TO: Department of Ecology
From: Betsy Norton, Olympia resident (birder)
RE: SMA rules - regarding Sea Level Rise in particular
Date: 11/13/26

Dear Ecology,

First of all, I support the comments from Washington Audubon and co-signers regarding these rules changes, and these comments are heavily informed by National Audubon's guide to building resilience to climate change intentionally with natural solutions[1].

Secondly, I urge you to be more forceful in your draft rules, so that they effectively protect marine and estuarine habitats and water quality.

I urge you to write SMA rules which compel local jurisdictions to adopt land-use codes and development regulations which effectively adapt to sea level rise. Asking local jurisdictions to 'consider' and 'evaluate' won't produce results that protect the environment and wildlife. Local government typically lacks scientific expertise and is vulnerable to political pressure and concerned about legal liability if they attempt to enforce climate adaptation on their own. Ecology must compel them to do so, by requiring the use of prescribed models for climate forecasts and requiring rules & actions to conserve shorelines and protect marine/estuarine water quality: Only by forcefully requiring local govts to do this will you give them the legal authority/position they need to implement changes to our shared state waters and shorelines which effectively adapt to sea level rise.

The main aim here is benefits which conserve and protect marine waters and estuaries from climate impacts stemming from the sea level rise interactions with the built environment. (There are plenty of other stakeholders who are focused on protecting the built environment from SLR impacts.)

"*OHWM+" = My shorthand for an Ordinary High Water Mark Plus - includes a buffer for that area's 'normal' shoreline/intertidal habitat added to the actual high water point. This buffer is intended to conserve the original space for shoreline/intertidal habitat that birds, invertebrates and wildlife inhabit and forage w/in, so we can avoid the 'shoreline squeeze' that results in habitat loss for them.*

SLR risk to habitat and water quality:

There are 2 main mechanisms associated with SLR creating risk of built environment impacts on aquatic ecosystems when the built environment is "too close" to the shoreline -
(1) Advancing high tide OHWM+s and periodic flooding (king tides + storms, especially) will sweep nearshore contaminants on the ground back into the aquatic ecosystems.
(2) New hydraulic pressures along the shoreline - from more marine water creeping ever inland (currents and tidal action) - will push groundwater into new directions (ref: septic tanks), acidify underground soils full of metal pipes, and otherwise deform underground infrastructure designed for a static environment underground by the shoreline.

Whether the resulting impact is bacterial (wastewater), chemical (unrefined petroleum spills) or material (asbestos insulation, metal pipes & wires), it is all significantly damaging to the local ecosystems and wildlife. To the extent this contamination and debris accumulates in these aquatic environments, it will impact overall water quality, displace underwater habitats, directly

[1] https://media.audubon.org/2025-12/Building.Resilience_12.9.2025%20(FINAL).pdf Also including a copy of this article as an attachment to these comments.

harm wildlife (e.g. entanglement) and cause short and long term species issues (endocrine disruption or immediate toxic impacts).

I suggest here 4 types of rules to strengthen your proposed changes, which all result in a form of managed retreat. I believe these would be implemented somewhere in section G on your rules overview (WAC 173-26-090(2)(b)(iii)(E), -171(1), -176(1) and (3)(k), -186(8)(f), -191(1)(b)(iii) & (2)(a)(i), -241(2)(a)(v) & (3)(j)(iii)(C)-246, -251(3)(f).

Rule 1: Communities MUST use the best available science FORECAST for sea level rise and precipitation as the baseline for measurements of all the setbacks, buffers and other relative siting associated with Ordinary High Water Mark OHWM+ (see map 1 e.g.). It is only by setting a new siting standard that the built environment will be situated far enough back from the shoreline to avoid inundation into the built environment and conserve the shoreline habitat from 'squeeze'.

a. Relying on building a 40-60 year structure based on a current OHWM is self-defeating. Ecology must require the OHWM+ for the built environment to be set based on accepted forecasts for climate change as of 2100[2]. The science is clear, accepted forecasts are being tuned, but largely so far, are correct. Failing to use accepted forecasts both undercuts public confidence in the science and undermines local government legal authority to use the projected OHWM+ as the most practical and logical basis on which to permit land use/new development along the shoreline.
b. Ecology MUST prescribe a specific climate change model to use for both SLR and Flooding. I would recommend for this model the UW CIG localizations for WA state[3], updated every time a major new climate model is accepted (IPCC)[4] or more often, if low-probability/high-impact events (e.g. Thwaites glacier sudden changes) take place. Local governments will only use a forecast if they are compelled to do so.

Rule 2: Communities with municipal wastewater treatment plants located within the [high-confidence] inundation zone by 2100 MUST include in their long-range capital projects plan an intention and timeline for accomplishing relocation of this utility infrastructure on a timeline which accomplishes relocation, restart of operations and full cleanup of the old site before inundation begins. They must put in place funding, monitoring and progress checks such that this project is completed before sea level rises to inundate their operations. (See map 3 for these).

Rule 3: Similar to Rule 2, Communities MUST in their long-term shoreline management plans, create and complete processes to remove chemical/bacterial/mechanical waste hazards from the inundation zone described by the forecast for 2100, in order to avoid [possibly catastrophic] and predictable water quality degradation. This would cover existing structures in that inundation zone:

a) Industries creating these hazards next to the shoreline (oil refineries, fertilizer warehouses, timber processing plants)

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[2] I'm using 2100 for simplicity of explanation, Ecology should set the year projection for a static point or a rolling 50 years out, whatever timeframe is adoptable. The point is that it should be static enough to serve as a standard - easy to understand, replicate, follow and supersede when science changes.

[3] https://cig.uw.edu/resources/analysis-tools/climate-mapping-for-a-resilient-washington/

[4] This may require explicit funding: the Ecology budget should address that if the legislature fails to act. This same source/process should be used for freshwater/flood maps, exactly the same problems with local jurisdiction decisions regarding inland development in floodplains and CMZ's, encroachment on buffers for freshwater flood mitigation areas associated with shorelines.

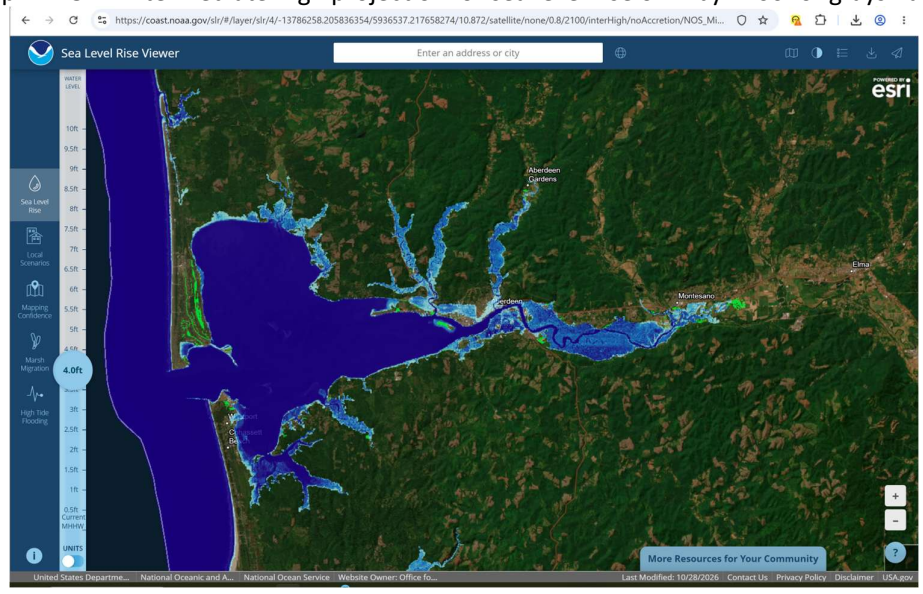
b) Existing toxic sites in and near the marine environment which have been "capped", like the dioxins in Shelton harbor[5] or Budd Inlet[6]. As sea level rises and hydraulic forces push in underlying fill, these enclosures and caps will fail to contain the toxics. These sites need to be excavated before this point, and more permanently managed.
c) Existing hazardous waste, landfills and abandoned industrial sites near the shoreline. Local community must take action to move those substances to locations where they don't threaten water quality as inundation moves up the shore (see map 2, e.g.).
d) Existing residential and other built environments and their underground infrastructure - must be moved inland to avoid inundation by 2100.

Rule 4: As your rules may already cover, any new development must be placed inland of the 2100 OHWM+ inundation zone. Local municipalities SHALL prohibit new development - public or private - which is modeled for inundation by 2100 by the prescribed forecast model.

I recommend strengthening your rules in these ways to have a significant impact at the local level - implement a change which will effectively adapt land use for the expected sea level rise and precipitation changes from climate change. Only by taking bold and determined action can we protect our resources, our species and ourselves from the coming climate changes.

Thank you very much
Betsy Norton

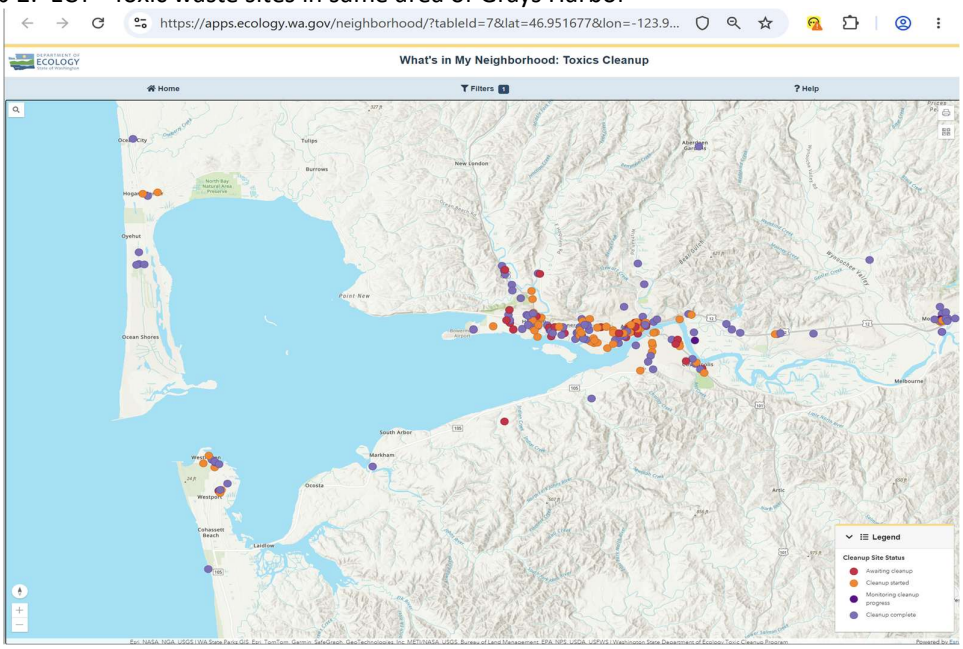
Map 1: NOAA intermediate-high projection for sea level rise of 4' by 2100 for grays harbor:



https://coast.noaa.gov/digitalcoast/tools/slr.html

[5] https://apps.ecology.wa.gov/cleanupsearch/site/13007
[6] https://portolympia.com/about-us/environment/remediation/

Map 2: ECY - Toxic waste sites in same area of Grays Harbor



https://apps.ecology.wa.gov/neighborhood/

Map 3: Wastewater Treatment Plants - Western WA / Puget Sound and pacific coast, label = name of the waterbody (AGOL public EPA GIS layer) just to give you an idea. Not comprehensive.

