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Final Report

# Pre-Nourishment Beach Benthic Invertebrate Monitoring: South Padre Island

Texas General Land Office Contract No. 24-022-015-E445 Coastal Management Program – Cycle 28

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## Introduction

Barrier island beaches are the first line of defense against tropical systems along the Gulf of Mexico shoreline. Coastal development, even with restrictions, is vulnerable to shoreline erosion and flooding and owners/developers face significant economic and property losses (Peterson and Bishop 2005). Coastal erosion and shoreline retreat are also deleterious to the value of the habitat to fish and other wildlife, including endangered and threatened species such as sea turtles, Piping Plover, and Red Knot. Engineered solutions to coastal erosion, such as beach nourishment, are in ever greater demand, and are being used more often as the rate of sea level rise and the frequency and intensity of tropical systems increases. Beach nourishment can be effective in maintaining beach/barrier island integrity over short (<decadal) time scales by reducing erosion from waves and/or flooding and by supplying sediment in areas where sediment supply is insufficient. Ecological disturbance during beach nourishment activities may be of short duration but functional degradation can result and may persist. Disturbance effects include reduced prey density for shorebirds, fish, and crabs as well as depressed nesting by sea turtles. Benthic invertebrates, specifically benthic invertebrates, are the most frequently targeted organisms for impact assessments because of their suitability as ecological indicators and because they are relatively sessile, long-lived relative to plankton, and provide ecologically meaningful patterns that can be used to infer causation (Montagna et al. 2013).

This report documents the first year of a study designed to determine the effects of beach nourishment on swash-zone benthic invertebrates in South Padre Island. This baseline encompasses not only invertebrate community dynamics, but sediment grain size, water quality, bird, and basic beach profile dynamics. Nourishment was originally predicted to occur at the end of this first year of monitoring, however SPI beach was nourished after only eight months of monitoring (from 23 October to 27 November 2024). The source of the nourished sand was a nearshore berm (BU Site 2A and 2B). This report provides a preliminary overview of the first year of monitoring. A complete analysis of nourishment effects will be conducted at the end of post-nourishment contract.

## Study Design

This study design section describes both the pre- and post-nourishment monitoring phases (before and after nourishment). However, further descriptions of methods and results in this report only pertain to the pre-nourishment monitoring.

The effects of sand nourishment on Texas beaches will be determined using a Before/After, Control/Impact (BACI) study design (Green 1979). However, sampling will occur at three reference (control) areas for each beach nourishment (impact) area, which allows us to more accurately determine whether differences in benthic communities between reference and nourished beaches can be attributed to nourishment or natural factors (i.e., allows us to avoid pseudoreplication; Underwood 1992). Two "close" reference sites (1.6 km [1 mi] from the nourished area) and one distant reference area (16 km [10 mi]) were sampled per nourishment area to allow more robust comparisons to be made. The close reference sites will be in the general vicinity, and therefore experience very similar hydrological forces to the nourished area. The distant reference areas will ideally be more "pristine" than the close reference areas. Sampling occurred every two months for eight months prior to a nourishment event (five sampling events) at the nourished and reference beaches and every two months for two sampling events after the nourishment.

A power analysis (Sokal and Rohlf 1981) using previously collected beach benthic inverterbrate samples (Withers, unpublished) determined that 100 samples are required per sampling event to have an 80% chance of detecting a "biologically meaningful difference" (50% difference in abundance using $\alpha = 0.05$). Exactly 100 samples will be taken in the current study in each sampling event (4 areas x 5 sites per area x 5 replicates per site).

The beach sampled in this study was South Padre Island (Table 1, Figure 1). The area to be nourished was from Andy Bowie Park to the north, to approximately E. Palmetto Dr to the south (labeled SPI in graphs). Reference areas for South Padre Island Beach were located 1.6 km to the south (Beach access Rd 9 (BA9), 1.6 km to the north (Los Corales Condos, LCC), and 16 miles to the north (UFO) of the nourishment area.

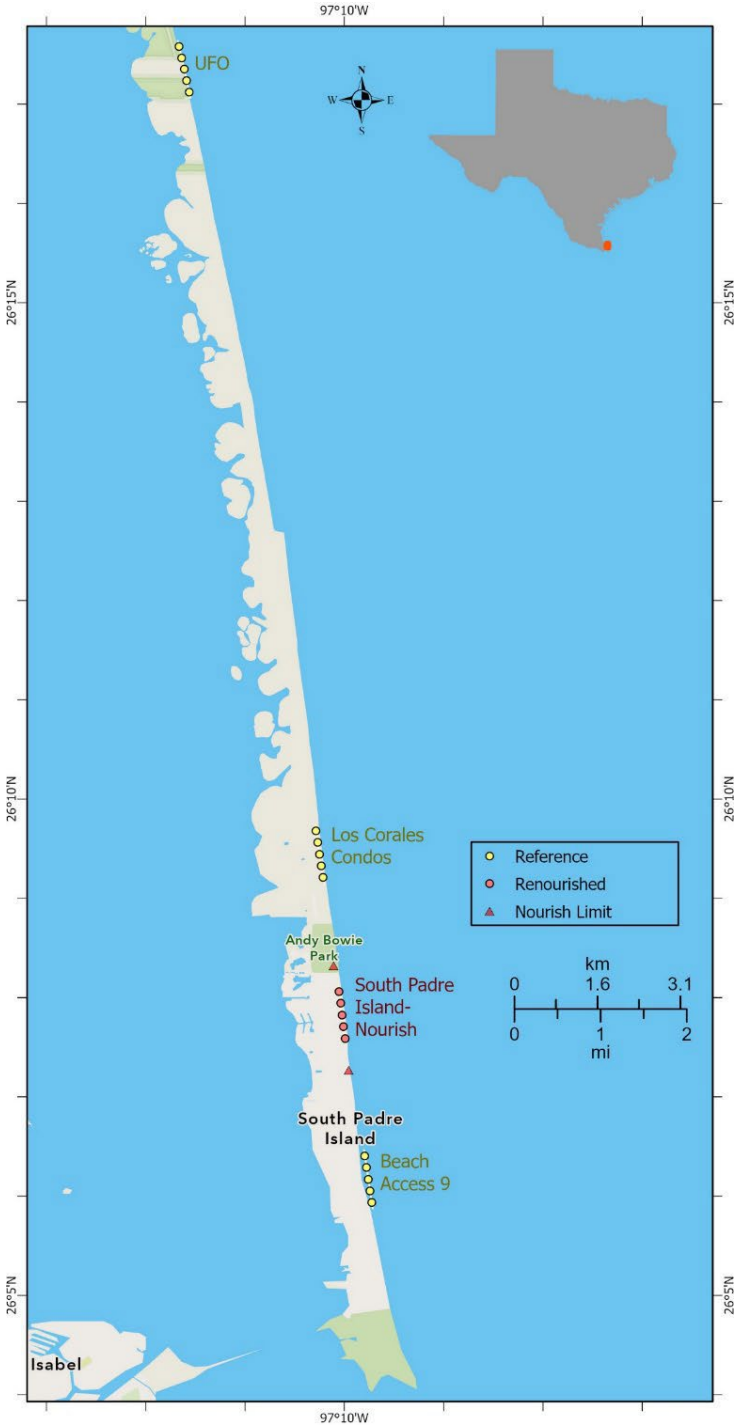


*Figure 1. Sampling areas on South Padre Island, including (South Padre Island - nourish), and three reference sampling areas (UFO, Los Corales Condos, Beach Access 9).*
*Each sampling area consists of five sampling sites (circles) within each 800-m long transect.*

*Table 1. Locations and names of sampled transects.*

| Transect | Transect Type | Transect Abbrev. | Station | Latitude | Longitude |
|---|---|---|---|---|---|
| South Padre Island - Nourish | Impact | SPI | A | 26.13434 | -97.16755 |
| | | | B | 26.13237 | -97.16730 |
| | | | C | 26.13041 | -97.16704 |
| | | | D | 26.12844 | -97.16679 |
| | | | E | 26.12648 | -97.16653 |
| UFO | Far Reference | UFO | A | 26.29300 | -97.19438 |
| | | | B | 26.29109 | -97.19396 |
| | | | C | 26.28919 | -97.19355 |
| | | | D | 26.28728 | -97.19313 |
| | | | E | 26.28538 | -97.19271 |
| Los Corales Condos | Close Reference North | LCC | A | 26.16132 | -97.17140 |
| | | | B | 26.15936 | -97.17111 |
| | | | C | 26.15740 | -97.17082 |
| | | | D | 26.15544 | -97.17053 |
| | | | E | 26.15349 | -97.17024 |
| Beach Access 9 | Close Reference South | BA9 | A | 26.10675 | -97.16322 |
| | | | B | 26.10479 | -97.16292 |
| | | | C | 26.10282 | -97.16263 |
| | | | D | 26.10086 | -97.16234 |
| | | | E | 26.09890 | -97.16205 |

*Abbrev. = Abbreviation used in labelling lines in time series plots.*

## Sampling and Laboratory Analyses

Sampling in the pre-nourishment phase occurred every two months from February 2024 to February 2025. Each sampling area consisted of five sites along an 800-m (2625-ft) transect (200 m [656 ft] apart) that runs along the shoreline of the beach. Five replicate 102-mm (4”) diameter cores were taken for benthic invertebrates, and one 67-mm diameter core were taken for grain size analysis within a 1 $m^2$ (10.8 $ft^3$) area at each site on each sampling date. All cores were taken within the swash zone of the beach at the time of sampling to a depth of 10 cm (3.9”). Sediment grain size cores were divided into 0-3 and 3-10 cm vertical sections.

Cores taken for benthic invertebrate community analysis were sieved in the field using 0.5 mm mesh bags. The mesh bags, which contained fauna and larger debris, were fixed by being placed in buckets filled with 10% buffered formalin, and transported back to the laboratory. Benthic invertebrates were picked from the samples using stereo microscopes and identified to the lowest practical identifiable level (LPIL), usually genus or family. After enumeration, invertebrates were dried at 55 $^0$C for 24–48 hours (until dry) and weighed to determine biomass. The shells of mollusks were removed prior to weighing by dissolving the organism in 2.0 M hydrochloric acid (HCl), or by manually shucking (possible in clams > 2cm long).

Cores taken for grain size analyses were stored in plastic bags on ice in the field, and then in the refrigerator (~4 $^0$C) thereafter. Relative quantities of sand (63–2000 µm), silt (4–63 µm), and clay (<4

μm) in the sediment were determined using a Beckman Coulter LS 13 320 XR Laser Particle Sizing Analyzer (Beckman Coulter Life Sciences, Indianapolis, IN) and gravel (>2000 μm; mostly shell) was determined using wet sieving (Folk 1964). Grain size samples were homogenized by kneading the sample within the storage bag. Subsamples of the homogenized samples were digested with hydrogen peroxide to disperse clay particles and remove any organic content to avoid biasing the true grain-size distribution (Plumb 1981, Poppe et al. 2000) before grain size analyses. Large invertebrates that might take a long time to dissolve using hydrogen peroxide were manually removed before sample digestion. All grain size classifications are defined using the Wentworth -Lane size classification scale (Pettijohn 1975, ISO 2017). Grain size distributions are reported here as proportions of shell/gravel, sand, clay and silt.

The abundances of bird species that were present in the swash zone within 50-m either side of each sampling site, within five minutes before to five minutes after sampling were recorded during each sampling date. Discrete measurements of water temperature, salinity, dissolved oxygen (DO) concentration, and pH were measured at ~0.1 m deep at each transect on each sampling date using a YSI Pro DSS multiparameter instrument (YSI Incorporated 2014). Beach widths (vegetation line to shoreline) were measured using a range finder, and beach heights were measured using the Emery method (Emery 1961). In the Emery method, a surveyor with a graduated survey pole on the shoreward side of the beach lines up the horizon with the top of a survey rod (of the same height) on the seaward side of the beach. The vertical distance measured down the shoreward pole to the line-of-sight level (lining up horizon and top of seaward pole) indicates the beach height.

## Statistical Analyses

Univariate methods were used to determine spatio-temporal trends of the benthic invertebrate communities, sediment grain size characteristics, bird abundances, water quality. Multivariate statistics include non-metric dimensional scaling (nMDS) to characterize macrobenthic community composition among sites over time (Clarke et al. 2008, Clarke et al., 2014).

Both univariate and multivariate methods will be used on the BACI design in the post-nourishment final report to determine if the community has reverted to the same community after nourishment (pulse disturbance) or if a new community is maintained after the nourishment (press disturbance). Communities that are present for the duration of the sampling period after nourishment will be compared with those before nourishment to determine whether a pulse or press disturbance has occurred. Univariate statistics may include two-way analysis of variance (ANOVA) tests to identify differences in univariate metrics such as total benthic invertebrate density and biomass, densities of individual species, that might be attributable to the beach nourishment events. Species with particular importance to *Calidris canutus* (Red Knot) and *Charadrius melodus* (Piping Plover) diets, i.e., *Donax* sp. (Coquina clam) will be specially focused on.

## Results

### *Benthic Invertebrate Communities*

Benthic invertebrate density was similar among transects over time (Figure 2). Excluding the high densities that occurred at UFO in June 2024 (5309 ± 3472 n $m^{-2}$ [mean ± standard deviation]), densities at each transect ranged from 555 ± 167 n $m^{-2}$ at UFO to 1068 ± 769 n $m^{-2}$ at SPI. Mean biomass ranged from 0.6 ± 0.7 g $m^{-2}$ at UFO to 1.6 ± 1.1 g $m^{-2}$ at BA9. N1 diversity raged from 1.4 ± 0.3 n 81-$cm^{-2}$ at UFO to 1.5 ± 0.3 n 81-$cm^{-2}$ at LCC. There were no obvious differences in abundance, biomass or diversity on the whole-transect scale immediately after the nourishment event. However, within transect effects were not assessed.

Benthic invertebrate communities were numerically dominated by three taxa that made up 96.2% of all organisms occurring in the swash invertebrate samples (Table 2). These three taxa are Haustoriid amphipods (65.6% of all samples), *Scolelepis* sp. polychaete worms (27.6%), and *Donax* sp. clams (Coquina, 3.0%; Figure 3). Relative densities of each of these taxa were similar within each transect. *Donax* sp. (36.2%), *Emerita* sp. (29.9%), and *Lepidopa* sp. (17.3%) made up the highest mean biomass of the transects (Figure 4).

The overall community composition of each transect was grouped more by sampling date than by transect (Figure 5). The community composition of SPI was different to the three reference transects in February 2025, approximately three months after nourishment. However, the community composition of SPI and the reference transect LCC were different than the other two reference transects in October 2024, before the nourishment occurred. More detailed analyses will be included in the next report that will enable us to determine if differences in SPI community composition after the nourishment date can be attributed to nourishment activities.

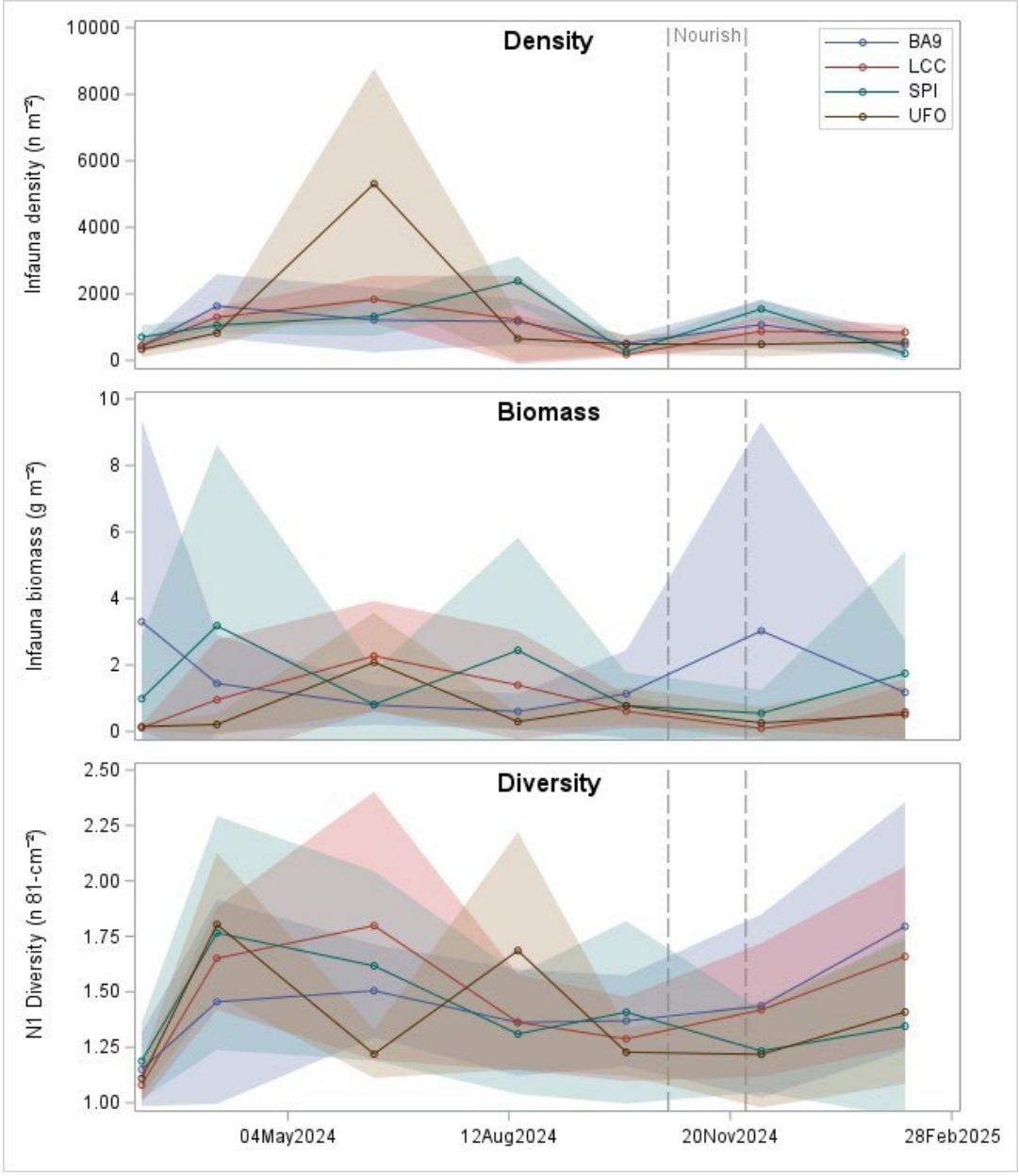


*Figure 2. Mean (± standard deviation) benthic invertebrate density, biomass and diversity at each transect over time.*

*Table 2. Density (n $m^{-2}$) of benthic invertebrate species at each transect. % = % of total.*

| Taxa Group | Taxa | Density (n $m^{-2}$) | | | | | | Biomass (g $m^{-2}$) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | BA9 | LCC | SPI | UFO | Mean | % | BA9 | LCC | SPI | UFO | Mean | % |
| Polychaeta | *Scolelepis* sp. | 518.76 | 581.49 | 699.19 | 946.59 | 686.5 | 65.64 | 0.07444 | 0.08532 | 0.08286 | 0.15095 | 0.09839 | 8.54 |
| Crustacea | Haustoriidae | 337.61 | 301.67 | 288.98 | 226.96 | 288.8 | 27.62 | 0.04253 | 0.02628 | 0.02547 | 0.02163 | 0.02898 | 2.51 |
| Bivalvia | *Donax* sp. | 28.90 | 28.90 | 40.88 | 26.08 | 31.19 | 2.98 | 0.59877 | 0.10803 | 0.81473 | 0.1467 | 0.41706 | 36.18 |
| Crustacea | *Emerita* sp. | 15.51 | 26.78 | 12.69 | 17.62 | 18.15 | 1.74 | 0.53384 | 0.28472 | 0.32911 | 0.23044 | 0.34452 | 29.89 |
| Crustacea | Calanoida | 4.23 | 3.52 | 2.11 | 4.93 | 3.70 | 0.35 | 0.00004 | 0.00019 | 0.00003 | 0.00012 | 0.0001 | 0.01 |
| Crustacea | *Lepidopa* sp. | 2.11 | 4.93 | 0.7 | 4.23 | 3.00 | 0.29 | 0.37388 | 0.3429 | 0.04248 | 0.03763 | 0.19922 | 17.28 |
| Insecta | Staphylinidae | 0 | 0 | 6.34 | 0 | 1.59 | 0.15 | 0 | 0 | 0.00046 | 0 | 0.00011 | 0.01 |
| Crustacea | Mysidae | 4.23 | 0 | 0.7 | 1.41 | 1.59 | 0.15 | 0.00553 | 0 | 0.00034 | 0.00195 | 0.00195 | 0.17 |
| Crustacea | *Ancinus depressus* | 5.64 | 0.71 | 0 | 0 | 1.59 | 0.15 | 0.00503 | 0.00171 | 0 | 0 | 0.00168 | 0.15 |
| Polychaeta | Lumbrineridae | 2.82 | 0.71 | 1.41 | 0.71 | 1.41 | 0.13 | 0.00398 | 0.00079 | 0.00644 | 0.00069 | 0.00297 | 0.26 |
| Crustacea | *Cymodoce faxoni* | 0 | 0.71 | 4.93 | 0 | 1.41 | 0.13 | 0 | 0.00101 | 0.00026 | 0 | 0.00032 | 0.03 |
| Crustacea | Isopoda | 4.23 | 0 | 0 | 0 | 1.06 | 0.10 | 0.00057 | 0 | 0 | 0 | 0.00014 | 0.01 |
| Nemertea | Nemertea | 0.71 | 0.71 | 2.11 | 0 | 0.88 | 0.08 | 0.00144 | 0.00018 | 0.00154 | 0 | 0.00079 | 0.07 |
| Nematoda | Nematoda | 0 | 1.41 | 0 | 1.41 | 0.71 | 0.07 | 0 | 0.00016 | 0 | 0.00011 | 0.00007 | 0.01 |
| Crustacea | *Pinnixa lunzi* | 0 | 1.41 | 0 | 1.41 | 0.71 | 0.07 | 0 | 0.0024 | 0 | 0.00223 | 0.00116 | 0.10 |
| Insecta | Hymenoptera | 0.71 | 0 | 1.41 | 0 | 0.53 | 0.05 | 0.00004 | 0 | 0.00015 | 0 | 0.00005 | 0.00 |
| Crustacea | *Lepidopa benedicti* | 0 | 0 | 1.41 | 0.71 | 0.53 | 0.05 | 0 | 0 | 0.12179 | 0.01895 | 0.03518 | 3.05 |
| Insecta | *Solenopsis* sp. | 0 | 0 | 2.11 | 0 | 0.53 | 0.05 | 0 | 0 | 0.00013 | 0 | 0.00003 | 0.00 |
| Gastropoda | *Hastula* sp. | 0 | 0 | 1.41 | 0 | 0.35 | 0.03 | 0 | 0 | 0.07244 | 0 | 0.01811 | 1.57 |
| Insecta | Insecta | 0.71 | 0 | 0.71 | 0 | 0.35 | 0.03 | 0.00007 | 0 | 0.00037 | 0 | 0.00011 | 0.01 |
| Araneae | Araneae | 0 | 0.71 | 0 | 0 | 0.18 | 0.02 | 0 | 0.00001 | 0 | 0 | 0 | 0.00 |
| Insecta | Coleoptera | 0 | 0 | 0 | 0.71 | 0.18 | 0.02 | 0 | 0 | 0 | 0.00004 | 0.00001 | 0.00 |
| Crustacea | Grapsidae | 0 | 0 | 0 | 0.71 | 0.18 | 0.02 | 0 | 0 | 0 | 0.00012 | 0.00003 | 0.00 |
| Crustacea | *Hippoidea* sp. | 0 | 0.71 | 0 | 0 | 0.18 | 0.02 | 0 | 0.00699 | 0 | 0 | 0.00175 | 0.15 |
| Crustacea | Hyperiidea | 0 | 0 | 0 | 0.71 | 0.18 | 0.02 | 0 | 0 | 0 | 0.00006 | 0.00001 | 0.00 |
| Polychaeta | Polychaeta | 0.71 | 0 | 0 | 0 | 0.18 | 0.02 | 0.00005 | 0 | 0 | 0 | 0.00001 | 0.00 |
| Crustacea | Talitridae | 0 | 0 | 0.71 | 0 | 0.18 | 0.02 | 0 | 0 | 0.00001 | 0 | 0 | 0.00 |
| | Sum | 926.85 | 954.34 | 1067.82 | 1234.16 | 1045.79 | 100.00 | 1.64022 | 0.86069 | 1.4986 | 0.6116 | 1.15278 | 100.00 |

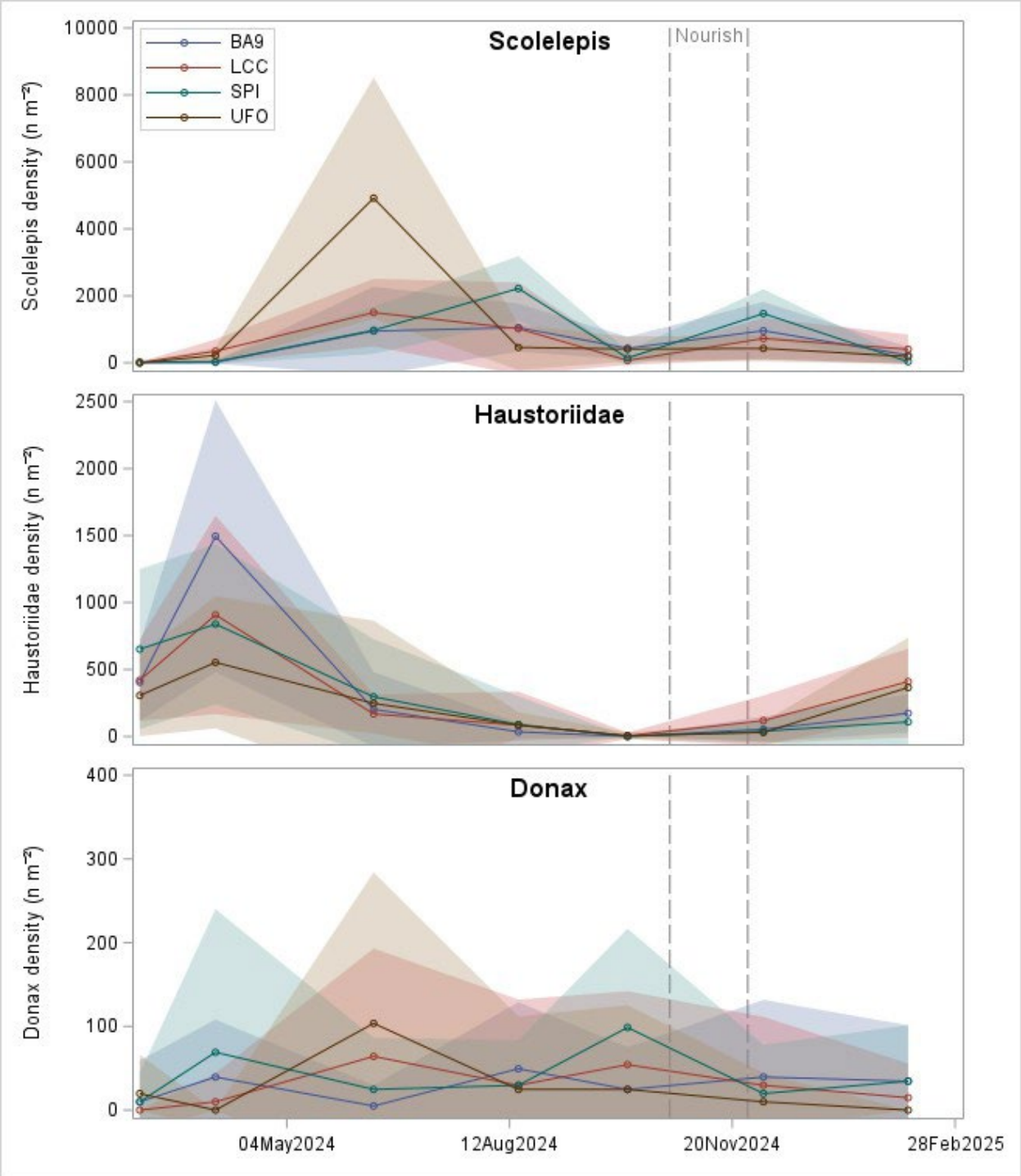


*Figure 3. Mean (± standard deviation) density of Scolelepis sp., Haustoriidae, and Donax sp. at each transect over time*

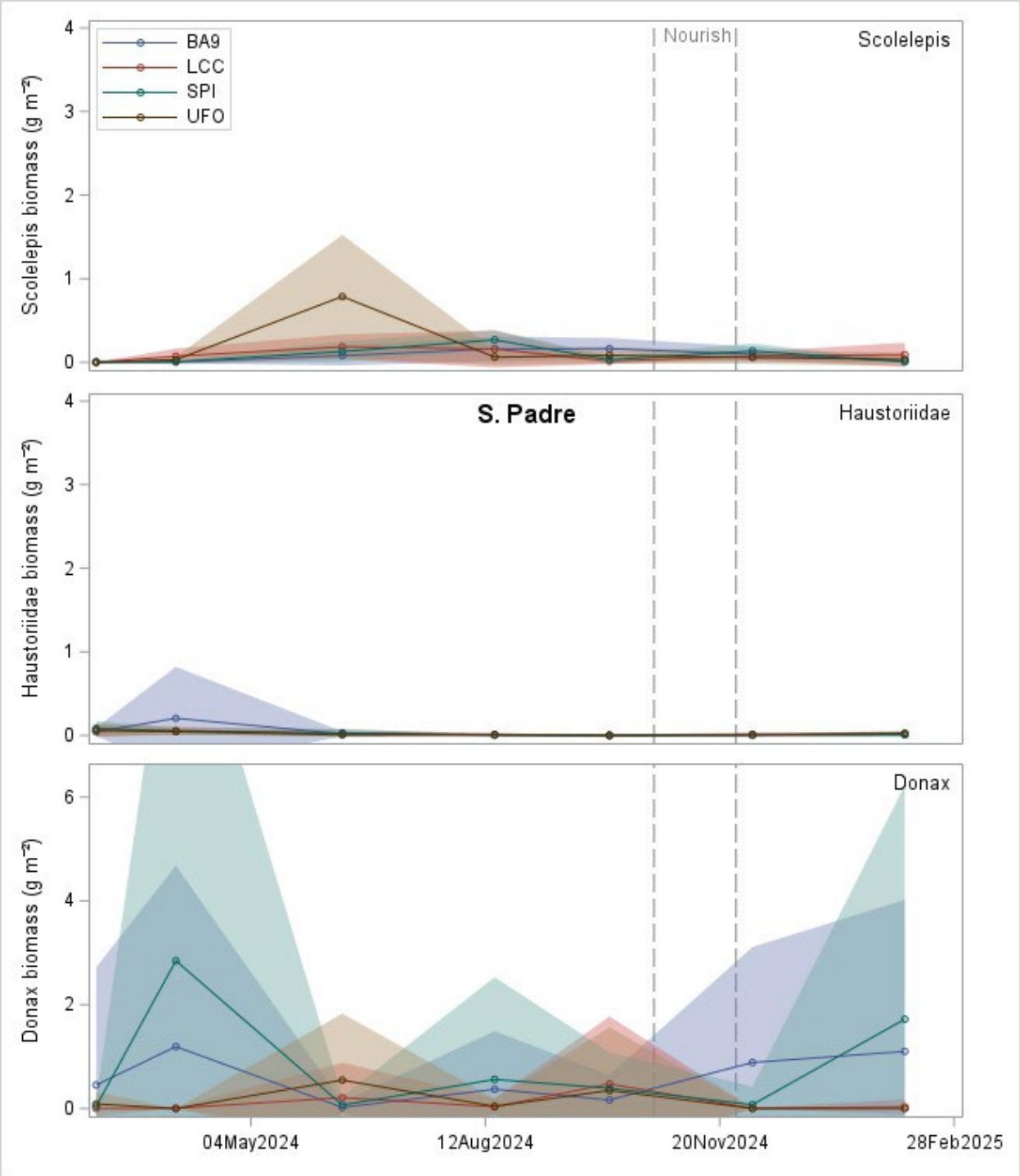


*Figure 4. Mean (± standard deviation) biomass of Scolelepis sp., Haustoriidae, and Donax sp. At each transect over time.*

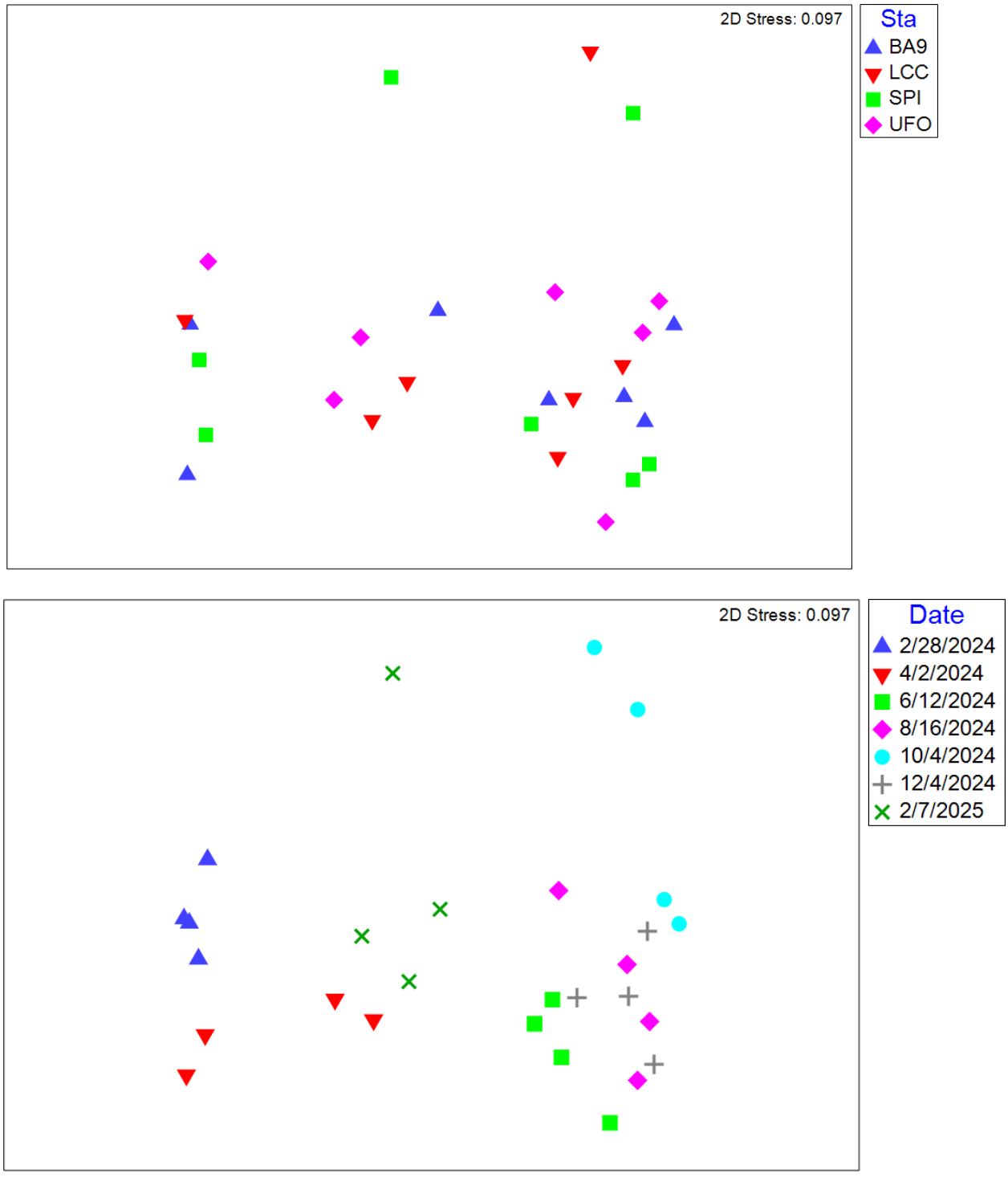


*Figure 5. Non-metric multidimensional scaling plot of community composition at each station labeled by transect (top) and sampling date (bottom).*

*Water Quality*

Temperature and dissolved oxygen concentration followed a predictable seasonal pattern, with warm temperatures and low dissolved oxygen concentrations occurring in the summer (32.0 ± 0.6 °C, 6.2 ± 0.1 mg $l^{-1}$ in June 2024), and cool temperatures and high dissolved oxygen concentrations occurring in the winter (16.2 ± 0.8 °C, 8.0 ± 0.1 mg $l^{-1}$ in February 2025; Figure 6). Mean salinity of all transects ranged from 30.5 ± 0.2 in October 2024 to 36.7 ± 0.1 in August 2024. Mean pH of all transects ranged from 8.0 ± 0.0 in several months to 8.1 ± 0.1 in October 2024. Differences in any of these water quality variables among transects were small.

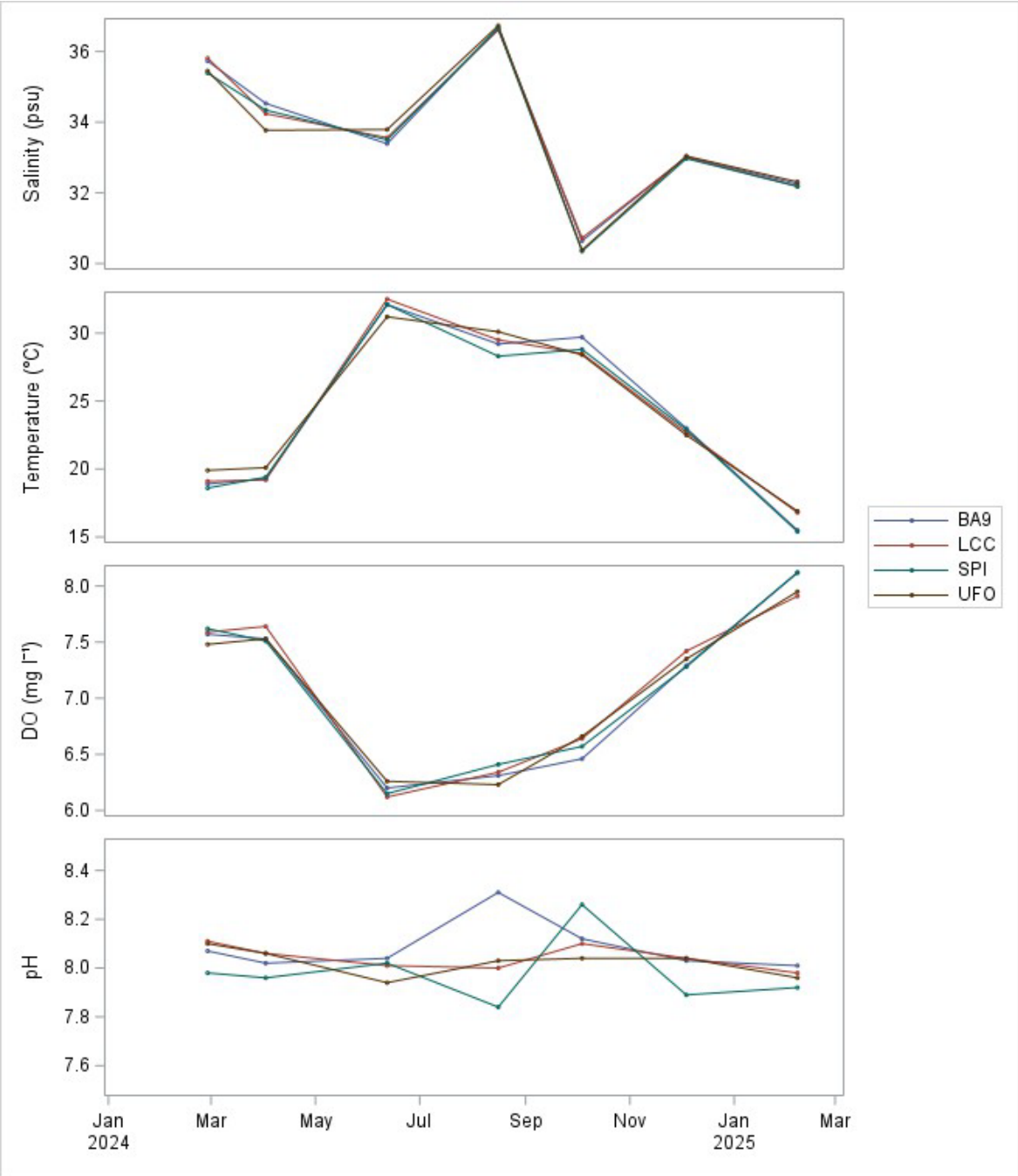


*Figure 6. Salinity, temperature, dissolved oxygen and pH at each transect over time.*

*Sediment Grain Size*

The mean grain size composition of all transect-date combinations from the top 3 cm of sediment (0-3) ranged from 99.5 to 100.0% sand and 0.0 to 0.5% gravel (Figure 7). The mean grain size composition of all samples from the 3-10 cm sediment depth (3-10) ranged from 97.9 to 100.0% sand and 0.0 to 2.1% gravel (Figure 7). No silt or clay occurred in any sample. No differences in total sand or gravel occurred among transects or between before and after the nourishment. However, it is uncertain whether there were any differences in size distributions within the sand component. Future analyses will compare the grain size distributions over time using the higher resolution Wentworth classifications.

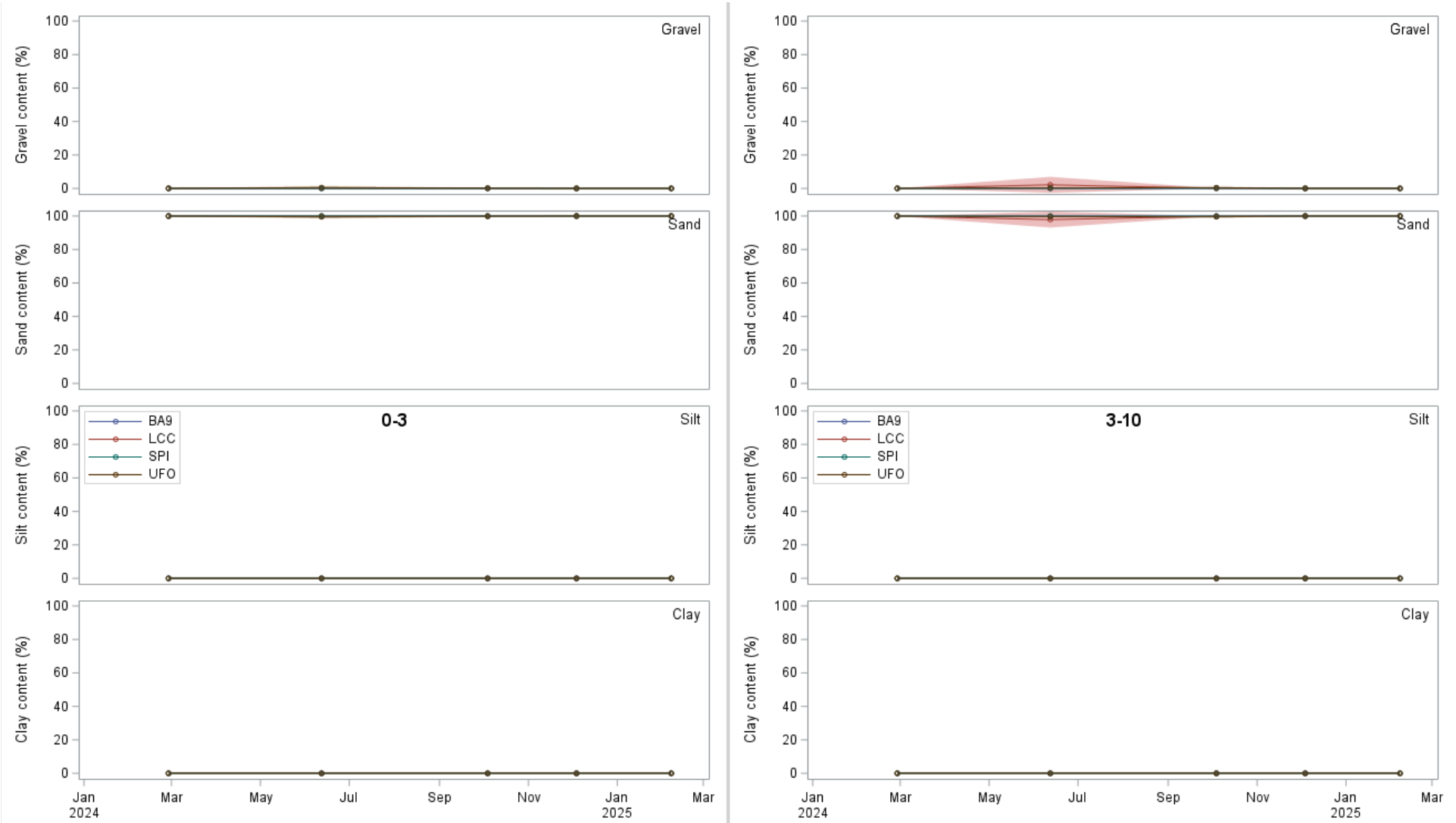


*Figure 7. Mean (± standard deviation) gravel, sand, silt, and clay content in the top 3 cm (left) and 3-10 cm (right) of sediment at each transect over time.*

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*Beach Profile*

The surveyed beach widths and heights varied in a similar temporal pattern among transects (Figure 8). This is likely related to the different tides that the beaches were surveyed on each sampling date. The beach slope was consistently similar among the SPI nourished transect and the near reference transects (LCC, BA9). The slope of the far reference transect (UFO) was generally steeper than the other transects, but there was considerable overlap. The beach height and therefore slope, could not be determined for any transect in February 2025 because fog obscured the view of the horizon. Differences in beach height, width and slope will be presented within transects in future reporting.

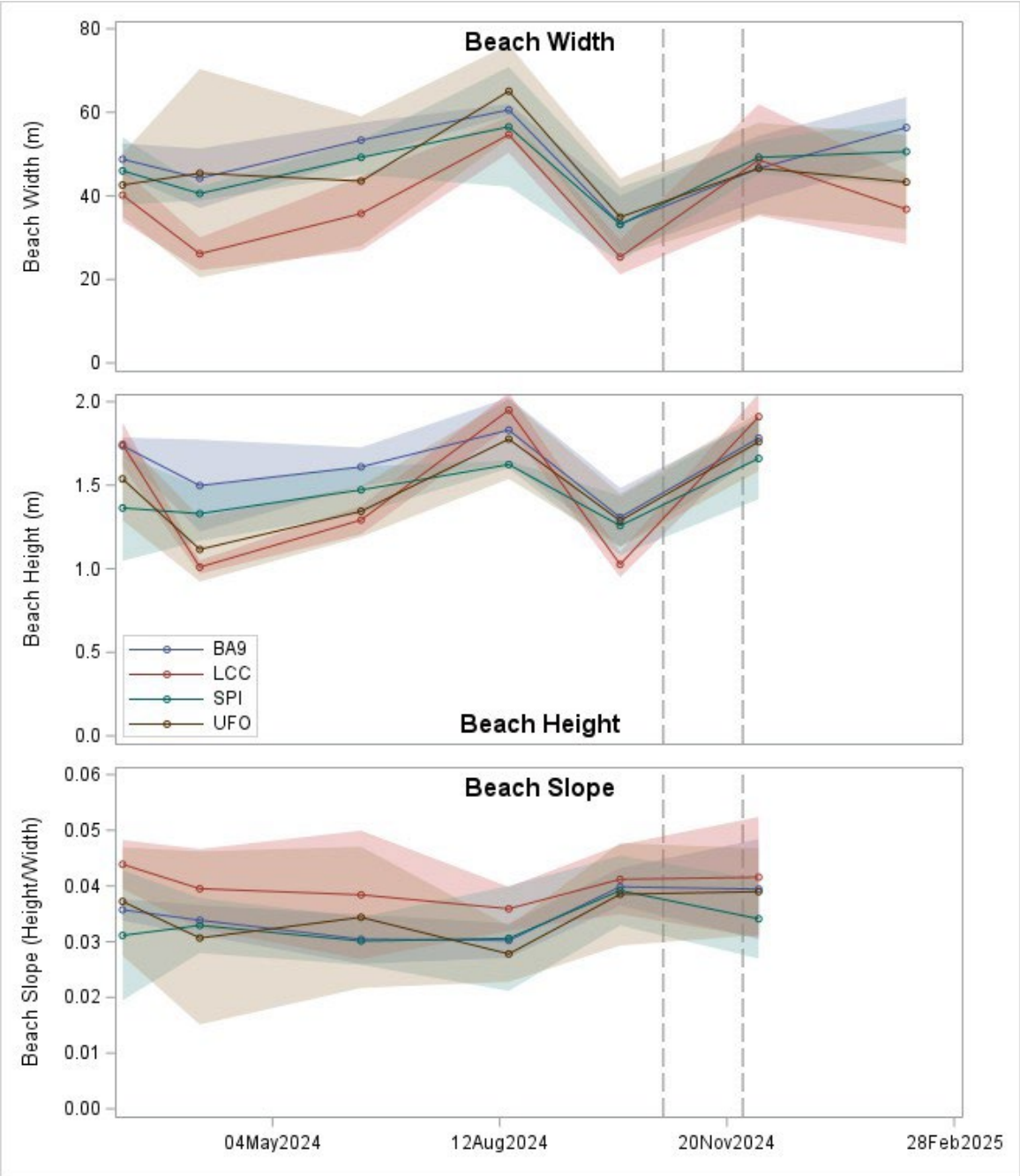


*Figure 8. Mean (± standard deviation) beach width, height, and slope*

*Birds*

There are no consistent temporal trends in total bird densities among transects (Figure 9). Piping plovers were most common in October 2024, and absent in all other dates at all transects (Figure 10). Red knots were not observed at all. Laridae (gulls and terns) were the most abundant bird family (2.7 ± 3.5 n visit$^{-1}$), followed by Scolopacidae (sandpipers; 1.0 ± 1.1 n visit$^{-1}$), and Charadriidae (plovers; 0.04 ± 0.14 n visit$^{-1}$; Figure 11).

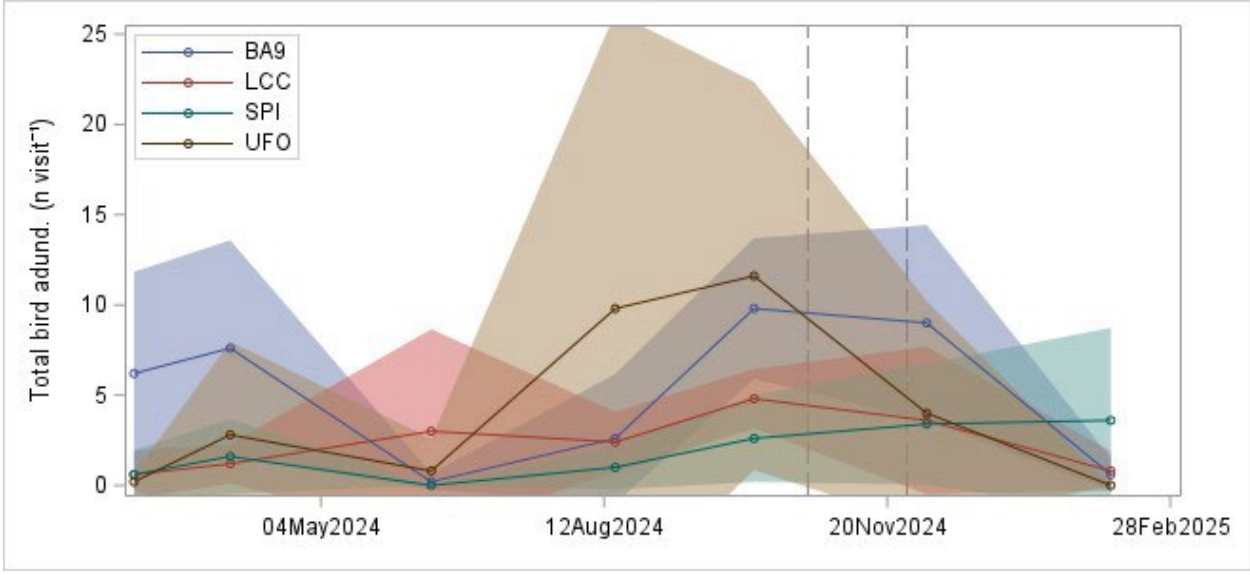


*Figure 9. Mean (± standard deviation) bird abundance among transects.*

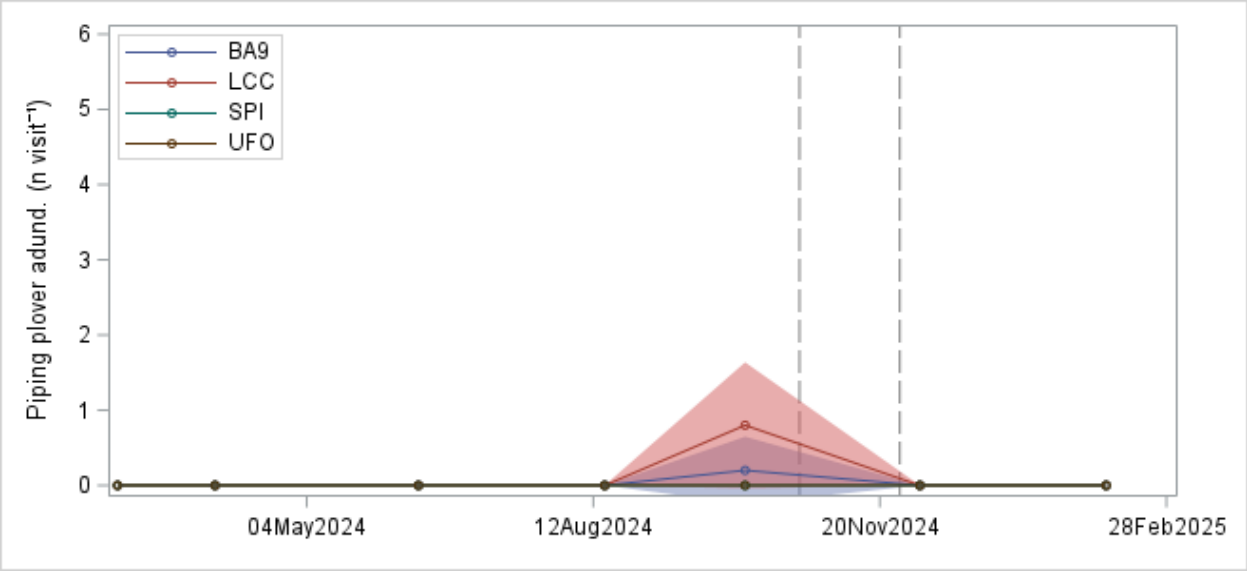


*Figure 10. Mean (± standard deviation) piping plover (Charadrius melodus) abundance among transects.*

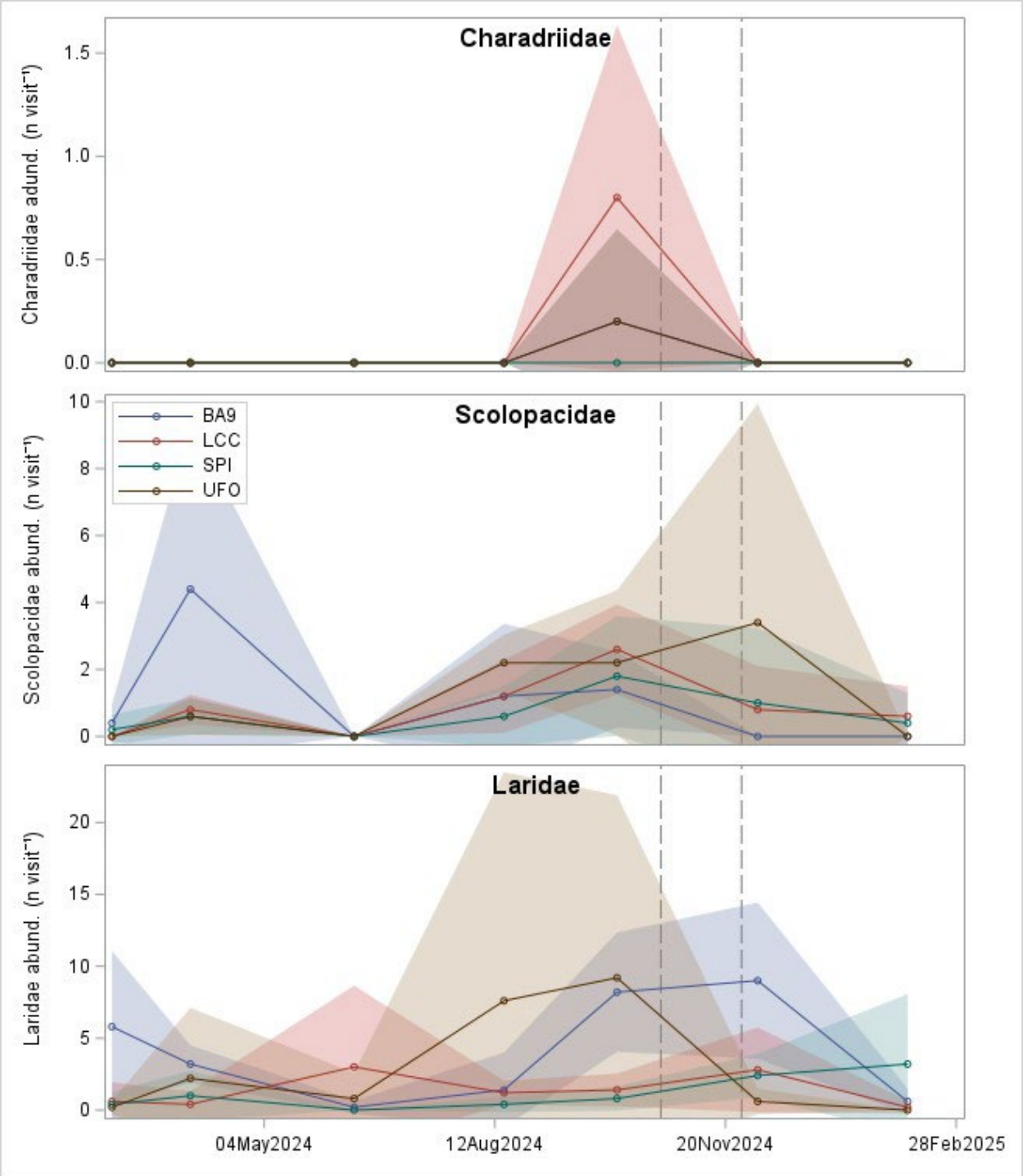


*Figure 11. Mean (± standard deviation) abundance of Charadriidae (plovers; top), Scolopacidae (sandpipers; middle) and between Laridae (gulls and terns; bottom).*

## Summary

This first year of monitoring establishes a baseline of physical and ecological data that can be used to assess the effects of beach nourishment at South Padre Island. The statistical analyses in this report did not detect any effects of the beach nourishment that occurred in October-November 2024. However, the analyses that were conducted were spatially coarse because they occurred at the transect level only. The nourishment occurred in only part of the impact transect (SPI), so any small-scale changes may have been missed in this report. Future analyses will assess changes within transects to determine any higher resolution spatial changes, specifically within the SPI transect. These spatially high-resolution analyses will also include a longer temporal scale so that a thorough assessment of nourishment effects can be made. This thorough assessment will be included in the subsequent report for the post-nourishment phase of this study.

## Acknowledgements

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**Appendix - Field Data Sheets**

Location South Padre Island

Station SPI - A Date (ddmmmyyyy) ot3 E1, sxClsil':\ Time (24-hr) O'\\cl,

Cloud cover (%) ri':i Wind speed (kn) S Wind direction .:3E Total Depth (m)

Personnel Lilj ·I\,11;,,,s I Tx,.\:.e\\c., Cevc,.\los 1 Ch<i,1\e Te.,,1 fu\l""f"lt.<" DO% in air cm,'l Secchi 1ml Q 1 3 ( b:mim 1

| Depth (m) | Temp. (°C) | DO(%) | DO (me: r1 1 | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | \8,b | tOO.b | 1,lil | 53,tf\11 | ?/5,3\ | ri.9'3 | ;;lcl5,'ll\ |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments b@ lilO.\ec Ju'reG

Station SAC\ - A Date {ddmmmyyyy} al rebo)Ca'-\ Time (24-hr)

Cloud cover (%) :k) Wind speed (kn) ,; Wind direction <;E Total Depth (ml

Personnel ; q Jr il2tl IT!: DO% in air /06-0 Secchi (ml O·Li

| Depth (m) | Temp. (°C) | DO(%) | DO (mg 1"1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | ) rt 1 | lbO t | 1,fJ | S·1·9'-f1 | I-§rl | 'y, 07 | J«·32 |
| | | | | | .?.'.f-11 | | |
| | | | | | | | |
| | | | | | | | |

Comments

Entered (initials, date): Proofed:

Location South Padre Island

Station LCL-A Date (ddmmmyyyy) & &1:>:;ioa:1 Time (24-hr) 1oi2

Cloud cover (%) 20 Wind speed (kn) q Wind direction 5.(:: Total Depth (m) 0-s-

Personnel L.1y J4ltn, t';N£1\?, ◆\\c:&, C)o,n,el\e DO% in air 100 ·◆ Secchi (m) 0·<-t

D:Jwoe;j' 'T'"1'1 ◆,me.

| Depth (m) | Temp. (°C) | DO(%) | DO (ml! 1"1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | 11•l | lo J • 4 | 1 'S°/ | 54 05( | 35 3l | g f( | lJ·r,2 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments

Station UFo ·/.\ Date 2'$ Kb 2024 Time (24-hr) /2os·

Cloud cover (%) l DV Wind speed (kn) )fJ"! 5- Wind direction IV£: Total Depth (m) 0,L\

Personnel J' !/ , / DO% in air ioO· l..( Secchi (m) o.i

| Depth (m) | Temp. (°C) | DO(%) | DO (ml! 1"1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | lC\A | \Ol,I | ti;i | 53,5'1?:i | 35,◆5 | o.i() | -50.'fa |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments

Entered (initials, date):_____ Proofed:_____

Location S Ov Ro p" Jr,,e T:0.l"" J

Station Sf1· A Date QL 4er 2,i2 Time OJJO

Cloud cover (%) I Cf\) Wind speed (kn) (ddmmmyyyy) Wind direction ' Total (24-hr) 0.)

Personnel fP_1PP_1t1i !c DO% in air 4q.-1. Secchi (m) O-S-

| Depth (m) | Temp. (°C) | DO(%) | DO (mg r1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | I•it | /DO 0 | 1-'5 I | 5 2-01, | 3'-4 J4 | 7-o/, | 20 ·31 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments Ken water taken.

Station C'.A9 A Date (ddmmmyyyy) 02_ Aer 2o2y: Time (24-hr) D'!.3o

Cloud cover (%) I cJD Wind speed (kn) JS- Wind direction N Total Depth (m) 0 '{

Personnel ' ' DO% in air '1 'f Secchi (m) 0 If

| Depth (m) | Temp. (°C) | DO(%) | DO (mg r1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | lq. | loo-1 | 7-53 | 5 }, ]3,6 | 34 -SJ | i ··02 | 1110 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments Front blew @ ~ 0700.

Entered (initials, date): LT 4 APR 2024 Proofed: tl> \'\ Mo. cl(Jif:j

Location S 0,t r"(r.e_ Isl=J

Station uF o -A Date 02 2oZLf-- Time { D / 0

(ddmmmyyyy) (24-hr)

Cloud cover (%) q Wind speed (kn) 2o Wind direction N Total Depth (m) OJ

Personnel 1f po LT JC DO% in air q1,1 Secchi (m) 0 -2

| Depth (m) | Temp. (°C) | DO(%) | DO (mg r1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | 20 -1 | I 0I • 2. | -:1.51 | ')/-30} | 33·71 | i o l | 22·4'6 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments

AP-

Station LC.C-4 Date o2 ft-!:, 2.o1.. Y Time ii J'S

{ddmmmyyyy} (24-hr)

Cloud cover (%) o Wind speed (kn) ze Wind direction tJ Total Depth (ml 0 y

Personnel " V DO% in air q -1 Secchi (m) 0,1

| Depth (m) | Temp. (°C) | DO(%) | DO (mg r1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | /9·2 | lo l • | 7-6 lt | 5/·140 | 31.f 24 | i-00 | 54·7 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments .....</>....co k -"-'uJ'-',Jv'-------'='5-°'--'0'-+p--'le "'---'-=-----k £rl

Entered (initials, date): tf 1i Hy( 1J5/f/ Proofed: DP \1Ml\\j ao:;is\

Location South Padre Island

Station BAY-6 Date (ddmmmyyyy) 15Jul2024 Time (24-hr) 1151

Cloud cover (%) 0 Wind speed (kn) 10 Wind direction SW Total Depth (ml) 0.7

Personnel Tubbs, Picos, Cruz, Jones, Downey DO% in air 96.1 Secchi (ml) 0.1

| Depth (m) | Temp. {°C} | DO{%} | DO (mg $l^{-1}$) | Sp. Cond. {mS} | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | 33J | 101.0 | 6.81 | 51.78 | 33.3C | 8.01 | 9.1 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments

Station BAY-6 Date (ddmmmyyyy) 16Jul2024 Time (24-hrl) 1130

Cloud cover (%) 0 Wind speed (kn) 10 Wind direction SW Total Depth (ml) 0.7

Personnel Tubbs, Picos, Cruz, Jones, Downey DO% in air 96.1 Secchi (ml) 0.1

| Depth (m) | Temp. {°C} | DO(%} | DO (mg $l^{-1}$) | Sp. Cond. {mS} | Salinity | pH | Turbidity {NTU} |
|---|---|---|---|---|---|---|---|
| 0.1 | 31.7 | 101.7 | 6.76 | 51.78 | 33.6D | 8.02 | 10.2 |
| | | | | | | | |
| | | | | | | | |
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Comments

Entered (initials, date) LT 16Jul2024 Proofed: DD 30Jul2024 Hydro_sheet_depth 01Jun2023

Location South Padre Island

Station V.◆O - e Date (ddmmmyyyy) \.;);n1,... a&lS Time (24-hr) latt:\

Cloud cover 1%) ."=)2['-- Wind speed (kn) ...,_.I0""'--- Wind direction ◆r.t.Jt Ek. _,._c.::...::...-=:..... Total Depth (m) O,5

Personnel l.1◆ fol¼.1 N\c11\;)\ fo,sH},:.,0,tleS 1◆itl, Ch<i,ei.1e O::i.,,'Dei DO% in air \CXJ,J Secchi (m) D,5 (t.olt-P,n)

| Depth (m) | Temp. {°C) | DO{%) | DO (mg r1) | Sp. Cond. {mS) | Salinity | pH | Turbidity {NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | 31,cl | IOLlo | (o .alt--, | *ti,,lcllS* | *33.* '19 | 'l.9'-! | i, I \ :2, |
| | | | | | | | |
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Comments

Station L,CC-, ◆ Date (ddmmmyyyy) 1a<11.llf:, cil'.lsh Time (24-hr) 1◆05

Cloud cover (%) ◆ Wind speed (kn) \fl Wind direction &,,I 01)c, ;,:.jj Total Depth (m) 0,3

Personnel Lr /ffU'[-JH Iro DO% in air ICO, (J Secchi (m) 0, 3 (bofu'::m)

| Depth (m) | Temp. {°C) | DO{%) | DO (mg r1) | Sp. Cond. {mS) | Salinity | pH | Turbidity {NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | ◆-'J | \O\,ci | L,\d | C:.1,4.::A | '.t>,,"I,., | Knl | () q;:: |
| | | | | | | | |
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Comments

Entered (initials, date): UT 14 Jun 2024 Proofed: DD 30 Jan 2024

Location Si:,1\b fMce I.Bia.ex)

Station 51:'.\ - E Date (ddmmmyyyy) 11o A1e :;,Oo!'-l Time (24-hr) (Do\5

Cloud cover (%) J5 Wind speed (kn) .5 Wind direction 5 Total Depth 1ml n,ro

Personnel Lilt fot½s /y M◆1 P0$'d2' Q:\ e\e DO% m a ir 101,0 Secchi (m) 011.:. ([x,jtcrn)

| Depth (m) | Temp. (°C) | DO(%) | DO (miz f"1} | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | a.8,:3 | ICO, 9 | G,'--\\ | 55.'\a-\ | 3h,b5 | 'l, 51-\ | 5,aa |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments

Station f3A'.:l - E Date (ddmmmyyyy) 161\◆◆:l Time (24-hr) i!;i7

Cloud cover (%) 1S Wind speed (kn) 5 Wind direction SE Total Depth (ml O,l-:,

Personnel lf/ fo\Lf'/ 00 DO% in air laD !J Secchi (m) o"" {bo\-"\·cm)

| Depth (m) | Temp. (°C) | DO(%) | DO lmiz r1 1 | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | d'i,d | \Q), ti | b..31 | 55. l\8\ | 36,(,8 | 831 | 5,n3 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments

Entered (initials, date): cl:1 z A-Wr[tlfZ-1 Proofed:_'_[_◆◆_•---

Location Scu\t:,!bdce L:i,oorl

Station LCC-E Date (ddmmmyyyy) I42AugJOJ':\ Time (24-hr) \cl'-15

Cloud cover (%) :J5 Wind speed (kn) 10 Wind direction SE Total Depth (m) 0,l\

Personnel L\;J [u!Jil'>. MQQ!j1 Bl:l.Scr.R,, aor,\e,\ DO% in air (IS,6 Secchi (m) O,l\ (bo\l=)

| Depth (m) | Temp. (QC) | DO(%) | DO (mg r1) | Sp. Cond. (mS)" | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | il.9,S | IDI.1 | b.?i-1 | 55,39'1 | 3b,b\ | 15,CO | 3,'11 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments

Station LIFO·E Date (ddmmmyyyy) l1,:, Au9ao;i9 Time (24-hr) \SgO

Cloud cover (%) (d) Wind speed (kn) IO Wind direction SE Total Depth (m) 0,l\

Personnel Lr/ MLP ! P\) DO% in air lDo,\a Secchi (m) o,i.\(bgltorn)

| Depth (m) | Temp. (QC) | DO(%) | DO (mg r1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | 2C\l | liJ\,\ | b,dso | 55,518 | 3t,l\':i | 8,.06 | 6,64 |
| | | | | | | | |
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Comments

Entered {in;t;als, date), 7J[?, l /Jrvo;1f;2-f Proofed:_:_':_

Location South Padre Island

Station 5f'\ - e: Date (ddmmmyyyy) 04 Oct 2024 Time (24-hr) /335

Cloud cover (%) loO Wind speed (kn) k, Wind direction---'f'---'-I\,"-"/_ Total Depth (m) _O•·•?_.J_

Personnel ,L"-'1(·+¥---'1'"71w'hr.,,r,,.. ,,.,.,.

Location HEB. DO South Padre Island

Station I?'O\) (Jf0- l:S Date (ddmmmyyyy) Ol\ Oc,r J.'i'd-◆ Time (24-hc) iQ':D

Cloud cover (%) go Wind speed (kn) (0 Wind direction NW Total Depth (m) o, '-\

Personnel ""◆ ru1,◆, 1Y◆il!l1 !t,"-seaz:, t:!ls.l:!'"n!1. f\el<i◆Ch 1 00◆\\◆\\e, IJCW◆ey DO% in air ICD,(o Secchi (m) 0, 'i (bo\\u,,)

| Depth (m) | Temp. (°C) | DO(%) | DO (mg r1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | J.3,L\ | IOI,'-\ | G,(:k, | L\(c,,89;;) | 30,3S | 8" CJ'-\ | ot 15C\ |
| | | | | | | | |
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| | | | | | | | |

Comments

Station Le◆ 6 Date (ddmmmyyyy) 0'--1Oct 9-0cl:l Time (24-h,) I!I::1.2

Cloud cover (%) (d) Wind speed (kn) IQ Wind direction N◆I Total Depth 1ml b.◆

Personnel Lr I Md' I M'ii I 00 DO% in air C\"h:':I Secchi (m) 6, '-\U:>O\\°"/

| Depth (m) | Temp. (°C) | DO(%) | DO (mg r1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | Jg.CS | it,\,lo | (o.Id-I | '-\1,3(,,3 | .:3D,'1Q | ?J,\D | 1s,;11 |
| | | | | | | | |
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Comments

Entered (initials, date): 15 OCT 2024 JL Proofed:

Location South Padre Island

Station 5PI - A Date (ddmmmyyyy) Q\ Dec o/Ool'\ Time (24-hr) O'IOL\

Cloud cover (%) ltO Wind speed (kn) 2 Wind direction W Total Depth (m) 0-2

Personnel (€1,y .'()\mer. N\rl;i\ t'ic\',f:(I:(. , Culi1el'e IJ0WC\e'J DO% in air 1 0 0 - 1 Secchi (m) OZ

| Depth (m) | Temp. (°C) | DO(%) | DO lml!' r¹1 | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | 22 •'1 | loZ-4 | 7-2'1> | 9J·2 u; | JZ- 'rr | 1-01 | /11-'f:i |
| | | | | | | | |
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Comments

Station oA q -4 Date {ddmmmyyyy) olf P-l!c Zo24. Time (24-hr) 0214

Cloud cover (%) /oD Wind speed (kn) S- Wind direction hi Total Depth (m) 0.2

Personnel / / DO% in air /00·5 Secchi (m) 0 Z

| Depth (m) | Temp. (°C) | DO(%) | DO (me: r¹) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | 2 S·o | )02 9:, | 7-21 | S1)-32q | 3:S-02 | <3-o◆ | 22 (f |
| | | | | | | | |
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Comments

Entered(initials,date): /11 I'tlA.-:/ Proofed:

Location South Padre Island

Station LCC-A Date (ddmmmyyyy) O'\ IX:c o/Dcl'-1 Time (24-hr) Oo/>3

Cloud cover I%) I 01I Wind speed (kn) ) Wind direction irf Total Depth Im) i) 2

Personnel Terry Palmer, Danielle Dauney 11/tc,:h p\·c.xcR-; DO% in air IO O• I Secchi (m) 02

| Depth (m} | Temp. (°C) | DO(%} | DO {ml! r1 1 | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | L'12 - t.. | iD4,Z | ? -42. | 5b-2q4 | 'j:S-(Jr) | c/, 04 | /f -6> |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments

Station UFo -A Date {ddmmmyyyy) 04 /Je c. 2o2Li Time (24-hr) I I Z 5

Cloud cover (%) /u--0 Wind speed (kn) 5 Wind direction sl,J Total Depth (m) o.z

Personnel rt l/ ./ DO% in air /00-9 Secchi (m) 0 2.

| Depth (m) | Temp. (°C) | DO(%} | DO (mg r1} | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | 22 . .:::; | /cl-1 | 135 | 'i0·!,'13 | JJ-04- | 3·C4 | I°!-3£ |
| | | | | | | | |
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Comments

Entered (initials, date), 'T!:TI ['Z(1J!'!JJ!i( Proofed:_____

Location Sfl

Station _____ Date (ddmmmyyyy) 7 F:b 2025 Time {24-hr) 0'63 3

Cloud cover (%) /DO Wind speed (kn) /0 Wind direction S Total Depth (m) O.3

Personnel pr,n,e/(p D<iV',/J?,•l I,/if h!hh DO% in air q98 Secchi (m) O 3 {botl,m}

fm:1 ll fo:.ose,w 1/?71,k; f,'olf;tf: •

| Depth (m) | Temp. (°C) | DO(%) | DO (me: r1 1 | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | iS, i./ | 9s. S | fs/2- | I-('1/87 | 32 I 3 | 7. 92 | 5,30 |
| | | | | | | | |
| | | | | | | | |
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Comments _____

Station 889 _____ Date (d\fjmmmyyyy) 7 Feb '2 025 Time (24-hr) O'jSj

Cloud cover (%) SO Wind speed (kn) /fl1 ., Wind direction [:,£ Total Depth (m) 0.'-(

Personnel bP 1, T ( fZ fr/cf DO% in air /oo. t Secchi {m) 0 '1 Cbo1/0(l,)

| Depth (m) | Temp. (°C) | DO(%) | DO lme: r1 1 | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | 15 5 | qq.1 | 312- | 1-/9 '279 | 32 25 | '3 0/ | 151/ |
| | | | | | | | |
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Comments _____

Entered (initials, date): 11Feb2025 KT Proofed: _____

Location UFO

Station £ Date (ddmmmyyyy) 1'1IP 72:. Feb lo 2.5 Time (24-hr) 13'-/3

Cloud cover (%) o'O Wind speed (kn) /0 Wind direction S Total Depth (m) O.:2-

Personnel PD, L.T. flt {(/IP DO% in air ◆◆ '/ Secchi (m) () 1 (boHom}

| Depth (m) | Temp. (°C) | DO(%) | DO (mg r1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0,1 | 16 9 | 9q_9 | 7,95 | iCJ ,33fJ | 3:1_.31 | 7-◆,6 | 25.5'-/ |
| | | | | | | | |
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Comments

Station I- cc Date (ddmmmyyyy) 7 Fclo 2025 Time (24-hr) IL/3'}

Cloud cover (%) SO Wind speed (kn) jO Wind direction S Total Depth (m) 0,3

Personnel f)p CT. EP fl7IP DO% in air /DO) Secchi (m) o,O [bu1tcrr)

| Depth (m) | Temp. (ºC) | DO{%) | DO (mg r1) | Sp. Cond. (mS) | Salinity | pH | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| 0.1 | i b '3 | q9,; | 7 qJ | 'tCJ,/6 S | 31.19 | 7.'1'6 | iC02 |
| | | | | | | | |
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Comments

Entered (initials, date), \\;c./ 1fjJ[(';,(r-I Proofed:

Beach Nourishll' 1 **(BN)** Site Data

r(A.1-Q *1sl*

Date: 28 Feb 2024 Station: $r•

| Site | Time (hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 01-01> | 5 2- | \ //i | r | I | y | oS£Z | 016"1 | 1J; -ce_, | f,,,,M h,,Jr )- WI/Vk,. |
| B | 0141 | Ll -- + | \-q | S" | I | '/ | DJ{, | 01(') | ·I\JUV¼. | , |
| C | 01s2 | -O | 1•½0 | C:; | I | 'I | rJ,?66 | 05(,'J Aue,, fJ ,,.,,,,, ki,, | NS'V<. L,z | i I |
| D | (J"\t:i'> | S-S'"> | 1·) 2 | S- | I | --r | 0>Gq | iJ36t P.e f,Q | } )Jw-J1.. | I I ' .I |
| E | oq,\S | 4i l | I , c)o | S" | I | 'I' | J10 | 071 ro,1-- J ..J\, a | 2 l-f· 2' s I ,.._,,11d- | |

Comments: _____

Entered (Initials and Date) _____ Proofed (Initials and Date)_____

**Beach Nourishrr t (BN) Site Data** Padre Island

Date:_----'--"----- 2 _s_r:_ _ 2024 Station: _'D.'--J\-'-----'J'----------

| Site | Time (hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | oi | '.i-s o | /-1 | '- J | I | ij | o3:r: | o·s1J Wd"";J pc,;J_ | ·:f-J .. S. | |
| B | O qD"J | 415'· | •lo | r;; | f | j | oJ-7-y 1)-crr k | O'?,15" p.-., Joe | 2 1:1.,·i (j'-11,, | |
| C | 0)) | Sl () | ! - 0 | ) | I | i | )31-t | OS=rr Did J ir L. o | S {o 'rj J-".s | |
| D | ocr1s- | 44-½ | :-10 | r; | I | 'I | 0371; | 03}1 'j)v,x fVQ._ | I1--,,lk 4- J'T!J yll<_:, | |
| E | 0 1((, | 4g 0 | ·10 | r; | r | 1 | osgo | O? l | I w,llvf I 5, I"?j .,/fr, | |

Comments:_____

_____

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16Feb2023

Beach Nourishrr t (BN) Site Data

Padre Island

Date: 1 Fe!? 2014

Station: 1-C1. Los Corales Condo

| Site | Time (hh:mm) | Beach width (ml (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 020 | Jt,1 | )•io | | I | | 03'62- | 03<.?1 | N, | |
| B | lo) | 3G·D | | c; | ) | -( | OY'l | O t,5' /lv | N | |
| C | u4 q | r;-i- 0 | I·0s- | S | I | 'I | O'Sil | 0 P-'IR. +ve. | +/•-&:- 3 !&cl:,?". :; | |
| D | 1/lfO | ltD-1-- | C') | r; | I | j | o i | O) | N | |
| E | !lo | 3(;·( | /·C1-- | | I | 'f | 01'11 | D)9 0 +,ie... | N | |

Comments: _____

Entered (Initials and Date) _____ Proofed (Initials and Date). _____

Beach Nourishrr **(BN)** Site Data

Jf,W

Date: 21' re.b 2024

| Site | Time (hh:mm) | Beach width (ml (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1l'Y6 | S-"D-5 | ):5"5" | :, | I | y | 05,'12 | 0:irs | ;'J,,., _e_ | G'- fl?.s 03'14 |
| B | l'LID | )1"" | 1·½2 | ', | I | "i | 039i | 0 5q | N | 2""1, |
| C | 1211 | 35·) | ) • Lf-:-,l- | -c; | I | ·1 | 0 ¼I | 01/<JD | J>"K. | |
| D | 2:r | | 1-1D | t; | I | y | 04oz | 0'-1-0) | l J¾';J j-11 | |
| E | 124£ | s–) | 1-qs- | ·tj. | I | -J | 1404 | 01,jll') Cl-JL /Ot, | µ, | |

Comments:

Entered (Initials and Date) _____

Proofed (Initials and Date)_____

## Beach Nourishrr t (BN) Site Data

Date: oa Apr aCBL\ Station: _5 , .. , _ , _ ◆ _ _ _ _ _ _ _ _

| Site | Time (hh:mm) | Beach width (ml (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 011aa | 211,1 | \, ◆'Q | 5 | l | ◆ | Ol\08 | 0363 | Lol.l9hin:'.l Gl.l\\ 'l-..'l Willet 'f.. \ | S-◆"- u)(\◆ -◆O rn |
| B | 0'\'-\8. | 31,:, -¥1,a ro | I.I\3 | 5 | \ | 'Y | 0-tR | 03lv5;p O'-i\D | Nci:,, ◆ | 0wo_si-, rcoe ◆5"1 |
| C | 01sa | 3'LC\ | 1,313' | 5 | l | '/ | CJ-\\\ | 030◆ | L.v.3\;1":'J Gu1\ 'f..\ \/f,(\(0\- I<- \ | ◆S-"C1'· zo◆ - 5- |
| D | 0'501 | L\◆\ i,a | I, P1 | S | I | y | DL\\ds | 0-\13 | VJil\eic *1'* \ | .:t:o5h ◆ - ◆'II |
| E | cn31a | 10,\ | L\5 | 5 | I | y | 0l-\\1\ | O'-\f:> | No o.ro.-$ | .S◆r=, ◆5m |

Comments: Beach width measured using tape

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Proofed (Initials and Date) DO \◆N\()(j o!Odi

## Beach Nourishrr t (BN) Site Data

Date: 02 Apr 2024 Station: flAS

| Site | Time (hh:mm) | Beach width (ml (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | tJ630 | 53.S | I,'60 ◆◆ | !::) | I | 'f | Oi.\lb | O◆\'/ | Lc.◆n;"g Gui\ '1--;5 J Wi1\e'r x. \ | .'.ioc..sb rone ◆5◆ |
| B | oi◆1 | 39,S | 1.3◆ | 5 | \ | y | 0-\\'ii | O◆f\ | L«v.<j,i◆t.Ji Gull I\. S" Sc,n◆pi(li21"S ;x.I ;i (p;<.. i31 - \3-a) | 5◆icre -5m |
| C | 0353 | 5:J,a | I ri'8 | 5 | \ | y | O'jal ◆ q) | o'-la;( | Wi11◆\-f.. \ Lu"5h•1'£3 Gui\ /-d. | , ,,'i,.r·'- 3 - 5 IT) |
| D | 090C\ | 31,ki ◆ 00 | I,39 | 5 | I | V | O\a3 | OL\al..\ | L.c,"'S",t5 Gi,,\\ )(.!.\ S,,,.,c,.0 ◆ " 1 | ◆L◆ -Lam |
| E | o9ao | 4O,'::I | \. aD | 5 | I | y | 0'-\'d:5 | Cf-la.cc, | 50.cd\>itf< -,.., 'I <..u'-'9"":I Gul1s X3 | .SWeoi-, z◆ -srn |

Comments:

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Beach Nourishrr t **(BN)** Site Data

Date: *Cf:}*, Apr i:K),J-1 Station: __ (.CC ? _ _ _ _ _ _ _ _ _ _

| Site | Time (hh:mm) | Beach width (ml (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | \\35 | -b.91-l),O JO,O | ct0,0 OD \,0\ | S | I | ·y | 0'-\3(o | OL\o7 | No" 00 Sc.l"C\1>11'"<" X \ | -5.i:iu\½ lone·- <;rn |
| B | lli,rz | a5,\o | I.Ola | S | \ | | Dl\::i'3 | 0385 | -'A">d,\>ivl'X')< \ | Su;csri vr.,e, - ro \(}- |
| C | li¼ | 3o_<a | 0,9'7 | S | 1 | | OL\ | (JL\,..\() | So,nclir;\'&/' \ W":f•l"'JGul\ 8. | S:"'-a,':-Crm - Flm_ |
| D | lJGL\ | J'l,d | LG-1 | 5 | ( | y | (JL\L\ \ | 0-111a | No birS | 5',.iu;'n 1'..v"ne 'l m |
| E | la\;i_ | al ,O | 0,97 | 5 | \ | y | o-\'-\5 | Ol!t.\L\ | Wi\1X 1 | __I',i\N> *"'V'>rn* |

Comments: Tide is higher up the beach.

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## Beach Nourishrr t (BN) Site Data

Date: 02 APR 2024 Station: -O

| Site | Time (hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | \()\J. | '-f-1,1\ | 0,C\C\ | S | I | -◆ | ◆I | O'-\aS | No bi<◆, | '.'>,,·iJ,, t,,_,-,e -5 m<br>◆J.Ali◆A, \ *1:1 ff*\ o\-\ I/ |
| B | 1oal\ | ct'\\ | 0 \C\\o | S | I | y | 01-iaC\ | O't&I nil to/◆ | 5:Iror\fef x \ | |
| C | IOo::> | 8.L\ \\ | 1,as | 5 | I | y | 0-\3\ | CJ-\CO | Ne 61,c1::, | |
| D | ICJ'-\Q | g0,:;/ | J,C\C\ | 5 | \ | ◆ | O◆?Jd-, | 0'-\:0 | ¼SP-°'<'I'I;-e,;0)(. \\<br>-So.rid\?\◆)< 1 | |
| E | IO◆ | I\o,3 | I. 5q | *5* | I | y | OI\3◆ | 0'-!3'.) | 1/1/iI\e\- ;><- \ | |

Comments:

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Beach Nourishm • **(BN)** Site Data Sour? ?odl-e Thlo.<"d

Date: 12 June 2024 Station: UFO

| Site | Time {hh:mm) | Beach width (ml (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | \\OO | 56,1 | Las | 5 | \ | y | O':f.:J'B | 0:0'1 | N" \:,',co.:, | _-:S""°'s;b_Z_one - 3 ""<br>- ·:i;.,.: p<<S'tlf ,;;o ?•••• |
| B | 1115 | &.?? Jo | _I.\\ | 5 | I | *1* | o50C\ | Q3C\'9 | ?o b1:o5 | -5:,;;;;:.$'s·.-.-• :;_<br>„.. r_- .....,ny *i* „.·", !" ?"'i;.:\e;-L |
| C | \\cib | 30,? | Lctl | 5 | I | y | o5ll | 0510 | 00 ? ·re:.-,'A'-\ fu?'& | · c., ?·\. Z.o??5-<br>H !:,,.-? ??<br>in \.,Jo.·? |
| D | \\'-\\ | \l;d. o' | \, Jl\ | 5 | \ | ·y | 05\J | Ol\3:) | N"' i>,<"OS | ?5ms?Crir@ "'2ir,-,<br>'-T.s., p<f'Gtm Q:1 ?<br>?(\?"S C,\1, -?b- |
| E | ll? | 2:J°'i,? | L58' | S | \ | *'1* | 05\3 | Ol\? | I\Ic, b,rc\s | •• 5.ia,s\'\ tcoe- o'''<br>- Toc \?(es."""" = beccl, |

Comments: Water Calm, clear, Moderate beach use: (driving, fishing, horseback riding)

Entered (initials and Date) 1.S I'I (fo.IJ QocJL\ Proofed (Initials and Date) OD o)O.T..c. i)D::v.1

**Beach Nourish**IT'-·**t (BN) Site Data** .;t:Ju\\-, !hose ls\c.{'C).

Date: 12 June 2024 Station: LCC: Las Corales Condos

| Site | Time (hh:mm) | Beach width {m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | \?:i\8 | d'.5,5 | \,55 | 5 | \ | ·y | 05\<.\ | 05\5 | "-lo b·,ocJ,5 | - .5...:u..,ci. ,..... ,...,... - |
| B | 133.'B | ?JS' la | 1.3C\ | 5 | \ | 'i | LCC-B | o51b | No bi(c\S | -S 1'£,J W |
| C | \53\ | L\'-\ ,1 | I,<br>-\ ,3.;l r:fi'J | S | \ | '{ | 0511 | 05\8 | Mo b\sa:'l | - .,_,, ..c <br>..---- e - "-- |
| D | \S\ | ,1I,I\ | \,3\ | 5 | \ | ·1 | 0519 | 05 0 | trorj,i<:s G,..1\1<..15 | : ,S i;J:i..$ _..To"" -i. m |
| E | \1-\C:f) | L\16 | \ '\C\ | 't:'.: | \ | i | (&}.) | 05a:1 | foG-"" \em x& (p,"-5 io;;i-\Ot,) | •• 0<.<JC(,1--. cvr.e - ?,m |

Comments: Tar present on beach and floating in water. Moderate beach use. Surf and water calm and clear

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## Beach Nourishrr t (BN) Site Data

South Padre Island

Date: ict0\lne

Station: 61\9,

| Site | Time (hh:mm) | Beach width (ml (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | \(o?D | ◆ ' <"\ | l,53 | S | I | y | a5a◆ | 0530 | I'b \:,\(0,5 | -5◆.,--·◆,.... :Z.~<br>- !3◆u, u,e IF<t t-o ,,. . ,, |
| B | 11o1s | l\8':"\ | I.lo◆ | 5 | I | "/ | 'JS;Jfl | *osas* | No bicdS | "<br>.,, .. .. .... ,.,,,,.,,,, - .?ff\ |
| C | \<.,03- | l..\◆,◆ | \,1f\ | S | I | 'i | o:x:b | 05* | ◆o b;ro,s | - ",,.:,"" ·,·◆◆"<br>◆- -◆ _..'_'P _-._ ◆-.◆ |
| D | 1◆5\ | ◆.a | 1,1J) | S | \ | 'i | :5◆ | oYa'-1 | ◆o b·,i◆" l.uu9li'°:J &.\II ,._I | 5,J\)$11 W<'e, - 11>' \5<"1<br>- B◆ IJ.'£Cir Sile- |
| E | IS::b | 5:,,::i | \,i.\S | ¡:·· J | I | y | o:ia3 | *a-\a',?* | !\lo b,r◆ | ,c, ""h /◆ - \S·•aOrn<br>-x-l-r-—" "7\>J<.Vw:>:S' "Im@ breoii•<br>0◆""rdbCK W-;\\, .:.,<1\c,.\\ Olin°""◆<br>y)I\-e(' f\o.,i ns .◆◆iu.le.....- .....<br>Ac.,,o'I. use "" ,.;._,, |

Comments: l.\eo.sJ:.j \i1ooc:n \JS<' (,1;1,2,rol'llng I c\r,.!'"◆'fli, LJQ\Ri°'.3J ..'.i,,r1: Cairn \11:d 1qQ\cr Clear Sngrass wrack line above Swash Zone

10.r ◆rw,w QSl b-eo.ct, <lnd Hool\oi °i5J 1.y;i:ix

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roofed (Initials and Date) O[) ::,13u1,il071'1

Beach Nourishrr t **(BN)** Site Data S:,llth .t:-:,\c,.,0,

Date: 13 Ju,re @Oxl Station: _ 5

| Site | Time (hh:mm) | Beach width (ml (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | r'lat\ | 10,0 | 10S | 5 | \ | y | '1531 | 0303 | r!o bifdS | ·-i, ' - - - i::. n-. |
| B | 1'13l\ | 5,\o | 1,lti5 | 5 | \ | 'i | Cb | 0533 | No b\cd,S | - 5.0Cbll la'\<e -5..... ,_:_m._1- "" |
| C | \rJi.\S | SS.i | i.q | 5 | \ | 'l | 053l\ | 05Q5 | ,Jc, 1,,rd.s | 5-,.,liSh .:::: ""-- l..:._B_- <z ""- d,_,. |
| D | \<\ | I\\"\ .1-\ | 1.30 | 5 | I | 'i | o::x,9 | Cf5% | N" \,\10.S | "" . _:-.. - ·:--.-"" <.0.-o |
| E | 1icfo | :j),I.\ | \,3'1 | 5 | I | V | rn37 | r:638 | lo h1,dS | ,_ S, '~· - _,.._ i?Je!l(k,_ J.J&e ik't_si :..:tr_ :ii'!\ i.r,'!','t\f |

Comments: Site calm and water clear. Moderate beach use (walking, day camps). Tar present on beach and floating in water

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Beach Nourishmr""t **(BN)** Site Data -Stu,\\-, Thdre Is1c,<'d

Date: 16 August 2024 Station: _ 5P[illegible]

| Site | Time (hh:mm) | Beach width (ml (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 09cll\ | !)l) \Si 3L_:) | i.(o\ | 5 | \ | y | o?fod. | 03,3 | \fl/;11e 7'i l jo-w,i'\l'e\" 5ii,de1'115 Lw.<:1\\,n9 fu \\ x I | 5wo::;h ione I r-n :A o\,O\lf swQS |
| B | 093(\ | 52 9 | I bZ. | S | \ | y | 0505 | 05tl-\ | ,)l,rdpi, x I | O\w.sl'\ |
| C | 0"\51 | 113,5 | L!olo | 5 | \ | ·y | os | 03o'l | Ne \i'"dS | ·- Suius le |
| D | \003 | £15 | / 60 | 5 | I | | o5t::i1 | 03b | No b,rdS | ·- 5t,,:,ci mre-lm - P-..sr o<oon Sltt |
| E | i0\(o | 60,a | I ,lo°:> | 5 | 1 I | ·y | 0%°i | 0:¼25 | Laog\.,,"S Gt>.\\ 11. \ | 6<a::/"' |

Comments: Surf calm and water clear. Moderate beach use. Sand f=

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**Beach Nourishm' {BN) Site Data** cul\,, fud.<e Is\=id.

Date: ...llo"'-'-'Au"'9'.'l>q..f.'f'.. ..ot...:::41----- Station: ___ B lt °' ---------

| Site | Time (hh:mm) | Beach width (ml (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | I()l\'1 | 61,0 | 1.95 | 5 | \ | y | 05 0 | 03115 | ut\Q•j r,.,n;,1-n'< "\ 5'io0.'"1\'15 r.. \ \N"\& /<, \ !.uuq'1ioq !'\\ ,I | •• 0-n• I"'· io n-onl- of 13€1>01 1.1.ktk.½ S,<j'l"l _,... __ """h. :nJ'i\f: -fftL 1: _ & _ re ..... , sl.JQb--¼le. - 12.....,.....ll.. |
| B | 1\0\ | b@,3 | I.b5 | s | \ | i | 0511 | 0'-\19 | No bsroS | _:L ., '--- —:,— -1:1,,,,- -Ser,\- 0.\'i1111:'. 5' wCI. ., __ |
| C | lH | 58.S | \,to5 | 5 | \ | y | ctf\3 | o5'1a | l\6 biroS | - SWCGl- rl2 - Sj..i:f;:;.ri u;ioe, 1,r, \,re pr1:srot |
| D | \\df) | 60,:':i | 1,io | 5 | \ | y | d31S | oS l\ | l\\u b;ro.S | ..=_S,io. a.oe m c.11,-:-,- t' G s·:::ri,h, ll C.:.dr511-e., |
| E | I, ..J\, | (a\. 0 | a,\O | I: ...) | \ | - | OS | D4a | l-04i09 Gu\\)((, S;\X\ | -;, '-'"' - .a.m C.: pcesent u.t(lll!:. .SuXi.<:,l,-i one |

Comments: Modeto!® beacb "'e , Si,& cc,1ro Oiog GJC£ec nec,c

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## Beach Nourishrr ·t (BN) Site Data 5,:,0-◆ R,il<e I:9.Mc\

Date: 16 August 2024 Station: L.CC, •. t<5 Cc-.o.ie:; C.cnclo5

| Site | Time (hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 15a7 | 5:),3 | aJJo | 5 | \ | i | (603 | 0383 | So.ry,.e,(\,."S A\ C:ospio.<1 l<em7'\ 1◆◆\"9 Gt,\\ X\ | r-:"◆h i'.OO& 5-:JQm - 1_ .'_.,.,.,.,,. ◆OA\-\lf"l .s=Sh c.ooe- • - "',<l':f ◆◆◆-/:9ril'◆- = |
| B | 1315 .-Bfil"" | bl, 3 | L'36 | 5 | \ | y | o5'8a | 5\◆ | 5..<W.\"l,"< X \ | :. ◆h ion◆ ':'.'.3.:5.- - Pw'= o◆ O.tx:;,P 5◆sn i:ooe. |
| C | \30'--\ | 55?) | I. Q.a | 5 | I | y | o53l | 0580 | l"\\:l"'<"CJ <¼11/\' | "i. """" .._,.,-e-. -e,:;- _:_:simu ID\.lrrOi,◆; g,rt::s,<c<ir 1◆ ◆Jlj |
| D | 1a53 | 55,0 | @,O(o | 5 | \ | '{ | 0511'1 | 05'1'3 | Lc,"f:J◆"':3 GM\\><\ 0C-ndf'lpe( '/. \ | ., S\J.Xl$ri zooi::, :: Sm e,.,_, ◆◆s__in °5WO.S\ <'.o<\e |
| E | 1a;i◆ | (ol,3 | 1185 | S | I | y | 05◆7 | ◆ | '-""'9""'5 Gu.ii J<;;/ (JJill<>k' )d '.:lc,.◆r' l"3G ii.a | - 5◆ *lbw* -SO'\ SQC<\ k L◆2.,.flTS.f:flf. „.., **..Swosn tv;,e** -T<-1,!X'eSP.-• <',n h--◆.,l- |

Comments: 5.trf' CQ\ro anrl lJgl-er Ciear, l'eti<is line VlGCQt Obove s,10$:i l..ore,

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Proofed (Initials and Date)◆'-'-"---'----

**Beach Nourishm--t (BN) Site Data** 5cdh R:i.ctre rs1c"""C\

Date: _ Station: _

| Site | Time (hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 11\C\ | 3.S | V'I'I | 5 | \ | ·y | ossq | (jj()'I | .::ic.na.,li'cr x I | --=-5wQ.Sh ;:--12 "."tM<br>._:d_bi,,Jrr" --···-r i<' 5.,JG.""<br>- R,.,- 0.\- t c,1' -'· ~··' l0.1< |
| B | ll.\3fo | 55,;;I | \/11o | 5 | I | y | lo | os-g.5 | IA/i\'elr x I<br>5o<><W, x I | 5.,.;o.51-, c:ooe.- \Qrn<br>-5 iet)r "S e<br>Oebri:, ' ' --.- _, • -<br>swes.-, i'.Cne |
| C | !Y5:1 | _¼,lo | I I'-\S | 5 | \ | \{ | o58 | 05'?l'1 | Lu"'3\i"'9 w.\\ I\3b<br>Sc.,,den,<9 X 6 | c:.- ..... 2tnf ._. I.D"- |
| D | 15::i\ | g3,0 | 1,6b | 5 | i | y | C689 | 01\33 | <tvillet Ai_<br>.suro'I<-1<br>Lu\J.g:,i,"':3 ai.\\ i< a | SWI\.. 7.--,,e ·~ IQ'.'"<br>• 5:-..,. i,, ·-- ,c i-<br>SWCf,\, E"'11::. |
| E | 1511.\ | !do ,C\ | cl ,Cf-\ | 5 | \ | y | OSC\\ | 059() | Sc..i('G<' | > S>.110 '----~ j' fn o d.. ore |

Comments: :sfu.t ;C:..u..m.. o.....J.l.l.. wa.....l·:c. ..'""d...ro...r .....rc.., c+fi½""·•°e.4J1J.L.t-"o....)o""bb...ecch=

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16Feb2023

Beach Nourishrr 't **(BN)** Site Data South Padre Island

Date: Cli *O:x* cC1'-\ Station: [illegible]

| Site | Time (hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 13'-\'l | [illegible]a,S | Ltxo | S | I | y | *tk:l::f.,* | OIJii | No l:,;ro\5 | - Swed.. ·t,::w,e - :,, ..51"<'1<br>- fl,p,-A.. l.l"-' =•'t -'- •- |
| B | iass | d.ti,'7 | 1/'i | S | I | y | tv)S | aooii | lt1ci5[illegible],ng w.11-, X ;;i<br>Sc.act !'ii'=' i<a | - o\@:t i'.'"11', _--,,_Sn, |
| C | l'.7-Jb | J(5°N)<br>.f<br>·[illegible] | lil.\S | 5 | 1 | y | OJ:Pi | 036'"/ | lc,[illegible]:\"15 Gui\,< I<br>.SC.ncl[illegible]ife< 11.a<br>-liu.<'(\e,1, l'5 )\ cl | '-S[illegible][illegible],,___ - :im |
| D | \?:,[illegible] | L\O,!o | I.*LJ!o* | 5 | \ | 'Y | '''0 | -:,S?k, | No b,uclS | - 5W:.S-.,., ² [illegible] 3-5 |
| E | I:;,::Z,-<br>I · | [illegible] | LIS | | ! | | *O* ;:[illegible] | Ob\\ | *t* -[illegible], ,:.-',', :S.G;\t:· /:.. l<br>'. ..-,<,;;,<br>t:\- )(.I | -=> ..:.... .[illegible]:::\[illegible] ([illegible]";(, ...,.,.,.,., 5.t<br>_.. Ne·u b:irln11;ni!t h,11f 4,..:ur'd<br>/L·.,,,,,,, ,,J[illegible]_____ |

Comments: Moderate beach use, Transect tape used for beach width.

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**Beach Nourishrr t (BN) Site Data** South Padre Island

Date: 0-j Q.it d.():.l.':\ Station: 8A°i

| Site | Time (hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | I'-\Oo | Ya,5 | liSto | 5 | I | y | 0013 | a-\\'1 00 | Lw3h;"3 (,,111' t1a. .:io_tqplQG< I'-a I'ir·><,5 Plc;eq<\ I_Pit -i,lc\ '-1'1') | -5\AQ;,r,.:-- - 5m |
| B | 11..\Cf\ | 35.1 | 1.3g | 5 | I | 1 | 0,-;6 | O'oli..\ | lc.uglin::\ W\11'-H b &:<<W(>,W )<.\ | L--::iw* !;u,e_* 3-5 *** re,.1- jp* |
| C | IL\1'1 | *S-.9-- 01? :35.5 | 113\ | 5 | I | 'i | OG:ilb | J'1*ds | Lc.ugli.-,5 Gu11 "\\ | ┐ _*,l „_l&, "*"- - ) - |
| D | 1*;;1q | *,a | I.11 | 5 | 1 | 'i | CX,l'l | 0591.\ | '·""9""3WW," \0 .5'-""f're-'K \ | L"".'.'.5* Zone- ,1:.5-- -i,__\h__J *-o {---------- SL'<e. |
| E | 11.\L\O | ?- 01 | li \J | S | 1 | ·l | ()618 | Ol.\cllo | Louf'*G.11xc cl- -=h*l"" " a Wi\\ek- X \ | -* i::«1e* 51'€'1 - TooR. ;,**- - f3e,·A ··"· r-.1- S1·\e |

Comments:__:.::'r-***l.cib.-1.li.*--------*----------

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16Feb2023

## Beach Nourishm,. 1: (BN) Site Data .5"""" l'C\d<e r,,1o.,<\

Date: 04 Oct 2024 Station: LCC: Los Corales Condos

| Site | Time {hh:mm) | Beach width {ml {Swash to dune) | Beach height {m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1aaa_ | \Ct C) | 0/Wi | 5 | \ | ·1 | QlJJ-\ | OS\5 | L.:,,«jhi G,111 :1 S,"i\p,P,, -,..·:i | - SL:001) cene- .¾ |
| B | 1a1a | J{;,' \ | 0, °i'-\ | S | I | ·1 | D!JJ3 | (JJ)J | il.uti<\1·\;cnsliSoe x l .lon<\ri;,; I l;1,,fi flo-'<I - )<.. (pi<., I<!!"i) t.,;:;.u\i'"-• Gu\i.."1' l | .SU<5\, l;;;,g -3...., |
| C | 1aaa | cllLt) !".JP | \.tlfo | 5 | \ | ·1 | 00J\ | o5\'e | l..,gh•{)(J Gull J/0 Sa.\"tdpiptc" d r,p,"3rwta (PieIIq({) | -,5wr,,>, ,- -2,..., |
| D | \\50 | d3,C\ | \,0\ | 5 | \ | y | OS\¾ | Clc,CP | :::._.Uf'i\'C'G ;,.a L0-g,; Gci\\ " \ | Ju:,.<;\ 2 <:&S:. -3.... |
| E | ll¾ | ;i'°I.S | L1'7 | S | OP | 1 | )599 | osai | I'lli11e-t /<.I 5"'<,o.{'\(le(° x_4 Ptf'•90w\I<J' - 'I<I (f'\l.,ii' :;'\') | slon f;..-'.I(;:., k.l;l;"l |

Comments: Transect tape used for beach width. Light beach use.

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# Beach Nourishmr"'t {BN) Site Data

Date: 04 Oct 2024

Station: _

| Site | Time (hh:mm) | Beach width (ml (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | \OO:;; | L\?.h':> | L S | | \ | | 059 | c60'1 | L"v.:l"' lbu.1\ "-lS - | 5WC6t1 ;:one - 5·\0rf'\ |
| B | 10\\cl | *3\. \o* | 1.03 | 5 | i \ | '} I | [A;f\ | a,99 | t""-<nns Gui\ >. l - Yli11il= >t..I i.rof\('u x.;;, | .Swo Z.<soe - !:l'rn |
| C | 1aas | a,a | I,I.\\ | | \ | ·l | o:a:1o | D5 | t,,."'Jlli-9 ev.11 „_ a9 | 1-- IGr,e -S- ·,,, 51,):;•;), !'i<.:0 |
| D | 10:13 | L\bJ | l/-\'-\ | 5 | I | y | *(hC\lo* | ).:flS | S«i),,eer 'l<.°S\"" '-i 11J;11 'A I ¼•";'t'l G,;11 "- \ | :5wc_.. *U:r-* -S''' U:,,,,.,,,.. $11':\I \-lc.'>h --·en, i |
| E | lD'-\'1 | Jb,ct | \. \\o | 5 | \ | \/ | Q5"i'l | os"<g | l\1.1<1A1·...-_,51«1< '" \ 5"' ("'l'e< x. a | -(;\, <-<-ne -81"'\ .lA<5e .s\<2J\ \,°'4, (l'<';e<,• ·.,, .sw:c,h - l'"ckv ·\<'lie.en |

Comments: 5 8r"-"b!'PC"lnc..,-,-1'"·!:'!:lf""t-""•re"'@"'·"-',... ,se-.

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Beach Nourishrt 1t (BN) Site Data R,&,e i::sio-cc\

Date: 0-\ D::c d. Station: SP

| Site | Time (hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 010g | 50 'Yi | liJcr 1-1,';u /, 10 | S- | / | 'l | Sfl-A | J)(Yf:1) 0(,3q | S v/,AY, 4 / 1<,J '7} J .Jh, | SvJ'" ?"""""- "'J0,,, |
| B | 0121 | | / - i | S- | / | 1 | 053Z | Oto} | 4 I ""i• -11 | D 71:s- hl &,,,_,J v,i{ pe:,)- V'•-><, Z 1- ', ) -,,, |
| C | \,, 4 J J | V"\ | f-l-r fi | | ' I | | I.IJt | '!'fj' | 1 L / j ,'!I,,,) | 5 udd, "(C"tx -,-.j ( !,,,,, jiJ/"1· ! 1 tV ,,e,-.. •" t ...) ,, i/ (,,I)' |
| D | \:; | ! \:) "" | 'j" ti C! | | " | | ,,r" | ,J i" J' | l i ) jt J J | ")n)i,J h., 7, .Jne :I• 1 " |
| E | ( )L"' | ki ' 7h, | ' (i) ,'' / | | ) | j | o6ql | L\L/2- | 1 Ic,, I ' 9 ,,!\ | (---' c.il, "J ;),,J · 30 ""-'1, O::i11 i r ,w" ir |

**Comments:**

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· Patrick Friend - tracer

**Beach Nourishrr t {BN) Site Data**

Date: 4 Dec 2024 Station: G

| Site | Time {hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | ois(f | ;:::;u | / 'fJ | ) | I | 1 | 06i3 | o;:r3 | 4, \ i,.vj""" j ,J\) | S._,Vlr▶ ZCJ),JJ io--. |
| B | ai,.:z. | "iC | ySO i bo | - s-- | \ | y | 1 5-z1- | o·c;1 | ' 11 i""J ·u ;!J\, | S<i. ?01,,,1:..;lb:-'" 2<:- ¦ <;, ¢, r; ZJI..-4..li. |
| C | 0'b<3 | ·r:;o | I- 1£ | 7- | I | y | 15A"c | o'!22. @ vi,,I,. MLs.fk/; G | 11 I. ;,J/s | : 2) ; |
| D | oc1cl | 11 | "10 | s | i | y | o[/7 | ,3 J-i | Lf' I. J' 11'-o | 2', |
| E | 02 r | 2q | 'i·'ts | ·s- | I | 1 | oc1i | osi 1 | I J,i/5 | i 7',7 |

**Comments:**

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Beach Nourishn 1t (BN) Site Data 5(;,l)tn Pe,cke Is\e,,c,c\

Date: 04 Dec 2024 Station: LC.C

| Site | Time (hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea Weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | c) lj )0 | -- ◆ Jt; | 1- i 1- | | / | ·y | -'u,,Jy | 03'i3 | Nc.U2_ | 2o |
| B | 1 u'Jl | it4 | )-'f D | S | \ | '/ | 0(,43 | o3if | .'Jl,st-Jll | 2o |
| C | 1012.. | ·11 | 71 | 'J | i | 1 | 0'51} | :)/'2:0 | j L J v/k '1 .&0>v) eke 119,_,,,,. t;,,-,.te,-i( | £,;, i |
| D | 011 | 41 | i i | c:; | | '-/ | 06<J½ | o.Visr | u 4. •J'_(\) i&Bt1 | z,;; ; |
| E | /0 ◆ 0 | Li;, | 2- 15' | C; | i | y | Lcc-1:::- | 444 | 7. /J If:, _J' • t,,._ k. -/. 7P | Zo |

Comments:

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Beach Nourishrr t **(BN)** Site Data

Date: 4 Dec 2024 Station: \J f.:)

| Site | Time (hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | \ill.\ | 6) | 1·$) | '5' | / | y | D3q2 | o31J | SrJ,.,- ,J_y/, | |
| B | ·11,1-1. | 4c:; | l·o | ) | | '/ | 03 | | ki./uu\ SA.4L;r, | ...:l-6 2 S- |
| C | :/qq, | 40 | 1.-r ':) | | r | 1 | 0431 | 0514 | z, l,Jvll,s. | 7:,,- |
| D | ·1157- | b | l t'"- | | | y | | oyJJ | b/.r() S | 25 |
| E | 1201 | 31' | /. i") | ) | ) | '/ | Q, 34 | Qi.to'> | 1. i.3Jl | z::, |

Comments:

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## Beach Nourishm , (BN) Site Data South Padre Island

Date: Q'l Feb ;)0'1"':. Station: _'.SP\ ' _ _ ' _ _ _ _ _ _ _ _ _ _ _

| Site | Time (hh:mm) | Beach width (m) (Swash to dune) | Beach height (m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0130 | 43.10 | | 5 | \ | / | 053\ | Oo:9i | Lu""l""""i Gu\\ X5 •1/esra-n S:„11:) 9„er IIIII | -'.iuoS_Lo_w - \0 m (Cffj¥-CJ:'r tne St,,,-, r,f s=2\",'5-- |
| B | 01'-\'B | '27.' | | C_J | \ | | 0'\04 | 0'-<'0 -.,- r.::J:lv | l'lo h,rctS | -5.Jo.s\, IOA\e -LQm f-?,euertr .-.. e o\c..r-r\-e 01\t\ -e clv.)Ol.\a.Co:,::,'I;.i.t-eo" |
| C | 030ct | 556 | | 5 | \ | y | 053'-! | 036'1 | Jo bi·:-d':. | -e-e3m. |
| D | O'lie | 55,/ | | 5 | \ | i | ClcF::P1 | Ol\\3 | No \:,,co"> | _c. ·=<h wne v" \ TT' -_!:le,c.cch use 0.1- S\le - Su!Ff·•, •• |
| E | 033'& | 52.r;? | | C:: J | \ | / | aJoO | 00'-\ct | N e oo L'-e -S G"-\\ -,.. lieti•"5 G1..1\\ „_ I | -5"8'.h .Z.t.r.e -1- -e--'?. \1·"-- |

Comments: Fog continued through sampling because horizon not visible. Beach widths measured at 1600 with range finder. Beach height not measured

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Beach Nourishm **(BN)** Site Data South Padre Island

Date: Drl *wb* 51;:,5 Station:_m;.;::c;_____

| Site | Time {hh:mm) | Beach width {ml {Swash to dune) | Beach height {m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observ.itions, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | CJ:\\\ | ,1.L/ | | 5 | I | 'I | O\Jo\ | 02:r1::i | lc\;n:i Gu11 )( ''l'l!'l' Cti1,, OJ | --5 U)O'c -.Sm |
| B | Cfl\ | 5·7. 8 | | i:::, | I | 'i | Odo'J | ·Y,;.lt\ | No bi l.\S | 5.,..o. (DI\(:';-, .S- |
| C | 093ct | s5' o/ | | c::_ | \ | i | CJ.i63 | ().\da @'. Mfv\ !a | Jo b;n:\S | •• Swu.,\i IOne- I·ft\ |
| D | 0:'.\l-\3 | 51.3 | | 5 | ! | | )tbl\ | mal\ | L.:of,r,g C,u\\ ,._ I | ¼ti' -- 'I' |
| E | 095a | 'I5 | | 5 | \ | y | 03'80 | /)3'i31 | No &,as | -1I-IL StJG':b Zt112- t:- |

Comments: ·e- b:::o. • Lwo\ti,()g , bizing). Fog Continued through Sampling. Beach widths 0)§1.\isv. eel """ «.,'%? with o,ClJe B.o:l.ec l:R./.Ch l:@'!(,Jl'l• t:P 1n,;o2nrtrl \gecn,:l.SB hc-ni:cs" ,nor v:;s1ble-,

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Beach Nourishmr • **(BN)** Site Data South Padre Island

Date: O'l kb::g),-1,:i Station: Lt.:& Crroles Co,;,dos

| Site | Time (hh:mm} | Beach width (m} (Swash to dune} | Beach height (ml | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | $1_L5d5$ | .::iz.5 | | 5 | \ | *1* | Oh'lO | 0333 | lb b,,dS, | - 5 m ;Ji:1.i..tt oo\t mea:)l,red wiib fi.ocle |
| B | \SlD., | -30,(o | | 5 | \ | | 0381\ | 03SS | tk, b\cd'J | .-- - <:. rib H l\ |
| C | \':)Cd. | , ' \ | | S | 1 | | *Cj:k}* | r1'53Q | --r- J\) L.,.;5•-ci G.,11 t<-\ SG.I'\QI;" Y\ | 5uAs\i == ;;1-,-n -=----6P« <A. w d\-b f\)f'n su ttnffl'.» f.,1er |
| D | IL\5J | ,\ | | C: | \ | y | Obbi | 13C\ | I\}:. b,d.S | Exi-1cli w.dt1, "Wi'-" ·hc.0:,2 - ,..,-, |
| E | '.<!?.i);:,\ | 33,C\ | | C:: J | I \ | y | 0'-l'-1.3 | C'L\4-\ | ),N,\&" ..'.Jc,'l'\f i<.J | --=St.w.S ne S- - Fo,,,, r,r -1\..,, Cit,.+ o:" - B8)C\, _1..:.'.c:1.\:h '1"\e c.ov.ced! -1-rc«1s<11J· tt,pe |

Comments: Fog continued through Sampling. Beach height not measured because horizon not visible.

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# Beach Nourishm ' (BN) Site Data

Date: -et[ro] O'] fe.b8c-dS Station: U'fD

| Site | Time {hh:mm) | Beach width (ml (Swash-to-dune} | Beach b◆f◆m) | No. infauna cores | No. grain size cores | Photos taken? | Swash GPS Pt | Dune GPS Pt | Bird Sp. & Count | Comments (e.g., sand observations, sea weed) |
|---|---|---|---|---|---|---|---|---|---|---|
| A | \a'3-\ | | ;:0 ◆ | 5 | I l | y | D◆:fld. | 03<¾3 | No birrb | - I'i:x-r Glr Stt.<'tof' Sc.m-[1]- n r.,, c. .◆L\ . ZDre ◆m ·.·,, |
| B | la5'\ | | [1]\0,\0 | S | \ | '1 | ot:bS | o5"85 | Ne \:>irc\S | --◆◆ zc◆b -Sm |
| c | '.30'1 | | 50,1 | 5 | \ | \/ | Ol\O\ | oscy4 | No b; n)S | - 5vJG.\ii1 e,one - 5 = _::_a:_◆;12, ct si\€! :- \:,,h,n§--- |
| D | \38io | | 50,\ | t=.. .J | \ | ·,, | 01,_Jcki | 0l\33 | (J,,,:;.i:>1rc\S | ..:=_ :JL)<:<:)-. lone -3-1m -=◆ I O;\- "= |
| E | 13L\\ | | ◆--\\Co | S | \ | 1 | aJo1 | Y-\OS | No b1,&s | ·- \·hdro -◆.:s.,;;:.,,1, u:;;,e- K- |

Comments: Fog continued through sampling. Beach height not measured because horizon not visible. Beach width measured with transect tape.

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