



Environmental Services, Inc.

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Ann Arbor, MI

27 March 2003

Mr. Anthony Davis
Parsons Engineering Science
8000 Centre Park Drive, Suite 200
Austin, Texas 78754

Re: Piping Plover Survey, Placement Area No. 2A, Mansfield Cut, Padre
Island – Contract No. DACW64-99-D-0005
March 2003 Survey Results
HJN 020090

Dear Anthony:

Horizon Environmental Services, Inc. conducted the eighth and last monthly survey effort for piping plovers on the Placement Area No. 2A study area for this work order (Figure 1) on March 17, 18, 19, and 20, 2003. The survey was conducted by Lee Sherrod. The site was accessed by boat from Port Mansfield. The surveys were conducted according to the U.S. Fish and Wildlife Service (FWS) "Piping Plover Survey Criteria Guidelines," December 5, 1991. The surveys were conducted in the mornings and late afternoons of the four day survey period. Notes were made of the weather and tide conditions during each survey event and any human activity on the beach area.

The survey was conducted along the approximately 3000 linear feet of beach area by slowly walking and observing each bird encountered at a distance with high-powered binoculars to prevent premature disturbance. While only the beach provided suitable habitat for piping plovers, the occurrence of all bird species observed was noted as being on the beach, in the dunes, or as a flyover. Approximate numbers or relative abundance of each species was also noted.

Tidal conditions were generally normal during this survey period and the beach zone varied between 100 and 150 feet wide at various times. Beach visitor traffic was generally low with only one or two vehicles observed on the beach during any particular survey event, except on Thursday the 20th in the afternoon when a group of campers with 10 or 11 vehicles traversed the beach to set up camp on the edge of the Mansfield Channel.

No piping plovers were noted in March although bird activity was generally up from January and February and several typically associated species were noted. The lack of piping plover use of the beach area in March is not completely unexpected as the highest numbers of these birds are usually observed on the beaches in September and they usually frequent the bay flats for feeding at other

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times of the winter. Extensive bay flats and grass beds were noted to be exposed with low tides during this survey effort as has been the case throughout the winter. Overall, bird utilization of the beach was moderate during this survey, but numerous birds were observed utilizing the bay flats and channel edges of the Laguna.

The attached matrix provides the results of the bird observations for March. Beach and weather conditions for each survey episode are noted below. During the survey, tides were generally highest during the late afternoon to early evening and lowest early to mid-morning. Sunrise was about 6:55 am and sunset was about 6:40 pm cst. A weak frontal passage occurred on the 18th with moderate winds from the north that prevailed the remainder week.

Survey Episode No. 1 – 3/17/03 - 5:00 pm to 6:10 pm.

Tide incoming, dense fog, visibility 150 to 200 feet, wind 5 to 10 mph from the east, temperatures in the high 60s. The beach zone averaged 125 to 150 feet from the base of the dunes to the surf zone. Surf energy was moderate. Several vehicles and campers were observed on the beach and numerous vehicle tracks were present, most likely from the previous week of Spring Break. Bird use of the beach was moderate with 13 species being observed (despite the poor visibility). Many birds were observed to be utilizing inshore bay flats and channel spoil banks.

Survey Episode No. 2 – 3/18/03 – 8:30 am to 9:45 am.

Out-going tides, fog lifted early morning and the weather was clear, wind 15 mph from the south, temperatures in the low 70s. Surf energy was moderate. Beach zone averaged 125 to 150 feet. Yesterday's vehicles and campers had left and no vehicles were observed on the beach during the survey. Bird use of the beach was again fairly good with 12 species being observed.

Survey Episode No. 3 – 3/18/03 – 5:00 pm to 6:00 pm.

Tide beginning to rise, weather clear, wind was 10 to 15 mph from the northeast, temperatures in the mid 60s. Surf energy remained moderate. The tide was higher on the beach due to the north wind and the beach zone was 100 to 125 feet wide. No vehicles were observed on the beach during the survey. Despite the moderate weather conditions, few birds were observed on the beach this survey episode. However, numerous birds were observed on the beach beyond the study area and quite a few flyovers occurred.

Survey Episode No. 4 – 3/19/03 – 8:45 am to 9:45 am.

Tide beginning to fall, the beach zone averaged 100 to 125 feet wide. Weather clear, temperatures in the low 70s, wind 5 to 10 mph from the northwest. Surf was lighter. Two vehicles were observed on the beach during the survey, and two pedestrians were walking the beach during the



survey. Bird activity was low again with only 8 individuals of two species on the beach, but numerous flyovers occurred.

Survey Episode No. 5 – 3/19/03 – 5:00 pm to 6:10 pm.

Tide incoming. Surf energy was light to moderate. Weather was clear, wind 10 mph from the east, temperatures in the low 70s. Beach zone was 100 to 125 feet wide. Two vehicles were observed on the beach during the survey. Bird activity on the beach was up with 200+ individuals of six species present and a number of flyovers, including three additional species.

Survey Episode No. 6 – 3/20/03 – 8:30 am to 9:45 am.

Falling tide. Weather was clear, temperature in the high 60's, wind 15 to 20 mph from the north-northwest. Surf was light. Beach zone was 125 to 150 feet wide. No vehicles were on the beach during the survey. Bird activity was down again with only 3 individuals of two species, but numerous flyovers occurred with 7 additional species.

Survey Episode No. 7 – 3/20/03 – 5:00 pm to 6:00 pm.

Incoming tides. Weather clear, wind 10 to 15 mph from the east, temperature was in the high 60s. Surf was moderate and the beach zone averaged 125 to 150 feet. Numerous vehicles (10 or 11) had traversed the beach to a camp site on Mansfield Channel. Bird activity was high again with about 130 individuals of 9 species observed on the beach and a number of flyovers.

Please call if you have questions.

Sincerely,



C. Lee Sherrod
Principal



Piping Plover Survey Results
March 2003
Placement Area No. 2A

<u>SPECIES</u>	<u>3/17 pm</u>	<u>3/18 am</u>	<u>3/18 pm</u>	<u>3/19 am</u>	<u>3/19 pm</u>	<u>3/20 am</u>	<u>3/20 pm</u>
Piping plover							
Royal tern	B, F	B, F	F	F	F	F	B, F
Ring-billed gull	B, F	B, F	F		B		B, F
Brown pelican	B, F		B, F	B, F	F	F	B, F
Long-billed curlew							B
Herring gull	F	B	B, F		B		B
Double-crested cormorant		B, F	F	F	F	F	F
Reddish Egret	F	F					
Western Sandpiper	B		F	F	B	F	B
Savannah Sparrow	B	B	B	B			
Wilsons Plover	B						
Willet	B						B
Laughing gull	B, F	B, F	F	F	B, F	F	B, F
Short-billed dowitcher	B	B					
Golden plover	B				B		
Oyster catcher	B					B	
Tri-color heron		B					
Cattle egret		B					
Sandwich tern		B			F	F	B, F
Snowy egret			F				
Ruddy turnstone					B		
Clif swallow						F	
Grackle						D	

B - Beach
D - Dune
F - Flyover



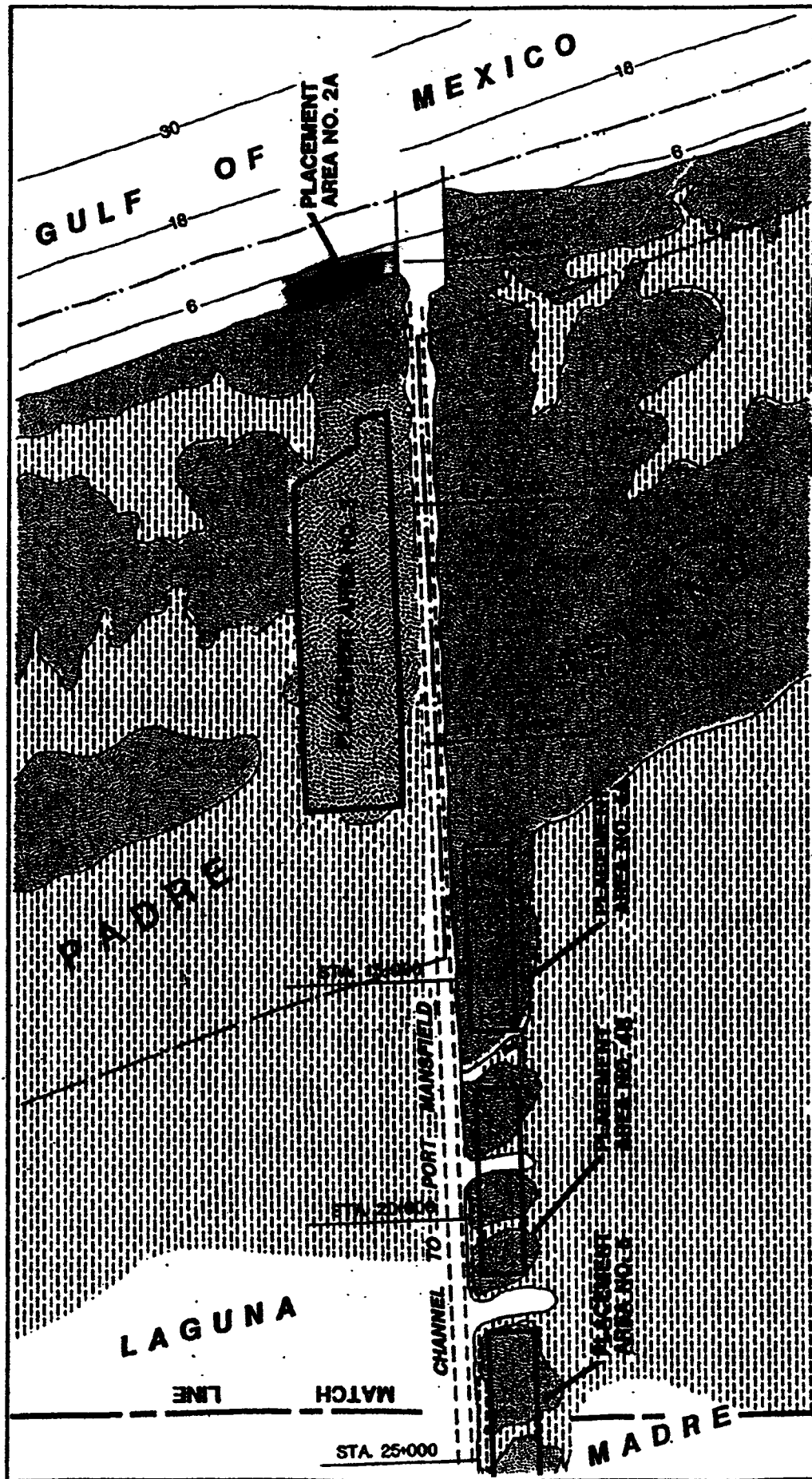


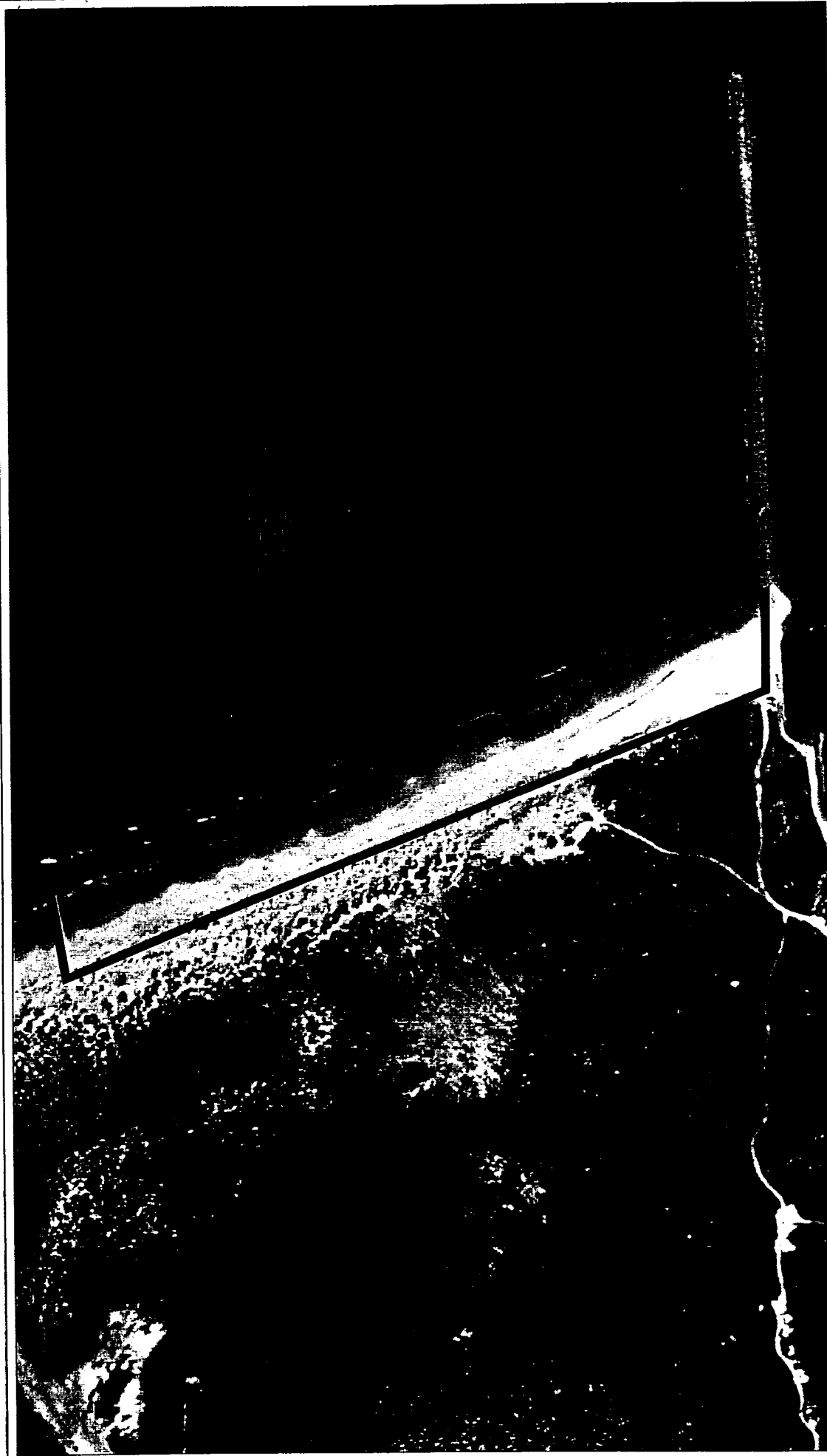
Figure 1

CHANNEL TO PORT MANSFIELD
DREDGED MATERIAL
PLACEMENT SITES
WILLACY COUNTY, TEXAS

SAND AND MUD FLATS
SUBJECT TO PERIODIC
INUNDATION

SHIFTING SAND DUNES

Base Map: USGS 7.5' Quadrangles, Port Mansfield & South of Potrero
Lopano SE: 1989 color infrared aerial photography



BASE MAP SOURCE: USGS 1m SERIES SOUTH OF POTRERO LOPEÑO SE-NE AND SE-SE DOQQ TEXAS QUARTER QUAD 2001

0 250 500
SCALE IN FEET

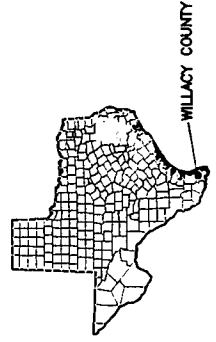
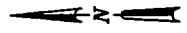


FIGURE 2

PIPING PLOVER SURVEY AREA
PLACEMENT AREA 2A
WILLACY COUNTY, TEXAS

Horizon

ENVIRONMENTAL SERVICES, INC.

Attachment 4

Piping Plover Survey Segment Form Placement Area # 2A

County: *Willacy* Location: *N. Padre Isl. - N. of Mansfield Cut*
 U.S. Geological Survey Topographic Map (Quadrangle name): *Port Mansfield*
 Name of surveyor: *Lee Shero - Horizon Environmental*
 Date of observation: *3/17/03* *S. of Portero Lopez SE*
 Sunrise: *6:55 am* Sunset: *6:40 pm*
 High tide(s): *late afternoon* Low tide(s): *early morning*
 Tidal conditions during survey segment: *Incoming*
 Wind speed and direction during survey segment: *5-10 mph East*
 Time segment begins: *5:00 pm* Time segment ends: *6:10 pm*
 Total number of Piping Plovers observed during segment: *None*

HABITATS

SPECIES	A	B	C	D	E	TOTAL
PIPING PLOVER	0					
BLACK-BELLIED PLOVER						
SNOWY PLOVER						
WILSON'S PLOVER	4					
SEMPALMATED PLOVER						
AMERICAN OYSTERCATCHER	2					
AMERICAN AVOCET						
WILLET	6					
LONG-BILLED CURLEW						
MARbled GODWIT						
RUDDY TURNSTONE						
RED KNOT						
SANDERLING						
WESTERN SANDPIPER	3					
LEAST SANDPIPER						
DUNLIN						
SHORT-BILLED DOWITCHER	4					

HABITAT TYPES

A: *Beach*
 B:
 C:

D:
 E:

Other Species:

laughing gull - 21 beach, 7 flyover
Savannah Sparrow - 8 beach
brown pelican - 12 beach, 14 flyover
Ring-billed gull - 7 beach, 2 flyover
Royal tern - 4 flyover
Herring gull - 1 flyover
Golden plover - 2 beach
Reddish egret - 12 flyover

Attachment 4

Piping Plover Survey Segment Form Placement Area # 2A

County: WillacyLocation: N. Padre Isl. - N. of Mansfield CutU.S. Geological Survey Topographic Map (Quadrangle name): Part MansfieldName of surveyor: Lee Sherrad - Horizon EnvironmentalDate of observation: 3/18/03Sunrise: 6:55 amSunset: 6:40 pmHigh tide(s): late afternoonLow tide(s): early morningTidal conditions during survey segment: outgoingWind speed and direction during survey segment: 15 mph southTime segment begins: 8:30 am Time segment ends: 9:45 amTotal number of Piping Plovers observed during segment: None

HABITATS

SPECIES	A	B	C	D	E	TOTAL
PIPING PLOVER	0					
BLACK-BELLIED PLOVER						
SNOWY PLOVER						
WILSON'S PLOVER						
SEMPALMATED PLOVER						
AMERICAN OYSTERCATCHER						
AMERICAN AVOCET						
WILLET						
LONG-BILLED CURLEW						
MARBLED GODWIT						
RUDDY TURNSTONE						
RED KNOT						
SANDERLING						
WESTERN SANDPIPER						
LEAST SANDPIPER						
DUNLIN						
SHORT-BILLED DOWITCHER	1					

HABITAT TYPES

A: Beach
B:
C:D:
E:

Other Species:

Brown Pelican - 2 beach, 10 flyers
 Herring gull - 4 beach
 Double Crested Cormorant - 2 beach, 34 flyers
 Laughing gull - 2 beach, 2 flyers
 Royal tern - 19 beach, 1 flyer
 Savannah Sparrow - 16 beach
 Ring-billed gull - 3 beach, 1 flyer
 Tri-color heron - 1 beach
 cattle egret - 6 beach
 Sandwich tern - 15 beach

Attachment 4

Piping Plover Survey Segment Form Placement Area # 2A

County: WillacyLocation: N. Padre Isl. - N. of Mansfield CutU.S. Geological Survey Topographic Map (Quadrangle name): Port MansfieldName of surveyor: Lee Sherrod - Horizon EnvironmentalDate of observation: 3/18/03Sunrise: 6:55 amSunset: 6:40 pmHigh tide(s): late afternoonLow tide(s): early morningTidal conditions during survey segment: beginning to riseWind speed and direction during survey segment: 10-15 northeastTime segment begins: 5:00 pm Time segment ends: 6:00 pmTotal number of Piping Plovers observed during segment: None

HABITATS

SPECIES	A	B	C	D	E	TOTAL
PIPING PLOVER	0					
BLACK-BELLIED PLOVER						
SNOWY PLOVER						
WILSON'S PLOVER						
SEMPALMATED PLOVER						
AMERICAN OYSTERCATCHER						
AMERICAN AVOCET						
WILLET						
LONG-BILLED CURLEW						
MARbled GODWIT						
RUDDY TURNSTONE						
RED KNOT						
SANDERLING						
WESTERN SANDPIPER	15					
LEAST SANDPIPER						
DUNLIN						
SHORT-BILLED DOWITCHER						

HABITAT TYPES

A: Beach
B:
C:D:
E:

Other Species:

brown pelican - 1 beach, 88 flyover
 snowy egret - 8 flyover
 double crested cormorant - 9 flyover
 Savannah sparrow - 1 beach
 laughing gull - 10 flyover
 royal tern - 18 flyover
 ring-billed gull - 4 flyover
 herring gull - 2 beach, 1 flyover

Attachment 4

Piping Plover Survey Segment Form Placement Area # 2ACounty: *Willacy*Location: *N. Padre Isl. - N. of Mansfield Cut*U.S. Geological Survey Topographic Map (Quadrangle name): *Port Mansfield*Name of surveyor: *Lee Sherrod - Horizon Environmental*Date of observation: *3/19/03*Sunrise: *6:55 am*Sunset: *6:40 pm*High tide(s): *late afternoon*Low tide(s): *early morning*Tidal conditions during survey segment: *beginning to fall*Wind speed and direction during survey segment: *5-10 northwest*Time segment begins: *8:45 am* Time segment ends: *4:45 am*Total number of Piping Plovers observed during segment: *None*

HABITATS

SPECIES	A	B	C	D	E	TOTAL
PIPING PLOVER	0					
BLACK-BELLIED PLOVER						
SNOWY PLOVER						
WILSON'S PLOVER						
SEMPALMATED PLOVER						
AMERICAN OYSTERCATCHER						
AMERICAN AVOCET						
WILLET						
LONG-BILLED CURLEW						
MARBLED GODWIT						
RUDDY TURNSTONE						
RED KNOT						
SANDERLING						
WESTERN SANDPIPER	3					
LEAST SANDPIPER						
DUNLIN						
SHORT-BILLED DOWITCHER						

HABITAT TYPES

A: *Beach*
B:
C:D:
E:Other Species:

bubble nested cormorant - 46 flyover

laughing gull - 2 flyover

royal tern - 8 flyover

brown pelican - 7 beach, 13 flyover

savannah sparrow - 1 beach

Attachment 4

Piping Plover Survey Segment Form Placement Area # 2ACounty: WillacyLocation: N. Padre Isl. - N. of Mansfield CutU.S. Geological Survey Topographic Map (Quadrangle name): Port MansfieldName of surveyor: Lee Sherrad - Horizon EnvironmentalDate of observation: 3-19-03Sunrise: 6:55 amSunset: 6:40 pmHigh tide(s): late afternoonLow tide(s): early morningTidal conditions during survey segment: incomingWind speed and direction during survey segment: 10 mph eastTime segment begins: 5:00 pm Time segment ends: 6:10 pmTotal number of Piping Plovers observed during segment: None

HABITATS

SPECIES	A	B	C	D	E	TOTAL
PIPING PLOVER	0					
BLACK-BELLIED PLOVER						
SNOWY PLOVER						
WILSON'S PLOVER						
SEMPALMATED PLOVER						
AMERICAN OYSTERCATCHER						
AMERICAN AVOCET						
WILLET						
LONG-BILLED CURLEW						
MARBLED GODWIT						
RUDDY TURNSTONE	17					
RED KNOT						
SANDERLING						
WESTERN SANDPIPER	200+					
LEAST SANDPIPER						
DUNLIN						
SHORT-BILLED DOWITCHER						

HABITAT TYPES

A: Beach
B:
C:D:
E:Other Species:

Ring-billed gull - 6 beach
 herring gull - 2 beach
 brown pelican - 44 flyover
 double-crested cormorant - 6 flyover
 laughing gull - 1 beach, 14 flyover
 royal tern - 11 flyover
 golden plover - 1 beach
 sandwich tern - 1 flyover

Attachment 4

Piping Plover Survey Segment Form Placement Area # 2A

County: Willacy Location: N. Padre Isl. - N. of Mansfield Cut
 U.S. Geological Survey Topographic Map (Quadrangle name): Port Mansfield
 Name of surveyor: Lee Sherrod - Horizon Environmental
 Date of observation: 3/20/03 S. of Portero Lopez SE
 Sunrise: 6:55 am Sunset: 6:40 pm
 High tide(s): late afternoon Low tide(s): early morning
 Tidal conditions during survey segment: outgoing
 Wind speed and direction during survey segment: 15-20 mph north-northwest
 Time segment begins: 8:45 am Time segment ends: 9:45 am
 Total number of Piping Plovers observed during segment: None

HABITATS

SPECIES	A	B	C	D	E	TOTAL
PIPING PLOVER	0					
BLACK-BELLIED PLOVER						
SNOWY PLOVER						
WILSON'S PLOVER						
SEMPALMATED PLOVER						
AMERICAN OYSTERCATCHER	2(8)					
AMERICAN AVOCET						
WILLET						
LONG-BILLED CURLEW						
MARbled GODWIT						
RUDDY TURNSTONE						
RED KNOT						
SANDERLING						
WESTERN SANDPIPER	1(=)					
LEAST SANDPIPER						
DUNLIN						
SHORT-BILLED DOWITCHER						

HABITAT TYPES

A: Beach
 B:
 C:

D:
 E:

Other Species:

brown pelican - 55 flyover
 royal tern - 2 flyover
 laughing gull - 5 flyover
 sandwich tern - 5 flyover
 grackle - 1 done
 double crested cormorant - 4 flyover
 elite swallow - 25 flyover

Attachment 4

Piping Plover Survey Segment Form Placement Area # 2A

County: WillacyLocation: N. Padre Isl. - N. of Mansfield CutU.S. Geological Survey Topographic Map (Quadrangle name): Port MansfieldName of surveyor: Lee Sherrad - Horizon EnvironmentalDate of observation: 3-20-03

S. of Portero Lopez SE

Sunrise: 6:55 amSunset: 6:40 pmHigh tide(s): late afternoonLow tide(s): early morningTidal conditions during survey segment: incomingWind speed and direction during survey segment: 10-15 eastTime segment begins: 5:00 pm Time segment ends: 6:00 pmTotal number of Piping Plovers observed during segment: None

HABITATS

SPECIES	A	B	C	D	E	TOTAL
PIPING PLOVER	0					
BLACK-BELLIED PLOVER						
SNOWY PLOVER						
WILSON'S PLOVER						
SEMPALMATED PLOVER						
AMERICAN OYSTERCATCHER						
AMERICAN AVOCET						
WILLET	11					
LONG-BILLED CURLEW	1					
MARbled GODWIT						
RUDDY TURNSTONE						
RED KNOT						
SANDERLING						
WESTERN SANDPIPER	75+					
LEAST SANDPIPER						
DUNLIN						
SHORT-BILLED DOWITCHER						

HABITAT TYPES

A: Beach
B:
C:D:
E:Other Species:

brown pelican - 14 beach, 30 fly
 royal tern - 7 beach, 1 fly
 laughing gull - 2 beach, 1 fly
 ring-billed gull - 6 beach, 1 fly
 sandwich tern - 12 beach, 4 fly
 herring gull - 2 beach
 double-crested cormorant - 4 flyover