Coastal Resiliency Advisory Committee
Tuesday, April 14, 2022
Via Zoom
*Meetings are audio- and video-recorded

Members present: Jen Karberg, Gary Beller, Sarah Bois, Mary Longacre, Matt Fee, Peter Brace
Members absent: Ian Golding, Joanna Roche, Fritz McClure
Staff present: Vincent Murphy
Others: Cynthia Dittbrenner, Tara Marden, Amos Hostetter, Arthur Gosnell, Sophia Tigges, Darci Scofield, Karen Beattie, Eric Nelson, Russ Hopping, Peter Hoey, Tim Braine, D. Anne Atherton, Katherine Miller, Kristen Grubbs, RJ Turcotte, Cormac Collier, Burton Balkind, Doug Rose, Paul Kirshen.

1. Call to Order

11:02 a.m.

2. Meeting announcements

- Script for remotely conducting Open Meetings, read by the Chair
- The meeting is being audio / visually recorded

3. The Woods Hole Group recently completed the Assessment and Analysis of Adaptation Alternatives for Coskata-Coatue Wildlife Refuge Properties for The Trustees and the Nantucket Conservation Foundation. This report details the risk of breaching at several sites in the wildlife refuge and recommends several types of resilience actions that could be undertaken to reduce this risk. The Trustees and NCF would like to host a presentation by Woods Hole Group to local stakeholders to review the report findings. This would include a brief summary of conditions on the wildlife refuge, overview of the risks of sea level rise and erosion on potential breach sites, and a discussion of potential intervention options. This would be followed by a question and answer session and discussion of next steps.

Ms. Dittbrenner reported that The Trustees of Reservations' (TTOR) and Nantucket Conservation Foundation's (NCF) consultant, the Woods Hole Group would be detailing its report, the Assessment and Analysis of Adaptation Alternatives for Coskata-Coatue Wildlife Refuge Properties, during the meeting, to help the Coastal Resilience Advisory Committee (CRAC) understand the predicted impacts of sea level rise on the Coskata-Coatue Wildlife Refuge and possible coastal resilience projects.

Ms. Dittbrenner introduced Tara Marden, senior project manager and senior coastal geologist, of the Woods Hole Group.

Ms. Marden gave a background overview of the Coskata-Coatue Wildlife Refuge and the four parts of the refuge that the Woods Hole Group was hired to examine, the Haulover, Coskata Pond, The Galls and the land between First Point and Second Point. She also discussed green infrastructure adaptation alternatives for protecting these areas. This included enhanced dunes, snow fencing, sand berms, salt marsh restoration, beach nourishment, dune nourishment, living breakwaters and a combination of this options.

Ms. Marden detailed the habitat of each area, its natural history and its sea level rise vulnerability. Ms. Marden reported that the ocean side of the Haulover has an average of three feet of annual erosion while the harborside averages six feet accretion annually. Additionally, Ms. Marden said that now the harborside of the Haulover is also eroding one to two feet annually. Ms. Marden detailed how inundation levels for the Haulover for 2030, 2050 and 2070.

Ms. Marden reported that the dunes in this area are predicted to evolve into beaches and eventually tidal flats.

Matt Fee joined the meeting at 11:24 a.m.

Ms. Marden said the Woods Hole Group's primary recommendation for protecting the Haulover is dune nourishment, which doesn't require state and federal permits.

Ms. Marden then detailed the Coskata Pond area. She reported that long-term erosion rates are nearly five feet annually on the ocean side of Coskata and that the shoreline has not been accreting. She added that erosion has slowed down to three to four feet a year. Ms. Marden said

that much of the area around the pond; its beach, dunes and salt marsh will be open water by 2070.
Ms. Marden said that in developing its primary recommendation for Coskata Pond, the Woods Hole Group considered managed retreat westward of the oversand vehicle road, vegetation management, dune nourishment, beach nourishment, salt marsh restoration, living breakwaters and installation of sand fencing because the land in front of the pond is almost converted from a dune protecting the pond to a beach. Its primary recommendation is dune nourishment. For the short-term. Ms. Marden recommended installing sand fencing along with planting beach grass.
Up at the Galls, the northern portion, Ms. Marden explained that there is a relatively healthy dune system on both ends of this beach. She added that overwash of this barrier beach from the ocean to the Nantucket Sound sidedominated by erosion on the ocean side and accretion on the sound side, is causing this beach migrate to west. Ms. Marden reported the ocean side is eroding up to seven feet annually and accreting on the sound side 4.71 feet to 14 feet annually. Ms. Marden said that all of the Galls would be under water by 2070.
For the Galls, the Woods Hole Group considered the no-action option, sand fencing, a living breakwater on the sound side, planting beach grass, patron management and an interim approach. The recommendation from the Woods Hole Group for the Galls is a combination of thin layers of beach and dune nourishment, three to four feet, tops.
Ms. Marden explained at the dune and beach area between First and Second Point, the dunes are well vegetated with a small dune on the harbor side. She said the Nantucket Sound side has been very stable over the long-term with around a half a foot of annual erosion. However, Ms. Marden said the harbor side of this area is more threatened than the sound side and that even by 2030, the harbor side will be completely inundated with most of the salt marsh converted to tidal flats by 2050. For solutions for this area, the Woods Hole Group considered no action, vegetation management, patron management, salt marsh restoration and or a living breakwater.

Ms. Marden said the Woods Hole Group is recommending beach and dune nourishment for this area.
Ms. Karberg said she hoped for questions and input from those in attendance at this meeting.
Ms. Longacre asked for questions from CRAC members. She started the Q & A off by asking why the area between First and Third points wasn't considered as vulnerable as between First and Second points. She also asked how the four recommended resilience projects might impact adjacent areas.
Ms. Marden said the four areas were all identified by the TTOR and NCF as needing the most attention. She added that the proposed solutions should have positive effects on adjacent areas because they each involve the addition of more beach sand.
Ms. Karberg said there is more erosion at the southwest end of Coatue and comparatively less erosion closer to Great Point.
Ms. Dittbrenner asked Ms. Marden how Nantucket Harbor would be impacted by beach and dune nourishment between First and Second points, especially if the water from the sound breaks through and remains open for an extended amount of time. Ms. Marden replied that a long-term opening in Coatue could have major impacts on the harbor including bigger waves entering the harbor impacting boating and harbor shore.
Mr. Beller asked if sea level rise predictions come to pass, would all four protective measures outlined by the Woods Hole Group for the Coskata-Coatue Wildlife Refuge be rendered moot. Ms. Marden said the proposed solutions are designed to protect the most vulnerable parts of the refuge but much of the refuge would eventually be inundated.
Ms. Karberg said that most nature-based solutions might last 10-15 years, but then there might be different alternatives in 15 years.
Mr. Brace noted that the focus was too much on public access and not enough on the reason the refuge exists at all, for protection of its natural resources, He added that with the ocean breaking through into the Haulover and into Coskata Pond, all four solutions wouldn't matter in the long run.

Mr. Fee noted that sand is going to be the resource the Town needs the most going forward.
Mr. Balkind urged the TTOR and NCF to use natural solutions in the future. He stressed the importance of a proposed sand budget. Mr. Balkind also asked that the CRAC, TTOR and NCF monitor their beaches to track the impacts of the geotubes installed in front of Baxter Road.
Mr. Hoey said that he didn't think that the full force of the ocean would impact Nantucket once Coatue is submerged. He asked if there are any positive impacts of a long-term breach through the Haulover or Coatue.
Ms. Marden said while increased flushing of the harbor could be a positive impact of a long-term breach, such breaches are likely to negatively impact beaches and dunes.
Mr, Brace clarified his previous statement about the full force of the ocean affecting the harbor was dependent on much of Coatue, the Haulover, Coskata and Great Point being submerged.
Ms. Longacre said the report can be downloaded from the CRAC's page on the Town website. It will also be available on the websites of TTOR and NCF.

4. Public Comment

5. Motion to adjourn

Unanimously approved, 6-0, at 12:46 p.m.

YouTube meeting link
https://www.youtube.com/watch?v=iW8fZtfRfSQ&list=PL49sKqpy7VAiUk-g5h2jIuAn_2jqocI2L