

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group A): 2022 – 2023

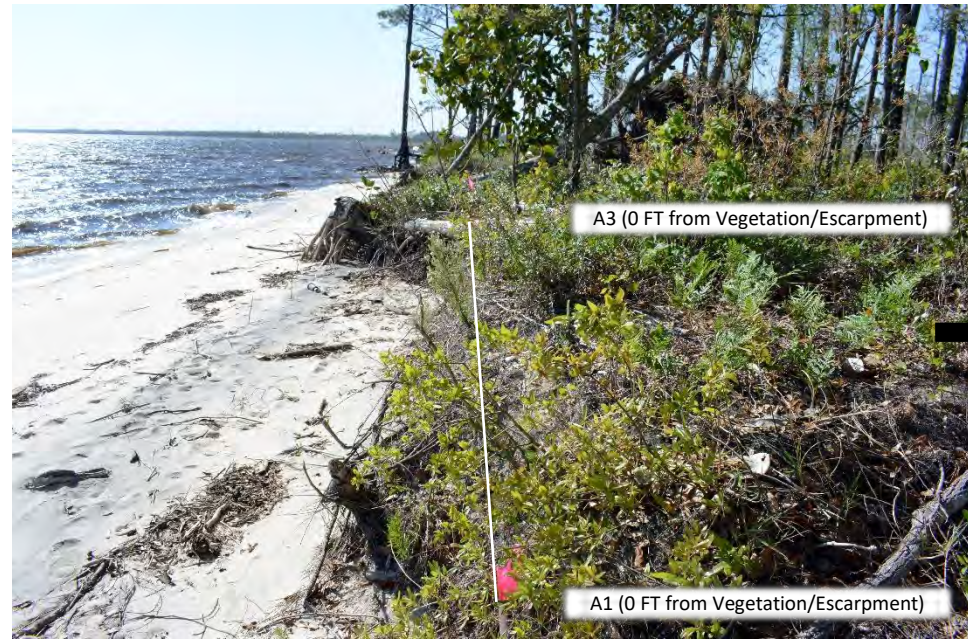


Photo Point A1 to A3 (4/7/2022)



Photo Point A1 to A3 (11/9/2022)

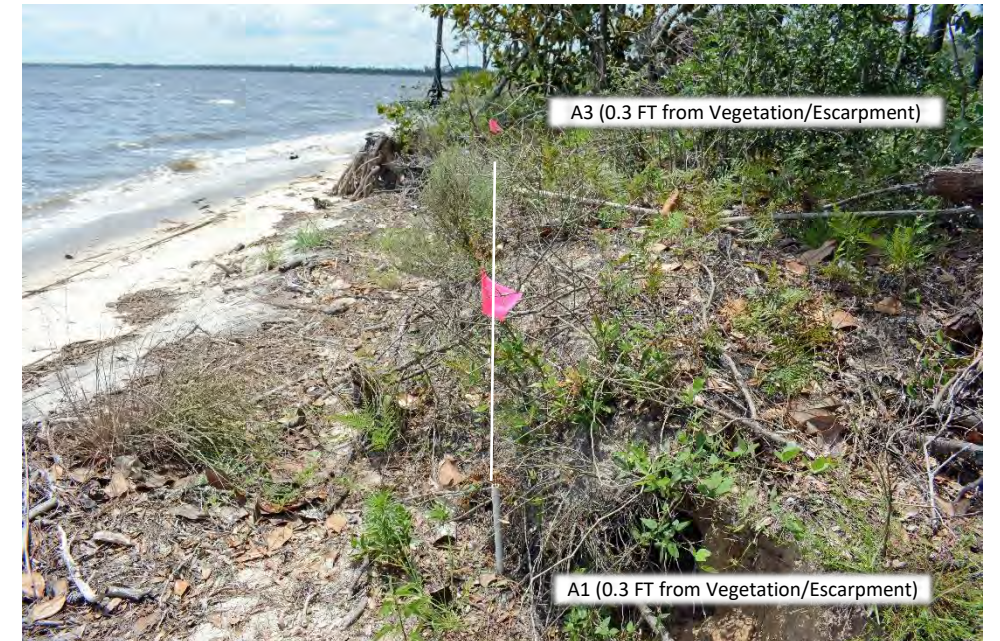


Photo Point A1 to A3 (6/13/2023)



Photo Point A3 to A1 (4/7/2022)



Photo Point A3 to A1 (11/9/2022)



Photo Point A3 to A1 (6/13/2023)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group A): 2023 – 2024



Photo Point A1 to A3 (12/21/2023)



Photo Point A1 to A3 (x/x/2024)



Photo Point A1 to A3 (x/x/2024)



Photo Point A3 to A1 (12/21/2023)



Photo Point A3 to A1 (x/x/2024)



Photo Point A3 to A1 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group B): 2022 – 2023



Photo Point B4 to B6 (4/7/2022)



Photo Point B4 to B6 (11/9/2022)



Photo Point B4 to B6 (6/13/2023)



Photo Point B6 to B4 (4/7/2022)



Photo Point B6 to B4 (11/9/2022)

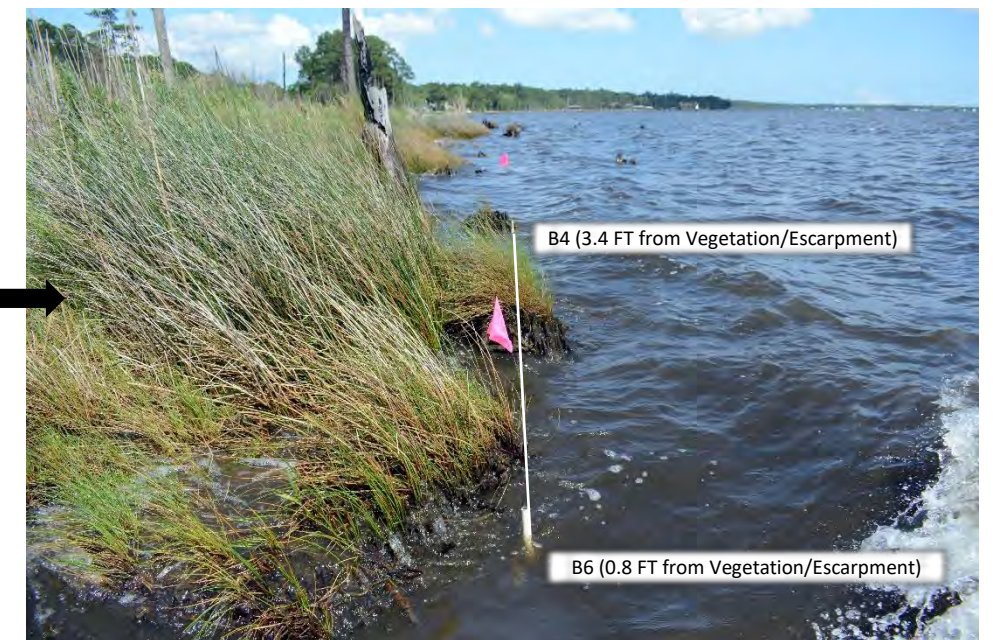


Photo Point B6 to B4 (6/13/2023)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group B): 2023 – 2024



Photo Point B4 to B6 (12/21/2023)



Photo Point B4 to B6 (x/x/2024)



Photo Point B4 to B6 (x/x/2024)



Photo Point B6 to B4 (12/21/2023)



Photo Point B6 to B4 (x/x/2024)



Photo Point B6 to B4 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group C): 2022 – 2023



Photo Point C7 to C9 (4/7/2022)



Photo Point C7 to C9 (11/9/2022)



Photo Point C7 to C9 (6/13/2023)

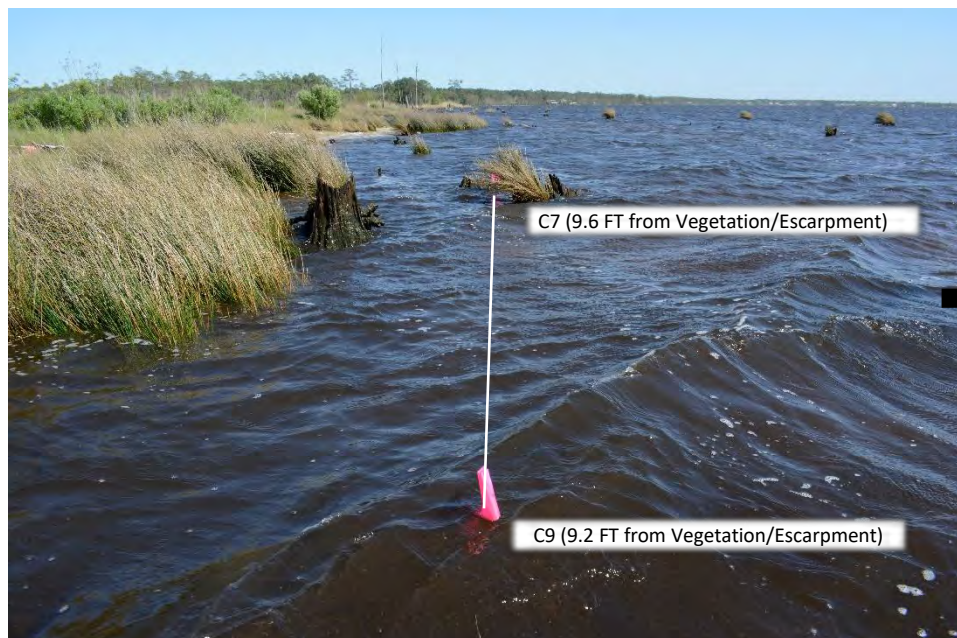


Photo Point C9 to C7 (4/7/2022)



Photo Point C9 to C7 (11/9/2022)

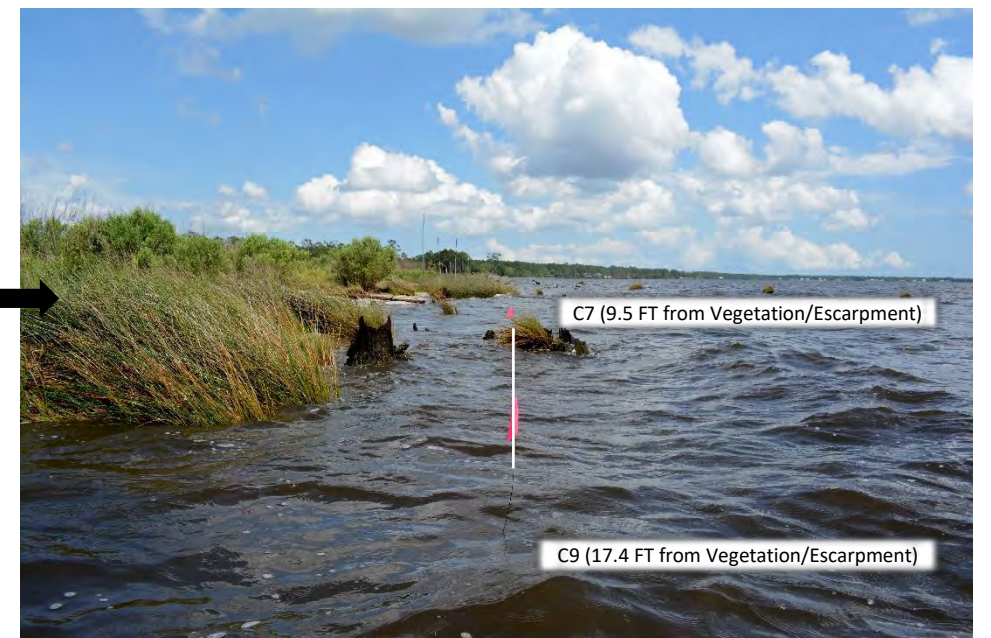


Photo Point C9 to C7 (6/13/2023)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group C): 2023 – 2024



C9 (17.9 FT from Vegetation/Escarpment)

C7 (9.7 FT from Vegetation/Escarpment)

Photo Point C7 to C9 (12/21/2023)



Photo Point C7 to C9 (x/x/2024)



Photo Point C7 to C9 (x/x/2024)



C7 (9.7 FT from Vegetation/Escarpment)

C9 (17.9 FT from Vegetation/Escarpment)

Photo Point C9 to C7 (12/21/2023)



Photo Point C9 to C7 (x/x/2024)



Photo Point C9 to C7 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group D): 2022 – 2023



Photo Point D10 to D12 (4/7/2022)



Photo Point D10 to D12 (11/9/2022)



Photo Point D10 to D12 (6/13/2023)

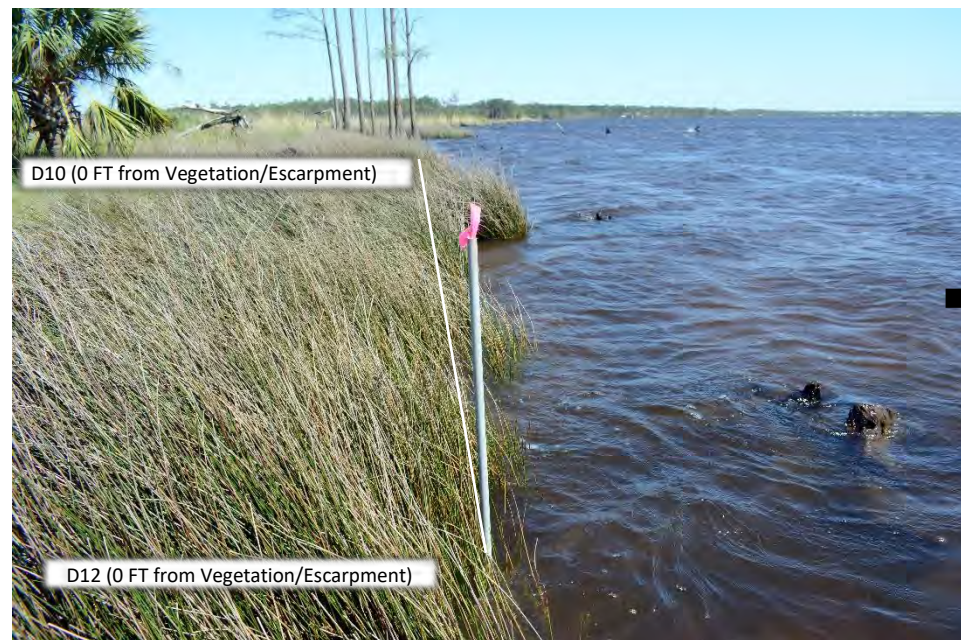


Photo Point D12 to D10 (4/7/2022)



Photo Point D12 to D10 (11/9/2022)



Photo Point D12 to D10 (6/13/2023)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group D): 2023 – 2024



Photo Point D10 to D12 (12/21/2023)



Photo Point D10 to D12 (x/x/2024)



Photo Point D10 to D12 (x/x/2024)

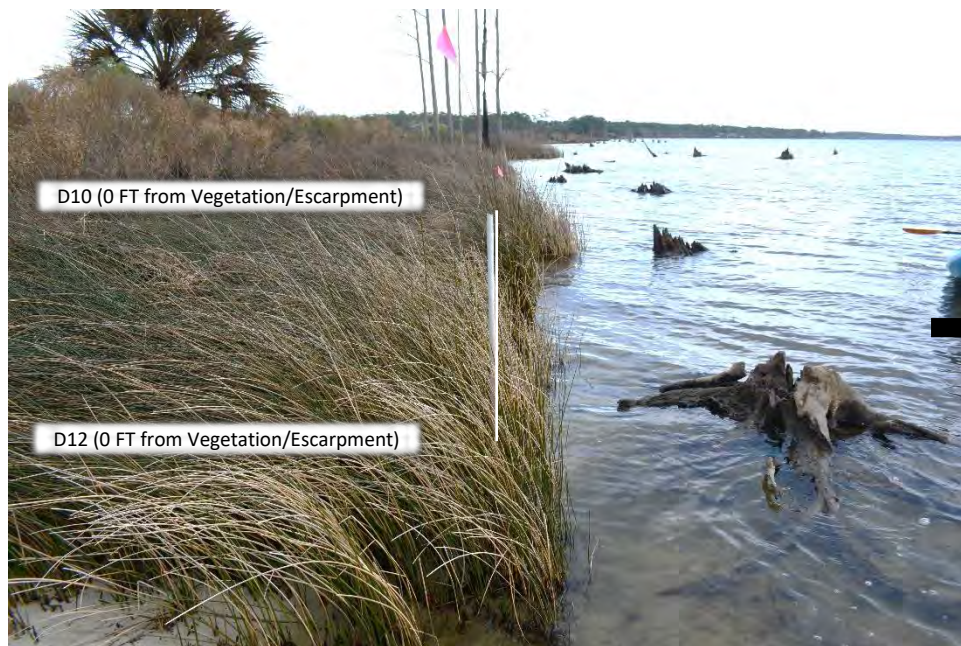


Photo Point D12 to D10 (12/21/2023)



Photo Point D12 to D10 (x/x/2024)



Photo Point D12 to D10 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group E): 2022 – 2023

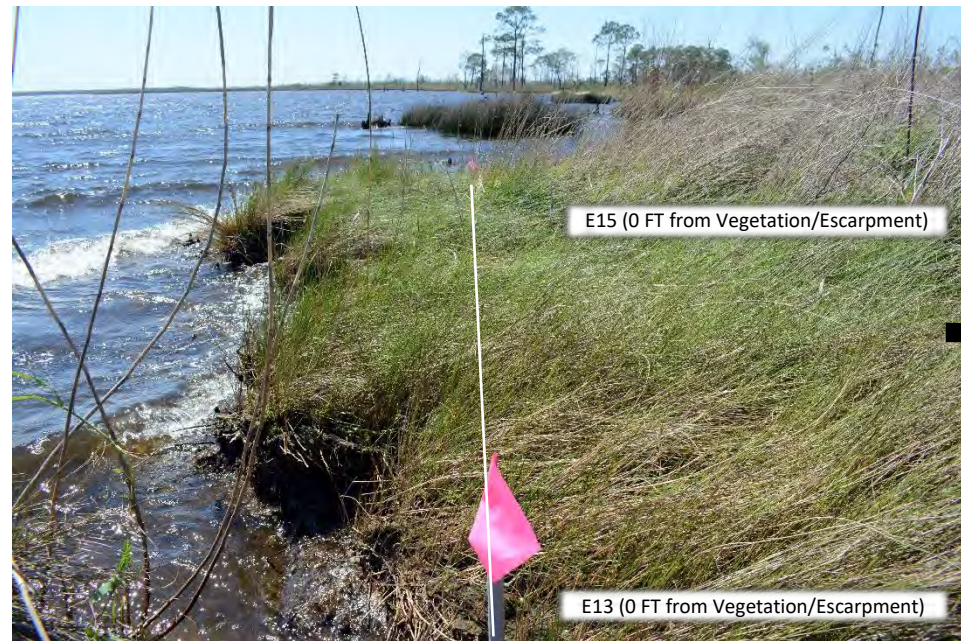


Photo Point E13 to E15 (4/7/2022)



Photo Point E13 to E15 (11/9/2022)



Photo Point E13 to E15 (6/13/2023)

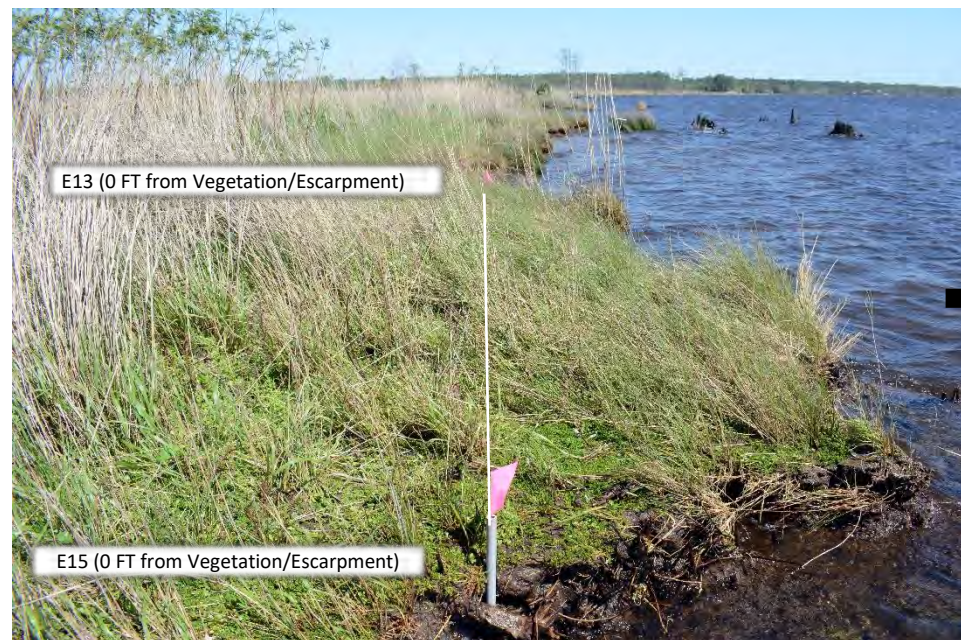


Photo Point E15 to E13 (4/7/2022)



Photo Point E15 to E13 (11/9/2022)

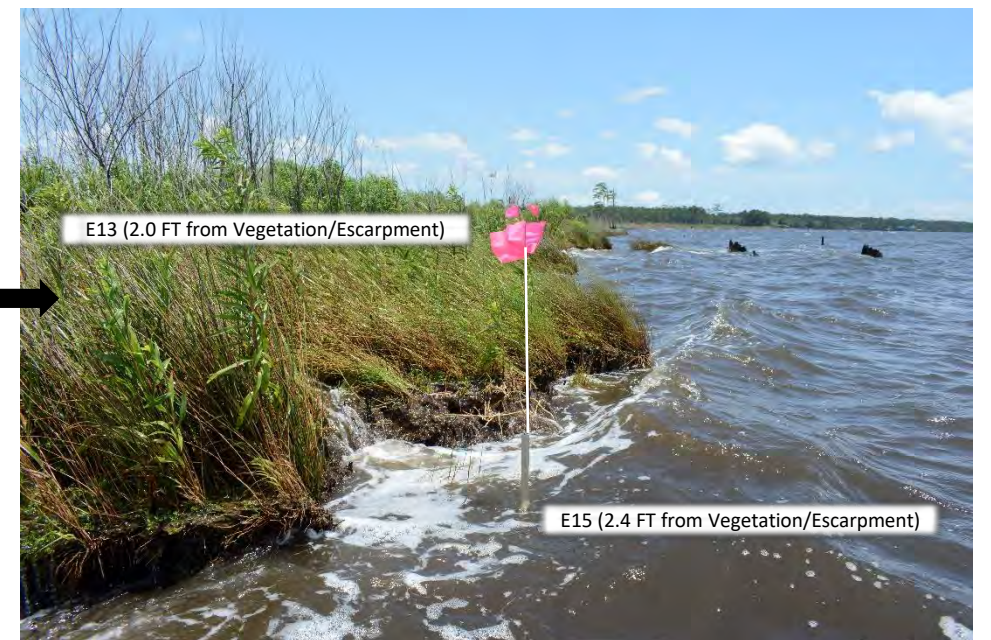


Photo Point E15 to E13 (6/13/2023)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group E): 2023 – 2024



Photo Point E13 to E15 (12/21/2023)



Photo Point E13 to E15 (x/x/2024)



Photo Point E13 to E15 (x/x/2024)



Photo Point E15 to E13 (12/21/2023)



Photo Point E15 to E13 (x/x/2024)



Photo Point E15 to E13 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group F): 2022 – 2023



Photo Point F16 to F18 (4/7/2022)



Photo Point F16 to F18 (11/9/2022)



Photo Point F16 to F18 (6/13/2023)



Photo Point F18 to F16 (4/7/2022)



Photo Point F18 to F16 (11/9/2022)



Photo Point F18 to F16 (6/13/2023)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group F): 2023 – 2024



Photo Point F16 to F18 (12/21/2023)



Photo Point F16 to F18 (x/x/2024)



Photo Point F16 to F18 (x/x/2024)



Photo Point F18 to F16 (12/21/2023)



Photo Point F18 to F16 (x/x/2024)



Photo Point F18 to F16 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group G): 2023 – 2024

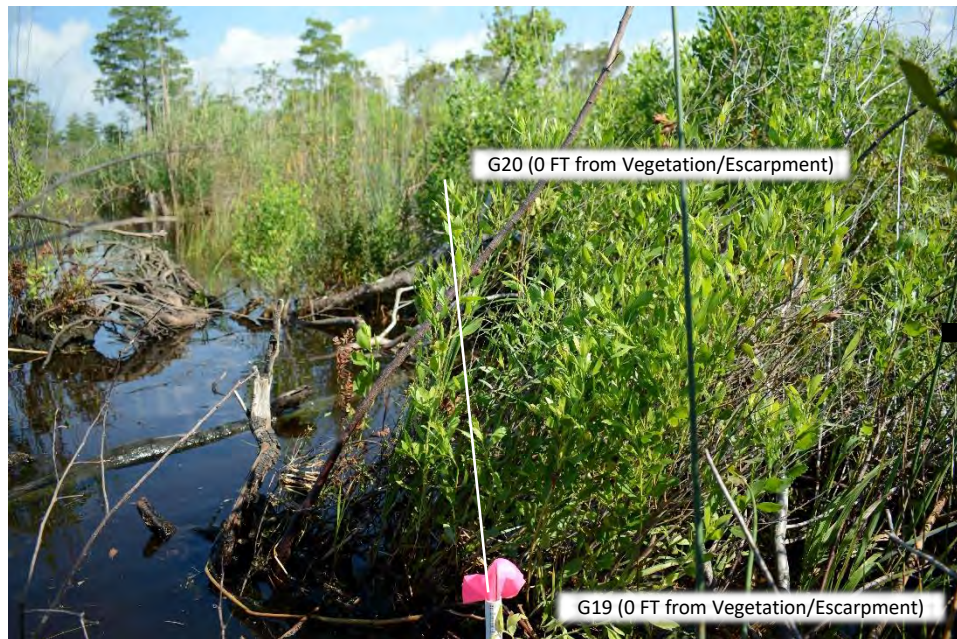


Photo Point G19 to G20 (6/13/2023)



Photo Point G19 to G20 (12/21/2023)



Photo Point G19 to G20 (x/x/2024)



Photo Point G20 to G19 (6/13/2023)

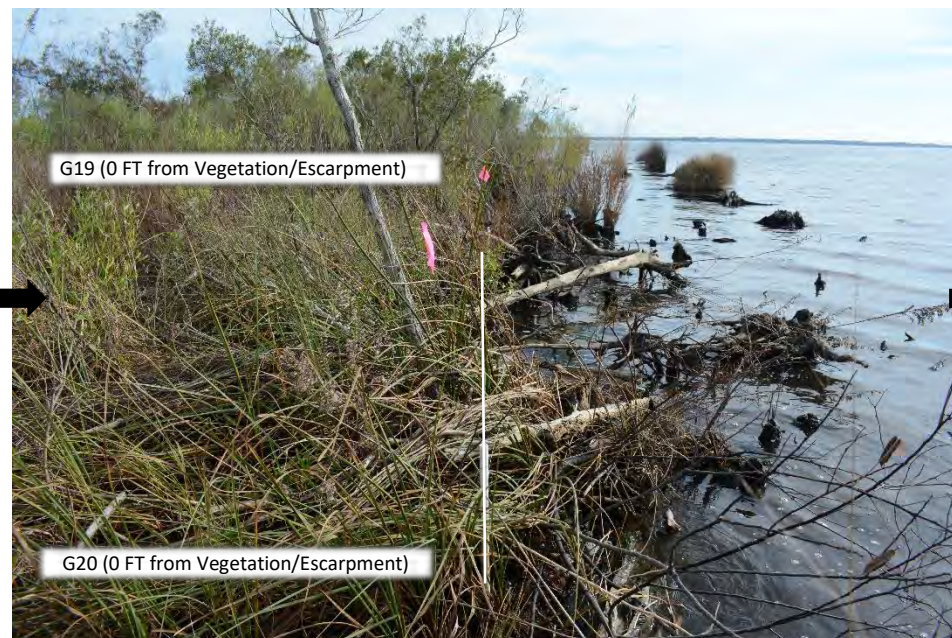


Photo Point G20 to G19 (12/21/2023)



Photo Point G20 to G19 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group H): 2023 – 2024



Photo Point H21 to H22 (6/13/2023)



Photo Point H21 to H22 (12/21/2023)



Photo Point H21 to H22 (x/x/2024)



Photo Point H22 to H21 (6/13/2023)



Photo Point H22 to H21 (12/21/2023)



Photo Point H22 to H21 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group I): 2023 – 2024



Photo Point I23 to I24 (6/13/2023)



Photo Point I23 to I24 (12/21/2023)



Photo Point I23 to I24 (x/x/2024)

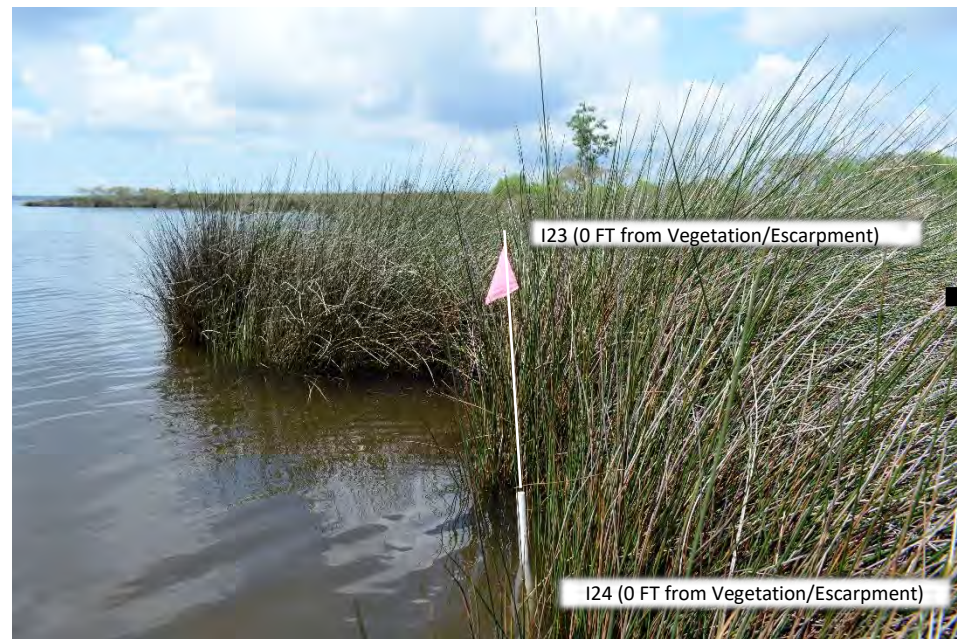


Photo Point I24 to I23 (6/13/2023)



Photo Point I24 to I23 (12/21/2023)



Photo Point I24 to I23 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group J): 2023 – 2024



Photo Point J25 to J26 (6/13/2023)



Photo Point J25 to J26 (12/21/2023)



Photo Point J25 to J26 (x/x/2024)



Photo Point J26 to J25 (6/13/2023)



Photo Point J26 to J25 (12/21/2023)



Photo Point J26 to J25 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group K): 2023 – 2024

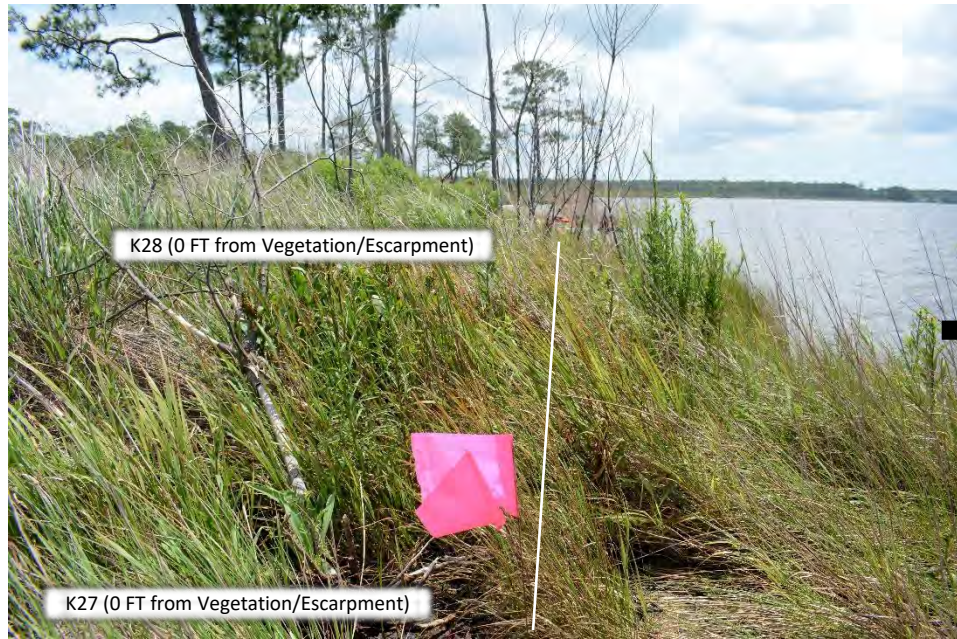


Photo Point K27 to K28 (6/13/2023)

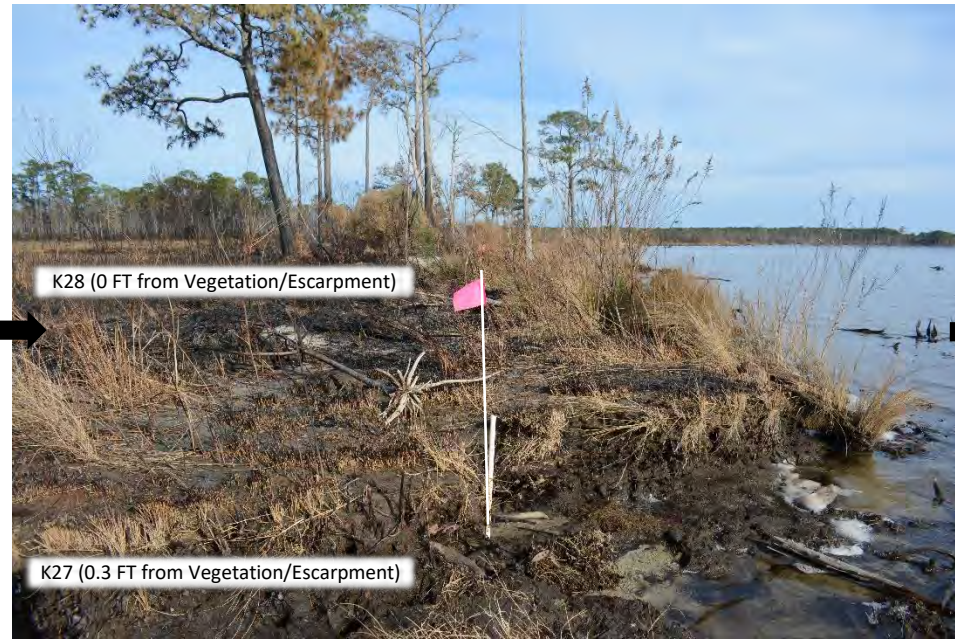


Photo Point K27 to K28 (12/21/2023)



Photo Point K27 to K28 (x/x/2024)

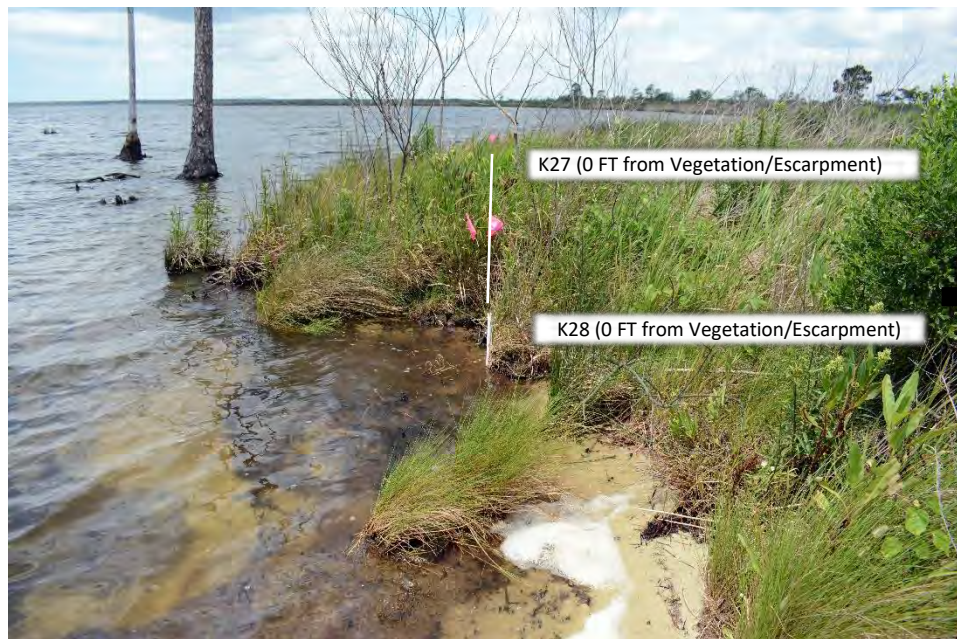


Photo Point K28 to K27 (6/13/2023)



Photo Point K28 to K27 (12/21/2023)



Photo Point K28 to K27 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group L): 2023 – 2024



Photo Point L29 to L30 (6/13/2023)



Photo Point L29 (PVC Marker Missing)



Photo Point L29 (PVC Marker Missing)



Photo Point L30 to L29 (6/13/2023)



Photo Point L30 to Approximately L29 (12/21/2023)



Photo Point L29 to Approximately L30 (x/x/2024)

Dutex Shoreline
Shoreline Photo Monitoring (Erosion Pin Group M): 2023 – 2024

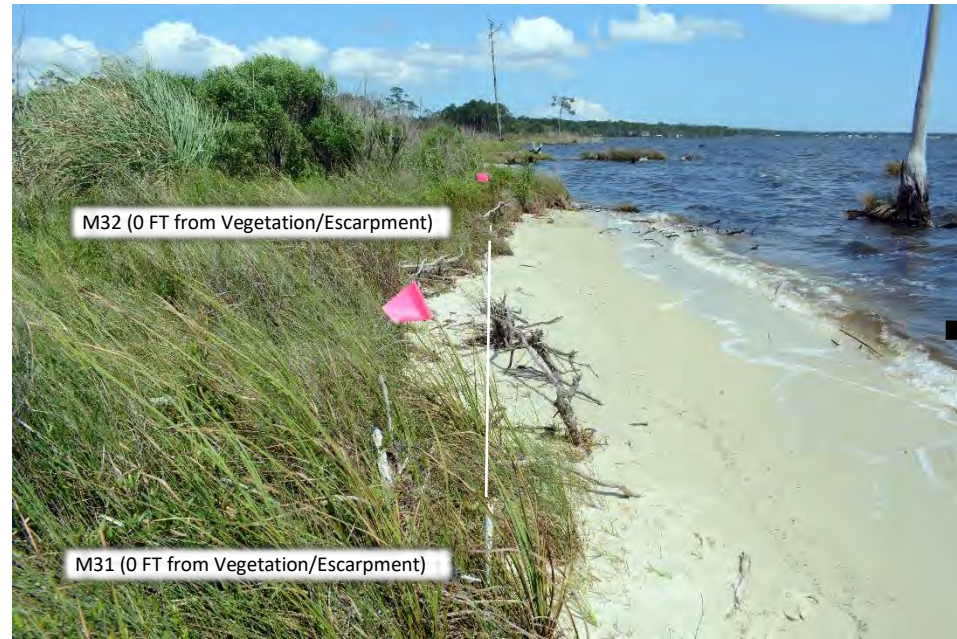


Photo Point M31 to M32 (6/13/2023)



Photo Point M31 to M32 (12/21/2023)



Photo Point M31 to M32 (x/x/2024)



Photo Point M32 to M31 (6/13/2023)



Photo Point M32 to M31 (12/21/2023)

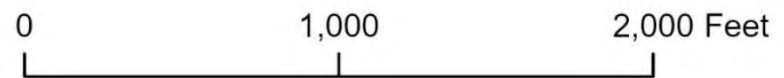


Photo Point M32 to M31 (x/x/2024)

Dutex Shoreline Monitoring



● Erosion Monitoring Point (Group of Two Points: A - F
Installed 4/7/2022; G - M Installed 6/13/2023)



2022 DOQ



Dutex Shoreline Erosion Monitoring

Photo Points A1 - F18 (2022 -2023)

Point	Start Date	End Date	Measurement Period (No. of Elapsed Days)	Measurement Period (No. of Elapsed Years)	Δ DIST (FT) to VEG	Calculated Annual Erosion Rate Derived Current Data (FT per Year)
A1	4/7/2022	12/21/2023	623	1.7068	0.3	0.18
A3	4/7/2022	12/21/2023	623	1.7068	0.3	0.18
B4	4/7/2022	12/21/2023	623	1.7068	0.9	0.53
B6	4/7/2022	12/21/2023	623	1.7068	0.2	0.12
C7	4/7/2022	12/21/2023	623	1.7068	0.1	0.06
C9	4/7/2022	12/21/2023	623	1.7068	8.7	-
D10	4/7/2022	12/21/2023	623	1.7068	0.0	0.00
D12	4/7/2022	12/21/2023	623	1.7068	0.0	0.00
E13	4/7/2022	12/21/2023	623	1.7068	1.7	1.00
E15	4/7/2022	12/21/2023	623	1.7068	2.4	1.41
F16	4/7/2022	12/21/2023	623	1.7068	0.0	0.00
F18	4/7/2022	12/21/2023	623	1.7068	0.0	0.00
Average Annual Erosion Rate (FT per Year): APRIL 2022 - DECEMBER 2023 (Photo Points A1 - F18)						0.31

Photo Points G19 - M32 (2023)

Point	Start Date	End Date	Measurement Period (No. of Elapsed Days)	Measurement Period (No. of Elapsed Years)	Δ DIST (FT) to VEG	Calculated Annual Erosion Rate Derived Current Data (FT per Year)
G19	6/13/2023	12/21/2023	191	0.5233	0.0	0.00
G20	6/13/2023	12/21/2023	191	0.5233	0.0	0.00
H21	6/13/2023	12/21/2023	191	0.5233	0.3	0.57
H22	6/13/2023	12/21/2023	191	0.5233	0.0	0.00
I23	6/13/2023	12/21/2023	191	0.5233	0.0	0.00
I24	6/13/2023	12/21/2023	191	0.5233	0.0	0.00
J25	6/13/2023	12/21/2023	191	0.5233	0.0	0.00
J26	6/13/2023	12/21/2023	191	0.5233	0.0	0.00
K27	6/13/2023	12/21/2023	191	0.5233	0.3	0.57
K28	6/13/2023	12/21/2023	191	0.5233	0.0	0.00
L29	6/13/2023	missing	missing	missing	missing	missing
L30	6/13/2023	12/21/2023	191	0.5233	1.0	1.91
M31	6/13/2023	12/21/2023	191	0.5233	0.0	0.00
M32	6/13/2023	12/21/2023	191	0.5233	0.0	0.00
Average Annual Erosion Rate (FT per Year): JUNE 2023 - DECEMBER 2023 (Photo Points G19 - M32)						0.24

Notes:

- Photo Points A1 – F18 were installed 4/7/2022. Photo Points G19 – M32 were installed 6/13/2023.
- Distance (FT) from Point (PVC Pipe) to Shoreline Vegetation/Escarpment is taken at an approximate right angle to the line formed by the two points within a group (e.g., A1 – A3 forms a line approximately parallel to the shoreline; A1 distance to shoreline is approximately perpendicular to this line; A3 distance to shoreline is approximately perpendicular to this line).
- Photo Point C9 is an outlier and is excluded from annual erosion rate calculations because of concerns that previous measurements at this point may or may not have been perpendicular to the shoreline or that measurements may or may not have been accurately recorded.
- Photo Point L29 is missing (as of 12/21/2023) and is excluded from erosion calculations.
- Average erosion 2022 – 2023, based on shoreline measurements, is approximately ¼ FT per year.
- Analysis of historic aerials suggest an average erosion rate of approximately 1 FT per year from 1989 – 2019 and that major erosion events may be episodic and associated with hurricanes or major storms.