Imagine you are in a rowboat on the sea. And imagine a huge storm is approaching.

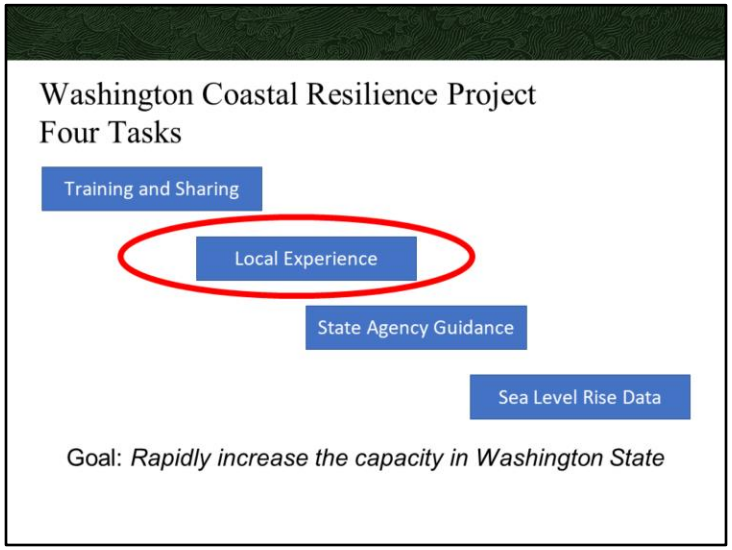
Now imagine you don't have any oars on that boat.

That's what's happening to our planners and resource managers who need to address coastal flooding and sea level rise.

My name is Nicole Faghin. I am a coastal management specialist with Washington Sea Grant based at the University of Washington's College of the Environment where I help coastal planners and resource managers find solutions to their complex coastal management issues, such as coastal flooding and sea level rise.

As Ian mentioned, WSG funds and conducts marine research, outreach and education throughout Washington State to support the health and sustainable use of our marine resources and to improve the lives of people living in Washington. While I work with coastal planners and resource managers, we also work directly with many other constituents ranging from fishermen and legislators to tribal communities and educators.

How Do we Get to Implementation?



As Ian mentioned, Washington sea grant engaged in a 4 year effort called the Washington Coastal Resilience Project. There are 4 parts to this effort:

develop more site specific SLR data

developing better state guidance for planning and project funding purposes

Work with the local experience – helping communities in the salish sea region identify where they need SLR data in their planning and implementation practices

And then take our findings and share it with other jurisdictions through training and outreach efforts.

The goal is to Rapidly Increase the Capacity to address sea level rise in Washington State

I will focus on the local experience aspect of this work.

Enhance the resilience of at least
three Washington coastal communities
through pilot projects

We selected two communities to work with on this effort:

Tacoma, an urban center including a port and a significant linear coastal park

And

Island County, a more rural community with a focus on addressing concerns for shoreline homeowners

The third community involved a state program, the Estuarine and Salmon Restoration Program (ESRP), at the Washington Department of Fish and Wildlife. ESRP provides funding and technical assistance to organizations working to restore shoreline and nearshore habitats critical to salmon and other species in Puget Sound.

We worked with ESRP, Tacoma and Island County, to develop guidance on how to use slr date to determine how to site, design, construct and maintain marine restoration projects in the region

We used case studies to develop this guidance designed for restoration practitioners, local governments and others working in the field of restoration. Once case study shown here is at Leque Island and Ziz a ba project in Snohomish County.

In Tacoma we worked with several departments within the city. I'll give two examples from working with the MetroParks Tacoma.

The city had a beach park, Owen Beach that suffered from flooding of it facilities. Early on in the design process, when initial concepts had been developed, MetroParks invited us to sit down with them and the designers to talk about sea level rise and its potential implications on the project

Source: SiteWorks

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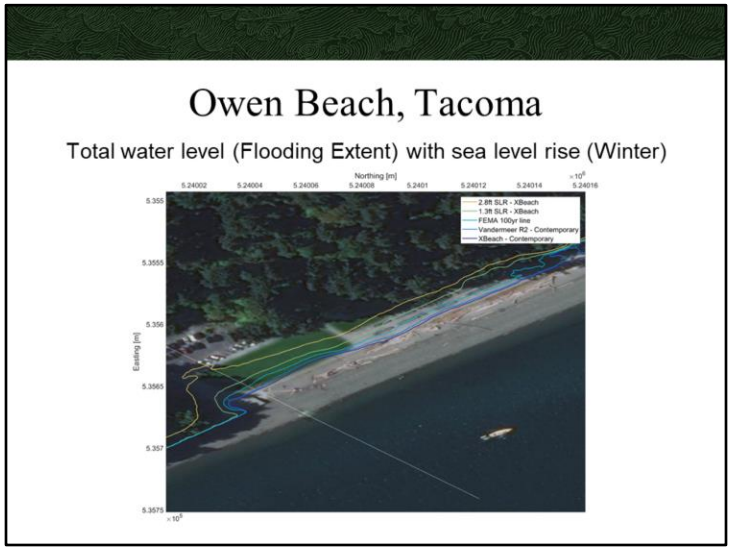
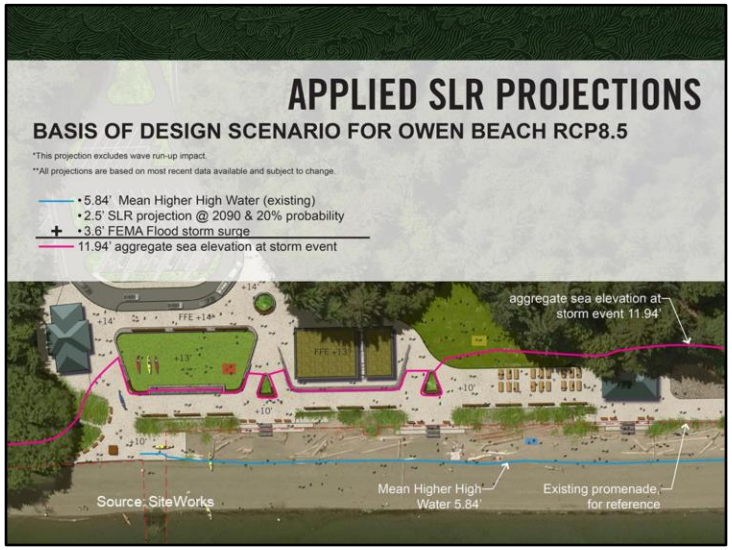


We met with everyone and Ian walked through the sea level rise projections he presented to you earlier. We also identified where on the site there would be impacts at different timeframes based on these projections. We used the projections to draw lines on the site photos for time frames of total water levels extending out to 2100.

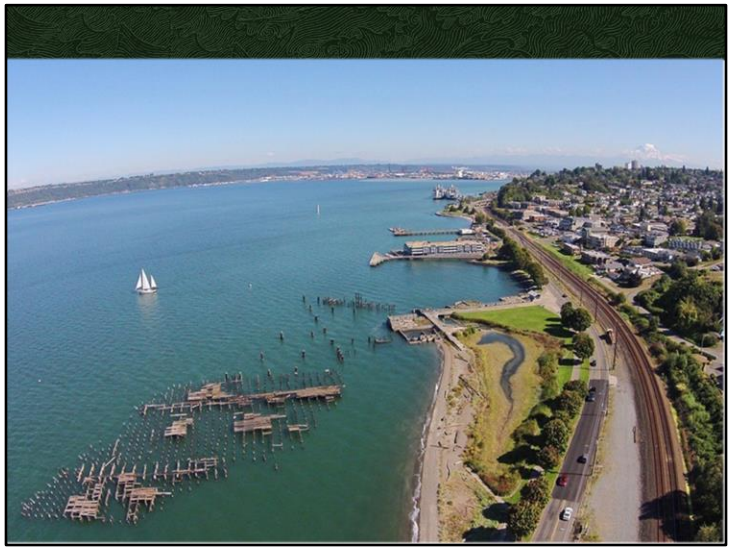


The result of this exercise: a complete reworking of the project and now the design clearly indicates a sea level projection, and any facilities that could be potentially impacted at a future date have been moved upland in the design.

We also worked with Tacoma to evaluate the impacts of SLR on a park master planning effort taking into consideration slr, storm surge and wave events. This was part of the Ruston Way Park Visioning and Wave Study. The area circled on this drawing shows the linear extent of this waterfront park in Tacoma.

We first met with the design team and metroparks, again to impart the details of the localized sea level rise projections. We also included an exercise to model wave impacts for the site, an effort that will soon be conducted throughout the region to give us a better idea of storm and wave related impacts in the region.

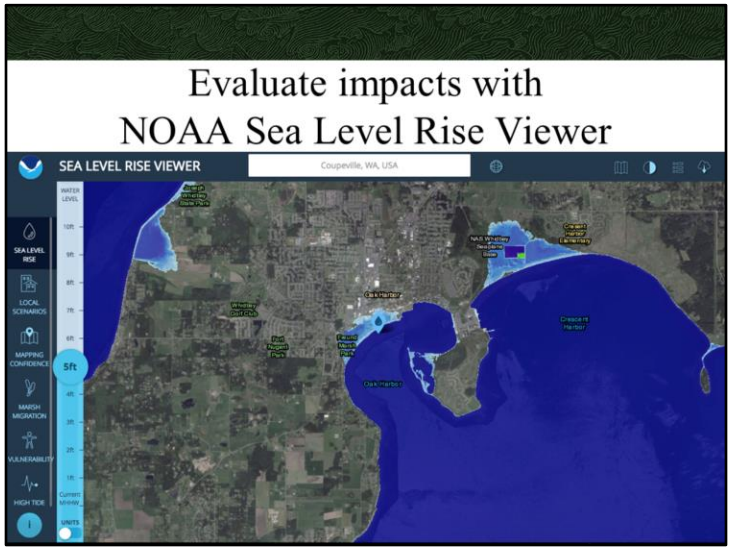
Then metroparks and the design team incorporated the sea level rise information into their overall conversation with the public about what to do with this linear park. Community visioning sessions, while asking the public for input on transportation, access, recreational uses, etc, had an overlay of sea level rise.



With input from the public and the sea level rise information, MetroPark Tacoma is coming up with a new vision for this linear park that will take into account sea level rise.

With Island County we engaged in a series of different exercises. One in particular involved the planning department and issues related to implementation of their shoreline master plan, and the need of homeowners to get more guidance about their options as they are experiencing more and more coastal flooding.

The first thing we did is hold a workshop with planners, public works staff and even a rep from the county board of commissioners. We walked everyone through what is sea level rise and then what are the new projections and how to understand them to get everyone on a common ground for terminology and language.



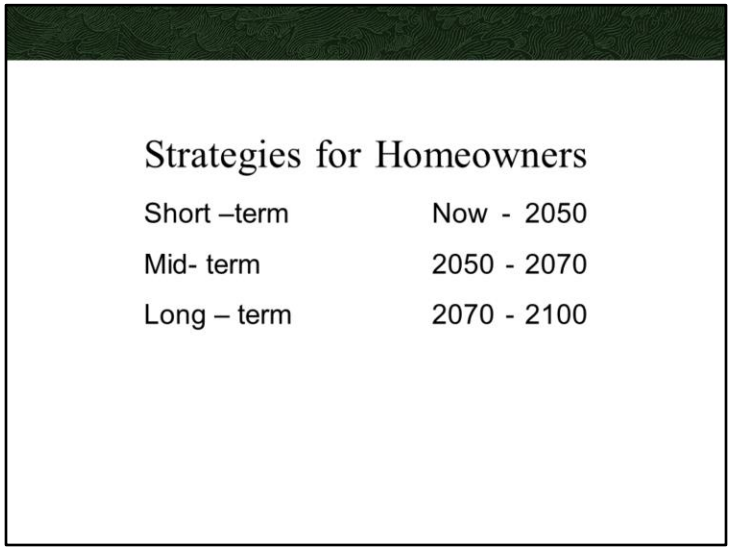
Then we used the NOAA sea level rise viewer, which is a great way to visualize potential impacts and implications from SLR that is very acessible to people who are not necessarily focused on SLR issues. If you are not familiar with this resource I highly recommend it as an easy entry way to bring attention to where there might be flooding and impacts from SLR in the future. We asked all the participants to look at different time frames and see where impacts start to appear and on what infrastructure.

Island County Planning wanted to look at adaptation strategies to be made available to property owners as they came to the counter and focused on three key types of communities:

These are: Historic Beach Communities:

Canal Communities … and

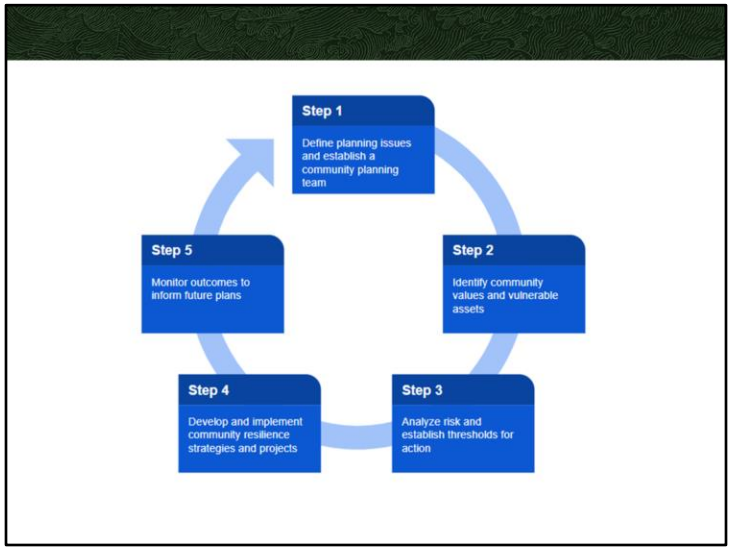
Finally, Coastal (or Feeder) Bluff Communities:



We created recommendation tables that are organized by time frame, strategy type and community type.

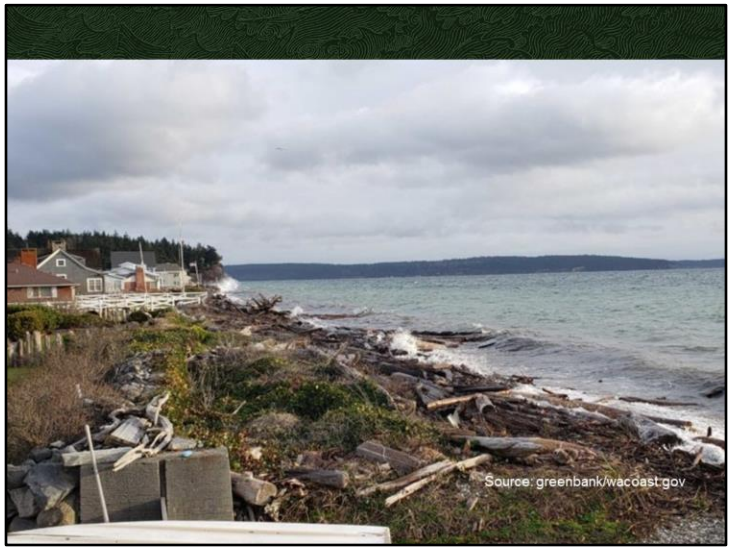
We created a matrix of strategies for short, mid and long term timeframes. And these strategies – considering options to protect, accommodate and retreat – relied upon the sea level rise tables Ian presented – to determine what strategies would be the most applicable for different timeframes.

We also developed a community based coastal resilience planning guidebook. This contains information and resources to allow individual communities to engage in resilience planning on their own.

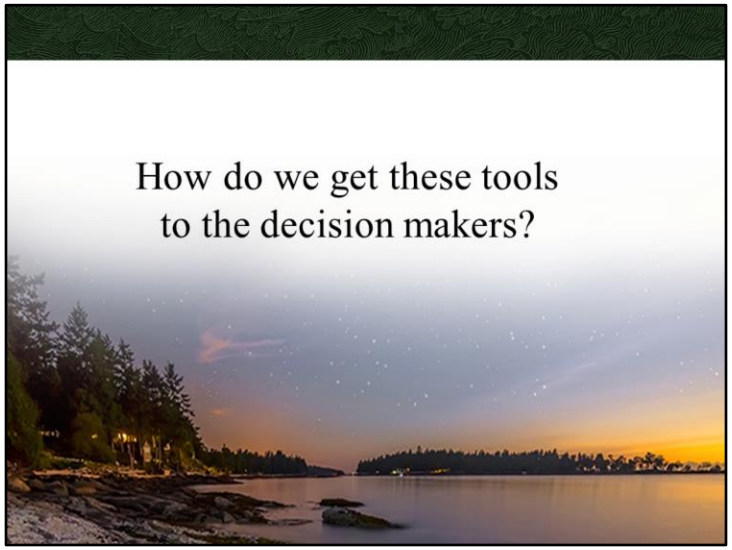


The guidebook includes a 5-step iterative planning process, something that paralells many adaptation planning guides but is designed for a neighborhood or local community as a do it yourself guide.

- Step one: Define planning issues
- Step two: identify the community values and vulnerable assets
- Step 3: Analyze the risk and thresholds for taking action
- Step 4: develop and implement community resilience strategies – and this relies upon the strategies that I mentioned before
- Step 5: monitor outcomes to inform future plans.



These projects and products are intended to provide island county planners with more resources to assist shoreline homeowners.



So how do we get these tools to the decision makers?

Once you have the science as the foundation then its time to get it out to the people who can use it and be the emissaries to a broader community. We've held over 20 workshops over the past 3 years reaching over 300 people.

We sent a survey out to participants of these workshops about 6 months later and in response to the question, are you using the tools and information we provided at our workshop, over 70% of the respondents answered YES!

Our local planners, resource managers and agency staff are the on the front lines. Its our priority to focus on getting them the right information so they can help others.

Then they can turn to applying the information, whether its for a Vulnerability Assessment, a shoreline or comprehensive master plan, a site design or a restoration project

Through the collaborative work of Washington sea grant with our partners at the Climate Impacts Group, the Department of Ecology and others, we are helping put the oars back on the rowboats for people in Washington State.

Thank you.

Source: Charles Thrasher/wacoast.gov