Planning for a Resilient Future for Watch Hill



A Community Initiative

Planning Session



- Welcome
 - Deborah Lamm, WHC
 - Randy Abood, WHFD
- Self Introductions among participants
- Recap of 2019 activities

Recap of 2019 Activities

- StormTools (Crean)

Workshops

– CRMC resources (Freedman)

Science of SLR/Surge (Oakley)

- Resolution by participants
 - Powerful document, demonstrates local commitment
- Westerly Resilience Workshop





Resolution by the Community of Watch Hill, Rhode Island

ON ADAPTING TO SEA LEVEL RISE AND STORM SURGE APPROVED APRIL 9, 2019

WHEREAS, the village of Watch Hill, by nature of its low elevation and proximity to the sea is extremely vulnerable to rising seas and surge caused by storms, and

WHEREAS, sea level rise is an undeniable fact in Rhode Island as evidenced by longterm trends recorded by NOAA tide gauge stations in the region, and

Recap of 2019 Activities



- Reaching the community
 - Lanphear LIVE! 2019
 - Bryan Oakley
 - Teresa Crean
 - Dave Valle
 - Walk-in clinics
 - 3 clinics
 - ~ 43 visitors
 - ~ 50 properties mapped





Tidal Datums – NAVD88





Tide Gauge Numbers Usually Given in NAVD88

Tidal Datums - MHHW





Tide Heights Higher than Normal (MHHW) More Intuitive

Simmons, Oakley, August, Rogers

Questions

• What are high tide thresholds?

Recap of 2019 Activities

- Where does water come from?
- What are short-term solutions?





Flooding Dynamics: Napatree, Beach Club, Yacht Club, Larkin's Square



Tides & Flooding





1.3 Feet Above MHHW





^{2.2} Feet Above MHHW

Flooding Frequency, WH Gauge



Ft Above MHHW	2019*	2018	2017	2016
>= 2	2	9	1	1
>= 1.5	8	19	13	6
>= 1.0	31	45	50	24
>= 0.8	66	71	73	37





0.8 Feet Above MHHW

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Yacht Club Entrance (Grant)









1.2 Feet Above MHHW

Goals for 2020 Sessions



- Establish a planning goal and geographic area of concern
- Review what other low coastal communities are doing
- Review what options there are
- Prioritize options
- Develop implementation plan



Walk-in clinic in Westerly (Ed Center)

Student projects in Watch Hill: ECSU, URI

Public presentation in Westerly (Oakley,

- Case Study presentations: Jon Reiner (Groton), Melissa Cote (Rhode Island)
- Meeting times and places?



Library)





What do YOU Want to Achieve?



Around the table









What is Our Planning Target?



- Minimize impact to a specific level of flooding
- What level of Sea Level Rise?
- What intensity storm?



Predicted Rates of SLR

RSLC in feet (NAVD88)







Storm Intensity



Return Frequency	Surge (Feet)	Surge + Tide Avg	Surge + Tide Extreme
5 Year	4.3	5.7	8.9
10 Year	5.1	6.4	9.6
20 Year	5.8	7.1	10.6
50 Year	6.9	8.1	11.9
100 Year (Hurr Carol)	7.9	9.1	12.9
500 Year	10.5	11.5	15.4

1 Foot SLR













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3 Feet SLR Plus a 5-Year Storm







Depth = 3.3 Feet

3 Feet SLR Plus a 10-Year Storm





Depth = 3.7 Feet

3 Feet SLR Plus a 50-Year Storm







Depth = 8.5 Feet

3 Feet SLR Plus a 100-Year Storm







