HARBOR SEAL SURVEY

Date: 3/29/97 Time Period: 1130 – 3:30 Observers: B. Salmon

Weather: Cloud Cover (%) 0; Rain(Y/N) 0; Wind speed calm; Swell height 2ft; Swell direction NW;
Temperature (°F) approximate 70°; Tide Level from tide book (rising/falling) rising N+LT @ 12pm
White Pelicans: 0 Brown Pelicans: 0

Time Survey every ½ hr	Sub-Site*	Seal Total No.	Pup No.	Dead Pup No.	Red Fur No.	Shark Bite No.	Seals Disturbed Y/N?	Grand Total All Sub-sites	Comments
								No seals	
11:30 am	DEM	194	0	0	0	1	—		on LS site
12:00 pm	DEM	188	0	0	0	1	N	43 male (1's larger)	2 people to end of LS - W
12:30 pm	DEM	173	0	0	0	1	N	47 male	
1:00 pm	DEM	131	0	0	0	1	N	26 male	2 people to end of LS sa
1:30	DEM	95	0	0	0	1	N	17 male	2 out + 2 walk LS
2:00	DEM	36	0	0	0	0	N	9 male	2 people sat LS; sandbar islan all covered by H2
2:30	DEM	15	0	0	0	0	N	4 male	island all wet sand
3:00	DEM	0	0	0	0	0	N	0 male	3 people sat LS, waves cove
3:30	DEM	0	0	0	0	0	N	0	waves cover all seals several seals in water near island survey
									no seals on LS during observation

*SUBSITE: A=A sandbar; A1=A1 sandbar; AB=Back of A sandbar, DEM=Drakes Estero Mouth, OB=Oyster Bar, UEF=Up Estero Far, UEM=Up Estero Middle, L=Limantour Spit, Other

HARBOR SEAL SURVEY

Date: 4/8/97 Time Period: 2pm-330pm Observers: B, LaMon & family

Weather: Cloud Cover (%) 0 ; Rain(Y/N) N ; Wind speed high ; Swell height 1-2ft ; Swell direction NW ;
Temperature (°F) approximate 68 ; Tide Level from tide book (rising/falling) falling +5.0ft @ 2pm
White Pelicans: 0 Brown Pelicans: 0

Time Survey every ½ hr	Sub-Site*	Seal Total No.	Pup No.	Dead Pup No.	Red Fur No.	Shark Bite No.	Seals Disturbed Y/N	Grand Total All Sub-sites	Comments
2:00	LS	18	0	0	0	0	N	18	no pups.
2:00	DEM	0	0	0	0	0	N	—	submerged island
2:30	LS	23	0	0	0	0	N	39	
2:30	DEM	16	0	0	0	0	N	—	island emergence @ 2:15
3:00	LS	32	0	0	0	0	N	66	
3:00	DEM	34	0	0	0	0	N	—	
3:30	LS	35	0	0	0	0	N	105	No pups
3:30	DEM	70	0	0	0	0	N	—	
									one newborn pup on beach south of site AB. Adults in water 50yds offshore

*SUBSITE: A=A sandbar; A1=A1 sandbar; AB=Back of A sandbar, DEM=Drakes Estero Mouth, OB=Oyster Bar, UEF=Up Estero Far, UEM=Up Estero Middle, L=Limantour Spit, Other

HARBOR SEAL SURVEY

Date: 4/15/97 **Time Period:** 4-5:30PM **Observers:** MICHAEL CONNOR

Weather: Cloud Cover (%) 10 ; Rain(Y/N) N ; Wind speed WINDY & STRONG ; Swell height CHOPPY 1-2FT ; Swell direction NORTH ;
Temperature (°F) approximate 60° ; Tide Level from tide book (rising/falling) ~~FALLING~~ RISING 1.8FT

White Pelicans: NONE **Brown Pelicans:** NONE

Time Survey every ½ hr	Sub-Site*	Seal Total No.	Pup No.	Dead Pup No.	Red Fur No.	Shark Bite No.	Seals Disturbed Y/N	Grand Total All Sub-sites	Comments
4:00 PM	DEM	~~295~~ 298	NONE	N	N	N	N	298	ALOT OF SPLASHING BY MALES
~~4:30~~ 4:00 PM	LS	~~NONE~~ NONE	"	"	"	"	Y		
~~5:00~~ 4:30	DEM	275	NONE	N	N	N	N	275	
~~4:30~~ 4:30	LS	NONE	"	"	"	"	N		
5:00	DEM	274	"	"	"	"	N	274	
5:00	LS	~~NONE~~ NONE	"	"	"	"	N		
5:30	DEM	~~NONE~~ 263	"	"	"	"	N	263	
5:30	LS	NONE	"	"	"	"	N		

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HARBOR SEAL
DISTURBANCE SURVEY

Date: 4/15/97 **Location:** CLIFF JUST ABOVE LS #1 **Observers:** MIKE CONNOR #flush

Time	Sub-Site *	Source **	Behavior *** #flush	Distance from seals (m)	No. seals remain on site	No. pups remain (alone)	No. depart site	Time seals rehaul	Where Rehaul	Comments (vessel/aircraft identification)
5:47PM	LS	HUMAN 2 PEOPLE hikers to end of LS	2 PEOPLE	50M	NONE	NONE	7	30:00MIN	DID NOT COULDN'T TELL	I JUST GOT HERE AND IT HAPP

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**SOURCE (include number): aircraft (helicopter/fixed wing plane), bird, canoe, clammer, dog, fisherman, kayak, motor boat, swimmer, unknown, other

***BEHAVIOR: HA=head alert; F=flush; NR=no response

HARBOR SEAL SURVEY

Date: 4/20/97 **Time Period:** 1:30pm **Observers:** MICHELLE RICHARDSON

Weather: Cloud Cover (%) 100 ; Rain(Y/N) Y ; Wind speed — ; Swell height 2-3 ; Swell direction CROSS ;
Temperature (°F) approximate 70-75 ; Tide Level from tide book (rising/falling) down 3ft

White Pelicans: — **Brown Pelicans:** —

Time Survey every ½ hr	Sub-Site*	Seal Total No.	Pup No.	Dead Pup No.	Red Fur No.	Shark Bite No.	Seals Disturbed Y/N	Grand Total All Sub-sites	Comments
1:30 pm	ADEM	167	6	1	—	1	N	200	mother dead put back quickly to pup nudges in [illegible]
	LS	33	3	—	—	—	N	[illegible]	
2:00	ADEM	168	7	1	—	1	N	201	loud barks no [illegible] pup vork, seagulls attack mother [illegible]
	LS	33	3	—	—	—	N	[illegible]	
2:30	AEM	169	7-8(?)	1	—	1	N	204	Seagulls eat + fighting over placenta mother + pup [illegible]
	LS	35	3	—	—	—	N	[illegible]	very quiet docile
3:00	DEM	176	8-9(?)	1	—	1	N	204	a little disturbed by new seals on beach
	LS	28	2	—	—	—	Y	[illegible]	alert about everything because of prior disturbance

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HARBOR SEAL SURVEY

Date: 4/27/97 Time Period: 1235 pm - 330 Observers: M. RICHARDSON

Weather: Cloud Cover (%) 20-40 Rain(Y/N) N ; Wind speed MEDIUM ; Swell height 2-3 ft; Swell direction NW ;
Temperature (°F) approximate 68-74 ; Tide Level from tide book (rising/falling) rising 2 1/4 ft
White Pelicans: _____ Brown Pelicans: _____

Time Survey every ½ hr	Sub-Site*	Seal Total No.	Pup No.	Dead Pup No.	Red Fur No.	Shark Bite No.	Seals Disturbed Y/N	Grand Total All Sub-sites	Comments
1:45	DEM	212	20	0	0	0	N	222	docile; quiet
2:00	LS	46	7	0	0	0	N	53	
2:15	DEM	212	20	0	0	0	N	222	
2:30	LS	50	8	0	0	0	Y	58	disturbance from left
2:45	DEM	224	22	0	0	0	N	246	
3:00	LS	46	6	0	0	0	N	52	
3:15	DEM	246	23	0	0	0	N	269	
3:30	LS	46	6	0	0	0	N	52	

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HARBOR SEAL
DISTURBANCE SURVEY

Date: 4/20/97 Location: 1:30pm / A + L Observers: MICHELLE RICHARDSON
4/27/97

Time	Sub-Site *	Source **	Behavior ***	Distance from seals (m)	No. seals remain on site	No. pups remain (alone)	No. depart site	Time seals rehaul	Where Rehaul	Comments (vessel/aircraft identification)
4/20 2:35	~~AB~~ LS	Human walking	HA ½ FLUSH	150ft	17	1	~~FB~~	2:45-2:50	A	Human walked up to end of Spit - seeing seals closer swam to other spot
4/27 2:30	LS	Human	~~HA FLUSH~~	100ft	40	0	10-12	2:35-2:40	DEM + LS	Humans walked to end of LS

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**SOURCE (include number): aircraft (helicopter/fixed wing plane), bird, canoe, clammer, dog, fisherman, kayak, motor boat, swimmer, unknown, other

***BEHAVIOR: **HA**=head alert; **F**=flush; **NR**=no response

HARBOR SEAL SURVEY

Date: 5/1/97 Time Period: 1pm - 3:15 Observers: B. LaMon

Weather: Cloud Cover (%) 0; Rain(Y/N) N; Wind speed High/Medium; Swell height 1-2ft; Swell direction NW;
Temperature (°F) approximate 70; Tide Level from tide book (rising/falling) Low @ 1pm 0.0 ft rising
White Pelicans: _____ Brown Pelicans: _____

Time Survey every ½ hr	Sub-Site*	Seal Total No.	Pup No.	Dead Pup No.	Red Fur No.	Shark Bite No.	Seals Disturbed Y/N	Grand Total All Sub-sites	Comments
1:00	DEM	374	42	0	2	0	N	366	
1:15	LS	42	6	0	0	0	N		
1:30	DEM	332	50	0	2	0	N	371	
1:45	LS	39	6	0	0	0	N		
2:00	DEM	362	48	0	2	0	N	408	
2:15	LS	46	6	0	0	0	N		
2:30	DEM	382	67	0	2	0	N	442	
2:45	LS	60	10	0	0	0	N		
3:00	DEM	405	82				N	456	
3:15	LS	51	7				N		
									DEM much bigger, moved NW. North spit split by channels to create new islands to west in DEM.

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HARBOR SEAL SURVEY

Date: 5/6/97 Time Period: 1030am-1pm Observers: B, LaMoure

Weather: Cloud Cover (%) 0; Rain(Y/N) N; Wind speed 15-20k; Swell height 1'-2ft; Swell direction NW;
Temperature (°F) approximate 70°; Tide Level from tide book (rising/falling) rising ~4ft at noon
White Pelicans: 0 Brown Pelicans: 0

Time Survey every ½ hr	Sub-Site*	Seal Total No.	Pup No.	Dead Pup No.	Red Fur No.	Shark Bite No.	Seals Disturbed Y/N	Grand Total All Sub-sites	Comments
10:30	DEM	311	46				N		windy - missing tide hard to tell big pups from small females
10:30	LS	37	8				N		
11:00	DEM	314	45				N		
11:00	LS	34	8				N		
11:30	DEM	296	42				N		
11:30	LS	31	6				N		
12:00	DEM	184	30				N		
12:00	LS	21	6				N		
12:30	DEM	106	24				N		
12:30	LS	8	2				N		
1pm	DEM	46	8				N		No disturbance seals left as tide came up
1pm	LS	0	0				N		

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HARBOR SEAL SURVEY

Date: 5/11/97 **Time Period:** 2:30-4PM **Observers:** MICHAEL CONNOR

Weather: Cloud Cover (%) 100 ; Rain(Y/N) N ; Wind speed STRONG ; Swell height 3-5FT CLEAN ; Swell direction N ;
Temperature (°F) approximate 55° ; Tide Level from tide book (rising/falling) RISING 3.1 FT
White Pelicans: N **Brown Pelicans:** N

Time Survey every ½ hr	Sub-Site*	Seal Total No.	Pup No.	Dead Pup No.	Red Fur No.	Shark Bite No.	Seals Disturbed Y/N	Grand Total All Sub-sites	Comments
2:30	DEM	206	17	N			N	215	IN 2 GROUPS
2:30	LS	9	2	N			N		ON SPIT
3:00	DEM	181	11	N			N	195	
3:00	LS	14	2	N			Y		
3:30	DEM	163	8	N			N	179	
3:30	LS	16	3	N			N		
4:00	DEM	143	5	N			N	156	
4:00	LS	13	1	N			N		

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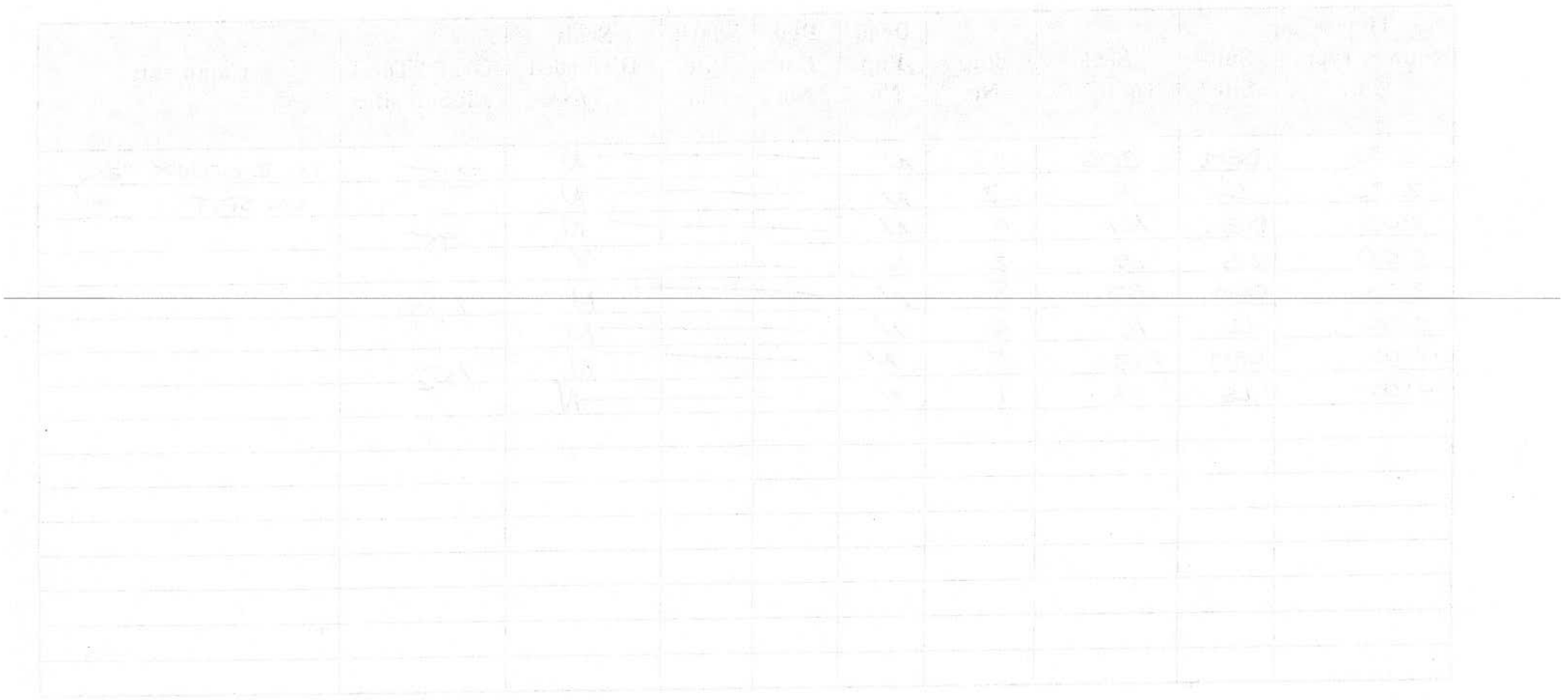

HARBOR SEAL
DISTURBANCE SURVEY

Date: 5/11/97 **Location:** CLIFF ABUE **Observers:** MIKE CONNOR

Time	Sub-Site *	Source **	Behavior ***	Distance from seals (m)	No. seals remain on site	No. pups remain (alone)	No. depart site	Time seals rehaul	Where Rehaul	Comments (vessel/aircraft identification)
2:45	DEM	HIKER on LG	HA+F	5m	5	N	2	5 MIN	DEM	TWO LEFT JUST INTO WATER

*SUBSITE: A=A sandbar; A1=A1 sandbar; AB=Backof A sandbar, DEM=Drakes Estero Mouth, OB=Oyster Bar, UEF=Up Estero Far, UEM=Up Estero Middle, L=Limantour Spit, Other

**SOURCE (include number): aircraft (helicopter/fixed wing plane), bird, canoe, clammer, dog, fisherman, kayak, motor boat, swimmer, unknown, other

***BEHAVIOR: HA=head alert; F=flush; NR=no response