

Erosion History of WBTS

2013-Present



Value of WBTS to the County and City of Westport

- WBTS represents a total assessed value of \$30,000,000
- Tax revenues flowing from WBTS to the city and county: \$540,000
 - Schools: \$191,000
 - City of Westport: \$116,000
 - Hospital: \$23,000
- These revenues are increasingly at risk
- WBTS is struggling to hold the dune line against the sea
- WBTS will ultimately require state and federal help in order to prevail
- WBTS costs of repairs and reinforcements to date (in round figures):
 - Feb 2016 repairs: \$38,600 [50,600]
 - March 2017 repairs: \$29,000 [37,700]
 - November 2017 Reinforcement: \$8,100
 - Total to date: \$75,600 [96,000]**

Progress of Dune Retreat



2010



2014

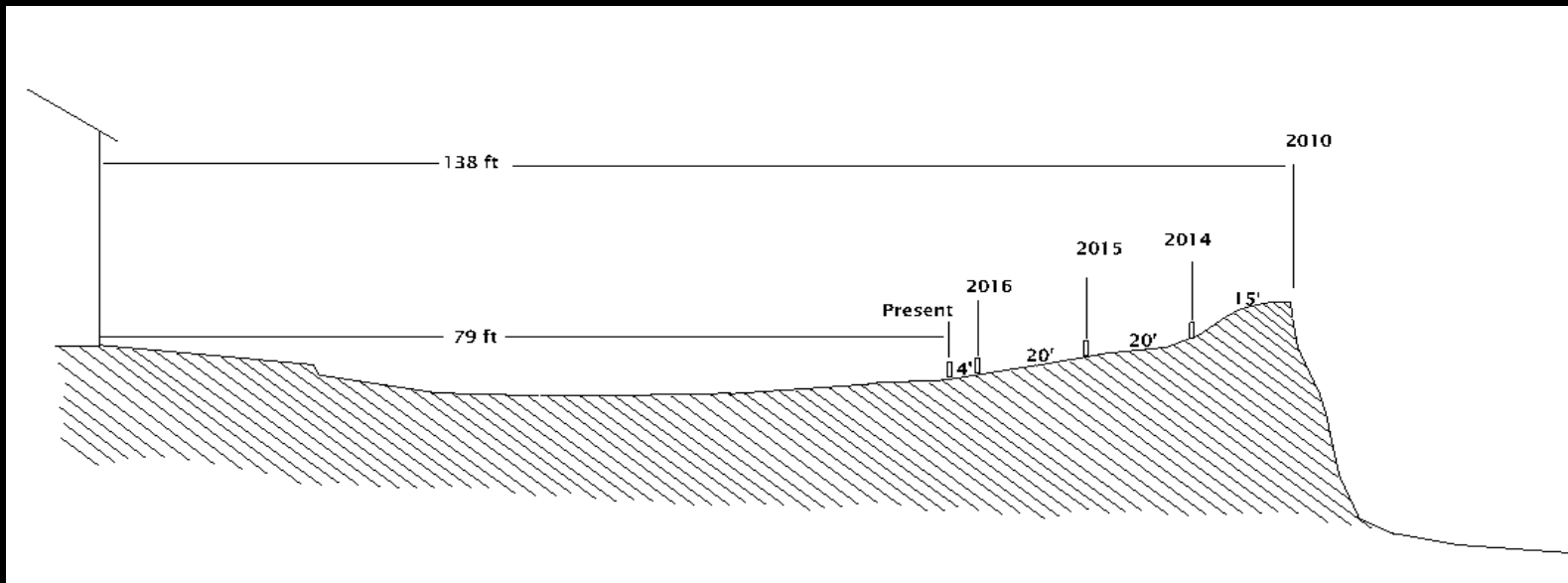


2015



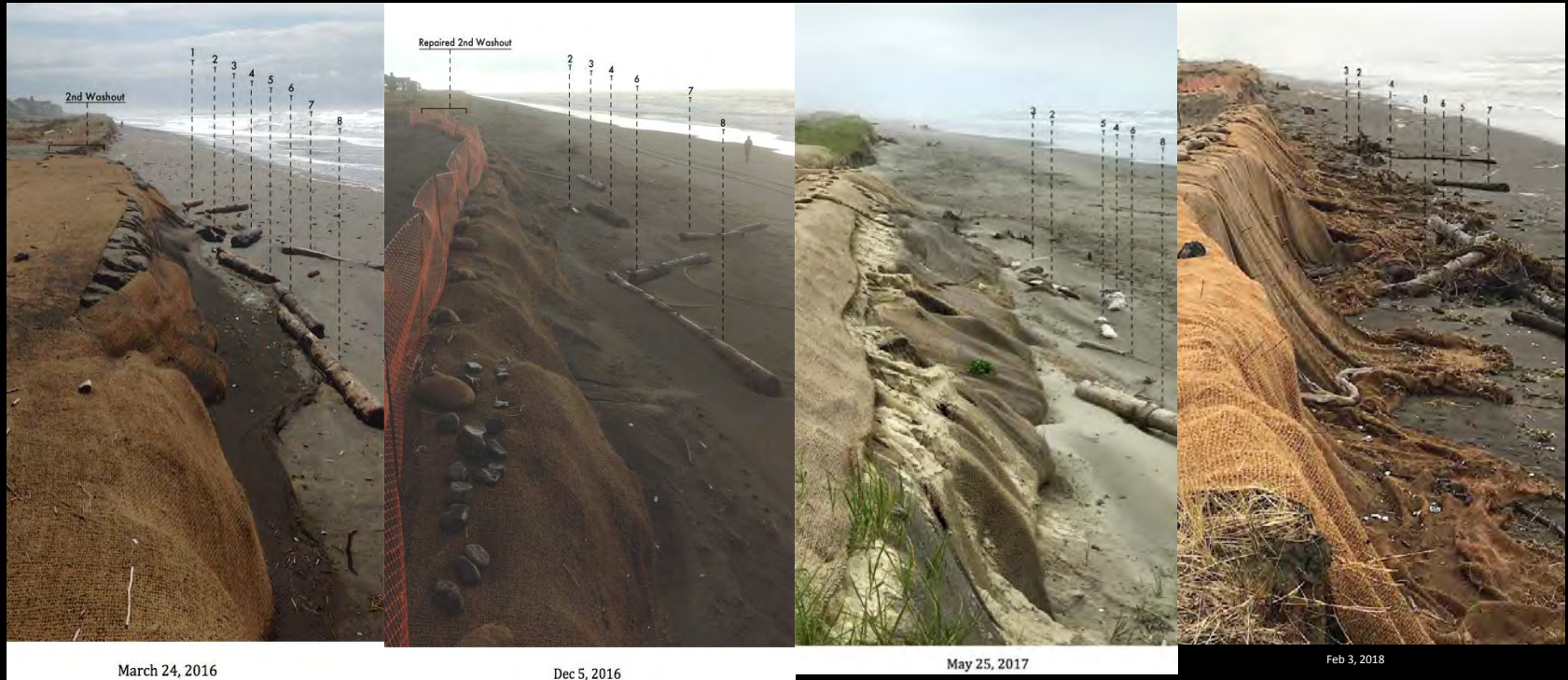
2016

Dune Retreat 2013-2016



- All distances were measured to dune crest which differed little from dune toe.
- In 2017, wave forces caused the crest to retreat substantially more than the toe, creating more inclined dune face.
- Toe remained generally static until Jan 2018 when strong storm scoured it out and drove dune face back 4 more feet.

Historical Record of Dune Face Profile



- Dune toe remained almost static but crest retreated due to erosion
- Dune toe suffered extensive scour-out In Jan 2018 making a new shear face

First Catastrophic Damage

March 2016



March 3, 2016



Nature's assist next day

Repair Project

March 2016



Random logs were anchored in place

Dune Reconstruction Elements

March 2016



Coir mat and sand laydown on top of straw bale reinforcement of dune face

Finished Repair

March 2016



Subsequent Storm Damage

March, 2016



Damage to straw bales and eroded dune fill

Second New Washout



March 2016



April 2016



Aug 2016

Self initiated repairs by HOA

Dune Drift Buildup

December 2016



Wind drifted sand buildup on top of coir mats

Next Storm Damage

January 2017



Repeat washout despite HOA self repair action

Additional Storm Damage

February 2017



Additional teardown of hay bale buttress and dune face washout

Second Repair Project

February 2017



Major project repaired damages from successive Jan and Feb 2017 storms

Reinforcement of Feb 2017 Repair

November 2017



Wind drifted overfill from previous month



Buildup and extension of dike



Completed dike

Subsequent Destruction of Most of What had been Achieved in 2017

January 2018



This kind of event is happening during Jan-Feb King Tide period simultaneous with powerful storms. WBTS fears this is becoming a new norm. [Photos by G. Blackmore-unit 721]

Most Recent Self Help



Dune Condition North of WBTS

Lighthouse State Park – Jan 2018



Public trail washouts and dune bank undercuts
(Can this be used to persuade the Corps of Engineers, i.e., save a public facility?)

Dune Condition South of WBTS

Jan 2018



Localized severe undercutting and dune face collapse

Suggested Actions

(Time is of the essence)

- Redouble efforts to persuade the Corps of Engineers to apply harbor dredging spoils to dune replenishment from the south jetty southward
- Contact State Parks to propose it weigh in with the Corps on grounds of protecting Lighthouse State Park

In the Near Term

- WBTS-3:
 - Has executed due diligence by attempting to implement soft solutions in keeping with ECY recommendations first offered in March 2015
 - Has concerns that while the soft solution has significantly retarded our dune erosion, it nevertheless exhibits important limitations
 - Worries that a better solution is needed because January-February King Tides coincident with one or more 35 foot sea-state storms must be considered a definite recurring phenomenon

Summary

The way we were and the way we are



Then

Now