



February 25, 2015

Clallam County Department of Community Development  
& Clallam County Planning Commission  
223 E. 4th St., Suite 5  
Port Angeles, WA 98362  
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**RE: Climate-related comments on draft Clallam County Shoreline Master Program**

We are submitting these comments on behalf of the 450 Sierra Club members in Clallam County. The Sierra Club is the nations largest and oldest environmental organization. Here on the North Olympic Peninsula we seek to provide a voice for the protection of the great natural resources that makes our area a very special place to live, work and raise families.

The draft SMP is a very significant improvement from the current version and we should all be grateful for the County and citizens' work on the document. Understandably, it does not (but must) include more specificity relating to climate change. Following are our recommendations for modifying the subject draft SMP:

1. **Use the most current scientific information** - The Shoreline Master Program (SMP) Guidelines require local jurisdictions to take into account scientific and technical information pertinent to shoreline management issues. It requires local governments use "the most current, accurate and complete scientific and technical information available" (WAC 173- 26- 201(2)(a). Although the basis of the sea level rise rate used in the draft SMP to estimate required buffers and other building criteria is not clearly stated, it appears to be using 2008 data, which almost certainly underestimates sea level rise for Clallam County shorelines.<sup>1</sup>

Evidence of increasing climate change impacts is clearly detailed in the following documentation, **which are incorporated herein in their entirety as part of this testimony:**

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<sup>1</sup> (Mote, P., A. Petersen, S. Reeder, H. Shipman, and L. Whitely Binder, **2008**, *Sea Level Rise in the Coastal Waters of Washington State*, University of Washington Climate Impacts Group and the Washington Department of Ecology, University of Washington, Seattle, WA)

IPCC, 2013: Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G. K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

[http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5\\_SPM\\_FINAL.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_SPM_FINAL.pdf)

Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe, Eds., 2014: *Climate Change Impacts in the United States: The Third National Climate Assessment*. U.S. Global Change Research Program, 841 pp. doi:10.7930/J0Z31WJ2 <http://nca2014.globalchange.gov/downloads>

Dalton, M.M., P.W. Mote, and A.K. Snover [Eds.]. 2013. *Climate Change in the Northwest: Implications for Our Landscapes, Waters, and Communities*. Washington, DC: Island Press. <http://cses.washington.edu/db/pdf/daltonetal678.pdf>

FEMA P-55, *Coastal Construction Manual: Principles and Practices of Planning, Siting, Designing, Constructing, and Maintaining Residential Buildings in Coastal Areas* (4th ed.) <https://www.fema.gov/media-library/assets/documents/3293>

Based on all of the latest scientific evidence and the very serious potential financial liability to Clallam County and its citizens (see 2. below), the Planning Commission is urged to consider scheduling its recommendations to the County Commissioners so that it can incorporate the findings of *Projected Climate Change and Impacts for the North Olympic Peninsula*, part of the “Planning for Climate Change on the North Olympic Peninsula” grant funded through the North Olympic Peninsula Resource Conservation & Development Council. The findings, already in draft form and due for publication within the next few months, are very likely to influence setbacks and buffer requirements in the SMP draft.

- 2. Provide improved guidance for the development community and property owners and avoid potential liability lawsuits** - The current draft SMP should be modified to provide more specific guidance regarding how developers, landowners, and the public can address the projected impacts of climate change. Without more specificity of projected climate change impacts, inappropriate shoreline development will be permitted that will almost certainly lead to serious financial and ecological function losses. It is likely that the County’s disclaimer contained in section 1.12 will not free the County from expensive climate-related litigation that will be passed on to the taxpayers. Additionally, the County would be wise to anticipate that insurers will sue municipalities for negligence if they are found to have ignored currently available climate change information. These very serious exposures can be avoided or minimized by incorporating the best current climate change projections and regulations into the SMP. Such regulations should include utilizing these projections in applications for new subdivisions and construction, including flood protection and renovations.

Recent scientific reports indicate that earlier projections have underestimated the accelerating rate of sea level rise. The current sea level rise rate measured since 1990 is 2.5 times faster

than it was from 1900 to 1990, according to a study published recently in the journal Nature and incorporated herein in full by this reference.

<http://www.nature.com/nature/journal/v517/n7535/full/nature14093.html>

In the draft SMP, wherever regulations require that “climate change impacts be considered”, the Planning Commission should provide more specificity, based on the most recent peer-reviewed regional climate change impact projections.

Rising sea levels and increasing storms will almost certainly impact new construction on our shorelines. Therefore, cautionary statements should be required in all applicable property title reports stating that the property is subject to climate change impacts. (SMP language might say, “Clallam County shall notify all prospective developers and buyers of shoreline property that the property may be impacted by sea-level rise and/or increased storm damage.”)<sup>i</sup>

3. **Require bioengineered protective measures**--The SMP indicates a preference for bioengineered installations to protect homes from flooding. This should be changed to “require” bioengineered protective measures because the construction of conventional sea walls, dikes, and barriers will only accelerate the progressive loss of beach and marsh habitat and likely cause problems for other nearby homes.
4. **Incorporate adaptive management as an essential element of the SMP, especially in view of our rapidly changing climate.** Monitoring of critical elements associated with climate change should be provided for in the SMP. As amply demonstrated in the past, we can expect more surprises resulting from climate change. The SMP should include the provision for monitoring of local sea level rise and changes in storm patterns. It should include the flexibility to modify setbacks and buffers based on the most recent data. The subsequent SMP changes can be made at the 7-year review points, but the public should be put on notice in the SMP now that such changes could impact future development and use of properties.

Respectfully submitted,

Peter Guerrero, Vice-Chair  
North Olympic Group, Sierra Club

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<sup>i</sup> FEMA’s most recent *Manual Principles and Practices of Planning, Siting, Designing, Constructing, and Maintaining Residential Buildings in Coastal Areas* contains the following warning: “[Flood Insurance Rate Map \(FIRM\)](#) FIRMs do not account for future effects of sea level rise and long term erosion. All mapped flood hazard zones (V, A, and X) in areas subject to sea level rise and/or long term erosion likely underestimate the extent and magnitude of actual flood hazards that a coastal building will experience over its lifetime. FIRMs also do not account for storm-induced erosion that has occurred after the FIRM effective date.” And, “coastal FIRMs (even recently published coastal FIRMs) do not incorporate the effects of long term erosion. Users are cautioned that mapped Zone V and Zone A areas subject to long-term erosion underestimate the extent and magnitude of actual flood hazards that a coastal building may experience over its lifetime.”