

July 21, 2011

Dear Members of the Planning Commission and City Council,

I have been a member of the Shoreline Modification Work Group that developed a portion of the draft SMP package. I have worked as an oceanographer at the National Science Foundation, NOAA Pacific Marine Environmental Laboratory, Seattle EPA Water Division, and the Puget Sound Water Quality Authority and have taught environmental science at Seattle University. I have also been a volunteer with the Bainbridge Island Beach Seining program. My husband and I have lived on Bainbridge for 30 years, own a home on South Beach, and are long-time owners of a sailboat docked in Eagle Harbor. From this background I offer my perspective on the draft shoreline plan you are about to review.

One main reason we are crafting shoreline regulations is because the Shoreline Management Act (SMA) recognizes that the shorelines and the water they encompass are “among the most valuable and fragile of the state’s natural resources.” I can validate that from what I’ve learned in ecology and marine science over the years:

- 1) Edge environments are some of the most productive and diverse environments on the planet – forest/grassland boundaries, water/land boundaries (shorelines), boundaries between two current systems in the ocean. Creatures from both habitat types overlap there and physical forces may concentrate materials, so potential food is abundant.
- 2) The nearshore environment is essential in the early life cycle of salmon. During my graduate years at the UW (early 70’s) a fellow graduate student and my major professor published one of the first studies documenting the food sources of young salmonids in Puget Sound. Surprisingly, they were relying heavily on invertebrates found in shallow nearshore sediments.
- 3) Habitat complexity is important in nurturing a diverse biological life. Monocultures such as tree farms, offer far less to birds and wildlife in food and habitat than a mature, diverse forest that has grown up naturally. Similarly, a lawn offers far less than a community of plants, particularly mature native plants, including shrubs and trees.
- 4) The land and aquatic habitats are far from separate. There is an important flow of carbon that goes from the land to the water in the nearshore area, generally in the form of leaf detritus and terrestrial insects. This feeds the fish and invertebrates that live in the water. Where there is a salmon migration stream researchers have also found that there is a much-needed flow of carbon and nitrogenous nutrients from the ocean to the upland forest environment in the bodies of the spent, spawned-out salmon.

All of this I interpret to mean that the nearshore habitat quality (both aquatic and adjacent land) is very important to the health of the Sound. We have well-documented evidence of dramatic decreases in almost every fish species, except rat fish, in the Sound. We also have extensive studies on impacts to fish health (and safety for consumption) because of

the accumulation of toxic chemicals in their fatty tissue and liver. There is agreement from many groups that have reviewed the data that the key issues impacting these aquatic resources are pollution, loss of habitat, overfishing, and in the case of salmonids, hatchery fish impacts.

The SMA states “permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, in so far as practical, any resultant damage to the ecology and environment of the shoreline area and the public’s use of the water.” RCW 90.58.020. Therefore, in contributing to the policies and regulations on **shoreline stabilization** I looked for ways to minimize additional future hardening of the shoreline and thus continue to provide areas where the hydrologic connection, the supply of sediments, the available shade and natural tree/branch fall and leaf detritus, and the terrestrial insect supply would be uninterrupted. Given the existing development along the shoreline, the draft regulations are reasonable. They do not require removal of existing bulkheads and they allow repair and replacement where there is a demonstrated danger to primary structures. What the regulations have added that is new is an approach that requires the permit applicant to investigate and document the feasibility of alternative shoreline stabilization approaches, beginning with no action, progressing through soft, then hybrid (soft and hard), and finally looking at hard stabilization. A soft or hybrid approach is based on using biological materials, such as logs, installed on the beach to absorb the wave energy, while also providing varied habitat. A shoreline homeowner is not going to be denied the ability to protect their existing home and primary appurtenances. The emphasis is on those who seek to develop new property, who have an ability to adjust the siting of the home to minimize the threat from shoreline erosion. The draft plan also includes provisions for restoration and mitigation, thus encouraging an increase in the amount of shoreline habitat that is unimpacted by a hard barrier.

The **overwater structures** (piers and docks) section of the draft regulations recognizes that overwater structures can have impacts to the environment and that private docks and piers can impact the public’s ability to use and enjoy a waterbody. The draft SMP contains much more detail than previously on materials allowed, grating to allow light penetration into the water column beneath the dock, spacing of pilings, and size of docks and floats. These provisions are consistent with requirements in the Corps of Engineers General Permit and therefore provide both consistency and regulatory certainty, while also minimizing the impacts of overwater structures on the fish and vegetation. New docks are prohibited in Blakely Harbor except for two community docks and one public dock (the current regulation). There are new provisions prohibiting new docks in Murden Cove and in areas that are exposed to high wind and wave energy or have very shallow sloping bottoms (e.g. (Murden Cove). These new prohibitions are common sense. A boat at a dock in a high current, high wind area will likely get damaged and/or damage the dock. A dock that has to extend a great distance from shore to accommodate a very shallow, sloping bottom takes up an inordinate amount of the common water space, particularly in an embayment, and therefore limits the public access and enjoyment via kayaks and other boats.

Both the dock provisions and the shoreline stabilization provisions seek to minimize impacts to the environment and hold every applicant to a test of no net loss of ecological function. This is what the SMA requires of every shoreline plan.

For those who question the impact that their particular property has on the resources of the Sound, I agree in the difficulty of making these measurements, **either to demonstrate harm or to demonstrate no harm conclusively**. We aren't going to see fish going belly up along the shoreline unless there is a toxic spill or extreme low oxygen event or toxic algal bloom. What we know from years of data (see the Puget Sound Action Team monitoring reports) is that fish populations are declining steadily in the Sound. Impacts to habitat impact the fitness of the fish. Fish may be dealing with starvation, increased predation, lack of nearshore spawning habitat, or contaminant effects as a result of what is done on our properties. These effects will decrease the fitness of the population to reproduce successfully, but we are unlikely to see or measure it adjacent to a particular property. Puget Sound has gotten to the condition it's in by "death by a thousand cuts." Seldom can we point to one event or discharge that "did it." Instead it is a slow cumulative effect. The only way to stem that tide is to take every responsible measure we can to protect existing habitat and where possible increase productive nearshore habitat, decrease/eliminate toxic products going into the Sound, and manage the fishery.

It is a privilege to be one of the Island homeowners who actually front on and have direct access to Puget Sound. That privilege comes with both higher property values and higher taxes. These regulations are not punishing shoreline homeowners. They are asking that all of us on the shoreline approach modifications to the shoreline through a rigorous process that considers no- or least-impacting actions first, and that mitigates for any impact to ecological functions. I do not believe we can afford to give away our shoreline natural resources, banking on imperfect data that don't show a "smoking gun" in terms of direct effects. We have a responsibility to act conservatively when shoreline public resources are at stake, particularly given the condition of the Sound today. If anything, the goal of "no net loss" in the SMP, set as it is at today's condition, is by definition a lower standard than what constitutes a recovered, healthy Sound.

Thank you for taking the time to review these comments and for the numerous hours I know you will spend in review of this draft SMP.

Marcia Lagerloef
South Beach