

**TO: Mayor and City Council  
Bellevue WA**

**May 27, 2014**

**FROM: Martin Nizlek, for WA Sensible Shorelines Association**

**RE: Setbacks and Vegetation Requirements - Draft SMP**

As part of your review of the draft Shoreline Management Program this week, you will be deliberating setbacks and vegetation requirements. While we have supplied a number of related items to you touching on these topics, we focus here on several key questions, offering observations to aid in your deliberations. These questions include:

**How Will the Greenscape Concept Work?**

**Will Development Head Toward the Shore?**

**How Much Runoff Do We Contribute?**

**What is the Status of Lake Water Quality?**

**Will We Know What the SMP Achieves?**

**What are Implications of Dense Vegetation?**

All but the last topic - implications of shoreline vegetation, are treated in this submission. Each is dealt with on succeeding pages.

### **Summary -**

Greenscape Concept - An example is used to illustrate how this concept would work to discourage existing development from expanding shoreward.

Development Toward the Shore - At your hearing it was alleged the median distance of dwellings from shore is 53 ft. and therefore many people will want to move forward. This is not true.

Runoff - Using Lake Sammamish as an example, King County records were used to determine that shoreline properties are less than 1% of the drainage entering our lakes.

Lake Pollution - Also at your hearing, you were told that our lakes are in trouble from pollution. Again, King County data shows both Lake WA and Lake Sammamish in very good condition.

Measuring Progress - Of the variety of reasons for undertaking the SMP (whether fish, wildlife, ecologic function, or public access) only water quality has been measured historically. Unfortunately, that has been compromised.

Vegetation Considerations - In another presentation, one of our members will illustrate that the vegetation requirements employed under the Critical Areas code are excessive, would preclude use of our properties, and result in dangerous conditions.

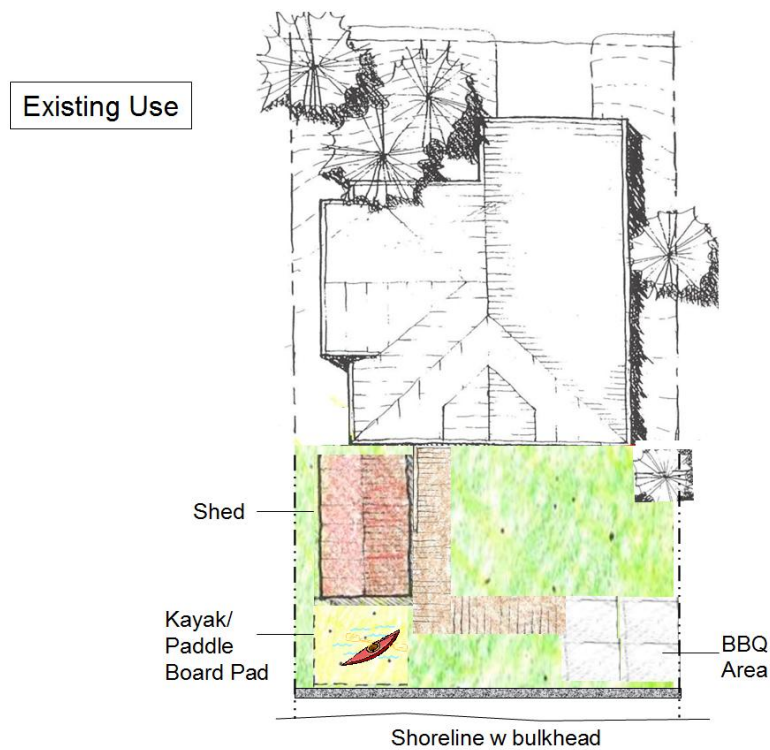


## How Will the Greenscape Concept Work?

The Planning Commission expanded on the City's existing Greenscape requirements. These rules are imposed along property frontage throughout the City. The Commission reviewed the approach taken on setbacks and vegetation requirements used by other jurisdictions and considered the developed nature of Bellevue shorelines.

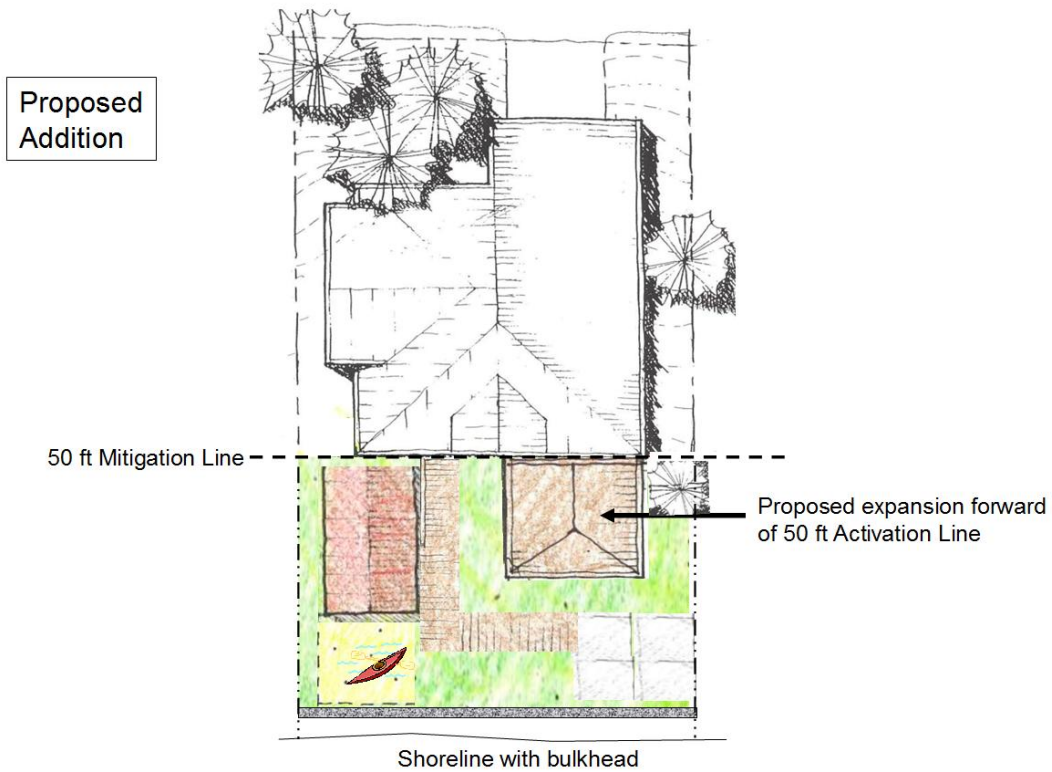
The Commission's approach is best illustrated by example. Figure 1 reflects a typical developed lot - some 50 feet in width and 125 feet deep.

In this example, the residence is just over 50 feet from shore. The property owners, over time, have added a small shed, a barbecue/picnic area near the shore, an area for their kayaks, as well as walkways to these improvements.



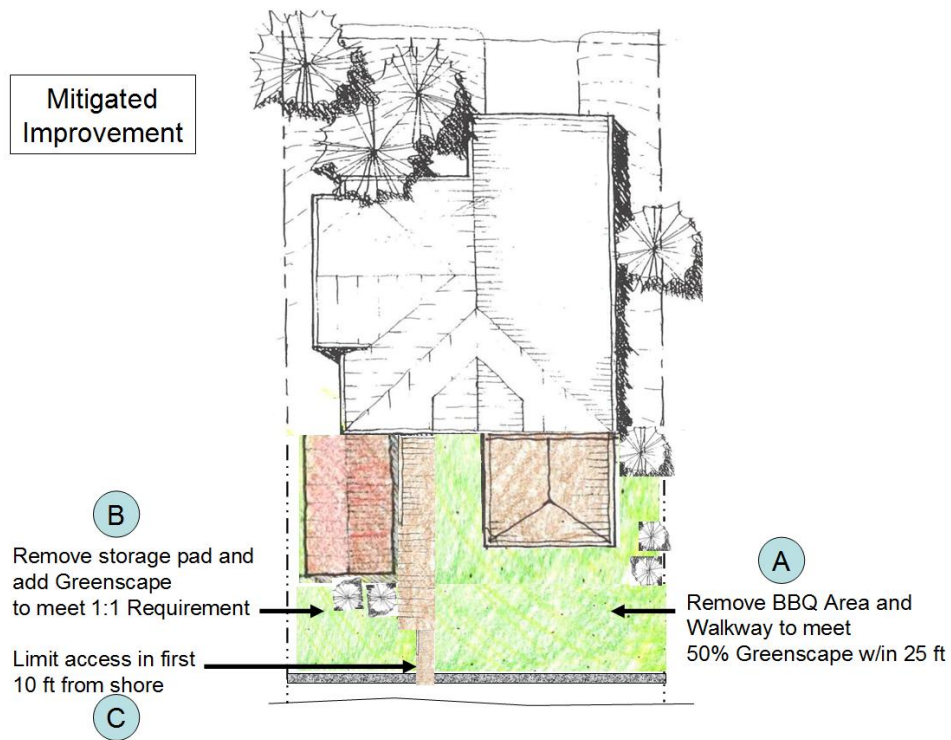
**Figure 1 - Existing Conditions**

Now the homeowners have decided they would like to add to their dwelling, expanding toward the shoreline. They understand that to do so, they may have to eliminate some of their current improvements. This is illustrated in Figure 2, on the next page.



**Figure 2 - Proposed Expansion (before mitigation)**

Since the expansion would be forward of 50 feet, they will trigger the Greenscape requirement developed by the Planning Commission. Mitigating actions must be taken, as shown in Figure 3.



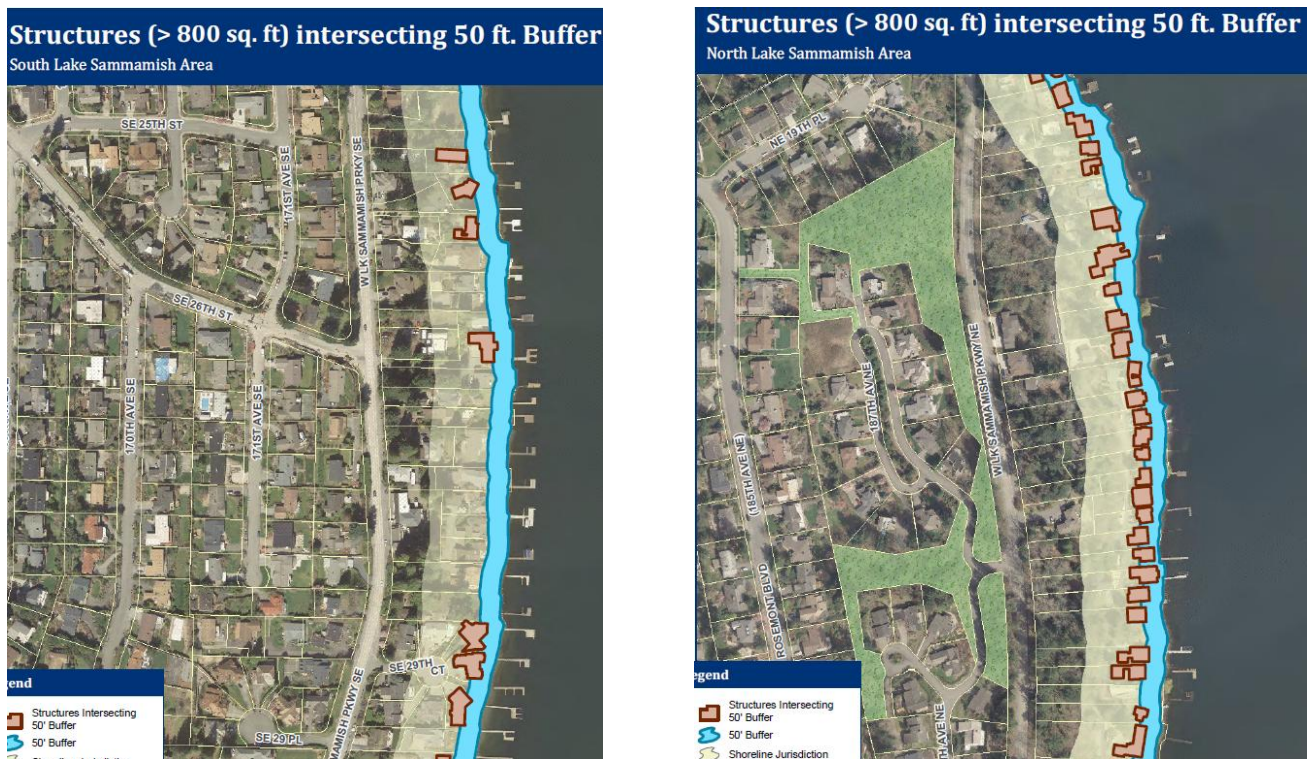
**Figure 3 - Mitigation Actions**

## Will there be a Mass Migration Toward the Shoreline?

At the Council public hearing it was alleged that, with a 50 ft. setback (reducible to 25 ft.), there would be a mass movement of development toward the shore. A figure was quoted that the median distance from the shore of current development is 53 ft. That is an erroneous figure and disregards terrain and other factors.

The City conducted a study in 2010 for use by the Planning Commission during its deliberations. The "[Planning Commission Map Book - Setbacks and Critical Areas Analysis](#)" estimated the number of structures at various distances from the shoreline. The report is informative, but the study flawed.

Of value in the report are aerial photos of the shore. Below, two are shown for Lake Sammamish. Both depict dwellings at or closer than 50 ft. Note the dramatic difference between two sections on the same lake. Why the difference? Terrain.



Number of Dwellings (Structures > 800 sq ft) Along Two Sections of Lake Sammamish Shorelines

This comparison reveals that sections of shoreline vary dramatically in their patterns of development. The terrain differences along the lakes are the predominant difference. In general, our experience is that people will attempt to set back from shorelines to provide themselves active use area between their dwelling and the shore, and balance this with the ability to see the immediate shoreline and the lake beyond.

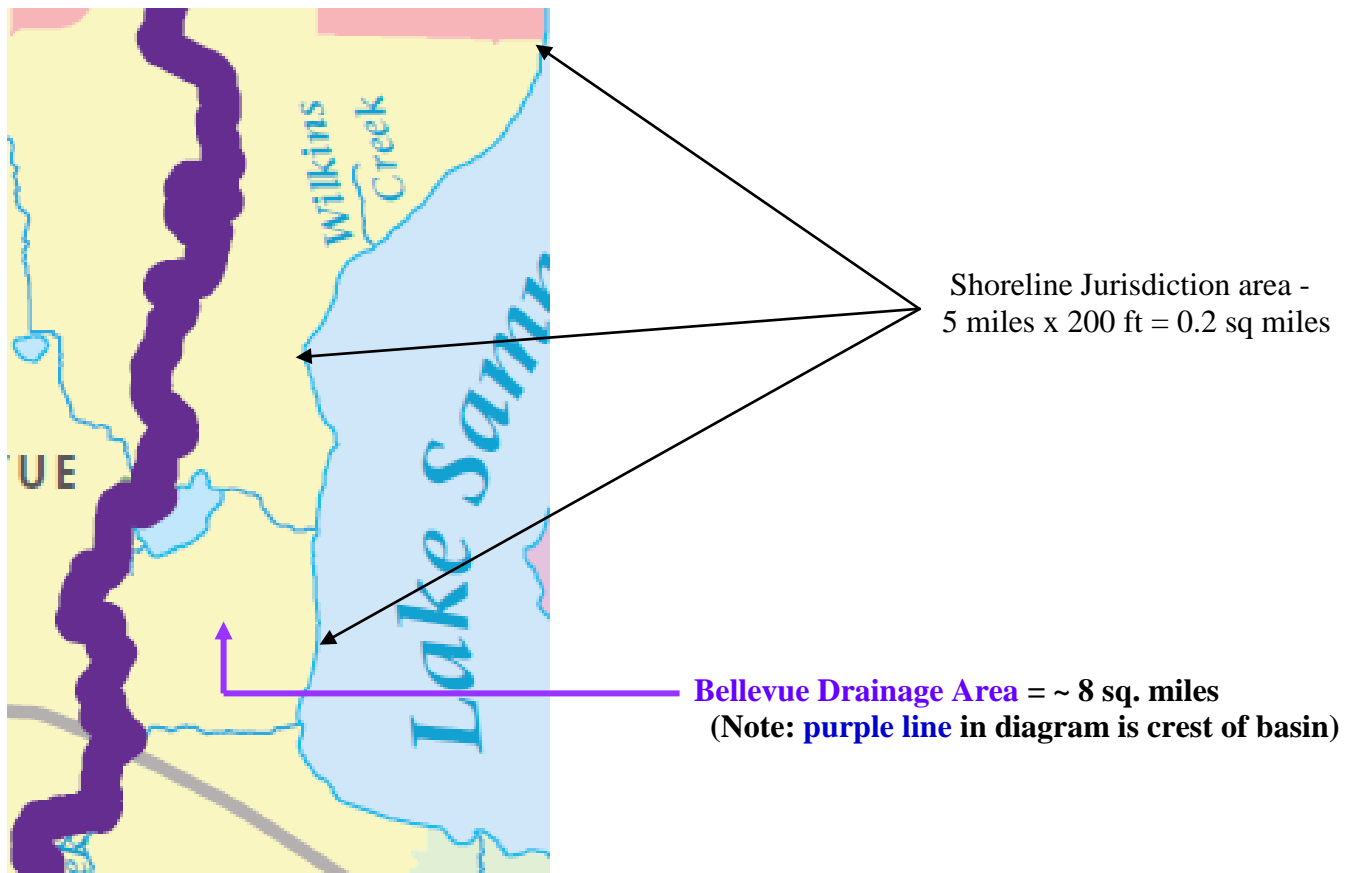
But, the utility of the referenced study is limited and the quoted median distance of 53 ft. irrelevant. The analysis neither used the Corps of Engineers' OHWM (30.6 ft NAVD) nor the OHWM determined by the City's 2004 OHWM Study (31.8 ft. NAVD). Analysts used a map contour line of 32 ft. Setback measurements should have used the historic Corps' value.

## What Amount of Storm Runoff Do Shoreline Properties Contribute to Our Lakes?

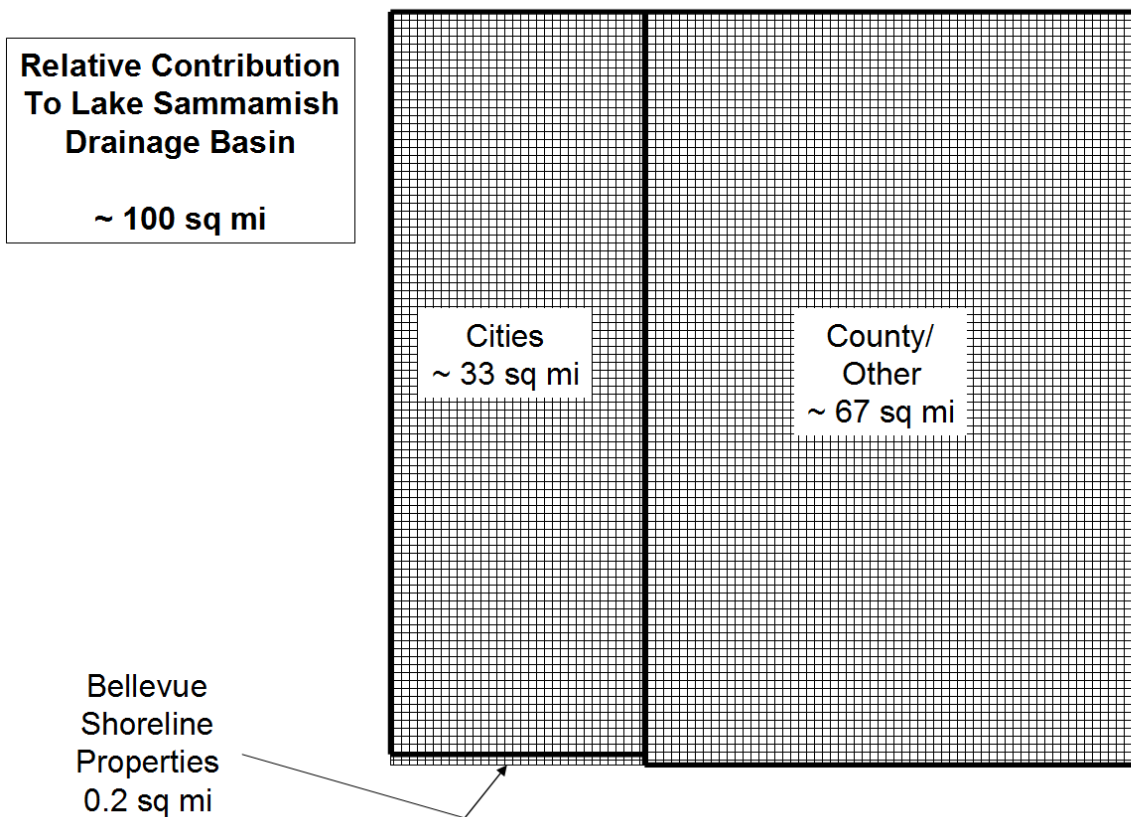
To answer this question, an example is provided; again using Lake Sammamish.

The SMP shoreline jurisdiction extends 200 ft. upland from the OHWM. On Lake Sammamish the lake shore is 5 miles in length. This amounts to an **area of only 0.2 sq miles!**

As the following figure shows, this 0.2 sq miles are is only 1.5 % of the approximately 8 sq miles of area that Bellevue proper drains to Lake Sammamish.



As dramatic is the comparison to the entire lake drainage basin, which is 100 sq miles. The following figure graphically illustrates the miniscule contribution from shoreline properties.



## What Is the Status of Water Quality in Our Lakes?

Testimony at the Council public hearing alleged that water quality in our lakes is at risk without stringent, critical area-like restrictions. That simply is not true. Both City and regional studies attest to this.

In the City's ["Shoreline Inventory - Technical Appendix II"](#) (2008 Watershed Co.) it's noted on page 12

*Overall water quality in Lakes Washington and Sammamish is exceptionally high, especially for lakes located within a major urban area.*

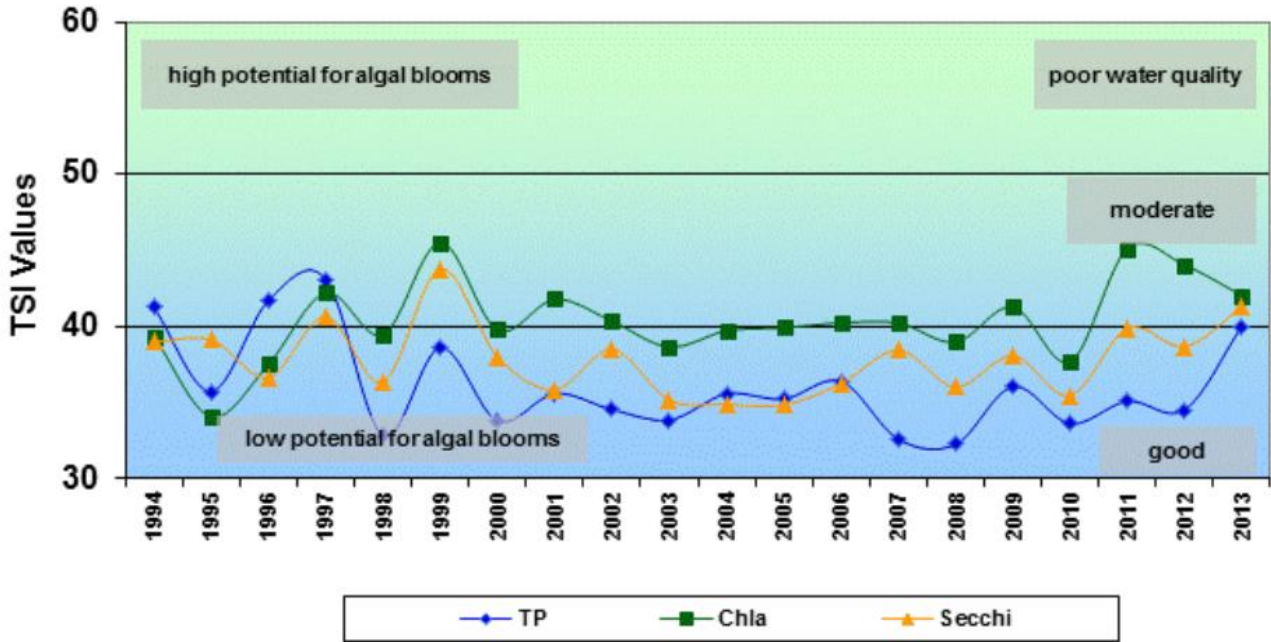
The County is the primary resource for monitoring and reporting lake health. At the [King County Major Lakes Monitoring](#) web site, the reader will find the County uses the *Trophic State Index*<sup>1</sup> to characterize lake health. How are we doing? As reflected in the diagrams below, the County concludes -

*In general the TSI-TP values for Lake Sammamish and Lake Washington fluctuate below the low to moderate threshold indicating fairly consistent low phosphorus with low potential for nuisance algal blooms. (Emphasis added)*

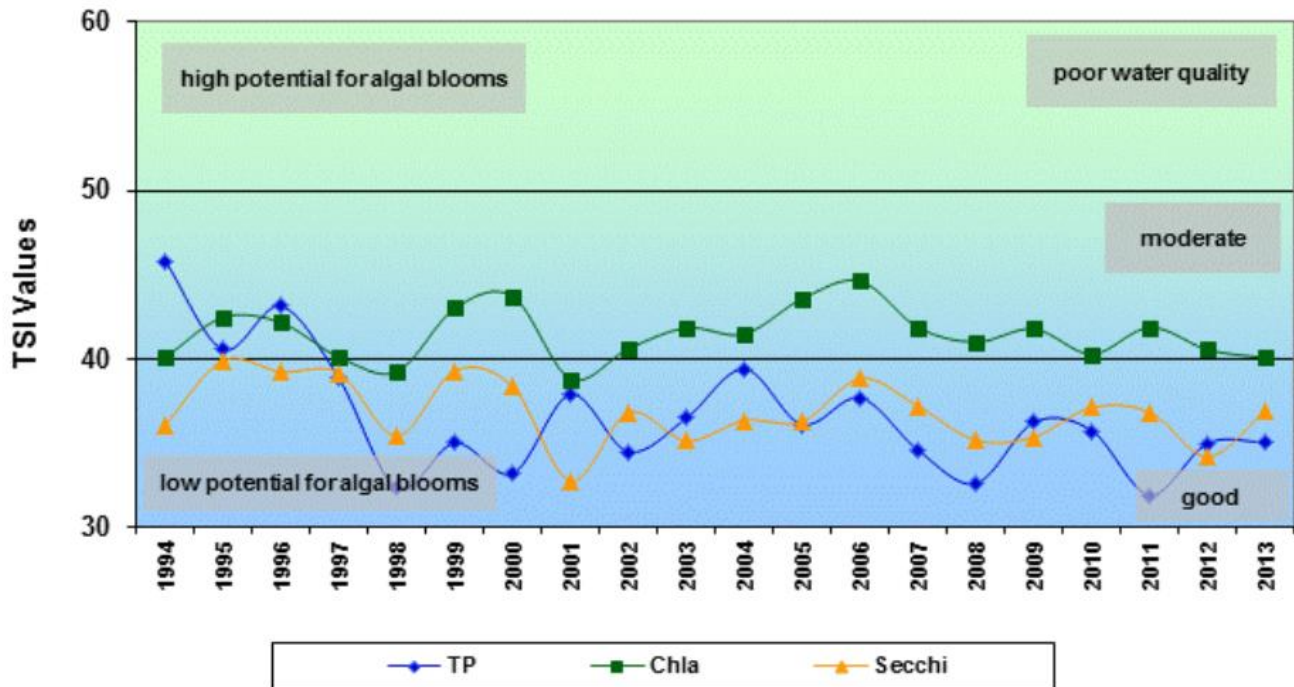
<sup>1</sup> From the County web site - "One way to characterize the health of lakes is by using phosphorus, chlorophyll a, and secchi depth transparency data to calculate the Trophic State Index (TSI, Carlson 1977). This index provides a way to rate and compare lakes according to their level of biological activity on a scale from 0 to 100."

King County Assessment of Current & Historic Major Lake Health

Lake Washington Summer (June-Sept)  
Trophic State Index



Lake Sammamish Summer (June-Sept)  
Trophic State Index



## Will We Know What the SMP Achieves?

Throughout the update process WSSA has warned of a lack of factual information demonstrating the need for placing severe restrictions on shoreline property owners. As important, there will be a need to measure the effectiveness of the program in the future.

The primary focus points dictating the need for regulations have been *endangered fish, wildlife, shoreline ecologic function, water quality, and access to lake shores*. Unfortunately, you will find limited to no quantified information assessing the current status of these factors.

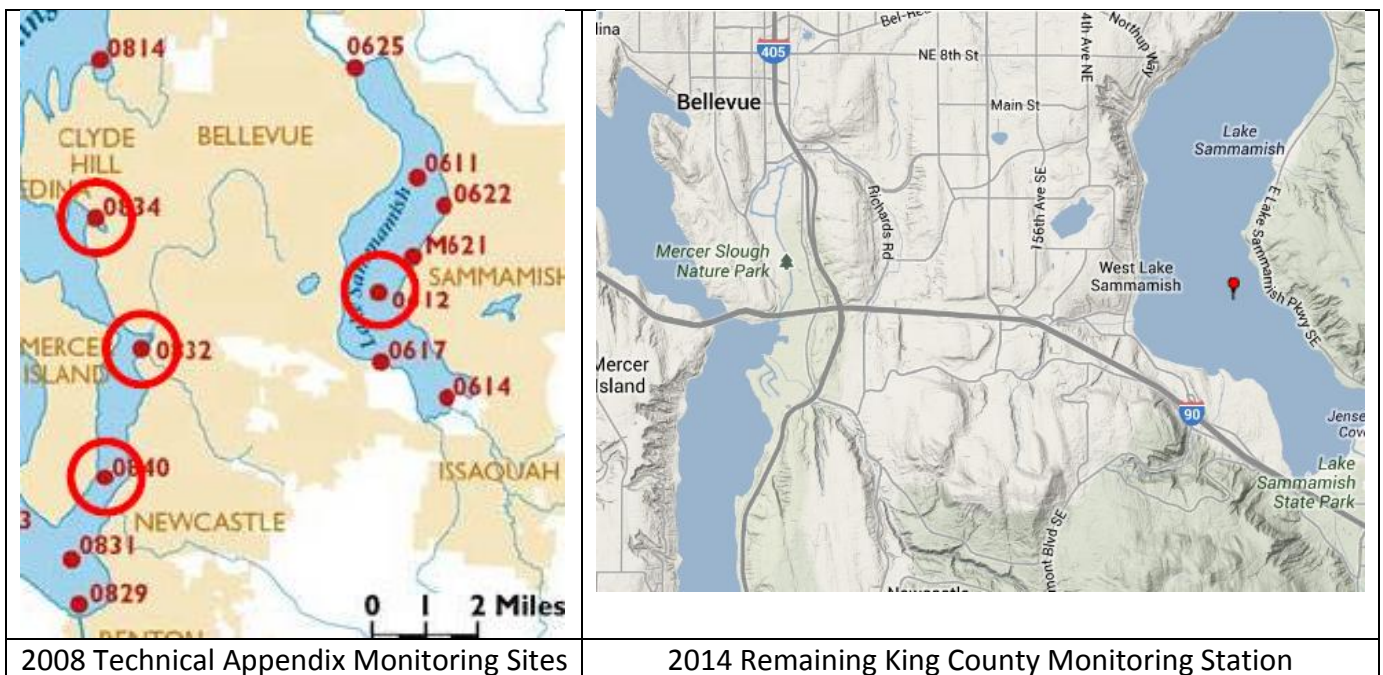
While there are counts of returning Endangered Chinook at the hatchery, similar information relative to their use of our lake shores is, at best, limited.

Broader wildlife was considered by the City's consultant in their "[Urban Wildlife Habitat Literature Review](#)" (2009). But the report acknowledges there is "... *no standard means of evaluating either wildlife use or the value of urban habitat (to them)*".

Shoreline ecologic function has been subjectively assessed by only two individuals. We must ask, would the same results be achieved if two different people carried out the assessment?

No measures of public access or lake utilization have been considered.

That narrows us to water quality. While we've shown (above) that current conditions are acceptable, will it be possible to make such a determination in the future? Contrast the number of water quality sampling stations, below, cited by Bellevue's SMP consultant in 2008 versus the number still active at the present time. The County has significantly reduced their monitoring of lake conditions.



Conclusion - Not only do we lack current condition information, when we look back in 5 to 10 years, we will not have the means to measure the SMP's effectiveness. That should be unacceptable to the City.