

**FINAL REPORT FOR 2021
ON THE CONDITION OF THE MUNICIPAL BEACHES
IN
THE TOWNSHIP OF UPPER, CAPE MAY COUNTY, NEW JERSEY**



This aerial view of Strathmere, taken September 11, 2021, shows how the combination of wave approach and refraction around the nearby offshore bathymetry of Corson's Inlet generates enhanced transport of sand from the oceanfront near the inlet into the main channel. This process is enhanced by flood tidal currents twice each day which act to create the sand spit making up the NJ State park area in Strathmere, but this also means the northernmost developed oceanfront is constantly under erosional stress if large offshore sand supplies are not present as a result of inlet processes. (Photo by Ted Kingston).

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**Annual Report for 2021
To
The Township of Upper
On the Condition of the Municipal Beaches in Strathmere**

Introduction

The Stockton University Coastal Research Center (CRC) surveyed the Strathmere beaches quarterly to document changes during 2021. The survey comparisons provide data to evaluate seasonal shoreline and sand volume variations. Data collected at the six oceanfront beach profile locations cover the municipal beaches from Seaview Avenue to 1st Street. This coverage extends the length of the USACE engineered beach in Strathmere. Seasonal surveys at the six established sites allow the Township to evaluate the performance of the US Army Corps of Engineers (USACE) project, conditions following storm events and general changes to the Strathmere beaches independent of the USACE efforts.

The USACE Ocean City to Townsends Inlet Shore Protection Project initially placed approximately 1.54 million cubic yards of sand on the Strathmere end of Ludlam Island. An additional 4.09 million cubic yards of sand were placed on the southern Ocean City and Sea Isle City beaches, all complete by 2016. The US Army Corps dredging contractors returned to Strathmere (added 511,840 cy) and the south end of Ocean City (added 506,159 cy) in 2019 into early 2020 providing maintenance sand to the project derived from the Corson's Inlet borrow zone. Work was complete as of January 2020 and work moved on to Sea Isle City in the spring of 2020 where a total of 895,001 cubic yards of sand were added.

The Army Corps had contractors return to both the south end of Ocean City and Strathmere during 2019 to pump additional remedial sand supplies onto both municipal beaches, derived from the Corson's Inlet borrow zone in the ebb-tidal delta.

2021 Winter Storm Activity

Two sequential storms did occur in late December 2020 (Dec. 16th and 24th). These storms occurred after the December 2020 CRC beach survey. In addition, a moderate event occurred February 1, and 2, 2021 making a more serious impact on NJ beaches. These events constituted the majority of the winter storm damage and it all occurred prior to the March 2021 Strathmere survey. That first quarter's erosion amounted to 91,817 cubic yards taken from the most recent USACE work effort 10 months previously. The last northeaster occurred May 30 and 31, 2021 and was relatively mild. The tropical events were limited to Hurricane Ida which tracked across the interior of New Jersey doing more damage inland with tornados and heavy rainfall than seen as impacts to the oceanfront shoreline. The fall storm pattern was mild with three events thus far, yet the fall quarter produced the largest erosion numbers on the Strathmere beach (-155,430 cubic yards).

Engineered Beach Overview

The Corson's Inlet to Townsend's Inlet shore protection project will provide a very large measure of long-term protection to this segment of the NJ coastline. There is NJ State Aid agreement with the US Army Corps of Engineers to continue maintenance of the project for 44 additional years (its inception was in 2015). The maintenance cycle will vary between 4 and 6-year intervals unless impacted by future major storms and was most recently maintained with work in both Strathmere and southern Ocean City during 2019 using Corson's Inlet sand taken from the ebb-tidal delta. In the initial work in 2016, the USACE project provided Ocean City and Strathmere 2.73 million cubic yards of sand derived from 2 miles offshore, never previously present anywhere within the modern NJ coastal zone either at the inlets or on the barrier island shoreline.

Beach Monitoring Program Methodology

The beach monitoring program extends back to June 1995 when the Township of Upper requested that the CRC design and establish a means to provide information on coastal zone management issues within the municipality. Initially, six sites were selected to survey and allow calculations to provide information on beach behavior. In 2009, three additional beach profile stations (UT-21, UT-31, and UT-7) were established in sections that did not have profiles to monitor sediment movement within groin compartments and along Corson's Inlet. In 2009, it was decided to discontinue the 9 existing sites and monitor semi-annually the 200-foot spaced baseline cross sections used during construction of the 2009 NJ State and Upper Township beach nourishment project to quantify performance and meet monitoring requirements for a FEMA category "G" engineered beach.

This process continued until the USACE took command of the project in 2016. FEMA always steps back from storm disaster reimbursement if the USACE is involved with shore protection projects, so the original six cross sections were resumed to provide the municipal governing body with direct information on beach performance since the USACE only monitors projects annually if funds are available.

Each site is located in specific regions of the Strathmere shoreline. UT-1 is positioned at the Sea Isle City border on the mid-island straight shoreline. UT-2 is also located on the mid-island portion of Ludlam Island. UT-3 is in a transition zone between straight shoreline orientation and the increasing influence from Corson's Inlet. UT-4 is central in the transition zone, while UT-5 is at a location where inlet processes and offshore waves tend to faithfully deposit sand maintaining a wide beach. UT-6 is located at Seaview Avenue at the northeast corner of development where dramatic shoreline changes, driven by inlet dynamics, frequently produce severe erosion, interspersed with extensive sand deposition creating a wide beach with a broad sandy expanse extending into the Corson's Inlet opening as the NJ State park lands. The following is a list of the surveys that are included in this report and the dates they were completed:

- Survey 79 December 15, 2020
- Survey 80 February 24, 2021
- Survey 81 June 3, 2021
- Survey 82 September 13, 2021
- Survey 83 December 8, 2021

Specific Profile Site Descriptions:

The six cross sections are positioned along the Strathmere oceanfront from Seaview Avenue at the northern extent of residential development, south to the Sea Isle City boundary with Strathmere. The general locations are shown on Figure 1, page 3.

The four surveys completed during 2021 are grouped in order to review the changes observed over the past 12 months. Beach volume and shoreline changes were calculated from each seasonal change between February 2021 and December 2021. Photos for each site are included to show the beach conditions during specific time frames throughout the year. Table 1 shows the annual sand volume change at the six monitoring profile locations documented between December 2020 and December 2021.



Figure 1. Locations of the 6 beach profile stations for the engineered beach in Upper Township.

Individual Site Review:

The profile data is summarized in tables 1 through 3 on following pages with the shoreline position change measured in feet landward (-) or seaward (+) and with the sand volume shown in cubic yards of sand per foot of oceanfront shoreline.

**Table 1 - Annual Shoreline & Sand Volume Change at the 6 Monitoring Profiles
December 2020 to December 2021**

Profile	Shoreline Change (feet)	Volume Change (yds ³ /ft)	Avg. Volume Change (yds ³ /ft)	Distance Between (feet)	Net Volume Change (yds ³)
<i>Southern Township Boundary</i>					
UT-1	9	19.76			
			15.0	1,410	21,201
UT-2	-2	10.31			
			-4.3	2,938	-12,682
UT-3	-6	-18.95			
			-40.3	2,242	-90,392
UT-4	-81	-61.69			
			-64.2	1,323	-84,983
UT-5	-99	-66.78			
			-81.7	911	-74,395
UT-6	-204	-96.55			
<i>Northern Township Boundary</i>					
Total Volume Change =					-241,251

Sand continues to erode from the Strathmere shoreline following the early 2020 USACE work effort with 241,251 cubic yards of material either moving into the inlet shoals, further offshore or moving from the southern beaches into Sea Isle City’s oceanfront under the influence of the littoral wave-generated currents.



Figure 2. This September 4, 2021 photograph of the north end of Strathmere shows the inlet shoals around the Strathmere island tip with offshore bars extending past UT-6 at Seaview Avenue. (Photo by Ted Kingston)

**Table 2 - 4th Quarter Sand Volume & Shoreline Changes for 2021
September 2021 to December 2021**

Profile	Shoreline Change (feet)	Volume Change (yds³/ft)	Avg. Volume Change (yds³/ft)	Distance Between (feet)	Net Volume Change (yds³)
<i>Southern Township Boundary</i>					
UT-1	23	-3.62	-2.5	1,410	-3,469
UT-2	26	-1.30	-10.6	2,938	-31,062
UT-3	1	-19.84	-20.0	2,242	-44,728
UT-4	-25	-20.06	-33.1	1,323	-43,849
UT-5	-40	-46.23	-35.5	911	-32,322
UT-6	-35	-24.73			
<i>Northern Township Boundary</i>					
Total Volume Change =					-155,430

The table of values for the final quarter of 2021 show a marked increase in erosion rates pretty much distributed across the entire array of survey sites except for lower losses at the mid-island sites closer to Sea Isle City. The 155,430 cubic yard sand volume loss was the greatest amount eroded of the four quarterly evaluations.

**Table 3 - Quarterly & Annual Sand Volume Changes for 2021
December 16, 2020 to December 16, 2021**

Profile	Winter	Spring	Summer	Fall
Number	12/20 - 3/21	3/21 - 6/21	6/21 - 9/21	9/21 - 12/21
	(yds³/ft)	(yds³/ft)	(yds³/ft)	(yds³/ft)
<i>Southern Township Boundary</i>				
UT-1	-10.63	14.42	23.41	-3.62
UT-2	-8.17	14.73	10.57	-1.30
UT-3	-6.10	-5.07	11.60	-19.84
UT-4	-16.97	-19.43	-5.00	-20.06
UT-5	-12.77	-10.76	-4.45	-46.23
UT-6	-12.29	-24.09	-34.56	-24.73
<i>Northern Township Boundary</i>				
Quarterly Volume Change (yds³) =	-91,819	-29,252	40,073	-155,430

Table 3 collects all the sand volume change data into one view with a total sand volume change shown at the bottom of each quarterly column. Only the summer months provided net increases in sand quantities in spite of continued loss at the northern three locations. Summing the four quarterly losses at UT-6 the resulting -95.67 yds³/ft. value agrees well with the direct comparison between December 2020 and December 2021 from Table 1 (-96.55 yds³/ft.). The oddity about the loss rates is that the summer of 2021 produced a three times greater erosion rate than emerged during the relatively stormy winter months between December 2020 and February 2021 which included the early February two-day storm. Changing inlet dynamics supersede most occasions of storm wave erosion.

◆ **Seaview Avenue, UT-6**

This site is located adjacent to Corson’s Inlet making it highly vulnerable to rapid beach changes from inlet dynamics and northeast storms. The USACE intervened during the fall of 2019 to address the loss with added sand from Corson’s Inlet. Inlet dynamics were causing shoreline retreat into the dunes at Seaview Avenue. The added sand volume restored the wide dry beach width that suffered some retreat during 2020. Continued retreat occurred in 2021 NOT associated with the northeast storms during the first quarter of 2021. Between the February, June, September and December 2021 surveys retreat on the beach berm was constant amounting annually to 204 feet measured at the zero-elevation position on the beach.



3a. December 15, 2020



3b. June 3, 2021



3c. December 8, 2021

Figures 3a to 3c. Seaview Avenue survey site. View to the south.

Photograph 3a shows a view to the south a year following the last sand placement with wind deposition showing at the dune toe and a sufficiently wide beach remaining at the site.

Photograph 3b shows that by June 2021 wind transport had all but buried the sand fencing and dune grass plants were colonizing the fence line naturally.

Photograph 3c demonstrates just how quickly the shoreline retreats toward the dunes. The June wind deposited sand at the fence line has been eroded away with the water's edge at the fencing as of early December 2021.



Figure 4. Aerial view of Seaview Avenue profile beach September 25, 2021. While shallow wave-like bars still lie just offshore, the beach berm has been cut into a vertical scarp right at the end of Seaview Avenue and that scarp continues into the NJ State Park land to the northwest. Significant volumes of new sand moving north toward the inlet from the southern bar system is required if the erosion is not to move into the 2019-2020 USACE rebuilt dunes this winter. It is the common combination of the breaking incoming wave angles to the shoreline beach combined with the flood-tidal currents moving into Corson's Inlet that generate rapid sand transfer away from this critical region. The five residential properties north of Seaview Avenue at the park boundary probably represent over \$15,000,000 in ratable assets.

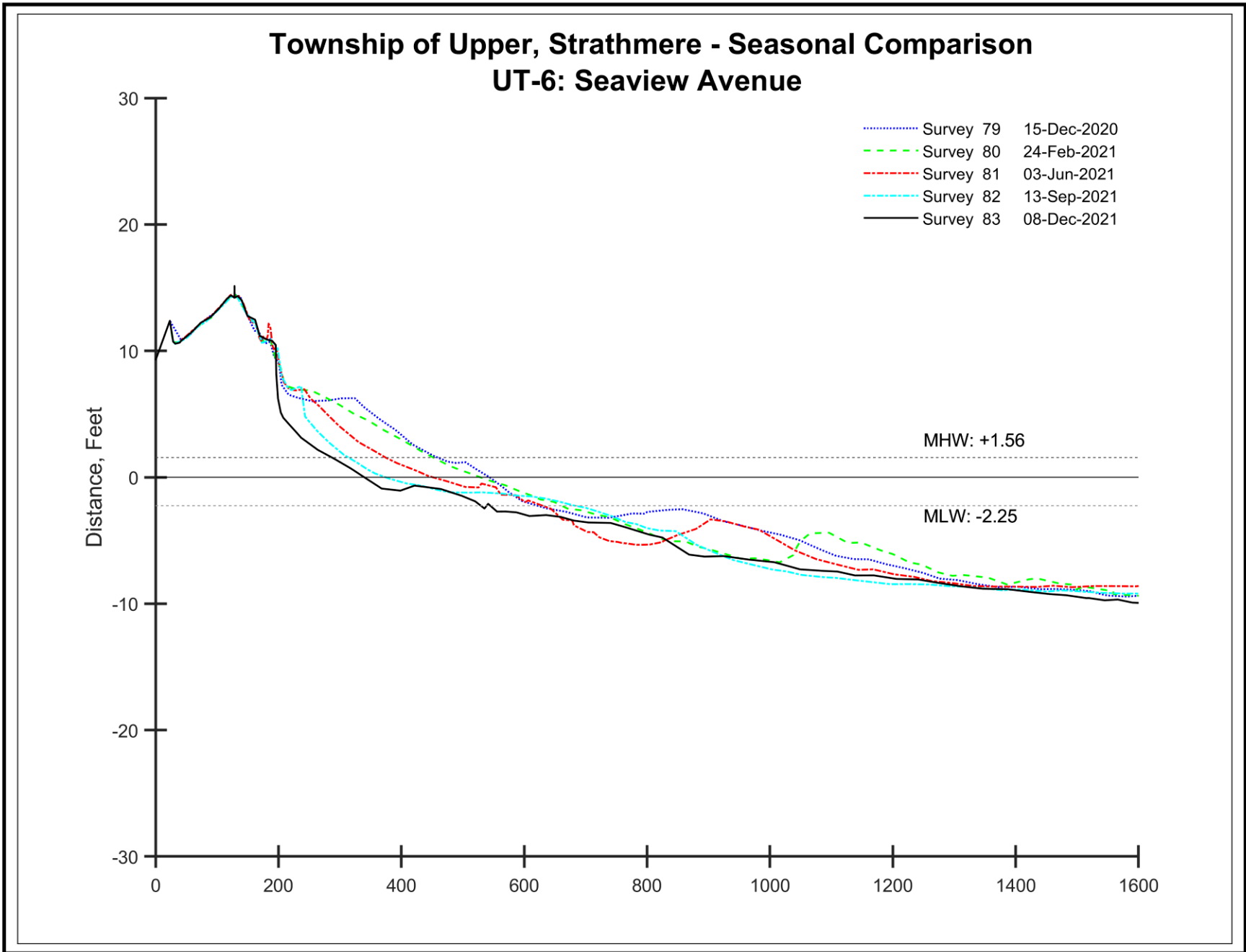


Figure 5. This 2021 sequence of surveys present the case for rapid shoreline retreat. Note that between December 2020 and February 2021 three significant northeast storms had only minimal impact on the beach configuration at the site. Things commenced to deteriorate after the February survey with equal losses recorded in June, September and December 2021 in spite of the absence of storm activity that matched events during the first quarter of the year.

◆ **Survey Line UT-5, Williams Avenue, Strathmere**

This site was first nourished by the State of NJ in 1984 and is located near the southern limit for direct inlet influences. The site has been monitored since 1986 as part of the NJBPN program and was included in the municipal monitoring project. Sand is intermittently added to the beach in this region as tidal delta bars accumulate off adjacent ebb shoals and migrate landward under favorable conditions to attach themselves to the shoreline providing influxes of sand.

The Williams Avenue site was not provided massive sand volumes initially in the federal project. However, recent rates of erosion prompted a significant fill by December 2019. The fill volume was 116.67 yds³/ft. which produced a 272-foot shoreline advance. The 2021 impacts were mostly defined by shoreline retreat amounting to 99 feet between December 2020 and December 2021. The majority of the retreat occurred during the February northeaster and again following the September 2021 survey.



6a. December 15, 2020



6b. June 7, 2021



6c. December 8, 2021

Figures 6a to 6c. UT-5 survey site on Williams Avenue.

Figure 6a shows the beach surface from the seaward dune toe to the water line as of the end of 2020.

Figure 6b was taken in June 2021 looking south across the central region on the upper beach between the dune and the berm.

Figure 6c. The December 2021 view from the upper beach area shows the decreased width, but no dune damage to date.

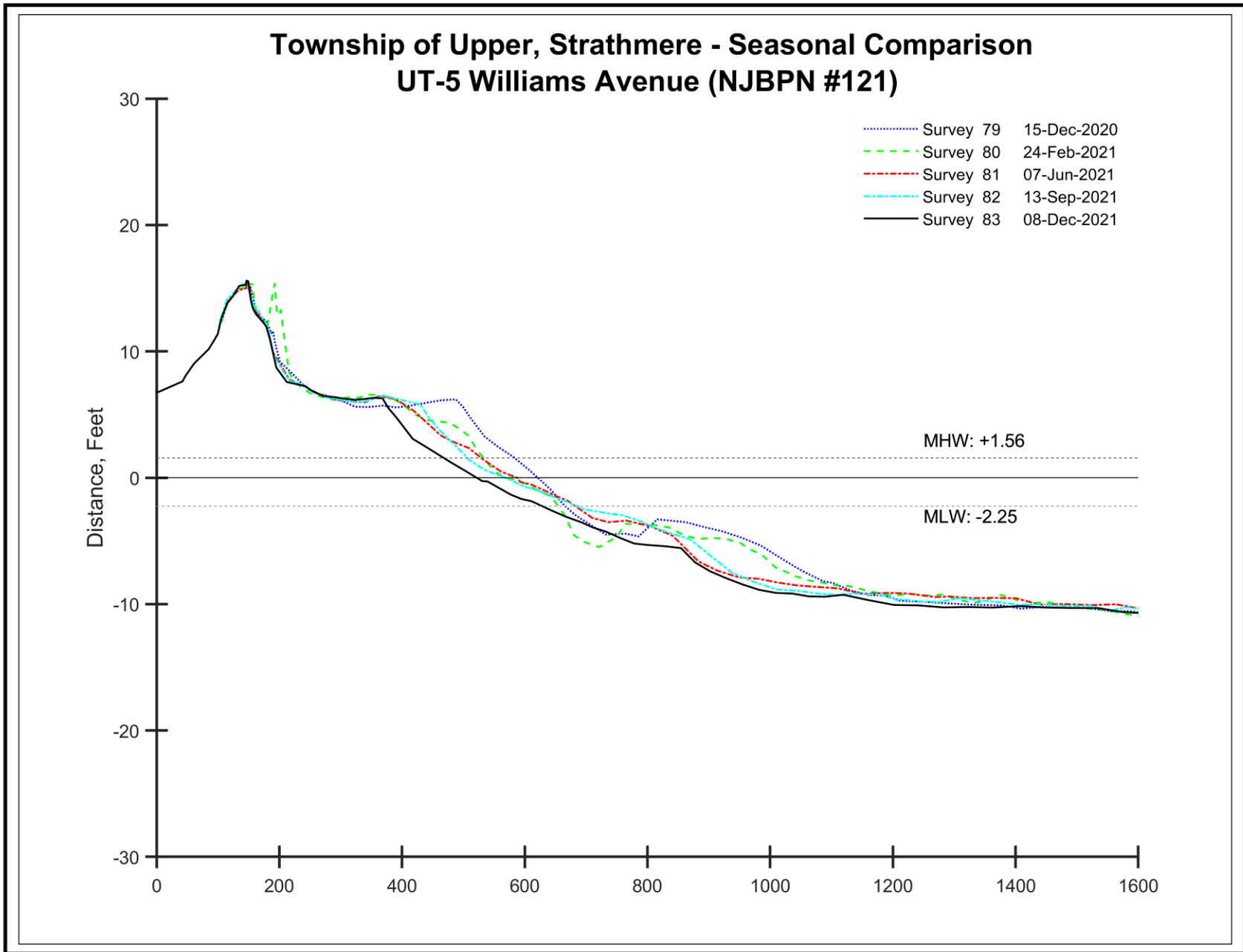


Figure 7. The site is still within influence derived from tidal currents associated with Corson’s Inlet. Sand deposited offshore forms into bars which migrate landward to attach to the beach. This process continued in 2021, but the berm crest retreated 99 feet since December 2020.

◆ **Survey Location UT-4, Tecumseh Avenue, Strathmere;**

This profile location was established because the shoreline dynamics are very different between the Williams Avenue (UT-5) and Jasper Avenue (UT-3) sites related to the influence of the ebb-tidal shoals of Corson's Inlet. Jasper Avenue performs more like a mid-island beach where losses are mainly directed toward the south with cross-shore sand redistributions the major component of change. Tecumseh Avenue lies mid-way between the two different beach configurations and was surrounded by an obsolete array of timber bulkheads and timber groins. These structures were installed decades previously and are currently buried in the beach project sand.

The USACE sponsored beachfill was completed by July 2015 which significantly extended and elevated the dune and beachface seaward. The most recent 2019 maintenance effort provided 72.36 yds³/ft. in new sand on the beach yielding a 153-foot shoreline advance seaward. The project tapered off further south with no new sand added at Jasper Avenue (UT-3).

Here the first quarter's storm damage was evident in beach erosion that was followed into the summer months with modest accumulation. Bar migration did develop later in the year with sand moving onto the beach. The December 2021 profile is more accretional on the beachface than in the June profile, but slightly less than the September survey position.



Figure 8a. December 15, 2020



Figure 8b. June 7, 2021



Figure 8c. December 8, 2021

Figure 8a shows minimal change to the primary dune field as all the added material was deposited on the mid-beach foredune to the right side of the photograph.

Figure 8b. The summer photograph shows enhanced grass growth at the primary dune and a view across the growing mid-beach dune field.

Figure 8c. By December 2021 a view to the north along the mid-beach foredune system shows a developing array of dunes normally expected to become a primary dune field.

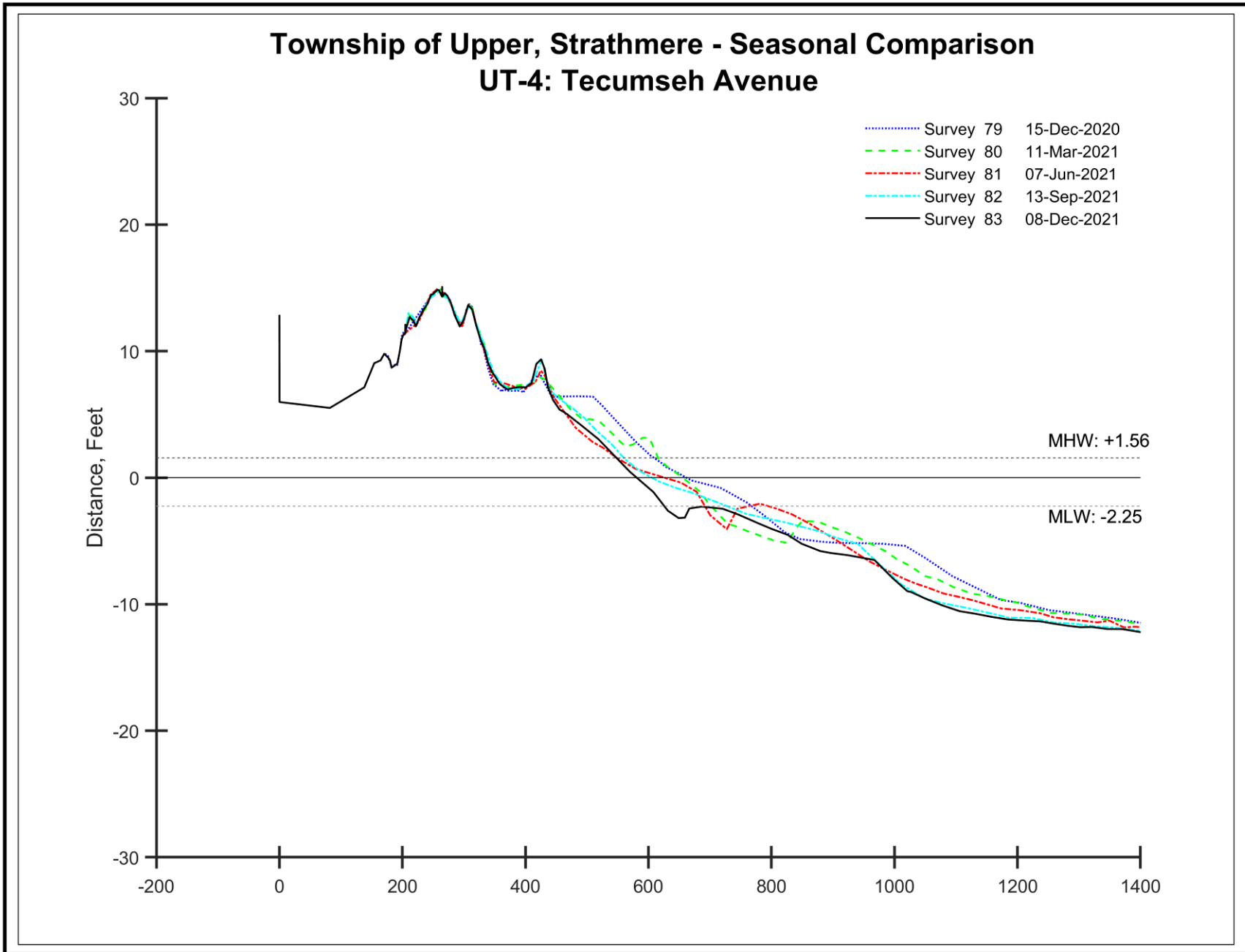


Figure 9. This location suffered early year storm erosion on the beach without a great deal of berm development over the summer. The June offshore bar made it to the beachface by September with another bar about to move onto the beach as of December 8, 2021.

◆ **Survey Line UT-3, Jasper Avenue, Strathmere;**

Jasper Avenue is the first of three sites located along the central part of the island known as “Whale Beach”. This segment has been notoriously narrow and subject to repeated overwash to the bay. Storms through the 1990’s breached the dune here four times resulting in serious damage to a group of homes built east of Commonwealth Avenue immediately north and south of Jasper Avenue. Since the 2001 NJ State and local beach project, the situation has improved dramatically. Hurricane Sandy did not penetrate the dunes largely because of a final NJ State/local project completed in 2009.

By July 2015, the USACE sponsored beachfill was completed which elevated and extended the berm position seaward nearly 250 feet. Following June of 2016, the USACE had completed the northeast storm “Jonas” (January 24, 2016) restoration.

No maintenance sand from the 2019 USACE project was directly placed at this location but the site saw four quarterly sand volume increases totaling 32 yds³/ft. during 2020. The beach was eroded landward by the first quarter northeast storms culminating with the February 1 and 2, 2021 event. The berm was erased as 6.10 yds³/ft. in sand volume was taken. Recovery occurred over the summer with a new berm in place by the time of the September survey. However, it was removed as of the December 2021 profile with the cross section closely resembling that present in June 2021. The erosion amounted to 19.84 yds³/ft. between September and December making that loss the largest of the year.



10a. December 15, 2020



10b. June 4, 2021

Photo 10a is a view along the sand fence to the north showing minimal sand accumulation at the fence, but additions in the foredune area on the dry beach surface.

Photograph 10b this foggy day view to the north shows summer grass growth and a poor view of the open beach.

Photograph 10c. The valley between the old primary dune and its buried fencing is between a vibrant new foredune system rapidly becoming the main area where new sand is added.



10c. December 8, 2021

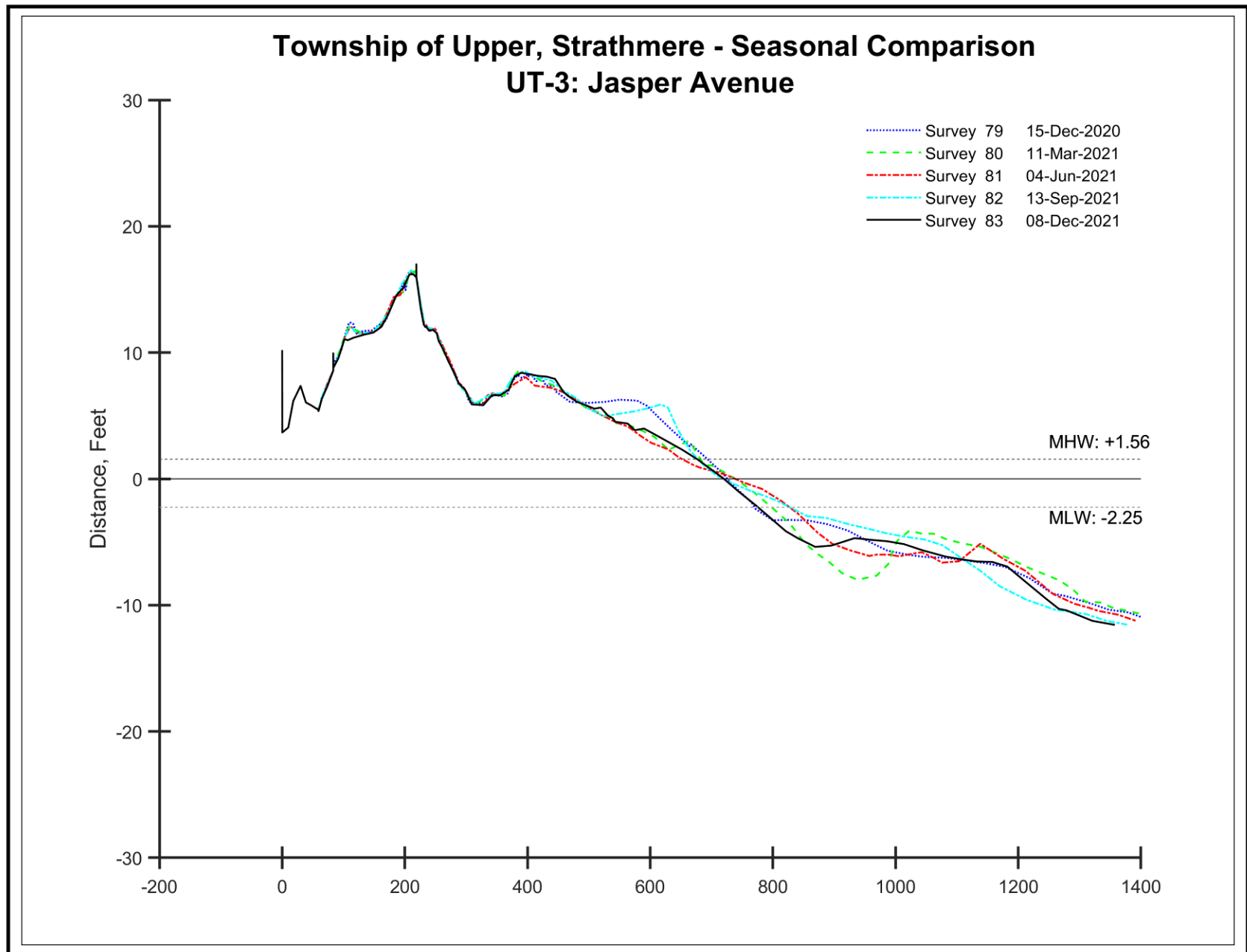


Figure 11. For the past several years all the dune accretion took place on the emerging foredune seaward of the primary feature. The winter 2021 storms removed the December 2020 berm which did not recover very much by June 2021. As of September, however, the berm was back in place. The fall season saw its second removal in 2021.

◆ **Survey Line UT-2, 2400 Commonwealth Avenue, Strathmere;**

This site is located directly seaward of the residence at 2400 Commonwealth Avenue in the southern segment of the Strathmere shoreline. This region has been more resilient than First Avenue with no documented episodes of dune breaching or overwash during the CRC monitoring for the Township. The state, local and federal beach nourishment efforts have significantly enhanced the beach and dune starting in 1984. The most effective non-federal project was completed by the NJDEP and Upper Township at a 75% state cost and 25% local cost in 2009

Following initial USACE project construction, the post-Jonas northeast storm restoration was complete by June 2016 with a wider beach due to an added 56.01 yds³/ft. placed at the site. No new sand was directly added to this location during the 2019 USACE efforts.

The summer of 2020 added a wider, higher elevation berm crest to the beach which increased further between Sept. and December surveys. The winter of 2020 into 2021 northeast storm events eroded the berm and flattened the beach slope generating a larger than normal offshore bar. By June 2021 that bar had moved landward and grown higher in crest elevation. The bar attached to the beach by September 2021 adding to the berm and widening the beach. The last quarter saw that berm pushed landward without being totally flattened and with a new offshore bar generated in closer proximity to the beachface toe.



12a. December 15, 2020



Figure 12b. June 4, 2021

Figure 12a is a beach view at the toe of the dune across the open beach. The pattern of change is only one where the beach appears wider than it did earlier in 2020.

Photograph 12b taken on a foggy day with new grass plants springing up along the seaward dune toe.

Photograph 12c. This view in September depicts wind deposition into the new grass at the dune toe with little change obvious in the general beach condition.



12c. September 13, 2021

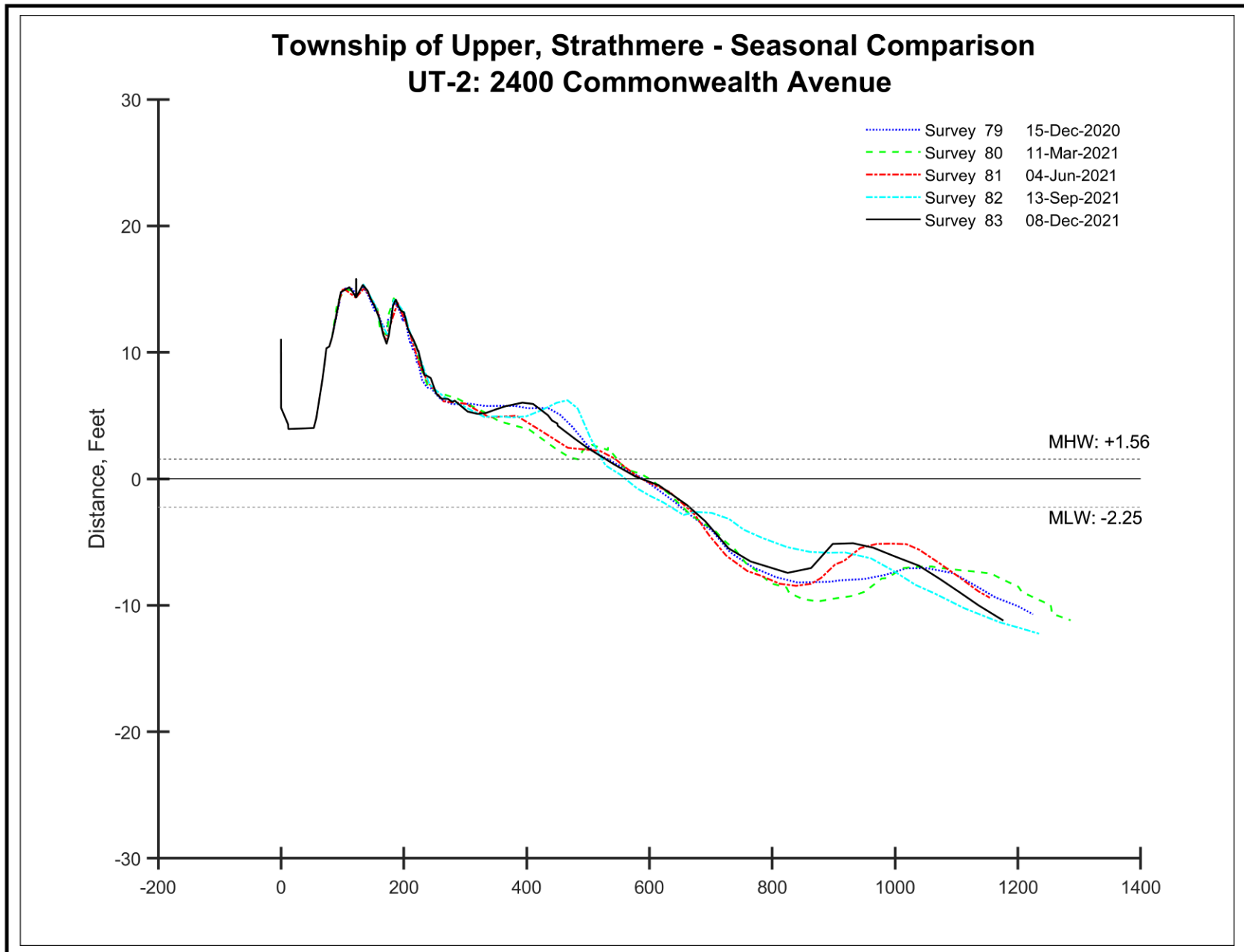


Figure 13. Located in the middle of the mid-Whale Beach area, this site remains quite stable. The primary dune developed a significant foredune nearly at the same elevation as the reference position on the original dune. The beach berm was degraded by the early winter storms with a repetitive growth of a berm ridge in December 2020, September 2021 remaining a little landward as of December 2021. Offshore, the bar system was present after the northeast storms in March 2021 and grew larger by June. It attached to the beach by September with a new bar formed as of December 2021.

◆ **Survey Line UT-1, First Street (NJBPN #120), Strathmere;**

This profile site is actually a few yards inside Sea Isle City but was established in 1986 for a NJ State beach monitoring program. Acting as the southernmost site in Upper Township, this location once suffered from overwash during any moderate northeaster. In fact, the segment to the south of the site was so persistently overwashed, that the County undertook the installation of 10-foot diameter geo-textile tubes as dune core along 2,400 feet of the beach into Sea Isle City in 1996. The geo-textiles replaced the use of I-5 gravel used as road grade base in the core of the primary dune. Another failed attempt was the placement of the first generation of “Beachsaver Reefs” in the proximal nearshore sub-tidal zone to mitigate wave energy striking the beach. These were removed shortly after they subsided into the sand and marsh mat under the sand by order of the NJDEP.

In 1984 a New Jersey co-sponsored beach nourishment project introduced Corson’s Inlet sand to this location as part of the original Strathmere beach nourishment project. This work was accompanied with three timber base and rock toe offshore groins spaced widely between the Tecumseh Avenue site and this location. The NJDEP 2009 beach project added material here as well.

The USACE sponsored beachfill was completed by July 2015 which significantly extended and elevated the dune and beachface seaward. The post-Jonas disaster declaration USACE restoration was complete by June 2016 with a wider beach and an added 26.86 yds³/ft. placed at the site. This site lies well south of the 2019 maintenance effort focused on the northern half mile of the oceanfront. The Sea Isle City segment of Ludlam Island was also part of the NJDEP 2009 project as well as all USACE efforts since then.

The December 2020 and the February 2021 northeast storms had significant impact on the beach generating a flat berm and a bar well offshore as of the March 2021 survey. By June 2021 the bar had moved landward with a small sand volume appearing on the beachface. The offshore sand deposit moved onto the beach by September 2021 raising a new berm ridge and filling in the trough at the base of the beachface. The December survey captured a new bar in place offshore well landward of the earlier positions with the berm ridge moved landward as well. A modest sand quantity was wind deposited at the seaward toe of the dune.



14a. December 15, 2020



14b. June 4, 2021



14c. September 13, 2021

Photograph 14a is a view to the north at the seaward toe of the dunes across the beach showing the extent of sand accumulation. There is far more sand present than was on the site prior to the federal project completion.

Photograph 14b shows the beach six months later after three notable northeast storms. Likely, the debris at the beginning of the seaward dune toe slope came from the February 1 & 2, 2021 storm. Summer growth has added luxuriant vegetative cover to the dune.

Photograph 14c This early fall view shows the beach width re-established after the offshore bar moved onto the beach.

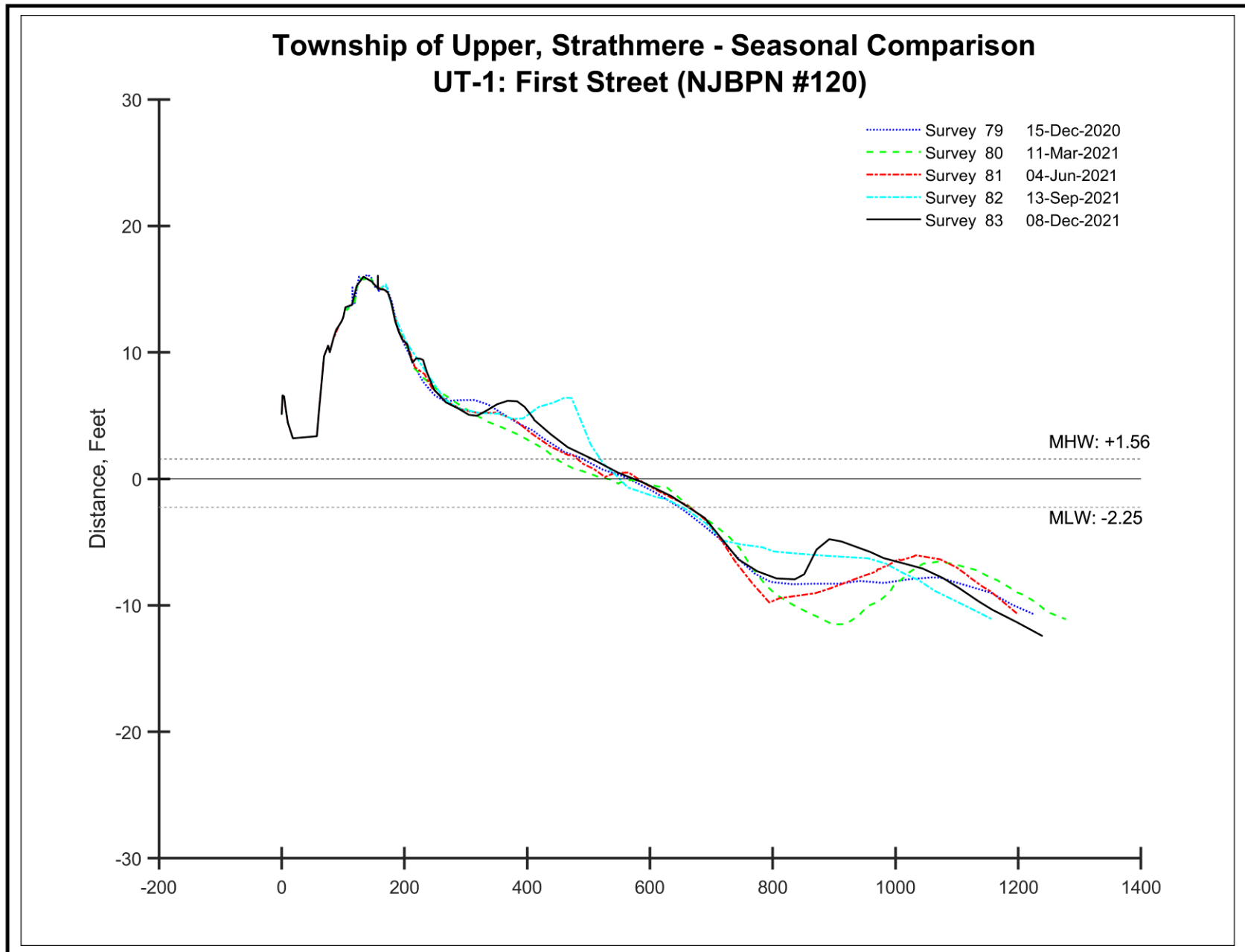


Figure 15. Seasonal variations related to changes in storm intensity appear well illustrated in this site's five transects. The December 2020 beach developed a flat beachface and large offshore bar after the storms as of March 2021. By June the bar moved landward, and some sand was added to the beachface. As of September, the bar had attached to the beach and a significant berm ridge had developed. The December 2021 survey showed both a new offshore bar, but closer to the beach and the September berm ridge pushed landward on the beach. This is indicative of more unsettled weather patterns emerging in the fall.

Summary & Conclusions

A summary sheet provided by Mr. Dwight Pagan, project manager for the USACE Ocean City to Sea Isle City shore protection project presents the following:

1. The 2015 federal project placed approximately 1.224 million cubic yards of sand on the north end of Ludlam Island that included the Strathmere oceanfront beaches. The US Army project also placed 1.516 million yards of sand on the southern Ocean City oceanfront, all derived from offshore sand sources. The work continued into Sea Isle City (1.889 million cy).
2. An emergency repair as a result of an October 2015 northeast storm. Ocean City (317,200 cy); Strathmere (312,000 cy); and Sea Isle City (374,000 cy), sourced from Corson's Inlet ebb tidal delta.
3. The USACE returned to repair the storm damage from Northeast Storm Jonas under a Federal Disaster Declaration with sand derived from Corson's Inlet ebb-tidal delta borrow zone. Ocean City (173,800 cy); Strathmere (235,600 cy); Sea Isle City (530,800 cy).
4. The 2nd Cycle Periodic Nourishment was completed as of August 2020, Ocean City (506,159 cy); Strathmere (511,840 cy); Sea Isle City (895,001 cy) with the Ocean City and Strathmere sand derived from Corson's Inlet. The Sea Isle sand came from the offshore borrow site.

The year 2020 produced some loss to the region in Strathmere with no special erosional focus on any one specific location. The winter from December 2020 to March 2021 produced three moderate storms which did influence the southern four survey sites in a typical storm-generated erosion pattern. The berm was flattened into a typical storm wave slope seaward with the eroded sand deposited offshore as a large bar. These bars begin to migrate landward as the wave conditions moderate as summer begins. By September 2021 the beach berm was rebuilt as a large ridge with the bar trough filled in as the offshore deposit moved back to the beachface. Between September and December, the beachfront faced moderate wave energy that moved the berm ridge landward particularly in the southern three locations and regenerated the offshore bar, but closer to the beach than the earlier version.

The latest issue to emerge is the rapid increase in erosion rates seen at Seaview Avenue (UT-6) location where the scape in the beach berm has moved into the 2020 restoration sand fencing from the second cycle nourishment by the USACE. Sand supplies to the south must move quickly toward the inlet to prevent dune erosion this winter.