43	0	4	3	152	7	159	M902	N	100
8/5/12	1322	1358	3	0	64	1	44	3	125	7	236	11	247	A820	Y	100

APPENDIX E

Date	Start Time	Finish Time	V1 Land	V1 Water	V2 Land	V2 Water	V3 Land	V3 Water	V4 Land	V4 Water	Total Land	Total Water	Total	Brand	Photo	% Certain
														X399	Y	100
8/6/12	1616	1651	2	2	58	2	55	2	59	14	174	20	194	X399	Y	100
														A554	Y	100
														A751	Y	100
														A820	Y	100
8/7/12	1000	1029	50	9	47	1	44	0	14	13	155	23	178	M902	Y	100
														A554	Y	100
8/8/12	1748	1827	7	12	47	0	52	2	49	8	155	22	177	A751	Y	100
8/9/12	1744	1818	32	9	44	3	47	0	102	15	225	27	252	X442	Y	100
														A554	Y	100
														A573	Y	100
														M902	Y	100
														A751	Y	100
														X557	Y	100
														A820	Y	100
8/10/12	NO COUNT	NO COUNT											0			
8/11/12	1738	1816	0	0	39	0	50	0	89	3	178	3	181	A751	Y	100
														A637	Y	100
														X442	Y	100
8/12/12	1257	1325	29	10	26	0	37	14	42	34	134	58	192	X399	Y	100
8/13/12	950	1031	24	59	20	1	37	0	32	52	113	112	225	X399	Y	100
														A554	Y	80
														A605	Y	100
														A751	Y	100
8/14/12	945	1049	18	36	9	0	36	0	12	30	75	66	141	None		
8/15/12	1432	1506	12	28	28	17	40	7	38	20	118	72	190	A820	Y	100
														X399	Y	100
														A751	Y	100
														A573	Y	100
8/16/12	1434	1503	17	12	24	4	35	1	15	30	91	47	138	X442	Y	100
8/17/12	1607	1636	45	10	31	2	48	2	24	9	148	23	171	X557	Y	100
														A637	Y	100
8/18/12	NO COUNT	NO COUNT											0			
8/19/12	942	1001	1	0	33	0	57	0	15	0	106	0	106	None	N	
8/20/12	13:12	13:33	0	0	54	0	42	2	56	4	152	6	158	none	N	
8/21/12	13:11	13:27	0	0	48	0	63	0	45	0	156	0	156	A751	N	100
9/8/12	18:58	19:32	0		64	20	44		34		142	20	162	A745		
														A712		
														M902		

APPENDIX E

Date	Start Time	Finish Time	V1 Land	V1 Water	V2 Land	V2 Water	V3 Land	V3 Water	V4 Land	V4 Water	Total Land	Total Water	Total	Brand	Photo	% Certain
														A554		
9/9/12	11:20	13:53	0		59		45		63	40	167	40	207	A554	Y	
														A751	Y	
														A745	Y	
														A637	Y	
														A820	Y	
														A605	Y	
														X557	Y	
9/9/12	16:36	18:15	0		66		43		110		219	0	219	A820	Y	
														A751	Y	
														A745	Y	
9/10/12	16:58	17:41	5		40		60		13		118	0	118	A745	Y	
9/11/12	16:01	17:21	5		37		53		11		106	0	106	A751		
9/12/12	17:35	18:41			66		66		57		189	0	189	A712		
														A751		
														Tag		
														A745		
														A605		
9/13/12	16:29	17:41	0		69		64		40		173	0	173	X557		
														A637		
														A745		
														M902		
9/14/12	11:52	13:38	3	16	33		47			25	83	41	124	A712		
														A745		
														X557		
9/15/12	13:08	13:50	6	40	42	0	32	10	0	8	80	58	138	none		
9/16/12	NO COUNT	NO COUNT											0			
9/17/12	9:53	11:40	0		48		61		21		130	0	130	M902		
														A745		
														A637		
														A554		
														A751		
9/18/12	10:40	11:58	1		66		73		38		178	0	178	A712		
														M902		
														A745		
9/19/12	10:08	12:03	0		58		58		39		155	0	155	A712		
														A745		
														A605		
9/20/12	10:15	12:11	10		58		62		79		209	0	209	A712		
														X557		

APPENDIX E

Date	Start Time	Finish Time	V1 Land	V1 Water	V2 Land	V2 Water	V3 Land	V3 Water	V4 Land	V4 Water	Total Land	Total Water	Total	Brand	Photo	% Certain
														A745		
														A820		
														A554		
9/21/12	10:44	12:30	13		48		48		55		164	0	164	A745		
														A820		
														A554		
														A605		
														X557		
9/22/12	NO COUNT	NO COUNT											0			
9/23/12	15:45	17:42			68		45		116		229	0	229	A712	Y	
														A751	Y	
														A745	Y	
														A605	Y	
														A554	N	
														A820	Y	
														M902	Y	
														X557	Y	
														A637	Y	
9/24/12	9:57	11:22	3		7		44	40	0		54	40	94	A745		
9/25/12	10:58	11:50	2		0		26	51	0		28	51	79	X557		
9/26/12	16:01	17:05	11		23		68		2		104	0	104	A712	Y	
														A751	Y	
														X557	Y	
9/27/12	10:19	12:05	7		42		55		4		108	0	108	A712	Y	
9/28/12	15:53	16:50	0		38		41	13	3		82	13	95	X557	Y	
														A554	Y	
														A712	Y	
9/29/12	12:08	16:12	0		56		59	20	2		117	20	137	A554	Y	
														A573	Y	
														A751	Y	
														A820	Y	
														X557	Y	
														M902	Y	
														A678	Y	
														A712	Y	
9/30/12	11:47	15:13	1		22		36	10	37		96	10	106	A573	Y	
														A712	Y	
10/1/12	NO COUNT	NO COUNT											0			
10/2/12	11:19	12:50	0					21			0	21	21			

APPENDIX E

Date	Start Time	Finish Time	V1 Land	V1 Water	V2 Land	V2 Water	V3 Land	V3 Water	V4 Land	V4 Water	Total Land	Total Water	Total	Brand	Photo	% Certain
10/3/12	10:41	12:52	6		38		29	5	0		73	5	78	A712	Y	
														X557	Y	
10/4/12	11:31	13:34	2		0		43	20	0		45	20	65	A820	Y	
10/5/12	11:56	14:12	0		6		3		71	10	80	10	90	A678	Y	
10/6/12	10:35	12:35	12		43		60				115	0	115	A230	Y	
														M902	Y	
														X442	Y	
10/7/12	NO COUNT	NO COUNT														
10/8/12	NO COUNT	NO COUNT														

APPENDIX F

Appendix F. 2012 Pelagic Cormorant Productivity Data, OP, FP & SB Index Plots, Round Island, Alaska.

2012 Pelagic Cormorant Productivity Observation Point (OP)																								
Nest #	5/16	5/20	5/23	5/24	5/27	5/28	5/29																	
1	e1	e3	e3+	e4	IP	B	N																	
2			e1	e1	IP	e1	N																	
2012 Pelagic Cormorant Productivity First Prime (FP)																								
Nest #	5/30	6/1	6/3	6/7	6/11	6/15	6/19	6/24	6/28	7/3	7/7	7/10	7/14	7/18	7/23	7/27	8/1	8/6	8/10	8/14	8/18			
1	e1	e3	e3	IP	e4	e3+	e3+	e4	e1+	c3+	c3	c3	c3	c3	c3	c3	c3	c3	c3	c3	f3	N		
2		e1	e2	IP	e3+	e2+	e3+	e2+	e3	IP	c2, e1	c1+	BP	c2	c2	c2	c2	c2	c2	c2	f2	c1		
3					e1	e3+	e3	e3	IP	IP	e2+	e2+	c1+	BP	c1+	BP	BP	c2	c2	c2	c2	f2		
2012 Pelagic Cormorant Productivity Second Beach (SB)																								
Nest #	5/26	5/28	5/30	6/1	6/3	6/7	6/11	6/15	6/19	6/24	6/28	7/3	7/7	7/10	7/14	7/18	7/23	7/27	8/1	8/6	8/10	8/14	8/18	
1	e1	e2	e2+	e3	e3	e3+	e3+	e3+	e3+	c1+	BP	BP	c2+	c3	c2+	c2+	c3	c3	c2+	f3	c3	N	N	
2			e1	e1	e3+	e2+	e2+	IP	e1+	IP	e1+	c1+	c1+	c1+	BP	c2	c2	c2	c2	c2	c2	f2	c1	
3				e1	e1	IP	B	B	B	delet ed														
4					e1	e2	e2+	e3	e2+	IP	e1+	c1e2	c1+	c1+	BP	c2	c1+	c1	c1	c1	c1	f1	c1	
5					e1	IP	e2+	IP	e1+	e2+	e1+	IP	BP	BP	BP	c1+	c1+	c2	BP	c1+	c2	c2	f2	
6					e1	e2+	e3	e3	e2+	IP	e2+	c1+	c1+	c1+	c1+	c2	c2	c2	c1+	c3	c3	c3	f2	
7					e1	e2+	e2+	e1+	e3+	e2+	e1+	c1+	c1+	c2	c2+	c2+	c3	c3	c2+	c3	c3	c3	f4	
8							e1+	e1+	e1+	IP	IP	IP	c1+	c1+	BP	c2	c2	c2	c2	c2	c2	c2	f3	
9								e4	IP	IP	e1+	IP	BP	BP	BP	BP	c1	c1+	c3	c3	c3	c3	f3	
10								e2+	IP	e2+	IP	IP	BP	BP	BP	BP	c1+	c1+	c1+	c2	c2	c2	f2	

N=empty nest and is used when the egg or chick that was in the nest has been lost and the adult was not present.

B= Bird, Adult bird occupying a site, with no egg or chick present. Used when observer is sure the bird has no egg or chick.

P= Bird, present and don't know if egg or chick present (this is recommended by Byrd and Dragoo but not found in the above report).

E= Egg, Egg present, with no adult. If the egg is obviously damaged, record it as Eded (dead egg).

C= Chick, Chick present. C3 (three chicks) C3+ (three chicks plus possibly more).

F= Chick fledged (chick left the nest, survival unknown)

BP= Brooding posture

IP= Incubating posture

APPENDIX G

Appendix G. 2012 Black-Legged Kittiwake Productivity Data, OP Index Plots, Round Island, Alaska.

2012 BLKI Productivity Plot 2 - Observation Point																									
Nest #	6/4	6/5	6/8	6/9	6/13	6/16	6/19	6/23	6/26	6/30	7/3	7/6	7/9	7/14	7/18	7/22	7/25	7/28	7/31	8/3	8/6	8/9	8/12		
1	e1	e1	P	N	B	B	B	B	B	end															
2	e1	e1	e1	e1	e1	e1+	IP	IP	e1	B	B	B	end												
3		e1	e1+	N	B	B	N	N	N	end			end												
4		e1	e1	e1	e1	e1+	e1	e1	IP	e1	B	B	end												
5		e1	e1	e1	e1+	e1+	IP	e1+	e1	IP	e1	e1	IP	e1	N	end									
6		e1+	e2	e2	e2	e2	IP	IP	e1	IP	c1	B	end												
7		e1	IP	e2	e2	IP	IP	e2	e1+	IP	c1	c1	c1	c1	c1	c1	c1	c1	c1	N	B	B	end		
8		e1	e1	IP	B	B	B	B	B	end															
9			e1	e1	e1+	IP	e1+	IP	IP	e1	B	B	end												
10			e2	e2	e1+	IP	IP	e1+	e2	IP	IP	c2	c1	c1	c1	c1	c1	c1	N	N	end				
11			e1	e1	B	B	B	e1	B	end															
12			e2	IP	e2	IP	e1+	e1+	IP	IP	B	N	end												
13			e1	e1	B	B	B	P	B	end															
14			e1+	e1	B	B	B	B	B	end															
15			e1	e1	B	B	B	e1	B	end															
16			e1	e2	IP	IP	e1	e1	IP	c1	c1	c1	c1	c1	c1	c1	c1	c1	c1	c1	f1	f1	f1		
17			e1	e2	e1+	IP	IP	e1+	IP	IP	c1	B	end												
18			e1	e1	B	B	B	B	IP	IP	e1	e1	IP	e1	IP	c1	cD	end							
19				e1	e1	IP	e1	e1	e1	IP	e1	IP	eD	end											
20				e1+	IP	e2	e2	IP	e1+	IP	c1	B	end												
21				e2	IP	IP	IP	e2	IP	e1	IP	IP	B	end											
22				e1	e1	IP	IP	e2	IP	e2	IP	IP	B	end											
23				e1	IP	IP	e1	IP	e1	IP	IP	c1	BP	c1	c1	c1	c1	c1	N	N	N	end			
24				e1	e2	IP	B	B	B	end															
25				e1	e1	IP	IP	IP	IP	IP	B	B	end												
26					e1	IP	e1	e1	e1	IP	e1	c1	c1	BP	B	end									
27					e1	e1	e1	e1	e1	IP	e1	e1	c1	c1	c1	c1	c1	c1	N	end					
2012 BLKI Productivity Plot 3 - Observation Point																									
Nest #	5/30	6/1	6/3	6/5	6/8	6/9	6/13	6/16	6/19	6/23	6/26	6/30	7/3	7/6	7/9	7/14	7/18	7/22	7/25	7/28	7/31	8/3	8/6	8/9	8/12
1	e1	e1	e1	IP	e1	e1	e1	IP	e1	e1+	e1+	c1	c1	c1	c1	c1	c1	c1	c1	c1	P	cD	cD	end	
2	e1	B	N	B	B	B	e1	e1	e1	IP	IP	e1	e1	B	B	end									
3	e1	B	B	B	B	B	P	P	B	end															
4		e1	e1	IP	IP	e2	IP	e2	e2	e2	IP	c1	c1	c1	c1	c1	c1	c1	c1	c1	c1	c1	f1	f1	N
5		e1	IP	e2	e2	e2	e2	e2	e2	e2	e2	c2	c1	c1	BP	c1	c1	c1	c1	cD	cD	end			
6		e1	e1	e1	e1	e1	e1	IP	e1	e1+	IP	IP	c1	B	B	end									
7		e1	e1	e2	IP	e2	e2	IP	IP	e2	IP	c1	c1	c1	c1	c1	cD	end							
8		e1	P	e1	e1	IP	e1	e1+	e1+	e1	e1	c1	N	B	end										

APPENDIX G

9			e1	e1	e1	IP	e2	IP	e1+	e1+	IP	e2	cle 1	c1	c1	B	end								
10			e1	e1	e1	IP	e1	e1	IP	e1+	e1	c1	c1	c1	BP	c1	c1	c1	c1	c1	c1	c1	fl	fl	fl
11			e1	e1	e1	e1	e1	P	e1	e1	IP	c1	c1	c1	c1	c1	c1	c1	c1	c1	c1	c1	fl	N	
12				e1	e1	e2	e2	e2	e2	e2	e2	e1+	e2	c1	c1	c1	c1	c1	c1	c1	c1	P	N	end	
13				e1	IP	IP	e1	e1	e1	e1	e1	c1	c1	c1	c1	c1	c1	c1	c1	c1	c1	c1	fl	B	B
14				e2	B	B	IP	B	B	e1	e1	e1	IP	IP	IP	IP	N	end							
15				e1	e1	e1	e1	e1+	IP	IP	IP	e1	B	end											
16				e2	e2	IP	e1+	e2	e2	e1+	IP	e1+	c1	P	B	end									
17				e1	IP	e1	IP	e2	e2	e1+	IP	e2	c1	c1, e1	c1	c1	P	c1	N	N	end				
18				e2	B	B	B	B	B	B	end														
19				e1	e2	e1+	e1	e1+	IP	IP	B	B	B	end											
20				fox flus hed plot																					
21					e1+	e2	e1+	e2	e1+	IP	e1	e1	e1	B	B	end									
22					e1	e1	e1	IP	IP	e1	IP	P	e1	IP	B	end									
23					e1+	e1	e1	e1	e1	e1+	e1+	IP	e1	c1	c1	c1	c1	c1	c1	c1	c1	c1	c1	cD	cD
24					e1	IP	e2	e2	e2	e1+	IP	IP	IP	IP	eD	N	end								
25																									
26						e2	e2	IP	e1+	e2	IP	IP	elc 1	c2	c1	c1	c1	B	B	end					
27						e1	IP	IP	e2	e2	IP	IP	c1	c1	c1	c1	c1	cD	end						
28						e1	e1	e1	e1+	IP	IP	e1	e1	c1	c1	c1	N	end							

N=empty nest and is used when the egg or chick that was in the nest has been lost and the adult was not present.

B= Bird, Adult bird occupying a site, with no egg or chick present. Used when observer is sure the bird has no egg or chick.

P= Bird, present and don't know if egg or chick present (this is recommended by Byrd and Dragoo but not found in the above report).

E= Egg, Egg present, with no adult. If the egg is obviously damaged, record it as *eD* (dead egg).

C= Chick, Chick present. C3 (three chicks) C3+ (three chicks plus possibly more).

F= Chick fledged (chick left the nest, survival unknown)

BP= Brooding posture

IP= Incubating posture

eD = Deadegg, *cD* = Dead chick

End = nest failed end of monitoring

APPENDIX H

Appendix H. 2012 Common Murre Productivity Data, Observation Point Index Plots, Round Island, Alaska.

2012 COMU Productivity Plot 2 - Observation Point																		
Nest #	6/16	6/19	6/23	6/26	6/30	7/1												
1	el	el	el	el	el	N												
2	el	P	B	B	N	N												
3	el	el	el	el	el	N												
4		el	el	el	N	N												
5		el	B	B	N	N												
2012 COMU Productivity Plot 4 - Observation Point																		
Nest #	6/16	6/19	6/23	6/26	6/30	7/3	7/6	7/9	7/14	7/18	7/22	7/25	7/28	7/31	8/3	8/6	8/9	8/12
1	el	el	P	B	N	N												
2	el	el	el	el	B	N												
3	el	el	IP	el	B	N												
4	el	el	el	el	IP	el	el	el	B									
5	el	el	IP	el	el	N												
6	el	IP	IP	el	IP	el	el	el	P	el	cl	cl	cl	cl	cl	BP	B	B
7	el	IP	IP	IP	el	N												
8	el	el	el	P	el	N												
9	el	IP	el	B	B	B												
10	el	IP	el	B	N	N												
11		el	B	el	B	N												
12		el	IP	IP	el	el	IP	IP	el	el	BP	cl	cl	cl	cl	fl	P	B
13		el	IP	IP	el	IP	IP	IP	B									
14		el	B	B	N	N												
15		el	IP	IP	el	el	el	IP	N									
16			el	B	N	N												
17			el	el	IP	IP	IP	IP	N									
18			el	IP	N	N												
19			el	IP	el	el	el	el	el	IP	cl	BP	cl	P	cl	P	fl	B
20				el	el	el	el	IP	N									
21				el	el	N												
22				el	B	N												
23				el	N	N												
24				el	el	el	el	IP	N									
25				el	el	el	IP	el	N									
<i>N=empty nest and is used when the egg or chick that was in the nest has been lost and the adult was not present.</i>																		
<i>B= Bird, Adult bird occupying a site, with no egg or chick present. Used when observer is sure the bird has no egg or chick.</i>																		
<i>P= Bird, present and don't know if egg or chick present (this is recommended by Byrd and Dragoo but not found in the above report).</i>																		
<i>E= Egg, Egg present, with no adult. If the egg is obviously damaged, record it as eD (dead egg).</i>																		
<i>C= Chick, Chick present. C³(three chicks) C³⁺(three chicks plus possibly more).</i>																		
<i>F= Chick fledged (chick left the nest, survival unknown)</i>																		
<i>BP= Brooding posture</i>																		
<i>IP= Incubating posture</i>																		

APPENDIX I

Appendix I. 2012 Population Counts, Observation Point Index Plots, Round Island, Alaska.

Date	Count #	Start Time	Finish Time	# BLKI		# COMU	# PECO		# HOPU	# TUPU
				# BLKI	Nests		Nests	#PECO		
Plot 1 - Observation Point										
6/23	1	12:39	12:41	31	23	102	0	0	0	0
6/23	2	12:41	12:44	35	24	101	0	0	0	0
6/26	1	12:07	12:10	31	22	125	0	0	0	0
6/26	2	12:10	12:13	33	22	125	0	0	0	0
6/28	1	16:57	16:58	31	21	41	0	0	0	0
6/28	2	16:59	17:00	32	21	42	0	0	0	0
7/3	1	14:38	14:40	26	21	56	0	0	0	0
7/3	2	14:40	14:42	26	21	58	0	0	0	0
7/6	1	14:50	14:52	26	21	73	0	0	0	0
7/6	2	14:52	14:54	26	21	72	0	0	0	0
7/16	1	10:44	10:45	21	20	107	0	0	0	0
7/16	2	14:46	10:49	22	20	105	0	0	0	0
Plot 2 - Observation Point										
6/23	1	12:45	12:50	81	68	153	0	0	0	0
6/23	2	12:50	12:54	84	67	149	0	0	0	0
6/26	1	12:14	12:19	93	71	152	0	0	0	0
6/26	2	12:19	12:24	92	70	153	0	0	0	0
6/28	1	17:01	17:03	83	66	98	0	0	0	0
6/28	2	17:04	17:07	87	66	98	0	0	0	0
7/3	1	14:43	14:45	66	66	31	0	0	0	0
7/3	2	14:45	14:47	65	66	33	0	0	0	0
7/6	1	14:56	14:58	66	67	29	0	0	0	0
7/6	2	14:59	15:01	64	66	28	0	0	0	0
7/16	1	10:54	10:58	70	64	133	0	0	0	0
7/16	2	10:58	11:02	68	62	131	0	0	0	0
Plot 3 - Observation Point										
6/23	1	12:56	13:00	112	82	56	0	0	0	0
6/23	2	13:00	13:04	110	83	56	0	0	0	0
6/26	1	12:30	12:34	116	84	82	0	0	0	0
6/26	2	12:35	12:39	116	85	83	0	0	0	0
6/28	1	17:10	17:13	107	86	19	0	0	0	0
6/28	2	17:14	17:17	108	88	19	0	0	0	0
7/3	1	14:50	14:53	83	87	8	0	0	0	0
7/3	2	14:53	14:56	82	87	8	0	0	0	0
7/6	1	15:04	15:08	84	87	16	0	0	0	0
7/6	2	15:09	15:012	81	87	15	0	0	0	0
7/16	1	11:07	11:12	83	77	50	0	0	0	0
7/16	2	11:12	11:17	81	79	52	0	0	0	0
Plot 4 - Observation Point										
6/23	1	13:05	13:12	124	94	614	0	0	0	0
6/23	2	13:12	13:20	126	92	573	0	0	0	0
6/26	1	12:40	12:48	130	99	656	0	0	0	0
6/26	2	12:49	12:56	126	100	626	0	0	0	0
6/28	1	17:17	17:24	113	98	522	0	0	0	0
6/28	2	17:25	17:31	112	98	520	0	0	0	0
7/3	1	14:57	15:03	86	92	273	0	0	0	0
7/3	2	15:03	15:09	86	92	fox flush	0	0	0	0
7/6	1	15:13	15:19	96	88	386	0	0	0	0
7/6	2	15:19	15:25	97	89	391	0	0	0	0
7/16	1	11:18	11:26	72	80	701	0	0	0	0
7/16	2	11:27	11:35	69	80	741	0	0	0	0
Plot 5 - Observation Point										
6/23	1	13:42	13:44	13	9	97	0	0	0	0
6/23	2	13:44	13:47	13	9	97	0	0	0	0
6/26	1	13:26	13:27	16	16	98	0	0	0	0
6/26	2	13:28	13:29	17	16	100	0	0	0	0
6/28	1	17:33	17:34	17	15	23	0	0	0	0
6/28	2	17:35	17:36	17	15	24	0	0	0	0
7/3	1	15:30	15:31	22	15	17	0	0	0	0
7/3	2	15:31	15:32	22	15	17	0	0	0	0
7/6	1	15:41	15:42	12	16	31	0	0	0	0
7/6	2	15:43	15:44	12	15	31	0	0	0	0
7/16	1	11:42	11:44	12	15	138	0	0	0	0
7/16	2	11:44	11:46	14	14	135	0	0	0	0

APPENDIX J

Appendix J. 2012 Daily Observations, Round Island, Alaska.

DATE	SPECIES	NUMBER	LOCATION	COMMENTS
5/15	frigid coltsfoot		RI	Frigid coltsfoot, first bloom.
5/15	gray whale		RI	Gray whale, first sighting.
5/15	Pacific walrus		RI	Pacific walrus, first sighting.
5/15	red fox		RI	Red fox, first sighting.
5/15	Steller sea lion		RI	Steller sea lion, first sighting.
5/15	tundra vole		RI	Tundra vole, first sighting.
5/15	wooly lousewort		RI	Wooly lousewort, first bloom.
5/15	Black-legged kittiwake		RI	First sighting.
5/15	Parakeet auklet		RI	First sighting.
5/15	Bald eagle		RI	First sighting.
5/15	Pelagic cormorant		RI	First sighting.
5/15	Common raven		RI	First sighting.
5/15	tufted puffin		RI	First sighting.
5/15	horned puffin		RI	First sighting.
5/15	Savannah sparrow		RI	First sighting.
5/15	Golden-crowned sparrow		RI	First sighting.
5/15	king eider	1	V3	Female first sighting.
5/15	king eider	1	SP	Male first sighting.
5/15	Glaucous gull		RI	First sighting.
5/15	rough legged hawk		RI	First sighting.
5/16	Pigeon guillemot		RI	First sighting.
5/16	Common murre		RI	First sighting.
5/16	Pelagic cormorant		OP	first egg seen at OP.
5/17	king eider	1	BC	Male.
5/18	marsh violet		RI	Marsh violet, first bloom.
5/18	ptarmigan			Ptarmigan, Ptarmigan poop by T1 on way to EC.
5/18	wild celery		RI	Wild celery, first bloom.
5/18	American tree sparrow		RI	First sighting.
5/18	brant		FB	First sighting.
5/18	Lapland longspur		RI	First sighting.
5/19	king eider	1	MB	Male.
5/19	Sand hill crane	2	EC	Pair flying over EC, first sighting.
5/19	red neck phalarope	1	V1	Female first sighting on the water at EC.
5/20	Surf scoter	1	CG	First sighting.
5/20	northern harrier	1	CAMP	Female first sighting.
5/20	common redpoll	3	SB	First sighting.
5/20	long tailed duck	2	NBC	Male and female pair, first sighting.
5/20	king eider	1	BC	Male.
5/20	Tree swallow	3	CAMP	Flying between camp and FB, first sighting.
5/21	king eider	1	NBC	Female.
5/22	blackish oxytrope		EC	Blackish oxytrope, first bloom.
5/23	king eider	1	FP	Male.
5/24	Greater white-fronted goose	1	CAMP	Greater white-fronted goose, single goose flies past island, first sighting.
5/24	yellow anemone		SB	Yellow anemone, first bloom.
5/24	king eider	1	SP	Male.
5/24	king eider	1	NBC	Male.
5/24	American pipit	1	T1	First sighting.
5/25	Narcissus-flowered anemone		BC	Narcissus-flowered anemone, first bloom.
5/25	pixie eyed primrose		TT	Pixie eyed primrose, first bloom.
5/25	king eider	1	BC	Male.
5/26	cloud berry		EC	Cloud berry, first bloom.
5/26	few-flowered corydalis		EC	Few-flowered corydalis, first bloom.
5/26	garden sorrel		V3	Garden sorrel, first bloom.
5/26	short-stalked sedge		EC	Short-stalked sedge, first bloom.
5/26	king eider	1	SP	Male.
5/27	Crested auklet	5	NBC	First sighting.
5/27	Bald eagle	1	EC	Flying over EC.
5/27	Peregrine falcon	2	TT	Locking talons and screeching.

APPENDIX J

DATE	SPECIES	NUMBER	LOCATION	COMMENTS
5/28	Kamchatka rock cress		EC	Kamchatka rock cress, first bloom.
5/28	mountain sorrel		BC	Mountain sorrel, first bloom.
5/28	mouse-eared chickweed		NBC	Mouse-eared chickweed, first bloom.
5/28	Nagoon berry		FB	Nagoon berry, first bloom.
5/28	Rosewort		FB	Rosewort, first bloom.
5/28	Peregrine falcon	1	EC	
5/29	stream violet		FR	Stream violet, first bloom.
5/29	Peregrine falcon	1	CAMP	
5/29	Common raven	1	TT	Seen with BLKI egg in mouth.
5/29	Bald eagle	1	CAMP	Soaring behind cabin.
5/29	rough legged hawk	1	CAMP	Soaring behind cabin.
5/30	bear berry		T1	Bear berry, first bloom.
5/30	cuckoo flower		CAMP	Cuckoo flower, first bloom.
5/30	forget-me-not		SP	Forget-me-not, first bloom.
5/30	Common raven	2	SB	At least 2 chicks in CORA nest.
5/30	Hermit thrush	1	SB	First sighting.
5/30	Wilson's warbler		CAMP	First sighting.
5/30	Wilson's warbler		FB	First sighting.
5/30	White crowned sparrow	1	CAMP	First sighting.
5/30	rough legged hawk	1	MB	
5/31	purple cress		BC	Purple cress, first bloom.
6/1	Alaska violet		BC	Alaska violet, first bloom.
6/1	one-flowered cinquefoil		T1	One-flowered cinquefoil, first bloom.
6/1	rock jasmine		FR	Rock jasmine, first bloom.
6/1	Tall Jacob's ladder		BC	Tall Jacob's ladder, first bloom.
6/1	mallard	1	BC	Male, first sighting.
6/1	Peregrine falcon	1	EC	
6/1	Peregrine falcon	1	TT	Tussling with MERL.
6/1	MERL	1	TT	Tussling with Peregrine falcon.
6/1	DARK-EYED JUNCO	1	TT	First sighting.
6/2	hairy Arctic milk vetch		FR	Hairy Arctic milk vetch, first bloom.
6/2	Bald eagle	2	summit	
6/2	rough legged hawk	2	summit	
6/2	Common raven	9	summit	2011 Fledglings? Flocked up and flying together.
6/3	Arctic dock		BC	Arctic dock, first bloom.
6/3	northern harrier	2	summit	Male and female.
6/3	rough legged hawk	1	summit	
6/3	red fox	1	West island	Fox by den probable kits.
6/4	Alp lily		TT	Alp lily, first bloom.
6/4	Pacific walrus	1	FR	Pacific walrus, Many small wounds on body-viral?
6/4	harlequin duck	20	BC	11 male, 9 female, some drab males.
6/4	harlequin duck	8	EC	
6/4	Common murre	1000	MB	1000s of COMUs on the water at MB.
6/5	Brooks saxifrage		SB	Brooks saxifrage, first bloom.
6/5	humpback whales	10+	EC	Humpback whales, pod milling out East of island.
6/5	Swedish dwarf cornel		EC	Swedish dwarf cornel, first bloom.
6/6	humpback whales	2	RI	Humpback whales, surfacing about 8mi- possible cow and calf. NE cabin
6/6	spring beauty		FR	Spring beauty, first bloom.
6/6	starflower		CG	Starflower, first bloom.
6/7	capitates valerian		EC	Capitates valerian, first bloom.
6/7	chocolate lily		FB	Chocolate lily, first bloom.
6/7	humpback whales	2	RI	Humpback whales, surfacing. N of cabin
6/7	Bald eagle	1	FB	Immature.
6/7	northern harrier	1	CAMP	Male flies by cabin.
6/8	humpback whales	1	N of cabin	Humpback whales, surfacing about 1mi North of cabin.
6/8	lemming	1	EC	Lemming, birthing found dead on trail.
6/8	Pacific walrus	1	WM	Pacific walrus, Mort on WM has moved to other gully, 1 tusk gone.
6/8	Pink plume		TT	Pink plume, first bloom.

APPENDIX J

DATE	SPECIES	NUMBER	LOCATION	COMMENTS
6/9	Langsdorf lousewort		SP	Langsdorf lousewort, first bloom.
6/9	lupine		FP	Lupine, first bloom.
6/9	red fox	1	TT	Red fox, "Rascal" lame fox from 2011 season seen.
6/9	Common murre	1	OP1	First COMU egg of season.
6/10	humpback whales	1	N of cabin	Humpback whales, humpback sounding.
6/10	Pacific walrus	1	EC	Pacific walrus, Walrus hanging around V2 for at least an hour.
6/10	red fox	2	EC	Red fox, 2 adult fox at lower den site.
6/11	humpback whales	2	NE cabin	Humpback whales, Seen from FB NE of cabin.
6/11	Common raven	3	SB	3 chicks seen in nest at SB, all mouth.
6/11	Northern pintail	1	BC	Male.
6/12	Alaska poppy		FR	Alaska poppy, First bloom.
6/12	Dusky shrew	1	CAMP	Dusky shrew, dead on trail.
6/12	humpback whales	2	RI	Humpback whales, east of cabin.
6/12	short eared owl	1	SB	First sighting.
6/13	whorreled lousewort		FB	whorreled lousewort, First bloom.
6/13	wild geranium		FB	wild geranium, First bloom.
6/13	wintercress		EC	wintercress, First bloom.
6/15	gray whale	1	CG	gray whale, 100 ft from shore.
6/15	humpback whales	1	RI	humpback whales, 1 mile out from cabin.
6/15	Peregrine falcon	1	WM	
6/15	Northern pintail	1	BC	male.
6/16	Arctic wormwood		CG	Arctic wormwood, first bloom.
6/17	yellow oxytrope		SP	yellow oxytrope, first bloom.
6/18	humpback whales	2	N of cabin	humpback whales.
6/19	Arctic daisy		SP	Arctic daisy, first bloom.
6/19	humpback whales	10+	N of cabin	humpback whales.
6/19	humpback whales	8+	RI	humpback whales, rolling on surface with SSLs, caudal peduncle slaps, breach, vocalize. east of cabin
6/20	humpback whales		RI	humpback whales. NNE of cabin
6/20	Northern water carpet		RI	Northern water carpet, first bloom.
6/21	humpback whales	6+	RI	humpback whales. NNE of cabin
6/21	Pacific walrus	1	WM	Pacific walrus, Mort still at WM.
6/22	Common wormwood		FR	Common wormwood, first bloom.
6/22	Dwarf Arctic bitterweed		RI	Dwarf Arctic bitterweed, first bloom.
6/23	Northern bedstraw		EC	Northern bedstraw, first bloom.
6/23	Northern goldenrod		EC	Northern goldenrod, first bloom.
6/23	Bald eagle	1	EC	flew off rocks between V1 & V2.
6/23	Common murre	15	OP2	17:20 only 15 COMUs on Plot 2.
6/24	Pacific walrus	1	WM	Pacific walrus, old mort gone from the beach.
6/24	harlequin duck	6	BC	3 female, 3 male.
6/25	harlequin duck	15	BC	14 male, 1 female.
6/26	Lessing's Arnica		FR	Lessing's Arnica, first bloom.
6/26	Pacific walrus	2	WM	Pacific walrus, 2 morts old (1 & 2nd tusk on beach) and new (1 1/4 tusk).
6/27	Pacific walrus	1	WM	Pacific walrus, One live walrus with possible shot gun holes (buck shot) along shoulder and face.
6/28	Dandelion		FR	Dandelion, first bloom.
6/28	Wild Iris		FB	Wild Iris, first beach.
6/28	Black-legged kittiwake		OP	First chicks seen at OP.
6/30	Whale		offshore	Whale spout seen far offshore, species unk.
7/1	Mountain harebell		EC	Mountain harebell, First bloom by old fox dens on hill.
7/4	Monkshood		EC	Monkshood, First Bloom.
7/4	Pacific walrus	2	MB	Pacific walrus, 1 very old MORT already recorded, possibly another MORT.
7/4	whale	1	SB	whale, Minke? 1/2 mi offshore.
7/4	harlequin duck	10	BC	4 female and 6 male.
7/4	Common raven	3	SB	Chicks Fledge.
7/5	Dwarf Fireweed		FR	Dwarf Fireweed, First Bloom.

APPENDIX J

DATE	SPECIES	NUMBER	LOCATION	COMMENTS
7/5	Spotted Saxifrage		EC	Spotted Saxifrage, N of EC on way to summit.
7/5	Crested auklet	11	NBC	On water.
7/5	harlequin duck	28	NBC	19 male/ 9 female on rocks.
7/6	Bog Saxifrage		SB	Bog Saxifrage, First Bloom.
7/7	Pacific walrus	1	MB	Pacific walrus, Isolated walrus on beach looking thin.
7/7	Yellow Rattle		CAMP	Yellow Rattle, First Bloom.
7/8	Wandering tattler	1	FB	First Sighting.
7/9	Alpine Meadow Bistort		SB	Alpine Meadow Bistort, First Bloom.
7/9	Marsh Five-finger		SB	Marsh Five-finger, First Bloom.
7/9	Pacific walrus	2	V3	Pacific walrus, 2 walrus hanging around V3 (SSL) photos.
7/9	Crested auklet	4+	NBC	Heard in BC this am.
7/10	Sitka Burnet		SP	Sitka Burnet, First Bloom.
7/11	red fox	1	CAMP	red fox, First kit seen under pad behind cabin.
7/12	Spotted Seal	1	BC	Spotted Seal, First Sighting.
7/13	Spotted Seal	1	BC	Spotted Seal, On rock.
7/14	harlequin duck	28	BC	9 female/19 male resting on rocks.
7/17	Bald eagle	5	summit	2 adults (1 perched, other flying) 3 chicks in nest.
7/18	CAGO	1	FB	CAGO between FB1/FB2 lookouts next to trail.
7/19	Grass of Parnassus		FB	Grass of Parnassus, First Bloom.
7/19	Bald eagle	1	CAMP	BAEA flying N of cabin.
7/22	Golden-crowned sparrow	1	WM	Golden-crowned sparrow.
7/22	Hermit thrush	1	SB	Singing.
7/23	White crowned sparrow	1	WM	
7/24	Lingonberry/Cloudberry		RI	Lingonberry/Cloudberry, Berries visible on plant.
7/30	Wandering Tattler	1	BC	Wandering Tattler.
7/30	Western Sandpiper	25	BC	Western Sandpiper, ~25 seen from FP to BC.
7/31	Dwarf Fireweed		FR	Dwarf Fireweed, First bloom.
7/31	Bald eagle	1	OP	Disturbed wall of COMU/BLKI.
8/3	Common murre		OP	Few fledged at OP.
8/3	Black-legged kittiwake		OP	Few fledged at OP.
8/4	Fireweed		CAMP	Fireweed Epilobium angustifolium, First Bloom.
8/6	Peregrine falcon	1	EC	
8/10	Peregrine falcon	1	WM	
8/11	Peregrine falcon	3	EC	
8/12	America Pipit	1	SB	America Pipit.
8/12	Northern Harrier	1	CAMP	Northern Harrier, Female.
8/14	Rough Legged Hawks	3	SB	Rough Legged Hawks.
8/14	Seal	1	BC	Seal, Unknown species.
8/16	Fox		CAMP	Fox, Fox with young kit has injured R front leg.
9/8	bald eagle		OP	bald eagle.
9/8	peregrine falcon		SP	peregrine falcon.
9/8	Canada Goose		EC	Canada Goose.
9/8	Common Snipe		CG	Common Snipe.
9/8	Black-legged kittiwake		off Boat Cove	Black-legged kittiwake, mixed flocks of immatures and adults.
9/8	Pelagic Cormorant		RIE	Pelagic Cormorant, along East Side of island.
9/8	Common Raven		RIE	Common Raven, along East Side of island.
9/8	Long-tailed Duck		SP	Long-tailed Duck.
9/8	Dogwood		RIE	Dogwood, looks frost-burned; lots of berries. along East Side of island trail.
9/8	Yarrow		RIE	Yarrow, along East Side of island trail.
9/8	Monkshood		RIE	Monkshood, along East Side of island trail.
9/8	Geranium		RIE	Geranium, along East Side of island trail.
9/8	Daisy		RIE	Daisy, along East Side of island trail.
9/9	rough-legged hawk		TT	rough-legged hawk.
9/9	imm. bald eagle		TT	imm.bald eagle.
9/9	savannah sparrow		CG	savannah sparrow.
9/9	Cloudberry		TT	Cloudberry, Ripe along Traverse Trail, lots.
9/10	horned grebe		SP	horned grebe, Adult.

APPENDIX J

DATE	SPECIES	NUMBER	LOCATION	COMMENTS
9/10	northern harrier		CAMP	northern harrier, behind cabin.
9/10	harlequin duck		BC	harlequin duck, BC.
9/10	montane shrew		CAMP	montane shrew , near cabin.
9/12	northern harrier		CAMP	northern harrier, behind cabin.
9/12	peregrine falcon		EC	peregrine falcon.
9/12	king eider		SB	king eider, immature.
9/13	Canada Goose		FP	Canada Goose, on ground above beach.
9/13	king eider		FB	king eider, Immature.
9/13	Pacific loon		BC	Pacific loon, Immature,
9/13	peregrine falcon		EC	peregrine falcon.
9/14	fox sparrow		BC	fox sparrow, dark 'sooty' phase.
9/14	harlequin duck	6	BC	harlequin duck, 6 immature.
9/15	peregrine falcon		BC	peregrine falcon.
9/15	harlequin duck		BC	harlequin duck.
9/16	harlequin duck	15	BC	harlequin duck, ~15 on rocks in windstorm.
9/16	Pacific loon		BC	Pacific loon, immature.
9/16	bald eagle		E RI	Eastside trails
9/16	common redpoll		over SB	common redpoll, singing flight song.
9/16	Common Raven		NBC	Common Raven, flying with murre egg near north Boat Cove.
9/17	Black-legged kittiwake	60	NBC	Black-legged kittiwake, ~60 imm & adult blki on water off North Boat Cove.
9/17	harlequin duck	15	BC	harlequin duck, 15, mostly immature.
9/17	red-necked grebe		BC	red-necked grebe, 2 adult.
9/17	Common Raven		BC	Common Raven, 1 adult & 1 imm bathing in BC tide pools.
9/17	red fox		BC	red fox, 1 adult male & 1 ? Lying on BC gravel beach.
9/18	Pacific walrus		FR	Pacific walrus, 21 walrus, mostly hanging just off rocks, very white and seem v. tired.
9/18	Canada Goose		BC	Canada Goose, 6 took flight from cove.
9/19	king eider		BC	king eider, eating mollusks.
9/20	pigeon guillemot		BC	pigeon guillemot, juv plumage. BC & East Cape
9/20	red fox	2	SB	red fox , 2 by SB.
9/20	bald eagle		MB	bald eagle, MB pinnacle
9/20	Common Raven		MB	Ravens, 6 flying acrobatics together. MB pinnacle
9/20	pigeon guillemot		EC	pigeon guillemot, juv plumage. BC & East Cape
9/21	montane shrew		BC	montane shrew , dead on trail near BC.
9/21	emperor goose		BC	emperor goose.
9/21	savannah sparrow		RI	savannah sparrow.
9/21	American pipit		RI	American pipit.
9/21	bald eagle		RI	bald eagle.
9/21	Dusky thrush?		RI	Dusky thrush?, Seen on summit in windy conditions; distinctive facial markings. Unconfirmed identification..
9/21	rock ptarmigan		SLP	upper SW cape
9/21	red huckleberry			red huckleberry, in drainage to SE of camp creek, leading down from top of island.
9/22	long-tailed duck		RI	long-tailed duck.
9/22	king eider		BC	king eider.
9/22	red fox		CAMP	red fox, fox eats newly dug murre egg behind cabin.
9/23	lemming		RI	lemming, dead on trail.
9/23	sharp-tailed sandpiper		CG	sharp-tailed sandpiper, clear sighting; blown in with weather?--may be a record? near CG.
9/23	bald eagle		OP	bald eagle.
9/24	American tree sparrow		RI	American tree sparrow.
9/26	red fox		BC	red fox, fox lying in gravel at head of cove.
9/26	dark-eyed junco		FB	dark-eyed junco.
9/27	unidentified warbler		BC	unidentified warbler.
9/28	harlequin duck		EC	harlequin duck.
9/28	Merlin		EC	Merlin.

APPENDIX J

DATE	SPECIES	NUMBER	LOCATION	COMMENTS
9/29	bald eagle		MB	bald eagle. MB pinnacle
9/29	short-eared owl		CAMP	short-eared owl.
9/29	red fox		BC	red fox, 2 lying in gravel at head of BC. BC & WM
9/30	red fox		MB	red fox, 3 foxes gleaning on beach ~100 ft. from 650 walrus.
9/30	emperor goose		BC	emperor goose, juv & adult.
9/30	red-necked grebe		BC	red-necked grebe.
9/30	black-billed magpie		EC	black-billed magpie.
9/30	king eider		BC	king eider.
9/30	Pacific loon		EC	Pacific loon.
10/1	emperor goose		BC	emperor goose.
10/1	pigeon guillemot		BC	pigeon guillemot, juvenile plumage.
10/1	king eider		BC	king eider.
10/1	harlequin duck		BC	harlequin duck.
10/1	Pelagic Cormorant		MB	Pelagic Cormorant.
10/1	green-winged teal		BC	green-winged teal, juvenile plumage.
10/3	emperor goose		BC	emperor goose, 2 adults&1 juv.
10/3	red-necked grebe		MB	red-necked grebe.
10/4	American pipit		SP	American pipit.
10/4	fox sparrow		BC	fox sparrow.
10/4	common redpoll		CG	common redpoll.
10/4	short-eared owl		EC	short-eared owl, near East Cape.
10/5	American pipit		SP	American pipit.
10/5	pigeon guillemot		BC	pigeon guillemot.
10/5	Common Raven		RIE	Common Raven, east side, from MB to East Cape.
10/5	Pelagic Cormorant		MB	Pelagic Cormorant.
10/5	Glaucous-winged gull		MB	Glaucous-winged gull.
10/5	short-eared owl		CAMP	short-eared owl, cabin.
10/6	dark-eyed junco		BC	dark-eyed junco.
10/6	fox sparrow		BC	fox sparrow.

APPENDIX K

Appendix K. 2012 Daily weather observations, Round Island, Alaska.

Date	Time	Cloud Cover	Wind Speed	Wind Dir	Precip	Barom AM	Barom PM	Tide	Max Temp	Min Temp
5/17/2012	14:00	O	31	E	N	1015	1011	H	40	38
5/18/2012	9:00	O	32	NE	R	1009	1006	L	42	38
5/19/2012	9:00	O	21	NE	R	1005	1007	L	46	38
5/20/2012	17:00	S	10	WNW	N	1008	1006	F	51	40
5/21/2012	14:00	S	5	NE	N	1005	1004	H	50	42
5/22/2012	14:00	B	5	NE	N	1007	1011	R	51	41
5/23/2012	14:00	S	3	NNW	N	1016	1020	R	51	38
5/24/2012	14:00	B	18	SE	N	1021	1015	L	44	35
5/25/2012	9:00	O	8	SE	R	1009	1006	H	48	38
5/26/2012	14:00	S	27	W	N	1007	1007	L	51	44
5/27/2012	9:00	F	26	WNW	N	1012	1009	H	55	40
5/28/2012	17:00	B	34	SE	N	1004	999	L	47	33
5/29/2012	14:00	B	24	SE	R	998	995	F	52	42
5/30/2012	9:00	B	2	NW	N	993	995	H	57	46
5/31/2012	9:00	S	5	WNW	N	999	1003	R	54	46
6/1/2012	17:00	B	11	SE	N	1008	1010	F	51	44
6/2/2012	14:00	F	34	WNW	N	1012	1015	H	51	41
6/3/2012	9:00	C	29	W	N	1018	1017	L	52	41
6/4/2012	9:00	F	5	E	N	1015	1012	L	52	41
6/5/2012	9:00	S	18	ENE	N	1014	1015	F	51	42
6/6/2012	9:00	F	24	W	N	1015	1015	F	59	45
6/7/2012	14:00	O	37	W	N	1014	1014	L	54	42
6/8/2012	9:00	O	29	W	N	1011	1011	H	51	42
6/9/2012	9:00	O	29	E	N	1016	1017	H	45	36
6/10/2012	14:00	B	3	NW	N	1015	1014	L	46	36
6/11/2012	9:00	S	5	W	N	1014	1013	H	57	42
6/12/2012	17:00	O	35	W	R	1015	1016	L	57	47
6/13/2012	17:00	F	16	SW	N	1014	1011	L	63	45
6/14/2012	14:00	F	3	SE	N	1012	1008	H	60	37
6/15/2012	17:00	S	25	E	N	1007	1001	F	60	46
6/16/2012	9:00	B	19	W	N	997	1001	L	68	50
6/17/2012	14:00	S	24	S	N	1012	1016	H	60	41
6/18/2012	17:00	S	24	SW	N	1018	1018	F	48	40
6/19/2012	9:00	B	24	W	N	1019	1018	L	67	43
6/20/2012	14:00	F	27	W	N	1021	1021	F	66	53
6/21/2012	14:00	F	6	NW	N	1022	1018	R	64	51
6/22/2012	17:00	O	18	SE	N	1015	1014	F	59	49
6/23/2012	17:00	O	16	SE	N	1013	1003	H	50	45
6/24/2012	14:00	O	6	NE	N	997	1004	L	48	42
6/25/2012	17:00	O	3	NW	N	1002	1003	R	45	42
6/26/2012	14:00	O	19	W	R	1004	1004	L	47	43
6/27/2012	14:00	B	5	SW	N	1007	1010	F	50	43
6/28/2012	14:00	S	24	SW	N	1012	1013	F	51	44
6/29/2012	10:42	S			N	1013	1010		50	45
6/30/2012	14:00	O	8	NE	N	1008	1008	F	50	45
7/1/2012	14:00	O	10	W	N	1010	1013	F	50	45
7/2/2012	17:00	O	18	S	N	1012	1009	F	47	44
7/3/2012	9:00	O	13	E	R	1004	1005	L	45	42
7/4/2012	17:00	O	13	SE	N	1000	1003	F	44	42
7/5/2012	9:00	O	6	SW	N	1007	1008	F	58	43

APPENDIX K

Date	Time	Cloud Cover	Wind Speed	Wind Dir	Precip	Barom AM	Barom PM	Tide	Max Temp	Min Temp
7/6/2012	14:00	S	8	W	N	1011	1012	R	57	48
7/7/2012	14:00	S	29	SW	N	1012	1010	L	67	51
7/8/2012	9:00	O	0		N	1010	1013	H	61	43
7/9/2012	9:00	O	16	SE	N	1011	1009	H	50	43
7/10/2012	14:00	O	8	SE	R	1006	1005	F	50	44
7/11/2012	17:00	O	14	SE	R	1002	999	L	50	46
7/12/2012	14:00	O	19	SE	N	1006	1009	F	47	42
7/13/2012	9:00	O	10	SE	R	1013	1016	R	48	43
7/14/2012	9:00	O	18	SE	R	1016	1006	R	48	45
7/15/2012										
7/16/2012	9:00	O	19	SW	N	1027	1026	L	52	43
7/17/2012	9:00	F	6	NE	N	1023	1017	L	62	47
7/18/2012	14:00	S	26	W	N	1019	1021	H	59	47
7/19/2012	17:00	O	39	SW	N	1023	1017	F	59	46
7/20/2012	14:00	O	2	S	N	1011	1006	R	57	46
7/21/2012	14:00	O	8	S	N	1007	1008	R	55	47
7/22/2012	17:00	O	13	SE	N	1010	1013	H	49	46
7/23/2012	14:00	O	3	SE	F	1016	1019	L	50	46
7/24/2012	17:00	O	14	SW	N	1022	1024	R	53	46
7/25/2012	14:00	O	18	SE	F	1021	1017	H	51	46
7/26/2012	14:00	O	23	W	N	1015	1017	F	51	48
7/27/2012	17:00	B	43	SW	N	1018	1016	L	49	45
7/28/2012	17:00	O	24	SE	RF	1015	1006	L	53	45
7/29/2012	9:00	O	18	S	N	1009	1004	R	50	45
7/30/2012	9:00	C	40	W	N	1009	1012	R	53	47
7/31/2012	14:00	O	35	SE	R	1008	1004	H	50	45
8/1/2012	14:00	O	31	SE	N	999	999	H	48	46
8/2/2012	17:00	O	5	NE	N	1004	1013	F	49	46
8/3/2012	9:00	O	26	SE	N	1019	1019	F	49	45
8/4/2012	9:00	O	16	E	N	1016	1012	F	50	45
8/5/2012	14:00	S	14	N	N	1014	1016	L	62	49
8/6/2012	9:00	S	16	W	N	1017	1014	F	54	47
8/7/2012	9:00	O	10	SW	N	1013	1012	H	48	45
8/8/2012	17:00	S	0	N/A	N	1013	1014	R	58	45
8/9/2012	17:00	F	2	N	N	1015	1016	L	64	52
8/10/2012	17:00	S	19	E	N	1016	1016	L	60	52
8/11/2012	17:00	S	21	ESE	N	1016	1016	L	59	51
8/12/2012	14:00	C	6	SE	N	1016	1013	H	65	53
8/13/2012	9:00	C	11	S	N	1013	1015	R	62	53
8/14/2012	9:00	S	11	NE	N	1014	1013	L	61	53
8/15/2012	14:00	S	23	SE	N	1016	1014	H	55	52
8/16/2012	14:00	B	14	E	N	1013	1012	H	55	50
8/17/2012	17:00	B	13	SE	N	1010	1009	F	54	51
8/18/2012	17:00	O	40	SE	R	1001	1000	H	52	49
8/19/2012	9:00	O	30	SE	R	1005	1008	F	53	49
8/20/2012	14:00	B	19	w	N	1013	1019	R	53	47
8/21/2012	14:00	O	18	W	N	1022		L		
9/8/2012	17:00	F	15	NW	N	M	1016	F	52	44
9/9/2012	14:00	F	15	NW	N	1018	1015	F	51	40
9/10/2012	17:00	O	14	E	R	1010	1006	L	48	45
9/11/2012	9:00	O	35	NE	R	1002	1001	R	50	46

APPENDIX K

Date	Time	Cloud Cover	Wind Speed	Wind Dir	Precip	Barom AM	Barom PM	Tide	Max Temp	Min Temp
9/12/2012	17:00	B	15	W	N	1005	1006	F	50	46
9/13/2012	14:00	B	15	NW	N	1012	1009	H	50	44
9/14/2012	17:00	O	15	E	N	1004	1003	F	50	44
9/15/2012	14:00	O	39	E	R	1000	986	H	51	47
9/16/2012	14:00	O	40	E	R	975	991	R	52	43
9/17/2012	9:00	O	10	SE	N	106	996	L	51	42
9/18/2012	9:00	O	20	SE	R	997	999	F	51	47
9/19/2012	9:00	O	18	NW	N	994	999	F	50	45
9/20/2012	9:00	O	15	NW	N	1004	1003	F	48	43
9/21/2012	17:00	B	16	N	N	1006	996	F	51	41
9/22/2012	14:00	O	30	NW	R	986	992	R	48	43
9/23/2012	14:00	F	30	NW	N	1004	1012	F	45	41
9/24/2012	9:00	S	40	NE	N	1009	1000	H	46	40
9/25/2012	17:00	O	20	NE	R	988	983	L	48	45
9/26/2012	17:00	S	25	NW	N	984	980	F	52	45
9/27/2012	9:00	B	35	NW	N	982	991	R	49	39
9/28/2012	14:00	S	30	NW	N	999	1000	H	39	35
9/29/2012	14:00	S	15	NW	N	1004	1011	H	39	34
9/30/2012	9:00	B	10	NE	SL	1016	1016	L	44	37
10/1/2012	9:00	O	30	SE	R	1014	1013	L	48	47
10/2/2012	17:00	O	40	SE	R	1010	1011	H	48	47
10/3/2012	9:00	O	30	SE	N	1009	995	F	51	46
10/4/2012	14:00	S	38	SE	N	1002	1009	L	51	46
10/5/2012	17:00	B	35	SE	N	1015	1016	L	49	45
10/6/2012	17:00	O	35	SE	N	1020	1019	L	47	45
10/7/2012	14:00	O	25	E	R	1015	1017	L	51	44
10/8/2012	14:00	O	10	SE	N	1020		H		

