

August 2, 2010

Honorable Mayor and Council Members,  
Our names are Robert and Robert Howell  
We live at 15240 20<sup>th</sup> Ave SW  
Burien, 98146  
RB

We recommend that the city council delete SMP 20.25.015 item B. under Management Policies in Chapter 3 City Council Draft, 7-14-10 and add to the proper place in the SMP "there will be no physical public access to Lake Burien."

20.25.015 reads Public Access and public recreation objectives should be implemented if feasible and wherever any significant ecological impacts such as importation of invasive species to Lake Burien can be mitigated.

The Regional Eurasian Milfoil Control Plan for King County December 2002 page 6 states prevention is the most efficient and least expensive strategy and appropriate for all lakes where no milfoil currently exists.

Large lakes of almost 500 acres have a better chance of temporary eradication once milfoil has been imported into the lake. Lake Burien is only 44 acres. It's deepest part which is only a small section is only 29' eradication is temporary because wherever there is public access milfoil is imported over and over again by the public.

Although eradication is possible, it requires a great deal of **financial commitment on the part of the lake group. It requires continual monitoring to detect re-introductions or "missed" plants. Without these efforts eradication is only temporary** and plants almost always return within two to three years. Most eradication efforts really result in suppression because of the high probability of re-infestation from outside the lake. Lake Twelve is an example of an unsuccessful eradication program. For two years after treatment with fluridone it was milfoil free. The third year a few plants were observed and hand removed. However, this monitoring was discontinued and the entire lake is now infested again.

#### **Some General Information from King County**

- There are Physical, Chemical and Mechanical Control Methods but they all have different negative impacts to the environment of the fish and

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wildlife habitats and they all have to be permitted by the state or Federal Government.

- No matter which strategy is chosen it will need to be for at least as long as there is public access. Eurasian Milfoil was first discovered in Lake Meridian in 1965 and they have been trying to get rid of it ever since.
- When there is money available there are small grants that you can apply for from the state but they do not completely cover the costs. As noted **above Eradication requires a great deal of financial commitment on the part of the lake group.**
- Some lakes like **Sawyer Lake** have no plant management history and that lake is heavily impacted by Eurasian milfoil. People bringing boats and water toys from lakes like this to Lake Burien are carriers of milfoil.
- Waterbodies suitable for individual home control options include lake or ponds heavily infested with milfoil, **where there has not been a comprehensive or lake-wide milfoil management plan developed and implemented.** Or, where a plan has been developed and it calls for homeowner control. **in these situations it is up to each homeowner, at their expense, discretion, and with proper permitting, to remove milfoil.** Some of these methods may not be suitable in waterbodies experiencing an early infestation of milfoil because fragments may be created and cause increased spread.

It should appear obvious that there can be no effective mitigation for infestations of Regional Eurasian Milfoil, and even with treatment the lake and the homeowners will suffer non-recoverable net loss. There will be significant ecological impacts such as importation of invasive species to Lake Burien if public access is allowed.

We hereby ask that all references to physical public access to the lake be removed.

Thank you for your consideration.

Robbie and Robert Howell

8-2-10

Robbie & Robert  
Howell

## 20.25.015 Urban Conservancy

### 1. Purpose

The purpose of the "Urban Conservancy" shoreline environment designation is to protect and restore ecological functions of open space, floodplains, and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses. This designation focuses on providing public access for the enjoyment of marine and lake shorelines by allowing the development of public recreational facilities.

### 2. Criteria for Designation

An "Urban Conservancy" environment designation is assigned to areas within shoreline jurisdiction that are suitable for public access, water-enjoyment recreational uses and active recreation developments. These are areas that are developed at a low density including residences and outdoor recreation.

### 3. Management Policies

- a. Uses that preserve or restore the natural character of the shoreline area or promote preservation of open space and critical areas should be the primary allowed uses.
- b. Public access and public recreation objectives should be implemented if feasible and wherever any significant ecological impacts, ~~such as importation of invasive species to Lake Burien~~, can be mitigated.
- c. Water-oriented uses should be given priority over non-water-oriented uses with water-dependent uses given the highest priority.
- d. New development should be designed and located to preclude the need for shoreline armoring, vegetation removal, flood control, and other shoreline modifications.
- e. Standards should be established for shoreline stabilization measures, vegetation conservation, water quality, and shoreline modifications. These standards shall ensure that new development does not result in a net loss of shoreline ecological functions or further degrade other shoreline values.

**APPENDIX A**  
**LAKE CHARACTERISTICS**  
**&**  
**AQUATIC PLANT SURVEY MAPS**

Introduction Table A-1 is a summary of general lake information and plant management history for all 38 lakes surveyed. This table is followed by 18 maps. The first four maps display regional information: the first depicts the location of all the King County lakes surveyed, the second depicts those surveyed that contained milfoil, the third depicts where loosestrife (another invasive plant problem) was observed in Lakes Washington and Sammamish, and the fourth depicts Chinook Salmon use areas. These last two of the regional maps have been included because this information may be useful in the IAVMP planning process.

The four regional maps are followed by maps of each of the 14 lakes where milfoil was observed. These maps are provided in alphabetical order. The maps indicate where milfoil was found in the lake and the extent of the population. Only one level of infestation is indicated per lake, so areas within each lake that might have other densities of the plant were not differentiated.

**Table A-1. Summary of King County Lake Characteristics and Plant Management History.**

Lake Name	Basin	Jurisdiction	Area (acres)	Milfoil Present	Some History of Plant Management
Lake Alice	Raging River	King County	33	No	Not Immediately Available
Angle Lake	Green River	City of Seatac	102	No	Not Immediately Available
Bass Lake	Green River	King County	24	Yes	Not Immediately Available
Beaver Lake	Lake Sammamish	City of Sammamish	63	No	DOE has denied herbicide treatment requests by residents to target non-native water lily growth. There is active citizen lake monitoring.
Boren Lake	May	City of Newcastle	15	No	Not Immediately Available
Cottage Lake	Bear	King County	63	No	Not Immediately Available
Desire Lake	Cedar River	King County	72	Yes	Not Immediately Available. Small population of plants.
Dolloff Lake	Mill Creek	King County	21	No	Not Immediately Available
Fenwick Lake	Green River	City of Kent	18	No	An extensive infestation of Brazilian Elodea ( <i>Egeria densa</i> ), another invasive noxious weed, dominates the littoral zone. An IAVMP was submitted to Ecology in 2000 and approved.
Fivemile Lake	White River	King County	38	No	Not Immediately Available
Lake Geneva	Mill Creek	King County	29	No	Selective treatments were made in the 1980s to reduce the population of non-native water lily. The water lily communities have re-colonized much of the lake shoreline. This species of water lily ( <i>Nymphaea odorata</i> ) is on the 2002 state noxious weed list.
Lake Jeane	Lower Puget Sound	City of Federal Way	15	No	Management activities by the Twin Lake Golf and County Club have included regular inspections of the lake by a commercial applicator, treatment with contact and systemic herbicide for suppression of problem aquatic weed growth, and spot treatment for filamentous algae growth. The community has also undertaken water quality monitoring and is considering an aeration system.

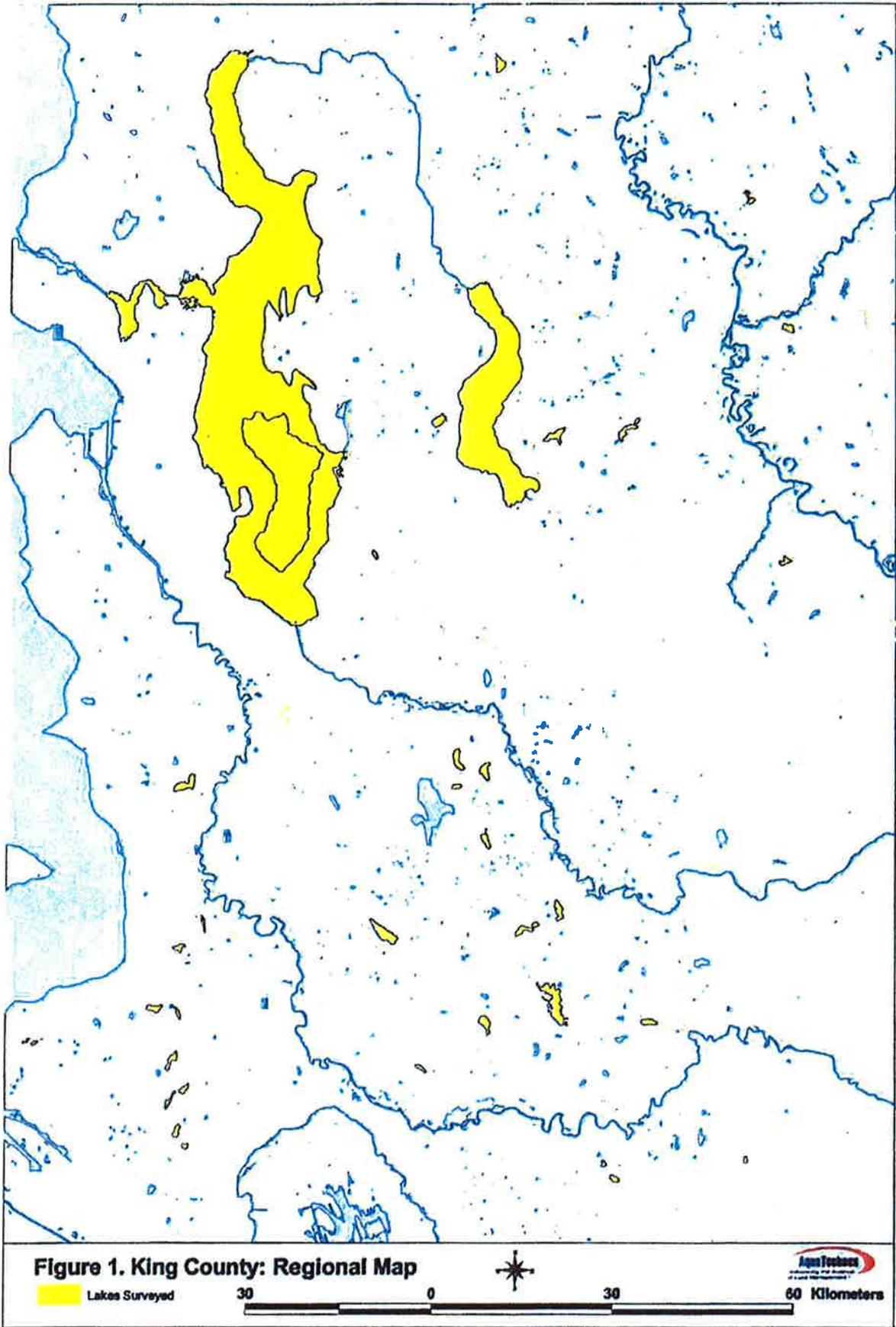
Some History of Plant Management					
Lake Name	Basin	Jurisdiction	Area (acres)	Milfoil Present	
Lake Killarney	Hylebos	King County	31	No	In the mid 1980s, Lake Killarney was heavily infested with Eurasian milfoil. The lake residents formed a milfoil committee in 1986 and obtained the necessary permits to treat the lake in 1987. A treatment with Sonar aquatic herbicide eradicated the Eurasian milfoil during that year. In each of the following years, licensed applicators have inspected and treated problematic weed growth. In the early 1990s the lake community worked with King County to develop a Lake Management Plan.
Langlois Lake	Tolt River	King County	40	No	Not Immediately Available
Lake Lorene	Lower Puget Sound	City of Federal Way	15	No	Management activities by the Twin Lakes Homeowners Association have included regular inspections of the lake by a commercial applicator, treatment with contact and systemic herbicide for suppression of problem aquatic weed growth, and spot treatment for filamentous algae growth. The community has also undertaken water quality monitoring and is considering an aeration system for this urban lake.
Lake Lucerne	Jenkins Creek	City of Maple Valley	23	No	Along with Pipe Lake which is directly connected to Lucerne, this lake system has been undergoing intensive control efforts targeting the invasive aquatic weed <i>Hydrilla</i> . A trovomg [p],atopm was discovered in the lake during a 1994 King County survey program. At that time, Eurasian milfoil was also present in great quantities. In 1995 King County and DOE instituted an eradication effort that continues to the present. The first four years of this program utilized Sonar aquatic herbicide. Eurasian milfoil was eradicated by the Sonar treatment in 1995. <i>Hydrilla</i> tubers continue to sprout from the lake sediments and eradication has not yet been achieved.

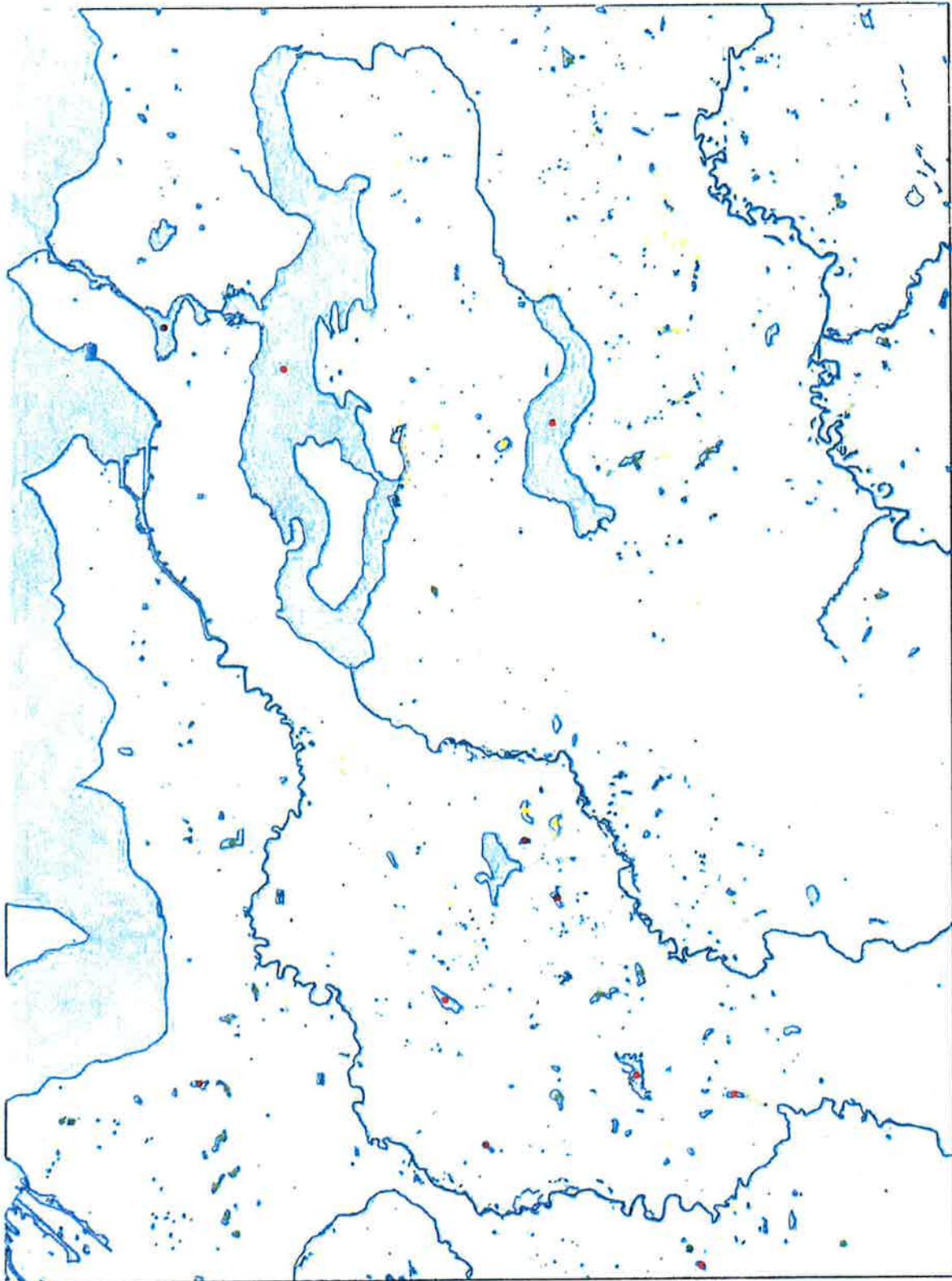
Lake Name	Basin	Jurisdiction	Area (acres)	Milfoil Present	Some History of Plant Management
Marcel Lake	Harris Creek	King County	19	No	During the 1980s the lake association regularly hired licensed applicators to treat submerged weed growth with aquatic herbicides. Marcel Lake was one of the first private lakes to get a permit for grass carp stocking as a biological control agent. The community has relied on biocontrol for aquatic plant management since that time.
Meridian Lake	Soos Creek	City of Kent	150	Yes	This lake is heavily impacted with Eurasian milfoil. An LAVMP was developed in 2000 and submitted to Ecology and approved.
Morton Lake	Covington	King County	66	No	Not Immediately Available
Neilson Lake	Green River	King County	19	Yes	No plant management history. This lake was observed to have pioneering infestations of Eurasian milfoil in 2001.
North Lake	Hylebos Creek	King County	55	No	There have been a number of permit applications made to DOE for the control of water lilies and submerged plants in the 1990s. It is not known what work was performed. The shoreline is heavily impacted with the noxious emergent weed Purple Loosestrife. This plant dominates the wetland areas on the west shoreline and is present in some yards along the east shoreline.
Phantom Lake	West Lake Sammamish	City of Bellevue	63	Yes	In addition to being heavily infested with Eurasian milfoil, there are colonies of Purple Loosestrife well established around the lake perimeter and in the adjacent wetlands.
Pine Lake	East Lake Sammamish	City of Sammamish	88	No	Not Immediately Available
Pipe Lake	Jenkins Creek	City of Maple Valley and Covington	51	No	Along with Lake Lucerne, which is directly connected to Pipe Lake, this lake system has been undergoing intensive control efforts targeting the invasive aquatic weed Hydrilla. See discussion of Lake Lucerne for history.
Sammamish Lake	Sammamish	Multiple Jurisdictions	4,893	Yes	This lake is heavily infested with Eurasian Milfoil despite efforts to eradicate the plant since the 1970s. Areas of Lake Sammamish around the State Park participated in the METRO harvesting program. There have also been some permits issued for the management of Eurasian milfoil for various homeowner associations on the lake.

Lake Name	Basin	Jurisdiction	Area (acres)	Milfoil Present	Some History of Plant Management
Sawyer Lake	Covington Creek	City of Black Diamond	279	Yes	No plant management history. This lake is heavily impacted by Eurasian milfoil.
Shadow Lake	Jenkins Creek	King County	50	Yes	Not Immediately Available. Populations of milfoil appear to be relatively small.
Shady Lake	Cedar River	King County	21	Yes	No plant management history. There are pioneering colonies of Eurasian milfoil in this lake.
Spring Lake	Cedar River	King County	68	Yes	No plant management history. This lake is moderately infested with Eurasian milfoil.
Star Lake	Green River	King County	34	No	This lake historically has had a major infestation of Eurasian milfoil. Residents formed a milfoil committee in the late 1990s to study control options. In 2000, they raised funding from homeowners and hired a licensed applicator to treat the lake with Sonar aquatic herbicide. Diver surveys in the summer of 2000 and 2001 show no milfoil present in this system. At this point, Eurasian milfoil has been eradicated from Star Lake.
Steel Lake	Lower Puget Sound	City of Federal Way	46	Yes	Pioneering colonies of Eurasian milfoil were found in Steel Lake in 2001. This lake was heavily impacted with Eurasian milfoil and non-native white water lily in the 1980s. Residents formed a lake management committee to selectively remove some water lily growth in 1989 and 90. They also helped the City of Federal Way obtain funding from DOE to eradicate Eurasian milfoil. A Sonar aquatic herbicide treatment was made in 1993 and the lake has been surveyed a number of times since showing no presence of Eurasian milfoil until the 2001 survey. The lake was treated with 2,4-D in 2002. Results are as yet unknown.
Trout Lake	White River	King County	18	No	Not Immediately Available

Lake Name	Basin	Jurisdiction	Area (acres)	Milfoil Present	Some History of Plant Management
Lake Twelve	Cedar River	King County	43	Yes	This lake has been the subject of intensive study and control efforts for milfoil. An IAVMP was developed in the 1990s. A Sonar aquatic herbicide treatment was performed in the mid 1990s. Diver surveys for two years after the treatment showed the lake to be free of Eurasian milfoil. The third year found some pioneering colonies present near the boat ramp and the west shoreline. These were mapped and hand picked. This weed has since expanded back to the point of pre-treatment. The littoral zone is heavily impacted with Eurasian milfoil.
Lake Union	Lake Washington	City of Seattle	598	Yes	No plant management history. The littoral zone is moderately impacted with Eurasian milfoil.
Walker Lake	Coal Creek	King County	12	No	Not Immediately Available
Lake Washington	Lake Washington	Multiple Jurisdictions	22,138	Yes	There is a long history of aquatic plant management in this lake. METRO pioneered Eurasian milfoil control efforts in this lake in the early 1980s using aquatic weed harvesters. They also funded research and other non-chemical milfoil control efforts in the region. METRO switched to a contract harvest program in 1985. The City of Seattle Parks Department has an ongoing program to treat the beaches they manage with diver removal and bottom barriers and harvest high use areas. Many eastside jurisdictions have utilized aquatic herbicides to treat Eurasian milfoil. Groups on Mercer Island, Newport Shores and Hunts Point have treated with herbicides in a maintenance capacity.

Lake Name	Basin	Jurisdiction	Area (acres)	Milfoil Present	Some History of Plant Management
Lake Wilderness	Jenkins Creek	City of Maple Valley	67	Yes	<p>Lake Wilderness has a long history of Eurasian milfoil infestation. An LAVMP was developed in the mid 1990s. In 1998, the lake was treated with Sonar and Eurasian milfoil was eradicated from the system. Diver surveys each year since have found no milfoil until autumn 2002 when a few plants were found and hand pulled. The citizens formed a Lake Management District that is administered by the City of Maple Valley. Purple Loosestrife was observed at the Public Access. Those plants were hand pulled.</p>



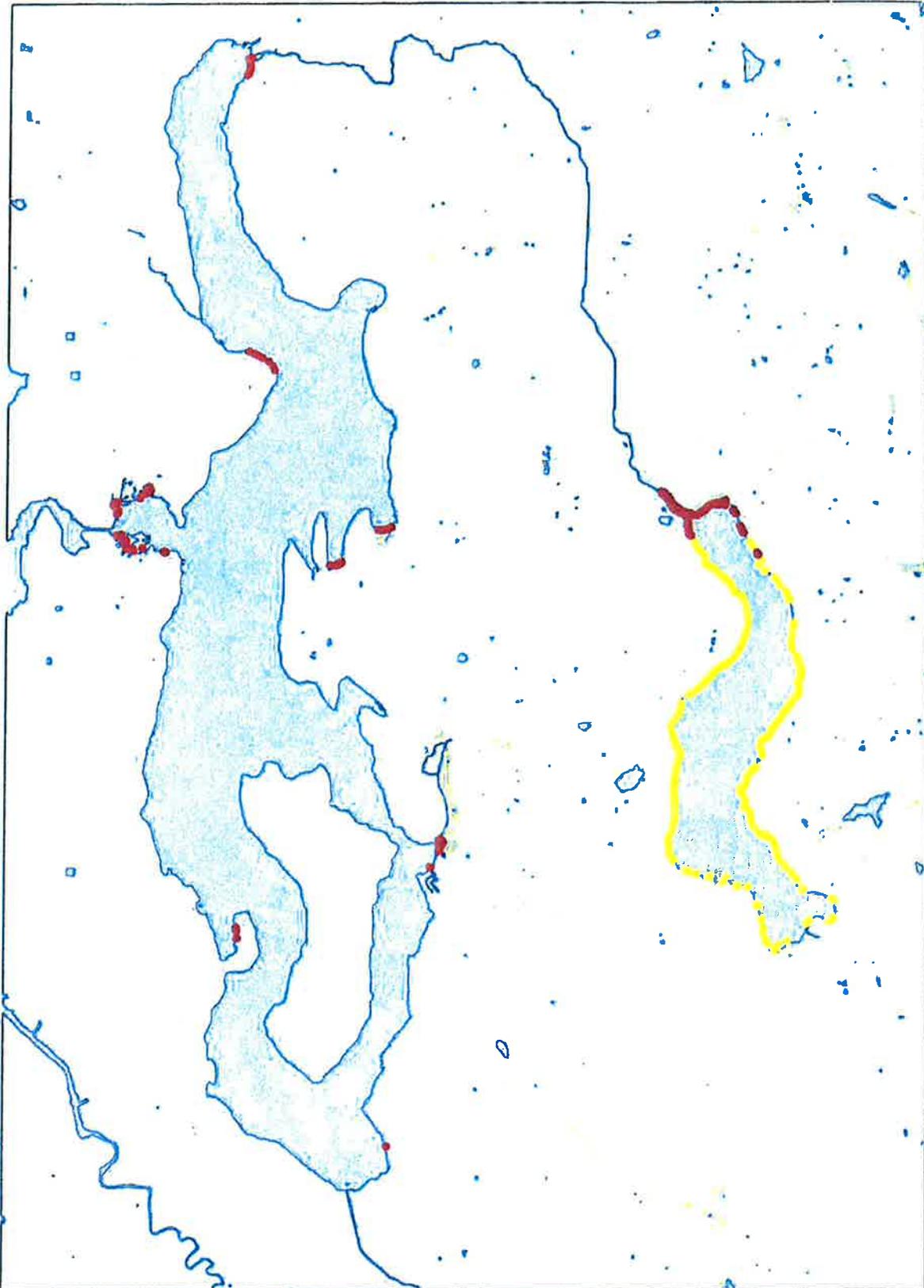


**Figure 2. King County Surveyed lakes**

- |   |  |
|---|--|
| <span style="color: red;">●</span> EWM established lake     | <span style="color: brown;">●</span> EWM pioneering lake             |
| <span style="color: yellow;">●</span> EWM establishing lake | <span style="color: green;">●</span> No Eurasian Water Milfoil found |



10 0 10 20 30 Kilometers

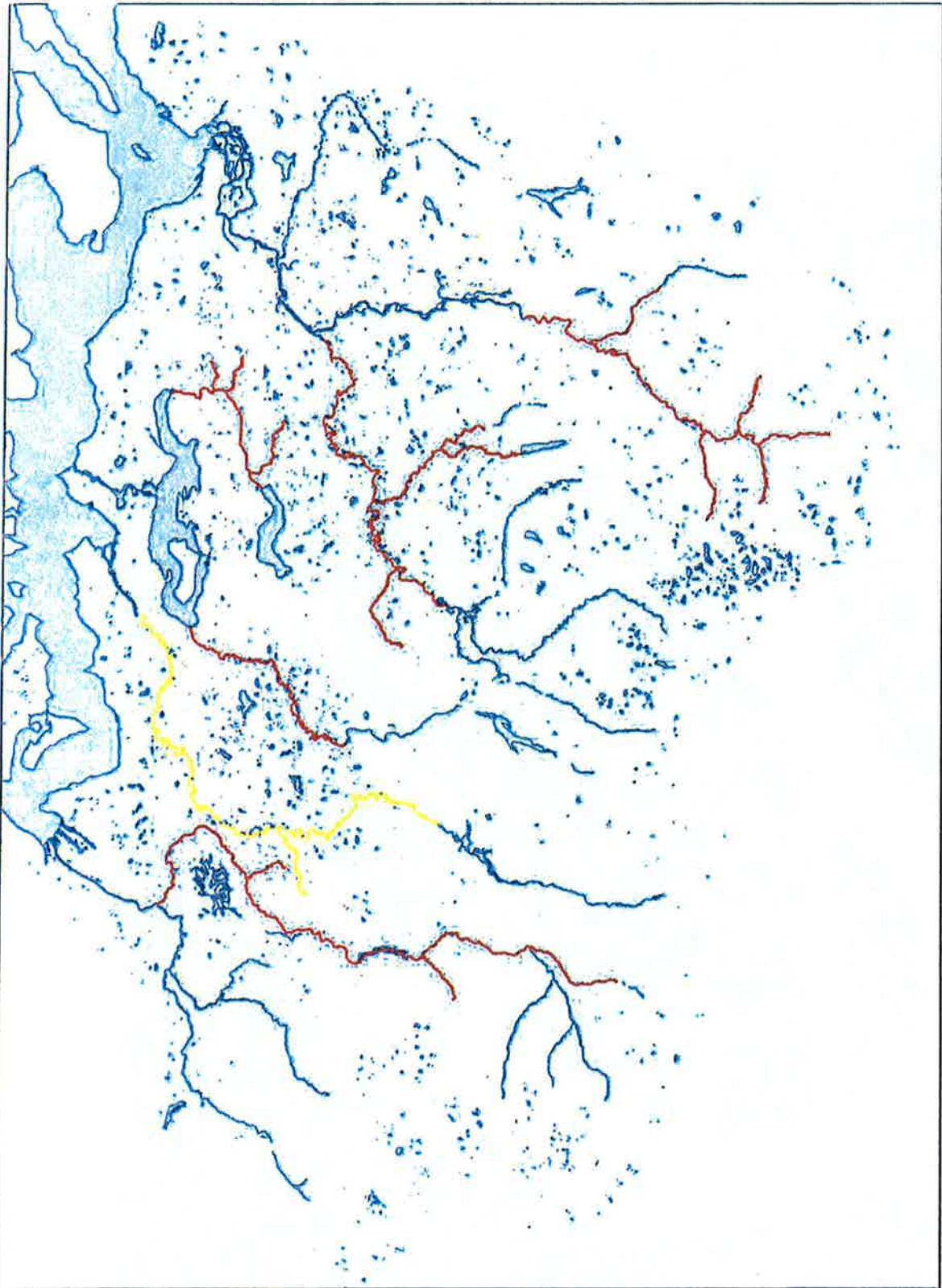


**Figure 3. King County: Lakes Washington and Sammamish Loosestrife Locations**

- Purple loosestrife
- Garden loosestrife

10 0 10 20 Kilometers



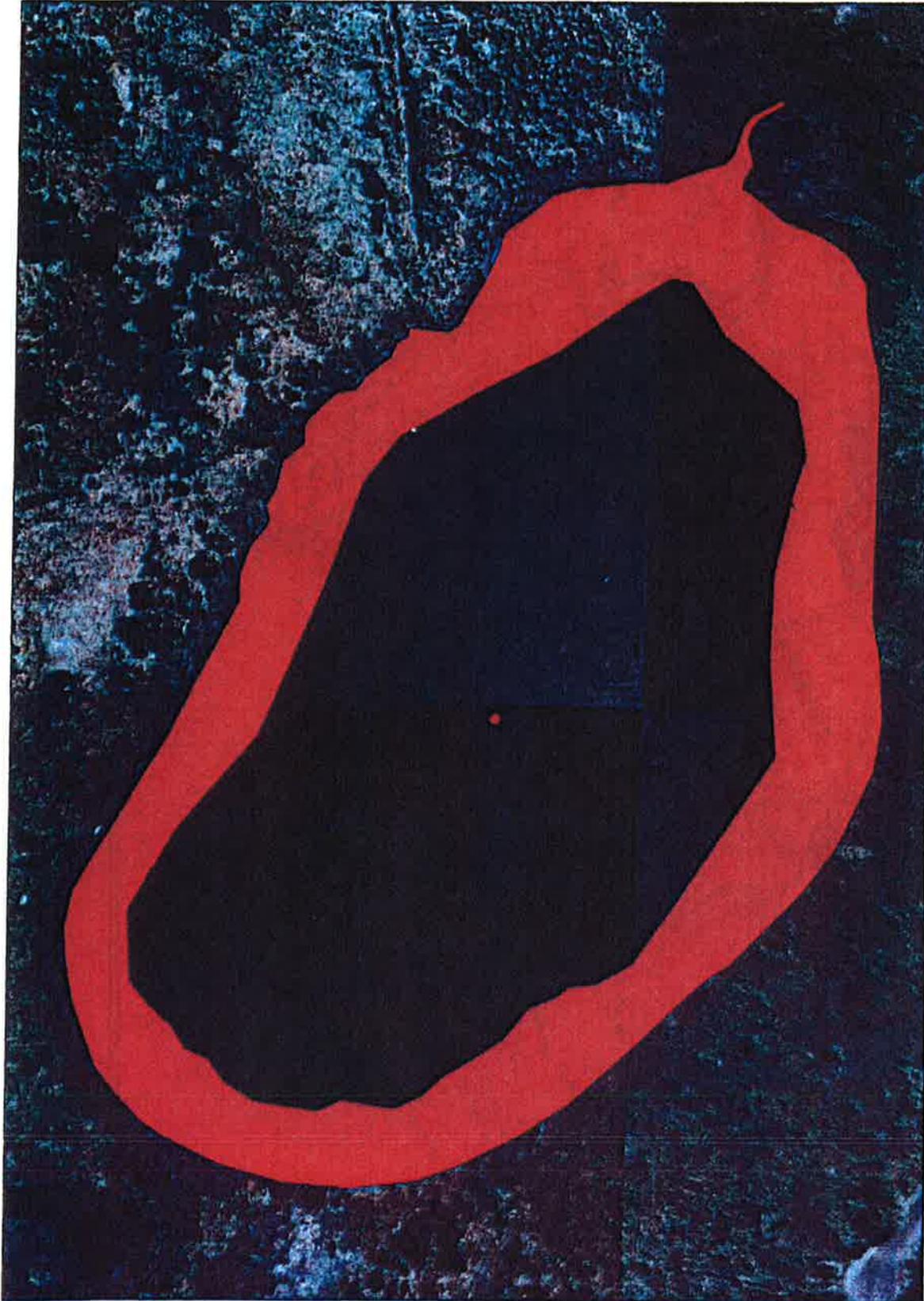


**Figure 4. King County: Chinook Salmon Status and Distribution**

 Critically Depressed Native Chinook River/Stream  
 Health Chinook River/Stream



0 90 180 Kilometers



**Figure 5. King County: Bass Lake**

-  Dense Eurasian Water Milfoil
-  EWM established lake

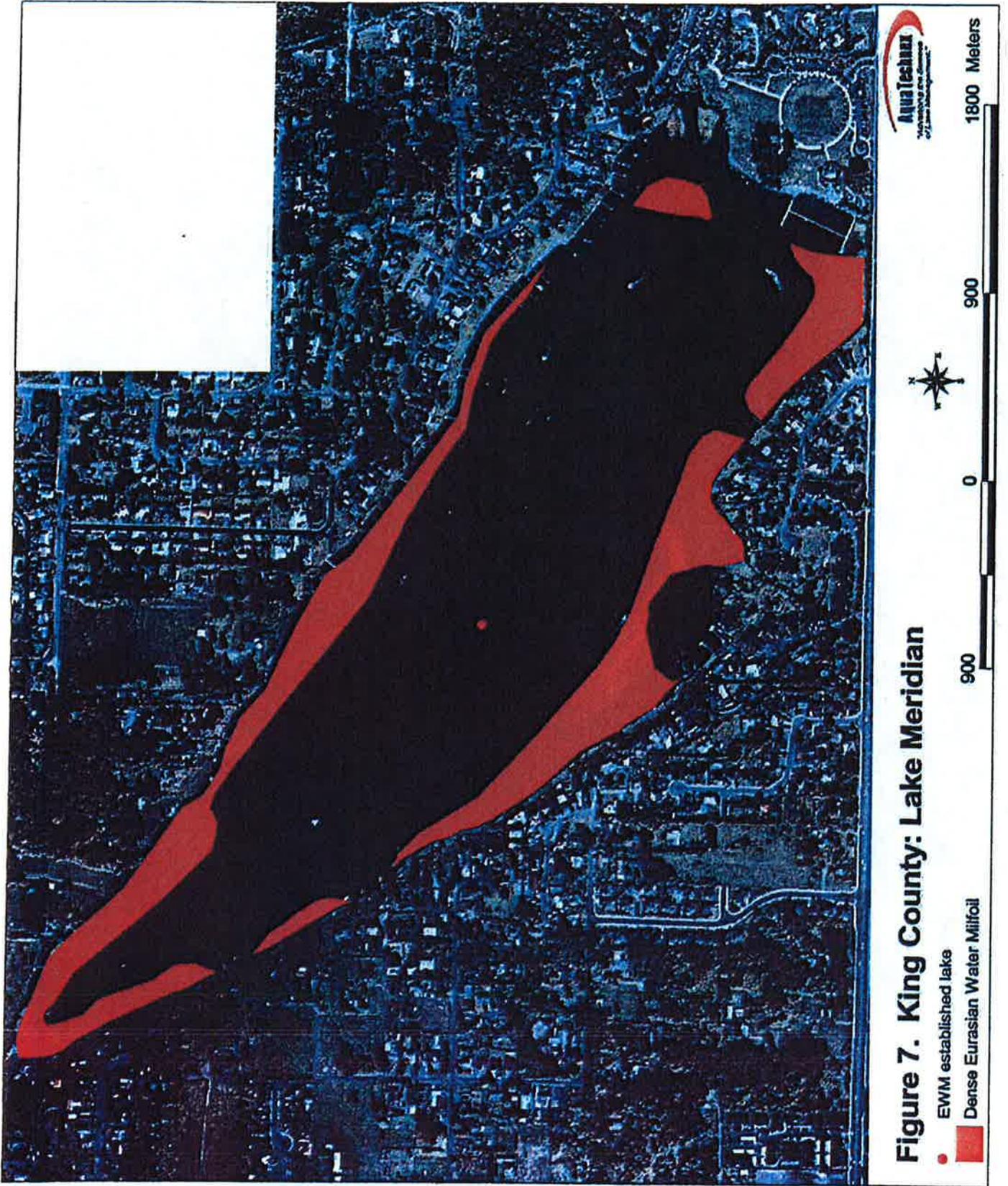


**Figure 6. King County: Desire Lake**

-  EWM establishing lake
-  Moderate Eurasian Water Milfoil



800 0 800 1600 Meters





**Figure 8. King County: Neilson Lake**

● EWM pioneering lake

■ Sparse Eurasian Water Milfoil

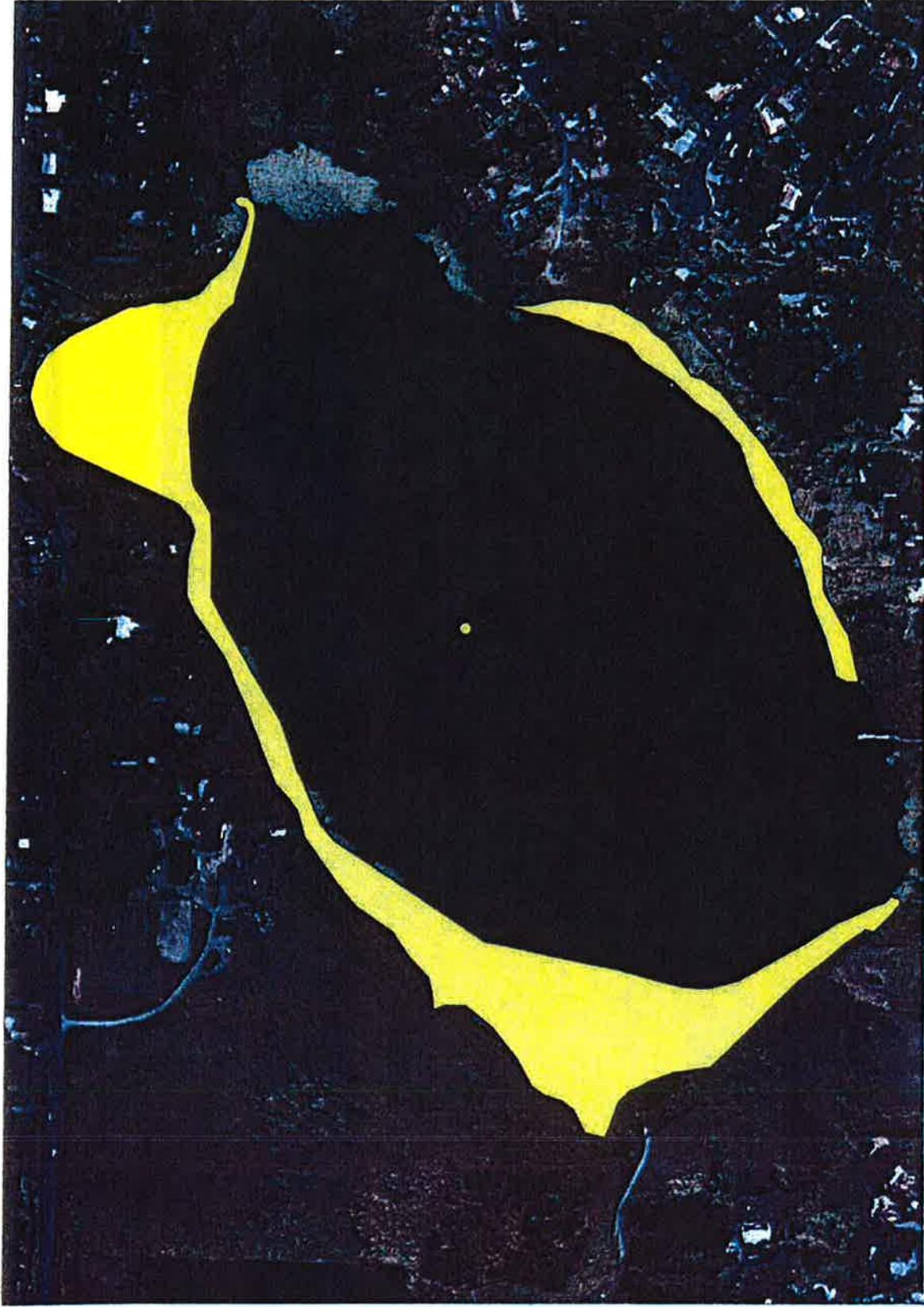


500

0

500 Meters





**Figure 9. King County: Phantom Lake**

● EWM establishing Lake

■ Moderate Eurasian Water Milfoil

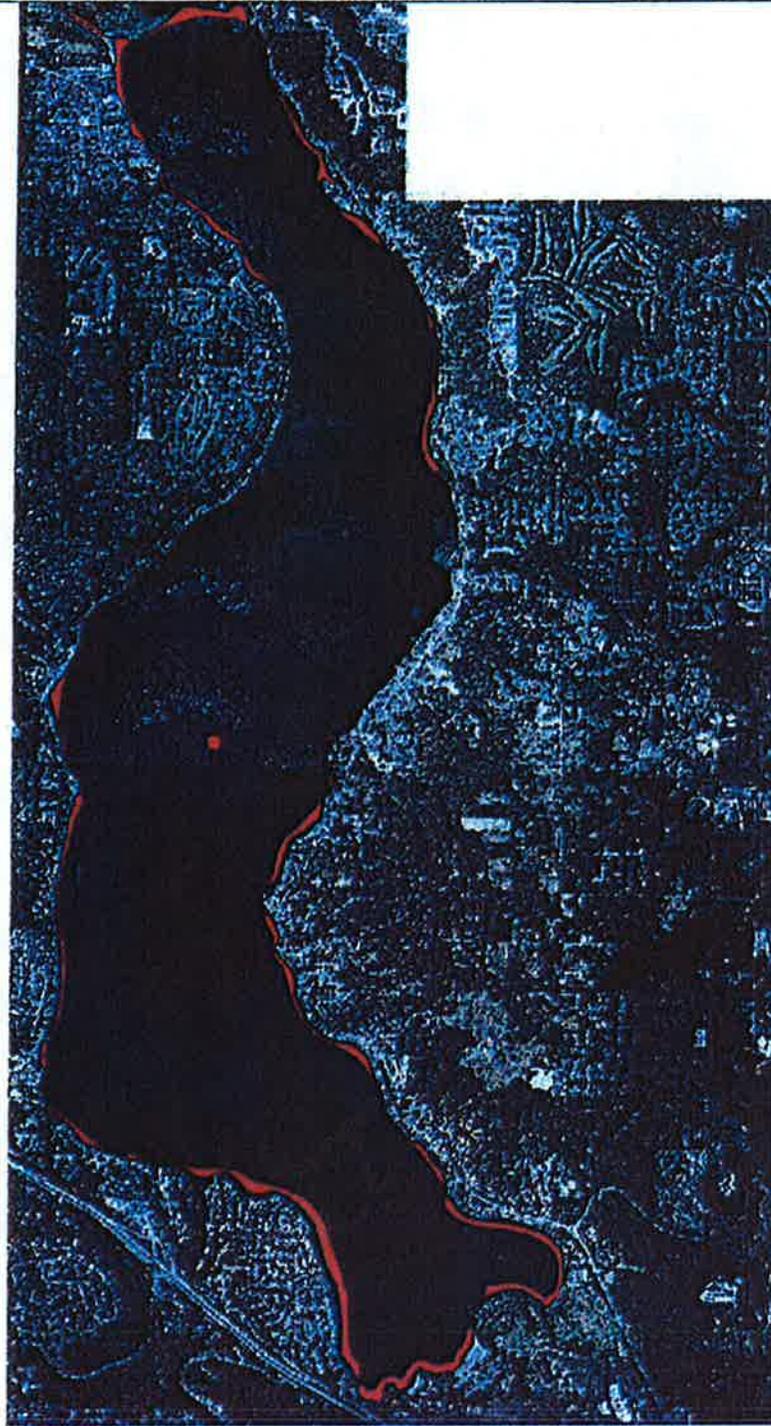
700



700

1400 Meters



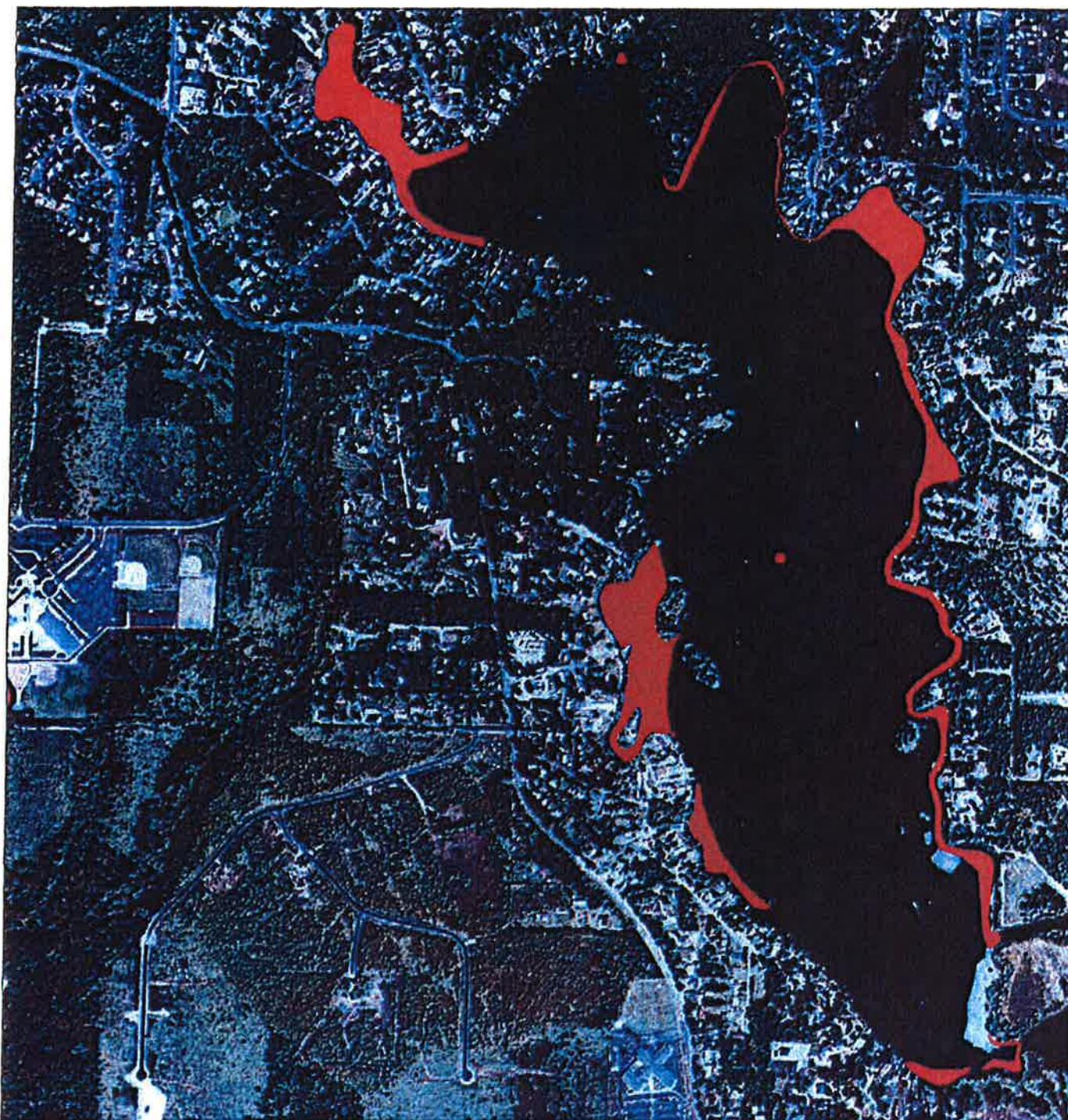


**Figure 10. King County: Lake Sammamish**

- EWM established lake
- Dense Eurasian Water Milfoil



9 0 9 18 Kilometers



**Figure 11. King County: Sawyer Lake**

- EWM established lake
- Dense Eurasian Water Milfoil



1 0 1 2 Kilometers





**Figure 12. King County: Shadow Lake**

-  EWM pioneering Lake
-  Sparse Eurasian Water Milfoil



600 0 600 1200 Meters



**Figure 13. King County: Shady Lake**

● EWM pioneering lake

■ Sparse Eurasian Water Milfoil



0

300

300

600 Meters





**Figure 14. King County: Spring Lake**

-  EWM establishing lake
-  Moderate Eurasian Water Milfoil



700 0 700 1400 Meters



**Figure 15. King County: Steel Lake**

• Ewm pioneering.shp

■ Sparse Eurasian Water Milfoil



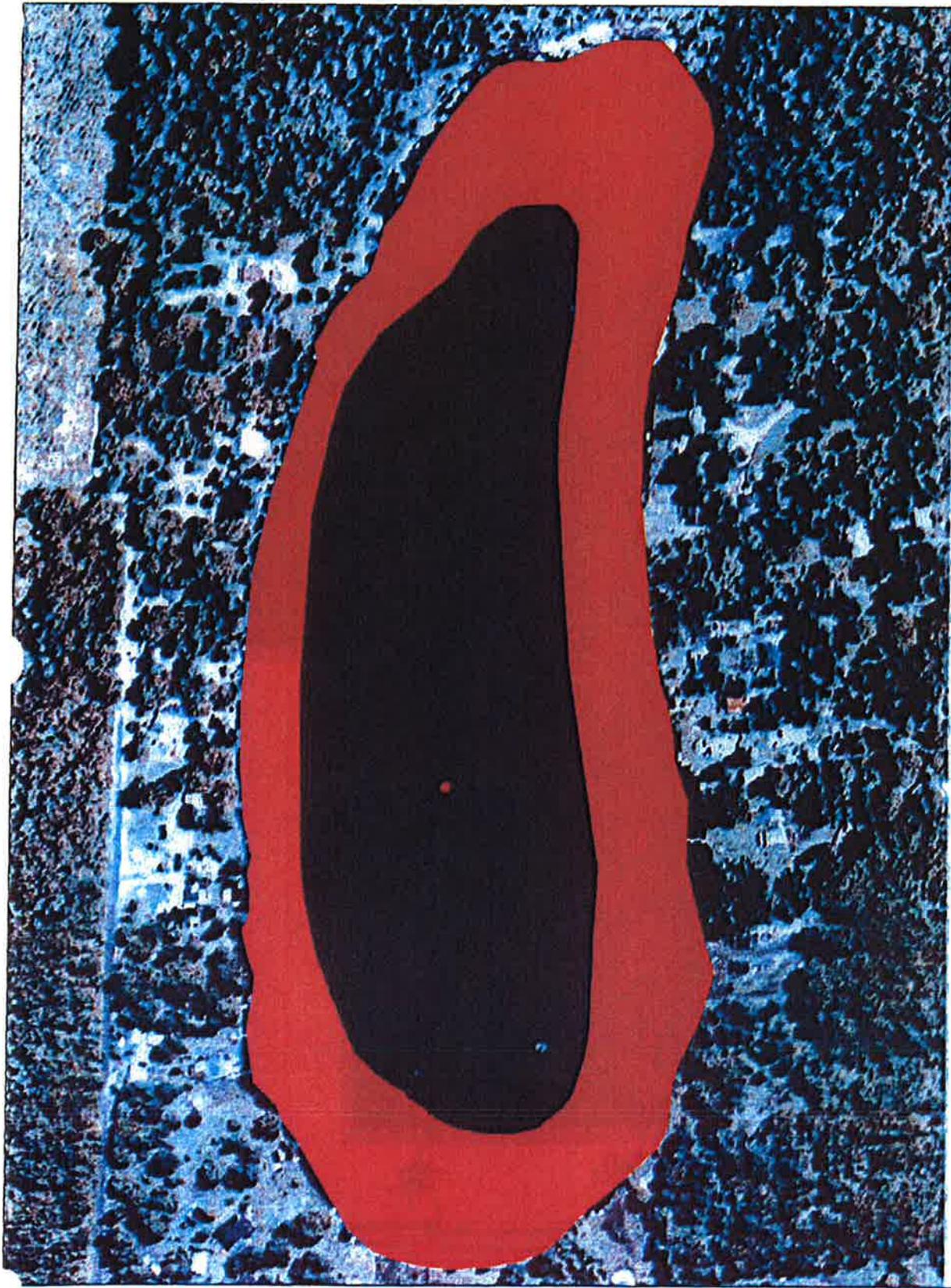
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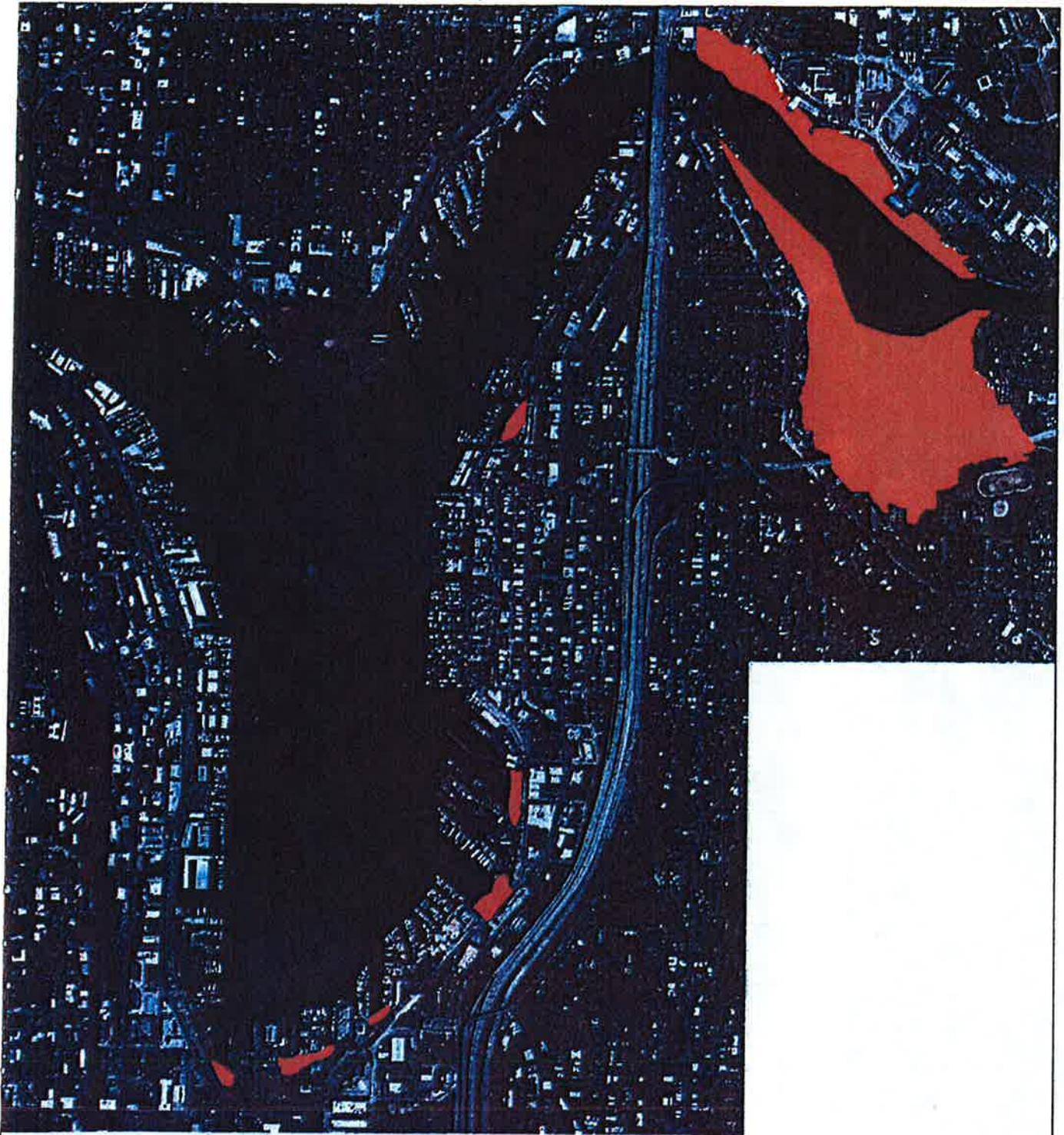
1000 Meters





**Figure 16. King County: Lake Twelve**

-  EWM established lake
-  Dense Eurasian Water Milfoil



**Figure 17. King County: Lake Union**

- EWM pioneering Lake
- Dense Eurasian Water Milfoil

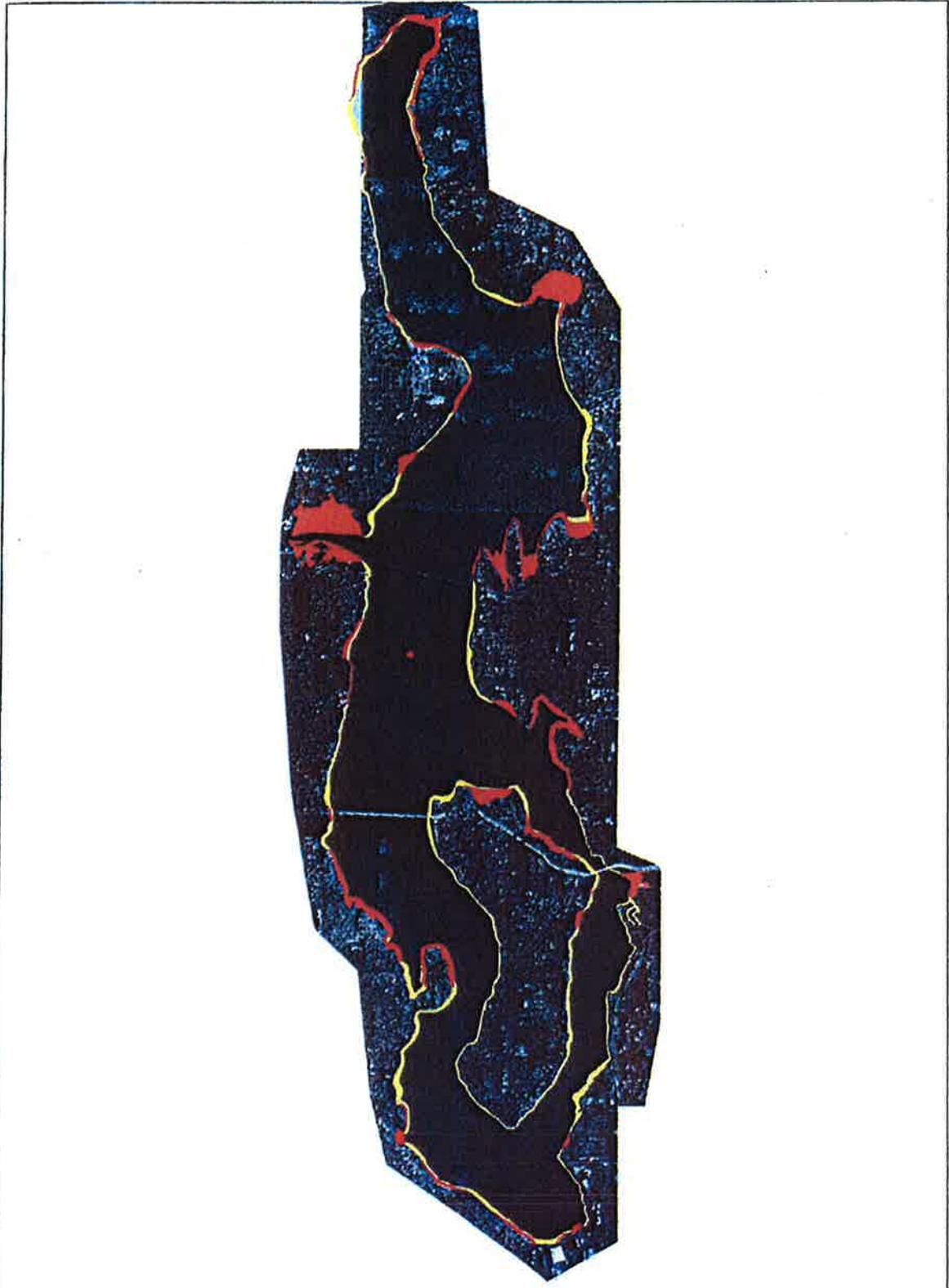
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3000 Meters





**Figure 18. King County: Lake Washington**

- EWM established lake
- Dense Eurasian Water Millif
- Moderate Eurasian Water Millif



10 0 10 20 Kilometers



RECEIVED

To: The Burien City Council

August 2, 2010 AUG 02 2010

Subject: The Proposed Burien Shoreline Management Plan  
Reference: E. Denton letter to the City Council dated May 3, 2010

CITY OF BURIEN

Dear Council Members,

As we reach this last opportunity for public comments to the proposed Shoreline Plan I want to take one more opportunity to speak to you.

FIRST, I want to thank you very much for the modifications that you have already made to the original Planning Commission document. This has shown your collective willingness to consider facts and to act responsibly and reasonably. I give you an 'A' for that effort.

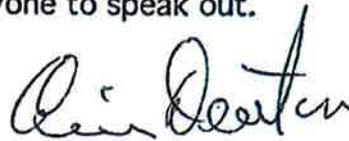
I have listened carefully to the individual comments that each of you have made during these many meetings and I have been very impressed with the consideration and reason that you each have already shown for the many issues involved with this Shoreline Plan.

There is still work to be done. I am aware that the City staff has recommended against the 20 foot setback and in favor of stringent vegetation requirements. These recommendations make no sense.

I ask that you ignore these staff recommendations, because I am almost certain that they will have little, if any, favorable impact on Puget Sound and will only be another example of unnecessary burdens placed on a significant number of citizens. You have already heard, and even commented on, the weak arguments from the D.O.E. Don't let Burien set another example of environmental regulations running wild.

Thank you very much for giving us this opportunity to testify. We are so thankful that we live in a society that allows everyone to speak out.

Sincerely,



Eric Denton P.E.

ps. As a token of our appreciation for your hard work we want council members to accept a remarkable photograph taken of a pair of creatures that occupied our wildlife raft last year. They could almost be an undiscovered species.

(FTR: 08/16/10)



Photo taken 100 feet offshore at a pair of otters sitting on our wildlife raft that also attracts seals and birds of all kinds. I decided to name them:

**'PUGET SOUND BEARDED BAY OTTERS'**

In truth these are a pair of common River Otters that happened concurrently to each catch a whitefish and to locate identically shaped triangular pieces that looked like white beards. This was a trillion to one chance!

from Eric Denton @ 2423 S.W. 172<sup>nd</sup> St.

**Lisa Clausen**

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**From:** Public Council Inbox  
**To:** jnelson168@comcast.net  
**Subject:** RE: Maplewild and SW 172nd St

Thank you for your message. It will be included in the Correspondence for the Record for an upcoming Council meeting.

L. Clausen  
Burien City Manager's Office

**From:** jnelson168@comcast.net [mailto: jnelson168@comcast.net]  
**Sent:** Monday, August 02, 2010 3:34 PM  
**To:** Public Council Inbox  
**Subject:** Maplewild and SW 172nd St

Dear Burien City Council, Mayor Joan McGilton, Deputy Mayor Rose Clark, Councilmembers Brian Bennett, Jack Block, Kathy Keene, Lucy Krakowiak and Gordon Shaw,

As a long time homeowner on SW 172nd St, I am very concerned about Burien's proposed changes to Maplewild and 172nd. The community's character would be irreversibly changed, and impacts to homeowners would be extreme. In addition, in many places the physical lay of the land seems to make it an impossible task as well as cost prohibitive.

These roads have served the area well through the years and with the fact that there is very little, if any, vacant land, there is no continuing growth that would require the changes; the area's population density is saturated.

As to safety, we already have problems with speeders around the Point, and that would only increase with these changes making it a less safe environment for everyone. In addition, it would inevitably attract new traffic creating more problems for homeowners. When driving these picturesque rural roads, it seems unimaginable to think of them as becoming city streets with sidewalks and bike lanes. This is not the place for that. We are not near city center where there are businesses within walking distance.

In conclusion, I ask that the proposal to add bike lanes and sidewalks in this area be stricken from the list of proposed improvements in Burien's six-year Transportation Improvement Program.

Thank you for your consideration of this request.

Sincerely,

Julie Nelson  
3126 SW 172nd St  
Burien, WA 98166

3FTR: 08/16/10

Aug 2, 2016

Thank you for this opportunity to speak tonight.

My name is Bob Tacy. I'm the son-in-law of Robert and Robbie Howell, who live on Lake Burien. I disclose this to let you know that although they are family, it's my love of nature and my passion for the environment that I'm here tonight.

I have visited the Howell's often over the last 10 years and have always been impressed with the way most, if not all of the residents take care of their homes, property... and most of all the lake. Without outside assistance or regulation they have been careful not to pollute or disrupt the natural habitat that provides for a large cross-section of wild-life. They agreed voluntarily not to allow gas powered water craft that can pollute the water. The shoreline of the lake is free of debris and trash. They are proactive, vigilant to potential threats and responsive to them. Lake Burien is simply a pristine lake that supports much wild-life.

We have a lake near our home in Puyallup - Bradley Lake Park. When we first moved to Puyallup in 2001, the park was undeveloped. Only a few people walked the dirt and gravel path around the lake. The lake water was fresh and clean. There were fish, Eagles and other wild-life both in and around the lake. A number of years ago the park was expanded and further developed. Hundreds more people visit every day. The result is, although the park is bigger and can serve more people... the lake is so polluted that wadding is not even allowed. The birds of prey have disappeared, we seldom even see ducks. You can find trash and litter along the shoreline. The park is nice... but the lake itself has been abused to the point that it's just for looking at. The shoreline is over-run with families of Geese who defecate both in and around the lake.

CSTR: 08/16/10

I share my observations because when I visit the Howell's home I enjoy looking at water that is clear enough to see several feet down. I see the turtles sunning themselves on the logs along the shore. I watch several species of ducks eating from the lake, chasing small minnows that are down the food chain for the larger fish in the lake, fish that can often be seen jumping, usually around sunset. The lake is also a food source for several species of birds of prey, including Eagles and Osprey. About a month ago I was fortunate enough to see one swoop down and take a fish from the lake, then fly back to its nest in one of the large trees that surround the lake.

In this day and age we are being told by government and environmentalists that one of the most important things we must do is to save our environment... save our planet. Wild life, ducks, turtles and birds of prey are all dependent on their habitat for survival. Lake Burien is a vital, thriving ecosystem for dozens of species.

I sincerely believe that having hundreds more people using this beautiful lake on a daily basis will damage this natural habitat in the short term... and destroy it long term. It would seem prudent to have respected environmentalists study the lake and get their professional input before changing anything.

As I understand it, Lake Burien has been taken care of by the homeowners going back more than a hundred years. It appears they've proven to be good Stewards of the lake and its entire eco system. I hope all of you will put the environment ahead of any other agenda you may be considering and let Lake Burien remain the healthy, relatively undisturbed habitat that so many species rely upon.

Thank you very much.

Bob Tacy, Jr.  
8416 133<sup>rd</sup> St. E., Puyallup, WA 98373



CITY OF BURIEN, WASHINGTON

Written Public Comments For Meeting Of Aug 2, 2010

For those who do not wish to speak, but would like to make comments, please use this sheet. Your comments will be summarized and become part of the permanent record for this Council meeting. You may leave your completed sheet with the City Clerk. Thank you.

King County historical record shows that water bodies with little to no physical access by humans and pets can maintain their ecological functions.

When unfettered physical access is allowed, the water quality quickly degrades and is often irreversible regardless of the technology or money thrown at it.

Lake Burien will suffer the same fate as all other water bodies if physical public access is not prohibited.

Name: Bob Edgar

Address: 15674 Shorewood Dr SW

City / Zip Code: Burien 98146

Telephone: \_\_\_\_\_

Please stipulate in the SMP that physical public access should be prohibited on Lake Burien.

## Don Warren

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**n:** Kathi Skarbo [kskarbo@comcast.net]  
**sent:** Monday, August 02, 2010 2:19 PM  
**To:** Chestine Edgar; Robbie & Robert Howell; Cyndi & John Upthegrove; Don Warren; Sandy Lievero; Tanya Engeset; Linda Plein; Greg & Paula Anderson  
**Subject:** Comments from Dave to DJ

Following is a message from Dave Douglas to David Johanson. There are a few good points if anyone wants to speak to this issue tonight.  
Kathi

-----Original Message-----

**From:** Dave Douglas [mailto:integritypermitting@hotmail.com]  
**Sent:** Monday, August 02, 2010 12:10 PM  
**To:** David Johansen  
**Cc:** Barbara Trenary; Kathi Skarbo; Andy Ryan  
**Subject:** RE: CONDITIONAL USE FOR DOSCK, PIERS AND FLOATS

Thanks.

First off, I am in disbelief based on my experience over the past few years with the SMP Update process. Are there plans to change this back to the appropriate permit classification so it aligns with all other local government SMPs or does the City of Burien plan to totally abandon its responsibility for managing its own shorelines and turn review, approval and all control for the permitting of all such structures over to the state?

It is not one to question how Burien conducts business on behalf of its citizens but as a resident of the state and someone very familiar with the shoreline permitting process can you explain the City's thinking on this and the position of the Planning and Land Use Department? There is no other Land Use and Planning Department in the area, maybe even the entire state, that would turn over the shoreline management and fate of their residents to the state except in the already accepted situations for variances and the most unusual of projects. Conditional uses, just like variances are an exception not the norm. Ecology has also stated their goal through the SMP Updates is not to take on more work through the review of additional project. Docks, piers and floats are routine water-dependent accessory structures and should not require Conditional Use permits. This process takes longer and is more expensive and at a time when the state is cutting staff to cover budget shortfalls it cannot be good for your property owners or the state. State and federal permits are totally covered by tax dollars so this means more work with no additional revenue. What is the state's position on this approach by the City?

Section 20.30.705 outlines some minimal requirements for Over-Water Structures. Why include this section in the City's SMP if review and approval is required by Ecology under the Conditional Use process? Did the City just need to put something in writing that would pass the state SMP Update litmus test? WA Department of Ecology essentially has no design parameters for these structures so they depend and require local governments to assign standards. How is the City meeting this responsibility?

What has been the reaction of property owners, homeowner groups and any their legal counsel? Has this been a point of discussion or simply passed by because people don't understand what this means in terms of restrictions, process and cost?

I am quite puzzled by this approach and hope you can provide some answers to all the questions above. I appreciate your time, energy and expertise.

Sincerely,

Dave Douglas  
Permit Manager/Shoreline Consultant  
Integrity Shoreline Permitting  
**"Putting the Property Owner First"**

[integritypermitting@hotmail.com](mailto:integritypermitting@hotmail.com)

C: (425) 343-2342

F: (206) 220-3737

---

From: DAVIDJ@burienwa.gov  
To: [integritypermitting@hotmail.com](mailto:integritypermitting@hotmail.com)  
Date: Mon, 2 Aug 2010 11:02:53 -0700  
Subject: RE: CONDITIONAL USE FOR DOSCK, PIERS AND FLOATS

Mr. Douglas

Thank you for your e-mail. We should have pulled out the document while you were here, I believe I was recalling a change that was made regarding bulkheads (See page IV-1, Figure 4). The draft dated July 14<sup>th</sup> does show dock, piers and floats as a conditional use permit.

David Johanson, AICP  
City of Burien, Senior Planner  
400 SW 152nd Street, Suite 300  
Burien, WA 98166

Phone: (206) 248-5522

**From:** Dave Douglas [<mailto:integritypermitting@hotmail.com>]  
**Sent:** Monday, August 02, 2010 9:47 AM  
**To:** David Johanson  
**Cc:** Barbara Trenary; Kathi Skarbo; Andy Ryan  
**Subject:** CONDITIONAL USE FOR DOSCK, PIERS AND FLOATS

Hi David,

Thanks for meeting with me to discuss the Kathi Skarbo project on Friday.

During our discussion I asked you why a Single Family Residential (Shoreline Residential) Dock, Pier and Float required a Conditional Use Permit. You said I must have see an old draft and it was changed to a Substantial Development Permit. I checked the July 14, 2010 City Council Draft over the weekend and those structures are indeed listed as Conditional Use on the Shoreline Permit Matrix on page IV-1. Can you confirm that a change was made at a recent meeting and is not yet reflected on the city website and will show up in the next draft?

If Burien does require a single family dock, pier or float to go through the Conditional Use process for a structure that is considered a water-dependent accessory use to a preferred shoreline use (single family residence) it will be the only City in the Puget Sound Area taking such action against its waterfront property owners. I would question the strength of this position since I don't believe the WAC, RCW or SMA would support it.

If I am reading the matrix in error or if a recent change was made I will gladly accept correction and direction. Please respond to this e-mail as soon as possible. Thanks.

Sincerely,

Dave Douglas  
Permit Manager/Shoreline Consultant

Integrity Shoreline Permitting

**"Putting the Property Owner First"**

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.. (206) 220-3737

RECEIVED

AUG 03 2010

CITY OF BURIEN

To : City Council, City of Burien  
City Manager, Mike Martin  
Community Development Director, Scott Greenberg  
Sr. Planner, David Johanson  
Monica Lusk for inclusion in public record

From : Don Warren, Lake Burien Shore Club, President and Lake Steward

Date : Monday, August 02, 2010

Re : Requested changes to the Burien Shoreline Master Program, Staff version 14 July 2010

I have a number of important points and requested changes to share with you this evening, so I have handed to each of you and to staff printed copies of this briefing.

- 1) **Regarding 20.30.030 [1.f] – Flood Hazard Reduction, Policies, The weir at outlet from Lake Burien** – As noted in previous meetings there is no history of flooding associated with Lake Burien or the outlet from the lake in more than 100 years. The weir assures the Lake, which has no outflow for about 6 months of each year, can be maintained near the ordinary high water mark a little longer than without the weir after the inflow is reduced in mid-spring. The Lake Burien Shore Club has maintained the weir in its own self interests since the weir was built, about 60 years ago. Any responsibility and liability for its maintenance falls to the Lake Burien Shore Club. The Shore Club thanks you in advance for removing the references to the weir from the SMP, as advised by staff in the changes Matrix, item # 6 in tonight's packet. We want to clarify that both [1.f] AND the erroneous reference to the weir as flood control structure in the introductory paragraph of 20.30.030 should be removed.
- 2) **Regarding 20.30.075 [2.g] – Over Water Structures (OWS :: Docks, Piers, and Floats), Limit one for each Single Family Detached Residential lot** – In the final Planning Commission meetings in March of 2010, The Planning Commission recognized that the Marine and Lake environments differ substantially in that no salmonids exist in Lake Burien. They advised that Lake Burien Private Property owners should be able to build whatever would be allowed by Dept of Fish and Wildlife and Army Corps of Engineers. References by staff to Lake Burien residents commenting on visual impairment and navigation issues are unfounded. In recent discussions with all of the Shore Club members recently, no one recalls any comment of the kind ever being made. **[2.g] can be modified as requested by the City Council as requested in Change Matrix item 17. "On Lake Burien, each single family lot may have one dock or pier, and one float. (note that barges are boats/vessels and not considered as floats. If need be for clarity, the council can suggest a definition be added or that the definition of float be modified to distinguish that barges are vessels and not floats)**
- 3) **The Shoreline Permit Matrix – 20.30.001 – Figure 4 –**
  - a. **Docks, Piers, and floats (Over Water Structures (OWS))– suggested change to "SDP" (Substantial Development) with footnote to show that Lake Burien OWS's need to adhere only to the guides of Dept of Fish and Wildlife and Army Corps of Engineers as**

advised by Planning Commission, and thus neither the SDP nor the CU apply to Lake Burien over water structures. The item presently shows Conditional Use (CU) Permit required which triggers a requirement for a Dept of Ecology review. I have attached to this document an email exchange between Kathi Skarbo of Lake Burien, Dave Douglas of Integrity Shoreline Permitting, and Sr. Planner David Johanson. It notes that the CU Permit requirement, should it stand in Burien's SMP would not only be outrageously unique from all other municipalities, but it would as well obviate the Planning Commission's advice and also cause an undue burden on the home owner and the Dept of Ecology. Please make the requested changes per Planning commission advice and commitment.

- b. Government Facilities – in column "Shoreline Residential" – shows as Substantial Development Permit (SDP) – **Please change to Conditional Use (CU) Permit.** David Johanson told me this row was entered into the matrix to handle the facilities in Seahurst Park, which is in the Urban Conservancy column NOT the Shoreline Residential column. Government Facilities are expected to include a higher point use and ecological impact than a single family residential use. Therefore, due diligence requires an environmental review by Dept of Ecology for this sort of use. **I leave it to the council to change the "SDP" reference to either "CU" (Conditional Use Permit) or "X" (Prohibited) in the Shoreline Residential column.**
- c. Residential Multi-Family – in column Shoreline Residential – Shows as SDP (Substantial Development) should be CU (Conditional Use) permit. Shore Residential for both Marine and Lake Burien is zoned for single family at this time. There is no reason that the SMP should be out of sync with the Zoning in the Comprehensive Plan. Therefore, this type of development should be "X" (prohibited) instead of SDP.
- d. Community Residential Facility – a footnote could be added referring to Ruth Dykeman Children's Center as an existing facility. And could note that existing facilities require only a SDP (Substantial Development Permit). RDCC, having been there for 80 years, has been and can be expected to be an ongoing good steward of the ecological function of the lake and shoreline. No development is presently possible water-ward of the existing buildings.
- e. Transportation Facilities and Parking – in Shoreline Residential column – Shows "SDP" (Substantial Development Permit) where it should be either "CU" (Conditional Use) or "X" (Prohibited) - **Due to the expected lack of compatibility to ecological function that a parking/transportation facility would assure by drawing a dramatic increase in point sources of oily pollution and human access, this type of development should not be encouraged ("X" prohibited) or it should be assured in its design to achieve no net loss of ecological function by requiring a "CU" permit, which would have to be reviewed and approved by Dept of Ecology.**
- f. Public Parks and Recreation Facilities – Shows "SDP" (Substantial Development Permit) where it should be either "CU" (Conditional Use) or "X" (Prohibited). Public Parks and Recreation Facilities under review for development would have a high likelihood of promoting a net loss of ecological function. **Therefore, this particular use should be**

changed from "SDP" to either "X" (prohibited) or "CU" (Conditional Use, which requires Dept of Ecology review and approval), in order to require proper due diligence towards best assuring no net loss of ecological function of the shoreline and associated waters.

- 4) 20.30.085 [2.h] – Recreational Development, Regulations – Staff has provided suggested language in the Changes Matrix in packet for tonight. See item #18. Staff's suggestion for language is pretty good and would best be stated as "Should physical public access occur on Lake Burien, No watercraft access is allowed through that public access point". Some boats that have been in other lakes in the area will have fragments of milfoil, elodea, or other invasive submerged plant species. The introduction to the lake of any of these will cause a net loss of ecological function of the waters of the lake as noted in Lake Burien Shore Clubs scientific reports from Herrera and also from Cooke. These sorts of invasions are not possible to mitigate but through prohibition of and constant proactive prevention of entry into the lake.
- 5) Changes Matrix – Item 20 , Inventory and Appendices – To include the Burien Marine Homeowners Association baseline analyses and Lake Burien Shore Club's scientific reports in the appendices to the Burien SMP. – Although staff is correct in noting the items have been submitted in the public record, including these items in the appendices to the SMP is a stronger show of support for an accurate baseline and inventory. Any future development considerations would be much better informed were they to use these documents. Failing to include them in the SMP appendices assures the permitting process need not consider them as baseline conditions for subsequent adjudication of "no net loss". We strongly urge and request that you include these honest and factual references in the appendices of the SMP.
- 6) Physical Public Access to Lake Burien will result, with the highest likelihood, in the net loss of ecological function of the shoreline and the associated waters. **Please make the changes requested in our Lake Burien Shore club red line request of June 2010 (see excerpt below) for the following reasons..** Physical Public Access cannot be properly monitored. The police department of Burien already acknowledges it cannot be everywhere at once and controlling parks and their uses will never be a top priority when simultaneous, situational needs conflict. Therefore, physical public access WILL result in someone bringing a boat to the lake regardless a prohibition in the regulations. A law without enforcement is as good as no law at all. If boats are brought to the lake, sooner or later, one of them will carry a fragment of a fast growing and over competitive submerged plant species such as milfoil. At the likely occurrence of that event it would take about two years for 60% of the lake to become infested with the invasive plant. (submerged plant growth occurs in up to 12 feet of water on average. More than 60% of the lake is less than 12 feet in depth.) Our scientific reports show this would lead to a chemical change in the lake promoting a large spike in blue-green algae populations. This produces a toxic result to lake and people. The "no net loss" requirement of the Washington State Shoreline Management Act requires mitigation according to a hierarchy with the first step being to not perform the development, in this case a physical public access point. **Bob Fritzen repeatedly answered "NO" when asked if the City must provide physical access to ever reach of every shoreline of the state.** He said "NO" in the Shoreline Advisory Committee meetings multiple times. He said "NO" in the Planning Commission meetings multiple times. He said "NO" in the

forums with the city council in recent months. It is your responsibility to assure not net loss by promoting a Draft SMP to Dept of Ecology that protects Lake Burien in the only way you can; please prohibit Physical Public Access specifically in the SMP as advised and requested below..

## 20.20.015 Shoreline Public Access Element

**Pol. PA 5:** The City should seek opportunities to develop new public access areas in locations dispersed throughout the shoreline. However, the City will not seek physical public access for Lake Burien because it has been determined that Lake Burien cannot support the additional impact that physical public access would create.

### 2. Regulations .... g)

- g. Public access improvements shall not result in a net loss of shoreline ecological functions. The City will not seek physical public access for Lake Burien because it has been determined that Lake Burien cannot support the additional impact that physical public access would create.

## 20.30.035 Public Access

### 2. Regulations .... g)

- g. Public access improvements shall not result in a net loss of shoreline ecological functions. The City will not seek physical public access for Lake Burien because it has been determined that Lake Burien cannot support the additional impact that physical public access would create.

RECEIVED

AUG 04 2010

Subject: Lake Burien, The Jewel of the City of Burien

To: The Burien City Council *Mayor McGilton*

CITY OF BURIEN

Reference: The Shoreline Management Plan

There has been considerable discussion about the possibility of opening up this pristine lake to allow public access. Based on testimony from the residents whose property encircles the lake, the waters provide refuge for a large variety of water birds, both local and migratory.

Evidence has been provided during the hearings that opening a lake to public access could eventually degrade it to a point where the waters are so polluted that no one can even swim there. This could take some time, but obviously the environment for wildlife would be adversely impacted immediately.

Our culture paves land with concrete and asphalt and unfortunately just happens to destroy wildlife habitat. A recent example of this occurred when the Port of Seattle constructed the third runway at our airport.

Not only did the Port eliminate wetlands by moving sixty-eight (68) acres to Auburn, but look what happened to the few acres that they left! They claimed to have 'enhanced' 102 of those acres, but then they prohibited (or at least seriously discouraged) bird life by placing netting over much of it to keep the birds away!

This means that Lake Burien is now the only pristine fresh water for those birds in the entire area. It would not be a surprise if the State Department of Ecology were to declare Lake Burien to be a State Treasure and thereby create some sort of conservancy to forever prohibit public use. It can be the almost exact offset for those 68 acres that moved away to Auburn. **IT IS TRULY THE JEWEL OF BURIEN.**

cc: Robbie Howell

*Eric Denton*  
Eric Denton 8/4/10

Attachment: Recent report from the Port of Seattle that documents the wetlands situation.

CFTR: 08/16/10

↑  
OVER

The Port of Seattle is wrapping up the last major section of environmental mitigation related to building the third runway and other major improvements at Sea-Tac Airport over the past decade.

The five-plus-acre site is the former Des Moines Creek Nursery location on the east side of Des Moines Memorial Drive, just north of State Route 518, in the City of SeaTac.

Included are wetland restoration; wetland and riparian enhancement and buffer restoration with more than 13,000 new native trees and shrubs; enhancement of Miller Creek including installation of habitat features such as large woody debris; plus conversion of a storm drain pipe to a shallow, sloped area called an open "swale," for better treatment of rainwater runoff.

This brings the total number of mitigated wetland acres near the airport to more than 102.

The Port also created or enhanced 60 acres along the Green River in Auburn.

In a separate but related effort, the Port is converting four construction storm water ponds for permanent use. These ponds were originally built to manage runoff from the third runway project. They are being lined with weed control fabric and covered with netting to discourage birds, which can be hazardous to aircraft. With the new conversions, the airport has a total of 12 storm water vaults and detention ponds.

Thousands of recently planted native trees and shrubs help mitigate major projects at Sea-Tac, including the third runway, which has been open for more than a year.

8/4/10

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

RECEIVED

AUG 05 2010

CITY OF BURIEN

File No. Burien Shoreline Master Program

As a citizen, I am requesting the Burien Shoreline Master Plan clearly state that there will be no **Physical Public Access to Lake Burien.**

**Physical Public Access** to Lake Burien by thousands of people will irreversibly damage this lake. We have perfect examples of the kind of irreversible damage that occurs in small lakes by simply looking at Hicks Lake and Arbor Lake - neighboring lakes and at numerous other small lakes in King County.

Physical Public Access, by thousands of people using a small lake, brings these ecologically damaging issues with it:

1. the introduction of invasive weeds that choke off the waterway, destroy oxygen levels in the lake and destroy wildlife,
2. the introduction of inappropriate gas levels into the water column that damages water quality, destroys wildlife and encourages the growth of toxic (like red tide) plankton populations,
3. the introduction fecal (poop) material to the lake that destroys water quality, destroys wildlife, encourages the growth of fecal coliform bacteria and creates a health and safety issue for humans,
4. introduced boating contamination, speed and density issues that create habitat destruction and trauma to wildlife as well as serve as contaminators and spreaders of infection and noxious weeds (Eurasian Milfoil, etc.) to the lake and animals (quagga mussel, zebra mussel, New Zealand mudsnail, rusty crawfish, spiny water flea, snail fever organism, etc.),
5. exceeding the carrying capacity of the land and water by the introduction of thousands of humans, their pets and their wastes/litter to the delicate lake ecosystem, and
6. the increased turbidity to the water by just the sheer number of people entering it which results in degradation of water quality and destruction of habitat for spawning fish, nesting wildlife.

Research shows that, within two years of having physical public access, small lakes have problems with invasive species and fecal coliform problems. These are problems that require chemical treatment and poisoning to lake waters to attempt to correct. In most cases they cannot be remedied without significant damage to the ecosystem.

**Lake Burien is the last healthy small lake along the King County Urban Corridor. Do not allow this to happen to it. Do not allow Physical Public Access to Lake Burien.**

Sincerely,

*Eldon A. Mount Jr.*

Eldon A. Mount, Jr.  
15260 20<sup>th</sup> Ave SW  
BURIEN, WA 98166

**Lisa Clausen**

---

**From:** Jason Mulvihill-Kuntz [mailto:jason.mulvihill-kuntz@psp.wa.gov]

**Sent:** Thursday, August 05, 2010 2:13 PM

**To:** Joan McGilton

**Cc:** Scott Greenberg; David Johanson; Lakey, Kirk A (DFW); bob.fritzen@ecy.wa.gov; Osterman, Doug; stharinger@co.clallam.wa.us

**Subject:** Puget Sound Salmon Recovery Council letter regarding shoreline master program update

Dear Mayor McGilton:

Please find attached a letter from the Puget Sound Salmon Recovery Council, signed by the council chair, Clallam County Commissioner Steve Tharinger. The letter is in regards to the integration of salmon recovery information and priorities with the work to update and implement your shoreline master program. A hard copy will follow.

Please let me know if you have any questions at this time.

Regards,

Jason

--

Jason Mulvihill-Kuntz

Ecosystem Recovery Coordinator

Salmon Recovery / Action Agenda Implementation Team

Puget Sound Partnership

Office: 360-464-2011

ll: 360-485-8954

[jason.mulvihill-kuntz@psp.wa.gov](mailto:jason.mulvihill-kuntz@psp.wa.gov)

CFTR: 08/16/10

# PugetSoundPartnership

our sound, our community, our chance

STATE OF WASHINGTON

Mayor Joan McGilton  
City of Burien City Hall  
400 SW 152nd St  
Suite 300  
Burien, WA 98166

July 28, 2010

Dear Mayor McGilton:

The Puget Sound Salmon Recovery Council is the policy body responsible for implementing the Puget Sound Salmon Recovery Plan. We are concerned and interested in supporting you in updating your Shoreline Master Program.

The Salmon Recovery Plan, which was locally developed and federally adopted, directs us to account for the restoration and protection of shoreline habitat forming processes. Comprehensive shoreline management at the regional and local scale is critical to the restoration and protection of habitat; the Shoreline Master Program is a key component of this work. Salmon depend on this area where the water meets the land to provide them with food, refuge, habitat, and clean water. The Shoreline Master Program update offers an opportunity to incorporate the needs of salmon, along with the needs of our communities, into how we manage our shorelines.

The salmon recovery effort offers several existing tools to help in your update, including: 1) the salmon recovery plan and its associated shoreline assessments; 2) local shoreline datasets and analysis tools; 3) annual implementation plans, called the "three-year work plan" with a list of projects and programs identified; 4) agency and tribal technical staff; and 5) a technical and citizen group experienced in prioritizing actions and tracking progress. Doug Osterman, the Lead Entity Coordinator for the Green/Duwamish and Central Puget Sound Watershed, along with yourself as the Recovery Council member, and Jason Mulvihill-Kuntz as the Ecosystem Recovery Coordinator through the Partnership, are resources to help explain how the salmon recovery information can most appropriately and effectively be incorporated into your Shoreline Master Program update. This could include identifying projects for the restoration plan, help tracking progress related to the no net loss element, or support in the inventory and characterization.

In addition to identifying salmon recovery information and resources, please let me know other ways the Recovery Council might assist you in your Shoreline Master Program update process. We look forward to partnering with you to help develop and implement a Shoreline Master Program that manages your city's shorelines to support the needs of salmon and your community.

# PugetSoundPartnership

our sound, our community, our chance

STATE OF WASHINGTON

Sincerely,



Steve Tharinger, Chair

Attachment: List of Puget Sound Salmon Recovery Council Members  
List of Puget Sound Lead Entity Coordinators

Cc: Scott Greenberg, City of Burien Community Development Director  
David Johanson, City of Burien Senior Planner  
Kirk Lakey, WDFW Watershed Steward  
Bob Fritzen, Ecology Shoreline Planner  
Doug Osterman, Green/Duwamish and Central Puget Sound Watershed Lead Entity  
Coordinator

# PugetSoundPartnership

our sound, our community, our chance

STATE OF WASHINGTON

## **Puget Sound Salmon Recovery Council Members & Alternates:**

Chair: Steve Tharinger (alt: Doug Morrill and Scott Chitwood) / Dungeness-Elwha Watersheds

Allison Butcher / ESA Business Coalition

Josh Weiss / Washington Forest Protection Association

Mike Shelby / Western Washington Agricultural Association

Jacques White / Long Live the Kings

Hilary Franz / Washington Environmental Council

Rob Masonis / Trout Unlimited

Darcy Nonemacher / American Rivers

Ken Berg / USFWS

Vacant, (alt: Elizabeth Babcock)/NOAA Fisheries

Tom Eaton / EPA

Michael McCormick (alt: Bernie Hargrave) / US Army Corps of Engineers

Terry Williams / Tulalip Tribe

Terry Wright / NWIFC

Vacant, (alt: Josh Baldi) / Ecology

Sara Laborde / WDFW

Randy Acker / DNR

Bob Kelly / Nooksack Tribe

Frank Abart / Whatcom County

Randy Kinley (alt: Alan Chapman) / Lummi Nation

Bob Myhr (alt: Barbara Rosenkotter) / San Juan County

Ken Dahlstedt (alt: Shirley Solomon) / Skagit County

Angie Homola (alt: Chris Luerkens) / Island County

Bill Blake (alt: Pat Stevenson) / Stillaguamish Watershed

Scott Powell (alt: Dave Somers) / Snohomish Watershed

Don Davidson (alt: Larry Phillips) / Lake Washington, Cedar-Sammamish Watershed

Joan McGilton (alt: Doug Osterman) / Green, Duwamish Watershed

Debby Hyde (alt: Tom Kantz) / Puyallup-White, Clover-Chambers Watershed

David Troutt (alt: Jeanette Dorner) / Nisqually Tribe

Jeanette Dorner / Nisqually Watershed

Sandra Romero (alt: Rich Dugess) / South Sound Watersheds

Scott Brewer (alt: Richard Brocksmith) / Hood Canal Coordinating Council

Linda Berry-Maraist / West Sound Watersheds

# PugetSoundPartnership

our sound, our community, our chance

STATE OF WASHINGTON

## **Puget Sound Salmon Recovery Lead Entity Coordinators:**

### San Juan County (WRIA 2) Lead Entity

Barbara Rosenkotter / 360-370-7593 / barbarar@co.san-juan.wa.us

### Nooksack (WRIA 1) Watershed Lead Entity

Becky Peterson / 360-392-1301 / genevaconsulting@comcast.net

### Skagit (WRIA 3, 4) Watershed Lead Entity

Shirley Solomon / 360-419-9326 / solomon@skagitwatershed.org

### Stillaguamish (WRIA 5) Watershed Lead Entity

Pat Stevenson (Stillaguamish tribe co-lead) / 360-630-0946 / pstevenson@stillaguamish.nsn.us

Denise DiSanto (Snohomish County co-lead) / 425-388-3464 / denise.disanto@co.snohomish.wa.us

### Snohomish (WRIA 7) Watershed Lead Entity

Tim Walls / 425-388-3781 / timothy.walls@co.snohomish.wa.us

### Island (WRIA 6) Watershed Lead Entity

Chris Luerkens / 360-678-7810 / chrisl@co.island.wa.us

### Lake Washington/Cedar/Sammamish (WRIA 8) Watershed Lead Entity

Jean White / 206-206-263-6458 / jean.white@kingcounty.gov

### Green/Duwamish (WRIA 9) Watershed Lead Entity

Doug Osterman / 206-296-8069 / doug.osterman@kingcounty.gov

### Puyallup/White/Clover/Chambers (WRIA 10, 12) Watershed Lead Entity

Tom Kantz / 253-798-4625 / tkantz@co.pierce.wa.us

### Nisqually (WRIA 11) Watershed Lead Entity

Jeanette Dorner / 360-438-8687, x2135 / Dorner.jeanette@nisqually-nsn.gov

### South Sound (WRIA 13, 14) Watershed Lead Entity

Amy Hatch-Winecka / 360-427-9436 / wria13-14leadentity@thurstoncd.com

### West Sound (WRIA 15) Watershed Lead Entity

Kathy Peters / 360-337-4679 / kpeters@co.kitsap.wa.us

### Hood Canal (WRIA 14, 15, 16, 17) Watershed Lead Entity

Richard Brocksmith / 360-394-7999 / rbrocksmith@hccc.wa.gov

### North Olympic Peninsula (WRIA 17, 18, 19) Lead Entity

Cheryl Baumann / 360-417-2326 / cbaumann@co.clallam.wa.us

210 11<sup>th</sup> Avenue Southwest, Suite 401  
Olympia, Washington 98504-2242  
[www.psp.wa.gov](http://www.psp.wa.gov)

[www.pugetsoundpartnership.org](http://www.pugetsoundpartnership.org)  
1.800.54.SOUND | office: 360.725.5454  
fax: 360.725.5466

## David Johanson

---

From: Denise Reinke [reinkefnd@comcast.net]  
Date: Thursday, August 05, 2010 12:39 PM  
To: David Johanson  
Subject: Shoreline Master Plan

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

File No. Burien Shoreline Master Program

As citizens, we are requesting that the Burien Shoreline Master Plan clearly state that there will be no **Physical Public Access to Lake Burien**.

**Physical Public Access** to Lake Burien by thousands of people will irreversibly damage this lake. We have perfect examples of the kind of irreversible damage that occurs in small lakes by simply looking at Hicks Lake and Arbor Lake - neighboring lakes and at numerous other small lakes in King County.

Physical Public Access, by thousands of people using a small lake, brings these ecologically damaging issues with it:

1. the introduction of invasive weeds that choke off the waterway, destroy oxygen levels in the lake and destroy wildlife,
2. the introduction of inappropriate gas levels into the water column that damages water quality, destroys wildlife and encourages the growth of toxic (like red tide) plankton populations,
3. the introduction fecal (poop) material to the lake that destroys water quality, destroys wildlife, encourages the growth of fecal coliform bacteria and creates a health and safety issue for humans,
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5. exceeding the carrying capacity of the land and water by the introduction of thousands of humans, their pets and their wastes/litter to the delicate lake ecosystem, and
6. the increased turbidity to the water by just the sheer number of people entering it which results in degradation of water quality and destruction of habitat for spawning fish, nesting wildlife.

Research shows that, within two years of having physical public access, small lakes have problems with invasive species and fecal coliform problems. These are problems that require chemical treatment and poisoning to lake waters to attempt to correct. In most cases they cannot be remedied without significant damage to the ecosystem.

**Lake Burien is the last healthy small lake along the King County Urban Corridor. Do not allow this to happen to it. Do not allow Physical Public Access to Lake Burien.**

Sincerely,

Fred and Denise Reinke

15734 14<sup>th</sup> Ave. SW  
Burien, WA 98166

## David Johanson

---

**From:** Lisa Clausen  
**Date:** Friday, August 06, 2010 3:37 PM  
**To:** David Johanson; Susan Coles  
**Cc:** Scott Greenberg  
**Subject:** FW: SMP Sections 20.30.007 and 20.30.095

FYI.

**From:** Public Council Inbox  
**Sent:** Friday, August 06, 2010 3:29 PM  
**To:** 'Ryan's / McJunkin's'  
**Subject:** RE: SMP Sections 20.30.007 and 20.30.095

Thank you for your message. It will be included in the Correspondence for the Record for an upcoming Council meeting.

L. Clausen  
City Manager's Office

**From:** Ryan's / McJunkin's [mailto:nordic44@comcast.net]  
**Sent:** Sunday, August 01, 2010 12:27 PM  
**To:** Public Council Inbox  
**Cc:** Ryan, Andrew F  
**Subject:** SMP Sections 20.30.007 and 20.30.095

I would like to thank the council for requesting staff to provide a response to my question regarding SMP language.

Unfortunately I do not believe the staff response provided to item 3 of the Summary of City Council Comments, City Council Draft dated 7/14/2010 was adequate as it only addressed the part of the question related to proposed BMC 20.30.007. The response in the matrix simply restated that:

"No changes recommended. 20.30.007 is clear that legally established appurtenances are conforming to the SMP."

While the current language is a huge improvement over previous SMP drafts, staff did not answer my question for clarification regarding how 20.30.007 is impacted by proposed BMC 20.30.095, (2)g which states: Accessory structures and appurtenances are **not permitted within the riparian buffer (50' from OHWM) or building setbacks except for ...fences, ...buoys, docks, and floats.** (Note: underlined text is directly from SMP - bold emphasis is mine)

20.30.095 comes into play whenever there is residential development involving **construction or exterior alterations to one or more buildings ....together w/ appurtenances....**

Staff response also did not mention that 20.30.007 states: **Any addition, expansion or reconstruction beyond the existing footprint of the single family home, appurtenance or other structure must comply with the SMP.**

My interpretation of these 2 regulations is that my existing boathouse, which by it's very nature is in the riparian buffer, is conforming (if it was legally permitted when originally built - proof of which a problem in itself since it was here long before I lived here or Burien was a city) and therefore it can remain as long as:

- 1) per 20.30.007 - I don't add, expand, or reconstruct beyond the existing footprint of my single family home or appurtenance. Any of the above would require compliance w/ the SMP. Compliance w/ the SMP I assume would also include 20.30.095 which states appurtenances are not allowed.

2) per 20.30.095 - I don't do any external alterations to one or more buildings which again require that there be no appurtenant structures w/i the riparian buffer.

It looks like a Catch 22 to me - Our appurtenant structures are now legally conforming but to perform any work on our structures we have to comply with all aspects of the SMP which makes our appurtenant structures unallowable.

**So, I'll try one more time to ask the question- Do the new regulations, in their totality, require that we remove our appurtenance structures if we add, expand, construct, reconstruct, or make exterior alterations to our properties, YES or NO? (and if No, where is that clearly stated?)**

Thank you

Andrew Ryan

16525 Maplewild Ave SW

Burien WA

**David Johanson**

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**From:** Kim Ahlf [ktahlf@msn.com]  
**Date:** Friday, August 06, 2010 11:29 PM  
**To:** David Johanson  
**Subject:** SMP Public Hearing meeting and record

To: David Johanson, AICP

Senior Planner  
City of Burien  
400 SW 152nd St., Suite 300  
Burien Washington 98166

File No. Burien Shoreline Master Program

As a citizen, I am requesting the Burien Shoreline Master Plan clearly state that there will be **no Physical Public Access to Lake Burien.**

Physical Public Access to Lake Burien by thousands of people will irreversibly damage this lake. We have perfect examples of the kind of irreversible damage that occurs in small lakes by simply looking at Hicks Lake and Arbor Lake - neighboring lakes and at numerous other small lakes in King County.

Physical Public Access, by thousands of people using a small lake, brings these ecologically damaging issues with it:

1. the introduction of invasive weeds that choke off the waterway, destroy oxygen levels in the lake and destroy wildlife,
2. the introduction of inappropriate gas levels into the water column that damages water quality, destroys wildlife and encourages the growth of toxic (like red tide) plankton populations,

the introduction fecal material to the lake that destroys water quality, destroys wildlife, encourages the growth of fecal coliform bacteria and creates a health and safety issue for humans,

4. introduced boating contamination, speed and density issues that create habitat destruction and trauma to wildlife as well as serve as contaminators and spreaders of infection and noxious weeds (Eurasian Milfoil, etc.) to the lake and animals (quagga mussel, zebra mussel, New Zealand mudsnail, rusty crawfish, spiny water flea, snail fever organism, etc.),

5. exceeding the carrying capacity of the land and water by the introduction of thousands of humans, their pets and their wastes/litter to the delicate lake ecosystem, and

6. the increased turbidity to the water by just the sheer number of people entering it which results in degradation of water quality and destruction of habitat for spawning fish, nesting wildlife.

Research shows that, within two years of having physical public access, small lakes have problems with invasive species and fecal coliform problems. These are problems that require chemical treatment and poisoning to lake waters to attempt to correct. In most cases they cannot be remedied without significant damage to the ecosystem.

Lake Burien is the last healthy small lake along the King County Urban Corridor. Do not allow this to happen to it. **Do not allow Physical Public Access to Lake Burien.**

Sincerely,

Kim and Troy Ahlf

## David Johanson

---

From: Chuck & Gail Warren [chuckandgail@yahoo.com]  
Sent: Saturday, August 07, 2010 4:09 PM  
To: David Johanson  
Subject: Burien Shoreline Master Plan

Mr. David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> Street, Suite 300  
Burien, Washington 98166

### **Subject: Burien Shoreline Master Plan**

Dear Mr. Johanson,

My husband and I lived in Burien for more than 40 years and have enjoyed Lake Burien at the home of lake residents. We now are retired in Bellingham. We believe that Lake Burien should remain a private lake without physical public access. Its pristine waters, home to eagles and herons, ducks and many other birds would be damaged by public access. Keep it a healthy lake.

Please do not allow Physical Public Access to Lake Burien.

Sincerely,  
Chuck and Gail Warren

Chuck and Gail Warren  
545 W. Kellogg Rd.  
Bellingham, WA 98226 -7618

August 5, 2010

RECEIVED

To: David Johanson, AICP  
Senior Planner, City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

AUG 09 2010

CITY OF BURIEN

File No. *Burien Shoreline Master Program*

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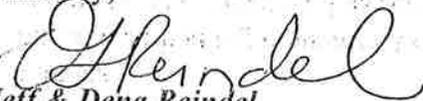
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5. exceeding the carrying capacity of the land and water by the introduction of thousands of humans, their pets and their wastes/litter to the delicate lake ecosystem, and
6. the increased turbidity to the water by just the sheer number of people entering it which results in degradation of water quality and destruction of habitat for spawning fish, nesting wildlife.

Research shows that, within two years of having physical public access, small lakes have problems with invasive species and fecal coliform problems. These are problems that require chemical treatment and poisoning to lake waters to attempt to correct. In most cases they cannot be remedied without significant damage to the ecosystem.

**Lake Burien is the last healthy small lake along the King County Urban Corridor. Do not allow this to happen to it. Do not allow Physical Public Access to Lake Burien.**

Sincerely,

  
Jeff & Dena Reindel  
15731-14<sup>th</sup> Ave. SW  
Burien, WA 98166

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

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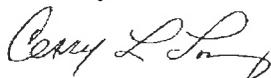
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Sincerely,



Gary L. Looney  
1217 SW157th St.  
Burien, WA 98166

6/57

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AUG 10 2010

CITY OF BURIEN

August 9, 2010

Bruce Berglund  
15643 Maplewild Ave. SW  
Burien, WA 98166

Burien City Council

Dear City Council Members,

BALANCE sums up my concern over our amendments to the Shoreline Management Plan in that it needs to:

- Represent ALL Burien citizens.
- Consider future Burien citizens
- Actually does something to improve the quality of Puget Sound

At this point it does not appear Council will end up with a balanced plan.

A small number of radical, vocal private rights people have dominated the agenda. The Shoreline Advisory Committee had the same problem as one Individual with a personal agenda kept us from adequately completing our assignment. It appears City Council is confronted with the same problem.

A private rights representative at a Council meeting talked about non conforming structures which appears to be extraneous to the question at hand in that every time a new building code is approved throughout Burien a question of non conformity is raised about existing structures.

Please include in your deliberations the factual information available about the pervasive danger signs on the health of Puget Sound, which is lifeblood for our area. Certainly one can pick out conflicting information, but the preponderance of evidence is we need to act now to protect this economic and natural resource. Back in 1951 I canoed The Sound and with joy watched school after school of fish. Not any more.

Yes, we do need to make compromises, but we should at least be aware of what we are compromising As an example the SMA is already a compromise and as we further compromise it in a Burien plan we get further away from protecting the Sound and our economy.

As a member of Burien's first Economic Development Partnership we promoted the idea, Burien is friendly place to do business. Extreme personal property right attitudes and keep out signs undercut that we are a place where people want to settle and do business.

Yours truly,



To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

RECEIVED

AUG 10 2010

CITY OF BURIEN

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**Lake Burien is the last healthy small lake along the King County Urban Corridor. Do not allow this to happen to it. Do not allow Physical Public Access to Lake Burien.**

Sincerely,

*Frances Delaney Wix*  
13301 3<sup>rd</sup> Ave D.W.  
Burien, Wa. 98146  
(206) 246-6249

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

RECEIVED

AUG 10 2010

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Sincerely,

*Joyce Jones*

*13310 3rd Ave, SW*

*Burien, WA 98146*

RECEIVED

AUG 10 2010

CITY OF BURIEN

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

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Sincerely,



RICHARD NICHOLSON  
1228 SW 157<sup>th</sup> ST  
BURIEN, WA 98166

August 10, 2010

To: Burien City Council  
From: Carol Jacobson  
3324 SW 172<sup>nd</sup> St.

I am writing to you with some concerns about the public access issues in the SMP. Public access on the marine shoreline has not received as much attention as buffers, bulkheads, vegetation, and nonconforming language, but it is of critical importance to those of us on SW 172<sup>nd</sup> St. as well as to other shoreline residents. I want to try to clear up some potential misunderstanding about what we are asking the City Council to recommend related to this issue.

1. The city's broad policies and regulations related to public access do not specify that such access applies to publicly owned shoreline. The Shoreline Master Program Guidelines specifically state in 4 separate places and 5 different sentences that public access applies to "publicly owned areas of the shoreline" and "shorelines on public property". Most of Burien's marine shoreline is privately owned, and there is private property between the shoreline and any potential public access site. The SMP needs to reflect the city's intent to properly evaluate and mitigate the impact of public access on the adjacent private property and on the surrounding community. The redline SMP proposed by BMHA addresses some of these concerns in section 20.30.035 2(a, b, c), which should be incorporated into Burien's SMP.
2. Item 20.30.035 2c in Burien's SMP draft states: If a public road is located within shoreline jurisdiction, any unused right of way shall be dedicated as public access unless vacated as set forth in RCW 35.79.035". We are requesting that this entire item be removed for several reasons:
  - a. We have submitted written statements for the public record from two separate land use attorneys stating that this item should be deleted because it is overly broad and suggests an improper and potentially illegal approach, especially as pertains to SW 172<sup>nd</sup> St.
  - b. The right of way issue on SW 172<sup>nd</sup> has been in dispute for decades and is still not settled. Before the city does ANYTHING with SW 172<sup>nd</sup> the issue needs to be resolved, and that may have to occur in court.
  - c. In effect, this statement MANDATES that "unused right of way" will become public access. Nothing in the Shoreline Management Act or the SMP guidelines supports such a mandate. At the very least the city has not completed the necessary planning and review of impact to adjacent properties to support such a mandate. There is no reason to have this statement in there unless it is intended as a tool to achieve some agenda. The city should not be using the SMP as a weapon against any of its citizens, and this item is aimed directly at SW 172<sup>nd</sup> St.
  - d. There may be concern among council members about not wanting to "tie the hands" of future city councils by removing this item from the SMP. Removing this statement does not change anything for current or future city councils. It has no effect on the right of way issues that currently exist and we are not asking for a determination to be made about the right of way at this time. All we are asking is to remove this item to prevent the city from using the SMP as a method of achieving some agenda that they have not yet been willing to share publicly with the citizens. There can be no other reason to have this in there in the first place.

These items need to be addressed in order to avoid the potential disaster that the current wording related to public access could cause for the citizens on this street and for the city. Please don't let this important issue get lost in the shuffle of other issues as you debate the proposed SMP.

CFR: 08/16/10

**Lisa Clausen**

---

**From:** Public Council Inbox  
**Sent:** Wednesday, August 11, 2010 11:05 AM  
**To:** 'sean wittmer'  
**Subject:** RE: Shoreline Master Plan and Right of ways

Thank you for your message. It will be included in the Correspondence for the Record for an upcoming City Council meeting.

L. Clausen  
Burien City Manager's Office

**From:** sean wittmer [mailto:seanwittmer@yahoo.com]  
**Sent:** Tuesday, August 10, 2010 3:23 PM  
**To:** Public Council Inbox  
**Subject:** Shoreline Master Plan and Right of ways

Dear Madame Mayor and City Council Members,

We would ask you to review Chapter 4 section 20.30.25 2c. If a public road is located within the shoreline jurisdiction, any unused right of way shall be dedicated as open space and public access.

We live on SW 172nd St. We know that by now you have become aware of our concerns. One that concerns us is in regards to the road in front of our home. From our understanding, the city has a right of way for the road. However, the wording in this sentence is very open to interpretation. We feel that the only reference point for the sentence would be to SW 172nd St. If you were to remove 2c from the Shoreline Master Plan, there would be one less concern in this document.

Please ask the city staff what are the unused right of ways on the Burien shoreline and are there any plans to add public access to these areas in the city's 20 to 30 yr. plan? It's tough not to be paranoid with the current wording of the document. From our window there is no unused right of way in the shoreline jurisdiction.

Sincerely,  
Sean and Julie Wittmer  
3328 SW 172nd St

CFTR. 08/16/10

RECEIVED

MIG 04 2010

CITY OF BURIEN

To: The Burien City Council  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

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Research shows that small lakes that are opened to physical access, within two years of having physical public access, have problems with invasive species and fecal coliform problems. These are problems that require chemical treatment and poisoning to lake waters to attempt to correct. In most cases they cannot be remedied without significant damage to the ecosystem. **Lake Burien is the last healthy small lake along the Urban Corridor. Do not allow this to happen to it. Do not allow physical public access to Lake Burien.**

Sincerely,

*S. Shull*

*CFTR. 08/10/10*

## David Johanson

---

**From:** Marc Kropack [marc.kropack@continentalmills.com]  
**Sent:** Wednesday, August 11, 2010 7:33 AM  
**To:** David Johanson  
**Subject:** RE: SMP - New idea to consider

David, thanks for all your work on this process. Please pass this comment along to the City Council.

City Council and Staff - In your deliberations of SMP, please consider that as water front home owners we are okay with a surcharge of .x% of a remodel cost to be placed into a "Clean UP the Sound Fund" rather than be hassled by unclear regulatory language and paying higher than normal permit fees because it would put us into a variance or CU permit status.

We heard one of our beach neighbors speak to this idea and liked it; filter the water coming from the uphill roads before it enters the Sound. Implementing this kind of solution is just one example of what the money in this fund could be used for. Other examples, would be to create a bio-assessment that helps us all understand or identify, and then work to fix the problems that do exist.

I guess our bottom line is we like the direction we hear - not to impact existing homes and grandfathering us all in, but in exchange, we don't mind, the City charging some reasonable amount of money when we want a permit to remodel our existing home (and any work requiring a permit within the 200 foot buffer), bulkhead, etc., as long as the money goes into a dedicated "Clean up the Sound Fund".

Thank you for your consideration.

Jennifer and Marc Kropack  
2681 SW 151<sup>st</sup> PL  
Burien  
Cell # 206-250-8243

This email (and any attachments) contains information which is private and confidential and intended for the address return email.

To: David Johanson, AICP, Senior Planner  
City of Burien  
400 SW 152nd St., Suite 300  
Burien Washington 98166

Re: Burien Shoreline Master Plan

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Research shows that, within two years of having physical public access, small lakes have problems with invasive species and fecal coliform problems. These are problems that require chemical treatment and poisoning to lake waters to attempt to correct. In most cases they cannot be remedied without significant damage to the ecosystem. **We cannot afford this kind of damage or the resultant cost of repair. Nor can we afford the health issues raised to the human, animal or bird life caused by allowing public access.**

**I do not live on the lake, but I am very concerned about the unthinking damage that we continue to do to our planet. Lake Burien is the last healthy small lake along the King County Urban Corridor. Do not allow this to happen to it. Do not allow Physical Public Access to Lake Burien. Please, let's think this through and do the right thing for this little corner of the earth and for our community.**

Sincerely,



Jeanie Burns  
1424 SW 151st Street  
Burien, WA 98166

RECEIVED

AUG 11 2010

CITY OF BURIEN

David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St, Suite 300  
Burien, WA 98166

E-mail: [davidj@burienwa.gov](mailto:davidj@burienwa.gov)

Mr. Johanson:

With Reference to 20.30.030(2.d.vi) Shoreline Vegetation Conservation Page IV-8  
This deals with replacement of existing lawns being prohibited.

Attached to this memo is a photo of our property that is an example of several properties that would be affected by this topic. You'll see stakes which show the OHWM (Ordinary High Water Mark) with a green ribbon, 20' with a pink ribbon and a red ribbon at 50'.

We oppose the language used in the summary of comment for the following reasons:

There is "No Net Loss" do to replacement:

These grass areas may have "limited functional benefits" ecologically, but kids play on grass safely, others gather and lawns are pleasing to the eye. With today's modern organic fertilizers the issue of "chemical and fertilizer applications" does not apply. Please visit the website for Dr Earth, [www.drearth.com](http://www.drearth.com) for more information on these organic products.

With a 50' buffer, we stand to lose 30' of grass landward; we support the 20' buffer and request the restriction on "replacement" be removed.

Sincerely,

William J Bailey  
3726 SW Three Tree Pt Lane  
Burien, WA 98166  
206-241-1815



## David Johanson

---

**From:** Mary Oemcke [merryo@seanet.com]  
**nt:** Sunday, August 15, 2010 8:44 PM  
**o:** David Johanson  
**Subject:** Lake Burien/Shoreline Master Program

Hello Mr. Johanson, I have been a resident on Lake Burien for 10 years (1603 SW 152 St.). During that time I have come to appreciate what a small gem of a lake it is and how delicate an ecosystem it is. The diverse flora and fauna environment of Lake Burien is sustained by limited physical access of the lake and careful stewardship.

Consistent with SMP's goal of minimizing damage to and protecting that ecology and environment while allowing public access can be achieved by providing a point of visual rather than physical access to the lake. Visual access is the surest way of complying with SMA/ SMP goal of protecting ecological function of the shoreline and associated waters. That, of course is the common goal. Mary Oemcke

City Council  
City of Burien  
400 SW 152<sup>nd</sup> St, Ste 300

Re: Lake Burien Public Access

August 16, 2010

Dear Council Members,

Lake Burien is a public resource being used as a private water playground because the public is denied access. This denial is the result of happenstance that some want to make into policy, but there is no justification for such a policy. As I pointed out in a previous letter to the council, the consultants hired by the Lake Burien Shore Club tried to make a case against public access, but failed to do so. The only conceivable risk to the lake from public access is invasive species introduction. The studies cited a boat ramp study and repeatedly referred to the problems of trailered boats. In fact, the wetland scientist hired by the Lake Burien Shore Club seems to consider anything short of a boat ramp to be visual access and acceptable to her. In answer to my email she wrote "It would be fine if there was visual access. Something like a picnic area where folks could look over the lake and enjoy the scenery. It is physical access by boat that would be the problem because there is no way to make sure that no weeds are introduced and only electric engines are used (petrochemical pollution, noise, and the possibility of killing resident wildlife because the speed limit would not be maintained)." She doesn't seem to have thought of the fact that requiring boaters to carry their boat to the water from the street would meet her concerns. She went on to repeat her opposition to public access anyway and I think she summed up her "objectivity" nicely with this statement: "If folks want access to lakes so badly, why not go to a lake that is already dead or in poor shape." When I pointed out what the access would most likely be like and how it would answer her objections, she did not reply.

I also received an email reply from the author of the other submitted study. In it he states that there are only two contraindications for public access to the lake in his study. The first is the naturally occurring blue green algae, which has never bloomed, but if it did it would be a hazard to animals and people using the lake. This has nothing to do with access itself but public safety in general. If it is actually an issue, swimming in the lake should be banned not only for users of public access, but residents as well. The other contraindication is invasive species. The author says he knows of no studies of invasive species attached to hand launched water craft but that there have been reports of such happenings. Other than watercraft, he states that dumping an aquarium and releasing bait have been identified as the primary sources of invasive aquatic species in lakes. Both of these activities are more likely to involve lakeside residents than visitors to a park.

So the invasive species issue for public access really boils down to hand launched craft. This risk is insignificant. Typically, these craft are stored dry for extended periods of time. They will be free of invasive species when they are taken to a lake. If that is a contaminated lake, the craft could be contaminated and the invasive species could spread by dropping off in transit home and washing into a waterway via a storm drain. This is how many roadside ditches and small waterways get contaminated even though no one accesses them. If that home is on Lake Burien, the craft can take the invasive

CPTR: 08/30/10

species directly to the lake but any contaminated craft taken through or stored in the watershed for Lake Burien has the very real potential of introducing an invasive species into the lake. This is by far the most likely method of introducing an invasive species to the lake and has nothing to do with public access. A storm water treatment system is the only real defense, but public education can help. The public outreach and education potential of a public access could more than offset any risk caused by launching a canoe into the lake.

It is clear that access itself in the form of a park is not the problem. Probably, there should be a ban on the use of internal combustion engines on lakes in the City of Burien. Possibly, activities such as small boat paddling and swimming may need some control. If so, it is an issue for all of the lake, not just a short stretch of public access. It makes no sense to allow canoes to be launched from private property but not public property. Any restriction should apply to the entire lake.

You recently received many copies of a form letter on the evils of public access. It refers to the problem of thousands of people and fast boats, which, of course, have nothing to do with any proposal for a public access to Lake Burien. It refers to Arbor Lake, the only other lake in Burien, as "a perfect example of the kind of irreversible damage that occurs in small lakes " when public access is allowed. I presume you have also seen the article in the Highline Times that has been referred to in some communications, on the horrible condition of Arbor Lake. I urge you to visit the lake. I went there on a Monday morning, presumably after it had endured a weekend of evil activities and before the Parks department could clean it up and remove all the evidence. I ventured in without a hazmat suit or bodyguard, and found a very clean pleasant park. It had no sign of drug use, vandalism or other abuse except for tire tracks on some of the lawn.

A comparison of the two lakes is very educational:

The Arbor Lake shoreline is heavily wooded with woody debris in the water and abundant natural shade. This keeps the temperature down, the dissolved oxygen content up and provides excellent habitat for wildlife. Lake Burien has open shoreline and bulkheads where the water is warmer and makes a better playground.

The Arbor Lake shoreline is typically decaying vegetation, also known as muck, and plant life. This is where the food chain for wildlife starts. Lake Burien has beaches of imported sand and most native vegetation has been removed. Swimmers won't get tangled in the lily pads.

Arbor Lake has fallen trees reaching out from shore and providing cover and habitat for wildlife. Lake Burien has private docks and swimming floats reaching out from shore for personal recreational use.

Like other natural lakes in western Washington with no natural flow, Arbor Lake probably has little in the way of a significant fish population. Lake Burien has trout, bass, sunfish and perch, according to the Cooke study. According to the Washington Department of Fish and Wildlife, all of these species have been deliberately and illegally introduced into the lake. No permit to plant fish in Lake Burien has ever been issued. It seems that this public lake is also a private fishing preserve.

In a realistic comparison, Lake Burien wins as a playground. Arbor Lake wins as a natural ecosystem. In fact, if a natural habitat is the goal, the comparison of Arbor Lake and Lake Burien makes a pretty strong case for banning any more construction on any lake in Burien.

The fact that many anti public access shoreline homeowners show up at the council meetings is no reason to override the rights of all the citizens of Burien. There is no legitimate reason why the S M P should not try to make public resources public.

Sincerely

A handwritten signature in cursive script that reads "Lee Moyer". The signature is written in black ink and is positioned below the word "Sincerely".

Lee Moyer, S M P Advisory Committee Member

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

RECEIVED  
AUG 16 2010  
CITY OF BURIEN

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**Lake Burien is the last healthy small lake along the King County Urban Corridor. Do not allow this to happen to it. Do not allow Physical Public Access to Lake Burien.**

Sincerely, *Susan & Robert Eaton*  
*concerned citizens*

EATON  
1228 SW 157<sup>TH</sup> ST  
BURIEN, WA 98166  
228-6048



CITY OF BURIEN, WASHINGTON

Written Public Comments For Meeting Of 8/10/2010

For those who do not wish to speak, but would like to make comments, please use this sheet. Your comments will be summarized and become part of the permanent record for this Council meeting. You may leave your completed sheet with the City Clerk. Thank you.

The State Shoreline Management Act (SMA) specifically references any public access to shorelines from lands that are publicly owned.

However, the City of Burien is currently choosing to ignore the state requirements and has intentionally removed "publicly" from the SMP with the intent to promote public access from both privately and publically owned lands.

This purposeful move has also put the city at odds with the SMA requirement to protect private property rights.

Name: Bob Edger  
Address: 12674 Shorewood Dr SW  
City / Zip Code: Burien 98146  
Telephone: \_\_\_\_\_

Please make sure that the final SMP containing any references to public access be changed to include "from publically owned lands".

OFFER: 08/30/10

## David Johanson

---

**m:** Karen Walter [KWalter@muckleshoot.nsn.us]  
**it:** Monday, August 16, 2010 4:36 PM  
**to:** David Johanson  
**Subject:** Burien's Shoreline Master Program July 2010 draft MITFD questions

David,  
The Muckleshoot Indian Tribe Fisheries Division is reviewing the City Council Draft of the Shoreline Master Program. We have some questions about the Master Program as noted below:

1. Policy ALL 7 on page II-2 describes a coordination process for regulation and management of the City's shorelines to include the Muckleshoot Tribe. How does the City intend to implement this policy? Please note that the Muckleshoot Indian Tribe Fisheries Division (MITFD) is the division at the Tribe that reviews projects, plans, and rules that could affect the Tribe's treaty protected resources. We did not get any draft SMP documents from the City and very limited notice about the City's SMP process as it was progressing.
2. Similarly, the Administration and Shoreline Permit Procedures section on page V-3, indicates that public notice for a shoreline permit will be provided pursuant to BMC Chapter 19.65. In Chapter 19.65.040.3.A, the City requires notice to be given to "agencies with jurisdiction". There is no mention of affected Indian Tribes in 19.65 and "agencies with jurisdiction" is not defined in Chapter 19.65. To implement, Policy ALL 7 effectively, the City should be giving notice to affected Indian Tribes for all shoreline activities that could affect treaty fisheries resources. The regulations in both City chapters should be explicit so City staff will know the requirements.
3. In 20.25.010.3.c, page III-2, does the City have size requirements for new overwater structures? We couldn't find it in the regulations.
4. In 20.30.001, Figure 4, Shoreline Permit Matrix (page IV-1), aquaculture is not allowed in the shoreline residential and urban conservancy zones; only as a conditional use in the aquatic zone. Since aquaculture is defined broadly to include the buildings and equipment included for aquaculture activities in 20.40.010, does this mean that the existing hatchery at Seahurst park would be unable to conduct maintenance, remodel or expand its associated structures outside of the ordinary high water mark if needed?
5. Similarly, if a tribe had a restoration plan to recover or restore a native aquatic population, it would be difficult at best to do so because any upland facilities needed to access aquaculture sites and in water equipment would be prohibited per 20.30.001. Isn't there a conflict with 20.30.001 and the regulations in 20.30.065.
6. In 20.30.050, Dimensional Standards for Shoreline Development, item 1 indicates that the buffers and setbacks in Table 5 on page IV-15 do not apply to structures legally existing on the effective date of the SMP. What standards would apply to these structures?
7. In Figure 5, page IV-15, what is the difference between the marine riparian buffer and the vegetation conservation buffer? How does one go from a 50 foot buffer to a 150 or 200 foot buffer with vegetation? The regulation in 20.30.055.1 only discusses a fifty foot riparian buffer for the marine shoreline which suggests that the 150 foot or 200 foot vegetation conservation buffer in Figure 5 is meaningless and unenforceable.
8. In 20.30.065.2.d, page IV-18, please clarify what is meant by "the introduction of an aquatic organism". Could this mean shellfish seeding for native population recovery that is allowed in 20.30.065.2.f?

Also, wouldn't it be sufficient to obtain a Hydraulic Project approval when an aquatic organism is introduced instead of written approval by the Director of the Washington State Department of Fish and Wildlife as required in 20.30.065.2.d?

Perhaps, the intent of this regulation is to avoid the introduction of non-native aquatic organism and if so, it should be changed.

9. In 20.30.080.2.k.iii, page IV-26 regarding Habitat Restoration and Enhancement indicates that a substantial development permit is not required for land that is brought under shoreline jurisdiction due to a shoreline

restoration project; however, habitat enhancement or restoration projects are required to get a substantial development permit per 20.30.001 Figure 4.

Similarly there may be a conflict with 20.30.080.2.k.iii, 20.30.001 and 20.35.025.2.L. Regulation 20.35.025.2.L identifies public or private projects whose primary purpose is to improve fish and wildlife habitat to obtain a shoreline exemption permit, not a shoreline substantial development permit as required in 20.30.001. Isn't this an inconsistency that needs to be fixed?

We look forward to the City's responses to these questions to better help us understand the draft language in the SMP.

Thank you,  
Karen Walter  
Watersheds and Land Use Team Leader

*Muckleshoot Indian Tribe Fisheries Division*  
39015 172<sup>nd</sup> Ave SE  
Auburn, WA 98092

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

RECEIVED

AUG 18 2016

CITY OF BURIEN

File No. Burien Shoreline Master Program

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Research shows that, within two years of having physical public access, small lakes have problems with invasive species and fecal coliform problems. These are problems that require chemical treatment and poisoning to lake waters to attempt to correct. In most cases they cannot be remedied without significant damage to the ecosystem.

**Lake Burien is the last healthy small lake along the King County Urban Corridor. Do not allow this to happen to it. Do not allow Physical Public Access to Lake Burien.**

Sincerely,

*Florence M. Nicholson*

22022 6<sup>TH</sup> AVE  
S APT  
DESV, WASH, WA 206  
98148

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
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*plus we will constantly call 4 help! on issues of boat speeds, litter etc*  
Sincerely,  
*Cynthia R. Nicholson*

Burien, WA 98166  
206-228-6048

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
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Sincerely,



153 S. 160<sup>th</sup> St. # 70 (206) 728-6887

Burien, WA 98148

Theresa C. Marksi Kathleen Hansen

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

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Sincerely, H. HOLLAND

To: David Johanson, AICP  
Senior Planner  
City of Burien  
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Sincerely,

*Gregory Newby*

*I grew up on Lake Burien and lived there until 1958. I know how it was when there was an area that the public could access. Lake residents have worked long and hard to bring the water quality up to the standard it is. I don't*

is an ongoing project. Who will take over if public access is allowed, because it will deteriorate. Who will provide restroom and clean the area. Does Burien have funds to take care of this?

Lake Burien is too small a lake to open up to the public. Take a close look at what has happened to the lakes mentioned on the front of this letter. I remember when they were open to the public - but no more.

Sincerely,  
Norman J. Newby

# Caution about Blue-Green Algae on Lake Burien

August 20, 2010

King County staff working with Lake Burien residents confirmed on August 20 the presence of a type of algae in the lake that could cause health problems for people and dogs. Residents should take steps to minimize their exposure to this algae.

## **What is the algae and what does it look like?**

The algae is cyanobacteria and is commonly called blue-green algae. A blue-green algae bloom often looks like green paint floating on the water and is hard to pick up or hold. It can take the form of a scum. Despite its name, it can be a range of colors including bright green, blue-green, olive, yellow-brown, and red. Because the algae is often at the surface, the wind blows it around and it can get caught up in shoreline vegetation.

## **Why is blue-green algae a cause for concern?**

The Washington State Department of Ecology notes that *some* blue-green algae blooms pose a human health concern and have killed pets and livestock. Although most blue-green blooms are not toxic, some blue-green algae produce nervous system or liver toxins. Toxicity is hard to predict, especially by sight. The size or intensity of the scum do *not* indicate the toxicity. A single species of algae can have toxic and non-toxic strains. A bloom that tests non-toxic one day can become toxic the next day.

People may become ill after swimming or water skiing in lakes with toxic blue-green algae. Human health effects may include stomach pains, vomiting, diarrhea, skin rashes, and nerve and liver damage. Pets and wildlife have died after exposure to toxic blue-green algae in Washington lakes.

## **What is the type and concentration of blue-green algae in Lake Burien?**

Blue-green algae was first observed by King County staff working with lake neighbors on invasive plant control on Lake Burien on August 16. They took a sample of the algae and analyzed it during the week. The type of blue-green algae found on Lake Burien produces toxins that harm the liver, known as hepatotoxins. The analysis showed this type of toxin present at a concentration of 5.72 micrograms per liter. This concentration is just below the state's proposed recreational guideline of 6 micrograms per liter. Note that this sample represents a shoreline concentration as opposed to a whole lake average. Because the toxin is concentrated mostly in the algae, in this case found along the shore, concentrations of the toxin in the open water of the lake may well be lower.

## **How should I reduce my exposure to this algae and its toxins?**

Lake Burien residents should take steps to reduce their potential exposure to toxins that may be in the water:

- People should avoid swimming, playing, or boating in areas where the water is scummy or blue-green algae has accumulated.
- Swimmers should take care to minimize accidental ingestion of water.
- Clean fish well and discard the guts.

The most immediate health risk -- given the current low level of toxins present -- is to dogs. Owners should take care to keep their dogs from drinking lake water. Owners should avoid "retrieval" games with dogs who will ingest water when fetching balls or sticks in the water. Dogs should be kept out of the scum because they can ingest the algae when cleaning themselves.

**How long is the algae going to be a problem?**

Blue-green algae will die out with the onset of cold weather but may be present in the lake into November. King County staff will sample algae every two weeks if algae continue to be reported. The Washington State Department of Ecology pays for the cost of analyzing samples.

**How can I learn more about blue-green algae?**

A good source of information in the Washington State Department of Ecology's website:  
<http://www.ecy.wa.gov/programs/wq/plants/algae/index.html>

More general information on algae in local lakes is here

<http://your.kingcounty.gov/dnrp/library/archive-documents/wlr/waterres/smlakes/algae101.pdf>

**What if I see blue-green algae in the lake at my property?**

Please report sightings of blue-green algae to the Miller/Walker Creek basin steward Dennis Clark, [dennis.clark@kingcounty.gov](mailto:dennis.clark@kingcounty.gov), 206-296-1909. Reports on the presence of algae will help staff determine when and where to take future samples.

**How can I stay informed of the results of future algae samplings?**

Sampling results will be posted at the Miller/Walker basin web page

<http://www.kingcounty.gov/environment/watersheds/central-puget-sound/miller-walker-creeks.aspx>

If algae conditions worsen significantly, you will be notified through this newsletter, local media, and notices sent to shoreline properties. You may contact Miller/Walker Creek basin steward Dennis Clark, [dennis.clark@kingcounty.gov](mailto:dennis.clark@kingcounty.gov), 206-296-1909 at any time to learn more.

**Is there anything we can do to reduce the likelihood blue-green algae will recur in future years?**

A big driver of algae blooms are nutrient inputs including nitrogen and phosphorous. Residents can reduce the amount of nutrients and enhance the lake through a variety of steps. Many of these steps are associated with lawn and garden care. For more information, please see the "Living with Lakes" website

<http://www.kingcounty.gov/environment/waterandland/lakes/facts/garden.aspx>

## David Johanson

---

From: Lon Hatling [3lk@comcast.net]  
Sent: Saturday, August 21, 2010 4:42 PM  
To: David Johanson  
Subject: Lake Burien

Dear David Johanson, AICP  
Senior Planner

I am writing to you to help support you in making a decision on the SMP involving Lake Burien.

The SMP reaches out and affects every aspect of environmental protection of the water. Burien seems to still be trying to right the wrong of Seahurst Park by tearing down and removing an existing bulkhead. I believe that you cannot turn back the open door of physical Public Access. We should take great pride in the fact that Lake Burien is the cleanest lake in King County. Sometimes the value of something is when its one of the few instead of one of the many.

The cleanliness of the lake is a direct reflection of being a private lake and the stewardship of the people that live around it. Especially when compared to the public lakes like Arbor, Hicks and Angle all with physical public access.

Please do not listen or be misled by people who want to turn this into a Private Property issue (the have and have not). The Lake should be left as is for the environment and wildlife.

Please do not allow physical public access.

I want to thank you for your time and I wish you the best in making the right decision.

Best regards,

Lon Hatling

23 Aug 2010

City of Burien  
400 SW 152<sup>nd</sup> St, Suite 300  
Burien, WA 98166

To: David Johanson

Re: Updating the Shoreline Master Program

RECEIVED  
AUG 24 2010  
CITY OF BURIEN

It is obvious that the City has labored long and hard, maybe, even anguished over how to create a Shoreline Master Program that works for the citizens of Burien. Commendation is in order. It has been made clear in recent city council meetings that much revision is needed to present a shoreline master program for the City of Burien that is ecologically sound, compliant with good science, equitable in real estate considerations, free from financial burden, and protective against increase in criminal activity. One would like to see that taxpayers money is well spent instead of going toward countless months in court possibly answering to litigants with the City defending its position taken in haste or made out of council members' lack of comprehensive information.

To begin with, fairness to property owners should mandate elimination of the "non-conforming" status designation and preserve existing building setbacks in perpetuity to any existing structure in its current characteristics or in the event of damage replacement construction. The point being: one cannot sell or get bank financing for replacement costs or a future buyer cannot procure mortgage funding for a residence or structure that has been declared "non-conforming." This would represent a gross imposed constraint of personal freedoms to move about and be self-determining, due to a governing body's decision. For criminals it is understood that restraint is required. For the general citizenry to be constrained in the freedom to transact the normal business of life, this is not appropriate. So, it is hoped that the "non-conforming" language is, by now, eliminated from the proposed SMP.

As for the "access to the shorelines" aspects of the proposed SMP, several thoughts of concern:

- 1) We have access to considerable shoreline already in place for the public, the jewel being Seahurst Beach (Ed Munro) Park, then there's Eagle Landing Park, and thirdly, Arbor Lake Park. Three parks with physical access to shorelines. Some cities have no waterfront access and would covet even one such similar park in their roster of public spaces. Essentially, we have a great deal of waterfront access for the public already in place.
- 2) Gaining more public access to shorelines is unnecessary and expensive. Shouldn't the tax dollars be spent for essential services:
  - a) Better crime response times and more police.
  - b) Curbing the spread of illegal drugs by funding educational and incentive programs, not to mention gang related crime.
  - c) Funding privately run "safe houses" for the abused.
  - d) Added funding to community food banks
  - e) Seeking to house released sex offenders away from residences and the vulnerable (NeighborhoodScan.com reports there are nine (9) released sex offenders in the 98166 zip code, and fourteen in the White Center zip code of 98146) . For the size of the community this seems relatively high. Are

the police and the monitoring agencies and individuals adequately funded to actually keep surveillance of these offenders? In consultation with a former neighboring city Chief of Police, I learned that the monitoring is extremely minimal or non-existent due to cost.

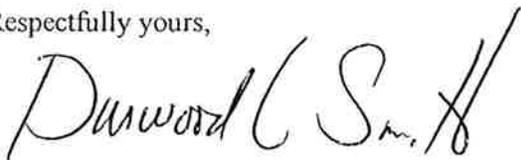
- f) Increase funding to assure our parks are safe at all hours from indigents, drug dealers/users, gangs, and other criminal element, camera surveillance and monitoring suggested and on-site law enforcement personnel recommended.

Additionally, I find it unthinkable to contemplate a public park on the shores of Lake Burien. The reason is that Ruth Dykeman Children's Center occupies considerable shoreline on the lake and the access vulnerability of the children who reside there is very high. Granted, the property is not gated, but the entrance opening to the grounds is minimized at the street approach and public visibility is a natural deterrent. However, due to a lengthy shoreline it would be difficult and expensive to guarantee the safety of the residents and staff. Public access would be extremely open were a park to be located anywhere on the shoreline of Lake Burien. I would also think that the liability to the City would be extremely high if ever there were a criminal occurrence against any RDCC resident due, in part, to the location of a public park.

There's more but space and time don't allow. You've heard all this before. The safety of the city is far more important than thinking about spending money on "one more park", adding one more place to further burden the police and where crime can possibly develop. Frankly, as I see it, in all good conscience, another park, particularly on Lake Burien is a bad idea. Quality of life means peaceful existence without threat and fear of the criminal element. Isn't this the highest goal community officers can be commended for? Farther down the line, much farther, comes amusement amenities as an enhancement to daily life.

I commend the City for a stunning shoreline park at Seahurst Beach and Eagle Landing Park. And with a little effort, Arbor Lake Park could be enhanced to a place where it could be a real "stand-out". Simply put, we have enough physical public access shoreline. I gladly join you in sound and compassionate financial management and in making the most of the waterfront parks we already have.

Respectfully yours,



Durwood L. Smith  
1201 SW 152<sup>nd</sup> St.  
Burien, WA 98166  
Tel. 206.218.5073

cc: City Council Members, Planning Commission Members, Ruth Dykeman Children's Center, Scott Kimerer (Chief of Police), Lake Burien Shore Club

August 24, 2010

To the Burien City Council members,

My requests today are:

1. Fix the August 2010 Shoreline Management Plan to include the 15 foot setback for Lake Burien to assure no net loss to Lake Burien's ecological functioning and include it in the final SMP sent to the Department of Ecology.
2. Stop couching this issue in terms of "Free Lake Burien" and playing the haves (characterized as the selfish rich Lake Burien property owners) against the have nots (characterized as the downtrodden and low income residents of Burien.) Rather recognize and acknowledge that Lake Burien cannot ecologically tolerate physical public access for all of Burien's 44,000 citizens. Protect this fragile ecology of Lake Burien by not allowing physical public access to Lake Burien now or at any time in the future.
3. Use any extra funds the city has (or does not have?) for providing low income/fixed income/seniors and families free admission and access to swimming lessons and other services at Evergreen pool and build another free pool within the city limits of Burien.
4. Listen to Police Officer Glasgow's concern about crime in other City of Burien parks (which I referenced in previous testimony before the council.) More money is needed to provide more law enforcement support for this and other crime related issues already facing the City of Burien. Also protect the fragile population of youth at the Ruth Dykeman Center and consider that there are several preschools and a K-8 school very near Lake Burien . A public park would be problematic at best and dangerous in a worst case scenario for these young people.

I agree with John Upthegrove's concern about the rush to judgment regarding something this important . It puzzles me that some references have been made that the lack of science regarding Lake Burien is troubling. I understand that the expert selected to testify by the Lake Burien Shore Club was not allowed to do so. The scientist's (Sarah Cooke and Rob Zisette) report is located in Appendix E of the new Shoreline Master Plan draft. Anyone "troubled" by a lack of science can read it there. The Lake Burien homeowner's objections regarding allowing physical public access to this small, fragile lake is based on solid science. Physical public access would have ruinous effects on this fragile lake and its ecology including the species of local significance which I referenced in previous testimony before this council.

For the record my parents were never rich. They lived frugally (in a federal housing project and in rental homes for twenty-five years), and for the last five of those years spent every weeknight after work and all weekend long building their Lake Burien family home. Five generations of our family has enjoyed this property for which my parents worked so hard. I would suggest that anyone willing to make these kinds of sacrifices might one day have what my parents worked so hard for so long to achieve. One more time-DO NOT ALLOW PHYSICAL PUBLIC ACCESS TO LAKE BURIEN -NOT NOW- NOT EVER!

CFTR: 09/13/10  
for hearing 08/30/10

How can you, as people of good conscience, ignore the irrefutable testimony and scientific evidence that the damage to Lake Burien would be disastrous and for what... a few momentary political/economic and or ego related gains? Who really is behind the "Free Lake Burien" effort and what is their real motivation?

Hmmm.... it does give one (hopefully) pause for thought!

A handwritten signature in cursive script that reads "Sandy Gledhill-Young". The signature is written in black ink and is positioned above the printed name.

Sandy Gledhill-Young

1936 S.W. 168th Street

Burien, Washington 98166

August 25, 2010

City of Burien  
400 SW 152nd St., Suite 300  
Burien, WA 98166

Attention: David Johanson

Re: Updating the Burien Shoreline Master Program

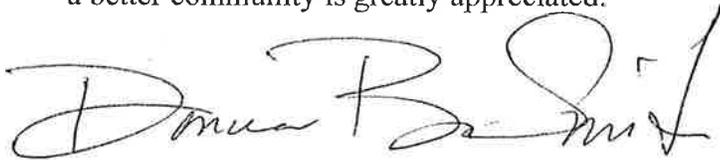
First, let me say how grateful I am, as a relatively new citizen of Burien, for the time, effort and thought you have put into all the tasks related to your commitment toward a wonderful community here in Burien. I recently attended a city council meeting and your dedication is quite apparent.

I am writing out of concern, however, regarding two issues that were brought up during that meeting:

1. During discussion of shoreline management, the proposal stated that if a house was 75 percent destroyed, it could not be rebuilt as it was. I do not live on the shoreline, but this was concerning and seems incredibly unfair to me as a home owner myself. I love my home, as do most home owners and have worked hard to have it. I pay dearly for insurance to replace it if, God forbid, anything would happen to it. Government officials are supposed to be *for* their constituents, not undoing all we have worked for. I can not believe it is right, just or reasonable to create a document that would take away someone's ability to replace their home as is, if disaster would strike. That would be like "kicking someone when they are down." Surely, you would not want to do that. It smacks of taking advantage of someone's misfortune.
2. Also, it appeared that one person particularly on the Shoreline Management council was campaigning or pushing for a park on Lake Burien. She stated that she "really wanted to see a park on Lake Burien." I do not live on the lake but near it and have sight access to it as do all Burien citizens. It is a beautiful, *tiny* lake in our community with, as I understand, excellent water quality. I cannot comprehend putting a park on this lake. I fear the size would not sustain it and the water quality would be compromised. Why ruin something so that "everyone can have physical access" to it? This does not make sense, is not being a good steward of our natural resources, and hints at pushing a personal agenda. Our area is full of lakes; the large ones have access; the small ones often do not. If someone wants to go to a park with water, we already have three in Burien; are these being managed to the full extent they could? If the SM committee *needs* to spend some money in these already financially strapped times, please consider more improvements to Seahurst Beach Park, Arbor Lake Park, and Eagle's Landing Park.

I'm sure you have already heard these concerns, but as a citizen, I felt it my duty and right to express my thoughts and apprehension to you. How else would you know what your constituents are thinking? And, I would hope you each are not on personal campaigns but are in your positions as representatives of the people and for the total good of the community. Government officials have a great deal of power, but, hopefully, you have been selected because of your wisdom, discernment and careful consideration of, not what is expedient, nor even what is "politically correct" at the moment, which changes from time to time, but what is right and fair for all. That is always right. As it has been said, "one person's rights stop at other person's nose."

Thank you for listening to me: taking the time to read this letter. Your desire to make this a better community is greatly appreciated.

A handwritten signature in black ink, appearing to read "Donna B. Smith". The signature is fluid and cursive, with a large initial "D" and a long, sweeping tail.

Donna B. Smith  
1201 SW 152<sup>nd</sup> St.  
Burien, WA 98166  
206-498-2686

Cc: City Council members, planning commission members, Ruth Dykeman Children's Center, Lake Burien Shore Club

## David Johanson

---

**From:** karenjham@comcast.net  
**Sent:** Tuesday, August 24, 2010 8:21 PM  
**To:** David Johanson  
**Subject:** the new Shoreline Master Plan for Burien

I understand that the new Shoreline Master Plan will strip 15 feet of buffer off of what there currently is for the setbacks. This is madness. I want the setbacks on Lake Burien and Seahurst Park/Urban Conservancy restored to 15' for each of them to keep both of these shorelines from experiencing a net loss. Please make this e-mail part of the public record for the hearing on the SMP which is to occur on August 30th.

'Bye!

**Lisa Clausen**

---

**From:** Public Council Inbox  
**To:** Deniece Bleha  
**Subject:** RE: Letter to Council from Peter Eglick on behalf of the Lake Burien Shore Club

Your message to the City Council will be included in the Correspondence for the Record for the upcoming City Council meeting.

Thank you-

L. Clausen  
City Manager's Office

**From:** Deniece Bleha [mailto:bleha@ekwlaw.com]  
**Sent:** Tuesday, August 24, 2010 10:08 AM  
**To:** Joan McGilton; Rose Clark; Brian Bennett; Jack Block Jr.; Kathy Keene; Lucy Krakowiak; Gordon Shaw; Public Council Inbox  
**Cc:** Peter Eglick  
**Subject:** Letter to Council from Peter Eglick on behalf of the Lake Burien Shore Club

Greetings:

Please include the attached letter in the public record AND the packet that is created Wednesday afternoons by city staff for council consideration over the days prior to and in the Monday 30 August council meeting.

Thank you.



*Deniece Bleha*  
*Legal Assistant*  
Eglick Kiker Whited  
1000 Second Avenue, Suite 3130  
Seattle, WA 98104  
206.441.1069 ext. 5

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CF-TR: 08/30/10



Peter J. Eglick  
eglick@ekwlaw.com

August 24, 2010

Via Email ([council@burienwa.gov](mailto:council@burienwa.gov))

City Council  
City of Burien  
400 SW 152nd Street, Suite 300  
Burien, WA 98166

Re: Proposed SMP Language Concerning Physical Public Access to Lake Burien

Dear Council members:

The Lake Burien Shore Club (LBSC) has followed the Council's deliberations on the SMP with interest and with appreciation for the time you have spent in considering the matter. There are of course decisions yet to be made. A key one concerns adoption of the language suggested by LBSC addressing physical public access to Lake Burien. LBSC's proposed addition to language already in the proposed SMP would read as follows (added sentence in red and italics] :

**20.20.015 Shoreline Public Access Element**

**Pol. PA 5:** The City should seek opportunities to develop new public access areas in locations dispersed throughout the shoreline. *However, the City will not seek physical public access for Lake Burien because it has been determined that Lake Burien cannot support the additional impact that physical public access would create.*<sup>1</sup>

The actual SMP Record supports this outcome, which only applies to physical public access. Therefore, as the Council makes its final decisions, LBSC offers below, in summary form, a response to several of the myths that have characterized the opposition to our proposal:

1. *Myth: DOE requires physical public access so LBSC's proposed language would be "DOA at DOE,"<sup>2</sup> and would result in DOE sending the SMP back to the City.*

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<sup>1</sup> Conforming changes would be made in parallel portions of the SMP.

<sup>2</sup> Dead on arrival ("DOA") at the Department of Ecology ("DOE").

**Fact:** DOE was asked to clarify its position. In response, DOE reassured that LBSC's proposed language would not be DOA. And, DOE reaffirmed the advice offered by the agency's representative (B. Fritzen) at the March 9, 2010 Planning Commission meeting:

**Public access can be visual, it can be physical, and it may be inappropriate in some situations. The other thing to keep in mind is public access and protection of the environment are not always compatible so you have to bring that into consideration when you're doing your planning for public access.**

2. *Myth: Lake Burien and its homeowners have benefitted from taxpayer dollars so the public is entitled to use its investment.*

**Fact:** Lake Burien has been the subject of governmental indifference for a century. The lake shore itself and much of its bedlands are held privately, having been sold off by the State many years ago. General environmental regulations, such as those concerning storm water, apply to the area, but neither the City nor the State have invested in facilities for Lake Burien, according to their own responses on this very question. Lake Burien is essentially the same as it was when the Washington Supreme Court described it in 1930 in Turtle v. Fitchett,<sup>3</sup> a very small lake with no means of water purification or change. As a result the Supreme Court upheld:

the proposition that Lake Burien, due to its comparatively small size and lack of drainage, is too small a body of water to be used for public bathing by such a large number of people....

The reasons why physical public access is inadvisable have not changed and if anything have become more compelling over the last 80 years.

3. *Myth: There are already risks of invasives and algae blooms from physical public access by homeowners, so generalized physical public access won't make any difference and if it does, mitigation can be applied.*

**Fact:** Environmental pressure on the lake would be amplified by orders of magnitude if 10,000's instead of 100's had physical access to the lake. (The advocates for generalized physical public access have themselves literally referred to the "thousands" to whom Lake Burien should be open, including for swimming, fishing, and non-motorized boating.) Nutrient loading and risk of invasives increase exponentially with such use. The environmental problems they cause are insoluble. Submerged invasive species are only effectively "mitigated" by dosing the water body with poison (herbicides) killing all

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<sup>3</sup> 156 Wash. 328, 287 Pac. 7 (1930)

vegetation. This leads to massive nutrient release and more toxic algal blooms (caused by cyano-bacteria). For public health reasons, "mitigation" for toxic algal blooms is to bar use of the lake until it is cleansed of toxic residue. For Lake Burien, the necessary water outflow never starts until November and ends in April or May.

4. *Myth: The Council is being asked to accept a proposal for SMP language that would foreclose a park for picnicking along Lake Burien.*

**Fact:** No such proposal has been made. Here again is LBSC's proposed language which addresses only physical public access to Lake Burien, not visual access: "However, the City will not seek physical public access for Lake Burien because it has been determined that Lake Burien cannot support the additional impact that physical public access would create."

5. *Myth: Priority for physical public access should be given to the shoreline reaches that currently have none.*

**Fact:** Environmental considerations are paramount under the Shoreline Act and its regulations. The carrying capacity of all shoreline reaches is not the same (for example, the Sound's capacity is infinitely greater than Lake Burien's). Giving priority to physical public access on a shoreline where there is a likelihood of environmental loss is not consistent with the Act.

6. *Myth: Limited City financial resources are consistent with priority for physical public access on shoreline reaches that currently have none.*

**Fact:** Despite the best intentions, the City of Burien is not able to keep pace with expenses associated with its existing parks. Hard choices such as recent closure of some city park restrooms, which were built at significant public expense, have real consequences for the environment and surrounding properties. They call into question the feasibility of providing and maintaining facilities and "mitigation" funds necessary for protection of Lake Burien. And, they raise the question of cost-benefit as the City considers what public access is appropriate on which of its shorelines. The folk wisdom inherent in "Don't bite off more than you can chew" and "You break it you bought it" (when impacts occur) both apply. The expensive burden the City of SeaTac bears for Angle Lake Park maintenance and policing are a cautionary tale for Burien.

LBSC's proposal, conveying a City determination not to seek physical public access, should not be controversial in light of the SMP Record before you. The proposed language would leave open whether City resources should be devoted to pursuing visual public access on Lake Burien.

EGLICK KIKER WHITED PLLC

August 24, 2010

Page 4

On the Record before the Council, in light of the standards that apply, and in the interest of going forward with an SMP without detour, the LBSC therefore respectfully requests that the Council adopt the proposal.<sup>4</sup>

Sincerely,

EGLICK KIKER WHITED PLLC

A handwritten signature in black ink, appearing to read 'P. Eglick', written in a cursive style.

Peter J. Eglick

cc: Client

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<sup>4</sup> For the Record, the LBSC reserves all rights in this regard, including with regard to the absence of a SEPA EIS that addresses the impacts of physical public access on Lake Burien and alternatives to it.



August 25, 2010

Burien City Council  
City of Burien  
400 SW 152nd St Suite 300  
Burien WA 98166

**RE: Bulkhead Regulations**

Council Members and Staff of Burien,

We would like to thank you for the focus and attention that were brought to the SMP draft update at the City Council meeting of August 16. In this meeting we heard comments from the Council Members and Staff on a broad range of topics drawn from the Staff's discussion matrix. We would ask that you continue to contemplate the issues raised in section 20.30.070 Bulkheads and Other Shoreline Stabilization Structures.

During this meeting Mr. Shaw directed specific attention to the regulations guiding the replacement of bulkheads i.e. BMC 20.30.070.2.a.ii. Mr Shaw questioned the complexity of this language if, as Mr. Johanson asserted, it is the intent of the City to acknowledge that the residents of the shoreline have a right to repair and replace their bulkheads. Mr Johanson replied that the language was taken from the SMP guidelines i.e. WAC 173-26-231.3.a.iii.C. This response appeared to us to be accepted by the Council and caused the Council to move on to the next item in the Matrix.

First we would argue that the city's proposed regulation is in fact different from the WAC reference and even more so as a result of new text that has appeared in the document that was released on August 23, 2010. The SMP guidelines begin

*(C) An existing shoreline stabilization structure may be replaced with a similar structure if there is a demonstrated need to protect principal uses or structures from erosion caused by currents, tidal action, or waves*

and then provides five bullet points that guide the construction of the replacement structure. This includes text that defines what it means to replace a bulkhead rather than simply repair it. In contrast the City's update appears to provide a list of 5 standards that must be met in order to replace a bulkhead. The first requirement now goes far beyond the guidance in the referenced WAC. We request that this section of the City's update be modified to closely mirror the text provided in the WAC.

Next we would like to direct your attention to BMC 20.30.070.b.ii.1 which discusses the use of a geotechnical analysis that demonstrates the necessity to protect a primary structure. This section includes the phrase

*indicates that the primary structure **will be** damaged within three years as a result of ...*

(emphasis added). This appears to be derived from WAC 173-26-231.3.a.iii.D and in particular from the phrase

*when a report confirms that that there is a **significant possibility** that such a structure will be damaged within three years as a result of ...*

(emphasis added). We hope you will agree that the City's choice of language is substantially more onerous than the text from the referenced WAC and we would ask that draft BMC be modified accordingly.

Finally we ask that you consider BMC 20.30.070.c.iv which applies to both new and replacement bulkheads. This specifies that the maximum height of a new bulkhead on the marine shoreline shall be no greater than four (4) vertical feet above the OHWM. We would ask that this additional restriction be removed. During our surveys of the Marine shoreline we observed bulkheads that varied in height from just 1 or 2 feet to those that stood well over our heads as dictated by the nature of the terrain at the site. We believe that site-specific judgements are to be preferred over "one size" fits all regulations.

Respectfully

Michael D. Noakes  
President BMHA

August 25, 2010

To: Burien City Council  
From: Carol Jacobson  
3324 SW 172<sup>nd</sup> St.  
Burien, WA  
Re: Public Access on marine shoreline

The latest draft of Burien's SMP does not contain any of the suggested changes related to public access on the marine shoreline that have been proposed multiple times both verbally and in writing since this document was with the Planning Commission. The following critical points need to be changed:

1. Burien's SMP needs to acknowledge that public access policies and regulations apply to **public access to publicly owned areas of the shoreline**, as is clearly stated in the SMA.
  - a. RCW 90.58.020 states: (5) Increase public access to **publicly owned** areas of the shorelines; and in RCW 90.58.100 it states that "The master programs shall include, when appropriate, the following: (b) A public access element making provision for **public access to publicly owned areas**."
  - b. In Chapter III of Burien's draft, 20.25.001, it does restate what the SMA says about increasing public access to publicly owned areas of the shoreline as a bullet point, but nowhere in the policies or regulations sections does it acknowledge that the policies and regulations apply to public access to publicly owned areas of the shoreline.
  - c. In Burien, most of the shoreline is under private ownership except for the existing public access points as listed in the inventory (Seahurst Park, Eagle Landing Park, the 2 public access areas on Three Tree Point, and a couple other small accesses).
2. In the City Council meeting on August 16<sup>th</sup>, Mr. Greenburg stated that they did not want to add the words "publicly owned" to the SMP because: "There could be a situation with 5 lots or more where public access does apply within that situation, the access might not be publicly owned, it could be a private easement, and by adding the words publicly owned you are actually taking out that protection to on private property."
  - a. This response misses the whole point: it is not the **access itself** that is in question, it is what that access is **to** – **publicly owned shoreline**, that needs to be clarified in this SMP. In the case of a subdivision of 5 lots or more, the public access is to the shoreline of that subdivision, just like a property owner's access is to their piece of property on the shoreline.
  - b. If indeed this is the reason they don't want to clarify that public access is meant to apply to publicly owned shoreline, then there needs to be a statement in 20.30.035 prior to the Policies and Regulations sections that states: **These policies and regulations apply to public access areas in existence on (<INSERT DATE OF ADOPTION>) and to public access created by commercial uses, industrial uses, or multifamily subdivisions (5 lots or more) as allowed by the SMA.**
3. Regulation 2c should be removed. It mandates that any unused right of way in shoreline jurisdiction shall be dedicated as public access. This goes way beyond the intent of the SMA and is apparently directed specifically at the shoreline along SW 172<sup>nd</sup> St. The term "unused right of way" needs to be defined, and the location of any "unused" right of ways in shoreline jurisdiction needs to be revealed by the city. This whole item is totally unnecessary, accomplishes nothing in terms of ecology, and unfairly targets certain citizens in Burien.

AFTR: 08/30/10

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

From: Armbrust  
1213 SW 157<sup>th</sup> St.  
Burien WA 98166-2140  
RECEIVED

AUG 25 2010

File No. Burien Shoreline Master Program

## CITY OF BURIEN

As a citizen, I am requesting the Burien Shoreline Master Plan clearly state that there will be no **Physical Public Access to Lake Burien.**

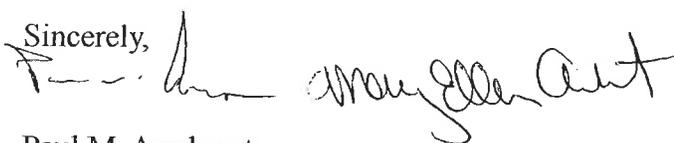
**Physical Public Access** to Lake Burien by thousands of people will irreversibly damage this lake. We have perfect examples of the kind of irreversible damage that occurs in small lakes by simply looking at Hicks Lake and Arbor Lake - neighboring lakes and at numerous other small lakes in King County.

Physical Public Access, by thousands of people using a small lake, brings these ecologically damaging issues with it:

1. the introduction of invasive weeds that choke off the waterway, destroy oxygen levels in the lake and destroy wildlife,
2. the introduction of inappropriate gas levels into the water column that damages water quality, destroys wildlife and encourages the growth of toxic (like red tide) plankton populations,
3. the introduction fecal (poop) material to the lake that destroys water quality, destroys wildlife, encourages the growth of fecal coliform bacteria and creates a health and safety issue for humans,
4. introduced boating contamination, speed and density issues that create habitat destruction and trauma to wildlife as well as serve as contaminators and spreaders of infection and noxious weeds (Eurasian Milfoil, etc.) to the lake and animals (quagga mussel, zebra mussel, New Zealand mudsnail, rusty crawfish, spiny water flea, snail fever organism, etc.),
5. exceeding the carrying capacity of the land and water by the introduction of thousands of humans, their pets and their wastes/litter to the delicate lake ecosystem, and
6. the increased turbidity to the water by just the sheer number of people entering it which results in degradation of water quality and destruction of habitat for spawning fish, nesting wildlife.

Research shows that, within two years of having physical public access, small lakes have problems with invasive species and fecal coliform problems. These are problems that require chemical treatment and poisoning to lake waters to attempt to correct. In most cases they cannot be remedied without significant damage to the ecosystem.

**Lake Burien is the last healthy small lake along the King County Urban Corridor. Do not allow this to happen to it. Do not allow Physical Public Access to Lake Burien.**

Sincerely,  


Paul M. Armbrust  
Mary Ellen Armbrust

Lisa Clausen

---

From: Public Council Inbox  
To: Deniece Bleha  
Subject: RE: Submission on behalf of Lake Burien Shore Club

Your message will be included in the Correspondence for the Record for the next City Council meeting.

L. Clausen  
City Manager's Office

From: Deniece Bleha [mailto:bleha@ekwlaw.com]  
Sent: Wednesday, August 25, 2010 11:15 AM  
To: Joan McGilton; Rose Clark; Brian Bennett; Jack Block Jr.; Kathy Keene; Lucy Krakowiak; Gordon Shaw; Public Council Inbox  
Cc: Peter Eglick; Don Warren  
Subject: Submission on behalf of Lake Burien Shore Club

Greetings:

Please include the attached letter in the public record AND the packet that is created today by city staff for council consideration over the days prior to and in the Monday 30 August council meeting.

Thank you.



Deniece Bleha  
Legal Assistant  
Eglick Kiker Whited  
1000 Second Avenue, Suite 3130  
Seattle, WA 98104  
206.441.1069 ext. 5

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CFTR: 08/30/10



August 25, 2010

Don Warren  
Lake Burien Shore Club  
15702 13th Avenue SW  
Burien, WA

Subject: Toxic blue-green algae and public access

Dear Don:

2200 Sixth Avenue  
Suite 1100  
Seattle  
Washington  
98121

(206) 441-9080  
FAX 441-9108

Olympia  
Washington

(360) 754-1344

Sequim  
Washington

(360) 683-9109

Missoula  
Montana

(406) 721-4204

Portland  
Oregon

(503) 228-4301

It was brought to my attention an algae scum sample was recently collected and analyzed by King County for the presence of potentially toxic species of blue-green algae (cyanobacteria). Two known toxin producers (*Anabaena* and *Microcystis*) were observed in the sample among other cyanobacteria species that are not known to be toxin producers (including *Gloeotrichia* which was the dominant genera observed). Due to the presence of toxin producers, the scum sample was tested for the toxins microcystin and anatoxin *a*. The concentration of microcystin (5.7 µg/L) was slightly below the recently published state guideline of 6 µg/L, and a very low concentration of anatoxin *a* was observed near the detection limit. Additional sampling is planned to occur and King County would likely recommend to avoid contact with lake waters if the microcystin concentration in that sample exceeds the 6 µg/L guideline.

The presence of toxic blue-green algae in Lake Burien is expected based on my review of the historical water quality data and the mesotrophic (moderately enriched) status of the lake, as described in the limnology report we prepared in March 2010 for the Shore Club. The recent observation of toxic blue-green algae illustrates the sensitivity of the lake to increased perturbations by human activities. Introductions of invasive plant or animal species would likely disrupt ecological conditions in the lake. The rapid increase in biomass of an introduced plant species, such as Eurasian watermilfoil, could potentially increase the abundance of toxic blue-green algae by affecting nutrient cycling in the lake. As noted in our report, public access to a lake increases the risk of invasive species introductions, and the resulting degradation of the lake's ecological condition and water quality.

Sincerely,

Herrera Environmental Consultants, Inc.

A handwritten signature in cursive script, appearing to read 'Rob Zisette'.

Rob Zisette  
Aquatic Science Principal

[www.herrerainc.com](http://www.herrerainc.com)



To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

RECEIVED

AUG 26 2010

CITY OF BURIEN

File No. Burien Shoreline Master Program

As a citizen, I am requesting the Burien Shoreline Master Plan clearly state that there will be no **Physical Public Access to Lake Burien.**

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**Lake Burien is the last healthy small lake along the King County Urban Corridor. Do not allow this to happen to it. Do not allow Physical Public Access to Lake Burien.**

Sincerely,

*Marcia Moen*  
16003 16<sup>th</sup> Ave SW  
Burien, WA 98166

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

RECEIVED

AUG 26 2010

CITY OF BURIEN

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Sincerely,

*Holly Wood  
15820 11th ave SW  
Burien WA 98166*

To Burien City Council  
To David Johansen  
Re Shoreline Master Plan/ Appendix E  
August 26, 2010

To The Burien City Council;

I am requesting that the attached inventories that are referenced in the report by Rob Zissette relating to Lake Burien be included with his report in Appendix E. These inventories help to establish a baseline of data for the plant and animal species that use Lake Burien.

Sincerely,  
Chestine Edgar

CSTE: 08/30/10  
for Hearing

Re-Bird Inventory –February, 2010  
Data- Gathered from Lake Burien Residents  
Prepared by-C. Edgar

- American Bald Eagle-seen all year long perching and hunting(1-3)
  - American Coot-Nov.-March(40-60)
  - American Goldfinch
  - American Widgeon-Nov.-March(40-60)
  - Anna's Hummingbird-all year long(1-3)
  - Belted Kingfisher-all year long
  - Band-tailed Pigeon-spring-summer(2-3)
  - Black-headed Grosbeck *EE 09*
  - Bufflehead Ducks-Nov.- March(30-40)
  - Bushtits-all year long
  - Canvas back duck
  - Chickadees-Black-capped-all year long
  - Chestnut-backed-all year long
  - Cinnamon Teal-rare-migratory(2-4) *EE 09*
  - Cormorants-all year long(8-10)Double crested
  - Pelagic Cormorant
  - Coopers Hawk
  - Canada Goose-all year long and Migratory groups (25)
  - Canada Goose-cackling-stays very short while-migratory *EE 09*
  - Cassin's Finch
  - Cedar Waxwing-rare sighting- summer to fall
  - Common Merganser-Sept.-March.-migratory(20)
  - Common Grackle-all year long
  - Brown Headed Cowbirds-spring to fall
  - Creeper-all year long *EE 09*
  - Crows-all year long
  - Dark eyed Junco
  - Downy Woodpecker-all year long
  - Evening Grosbeak
  - Pileated Woodpecker
  - Flicker-all year long
  - Pied-Billed Grebe
  - Western Grebe
  - Red-Necked Grebe
  - Great Blue Heron-all year long
  - Greater Scaup-fall to winter
  - Green winged Teal-rare-migratory
  - Goldfinch-all year long
  - Barrow's Goldeneye-migratory
  - Gadwall- migratory
  - Green Heron
-

- Goldeneye(Common)-rare-migratory 2209
  - Gulls-all year long
  - Hairy Woodpecker-all year long 2209
  - Hawk- Sharp shinned
  - Hooded Merganser-migratory-Sept.-March(20)
  - House Finch
  - Purple Finch
  - House Wren 2209
  - Junco
  - Killdeer
  - Lesser Goldfinch
  - Lesser Scaup-migratory-Sept.-Dec.
  - Loons-all year long
  - Pacific Loon
  - Mallard Duck-all year long and migratory (35-40)
  - Northern Pintail-migratory
  - Northern Shoveler-migratory
  - Red-breasted Nuthatch-all year long
  - Osprey-spring to fall
  - Owl-hear but do not see
  - Pine Siskin
  - Raven 2209
  - Redwing Blackbird-all year long
  - Ring necked duck-migratory
  - Robin
  - Rufous Hummingbird-Migratory-March to June, August to Sept.
  - Ruby-crowned Kinglet
  - Ruddy duck-Dec. to Feb. (2 to 4)
  - Sapsucker-all year long.
  - Sparrows- all year long-cannot identify all of the kinds
  - House Sparrow
  - Golden-crowned sparrow
  - Stellar Jay-all year long
  - Startling-all year long
  - Swallows-spring to fall-hunt over the water
  - Barn Swallow
  - Titmouse
  - Rufous-sided Towhee
  - Trumpeter Swan-migratory-stays a few days(3)
  - Varied Thrush-spring to fall
  - Violet Green Swallow
  - Warbler-cannot tell species?-
  - Western Tanager-rare sightings
  - Wood Duck-migratory
  - Yellow-rumped Warbler
-

Long legged, long billed shorebirds-several varieties-summer

---

Contributors to this list;

Carl & LeeAnna Hauke

Durwood Smith

Cheryl Merritt

Robbie & Robert Howell

John & Cyndi Upthegrove

Les Boscarine

Chestine & Bob Edgar

Danna Sivert

Stephen Armstrong

Donna Lynch

Plant Inventory of Lake Burien

February 28, 2010

Prepared by C. Edgar

Data Sources- King Country Lake Steward Program from 1994-2003-web site King  
County Lakes—Sound Citizen/University of Washington ~~form~~ <sup>from</sup> 2009, 2010-web site,  
www.sound citizen.org

Currently no infestations of Noxious Aquatic Weeds

Phytoplantons

- unidentified chrysophyte species
- cryptophyte, Cryptomonas
- chrysophyte, Dinobryon
- chlorophyte, Crucigenia
- chlorophyte, unidentified colony
- chlorophyte, Botryococcus
- diatom, Fragilaria crotonensis
- diatom, Asterionella formosa
- diatom, Cyclotella
- dinoflagellate, Peridinium
- dinoflagellate, Ceratium hirundinella
- bluegreen, Anabaena
- bluegreen, Aphanizomenon
- bluegreen, Aphanothece
- bluegreen, Anacystis

Animal Inventory of Lake Burien  
February 28, 2010  
Prepared by C. Edgar  
Data gotten from neighbors on the lake

Small Mammals

- Bats
- Mice
- Wood Rats
- Voles
- Shrews
- Raccoons
- Weasels
- Opossum
- Historically one otter in the 1990s
- Squirrels

Reptiles

- Western Painted Turtle
- Red Slider Turtle ?
- Garter Snake

Amphibians

- Bull Frog
- Cascade Frog

Crustaceans

- Crayfish

Fish

- Bass
- Perch
- small unidentified fish
- Trout

To The Mayor and the Burien City Council  
August 26, 2010

Dear Mayor and City Council Members;

I will not be able to attend your public meeting on the Shoreline Master Plan and so I would like this to be filed as my testimony for that Aug. 30<sup>th</sup> hearing..About one month ago, I sent you a letter listing the scientific and good sense reasons for why there should be no physical public access to Lake Burien. Apparently, that was not good enough logic for you. So once again, I want to state that I believe that there should be no physical public access to Lake Burien. The lake is a very small lake. It has only 3 ways that it gets its water; storm water runoff (filthy stuff), rain and some groundwater seepage. At least 3 to 4 months a year, the water does not even flow out of the lake down by the Ruth Dykeman Center. The lake bottom is muck and that kind of material makes it easy for pollutants to stick to it and stay in the lake. The lake is shallow and has lots of lake weeds covering the bottom. It is a great place for fish and birds but it's not a great swimming beach area. We don't need every boat in Burien in it either. Those boats carry in pests and invasive weeds.

So once a lot of pollution gets into the lake, it is almost impossible to drain it out. The lake is in pretty good condition for water quality right now. But add thousands of people and their dogs and their poop to the lake or on the shore of the lake and then there are real pollution problems for the lake. Also public parks bring crimes, drugs and garbage to the park area and surrounding neighbors. Burien has lots of parks and places to enjoy the water. So let's take care of those places and encourage people to use them. Seahurst Park is a much better swimming and wading beach but people really abuse that park and litter it. Gangs and vandals damage the tables and restrooms. Even though it is gated off at night, the damage still goes on. I am requesting that there be no physical public access to Lake Burien and that it be written into the Shoreline Master Plan.

Also I am requesting that the 15' setbacks remain on Lake Burien and Seahurst Park. The people on the Marine shorelines have built right out to the water's edge. There's not much to save there because they have damaged the shoreline so much. That's too bad but Burien let them do that in its previous Shoreline Master Plan. Let's not make that same mistake again on Lake Burien and Seahurst Park. Let's save as much of the working buffer and keep that land open to filter runoff water so we can to keep these 2 shorelines and waters from degrading. Keep the 15' setbacks on Lake Burien and Seahurst Park.

If there is any money, please build a good Community Center with a nice swimming pool so we can swim in clean water. We have been waiting a long time for a facility like this.

Thank you for considering my comments.

*Wendy Deymow*

*CFTR:cs/340  
for Henry*

*1817 SW 152nd ST*

## David Johanson

---

**From:** Fritzen, Bob (ECY) [BFRI461@ECY.WA.GOV]  
**Date:** Friday, August 27, 2010 8:26 AM  
**From:** David Johanson  
**Subject:** FW: Burien's draft SMP

fyi

**From:** Robbie Howell [mailto:robbieh@windermere.com]  
**Sent:** Thursday, August 26, 2010 8:24 PM  
**To:** Fritzen, Bob (ECY)  
**Subject:** Burien's draft SMP

The following letter was emailed to the Burien City Council in comment on the SMP.

August 26, 2010

Honorable Mayor and Council Members:

We won't be able to attend the August 30<sup>th</sup> hearing. Please enter the following remarks in the Public Record.

The latest August 2010 SMP draft has shockingly removed the 15' set back for Lake Burien. Is this an error or was it really recorded in the minutes this way?

**By eliminating this set back you are increasing the property rights of special interests at the expense of destroying the total ecology of Lake. You are trading the fish and wild life for short-sided commercial gain. In the future when the value of the lake has been destroyed everyone loses.**

We are for people's property rights, but not for increasing the property rights of special interest and special people at the expense of destroying the ecology of the lake and other people's views of the lake. Having been involved in Real Estate Consulting for many years, we are aware of those things that drive property values up or down in the sales market. Properties on unclean lakes or that have significantly diminished views don't sell for as much money as properties on clean lakes with expansive views.

If you leave the 30' buffer plus the 15' set back in the SMP there will be no net loss to the Lake's ecological functioning as this is the established baseline for the lake right now. Also the homeowners whose houses are at the earlier King County and City of Burien setbacks of 100', 50' and 45' will suffer no further net loss to their visual access and the character of the neighborhood will be maintained.

**Please place the 15' building set back into the Burien 2010 SMP!**

Sincerely,

Robert and Robbie Howell

Robbie Howell  
Your Real Estate Consultant for Life  
Windermere Real Estate/South Inc.

Cell~ 206 948 8227  
Pager~ 206 244 5925 ext.154  
FAX~ 206 241 6837  
Web~ [www.homesbyrobbie.com](http://www.homesbyrobbie.com)

City Council,

Please excuse the hodgepodge. I am writing this under duress and time restraint.  
My concern is one line. Out of 282 plus 70 = 352 waterfront properties, possibly a half dozen including myself will be impacted by this one line.

2-23-10 Greg Anderson: There is no reason to draft a plan that is overly restrictive. The plan is supposed to focus on no net loss and it should be the least restrictive possible to protect shoreline property owners.

173-26-186 (5): Local government should use a process designed to assure that proposed regulatory or administrative actions do not unconstitutionally infringe upon private property rights.

**Title 25  
SHORELINE MANAGEMENT**

(King County 6-2008)

**DEFINITIONS**

**25.08.210 Float.** "Float" means a structure or device which is not a breakwater and which is moored, anchored, or otherwise secured in the waters of King County and which is not connected to the shoreline. (Ord. 3688 § 220, 1978).

**25.08.370 Pier.** "Pier" or "dock" means a structure built in or over or floating upon the water extending from the shore, which may be used as a landing place for marine transport or for air or water craft or recreational activities. (Ord. 3688 § 234, 1978).

(King County 9-2008)  
**URBAN ENVIRONMENT**

25.16.140

**25.16.140 Residential development - Piers, moorage, or launching facilities - Accessory to single-family residence.**

**B. No more than one pier for each residence is permitted.**

H. Floats are limited by the following conditions:

**1. One float per residence is permitted.**

*Frequently Asked Questions* Publication Number: 09-06-029 1 10/09; rev.  
4/10 Shorelands and Environmental Assistance Revised April 2010

## Shoreline Master Programs

Q: Why are shoreline master programs important?

A: Shorelines are where the land and water meet.

CFTR 08/30/10

Letter by Eric Denton stated: "We maintain a raft year-round as a sanctuary for birds and young mammals." Floats are necessary for wildlife. Please refer to his letter and photo of 8-2-10.

Sent to City Council on Thursday, June 10, Questions for SMP Public Forums by Andrew Ryan: Discussion regarding overwater structures (20.130.075):

Personal observation is that marine life tends to concentrate under piers and floats yet these structures are deemed non-desirable

1961 Webster's 3<sup>rd</sup> new international dictionary: float – a flat bottomed boat – raft

Matrix: No changes recommended. At both the Shoreline Advisory Committee and the Planning Commission staff heard from some lake residents that there was concern that the Lake could have too many floats. They felt that too many floats potentially added to navigation challenges and visually cluttered the lake.

8-2-10: Lake Burien Shore Club: References by staff to Lake Burien residents commenting on visual impairment and navigation issues are unfounded. ---, no one recalls any comment of the kind ever being made.

I read all advisory summaries, planning minutes and watched all DVDs and there was never a mention of navigation obstacles. ~~I wish my photos had come through to the computer.~~

8-2-10: Mayor said this is a Lake Burien call.

Gordon Shaw was correct in his statement. The residents have had the ability to have both for years. There are not a bunch out there – can't imagine it changing much. Some floats get too much to maintain so they get rid of them entirely.

Being a Lake Burien resident for 70 years, climbing over an 85 year old bulkhead and swimming to a raft, I have now discovered I may need a dock for my boat, but will be told 'no.' Since so many property owners gave up their rafts in favor of barges, which take up as much or more water surface, the line could simply read:

20.30.075 [2.g] Overwater Structures: Only one overwater structure is allowed for each single family detached residential lot. On Lake Burien, each single family lot may have one dock and/or float.

My bulkhead harbors crawdads and little fish. My raft also has baby crawdads clinging to the underside. Some docks are floats that have footings pounded into the shoreline and simply go up and down with the current or water level. Barges are tethered or tied to a dock with rope. Floats are anchored with a cement block at the end of a rope that swings freely to the extent of the rope. Docks above water are safe havens for small migratory ducks from large bird predators.

The float completes my space. Of course, I could always reel it in and call it a barge, but that defeats the purpose of anchoring it 80 feet off shore to watch blue herons, king fishers, cormorants, mergansers, coots and our ever present, but, sadly, diminishing population of Mallards.

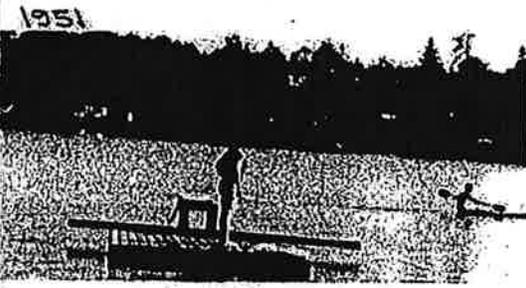
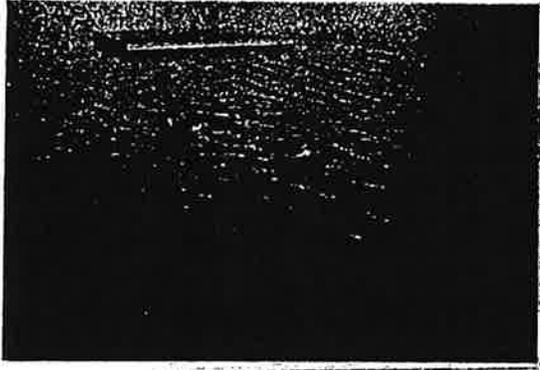
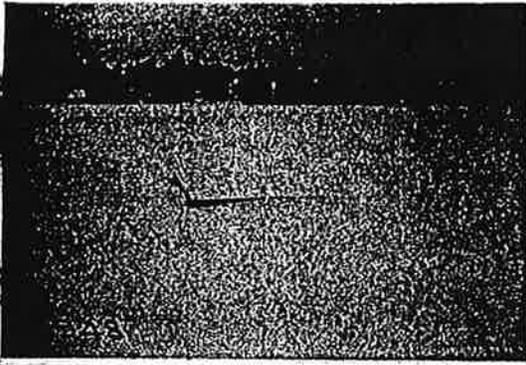
By the way, was there any mention of owls? Yes, we have owls.

The only way of getting around not calling a barge a float is simply by attaching a motor. Fish and Wild Life laughed and said, that's the way to get around it!

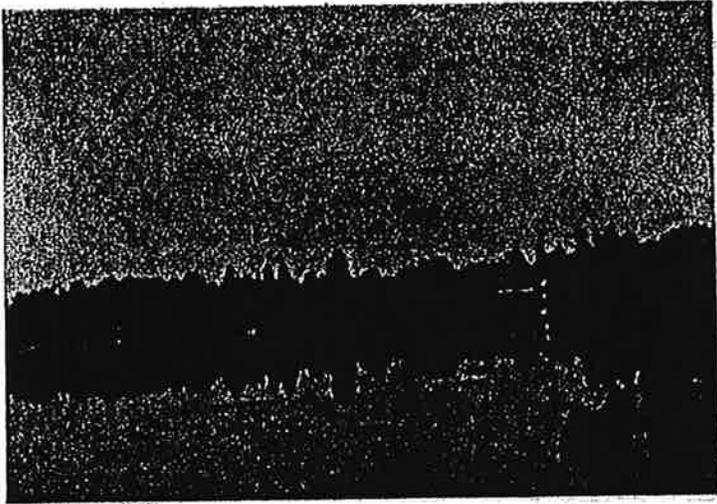
*Laniga Engeset*  
1449 SW 152



1944

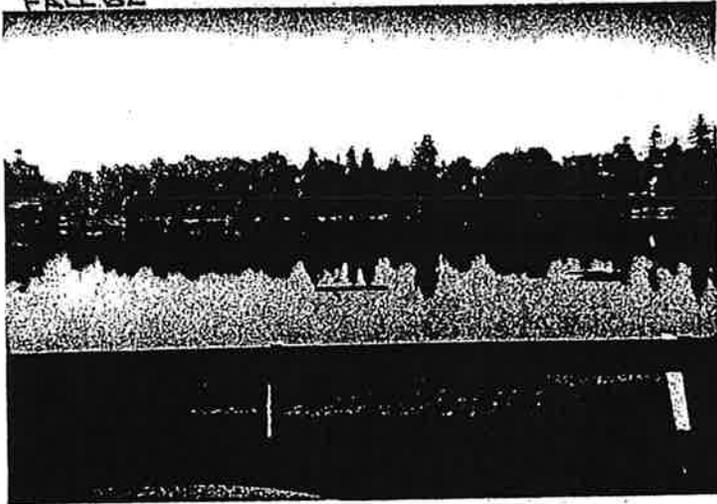


1951



JUNE 62

FALL 62



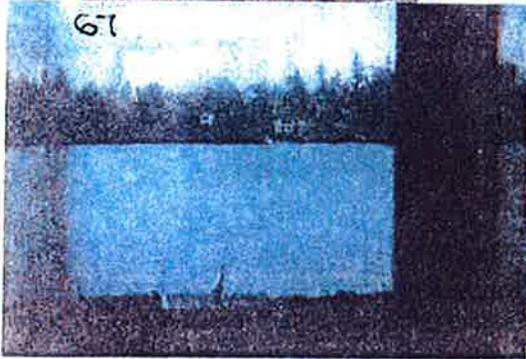
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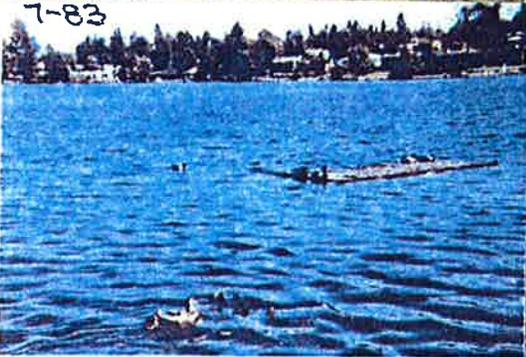
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70



7-83



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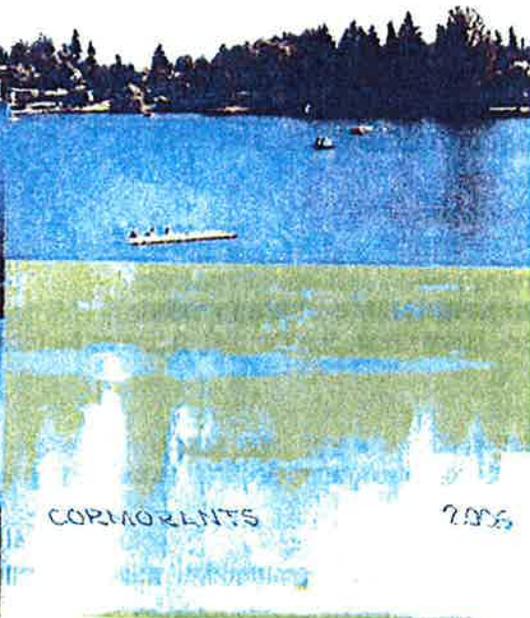
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**City of Burien**

**BURIEN PLANNING COMMISSION MEETING**

March 23, 2010

7:00 p.m.

City Council Chambers

**MINUTES**

**Planning Commission Members Present:**

Joe Fitzgibbon, Janet Shull, Jim Clingan, Rebecca McInteer, Rachel Pizarro

**Absent:**

None

**Others Present:**

David Johanson, senior planner; Scott Greenberg, planning director; Nicole Faghin, Reid Middleton, Inc.

**Old Business**

**A. Discussion and Possible Recommendation: Shoreline Master Program Update**

The issue of overwater structures was focused on next. Mr. Johanson referred to the language supplied to the commissioners at the March 16 meeting.

Ms. Faghin said the issue relates to 20.30.075 and the need for overwater structures to be more inclusive. She said a global change was made to the text to correct that issue. The commissioners agreed with the revision.

Ms. Faghin noted that all new development standards were added to the section, starting with paragraph (h). Additionally, two new elements were added dealing with decking and piles to be consistent with the Department of Fish and Wildlife requirements. A new section was added with regard to repair and replacement as well, and another addressing floats and swim platforms.

Commissioner Clingan referred to the development standards in paragraph (h) and suggested that the level of detail included is too much. Some of the details may not apply to specific properties, and the issue previously discussed relative to sharing stairways and ramps may equally apply to sharing docks and the like. Ms. Faghin explained that the Department of Fish and Wildlife and Corps of Engineers standards are very strict, and applicants wanting a permit for a dock must obtain their permits as well as the City's permits. The section was drafted to line up with those other processes so that an applicant will not find themselves spending time and money in design work only to find out that the City's standards do not mesh with the standards of the other two permitting agencies. That was the reason for including all of the detail.

Commissioner Clingan suggested the section will encourage people to take very good care of their existing docks. He also noted that a maximum of two new recreational floats will be allowed on Lake Burien, and asked where that recommendation came from. Ms. Faghin said that came from staff and the consultant and was based on the size of the lake and the programs of other jurisdictions.

Commissioner Shull said the programs in some jurisdictions allow either a dock or a swim float but not both. She said she was bothered by the strict limitation on swim floats applicable to the entire lake. Mr. Johanson said staff could look into taking that approach.

Mr. Greenberg pointed out that there are not a lot of guidelines for docks and overwater structures in the Shoreline Master Program guidelines. There is nothing included about the total number of floats or about what their maximum size should be.

Chair Fitzgibbon commented that if all of the property owners along Lake Burien have decided not to have a swim float, there will be no problem. However, there is a fairness issue involved: the strict limit means the first two in the door will be winners and everyone else will lose out. He said he could support language allowing either a dock or a float but not both.

Commissioner Clingan observed that the two floats currently in the lake appear to be part of the Lake Burien community. Mr. Johanson said he has been told that the floats are jointly owned, but that information has not been verified.

Commissioner McInteer suggested the staff should go back and get the information the commission needs in order to make a decision.

Ms. Faghin said limiting swim floats on waters where there could be conflicts between people and motorboats certainly makes sense. In the case of Lake Burien and along the city's marine shorelines, that particular issue does not really apply.

Staff was directed to come back with additional information and to take up the issue again at the next commission meeting.

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***City of Burien***

**BURIEN PLANNING COMMISSION**

**SPECIAL MEETING**

**March 30, 2010**

**7:00 p.m.**

**Multipurpose Room/Council Chambers**

**MINUTES**

**Planning Commission Members Present:**

**Joe Fitzgibbon, Janet Shull, Jim Clingan, Rebecca McInteer, Rachel Pizarro**

**Absent:**

**None**

**Others Present:**

David Johanson, senior planner  
**Old Business**

A. Discussion and Possible Recommendation: Shoreline Master Program Update

The first issue dealt with piers, docks and floats, or what is called in the draft document "over-water structures." He said the recommendation of staff was the language included on page IV-20 of the draft. The new language defers to the regulations of the Department of Fish and Wildlife and the Army Corps of Engineers. If those regulations change, the City will not need to update its Shoreline Master Program accordingly.

Commissioner Clingan voiced his support for the change, especially the strike out of (h) on page VI-21.

Chair Fitzgibbon indicated his agreement and reiterated the notion of having the Shoreline Master Program matching the regulations of the Department of Fish and Wildlife and the Army Corps of Engineers. It should be expected that their standards will change over time, thus they should not be set in stone at the city level.

Commissioner McInteer asked if the Army Corps of Engineers and the Department of Fish and Wildlife even have regulations for over-water structures. Mr. Johanson said the Army Corps of Engineers has standards associated with its regional general permit. He said he did not know if the Department of Fish and Wildlife has any specifically written code regulations relative to docks, piers and floats.

Chair Fitzgibbon suggested that if the Department of Ecology wants jurisdictions to adopt more restrictive standards on the size of over-water structures, they should say so and be specific. Mr. Johanson said staff had not conferred with the Department of Ecology. The consultant, Nicole Faghin with Reid Middleton, had conversations with the Department of Fish and Wildlife and other jurisdictions. He stated that it is possible that the Department of Ecology will want to see more prescriptive language after it reviews the City's submittal.

### **20.30.075 Over-Water Structures—Including Docks, Piers and Floats**

*Docks* are fixed structures floating upon the water. *Piers* are fixed, pile-supported structures. *Floats* (rafts) are floating structures that are moored, anchored, or otherwise secured in the water that are not directly connected to the shoreline. All of these types of overwater structures are found in the City's shoreline jurisdiction. These structures typically require permits from local, state and federal agencies. For structures overlying state owned lands, an Aquatic Lands lease and authorization from the Department of Natural Resources is required. For the purposes of this section, docks, piers, and floats will be called Over-Water Structures and addressed together **unless otherwise noted**. In addition to the following policies and regulations, applicants for an over-water structure should contact other permitting agencies including the Washington State Dept. of Fish and Wildlife and U.S. Army Corps of Engineers for their requirements, including dimensional standards.

#### **1. Policies**

- a. Over-water structures should be designed to minimize impacts to ecological functions of the water body including but not limited to water quality, anadromous and forage fish habitat, spawning and rearing areas, migration, and passage.
- b. New over-water structures should be restricted to the minimum size necessary and permitted only when the applicant has demonstrated that a specific need exists to support the intended *water dependent* use.
- c. Ensure that over-water structures are designed and maintained to avoid adverse impacts to the environment and shoreline aesthetics and minimize interference with the public's use of the water and public beach area.
- d. Encourage the use of mooring buoys in place of over-water structures.
- e. Encourage shared docks between multiple owners for single family waterfront development to minimize over-water coverage adversely impacting shoreline ecological functions.
- f. Over-water structures should be designed to avoid the need for maintenance dredging. The moorage of a boat larger than provided for in the original moorage design shall not be grounds for approval of dredging.

#### **2. Regulations**

- a. New over-water structures shall be limited to those required as part of a permitted water dependent use or for joint use of the facility.
- b. Private, single residence over-water structures for the sole use of the property owner shall not be considered an outright use on City of Burien marine shorelines. An over-water structure may be allowed on the marine shoreline when the applicant has demonstrated a need for moorage and the following alternatives have been investigated and are not available or feasible:
  - i. Commercial or marina moorage;
  - ii. Floating moorage buoys;

- iii. Joint use moorage pier.
- c. The design and construction of over-water structures as well as their subsequent use and operation, shall:
  - i. Be capable of withstanding expected environmental conditions; and,
  - ii. Minimize interference with adjacent water uses and navigation; and
  - iii. Minimize adverse effects on fish, shellfish, wildlife, water quality and geohydraulic processes by limiting the size of the structure and the use of hazardous materials, incorporating grating to allow light passage or reflective panels to increase light refraction; and spaced and oriented to minimize shading and avoid a ‘wall’ effect that would block or baffle wave patterns, currents, littoral drive, or movement of aquatic life forms.
- d. *Over-water structures* shall not be used for residential dwelling purposes nor provide moorage for boats that are occupied longer than two (2) days unless pump-out facilities are available and then no longer than seven (7) days total.
- e. Only joint use over-water structures are allowed for attached dwelling unit developments.
- f. Only one over-water structure is allowed for each single family detached residential lot.**
- g. No covered moorage is allowed waterward of the ordinary high water mark.

Address

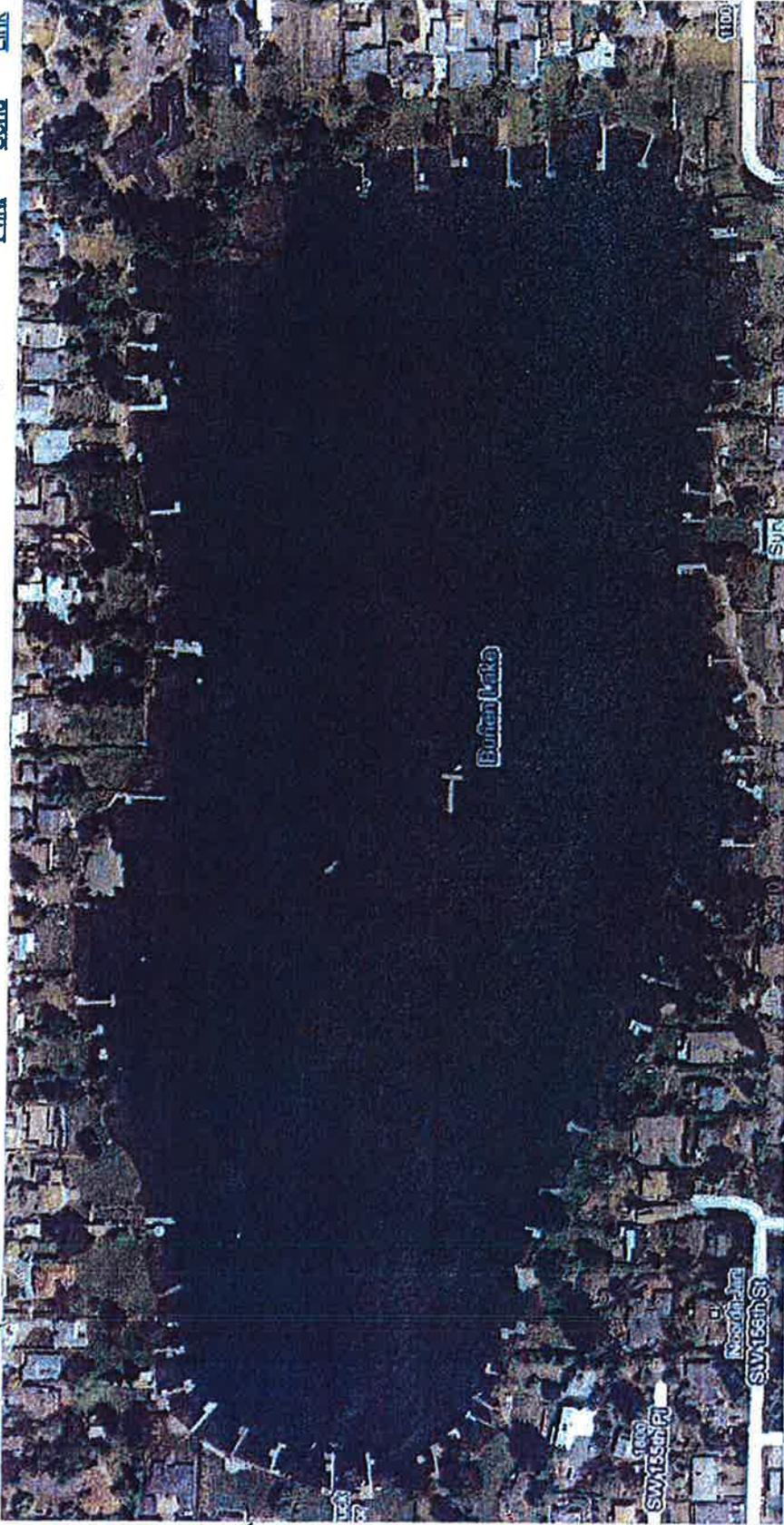
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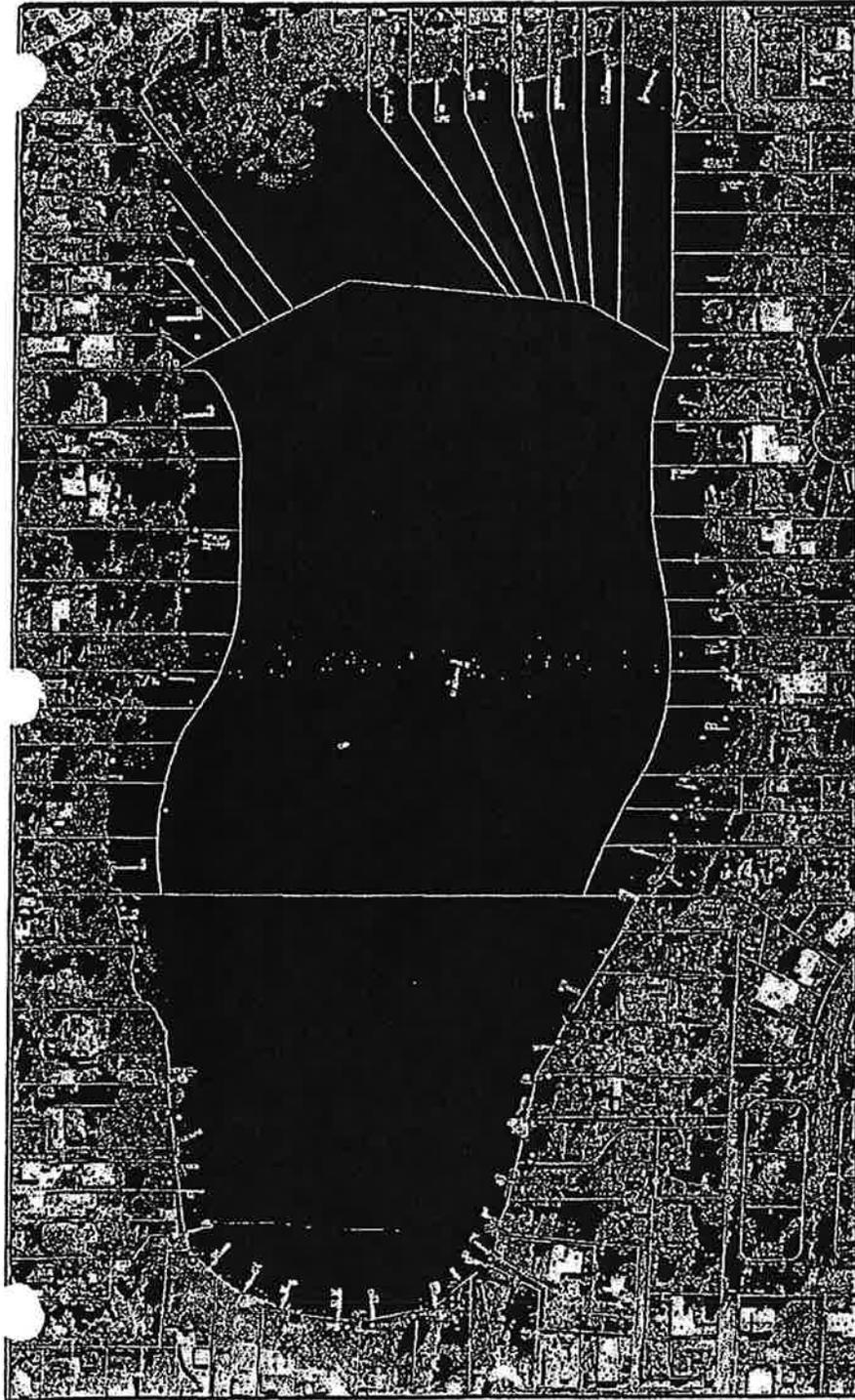
[Get Directions](#) [My Maps](#)

To see all the details that are visible on the screen, use the "Print" link next to the map.

[Print](#) [Send](#) [Link](#)



*type of house*

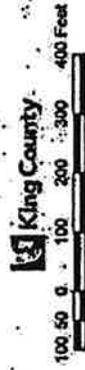


**Purple Loosestrife and Garden Loosestrife on Lake Burien**

Surveyed July and September 2009

**Legend**

- garden loosestrife
- purple loosestrife
- ▭ parcel boundaries



March 09, 2010

Figure 8. Lake Burien, 2009 purple loosestrife and garden loosestrife locations (source: Messick 2010).

**Lisa Clausen**

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**From:** Public Council Inbox  
**To:** Pasek, Joann  
**Subject:** RE: Public Access to Lake Burien, Shorewood, Seahurst, and Three Tree Point waters and beaches

Thank you for your message. It will be provided to the Councilmembers as part of the Public Record.

L. Clausen  
Burien City Manager's Office

**From:** Pasek, Joann [mailto:Joann.Pasek@swedish.org]  
**Sent:** Friday, August 27, 2010 1:43 PM  
**To:** Public Council Inbox  
**Subject:** Public Access to Lake Burien, Shorewood, Seahurst, and Three Tree Point waters and beaches

August 27, 2010

Letter to the Burien City Council regarding public access to  
Lake Burien and the Shorewood, Seahurst, and Three Tree Point shorelines

In all the discussions on homeowner setbacks, floats, and piers, etc., I don't want the primary issue of public access to public waters to get lost.

I do support public access to all the above waters and beaches. It is very disheartening to hike along the Seahurst and Eagle Landing park beaches and come across "No Trespassing" signs at their borders. It is also ridiculous that I live less than a mile from Lake Burien but am not able to even see at it. I do support the city of Burien buying any vacated properties in these areas to create public access.

In addition, I find it very disturbing that the discussion involving public access too often devolves into an "us vs. them" mentality. There is an assumption on the part of some homeowners that the general public will automatically trash the waters and surrounding environment. Funny, Angle Lake in SeaTac has had public access for many years and I haven't heard homeowner complaints about public pollution.

I realize some people will always fear change but we are all part of the same community and should be respectful of each other.

Signed,

JoAnn Pasek  
14628-7<sup>th</sup> Ave. SW  
Burien, WA 98166

*CFR: as/Bo/e  
for hearing*

## David Johanson

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From: Marv [marvjahnke@comcast.net]  
Sent: Friday, August 27, 2010 8:24 PM  
To: David Johanson  
Subject: SMP & Seahurst Park

Hi David,

In reviewing the SMP I question why the setback at Seahurst Park has been reduced by 15 feet? It seems to me that no one should be building near the shoreline at the park after we have spent so much on putting it back to a natural state. I would like to request that the setback be restored to the way it was.

Thank You,

Marv Jahnke  
12112-26th Ave SW  
Burien, WA 98146

## David Johanson

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**From:** JOHN LIEVERO [johnl@tmail.com]  
**ent:** Sunday, August 29, 2010 7:57 AM  
**To:** David Johanson  
**Subject:** Burien Shoreline Master Plan

Mr Johanson -

Please let this email serve as my desire that there be no physical public access to Lake Burien.

As a lifelong resident of Burien it is my hope that by keeping this small lake from "going public" Lake Burien will stay in its prestine state.

There is no realistic plan that has been put on the table to deal with the additional pollution the massive increase in use will create. There is also no plan on the table to deal with the noise, crime, and litter that are also an obvious bi-product of public access to Lake Burien.

Do not allow public access to Lake Burien.

RECEIVED

AUG 30 2010

CITY OF BURIEN

August 27, 2010

To the Burien City Council and the Mayor of Burien;

I am writing this letter to you so that it appears on the record for the hearing on the Burien Shoreline Master Plan. I spoke to you just about a month ago asking that there be no physical public access allowed on Lake Burien. My wife and I have lived on Lake Burien for close to sixty years. We raised our family there and we well know the problems that arise when the general public uses the lake.

At on point in time, the lake was open on 156<sup>th</sup> and the public came on to the lake there. When they came; they littered, went to the toilet in resident's bushes, broke into homes and stole things off of resident's property. There was drunkenness and poor judgment used around the water by the public intruders. Finally ~~one~~<sup>2</sup> of them drown at night in the lake and had to be pulled out on a resident's dock. That is when the lake became fenced off. None of the residents of the lake wants to even see that happen around their house or on their dock again.

...Lake Burien is a very small, shallow lake. It just cannot handle the traffic of thousands of people using it. It has clean water in it now but if you have thousands of people using it, the water won't be clean for very long. Let's use good sense and understand the limits of this small lake. We are requesting that you write into the Shoreline Master Plan that there should be no physical public access on Lake Burien.

When I first moved to Lake Burien, King County controlled how far the homes had to be setback on the lake. This setback was to protect the water quality of the lake. My home is currently setback over 100' from the water. After the sewers were put in (1958), the county let people build closer to the lake at 50' and then 45'. That distance has taken care of the lake pretty well up until now. That amount of open ground is needed to filter the pollution that manages to come down off of the street areas, patios and driveways before entering the lake. Don't reduce that amount of filtering ground down to 30'. First of all, everyone who has built on the lake would have their views obstructed by people building down in front and off the side of them. The original owners paid for their views and have the right to keep them. And secondly, the lake needs a certain amount of land to buffer and filter out pollutants. Keep the 30' buffer and 15' setback that the Lake Burien Shore Club requested in the Shoreline Master Plan.

Sincerely,

*Armer E Lockett*  
*Nancy E Lockett*

To: David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152<sup>nd</sup> St., Suite 300  
Burien Washington 98166

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AUG 30 2010

CITY OF BURIEN

File No. Burien Shoreline Master Program

*Note: SMP Public Hearing*

As a citizen, I am requesting the Burien Shoreline Master Plan clearly state that there will be no **Physical Public Access to Lake Burien.**

**Physical Public Access** to Lake Burien by thousands of people will irreversibly damage this lake. We have perfect examples of the kind of irreversible damage that occurs in small lakes by simply looking at Hicks Lake and Arbor Lake - neighboring lakes and at numerous other small lakes in King County.

Physical Public Access, by thousands of people using a small lake, brings these ecologically damaging issues with it:

1. the introduction of invasive weeds that choke off the waterway, destroy oxygen levels in the lake and destroy wildlife,
2. the introduction of inappropriate gas levels into the water column that damages water quality, destroys wildlife and encourages the growth of toxic (like red tide) plankton populations,
3. the introduction fecal (poop) material to the lake that destroys water quality, destroys wildlife, encourages the growth of fecal coliform bacteria and creates a health and safety issue for humans,
4. introduced boating contamination, speed and density issues that create habitat destruction and trauma to wildlife as well as serve as contaminators and spreaders of infection and noxious weeds (Eurasian Milfoil, etc.) to the lake and animals (quagga mussel, zebra mussel, New Zealand mudsnail, rusty crawfish, spiny water flea, snail fever organism, etc.),
5. exceeding the carrying capacity of the land and water by the introduction of thousands of humans, their pets and their wastes/litter to the delicate lake ecosystem, and
6. the increased turbidity to the water by just the sheer number of people entering it which results in degradation of water quality and destruction of habitat for spawning fish, nesting wildlife.

Research shows that, within two years of having physical public access, small lakes have problems with invasive species and fecal coliform problems. These are problems that require chemical treatment and poisoning to lake waters to attempt to correct. In most cases they cannot be remedied without significant damage to the ecosystem.

**Lake Burien is the last healthy small lake along the King County Urban Corridor. Do not allow this to happen to it. Do not allow Physical Public Access to Lake Burien.**

Sincerely, ARMILDA &  
KARL DIXON *we lived on Lake  
Burien for many years and  
would hate to see it ruined*

August 30, 2010

From: Greg Anderson  
15451 11<sup>th</sup> Ave. S.W.  
Burien, Wa. 98166

Mayor McGilton, and council members,

I am Greg Anderson and am a 60 plus year resident of Lake Burien.

Thank you so much for your efforts to make the SMP a good regulation. The council has greatly improved the SMP. Removing the 15' setback was a great help in ensuring property owners could build, rebuild, and remodel in a reasonable manner. Other changes large and small will help make this a better regulation.

After reading about setbacks, shoreline buffers, wetland impact, mitigation impact, shoreline vegetation buffers, and residential development, ( I have read it all), I don't understand the total impact if a property owner wanted to build a single family home.

Could you please "test drive" this SMP and use a 2500 sq.ft. house footprint on a lot approximately 75' x 100', with the 75' on the shoreline, with a 20' wetland along the shoreline. This would be a typical house with a public road in the front of the house, and shoreline in the rear, and with a typical driveway, deck, and patio. The property owner would like to get the most use out of the shoreline for access to the beach, enjoyment of the shoreline, a boat, a picnic table, and appurtenant structures. Please consider what is allowable for a single family residence in BMC 20.35.025 e, RCW 90.58, and WAC 173.26 & 27. This will test the SMP and you will see if it has the desired outcome. I don't think the first "test driver" of the SMP should be a property owner. By doing this, we can all find out if there is a problem now.

When the council is done with the SMP, the shoreline property owners will not be done, they will have to live with this everyday. It is important to get it right.

Please note RCW 90.58.100 states, in part, "to ensure that the strict implementation of a program will not create unnecessary hardships, or thwart the policy enumerated in RCW 90.58.020". RCW 90.58.020 (priority for single family residences and their appurtenant structures).

Thanks so much,

Greg Anderson  
206-915-8148

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AUG 30 2010

CITY OF BURIEN

Kevin Alexander  
537 S. 137<sup>th</sup> Pl  
Burien, WA 98168

August 29, 2010

David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152nd St, Suite 300  
Burien, WA 98166

Mr. Johanson,

It has come to my attention that the latest revision of the Shoreline Master Plan has removed the 15' setback requirements for the buffers in the Urban Conservancy and Lake Burien shorelines. Since this significantly reduces the protection of the shoreline in both areas I don't understand how this is consistent with the Department of Ecology's "No net loss" mandate for the Shoreline Master Plan.

According to 20.30.045 1. a. i) the City of Burien has an obligation to:

Prevent impacts to water quality and storm water quantity that would result in a net loss of shoreline ecological functions, or a significant impact to aesthetic qualities, or recreational opportunities.

Since no development is likely in the Urban Conservancy of Seahurst Park, and because that area is sensitive and unique in Burien, removing that setback makes no sense at all.

Removing the setback on Lake Burien has the potential to cause significant impact in several ways. There are potential water quality issues because a 30 buffer between developed areas and the Lake will provide very little effective filtering of pollutants, and minimize the ability to buffer water flow into the Lake. Those residents who have adhered to previous buffers and setbacks (in many cases up to 100 feet) will suffer severe impact if someone builds within 30 feet of shoreline. Since that would be only 30% of the setback of many existing homes, the new construction would be way out in front of existing homes, blocking much of the view, essentially penalizing them. It will also impact the view of the lake from surrounding roads and property.

The 15' setback needs to be retained in both areas for the benefit of sensitive areas and all citizens of Burien.

Kevin Alexander  
Adopt-A-Park volunteer  
<http://www.seahurstpark.org/>



FILE COPY

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AUG 30 2010

CITY OF BURIEN

August 30, 2010

Mayor Joan McGilton  
Honorable Rose Clark  
Honorable Brian Bennett  
Honorable Jack Block  
Honorable Kathy Keene  
Honorable Lucy Krakowiak  
Honorable Gordon Shaw  
Burien City Council

c/o David Johansen, Sr. Planner  
Community Development Dept.  
400 SW 152nd St, Suite 300  
Burien, WA 98166

Sent by email to: [davidj@burienwa.gov](mailto:davidj@burienwa.gov)

**Subject: Comments on the City of Burien Shoreline Master Program Council Hearing Draft**

Dear City of Burien Planning Commissioners:

Futurewise appreciates the opportunity to comment on the Draft Shoreline Master Program (SMP). Futurewise is a statewide citizens group that promotes healthy communities and cities while protecting working farms, working forests, and shorelines for this and future generations. We have members in the City of Burien, as we do throughout Washington State.

The Burien SMP is important because it encompasses approximately 5 miles of Puget Sound marine shore. The Puget Sound and its tributary streams and lakes are home to three threatened species: the Puget Sound Chinook salmon, the Puget Sound steelhead, and the bull trout. Business as usual has resulted in the loss of habitat that has contributed to the listing of these threatened species. We cannot afford a business-as-usual shoreline master program. In many respects the Burien SMP accomplishes protection of shoreline resources, although there are some changes that we urge you to adopt.

There are many good elements in the draft SMP. We urge you to retain these elements:

- The inclusion of a thorough Use and Modification Table to indicate whether shoreline uses and modifications are allowed and what permit review is needed.
- The buffer system is well developed and logically sound for reasons that are described below, along with some minor changes.
- The treatment of docks and floats by requiring careful review through a Conditional Use Permit.
- The prohibition on new private boat ramps due to their unnecessary impacts on land and water shoreline ecological functions.

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- The provision that prohibits covered moorage and boathouses. Such development is more for convenience than necessity, and adversely impacts fish habitat.
- The public access provisions will provide the city's residents with high quality enjoyment of the city's shorelines.
- The system for reviewing Shoreline Exemptions is well described so that it clearly indicates that exemptions receive an abbreviated review.

While there are many good protection strategies in the draft SMP, there are some areas that need to be strengthened in order to protect water quality and meet the requirements of the Shoreline Management Act (SMA) and the SMP Guidelines.

Our primary concern relates to the issue of buffers. We have attached our guidance document on using smaller buffers for existing developed areas, while still meeting the SMA and SMP Guidelines requirements for using science and no-net-loss of ecological functions. This guidance document explains why small buffers don't work to protect ecological functions unless they are accompanied by built-in mitigation in the form of enhancement requirements to offset the built-in impacts that come with small buffers. The City's riparian vegetation strategy goes a long way toward matching the recommendations in the guidance document. Only small changes are needed to plug the gaps that remain. Detailed comments on buffers are provided below.

We must caution you however, that the small buffers in this guidance document are not consistent with the buffers in the National Marine Fisheries Service - Northwest Region's *Endangered Species Act Section 7 Consultation Final Biological Opinion for Implementation of the National Flood Insurance Program in the State of Washington, Phase One Document - Puget Sound Region*.<sup>1</sup> So you should carefully consider the potential consequences of using such small buffers.

We were initially dismayed that the Council decided to reduce marine buffers from 50 feet to 20 feet for the Shoreline Residential environment. We would prefer the Planning Commission's recommended 50 foot wide buffers, as those would provide better protection to Puget Sound. So our recommendation would be to adopt that recommendation. However, a 20 foot wide buffer may work if the buffer matches the existing marine vegetation, protects the other vegetation within shoreline jurisdiction, provides for mitigation, and includes areas of wider marine vegetation in a more protective buffer. The complicating factor is that the Burien buffers are based on the shoreline environment designations. Below, we suggest a solution that can meet the Council's preferences, while still meeting the shoreline requirements.

### **Changes are Needed to the Environment Maps to Protect Remaining Intact Areas**

WAC 173-26-186(8)(b) requires that "[l]ocal master programs shall include policies and regulations designed to achieve no net loss of those ecological functions." Since the draft SMP bases its buffer system on shoreline environments, it is important to ensure that areas designated with different environments match the buffer system for those areas.

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<sup>1</sup> Accessed on August 27, 2010 through: <http://www.nwr.noaa.gov/Salmon-Habitat/ESA-Consultations/FEMA-BO.cfm>

The draft SMP uses two land-based environments: Urban Conservancy and Shoreline Residential. We have reviewed the environments map and compared it to the development patterns we observed using Google Earth. In reviewing these areas, we observed discrepancies between the Urban Conservancy environment's mapping criteria and the observed vegetation condition. There are several areas that appear to be relatively intact and should be Urban Conservancy, even though they have some development. The criteria for designating Urban Conservancy – Section 20.25.015 - states [with emphasis]:

An “Urban Conservancy” environment designation is assigned to areas within shoreline jurisdiction that are suitable for public access, water-enjoyment recreational uses and active recreation developments. These are areas that are developed at a low density including residences and outdoor recreation.

Several areas have low intensity residential uses (spaced with riparian vegetation between sites) or residences set back well away from the water. These areas need better protection. We recommend that three stretches of shoreline be designated as Urban Conservancy, because they meet the criteria for that environment:

- Along the area where Maplewild Avenue's NE to SW segment lies closest to the sound.
- Along the area of Maplewild Avenue's north-south segment and continuing north to 152<sup>nd</sup> Place
- A segment of shore near the intersection of Shorewood Dr. and 30th Ave.

#### **Proposed Setbacks are Inadequate to Protect Remaining Ecological Functions**

Based on the environment configuration described above, and our recommended map changes, the buffer and vegetation management system needs to protect the ecological functions remaining within the city's shoreline jurisdiction as required by the SMP Guidelines.<sup>2</sup>

An important consideration for Burien is that while the shoreline is heavily developed immediately near the water, many of these areas still have intact vegetation between the buildings or behind a strip of dense development. Thus there is sometimes 200 feet or more of intact vegetation either with individual buildings embedded within it, or behind a dense strip of homes directly on the water. If the proposed buffers are to be used, these intact vegetation areas must be protected.

These intact areas have significant ecological functions remaining, including fish and wildlife habitat. An intact buffer would normally be 150 feet on Puget Sound. *Protecting Nearshore Habitat and Functions in Puget Sound: An Interim Guide* recommends buffers from 100 to 600 feet to protect the functions of Puget Sound.<sup>3</sup> National Marine Fisheries Service - Northwest Region's *Endangered Species Act Section 7 Consultation Final Biological Opinion for Implementation of the National Flood Insurance Program in the State of Washington, Phase One Document – Puget Sound Region* calls for riparian buffer zones 250 wide feet measured perpendicularly from ordinary high water for Type S (Shorelines of the State) streams, 200 feet wide for Type F streams (fish bearing) greater than 5 feet wide and marine shorelines such as Puget Sound, and 150 feet for Type F streams less than 5 feet wide and for

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<sup>2</sup> WAC 173-26-186(8)(b).

<sup>3</sup> EnviroVision, Herrera Environmental, and the Aquatic Habitat Guidelines Working Group, *Protecting Nearshore Habitat and Functions in Puget Sound: An Interim Guide* pp. 11-38 to 11-41 (October 2007) accessed on November 5, 2009 at: [http://wdfw.wa.gov/hab/nearshore\\_guidelines/](http://wdfw.wa.gov/hab/nearshore_guidelines/)

lakes.<sup>4</sup> The *Endangered Species Act Section 7 Consultation Final Biological Opinion for Implementation of the National Flood Insurance Program in the State of Washington, Phase One Document – Puget Sound Region* calls for riparian buffer zones. For type N (nonsalmonid-bearing) perennial and seasonal streams a 150 foot or 225 foot buffer applies, depending on slope stability (the 225 foot buffer applies to unstable slopes).<sup>5</sup>

So these are the buffers necessary to protect shoreline resources. Given that the city is using smaller setbacks and vegetation retention provisions, we recommend the additions to the Urban Conservancy environments in the prior section and the changes to the setback system in the next section.

### **Using Small Setbacks in Degraded Shoreline Residential Also Needs Compensation**

The SMP Guidelines include special emphasis on “no-net-loss of ecological functions.” This, in turn, is accomplished by the concept of mitigation sequencing. Mitigation sequencing also ties into how small buffers can be allowed in degraded areas of existing development. As described in our guidance document, the use of small buffers alone will not adequately protect the ecological functions of shorelines. Over time, urban shorelines will continue to be developed and redeveloped, and existing uses will be expanded and intensified. Shoreline areas will be subject to more and more adverse impacts. The scientific evidence shows that full-sized intact buffers are needed to adequately mitigate the impacts of adjacent development on water features. Small intact buffers are incapable of doing so. And degraded buffers are unable to perform their buffering function. If existing developed and degraded areas are to have small buffers applied to them, the only justification for doing so is that specifically required mitigation enhancement can offset the new impacts of the new development.

*Thus*, small buffers may be acceptable if done right, as described in the guidance document. Using such a system will help reduce the impacts of new development and redevelopment on shoreline resources. It will also result in a gradual increase in vegetation and habitat for fish and small animals over time. This will meet the SMP Guidelines requirement<sup>6</sup> for no-net-loss of shoreline functions, the requirement<sup>7</sup> to plan for restoration of the jurisdiction’s degraded shorelines, and meet the requirement<sup>8</sup> to achieve overall improvements in shoreline ecological functions. It will also help improve the water quality of the Puget Sound.

The proposed buffer system establishes a vegetation conservation buffer, which is approximately the size needed for a science-based buffer, within which vegetation management is necessary. It then establishes a riparian buffer that is more based on the existing conditions of many of the City’s developed areas. We support the general concept,

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<sup>4</sup> National Marine Fisheries Service - Northwest Region *Second Notice of Error and Correction in Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the on-going National Flood Insurance Program carried out in the Puget Sound area in Washington State* p. 5 (HUC 17110020 Puget Sound: May 14, 2009). Accessed on August 27, 2010 from: <http://www.nwr.noaa.gov/Salmon-Habitat/ESA-Consultations/FEMA-BO.cfm>

<sup>5</sup> *Id.*

<sup>6</sup> WAC 173-26-186(8)(d).

<sup>7</sup> WAC 173-26-186(8)(c).

<sup>8</sup> WAC 173-26-201(2)(f).

with some adjustments. Specifically, when intact vegetation is found in the vegetation conservation buffer, it needs protection that is more similar to the buffer protections. It cannot be allowed to be eliminated without a good reason. Below are our recommended edits (using ~~strikeout~~ and underline) to the vegetation management regulations on Section 20.30.040(2) paragraphs (b-d). Following them are explanations for the edits.

- b. Alterations within the shoreline vegetation conservation buffer shall only be allowed through review and approval by the City of a vegetation management plan as set forth in paragraph c and d below.
- c. ~~If mitigation of impacts is necessary, it should take the form of shall use~~ vegetation enhancement and result in improvements to ecological functions or enhancement of other ecological functions as described in a vegetation management plan. The vegetation management plan shall be prepared by a qualified professional and shall be consistent with the provisions of this chapter and BMC Chapter 19.40[Critical Areas]. Vegetation enhancement plans shall include:
  - i. Revegetation of degraded buffer areas within 20 feet of the ordinary high water mark (or top of shore armoring if applicable) or wetland edge with dense native vegetation meeting the standards of paragraph (d)(iii-iv) below. The Administrator may require wider widths or other improvements to mitigate greater impacts. If setback reduction or encroachment is also proposed, additional compensation shall be required - including the consideration of options such as bulkhead or dock removal. Minor expansions to buildings that do not exceed 100 sq. feet, measure cumulatively from {DATE OF THIS UPDATED SMP} are not subject to this requirement.
  - ii. The above revegetation area may be modified using area averaging when existing structures encroach into the 20 foot width, when access through the area to waterfront facilities is needed, or when water-dependent activities need to take place in the area.
- d. Within a shoreline vegetation conservation buffer as set forth in BMC 20.30.050[Dimensional Standards for Shoreline Development], alterations shall comply with the following;
  - i. The applicant shall provide a vegetation management plan prepared by a qualified professional; and
  - ii. Mitigation sequencing shall be used. Alternatives that do not remove intact vegetated areas shall be used whenever feasible. When necessary, ~~the total area of vegetation removal or alteration shall be replaced at a size equal or greater to~~ ratio of twice the area being altered. ~~If areas are partially intact and are to be enhanced, they shall use a ratio of four to one. If no degraded areas suitable for replacement or enhancement exist on-site, the mitigation plan shall provide alternatives, such as out-of-kind compensation by restoring other degraded ecological functions, or by using off-site compensation.~~; and
  - iii. ... ..

Explanation of edits for paragraph (b): As described in our guidance document, almost all development has impacts, even in developed areas. If buffers as small as those being proposed are to be used, new development (including expansions of existing development) needs to also provide mitigation for the impacts. This is accomplished through the vegetation management

plan requirements in paragraphs (c) and (d), along with our recommended edits. This will provide a default level of mitigation to protect shoreline waters.

Explanation of edits for paragraph (c): The need to provide mitigation through the vegetation management plan needs to be more clearly stated if the smaller buffers are to be used. Enhancement of other ecological functions should be allowed as well. Some situations, like buffer reductions, usually need more mitigation than the default enhancement. Most jurisdictions that have acceptable small buffer systems, also include a trigger to allow small de minimus improvements (along with a cumulative limit to prevent abuse).

Explanation of edits for paragraph (d): Removal of intact vegetation should be limited to situations where other options are not feasible (a defined term in the SMP). Replacement ratios are needed for two reasons: (1) compensatory mitigation is often only partially effective and takes a long time to mature, and (2) enhancement is less beneficial than replacement. The provision needs to provide guidance for situations where there is no place to provide replacement or enhancement.

If these recommended changes are not included to protect existing intact vegetation areas outside the buffer line, the loss of functioning area allowed by the SMP needs to be accounted for in the Cumulative Impacts Analysis and mitigated, which will be very difficult or impossible to do.

#### Uses and Facilities Allowed in Buffers should be very limited

The CAO is adopted to protect streams and wetlands within shoreline jurisdiction. However, the CAO allows a large number of activities in streams, wetlands, and their buffers. Some specific problems include:

- Stormwater and utility facilities can be placed in buffers, and sometimes convert the wetland, even though the maintenance requirements will require limiting vegetation near them.
- Trails are allowed in buffers, and take precedence over ecological functions, contrary to the SMA.

Most of the allowed activities are provided with outright statements of allowance, without the need to be actually dependent on the location near the water. Yet they can almost always function equally well if located outside the buffer. The only exceptions to the buffers should be for water-dependent facilities, and it should be stated as such (examples would include access directly to a water-dependent use (beach, pier, or providing a crossing or outfall for a utility). If meeting the buffer would be a hardship for other facilities, they would qualify for a Variance or other reduction. We recommend that these exemptions to CAO buffers be excluded from incorporation into the SMP in the appropriate introductory or applicability section.

Both the CAO (in BMM 19.40.300) and the SMP (In Section 20.30.025(2(a))) exclude small wetlands from protection. These provisions also need to be excluded from the parts of the CAO incorporated into the SMP and from the SMP text. Small wetlands can provide important functions.

The stream and wetland alterations sections (in BMM 19.40.320 & -.360) allow stormwater and utility alterations to streams, wetlands, and their buffers. Type 3 wetlands can even be converted to stormwater facilities. This provision also needs to be excluded from the SMP. In the CAO, these facilities don't have to meet the buffer requirements, and are often allowed as a first option rather than a last option. We recommend that only water-dependent facilities should be allowed in the stream, wetland, or their buffers. We also recommend that, when allowed, enhancement should be required to mitigate for impacts – currently facilities only have to repair damage to the pre-damage condition, not compensate for new impacts from corridors or facilities that will be maintained in an altered vegetation condition, or from changes in groundwater patterns.

### Shoreline Environments

**Aquatic Environment – Section 20.25.010.** An unintended consequence of how the Aquatic environment is used is that while the upland shoreline areas have multiple possible environments to distinguish between different shoreline conditions, the open water areas are characterized by one environment – Aquatic. Furthermore the Use Table allows a wide variety of uses in the Aquatic environment. The result is that the uses allowed in the Aquatic environment can be located directly adjacent to all the other environments fronting the water line, resulting in significant land use inconsistencies with residential areas and natural areas.

Management Policy A discusses the paradox of having an Aquatic Environment that allows many uses and modifications being located adjacent to other environments that are protective of ecological functions or residential values: “Shoreline uses and modifications should be compatible with the adjoining shoreline environment and designed and managed to prevent degradation of water quality and alteration of natural hydrographic conditions.”

We support the idea, but there is no implementing regulation. We recommend the following new regulation, which is similar to what other jurisdictions are using, to be placed either in the Land Use section (20.30.015) as Regulation 2(c), or in the use table as Note 5 placed on the heading for the Aquatic environment column:

“Where a use or modification may occur in the Aquatic environment as indicated in Figure 4 and in the corresponding regulations for that use, it shall also be subject to any more restrictive permit processes or prohibitions as indicated for the adjacent shoreland environment.”

### Boating Facilities

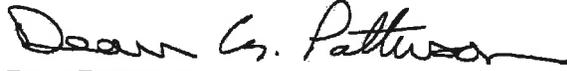
The SMP Guidelines requires<sup>9</sup> local SMPs to deal with recreational Boating Facilities as a specific use category. These can be public or private facilities, marina or mooring buoy field facilities, community or shared facilities, or large and small facilities. These multi-user facilities (excluding docks serving four single-family residences or less) are intensely used and need special provisions for dealing with such use. Consequently, the SMP Guidelines require that, when Boating Facilities are allowed, SMPs include regulations to deal with their extensive special issues, which are listed in detail in the Guidelines. These include standards for their location and design, as well as sanitation and safety.

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<sup>9</sup> WAC 173-26-241(3)(c).

Thank you for considering our comments. If you require additional information please contact me at [dean@futurewise.org](mailto:dean@futurewise.org) or 509-823-5481.

Sincerely,

A handwritten signature in black ink that reads "Dean G. Patterson". The signature is written in a cursive style with a long, sweeping underline.

Dean Patterson  
Shoreline Planner  
Futurewise



## Recommendations on Making Small Shoreline Buffers Work with Buffer Science

March 2010

*Note: this document will be updated with additional science citations in the future, please check our website for the current version*

### Introduction

In the course of reviewing Shoreline Master Programs (SMPs), Futurewise has seen several proposals for small buffers in areas of existing development. Some of these proposals seem to be based on the belief that, if a small buffer is established based on existing development patterns, unlimited new development (including redevelopment, expansion, and more intensified uses) outside that small buffer will have no additional impacts to shoreline ecological functions, and thus no mitigation is necessary. This paper shows that there is no scientific basis for such a strategy, and provides a recommended strategy for the acceptable use of small buffers in existing intensely developed areas which we believe allows for reasonable development while also having a reasonable chance of protecting the existing shoreline functions, as the Shoreline Management Act and the Shoreline Master Program Guidelines require.

### Purpose of Regulatory Buffers – Avoiding & Minimizing Impacts

The Shoreline Management Act (SMA) policy statement in RCW 90.58.020 lists the primary policy objective of the act [with emphasis]: “This policy contemplates protecting against adverse effects to the public health, *the land and its vegetation and wildlife, and the waters of the state and their aquatic life*, while protecting generally public rights of navigation and corollary rights incidental thereto.” In addition, the SMA policy provides that “[p]ermitted uses in the shorelines of the state shall be designed and conducted in a manner to *minimize*, insofar as practical, any resultant damage to the ecology and environment of the shoreline area and any interference with the public’s use of the water.”

To implement these policies to protect the ecology and to minimize damage, as well as other policies of the SMA, the SMP Guidelines require **no-net-loss of ecological functions**, stating specifically: “Local master programs shall include policies and regulations designed to achieve no net loss of those ecological functions.”<sup>1</sup>

This is accomplished through **mitigation sequencing**,<sup>2</sup> whereby the first task of mitigation is **avoidance** of impacts, the second task is **minimization** of impacts, and the third is **compensation** for remaining impacts. Stated another way, allowing development to impact the shoreline is supposed to be the **last option, not the first option**. Impacts should only be allowed to the extent that it is not practical to avoid damage to the environment and the

<sup>1</sup> WAC 173-26-186(8)(b) under Governing Principles of the Guidelines relating to ecological functions; and implemented in WAC 173-26-201(2)(c) under Basic Concepts. Despite being called ‘Guidelines,’ the SMA, in RCW 90.58.080(1), requires that shoreline master programs shall be consistent with the SMP Guidelines.

<sup>2</sup> WAC 173-26-201(2)(c) under Basic Concepts and Protection of Ecological Functions; and implemented in WAC 173-26-201(2)(e) under Basic Concepts, Environmental Impact Mitigation.

public's use of the water, and then the development should minimize and compensate for those impacts.

Designing an SMP to achieve no-net-loss of ecological functions is largely a scientific exercise, and the SMA is specific in its requirements to use science in developing the SMP. It requires using "a systematic interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts." This science requirement is similar to the Growth Management Act's "Best Available Science" requirement. While each has its own terminology, these two science requirements are functionally the same in that they require the use of current up-to-date science.

The science literature on the impacts of development near water bodies provides the basis for jurisdictions to accomplish mitigation sequencing for shoreline waters (streams, lakes, wetlands, marine waters, etc.) and adjacent shorelands. One essential strategy for protecting the functions and values provided by intact riparian vegetation is using a regulatory buffer (or a setback and vegetation retention area) of a width supported by science. An adequate buffer can provide many important functions and help protect water quality and water resources. While an adequate buffer can accomplish much, it cannot mitigate everything, especially impacts from degraded upland areas and the broader watershed – for example stormwater, erosion, habitat loss, etc. Other regulations are needed to deal with such impacts, including those areas outside shoreline jurisdiction.<sup>4</sup>

An adequate regulatory buffer can do much to provide mitigation sequencing:

- (1) It helps accomplish the first task of mitigation sequencing – avoidance. *But this is only the case if the buffer is intact.* An adequate buffer will help protect a large percentage of the functions that riparian vegetation provides, and will encompass the most important riparian habitat areas.
- (2) While an adequate buffer can do much, it can't accomplish everything. Thus, an intact buffer can be a first step in minimizing the adverse impacts of development to functions that extend outside the buffer. It also reduces or helps minimize those repeating or ongoing impacts from adjacent development, such as water quality, glare, and noise impacts, by filtering pollutants, screening glare, and reducing noise transmission.
- (3) For both degraded and intact areas, a science-based regulatory buffer also identifies an area within which new development will cause impacts that need compensation. In addition, when buffers are degraded, they provide a location where any impacts of the development can be compensated for by enhancing the degraded functions.

Even when science-based buffers are degraded, they can still perform functions at a dampened level, depending on the amount of degradation. Even heavily degraded shorelines will perform

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<sup>3</sup> RCW 90.58.100, with emphasis added.

<sup>4</sup> For example, to maintain the health of streams and salmon habitats, rivers basins should limit effective impervious surfaces to no more than ten percent and forest cover to no less than 65 percent. Derek B. Booth, *Forest Cover, Impervious-surface Area, and the Mitigation of Urbanization Impacts in King County, Washington* p. 16 (University of Washington, Seattle Washington: September 2000). Accessed on March 10, 2010 at: <http://depts.washington.edu/cuwmm/research/forest.pdf>

functions at a very low level. This is specifically stated in the SMP Guidelines,<sup>5</sup> and documented in the science literature (including those footnoted below) that compares developed and undeveloped sites. For example, even lawns can provide better animal feeding, runoff treatment, and other functions than paved surfaces and structures. New impervious surfaces and more intensive use will degrade these even further. Thus, if the regulatory buffer is not of adequate width to avoid and mitigate impacts, as is the case when using small buffers, new development outside the small buffer will still cause new impacts.

### **Vegetative Buffer Areas Perform Many Functions**

The peer-reviewed scientific evidence has been reviewed and synthesized in several documents that show that intact buffers of adequate width are needed to mitigate the impacts of adjacent development on lakes, rivers, streams, marine waters, and wetlands.<sup>6</sup> An item of particular

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<sup>5</sup> WAC 173-26-201(2)(c) under Basic Concepts and Protection of Ecological Functions.

<sup>6</sup> **Lakes:** Karen Cappiella and Tom Schueler, *Crafting a Lake Protection Ordinance*, Urban Lake Management, Watershed Protection Techniques 3(4) (2001). Accessed on March 10, 2010 at: [http://www.cwp.org/Resource\\_Library/Center\\_Docs/special/lakes/ulm\\_lakeprotectionord.pdf](http://www.cwp.org/Resource_Library/Center_Docs/special/lakes/ulm_lakeprotectionord.pdf). Widths - p. 756; Functions - pp. 752-754.

**Lakes:** S. Engel and J. L. Pederson Jr., *The construction, aesthetics, and effects of lakeshore development: a literature review* (Research report 177, Wisconsin. Dept. of Natural Resources, 1998). Accessed on March 10, 2010 at: <http://digicoll.library.wisc.edu/cgi-bin/EcoNatRes/EcoNatRes-idx?id=EcoNatRes.DNRRep177>. Functions - pp. 9-24; widths not addressed.

**Streams, Lakes, and Marine:** National Marine Fisheries Service - Northwest Region, *Endangered Species Act Section 7 Consultation Final Biological Opinion for Implementation of the National Flood Insurance Program in the State of Washington, Phase One Document - Puget Sound Region* (Sept. 22, 2008). Accessed on March 10, 2010 at: [https://pcts.nmfs.noaa.gov/pls/pcts-pub/biop\\_results\\_detail?reg\\_inclause\\_in=\('NWR'\)&tidin=29082](https://pcts.nmfs.noaa.gov/pls/pcts-pub/biop_results_detail?reg_inclause_in=('NWR')&tidin=29082). Widths - pp. 222 - 223; Functions and development impacts: pp. 24 - 150.

**Streams and Lakes:** Spence, B. C., G. A. Lomnický, R. M. Hughes, and R. P. Novitzki, *An Ecosystem Approach to Salmonid Conservation*. (ManTech Environmental Research Services Corp., Corvallis, OR, Doc.#: TR-4501-96-6057, available from the National Marine Fisheries Service, Portland, Oregon. 1996). Accessed on March 10, 2010 at: <http://www.nwr.noaa.gov/Publications/Reference-Documents/ManTech-Report.cfm>. Widths - pp. 215-230 (esp. p. 229); Functions - pp. 51-55.

**Streams:** K. L. Knutson & V. L. Naef, *Management Recommendations for Washington's Priority Habitats: Riparian* (Wash. Dept. Fish and Wildlife, Olympia WA, 1997). Accessed on March 10, 2010 at: <http://wdfw.wa.gov/hab/ripfinal.pdf>. Widths - p. 87; Functions - pp. 19-38.

**Wetlands:** D. Sheldon, T. Hruby, P. Johnson, K. Harper, A. McMillan, T. Granger, S. Stanley, and E. Stockdale, *Wetlands in Washington State - Volume 1: A Synthesis of the Science* (Washington State Department of Ecology Publication #05-06-006, 2005). Accessed on March 10, 2010 at: <http://www.ecy.wa.gov/biblio/0506006.html>. Widths - all of Chapter 5 & p. 5-55; Functions - All of Chapter 2 & parts of Chapter 3 and 4.

**Marine:** EnviroVision, Herrera Environmental, and the Aquatic Habitat Guidelines Working Group, *Protecting Nearshore Habitat and Functions in Puget Sound: An Interim Guide* (October 2007). Accessed on March 10, 2010 at: [http://wdfw.wa.gov/hab/nearshore\\_guidelines/](http://wdfw.wa.gov/hab/nearshore_guidelines/). Widths - pp III-38 to III-41; Functions - pp. II-38 to II-46.

**Marine:** J. S. Brennan, and H. Culverwell, *Marine Riparian: An Assessment of Riparian Functions in Marine Ecosystems* (Washington Sea Grant Program, University of Washington, Seattle, 2004). Accessed on March 10, 2010 at: <http://www.wsg.washington.edu/research/pdfs/brennan.pdf>. Widths - p. 16; Functions pp. ii-iii & 3-14.

**NOTE:** If some links do not operate, removing the last item on the link may provide an alternate access path. Otherwise perform a search on that website or the internet in general.

note is that some studies<sup>7</sup> found that riparian vegetation performed similar functions for all types of water environments. Indeed, many of the science articles seeking numerical values for buffer widths are not based on any particular type of water feature (stream v. wetland, etc.). The buffer widths recommended to protect the wide variety of ecological functions in these synthesis studies are summarized in the following table. Specific functions are described in more detail below the table.

Science Review Source	Recommended Vegetated Buffer Width			
	Stream	Wetland	Lake	Marine
Cappiella and Schueler, <i>Crafting a Lake Protection Ordinance</i> (Review of Lake Ordinances)			Range from 50-150'; Septic 100'+	
Engel and Pederson, <i>The construction, aesthetics, and effects of lakeshore development</i>			Only functions listed	
National Marine Fisheries Service, <i>ESA Consultation Biological Opinion for NFIP in Wa. State</i>	Greater of: Lg. rivers - 150'; or CMZ +50'; or floodway		100'	100'
Spence et al., <i>An Ecosystem Approach to Salmonid Conservation</i> . (ManTech Report for NOAA)	1 site pot. tree height (up to 150')		1 site pot. tree height (up to 150')	
Knutson Et Naef, <i>Management Recommendations for Washington's Priority Habitats: Riparian</i> (WDFW)	150-250' per str. type + floodplain			
Sheldon et al., <i>Wetlands in Washington State - Volume 1: A Synthesis of the Science</i> (Ecology)		150'-300' for most human uses		
EnviroVision et al., <i>Protecting Nearshore Habitat and Functions in Puget Sound: An Interim Guide</i> (Aquatic Habitat Guideline Working Group)				150-200'
Brennan and Culverwell, <i>Marine Riparian: An assessment of riparian functions</i> (SeaGrant)				>30m (>100')

**NOTE:** See footnote 6 for full citations and links to the studies.

These science reviews document that: (1) small buffers, even with intact vegetation, are incapable of fully mitigating development impacts; and (2) degraded buffers are unable to fully perform their buffering function.<sup>8</sup> The science of intact buffer areas of adequate width shows that they perform many functions - some of which are provided below and grouped by similarity.

<sup>7</sup> Sheldon, et al., *Wetlands in Washington State - Volume 1*, p. 5-25 to 5-26.

Brennan and Culverwell, *Marine Riparian*, pp. 2 Et 16.

EnviroVision, et al., *Protecting Nearshore Habitat*, p. III-38.

<sup>8</sup> See particularly: Spence et al., *An Ecosystem Approach to Salmonid Conservation*. (ManTech Report for NOAA) Chapter 6: Effects of Human Activities.

#### Water Quality and Infiltration

- Inhibiting surface erosion from surface runoff and flood flows.
- Filtering sediment from surface runoff and flood flows.
- Removing and transforming nutrients and harmful substances from surface runoff and flood flows.
- Infiltrating and storing surface runoff and flood flows into groundwater for later release to water bodies.
- Removing and transforming nutrients and harmful substances from groundwater passing through root zones.

#### Stabilization

- Providing stabilization to streambanks, lake shores, and marine waters against erosive water forces through root mats and root-strength.
- Contributing in-water woody debris which reduces and slows erosive water forces against streambanks and lake shores through barriers and increased roughness.
- Protects uplands from surface erosion caused by storms and rising sea levels.

#### In-Water Habitat Contributions

- Providing fish with over-water hanging cover from predators.
- Providing shade to help cool the water, especially for shallow margins.
- Contributing in-water woody debris needed for creation of fish habitat.
- Contributing in-water organic matter to support fish food species (insects and invertebrates), and other aquatic life.
- Screening or dampening noise, glare, and human activity from the water.

#### Land Habitat

- Providing refuge for fish from fast flows during floods, as well as access to new food sources.
- Contributing large woody debris needed for amphibian, small mammal, bird, and insect habitat.
- Providing wildlife habitat areas (for feeding, reproducing, resting, etc.) for riparian species, and for upland species that use riparian areas.
- Providing a wildlife dispersal and migration corridor along the water to other areas.
- Generating organic matter needed for foundation of food web.
- Providing natural processes and food web functions to support wildlife.
- Altering the microclimate near the water to be more suitable for aquatic and riparian species by sheltering from wind, holding humidity, etc.
- Screening or dampening noise, glare, and human activity.
- Providing separation from human activity for sensitive aquatic and upland species.

While full-sized, intact buffers perform or protect almost the full level of the functions above, degraded buffers still perform low levels of functions, and additional development continues to impact these. It is not the case that degraded buffers have no functions; thus mitigation is needed for new development outside any buffer area which is too small to fully perform or protect the full range of shoreline functions.

### Small Degraded Buffers Cannot Protect Shoreline Functions

The currently available science shows that using the science-based buffer for avoidance and minimization in mitigation sequencing has several *policy implications* that bear on the use of small buffer regulations for existing development:

1. If the science-based buffers are intact, they can provide functions and protect the resource from many impacts from nearby development.
2. If the buffers are not intact, they cannot provide the functions nor protect the resource from adjacent development - even if it meets the science-based width - and there will be impacts.
3. If development takes place within the buffer area, there will be impacts.
4. In the case of existing development within the science-based buffer width, the vegetation is both degraded and there is not enough width. The presence of existing development does not mean that new development will not have impacts or even that existing development does not have ongoing impacts. Just as in #3 above, additional development in the science-based buffer area will increase the impacts. Simply making the regulatory buffer width smaller to match the existing development does not change the presence of impacts.
5. Using small regulatory buffer widths to accommodate existing development establishes built-in impacts in the SMP review system.
6. Since the normal path of development in urban areas over time is expansion and intensification, there will be a continual increase in impacts and degradation across shoreline jurisdiction in these areas. This creates additional impacts that must be addressed in both the Cumulative Impacts Analysis and the Restoration Plan.

This information shows that just because the science-based buffer area is degraded, it is not the case that unlimited additional development has no additional impacts as long as it meets a small regulatory buffer or setback. It also shows that small buffers cannot be applied to areas that may still have intact functions, especially if it is possible to maintain or establish a scientific buffer width, as those areas need to be protected from loss.

Some small buffer systems proposed in some SMPs seem to assume that the smaller degraded buffer works the same as an intact science-based buffer, i.e. adequately providing functions and buffering against impacts as long as development is outside the buffer line. But the peer-reviewed scientific literature shows that a smaller degraded buffer is incapable of performing functions adequately and incapable of protecting the resource it is intended to protect.

### New Development and Existing Development Impact Shoreline Functions

Expansion of existing development, redevelopment, and new development on vacant land all adversely affect shoreline resources and functions. In fact, even existing development can continue to cause impacts to ecological functions. As described above, this is the case even for development outside a small regulatory setback. Consider the following adverse impacts of development on the shoreline resources.

- New structures and impervious surfaces increase runoff volumes, remove vegetation, remove native soils that absorb water, and reduce the area available to infiltrate those volumes. Note that these impacts are partially mitigated through stormwater ordinances. However, stormwater regulations generally only address increased peak runoff volumes, not the other impacts.<sup>9</sup> In addition, small developments are only required to comply with some of the storm water requirements, thus reducing the ability of those regulations to address these impacts.<sup>10</sup>
  - a. The increased runoff is focused into smaller receiving areas, thus increasing the erosive power and sediment carrying ability of the surface runoff in those areas.
  - b. Where infiltration can still occur, the focused runoff drives infiltrated water to the groundwater table more rapidly with less opportunity for soil treatment.
  - c. Less vegetation area is available to filter sediment and nutrients from flood waters and the larger volumes of surface runoff passing over the site.
  - d. Less native soils and vegetation root structure is available to treat groundwater.
  - e. The trend of decreased infiltration in a drainage basin changes the hydrology of the basin by increasing winter flows and decreasing summer and fall flows adversely affecting water quality and aquatic habitats.
  
- Adding new structures, additions, or impervious surfaces, and removing or simplifying vegetation (cutting trees, replacing shrubs with lawn, paving, etc.) also adversely affect habitat:
  - a. Higher value habitat areas and migration pathways are eliminated or replaced with lower value areas, until the most simplified areas (open impervious surfaces) have only limited value for migration pathways and separation areas. More complex areas for nesting and refuge are most susceptible to loss.
  - b. Substituting native vegetation with non-native species, or their total removal, results in a loss of food sources for the entire food web. For example, many native insect species cannot effectively use non-native vegetation for food. The reductions in insect populations then affect the fish that feed on them.
  - c. Natural processes, insect food sources, and food web functions are reduced or eliminated with the progressive removal of complex vegetation elements.
  - d. Species (large and small) capable of using degraded areas are greatly reduced with greater degradation.
  - e. Microclimate is altered for species currently using site.
  - f. Reduces the organic matter input to the water from drifting and blowing wind that supports the aquatic food web and aquatic life.
  - g. Reduces the large woody debris input from trees and branches falling into the water that is needed to form and diversify fish and aquatic life habitat.

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<sup>9</sup> Washington State Department of Ecology, *Stormwater Management Manual for Western Washington Volume 1 - Minimum Technical Requirements* pp. 1-20 – 1-26 (February 2005). Accessed on March 10, 2010 at: <http://www.ecy.wa.gov/biblio/0510029.html>

<sup>10</sup> *Id.* at p. 2-9.

- In addition removing or simplifying the vegetation near water also:
  - a. Reduces the root strength and root mats that provide bank stabilization.
  - b. Increases sun exposure on shallow water areas and heats them.
  
- Residential uses have additional impacts, not directly related to construction, that increase with enlargement or expansion of the use. Aside from lighting, very little can be done to mitigate these impacts – they are a function of the existence of the development. Non-residential uses can have impacts similar to residential uses that vary depending on the activities and the level of use.
  - a. Human presence and activity that impacts or drives off fish and wildlife. Bigger residences usually mean more people on the property, whether family members or guests.
  - b. Pets that prey on or drive off fish and wildlife. More family members increase the likelihood of having more pets.
  - c. Machinery and vehicular noise that impacts or drives off fish and wildlife. More people on the property increase the likelihood of having more machines and vehicles – including automobiles, watercraft, yard machinery, and recreational vehicles.
  - d. Use of chemicals and fertilizers for house and yard. Larger structures and grounds increase the use of chemicals.
  - e. Use of night lighting that impacts or drives off fish and wildlife. Larger structures and grounds typically increase the use of night lighting.
  
- Existing development that has inadequate buffers can also have ongoing impacts or impacts that increase over time. While shoreline master programs do not apply to most existing uses, these impacts show that allowing an expanded, redeveloped, or new use that continues to rely on existing, degraded buffers or non-existent buffers will result in an increased loss of shoreline functions, contrary to the requirements of the SMA. Further, shoreline master programs do apply to ongoing activities that require five year permit renewals. The SMP should require measures to protect shoreline functions when those permits are renewed.
  - a. Inadequate buffers allow larger pollutant loads to pass than intact buffers. Thus the receiving waters become more and more contaminated as pollutants build up in aquatic sediments and the water body year after year. Some pollutants are removed or transformed by flushing and biological processes, but others build up over time.
  - b. Inadequate buffers allow larger sediment loads to pass than intact buffers. Thus aquatic life and habitat areas continue to be smothered by sediment, and water turbidity continues to impact organisms.
  - c. Buffers degrade over time, so existing uses increase their pollution loads as the buffers degrade. The degraded buffers also provide fewer functions and mitigate fewer impacts.

## Recommendations for Using Small Buffers, or Setbacks with Plantings

Based on the discussion above, regulatory systems that use small buffers alone are ineffective and fail to comply with the SMA. While a science-based regulatory buffer can provide a means of avoidance and minimization, small degraded regulatory buffers and setbacks do not, and result in a system with built-in adverse impacts to ecological functions.

Since a system that uses small buffers or setbacks alone cannot accomplish avoidance, or otherwise mitigate the impacts of a development, the only other acceptable strategy for their use is if the built-in impacts are offset by built-in mitigation measures, including mitigation for habitat impacts. This is best accomplished by an improvement of the existing degraded buffer or habitat conditions. While this approach can be used with validity, it must be only one part of a system that addresses the range of different shoreline conditions in a logical and systematic manner. Below is our recommended strategy for jurisdictions to use small buffers or setbacks for existing developed areas.

1. The shoreline area should be carefully mapped, and the existing level of development should be characterized. This should be part of the inventory and characterization step of the SMP update. When broad variations exist in setback and vegetation, the areas should be categorized based on the character so the protection measures can consider such variations.
2. Science-based regulatory buffer widths need to be adopted for areas with intact functions or with consistently large setbacks. These areas need to be protected from further degradation.
3. Small regulatory buffers widths or setbacks, along with built-in mitigation (as described below), can be used for areas of existing development, and should be based on the vegetation and setback categories identified during mapping. These areas need to be wide enough to function, and function over time. For example, the narrowest high quality buffer that can filter nutrients is 13 feet, and for filtering pollutants you need 33 to 52 feet.<sup>11</sup> And buffers degrade over time as they filter out nutrients and pollutants. The area needs to be at least 20 feet wide (enough for a fully grown tree) to provide minimum functions. Wider buffers are needed to protect other important shoreline functions.
4. Built-in mitigation requirements need to be included when an intact science-based buffer cannot be used to mitigate impacts of new development. This should include various means of enhancing the degraded shoreline areas where doing so is possible – such as planting native shoreline vegetation, removal or reduction of unnecessary shore armoring or other near-water structures, etc. Where native vegetation is planted, it needs to include native groundcover, shrub, and tree planting; and needs to extend across the shoreline with allowances for water access.
5. Even if a science-based buffer can be used in some places, it will be ineffective if it is degraded or non-vegetated. In such cases, the buffer or setback must be planted and maintained in order to buffer the impacts of the new development. This must include native understory, shrub, and tree planting and extend across the shoreline with allowances for water access.

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<sup>11</sup> K. L. Knutson Et V. L. Naef, *Management Recommendations for Washington's Priority Habitats: Riparian* p. XI, pp. 164 (Wash. Dept. Fish and Wildlife, Olympia WA: 1997).

In addition to built-in mitigation in the form of enhancement, the use of small buffers means other impacts need to be carefully controlled, which means the use of additional standards.

1. Only very limited uses should be allowed in the setback and no uses can be allowed within the planted areas if they are to function. Encroachments into a buffer or setback vegetation should be limited to those that are water-dependent and water-related. Water-enjoyment and non-water-oriented uses and facilities can function without being in the buffer area.
2. Low impact development (LID) techniques should be required to minimize storm water runoff and help maintain a more natural hydrologic system. This is needed to help reduce the polluted storm water that would otherwise overwhelm the narrow planting strip.
3. Major redevelopments and changes in use, which usually result in great intensification, must establish scientific based buffers to ensure no net loss of shoreline functions.
4. When permits for activities are renewed every five years, buffers or setbacks and vegetation plantings should be required.

While small buffers can be made acceptable for highly developed urban areas and rural areas, there needs to be policy support for not basing the buffer width on the available scientific information - of course science-based buffers should be used for intact areas. Such justification can be provided in the jurisdiction's policy that supports the use of shoreline buffers. We recommend a policy similar to the following:

***BUFFER POLICY:*** While buffers widths based on science are necessary to protect ecological functions, using them is not possible in existing heavily developed areas, such as along some parts of [FILL IN THE BLANK]. In such areas, an alternative strategy is established using smaller buffers [OR setbacks] that are based on the existing development pattern, in combination with mitigation requirements for new development that provide enhancement of the smaller buffer and other degraded features to address impacts of the new development outside the small buffer areas.

**For more information please contact:**

Dean Patterson, Shoreline Planner, Futurewise. E-mail: [dean@futurewise.org](mailto:dean@futurewise.org). Direct Cell 509-823-5481. Or the Futurewise main office at 206-343-0681. Web: [www.futurewise.org](http://www.futurewise.org).

To The Burien City Council  
Re Shoreline Master Plan (SMP August Draft) Public Hearing  
August 30, 2010  
From Chestine Edgar

To the City Council Members;

I am requesting that the following changes be made to the August 2010 Draft of the SMP (The pages of that draft are attached to this letter and the requested changes are written in red ink);

1. **Page IV-14 Figure 5 Building Setback from the Riparian Buffer-** the setbacks for Lake Burien Shoreline Residential and the Urban Conservancy should restored to 15 ft. Both of these shorelines are not or will not be hardened in this 15' setback area( with the seawall removal work to be completed in Seahurst Park) and there is no scientific reason for why these areas be now hardened. To allow development in these areas would result in net loss to Lake Burien and the Urban Conservancy. The marine residential shorelines for M-1, M-3 and M-4 are significantly different in their development and history. These marine shoreline reaches have been armored and hardened for a long time at 20 feet in a manner that is not so for Lake Burien and the Urban Conservancy. Lake Burien has never had home development at 30 feet from the OHWM on the lake shoreline. In addition to the net loss issue, development at 30 feet would alter the existing character of home development/neighborhood on the lake. The City has just received grant monies to restore the shoreline at Seahurst and there is no logical reason from removing the setback from this shoreline.
2. **Page IV-1 Figure 4, Docks, Piers and Floats-** for the Shoreline Residential this should read SDP otherwise each of these structures would require the DOE to approve their construction. In other cities in the area, these are taken care of at the city level.
3. **Page I-1, after second paragraph-** insert the list of 7 priority uses as stated in RCW 90.58.020.
4. **Page I-4, Figure 2-**Identify the technical documents with a label and correctly connect them to the SMP.
5. **Page III-4, Criteria for Designation-** all of the shorelines of Burien are developed at low density. I have attached the lots sizes to the attached page.
6. **Page II-2, Pol.PA 3-**should read "...protect private property and public health and safety."
7. **Page II-4-**remove the section "...and chances for personal discoveries."
8. **Page III-1, 20.25.001-** remove the term marine from the first paragraph as that list applies to all of the shorelines of Burien.
9. **Pages IV-27, IV-28, IV-29** –All of the strikeouts in red in the draft document referring to the building setbacks for residential Lake Burien need to be restored back into the draft document.
10. **Cumulative Impacts Analysis-** correct the section on Lake Burien because under this section it implies that only a small amount of new development will occur on this lake at a 7,200 sq ft lot size. While in fact, according to the City's calculations done in 1998, 1999, the City claims that at lot size 7,200 the Lake Burien Neighborhood will increase 66%. The current average lot size on Lake Burien (excluding the Ruth Dykeman

Children's Center) is 20,000+ sq ft. (including the secondary shore land). No where in this analysis is the impact of the short platting of the current lots analyzed. I am requesting that this analysis be included in the Cumulative Impacts analysis and the buffer and setback be discussed in relation to that analysis.

Additionally, I am requesting that the Summary Section be corrected to show the setbacks and buffers that will be used in this SMP.

**11.Appendix 8-C-** this appendix which is referenced in **Figure 5 as well as in the Critical Areas Section** of the SMP is not clearly explained in how it will be used and applied. I am requesting that the use and application of this appendix be clarified someplace in the SMP.

Lastly I am requesting that based on the scientific reports written by Sarah Cooke and Rob Zisette, that **no physical public access be granted to Lake Burien until an EIS be completed on the lake.** This EIS should be based on the sensitive and critical areas (26 acres of wetlands and aquifer recharge area) associated with this lake as well as the amount of habitat it provides for species of importance as designed by King County, 2008.

# Attachments

## 20.30.050 Dimensional Standards for Shoreline Development

The following buffers ~~and setbacks~~ are based on the City of Burien Shoreline Inventory (Appendix 1), City of Burien Shoreline Analysis and Characterization (Appendix 2), and the City of Burien Shoreline Cumulative Impacts Analysis (Appendix 4) reports contained in this shoreline master program. The shoreline riparian buffers ~~and~~ vegetation conservation buffers, ~~and building setbacks~~ are calculated from the ordinary high water mark or from the landward face of a bulkhead or other shoreline stabilization structure if one is present. For measurement methods, refer to BMC 19.17 [Misc. Use, Development and Performance Standards].

The riparian buffers ~~and~~ vegetation conservation buffers, ~~and building setbacks~~ shown in Table 5 and in BMC 20.30.055 [Shoreline Buffers]:

1. Do not apply to legally established structures ~~legally~~ existing on \_\_\_\_\_ (effective date of the SMP).
2. Apply to new development, new structures, and additions/expansion of legally existing structures.

### Figure 5 Dimensional Standards for Shoreline Development

#### SHORELINE ENVIRONMENT DESIGNATION

	Shoreline Residential	Urban Conservancy	Aquatic
<b>Marine Riparian Buffer</b> <sup>(3)</sup>	<del>50-20</del> ft.	50 ft.	N/A
<b>Lake Burien Riparian Buffer</b> <sup>(1)</sup>	30 ft.	N/A	N/A
<b>Vegetation Conservation Buffer</b> <sup>(2)</sup>	150 ft.	200 ft.	N/A
<b>Building Setback from Riparian Buffer</b>	15 ft.	15 ft.	N/A
<b>Height Limit</b> (see BMC 19.15)	35 ft.	35 ft.	35 ft.
<b>Lot Size</b> <sup>(4)</sup> (see BMC 19.15)	RS-12,000 RS-7,200 (Lake Burien)	RS-12,000	N/A
<b>Building Coverage</b> (see BMC 19.15)	35%	30%	N/A

Restore Lake Burien + Urban Conservancy setbacks to 15'

(1) Consistent with BMC 19.40 critical areas and BMC 20.30.040 (2) (gf).  
 (2) See BMC 20.30.040 Shoreline Vegetation Conservation for specific requirements.  
 (3) For single family residential development, the buffers ~~and setbacks~~ prescribed in this section may be reduced pursuant to BMC 20.30.095, through the conditional use permit process.  
 (3)-(4) See BMC 19.17.170 of the zoning code for minimum lot area requirements.

## **20.30.045 Water Quality, Storm Water and Nonpoint Pollution**

Storm water picks up oil, grease, metals, yard and garden chemicals, dirt, bacteria, nutrients, and other pollutants from paved areas, and carries them to Puget Sound and Lake Burien without treatment. The higher rate of runoff from more impervious areas also results in decreased water quality by flushing more sediment into the water.

### **1. Policies**

- a. The City of Burien should protect against adverse impacts to the public health, to the land and its vegetation and wildlife, and to the waters of the state and their aquatic life, through implementation of the following principles:
  - i) Prevent impacts to water quality and storm water quantity that would result in a net loss of shoreline ecological functions, or a significant impact to aesthetic qualities, or recreational opportunities.
  - ii) Ensure mutual consistency between shoreline management provisions and other regulations that address water quality and storm water quantity, including public health, storm water, and water discharge standards. The regulations that are most protective of ecological functions shall apply, except as otherwise provided in RCW 36.70A.480 Growth Management, shorelines of the state, regarding the level of protection for critical areas within shorelines of the state.

(For additional policy guidance please see Chapter II General Goals and Policies, pg. 12.)

### **2. Regulations**

- a. Construction materials that come in continuous, direct contact with surface waters shall not be treated or coated with toxic materials. Untreated wood, precast concrete, plastic or nontoxic alternatives shall be used unless the project proponent demonstrates and the City of Burien building official determines that there is no feasible alternative to toxic treatments that will provide the structural characteristics necessary for the project.
- b. Low impact development methods shall be incorporated into any development or redevelopment in shoreline jurisdiction when feasible.

## General Provisions

### 20.30.001 Figure 4 Shoreline Permit Matrix

Type of Shoreline Permit Required for Shoreline Uses and Modifications*			
	Shoreline Environment Designations <small>(Please see Chapter 20.25 for shoreline designation descriptions and section 20.25.025 Figure 3 for a map showing the locations of each designation)</small>		
	Shoreline Residential	Aquatic	Urban Conservancy
Aquaculture	X	CU <sup>1</sup>	X
Boat Mooring Buoy	N/A	P <sup>3</sup>	N/A
Boat Ramp	X	X	X
Boat House (covered moorage)	X	X	X
Breakwater & other in-water structures	N/A	X	N/A
Bulkheads	SDP <sup>4</sup>	CU	SDP <sup>4</sup>
Personal Wireless Service Facility	CU	N/A	X
Community Beach	CU	CU	X
Community residential facility	CU	X	X
Docks, Piers and Floats	<del>CU</del> SDP	CU	CU
Dredging	N/A	X	N/A
Fill <sup>2</sup>	X	X	X
Floating home	N/A	X	N/A
Flood protection	SDP	SDP	SDP
Forestry (clearing)	CU	N/A	CU
Grading	CU	N/A	CU
Government facility	SDP	X	SDP
Habitat Enhancement or Restoration	SDP	SDP	SDP
Industrial & Ports	X	X	X
Jetty	X	X	X
Mining	X	X	X
Office	X	X	X
Public park and recreation facilities	SDP	X	SDP
Recreation	SDP	SDP	SDP
Residential - Single family**	SDP	N/A	SDP
Residential - Multi family	SDP	N/A	CU
Retail	X	X	X
Schools	CU	N/A	CU
Transportation Facilities & Parking	SDP	X	SDP
Utilities	SDP	CU	SDP

SDP Shoreline substantial development permit [\(City Decision\)](#) – See Chapter 20.35 for specific procedures

CU Shoreline conditional use permit [\(Department of Ecology Decision\)](#) – See Chapter 20.35 for specific procedures

X Prohibited

N/A Not applicable

1 Prohibited in critical saltwater habitats and Lake Burien

2 Allowed if necessary to construct a permitted use

3 Private mooring buoys are exempt from the shoreline substantial development permit process but shall comply with BMC 20.30.090 [\[Recreational Mooring Buoys\]](#).

- 4 Construction of the normal protective bulkhead common to single-family residences must comply with BMC 20.30.070 [Bulkheads and other shoreline stabilization structures] but is not required to obtain a substantial development permit, is exempt from the shoreline substantial development permit process but shall comply with BMC 20.30.070.
- \* Shoreline uses not listed in the matrix above are subject to a shoreline conditional use permit.
- \*\* Exempt from shoreline substantial development permit requirements if this is for construction of only one detached unit built by an owner, lessee, or contract purchaser who will be occupying the residence, in accordance with WAC 173-27-040(g) [single-family residential exemption], as amended.

### 20.30.005 Applicability

The following provisions shall apply to all uses and activities within the City of Burien's shoreline jurisdiction unless otherwise noted. These regulations are based on general goals and policies without regard to shoreline designation based upon elements of the shoreline detailed in Chapter II of this shoreline master program consistent with RCW 90.58.100(2) [SMP required contents] and implement the principles as established in WAC 173-26-186 [Governing principles of the guidelines] and WAC 173-26-221 [General Master Program Provisions].

- Land Use
- Archaeological and Historic Resources
- Critical Areas
- Flood Hazard Reduction
- Public Access
- Shoreline Vegetation Conservation
- Water Quality, Storm Water, and Nonpoint Pollution

### 20.30.007 Existing Development

1. **Existing Single-Family Homes, Appurtenances, and Other Existing Structures.** Single-family homes, appurtenances and other structures that were legally established by \_\_\_\_\_ (effective date of this SMP) are considered to be conforming to the SMP. Any addition, expansion or reconstruction beyond the existing footprint of the single-family home, appurtenance or other structure must comply with the SMP.

Replacement of any portion of any structure in the Aquatic shoreline designation shall comply with the SMP requirements for materials that come in contact with the water pursuant to 20.30.070-045 [2.b-e] [Water Quality, Storm Water and Nonpoint Pollution].

2. **Other Existing Uses or Structures.** Uses or structures other than single-family homes that were legally established by \_\_\_\_\_ (effective date of this SMP) are considered to be conforming to the SMP. Any enlargement or expansion of the use must comply with the SMP.

## 20.10.001 Overview of State Shoreline Management Act

The State of Washington's Shoreline Management Act (RCW 90.58) was passed by the Legislature in 1971 and adopted by the public in a 1972 referendum. The following is an excerpt from the Shoreline Management Act stating Washington State's policy regarding shorelines.

RCW 90.58.020 - The legislature finds that the shorelines of the state are among the most valuable and fragile of its natural resources and that there is great concern throughout the state relating to their utilization, protection, restoration, and preservation. In addition it finds that ever increasing pressures of additional uses are being placed on the shorelines necessitating increased coordination in the management and development of the shorelines of the state. The legislature further finds that much of the shorelines of the state and the uplands adjacent thereto are in private ownership; that unrestricted construction on the privately owned or publicly owned shorelines of the state is not in the best public interest; and therefore, coordinated planning is necessary in order to protect the public interest associated with the shorelines of the state while, at the same time, recognizing and protecting private property rights consistent with the public interest. There is, therefore, a clear and urgent demand for a planned, rational, and concerted effort, jointly performed by federal, state, and local governments, to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines.

It is the policy of the state to provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses. This policy is designed to insure the development of these shorelines in a manner which, while allowing for limited reduction of rights of the public in the navigable waters, will promote and enhance the public interest. This policy contemplates protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights incidental thereto.

Permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline area and any interference with the public's use of the water.

In 1995, the Legislature amended the Growth Management Act (GMA) and the Shoreline Management Act (SMA) to partially integrate the two statutes. The amendments incorporated the goals and policies of the SMA as the 14<sup>th</sup> goal of the GMA, specifically designating the goals and policies of a local shoreline master program as a segment of the jurisdiction's development regulations (RCW 36.70A.480). The diagram below indicates the relationship.

*Includes  
list of  
7 priority  
uses from  
the RCW  
90.58*

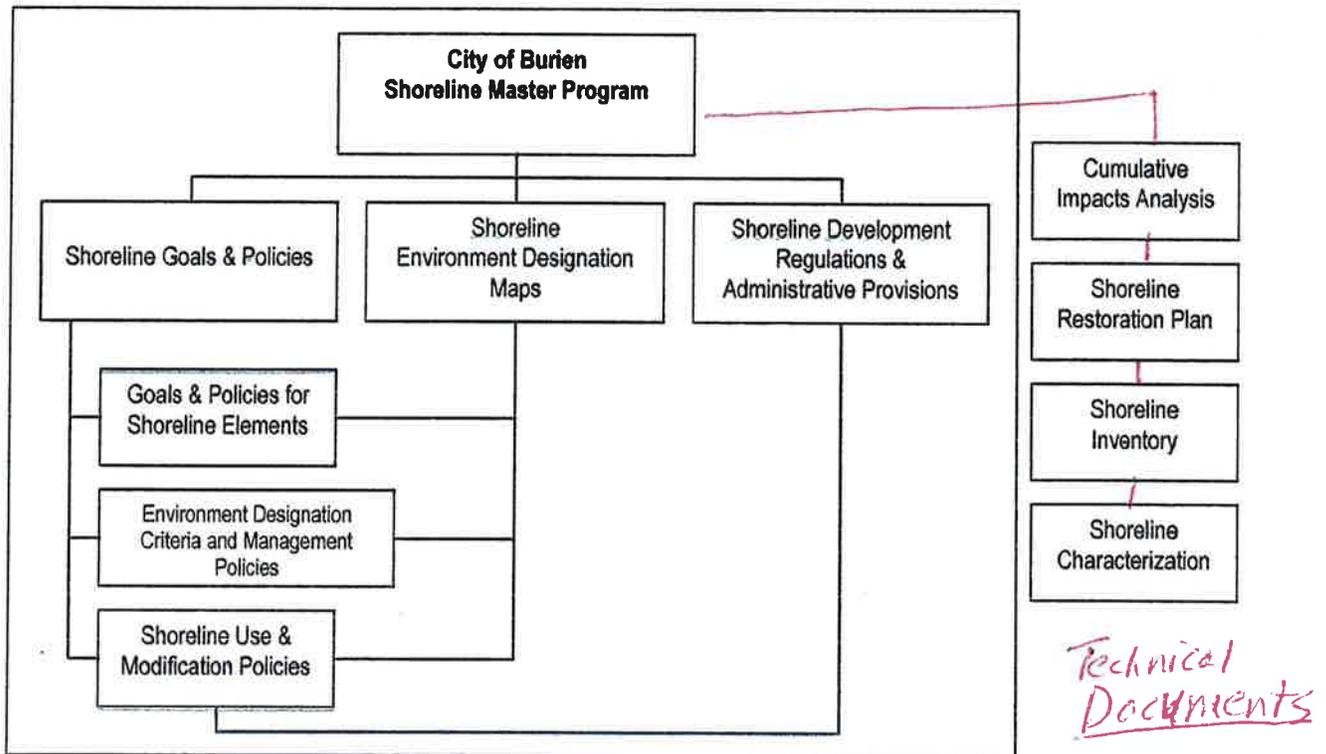
## Chapter I. User's Guide

Chapter 90.58 RCW, the Shoreline Management Act, and this Shoreline Master Program.

### 20.10.010 Components of Burien Shoreline Master Program

The City of Burien Shoreline Master Program was originally adopted at the time of the City's incorporation in 1993. Under new shoreline master program guidelines adopted by Ecology in 2004, cities within King County are required to update their local shoreline master programs.

Figure 2: Structure of City of Burien Shoreline Master Program



*Label + Connect Technical Documents to Shoreline Master Program*

### **20.10.015 Amendments and State Role**

The City of Burien Shoreline Master Program may be amended when new information is obtained, local circumstances change, or shoreline management approaches are improved. The city will follow procedures identified in BMC 19.65.080 ([Type 4 Decisions](#)) for Type 4 Legislative Decision which allow for public notice and hearing, review and recommendation by the Shoreline Administrator and the City Planning Commission with formal approval given by the City Council. After local adoption, all amendments to the City of Burien Shoreline Master Program must be approved by the Washington State Department of Ecology before they can be locally in effect.

Appeals of approved amendments to the Burien Shoreline Master Program are under the jurisdiction of the Central Puget Sound Growth Management Hearings Board. Appeals involving a shoreline permit are under the jurisdiction of the State of Washington Shorelines Hearings Board.

## 20.25.020 Shoreline Residential

Single Family Residential  
Low = 12,000sq'  
Moderate = 7,200'

### 1. Purpose

The purpose of the "Shoreline Residential" environment designation is to accommodate residential development and appurtenant structures as well provide appropriate public access.

### 2. Criteria for Designation

A Shoreline Residential environment designation is assigned to shoreline areas that are predominantly single-family or multifamily residential development or are planned and platted for residential development. These are areas that are developed at a moderate density or intensity including residences and outdoor recreation. Low intensity institutional uses may be allowed if their impacts on the shoreline environment are mitigated.

Low Density

For S Family Residential  
Current Average Lots sizes are:

### 3. Management Policies

- Residential and accessory uses, recreation facilities and public access shall be the preferred uses.
- Multifamily and multi-lot residential and recreational developments should provide public access and joint use for community recreational facilities.
- Water-oriented recreational uses should be allowed.
- Any new development or redevelopment should utilize low impact development techniques where feasible.
- Standards for building setbacks, lot coverage limitations, riparian buffers, shoreline stabilization, vegetation conservation, critical area protection, and water quality shall be set to assure no net loss of shoreline ecological functions.

Marine Shoreline Landward  
M<sub>1</sub> = 10,640sqft.  
M<sub>2</sub> = Conservancy  
M<sub>3</sub> = 11,060sqft.  
M<sub>4</sub> = 10,360sqft.  
Lake Burien Shorelands = 20,658sqft.

f. Public access and public recreation objectives should be implemented if feasible and wherever any significant ecological impacts, such as importation of invasive species to Lake Burien, can be mitigated.

20.25.025 **Figure 3 Shoreline Environment Designation Map**



- Pol. ALL 6 When Shoreline Master Program regulations are developed and applied, they should consider site-specific characteristics.
- Pol. ALL 7 Regulation and management of the City's shorelines should be coordinated with relevant local, state, federal, and other programs. Such programs include, but are not limited to, those administered by: City of Seattle, City of Normandy Park, City of SeaTac, King County, Washington Department of Ecology, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Puget Sound Partnership, United States Army Corps of Engineers, Muckleshoot Tribe, Puyallup Tribe, and Water Resource Inventory Area 9.
- Pol. ALL 8 Consider an incentive base system to encourage redevelopment projects to comply with accepted shoreline best management practices and standards.

**20.20.010 Economic Development Element**

Goal ED

Insure healthy, orderly economic growth by allowing those economic activities which will be an asset to the local economy and which result in the least possible adverse effect on the quality of the shoreline and surrounding environment.

- Pol. ED 1 Protect the beauty and function of the natural environment to maintain a community where workers want to live and work.
- Pol. ED 2 Promote actions ensuring a clean and attractive community.

**20.20.015 Shoreline Public Access Element**

Goal PA

Increase and enhance public access to shoreline areas, consistent with the natural shoreline character, private property rights, and public safety.

- Pol. PA 1 Developments, uses, and activities on or near the shoreline should not impair or detract from public access to the water.
- Pol. PA 2 Publicly owned shorelines should be limited to water dependent or public recreational uses, otherwise such shorelines should remain protected open space.
- Pol. PA 3 Public access to the City's shorelines should be designed to ~~provide for public safety and to minimize potential impacts to private property and individual privacy.~~ *protect private property and public health and safety*

- Pol. PA 4 Public access should be provided as close as possible to the water's edge with no net loss of shoreline ecological function and without adversely impacting private property rights and personal privacy. Public access should be designed for handicapped and physically impaired persons.
- Pol. PA 5 The City should seek opportunities to develop new public access areas in locations dispersed throughout the shoreline.
- Pol. PA 6 The vacation or sale of street ends, other public right of ways and tax title properties that abut shoreline areas shall be prohibited except as provided for in RCW 35.79.035 (Streets-Vacation). The City should protect these areas for public access and public viewpoints.
- Pol. PA 7 Waterfront street ends should be recognized as:
- a. An important community resource that provides visual and physical access to the Puget Sound;
  - b. Special use parks which serve the community, yet fit and support the character of the surrounding neighborhoods;
  - c. A destination resource, where limited facilities and enhancements are provided.
- Pol. PA 8 The City should manage and develop waterfront street ends by:
- a. Supporting their use by residents city-wide, yet ensuring that the street ends and their supporting facilities are developed at a level or capacity which are appropriate to the neighborhood character, promotes safety, protects private property rights and individual privacy, and is consistent with City risk management practices;
  - b. Ensuring that public parking is available and limited to a level appropriate to the capacity of the public access site, and is harmonious with the surrounding neighborhood;
  - c. Ensuring that the waterfront street ends are preserved and maintained with limited enhancements, such as places to sit or rest which fit in with the natural environment of the area;
  - d. Installing signs that indicate the public's right of access, the rules of use, and penalties for misuse;
  - e. Installing limited trail improvements and enhancements to allow access to the water;
  - f. Protecting adjacent private property including but not limited to protecting individual privacy and ensuring public safety; and
  - g. Developing a street ends plan that promotes waterfront access and public safety.
- Pol. PA 9 Waterfront street ends or other shoreline access should be planned in conjunction with the affected neighborhoods. However, the broader community should be notified during the public notification process.

- Pol. PA 10 The City should disseminate information that identifies all locations for public access to the shorelines.
- Pol. PA 11 The public's visual access to the City's shorelines from streets, paths, trails and designated viewing areas should be conserved and enhanced.
- Pol. PA 12 Public views from the shoreline upland areas should be enhanced and conserved, while recognizing that enhancement of views should not be necessarily construed to mean removal of vegetation.
- Pol. PA 13 Promote a coordinated system of connected pathways, sidewalks, passageways between buildings, beach walks, and shoreline access points that increase the amount and diversity of opportunities for walking and ~~chances for personal discoveries.~~

*remove as personal discoveries are an unclear set of behaviors - some legal + some illegal.*

**20.20.020 Recreation Element**

**Goal REC**

Develop a well-maintained, interconnected system of multi-functional parks, recreation facilities, and open spaces that: is attractive, safe, and accessible for all geographic regions and population segments within the City; supports the community's well-established neighborhoods and small town atmosphere; protects private property rights and results in no net loss of shoreline ecological functions and processes.

- Pol. REC 1 Recreation facilities in the shoreline area should be restricted to those dependent upon a shoreline location, or those benefiting from a shoreline or in-water location that are in the public interest.
- Pol. REC 2 Recreational developments should be located, designed and operated to be compatible with, and minimize adverse impacts on, environmental quality and valuable natural features as well as on adjacent surrounding land and water uses. Favorable consideration should be given to proposals which complement their environment and surrounding land and water uses, and result in no net loss of ecological functions.
- Pol. REC 3 Public information and education programs should be developed and implemented to help ensure that the public is aware of park regulations and private property rights, and to prevent the abuse of the shoreline and its natural ecological system.
- Pol. REC 4 The City shall plan to provide, in coordination with other agencies, a range of park facilities that serve a variety of recreational and open space purposes. Such planning should use the following designations and guidelines to provide such diversity:

## **1. Mini or Pocket Park**

*Use Description:* Passive recreation or specialized facilities that *may* serve a concentrated or limited population such as children or senior citizens.

*Service area:* Approximately 1/3 of a mile radius.

*Size:* No minimum to approximately one acre.

*Desirable Characteristics:* These parks should be in close proximity to dwellings and or other centers of activity. Mini parks should be designed for intensive use and should be accessible and visible from surrounding area.

*Examples:* In Burien these types of parks are primarily private parks consisting of beach access for adjacent subdivisions, view appreciation areas (bench or platform), picnic tables and trees in a small area, children's play area, game tables, or planted areas.

*Other Considerations:* Since maintenance costs of these smaller parks are high relative to their service areas, few jurisdictions are able to meet the desired quantity. This type of park is most suitable to provide unique local needs, such as shore access, or as a consideration in the design of new development. The City should seek a variety of means for financing and maintaining mini-parks, including considering opportunities for community stewardship and grant or private funding.

## **2. Regional Parks**

*Use Description:* Areas of natural or ornamental quality for outdoor recreation such as picnicking, boating, beach activities, swimming, and trails. Such parks may contain special amenities, facilities or features that attract people from throughout the surrounding region. Such facilities require extensive on-site parking and good access by automobile.

*Service area:* Approximately 1/2 to 1 hour driving time.

*Size:* Approximately 90 acres.

*Desirable Characteristics:* Contiguous to or encompassing significant natural resources.

*Examples:* Seahurst Park.

## **3. Special Use Park**

*Use Description:* Specialized or single-purpose recreational activities such as walking and bicycle trails, street ends, or areas that preserve buildings, sites or features of historical significance.

### 20.25.001 Shorelines of Statewide Significance

The State of Washington Shoreline Management Act (SMA) designates certain shoreline areas as shorelines of statewide significance. These shorelines are considered important major resources from which all people in the state derive benefit. The SMA states that local shoreline master programs must give preference to uses which favor public and long-term interests of the people of the state. In the City of Burien, only the marine shorelines below the extreme low tide are designated shorelines of statewide significance.

Lake Burien is a “shoreline of the state” and is not a “shoreline of statewide significance.” The following policies apply to Burien’s ~~marine~~ shorelines:

- Recognize and protect the statewide interest over local interest.
- Preserve the natural character of the shoreline.
- Result in long-term over short-term benefit.
- Protect the resources and ecology of the shoreline.
- Increase public access to publicly owned areas of the shoreline.
- Increase recreational opportunities for the public on the shoreline.

*Remove  
These policies  
apply to all  
of the  
shorelines*

### 20.25.005 Shoreline Environment Designation Map

The shoreline designation map, Figure 3, establishes the general locations of each of the shoreline designations within the City of Burien. This map generally illustrates the extent of shoreline jurisdiction, but is only a depiction that will need to be reviewed and determined on a case by case basis based on the relevant definitions in the SMA. In the event that there are any undesignated shorelines of the state, they will be automatically designated Urban Conservancy under this SMP. If any part of a proposed development or activity is located within shoreline designation, the entire proposal must be reviewed for consistency with the City of Burien’s Shoreline Master Program.

### 20.25.010 Aquatic

#### 1. Purpose

The purpose of the “Aquatic” shoreline environment designation is to protect, restore, and manage the unique characteristics and resources of shoreline areas waterward of the ordinary high water mark, including both Lake Burien and Puget Sound. This is accomplished by managing water dependent uses and modifications to:

- Preserve/restore ecological functions of the nearshore area;
- Preserve critical saltwater and freshwater habitat;
- Provide public access and recreation opportunities;
- Assure compatibility between shoreland and aquatic uses.

## **Chapter III. Shoreline Environment Designations**

## 20.30.095 Residential Development

Single family residences are the most common form of shoreline development and are identified as a priority use when developed in a manner consistent with control of pollution and prevention of damage to the natural environment. Residential development shall mean the construction or exterior alteration of one or more buildings, structures or portions thereof which are designed for and used to provide a place of abode for human beings including one and two family detached dwellings, multi-family residences, townhouses and condominiums, together with appurtenances and accessory structures. Bed and Breakfast establishments are considered an accessory use.

### 1. Policy

Residential development should demonstrate that the development and its related activities will not be detrimental to the public interest and uses of the shoreline and its associated water bodies.

(For additional policy guidance please see Chapter II General Goals and Policies, pg. 8-15.)

### 2. Regulations

- a. **General.** Consistent with WAC 173-26-221(4)(d)(iv) [General master program provisions, Standards for height limits, setbacks, and view corridors], residential development shall protect existing shoreline and water views promote public safety, avoid adverse impacts to marine bluffs and nearshore habitat, and not result in a net loss of shoreline ecological functions.
- b. **Dimensional Standards.** Residential development in shoreline jurisdiction shall conform to the dimensional standards found in BMC 20.30.050.
- c. **Common-line riparian buffer and building setback standards.** Riparian buffer ~~and building setback~~ standards for new or expanded single-family primary residential structures may be reduced through the shoreline conditional use permit process. In addition to the conditional use criteria the Shoreline Administrator may approve reduced buffer ~~and setback~~ for residential development under the following conditions:
  - i. Where there are existing legally constructed- single-family primary residential structures that are located within the riparian buffers ~~and/or building setbacks~~ designated in BMC 20.30.050 and within 50 feet of either side of the proposed building site, the required riparian buffer ~~and/or building setback~~ of the new or expanded home may be reduced. As an alternative in such cases, the proposed new or expanded single-family primary residential

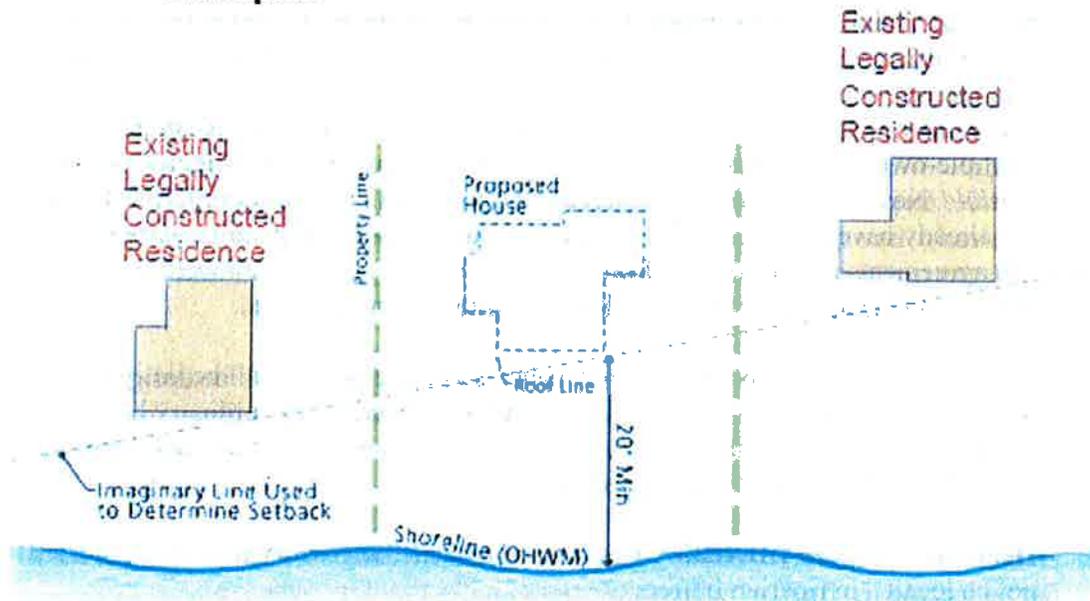
*Restore  
the term  
building  
setbacks  
in all  
areas  
IV 27  
IV 25  
IV 29*

structure may be set back from the *OHWM* common to the average of the buffers ~~and setbacks~~ of the existing adjacent residences. (see Figure 6)

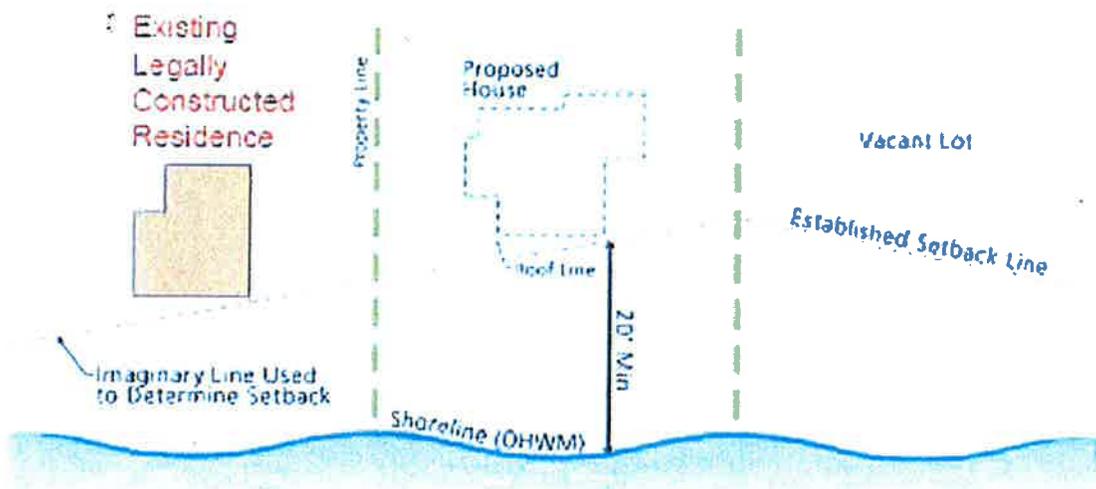
- ii. In those instances where only one existing single family primary residence is within 50 feet of the proposed building site, the *OHWM* setback of the proposed structure may be reduced to the average of the *OHWM* setbacks for the existing adjacent residence and the applicable setback for the adjacent vacant parcel (65-feet for marine shorelines, 45-feet for Lake Burien).
  - iii. In no case shall the reduced buffer ~~and setback~~ be less than 20 feet landward of the *OHWM* without a variance.
  - iv. In cases where the common line setback does not apply, expansion of existing single-family primary residential structures within the designated riparian buffer ~~and building setback~~ may be allowed through a conditional use permit, if there is no development waterward of the existing primary residential structure.
  - v. Any riparian buffer ~~or building setback~~ reduction beyond that allowed in this section shall require approval of a shoreline variance permit.
- d. **Lot size calculations.** Lot size calculations shall not include portions of the lot that are waterward of the ordinary high water mark.
- e. **Bluff top protection.** New development located at the top of bluffs in shoreline jurisdiction must be setback to ensure that shoreline stabilization is unlikely to be necessary for the life of the structure as demonstrated by a geotechnical analysis.
- f. **Vegetation removal for access.** Private access from single family detached residences to the shoreline shall avoid removal of trees and other woody vegetation when *feasible*.
- g. **Accessory structures and appurtenances.** Accessory structures and appurtenances must be proportional in size and purpose to the residence and compatible with onsite and adjacent structures, uses and natural features. Accessory structures and appurtenances are not permitted within the riparian buffer ~~or building setbacks~~ except for:
- a. Fences less than 6 feet high or less
  - b. Water-dependent features (buoys, docks and floats) used for recreational or personal use.
  - c. Stairs and trams pursuant to section i below.

- h. **Floating homes or houseboats.** Floating homes or houseboats are prohibited in shoreline jurisdiction.
- i. **Stairs and trams.** Construction of new stairs and trams to the beach are allowed within required riparian buffer ~~and building setback~~ areas, except on feeder bluffs, provided the project proponent demonstrates that existing shared, public or community facilities are not adequate or available for use and the possibility of a multiple-owner or multiple-user facility has been thoroughly investigated and is not *feasible*. New facilities are encouraged to be share with adjacent properties that do not already have such facilities, and shall include shared maintenance easements and agreements as necessary. Only one stair or tram system is allowed for each primary residential structure – duplicate facilities are not allowed.
- j. **Beach stairs and trams design.** New beach stairs and trams shall be designed and located such that no fill or other modification waterward of the ordinary high water mark is necessary to construct or use the structure. Stairways, trams and landings shall be located upland of existing bulkheads.
- k. **Detached Accessory Dwelling Units.** New detached accessory dwelling units shall not be located in riparian buffers ~~or riparian buffer building setbacks~~.

**Figure 6 Common-line Riparian Buffer and Building Setback Reduction Examples**



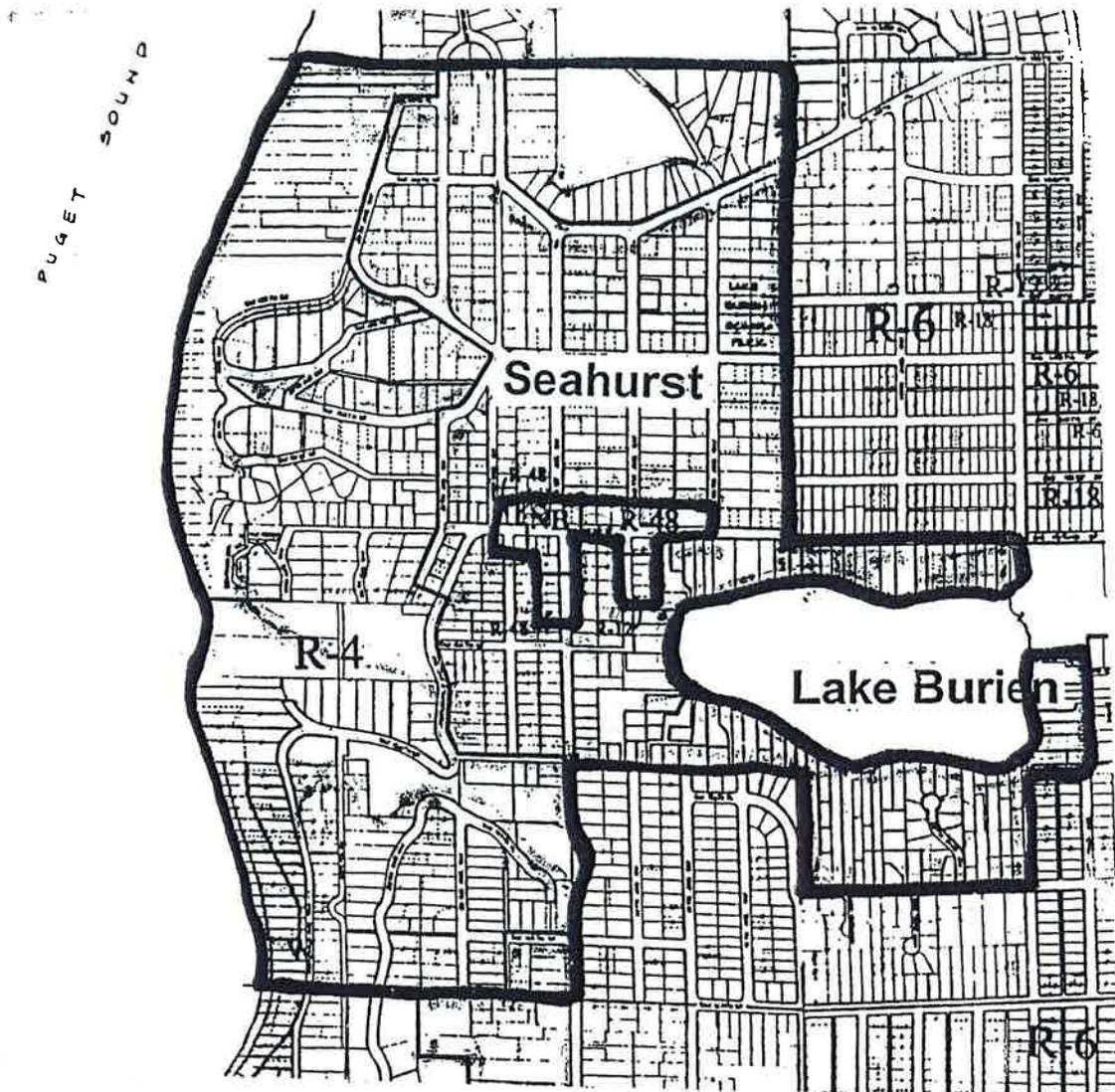
OHWM = Ordinary High Water Mark



OHWM = Ordinary High Water Mark

**City of Burlington Shoreline Master Program  
COMMON-LINE SETBACKS FOR RESIDENTIAL USES**

*In reference to the Cumulative Impacts Analysis*



**SEAHURST ANALYSIS AREA**

Potential new lots per existing zoning (at 7,200 or 9,600 square feet per lot)	413 (45% increase over existing number of lots)
Potential new lots per Comprehensive Plan (between 12,000-15,000 square feet per lot)	162 (18% increase over existing number of lots)
Base number of potential new lots per compromise "metering" system (at 7,200 or 9,600 square feet per lot)	162 (18 % increase over existing number of lots)

**LAKE BURIEN ANALYSIS AREA**

Potential new lots per existing zoning (at 7,200 square feet per lot)	53 (66% increase over existing number of lots)
Potential new lots per Comprehensive Plan (12,000 square feet per lot)	2 (3% increase over existing number of lots)
Base number of potential new lots per compromise "metering" system (at 7,200 square feet per lot)	2 (3% increase over existing number of lots)

TAKEN FROM 1999 ADDENDUM TO COMP. PLAN EIR DRAFT

## Appendix 8-C

# Guidance on Widths of Buffers and Ratios for Compensatory Mitigation for Use with the Western Washington Wetland Rating System

## 8C.1 Introduction

This appendix provides guidance on widths of buffers, ratios for compensatory mitigation, and other measures for protecting wetlands that are linked to the *Washington State Wetland Rating System for Western Washington-Revised* (Hruby 2004b). Refer to Appendix 8-D for guidance for eastern Washington. Appendices 8-C through 8-F have been formatted similar to the main text of this volume (i.e., with a numbering system) to help with organization.

The tables below list the recommended widths of buffers for various alternatives, examples of measures to minimize impacts, and ratios for compensatory mitigation.

- **Table 8C-1.** Width of buffers needed to protect wetlands in western Washington if impacts from land use and wetland functions are NOT incorporated (Buffer Alternative 1). [Page 4]
- **Table 8C-2.** Width of buffers based on wetland category and modified by the intensity of the impacts from changes in proposed land use (Buffer Alternative 2). [Page 5]
- **Table 8C-3.** Types of land uses that can result in high, moderate, and low levels of impacts to adjacent wetlands (used in Buffer Alternatives 2 and 3). [Page 5]
- **Table 8C-4.** Width of buffers needed to protect Category IV wetlands in western Washington (Buffer Alternative 3). [Page 6]
- **Table 8C-5.** Width of buffers needed to protect Category III wetlands in western Washington (Buffer Alternative 3). [Page 6]
- **Table 8C-6.** Width of buffers needed to protect Category II wetlands in western Washington (Buffer Alternative 3). [Page 7]
- **Table 8C-7.** Width of buffers needed to protect Category I wetlands in western Washington (Buffer Alternative 3). [Page 8]
- **Table 8C-8.** Examples of measures to minimize impacts to wetlands from different types of activities. [Page 10]

Which will be used in these alternatives?

- **Table 8C-9.** Comparison of recommended buffer widths for high intensity land uses between Alternative 3 (step-wise scale) and Alternative 3A (graduated scale) based on score for habitat functions [Page 14].
- **Table 8C-10.** Comparison of recommended widths for buffers between Alternative 3 and Alternative 3A for proposed land uses with high impacts with mitigation for impacts. [Page 15]
- **Table 8C-11.** Mitigation ratios for projects in western Washington. [Page 21]

The guidance in this appendix can be used in developing regulations such as critical areas ordinances for protecting and managing the functions and values of wetlands. The recommendations are based on the analysis of the current scientific literature found in Volume 1. The detailed rationale for the recommendations is provided in Appendices 8-E and 8-F.

The recommendations on buffer widths and mitigation ratios are general, and there may be some wetlands for which these recommendations are either too restrictive or not protective enough. The recommendations are based on the assumption that a wetland will be protected only at the scale of the site itself. They do not reflect buffers and ratios that might result from regulations that are developed based on a larger landscape-scale approach.

## 8C.2 Widths of Buffers

Requiring buffers of a specific width has been one of the primary methods by which local jurisdictions in Washington have protected the functions and values of wetlands. Generally, buffers are the uplands adjacent to an aquatic resource that can, through various physical, chemical, and biological processes, reduce impacts to wetlands from adjacent land uses. The physical characteristics of buffers (e.g., slope, soils, vegetation, and width) determine how well buffers reduce the adverse impacts of human development. These characteristics are discussed in detail in Chapter 5, Volume 1.

In addition to reducing the impacts of adjacent land uses, buffers also protect and maintain a wide variety of functions and values provided by wetlands. For example, buffers can provide the terrestrial habitats needed by many species of wildlife that use wetlands to meet some of their needs.

The review of the scientific literature has shown, however, that buffers alone cannot adequately protect all functions that a wetland performs. Additional guidance is, therefore, provided on other ways in which wetlands can be managed and regulated to provide some of the necessary protection that buffers alone do not provide. The following guidance for protecting the functions and values of wetlands is based on their category as determined through the rating system for western Washington.

## Basic assumptions for using the guidance on widths for buffers

Recommendations for widths of buffers assume that:

- The wetland has been categorized using the *Washington State Wetland Rating System for Western Washington-Revised* (Hruby 2004b).
- The buffer is vegetated with native plant communities that are appropriate for the *ecoregion* or with a plant community that provides similar functions. Ecoregions denote areas of general similarity in ecosystems and in the type, quality, and quantity of environmental resources. The U.S. Environmental Protection Agency maintains updated maps of ecoregions that are available at <http://www.epa.gov/naaujydh/pages/models/ecoregions.htm>. Ecoregions currently mapped for Washington are: Coast Range, Puget Lowland, Cascades, Eastern Cascades Slopes and Foothills, North Cascades, Columbia Plateau, Blue Mountains, and Northern Rockies.
- If the vegetation in the buffer is disturbed (grazed, mowed, etc.), proponents planning changes to land use that will increase impacts to wetlands need to rehabilitate the buffer with native plant communities that are appropriate for the ecoregion, or with a plant community that provides similar functions.
- The width of the buffer is measured along the horizontal plane (see drawing below):



- The buffer will remain relatively undisturbed in the future within the width specified.

Three alternatives for protecting the functions of wetlands using buffers are described in the following sections:

- **Buffer Alternative 1.** Width based only on wetland category.
- **Buffer Alternative 2.** Width based on wetland category and the intensity of impacts from proposed changes in land use.
- **Buffer Alternative 3.** Width based on wetland category, intensity of impacts, and wetland functions or special characteristics. This alternative has two options for determining the widths of buffers when they are based on the score for habitat. Alternative 3 provides three buffer widths based on habitat scores, while Alternative 3A provides a graduated scale of widths for buffers based on habitat scores.

The buffer widths recommended for each alternative were based on the review of scientific information in Volume 1. The guidance in this appendix synthesizes the information about the types and sizes of buffers needed to protect the functions and special characteristics of wetlands.

Appendices 8-C and 8-D do not provide the metric equivalents for buffer widths even though most of the research on buffers uses the metric scale. This decision was made because most local governments use the English Customary measures. For example, a buffer width is set at 50 feet rather than 15 meters.

### **8C.2.1 Buffer Alternative 1: Width Based Only on Wetland Category**

This alternative, in which the width of buffers is based only on the category of the wetland, is the simplest (Table 8C-1). The width recommended for each category of wetland in Alternative 1 is the widest recommended for that category in both Alternatives 2 and 3 (discussed below). Alternative 1 provides the least flexibility because many different types of wetlands and types of human impacts are combined. For example, not all wetlands that fall into Category I or II need a 300-foot buffer. If no distinctions are made between the wetlands that fall into Category I or II, all wetlands that fall into these categories have to be protected with a 300-foot buffer so adequate protection is provided for those wetlands that do need a buffer this wide. Also, the widths recommended for this alternative are those needed to protect the wetland from proposed land uses that have the greatest impacts since no distinctions between impacts are made.

**Table 8C-1. Width of buffers needed to protect wetlands in western Washington if impacts from land use and wetland functions are NOT incorporated (Buffer Alternative 1).**

<b>Category of Wetland</b>	<b>Widths of Buffers</b>
IV	50 ft
III	150 ft
II	300 ft
I	300 ft

### **8C.2.2 Buffer Alternative 2: Width Based on Wetland Category and Modified by the Intensity of the Impacts from Proposed Land Use**

The second alternative increases the regulatory flexibility by including the concept that not all proposed changes in land uses have the same level of impact (Table 8C-2). For example, one new residence being built on 5 acres of land near a wetland is expected to have a smaller impact than 20 houses built on the same 5 acres. Three categories of impacts from proposed land uses are outlined: land uses that can create high impacts, moderate impacts, and low impacts to wetlands. Different land uses that can cause these levels of impacts are listed in Table 8C-3.

**Table 8C-2. Width of buffers needed to protect wetlands in western Washington considering impacts of proposed land uses (Buffer Alternative 2).**

Category of Wetland	Land Use with Low Impact *	Land Use with Moderate Impact *	Land Use with High Impact*
IV	25 ft	40 ft	50 ft
III	75 ft	110 ft	150 ft
II	150 ft	225 ft	300 ft
I	150 ft	225 ft	300 ft

\* See Table 8C-3 below for types of land uses that can result in low, moderate, and high impacts to wetlands.

**Table 8C-3. Types of proposed land use that can result in high, moderate, and low levels of impacts to adjacent wetlands.**

Level of Impact from Proposed Change in Land Use	Types of Land Use Based on Common Zoning Designations *
High	<ul style="list-style-type: none"> <li>• Commercial</li> <li>• Urban</li> <li>• Industrial</li> <li>• Institutional</li> <li>• Retail sales</li> <li>• Residential (more than 1 unit/acre)</li> <li>• Conversion to high-intensity agriculture (dairies, nurseries, greenhouses, growing and harvesting crops requiring annual tilling and raising and maintaining animals, etc.)</li> <li>• High-intensity recreation (golf courses, ball fields, etc.)</li> <li>• Hobby farms</li> </ul>
Moderate	<ul style="list-style-type: none"> <li>• Residential (1 unit/acre or less)</li> <li>• Moderate-intensity open space (parks with biking, jogging, etc.)</li> <li>• Conversion to moderate-intensity agriculture (orchards, hay fields, etc.)</li> <li>• Paved trails</li> <li>• Building of logging roads</li> <li>• Utility corridor or right-of-way shared by several utilities and including access/maintenance road</li> </ul>
Low	<ul style="list-style-type: none"> <li>• Forestry (cutting of trees only)</li> <li>• Low-intensity open space (hiking, bird-watching, preservation of natural resources, etc.)</li> <li>• Unpaved trails</li> <li>• Utility corridor without a maintenance road and little or no vegetation management.</li> </ul>

\* Local governments are encouraged to create land-use designations for zoning that are consistent with these examples.

### 8C.2.3 Buffer Alternative 3: Width Based on Wetland Category, Intensity of Impacts, Wetland Functions, or Special Characteristics

The third alternative provides the most flexibility by basing the widths of buffers on three factors: the wetland category, the intensity of the impacts (as used in Alternative 2), and the functions or special characteristics of the wetland that need to be protected as determined through the rating system. The recommended widths for buffers are shown in Tables 8C-4 to 8C-7. Using this alternative, a wetland may fall into more than one category in the table. For example, an interdunal wetland may be rated a Category III wetland because it is an isolated interdunal wetland, but it may be rated a Category II wetland based on its score for functions.

If a wetland meets more than one of the characteristics listed in Tables 8C-4 to 8C-7, the buffer recommended to protect the wetland is the widest one. For example, if a Category I wetland (Table 8C-7) scores 32 points for habitat and 27 points for water quality functions, a 300-foot buffer is needed for land uses with high impacts because the widths needed to protect habitat are wider than those needed for the other functions.

**Table 8C-4. Width of buffers needed to protect Category IV wetlands in western Washington (Buffer Alternative 3 for wetlands scoring less than 30 points for all functions).**

Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use	Other Measures Recommended for Protection
Score for all 3 basic functions is less than 30 points	Low - 25 ft Moderate - 40 ft High - 50 ft	No recommendations at this time <sup>1</sup>

**Table 8C-5. Width of buffers needed to protect Category III wetlands in western Washington (Buffer Alternative 3 for wetlands scoring 30 - 50 points for all functions).**

Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use	Other Measures Recommended for Protection
Moderate level of function for habitat (score for habitat 20 - 28 points)	Low - 75 ft Moderate - 110 ft High - 150 ft	No recommendations at this time <sup>1</sup>
Not meeting above characteristic	Low - 40 ft Moderate - 60 ft High - 80 ft	No recommendations at this time <sup>1</sup>

<sup>1</sup> No information on other measures for protection was available at the time this document was written. The Washington State Department of Ecology will continue to collect new information for future updates to this document.

**Table 8C-6. Width of buffers needed to protect Category II wetlands in western Washington (Buffer Alternative 3 for wetlands scoring 51-69 points for all functions or having the “Special Characteristics” identified in the rating system).**

Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use (Apply most protective if more than one criterion is met.)	Other Measures Recommended for Protection
High level of function for habitat (score for habitat 29 - 36 points)	Low - 150 ft Moderate – 225 ft High – 300 ft*	Maintain connections to other habitat areas
Moderate level of function for habitat (score for habitat 20 - 28 points)	Low - 75 ft Moderate – 110 ft High – 150 ft	No recommendations at this time <sup>2</sup>
High level of function for water quality improvement and low for habitat (score for water quality 24 - 32 points; habitat less than 20 points)	Low - 50 ft Moderate – 75 ft High – 100 ft	No additional surface discharges of untreated runoff
Estuarine	Low - 75 ft Moderate – 110 ft High – 150 ft	No recommendations at this time <sup>2</sup>
Interdunal	Low - 75 ft Moderate – 110 ft High – 150 ft	No recommendations at this time <sup>2</sup>
Not meeting above characteristics	Low - 50 ft Moderate – 75 ft High – 100 ft	No recommendations at this time <sup>2</sup>
* Fifty of the 122 wetlands used to calibrate the rating system for western Washington were Category II. Of these 50, only five (10%) would require 300-foot buffers to protect them from high-impact land uses. The maximum buffer width for the remaining 45 wetlands would be 150 feet.		

<sup>2</sup> See footnote on the previous page.

**Table 8C-7. Width of buffers needed to protect Category I wetlands in western Washington** (Buffer Alternative 3 for wetlands scoring 70 points or more for all functions or having the “Special Characteristics” identified in the rating system).

Wetland Characteristics	Buffer Widths by Impact of Proposed Land Use (Apply most protective if more than one criterion is met)	Other Measures Recommended for Protection
Natural Heritage Wetlands	Low - 125 ft Moderate - 190 ft High - 250 ft	No additional surface discharges to wetland or its tributaries No septic systems within 300 ft of wetland Restore degraded parts of buffer
Bogs	Low - 125 ft Moderate - 190 ft High - 250 ft	No additional surface discharges to wetland or its tributaries Restore degraded parts of buffer
Forested	Buffer width to be based on score for habitat functions or water quality functions	If forested wetland scores high for habitat, need to maintain connections to other habitat areas Restore degraded parts of buffer
Estuarine	Low - 100 ft Moderate - 150 ft High - 200 ft	No recommendations at this time <sup>3</sup>
Wetlands in Coastal Lagoons	Low - 100 ft Moderate - 150 ft High - 200 ft	No recommendations at this time <sup>3</sup>
High level of function for habitat (score for habitat 29 - 36 points)	Low - 150 ft Moderate - 225 ft High - 300 ft	Maintain connections to other habitat areas Restore degraded parts of buffer
Moderate level of function for habitat (score for habitat 20 - 28 points)	Low - 75 ft Moderate - 110 ft High - 150 ft	No recommendations at this time <sup>3</sup>
High level of function for water quality improvement (24 - 32 points) and low for habitat (less than 20 points)	Low - 50 ft Moderate - 75 ft High - 100 ft	No additional surface discharges of untreated runoff
Not meeting any of the above characteristics	Low - 50 ft Moderate - 75 ft High - 100 ft	No recommendations at this time <sup>3</sup>

<sup>3</sup> See footnote on page 6.

## 8C.2.4 Special Conditions for a Possible Reduction in Buffer Widths

### 8C.2.4.1 Condition 1: Reduction in Buffer Width Based on Reducing the Intensity of Impacts from Proposed Land Uses

The buffer widths recommended for proposed land uses with high-intensity impacts to wetlands can be reduced to those recommended for moderate-intensity impacts under the following conditions:

- For wetlands that score moderate or high for habitat (20 points or more for the habitat functions), the width of the buffer can be reduced if both of the following criteria are met:
  - 1) A relatively undisturbed, vegetated corridor at least 100-feet wide is protected between the wetland and any other Priority Habitats as defined by the Washington State Department of Fish and Wildlife (“relatively undisturbed” and “vegetated corridor” are defined in questions H 2.1 and H 2.2.1 of the *Washington State Wetland Rating System for Western Washington – Revised*, (Hruby 2004b)). Priority Habitats in western Washington include:
    - Wetlands
    - Riparian zones
    - Aspen stands
    - Cliffs
    - Prairies
    - Caves
    - Stands of Oregon White Oak
    - Old-growth forests
    - Estuary/estuary-like
    - Marine/estuarine shorelines
    - Eelgrass meadows
    - Talus slopes
    - Urban natural open space (for current definitions of Priority Habitats, see <http://wdfw.wa.gov/hab/phshabs.htm>)

The corridor must be protected for the entire distance between the wetland and the Priority Habitat by some type of legal protection such as a conservation easement.

- 2) Measures to minimize the impacts of different land uses on wetlands, such as the examples summarized in Table 8C-8, are applied.
- For wetlands that score less than 20 points for habitat, the buffer width can be reduced to that required for moderate land-use impacts by applying measures to minimize the impacts of the proposed land uses (see examples in Table 8C-8).

**Table 8C-8. Examples of measures to minimize impacts to wetlands from proposed change in land use that have high impacts. (This is not a complete list of measures.)**

Examples of Disturbance	Activities and Uses that Cause Disturbances	Examples of Measures to Minimize Impacts
Lights	<ul style="list-style-type: none"> <li>• Parking lots</li> <li>• Warehouses</li> <li>• Manufacturing</li> <li>• Residential</li> </ul>	<ul style="list-style-type: none"> <li>• Direct lights away from wetland</li> </ul>
Noise	<ul style="list-style-type: none"> <li>• Manufacturing</li> <li>• Residential</li> </ul>	<ul style="list-style-type: none"> <li>• Locate activity that generates noise away from wetland</li> </ul>
Toxic runoff*	<ul style="list-style-type: none"> <li>• Parking lots</li> <li>• Roads</li> <li>• Manufacturing</li> <li>• Residential areas</li> <li>• Application of agricultural pesticides</li> <li>• Landscaping</li> </ul>	<ul style="list-style-type: none"> <li>• Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered</li> <li>• Establish covenants limiting use of pesticides within 150 ft of wetland</li> <li>• Apply integrated pest management</li> </ul>
Stormwater runoff	<ul style="list-style-type: none"> <li>• Parking lots</li> <li>• Roads</li> <li>• Manufacturing</li> <li>• Residential areas</li> <li>• Commercial</li> <li>• Landscaping</li> </ul>	<ul style="list-style-type: none"> <li>• Retrofit stormwater detention and treatment for roads and existing adjacent development</li> <li>• Prevent channelized flow from lawns that directly enters the buffer</li> </ul>
Change in water regime	<ul style="list-style-type: none"> <li>• Impermeable surfaces</li> <li>• Lawns</li> <li>• Tilling</li> </ul>	<ul style="list-style-type: none"> <li>• Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns</li> </ul>
Pets and human disturbance	<ul style="list-style-type: none"> <li>• Residential areas</li> </ul>	<ul style="list-style-type: none"> <li>• Use privacy fencing; plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion; place wetland and its buffer in a separate tract</li> </ul>
Dust	<ul style="list-style-type: none"> <li>• Tilled fields</li> </ul>	<ul style="list-style-type: none"> <li>• Use best management practices to control dust</li> </ul>
<p>* These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.</p>		

#### **8C.2.4.2 Condition 2: Reductions in Buffer Widths Where Existing Roads or Structures Lie Within the Buffer**

Where a legally established, non-conforming use of the buffer exists (e.g., a road or structure that lies within the width of buffer recommended for that wetland), proposed actions in the buffer may be permitted as long as they do not increase the degree of non-conformity. This means no increase in the impacts to the wetland from activities in the buffer.

For example, if a land use with high impacts (e.g., building an urban road) is being proposed next to a Category II wetland with a moderate level of function for habitat, a 150-foot buffer would be needed to protect functions (see Table 8C-6). If, however, an existing urban road is already present and only 50 feet from the edge of the Category II wetland, the additional 100 feet of buffer may not be needed if the road is being widened. A vegetated buffer on the other side of the road would not help buffer the existing impacts to the wetland from the road. If the existing road is resurfaced or widened (e.g., to add a sidewalk) along the upland edge, without any further roadside development that would increase the degree of non-conformity, the additional buffer is not necessary. The associated increase in impervious surface from widening a road, however, may necessitate mitigation for impacts from stormwater.

If, however, the proposal is to build a new development (e.g., shopping center) along the upland side of the road, the impacts to the wetland and its functions may increase. This would increase the degree of non-conformity. The project proponent would need to provide the additional 100 feet of buffer extending beyond the road or apply buffer averaging (see Section 8C.2.6).

#### **8C.2.4.3 Condition 3: Reduction in Buffer Widths Through an Individual Rural Stewardship Plan**

A Rural Stewardship Plan (RSP) is the product of a collaborative effort between rural property owners and a local government to tailor a management plan specific for a rural parcel of land. The goal of the RSP is better management of wetlands than what would be achieved through strict adherence to regulations. In exchange, the landowner gains flexibility in the widths of buffers required, in clearing limits, and in other requirements found in the regulations. For example, dense development in rural residential areas can be treated as having a low level of impact when the development of the site is managed through a locally approved RSP. The voluntary agreement includes provisions for restoration, maintenance, and long-term monitoring and specifies the widths of buffers needed to protect each wetland within the RSP.

## **8C.2.5 Conditions for Increasing the Width of, or Enhancing, the Buffer**

### **8C.2.5.1 Condition 1: Buffer is Not Vegetated with Plants Appropriate for the Region**

The recommended widths for buffers are based on the assumption that the buffer is vegetated with a native plant community appropriate for the ecoregion or with one that performs similar functions. If the existing buffer is unvegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions, the buffer should either be planted to create the appropriate plant community or the buffer should be widened to ensure that adequate functions of the buffer are provided. Generally, improving the vegetation will be more effective than widening the buffer.

### **8C.2.5.2 Condition 2: Buffer Has a Steep Slope**

The review of the literature (Volume 1) indicates that the effectiveness of buffers at removing pollutants before they enter a wetland decreases as the slope increases. If a buffer is to be based on the score for its ability to improve water quality (see Tables 8C-4 through 8C-7) rather than habitat or other criteria, then the buffer should be increased by 50% if the slope is greater than 30% (a 3-foot rise for every 10 feet of horizontal distance).

### **8C.2.5.3 Condition 3: Buffer Is Used by Species Sensitive to Disturbance**

If the wetland provides habitat for a species that is particularly sensitive to disturbance (such as a threatened or endangered species), the width of the buffer should be increased to provide adequate protection for the species based on its particular, life-history needs. Some buffer requirements for priority species are available on the Washington State Department of Fish and Wildlife web page (<http://wdfw.wa.gov/hab/phsrecs.htm>). The list of priority species for vertebrates is at <http://wdfw.wa.gov/hab/phsvert.htm>; for invertebrates it is at <http://wdfw.wa.gov/hab/phsinvert.htm>. Information on the buffer widths needed by some threatened, endangered, and sensitive species of wildlife is provided in Appendix 8-H.

## **8C.2.6 Buffer Averaging**

The widths of buffers may be averaged if this will improve the protection of wetland functions, or if it is the only way to allow for reasonable use of a parcel. There is no scientific information available to determine if averaging the widths of buffers actually protects functions of wetlands. The authors have concluded that averaging could be allowed in the following situations:

**Averaging may not be used in conjunction with any of the other provisions for reductions in buffers (listed above).**

- Averaging to **improve wetland protection** may be permitted when all of the following conditions are met:
  - The wetland has significant differences in characteristics that affect its habitat functions, such as a wetland with a forested component adjacent to a degraded emergent component or a “dual-rated” wetland with a Category I area adjacent to a lower rated area
  - The buffer is increased adjacent to the higher-functioning area of habitat or more sensitive portion of the wetland and decreased adjacent to the lower-functioning or less sensitive portion
  - The total area of the buffer after averaging is equal to the area required without averaging
  - The buffer at its narrowest point is never less than 3/4 of the required width
- Averaging to **allow reasonable use** of a parcel may be permitted when all of the following are met:
  - There are no feasible alternatives to the site design that could be accomplished without buffer averaging
  - The averaged buffer will not result in degradation of the wetland’s functions and values as demonstrated by a report from a qualified wetland professional (see Appendix 8-G for a definition of a qualified wetland professional)
  - The total buffer area after averaging is equal to the area required without averaging
  - The buffer at its narrowest point is never less than 3/4 of the required width

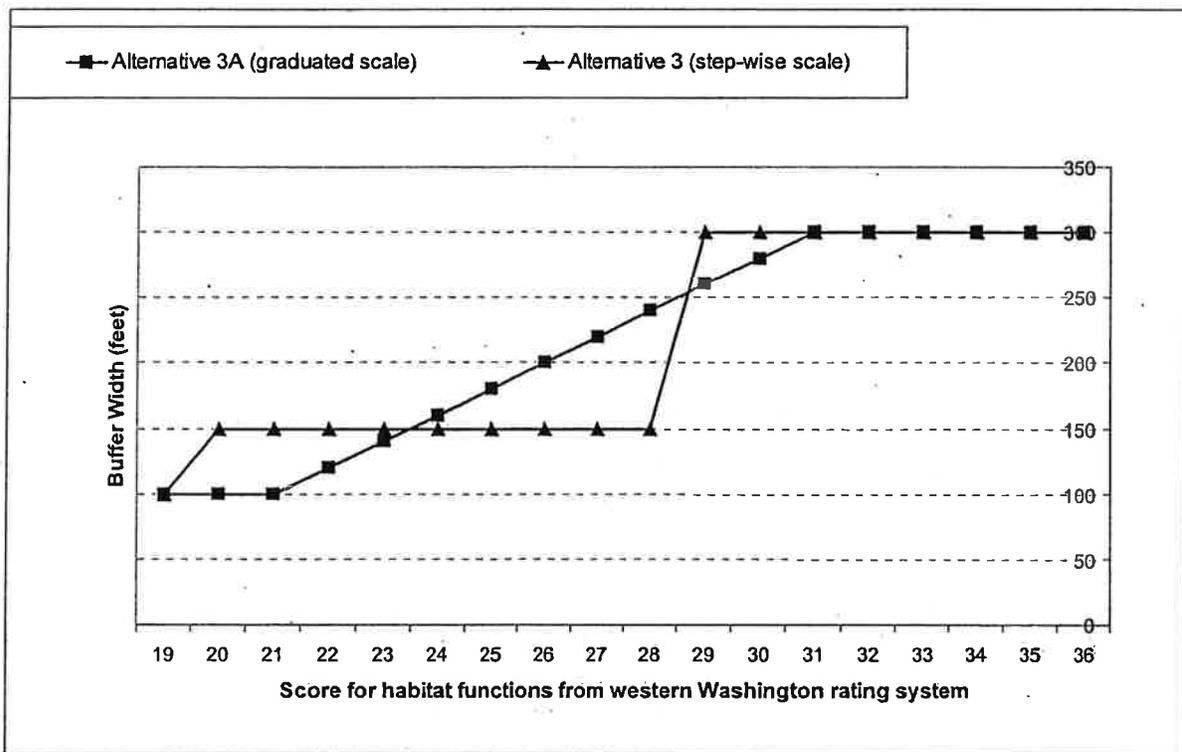
### **8C.2.7 Modifying Buffer Widths in Alternative 3 Using a Graduated Scale for the Habitat Functions (Alternative 3A)**

Alternative 3 contains recommendations for protecting the habitat functions of wetlands using only three groupings of scores (0-19, 20-28, 29-36). As a result, a one-point difference between 28 and 29 can result in a 150-foot increase in the width of a buffer around a wetland. The habitat scores were divided into three groups to simplify the regulations based on this guidance. This division is not based on a characterization of risks since the scientific information indicates that the decrease in risk with increasing widths of buffers is relatively continuous for habitat functions.

Such a large increase in width with a one-point increase in the habitat score may be contentious. A jurisdiction may wish to reduce the increments in the widths for buffers by developing a more graduated (but inherently more complicated) scale based on the scores for habitat. Table 8C-9 provides one example of a graduated scale for widths of buffers where the width increases by 20 feet for every one point increase in the habitat score (Figure 8C-1 shows the buffer widths graphically).

**Table 8C-9. Comparison of widths for buffers in Alternatives 3 (step-wise scale) and 3A (graduated scale) for proposed land uses with high impacts based on the score for habitat functions in western Washington**

Points for Habitat from Wetland Rating Form	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Alternative 3	100	150	150	150	150	150	150	150	150	150	300	300	300	300	300	300	300	300
Alternative 3A	100	100	100	120	140	160	180	200	220	240	260	280	300	300	300	300	300	300



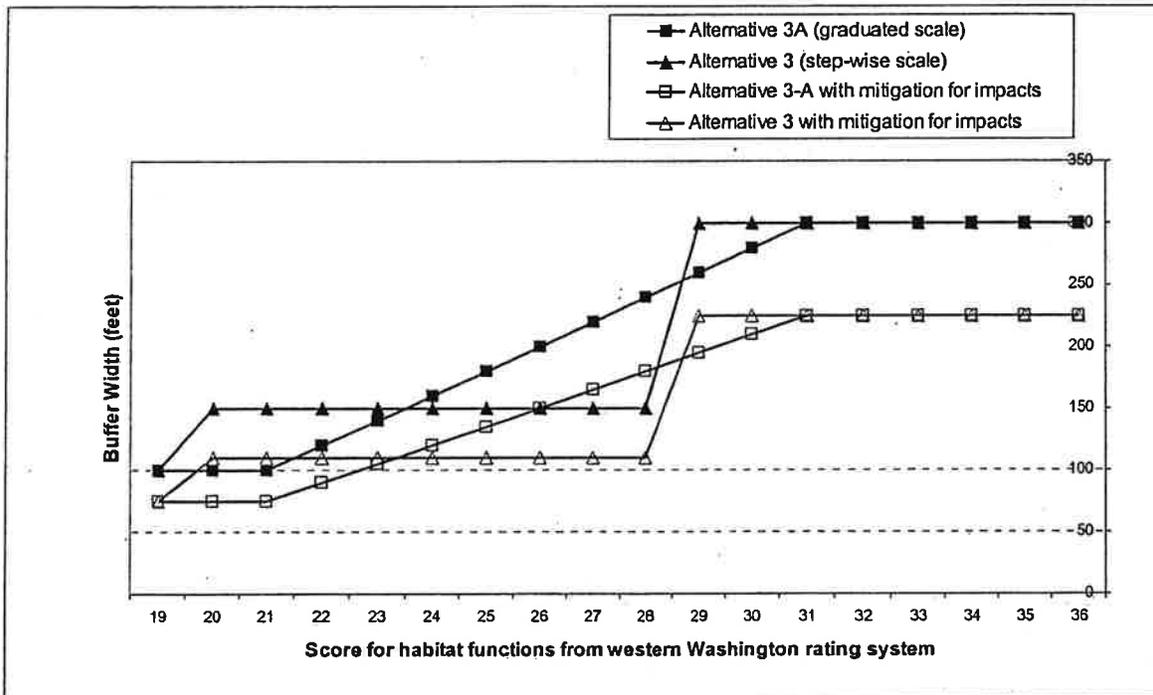
**Figure 8C-1. Graphical comparison of widths for buffers in Alternative 3 and 3A for proposed land uses with high impacts based on the score for habitat functions in western Washington.**

Other scales are possible as long as they keep within the limits established from the scientific information currently available: wetlands with scores for habitat that are higher than 31 points need buffers that are at least 300-feet wide; wetlands with a score of 26 points need buffers of at least 150 feet; and wetlands with a score of 22 points need buffers that are at least 100-feet wide.

These buffer widths can be further reduced by 25 percent if a proposed project with high impacts implements the mitigation measures such as those described in Table 8C-8. The measures are part of “Condition 1” in Section 8C.2.4 (Special Conditions for a Possible Reduction in Buffer Widths). The buffer widths under Buffer Alternatives 3 and 3A, and the corresponding 25 percent reduction (per buffer reduction condition 1) are shown in Table 8C-10 and represented graphically below in Figure 8C-2.

**Table 8C-10. Comparison of widths for buffers in Alternatives 3 (step-wise scale) and 3A (graduated scale) for proposed land uses with high impacts based on the score for habitat functions in western Washington if the impacts are mitigated.**

Points for Habitat from Wetland Rating Form	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Alternative 3 (with mitigation of impacts)	75	110	110	110	110	110	110	110	110	110	225	225	225	225	225	225	225	225
Alternative 3A (with mitigation of impacts)	75	75	75	90	105	120	135	150	165	180	195	210	225	225	225	225	225	225



**Figure 8C-2. Graphical comparison of widths for buffers in Alternatives 3 and 3A based on the score for habitat functions in western Washington with and without mitigating impacts of proposed development outside the buffer.**

Alternatives 3 and 3A represent two separate approaches for determining widths of buffers for wetlands scoring between 20 and 31 points for the habitat functions. Local governments should select one of the two approaches and should not hybridize the approaches or adopt both at the same time.

Janis Freudenthal  
13229 12th Ave SW #233  
Burien, Wa. 98146  
206-246-5574

August 30th, 2010

David Johanson, AICP  
Senior Planner  
City of Burien  
400 SW 152nd St, Suite 300  
Burien, WA 98166  
Phone: (206) 248-5522

Dear Mr. Johanson,

I am writing to express my concerns regarding the newest draft of the Shoreline Master Plan. I would like this letter to be part of the public record for the final hearing on the SMP on August 30th, 2010.

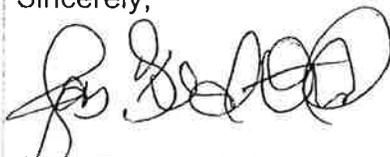
In the last draft (see Chapter IV Shoreline Uses and Modifications Policies and Regulations pg. 16 & 17), the 15' setback has been stripped from both of the buffers for Seahurst Park (Urban Conservancy) as well as Lake Burien. The Urban Conservancy/Seahurst Park buffer is set at 50' but the setback of 15' has been removed. Why would we be less protective of these vital filtering lands and vegetation rather than more strict?

My property overlooks Seahurst Park so I try to keep on top of what is happening there. I know of no plans to build any new structures there, all that I am aware of is the second phase of the restoration project. The Architects for new Environmental Science Center were very careful and responsible to keep within to the original carriage house footprint. A healthy nearshore environment=more survival of juvenile salmon. Again who or what entity requested that the setback be removed for the Urban Conservancy?

I also have concerns for my friends and neighbors that own Lake Burien waterfront property. If someone were to build a structure so close to the waterline it would be a loss for the other homeowners and endanger the health of the lake. Why not have 15 more feet of filtering of pollutants happening all around the lake? Though I don't live there, I'm sad to think that we did not do enough to protect the lake that all of us Burien residents are so proud of.

Restore the 15' setbacks for the Urban Conservancy and Lake Burien before the revised SMP is adopted.

Sincerely,



Janis Freudenthal  
Volunteer  
Neighbors of Seahurst Park

CFTR: 09/13/10  
for hearing 08/30/10



CITY OF BURIEN, WASHINGTON

Written Public Comments for Public Hearing of 8/30/10

For those who do not wish to speak, but would like to make comments, please use this sheet. Your comments will be summarized and become part of the permanent record for this Council meeting. You may leave your completed sheet with the City Clerk. Thank you.

*Please see attached comments  
about setbacks being removed  
from both the Seahurst Park  
and Lake Burien.*

Name: Bob Edger

Address: 12674 Shorewood Dr SW

City / Zip Code: 98148

Telephone: \_\_\_\_\_

To: The Burien City Council  
From Bob Edgar,  
2674 Shorewood Dr SW, Burien

August 30, 2010

Subject: SMP Public Hearing Comments: The Vote Not Taken

It is unclear why the building setback was removed from the Urban Conservancy (Seahurst Park) and Lake Burien (Figure 5 Dimensional Standards for Shoreline Development, page IV-14). The setbacks should be restored.

At the City Council's August 16, 2010 meeting, the Council voted to establish the marine shoreline riparian buffer at 20 feet. When Scott Greenberg requested clarification on whether there would be a 15 foot building setback in addition to the 20 riparian buffer, Councilmember Shaw replied, "my vote was for a twenty foot margin from ordinary high water mark, no fifteen foot setback." "But today's nomenclature is twenty foot setback." "So we're changing the twenty foot setback to a twenty foot buffer."

There was no further council discussion and it was not really clear that all of the other council members verbally concurred with the change in terminology.

Since the item being discussed was number 43 "Reduce marine shoreline riparian buffer to 20 feet" from the Summary of City Council Comments, the entire discussion revolved around whether or not the marine shoreline riparian buffer should be reduced to 20 feet, the situation on the ground and the historical character of the marine shoreline residential. This suggested that there was insufficient space to have both a riparian buffer and a building setback without a structure be designated as non-conforming. So, it was agreed that the historical 20 foot "setback" for the marine residential shoreline would be renamed a 20 foot "buffer" and there would be no additional building setback requirements. There was no decision or vote that the 15 foot setback would be removed from the Urban Conservancy or from Lake Burien. The understanding that Lake Burien still had a 30 foot buffer and a 15 foot building setback was echoed by Mayor McGilton in a B-Town Blog interview after the August 16 meeting.

However, the historical character of the marine residential shoreline is drastically different from both the Seahurst Park and the Lake Burien residential shoreline. For example, many of the homes on Lake Burien were built with a building setback of 100 or more feet from the OHWM. This is still the case and has been documented in the technical documents (Shoreline Inventory, Shoreline Analysis and Characterization and the Cumulative Analysis Impacts Statement) that the city is submitting with the SMP. These documents are designed to establish a baseline for measuring no net loss.

The city has reduced the Lake Burien building setback to fifteen feet from the 30 foot riparian buffer. By removing the 15 foot setback, the city is saying that a house can now be built 30 feet from the OHWM. A structure built right on the boundary of a riparian buffer essentially

compromises the function of the buffer. The riparian buffer and the setback have two different purposes and there is no historical justification for removing the setback and claiming it is now part of the buffer.

Figure 5, Dimensional Standards for Shoreline Development on page IV-14 of the SMP needs to be corrected to show both the Urban Conservancy and Lake Burien having a 15 foot setback.

It should be noted that once the Burien SMP is approved by DOE, the SMP becomes Washington State Law

The following transcript of the video tape of the August 16, 2010 discussion on the 20 foot riparian buffer suggests that the removal of the setback was to deal with the marine residential shoreline.

Start Tape Time: 01:47:48

JM: "So, those of us in favor of advising the staff to move forward with a 20 foot buffer are Mr. Shaw, Ms. Krokoviak, and Mr. Block and Councilmember Keene. So it's a twenty foot buffer. Thank you very much."

(Applause)

SG: "Can I, can I get some clarific.... I just want to clarify one thing just to make sure. You're talking about a 20 foot buffer for marine shoreline residential environment,"

JM: "And thirty for Lake Burien."

SG: "Right, but are you still talking about 50 in the Urban Conservancy which is essentially Seahurst Park?"

JM: "Yes."

UKN: "Yeah."

UNK: (unclear)

JM: "Okay."

GS: "I, I think you have natural ecological function in most of that area and that's worth preserving."

JM: "Yah. Okay, are we done with buffers?"

SG: "Well, one, one other thing that, just to, you know, full disclosure, you, there's also a fifteen foot building setback from the edge of the riparian buffer."

JM: "Right."

SG: "Okay, I just want to make sure, so, there is a twenty foot riparian buffer plus a fifteen foot building setback."

GS: "No, my vote was for a twenty foot margin from ordinary high water mark, no fifteen foot setback."

SG: "Okay."

JM: "Is Mr. Shaw supported by any other member of the Council? HmMMM, hmm, hmm, hmm won't say a word..."

KK: (Is seen shrugging her shoulders.)

SG: "Okay, so that, that seems to be direction to remove the 15 foot building setback also in the, for the marine, uh, the, uh, shoreline residential."

BB: "Can I get clarification. So what, what is the current situation with the twenty foot buffer? Is there currently a fifteen foot setback in addition to that?"

DJ: "Not currently, no. In the, under the current regulations we're using today."

GS: "But today's nomenclature is twenty foot setback."

DJ: "That's correct."

GS: "So we're changing the twenty foot setback to a twenty foot buffer."

DJ: "That's as I understand our direction to be, yes."

GS: (Nods yes)

JM: "Without a setback. So, we have four votes for that?"

(No auditable responses to know if there were four votes, but JM appears to be counting.)

JM: "Okay. So we are done with buffers. Moving on to comment number 49, bulkheads."

End Tape Time 01:50:35

The last vote on the topic of buffers was that the historical 20 foot "setback" for marine shoreline residential will now be called a 20 foot "buffer". The specific discussion preceding the vote was about the 20 foot setback. There was no decision or vote that the 15 foot setback would be removed from the Urban Conservancy or from Lake Burien both of which have completely different relationship between the existing houses and the OHWM setbacks than does the marine shoreline residential.

Figure 5, Dimensional Standards for Shoreline Development on page IV-14 of the SMP needs to be corrected to show both the Urban Conservancy and Lake Burien having a 15 foot setback.

It should be noted that once the Burien SMP is approved by DOE, the SMP becomes Washington State Law.

August 30, 2010

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## Shoreline Buffers

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By Steven F. Neugebauer – LEG, LHG, PG, REA  
Principal Environmental/Hydrogeologist  
SNR Company – Duvall, WA

Beginning this year, the Shoreline Management Act of 1972 (SMA) was updated to address a court case called *Futurewise v. the Growth Management Hearings Board*. A small discussion on why the SMA was amended follows:

The Growth Management Act (GMA) was promulgated in 1990 by the State Legislature and this Act "created" critical areas, which include wetlands, fish and wildlife habitats (hence the regulation of streams, lakes and other shorelines), geologic hazards, etc. However the Shoreline Management Act (SMA) was adopted by the Public in 1972 and only regulates shorelines and up to 200 feet from the shorelines. Each is a completely separate code in the Washington Administrative Code (WAC) and RCW (Revised Code of Washington).

The Growth Management Act (GMA) requires local governments to adopt development regulations through critical area ordinances to protect critical areas such as wetlands, fish and wildlife habitat conservation areas, and frequently flooded areas. The Washington Legislature amended the GMA in 2003 to explicitly state that shorelines are not automatically considered critical areas under the GMA. The 2003 legislation also clarified that shorelines of statewide significance are regulated, not by the GMA, but rather by the Shoreline Management Act.

On April 18, 2005, the City of Anacortes updated its critical areas negotiation. Various environmental groups consisting of Evergreen Islands, Futurewise, and Skagit Audubon Society petitioned the Western Washington Growth Management Hearings Board arguing that the City regulations did not adequately protect marine shorelines and failed to comply with the "best available science" requirement of the GMA.

Despite the Legislature's clear rejection of local government's authority to regulate shorelines under the GMA, the trial court concluded that critical areas located within shorelines of the State shall continue to be governed by the GMA until local jurisdiction shoreline master programs are updated and approved by the Washington State Department of Ecology (Ecology). The City appealed the trial court decision, and the case was transferred to the Washington State Supreme Court.

The Washington Supreme Court reversed the trial court's decision, holding that the Legislature intended that critical areas within shorelines of the State are governed by the Shoreline Management Act, not the Growth Management Act. The Pacific Legal Foundation (PLF) filed an amicus brief in the Supreme Court supporting the City of Anacortes. The Supreme Court's ruling provides favorable precedent for several of PLF's pending cases, but also places the critical areas versus the shoreline issues in somewhat of a regulatory "Never Land" that the Washington State Department of Ecology tried to interpret, but this interpretation was not law. Ecology even tried to get the State Supreme Court to revisit the issue to clarify specific issues, however, the State Supreme Court refused to rehear this case, suggesting that the legislature need to clarify what it intended rather than the Court "acting" as the lawmaker.

This meant that the State Legislature needed to clarify the issues (even the State Supreme Court was divided), so they prepared EHB 1653 which revises the SMA and clarifies that the shorelines will only be

regulated by the SMA, however, each municipality's shoreline master plan update must include coverage of the critical areas described in the GMA as stringently as they are addressed in the municipality's critical areas ordinance, although there is a vital difference in wording, because the goal of the SMA is no net loss in existing habitat functions. This means that if a property is already completely developed, there is virtually no mitigation required. Additionally, technically the critical areas provisions (which should probably be named differently so these are not confused with the provisions in the GMA) in the Shoreline Master Plans (SMPs) must be limited to those in the GMA, therefore, municipalities cannot create critical areas that are not listed in the GMA and include these in their SMP.

Shorelines are already protected to some extent in the SMA (including wetlands) and any development that is conducted within 200 feet of the shoreline will need to meet the requirements of the existing and future SMPs that are approved by Ecology. To some extent, this 200 foot boundary is a "buffer" in that it places specific regulatory requirements for developments in this zone, usually referenced by water level, such as the mean high tide, or mean high water level as determined by a specific agency, typically the National Oceanic and Atmospheric Administration (NOAA).

The complexity that comes with the new provisions in the SMA is that how do you combine these two Codes without "regulating" shorelines under the Growth Management Act, critical areas yet meet the requirements of the new SMA to protect "critical areas" to a level as high as the municipality's Critical Areas ordinance and at the same time, avoid potential "taking" issues? Also, is every elected official, appointed official and municipal staff required to address the Attorney General's Advisory Memorandum: Avoiding Unconstitutional Takings of Private Property, Rob McKenna, Attorney General, December 2006, as is required by the Growth Management Act? One would think so because this document allows lawmakers and their staff to make determinations when promulgating codes to ensure that they are not exceeding their police powers and that they can demonstrate in good faith that the proposed code will not affect property owner's constitutional rights.

What does this have to do with buffers? The Growth Management Act does not require buffers, it requires that fish and wildlife habitats be protected (this is the primary reason for shoreline critical areas other than potential geologic hazards). The reason that buffers have become the accepted method for ensuring that these goals are met is unclear, especially the building setback provisions, because to my knowledge there has never been specific studies conducted in the Puget Lowlands (including field studies and repeatable scientific research that has been peer reviewed) that buffers or building setbacks are required to protect fish and wildlife from residential development. The requirements for buffers and setbacks has been largely driven by Ecology, but in 29 years of conducting environmental studies I have not found a single study that has been conducted in the Puget Lowlands (or elsewhere) that demonstrates that buffers and building setbacks provide any protection, nor have I found studies that have been conducted in the Puget Lowlands that demonstrate that shoreline residential development automatically results in potential threats to fish and wildlife.

What I have found is a lot of assumptions and incomplete studies, but none that should meet the level where a municipality will use their police power to take away a property owners constitutional rights guaranteed to them under the 5th and 14th Amendments to the United States Constitution and the Washington State Constitution, Article 1, Section 16, which provides in part, that "[n]o private property shall be taken or damaged for public or private use without just compensation." In other words, the government may take private property, but must pay just compensation for the private property that is taken (McKenna, 2006), unless that municipality is very sure that there is very convincing proof that this action does not result in a taking and is necessary to protect the public per the provision of the police power as discussed in the McKenna document.

Additionally, different wildlife species are more sensitive to habitat impacts than others, and conditions vary throughout the Puget Lowlands which means each case is unique, however, a "one size" fits all solution can

run into "legal issues" as happened when King County implemented the provisions of its Critical Areas Ordinance in the rural areas. This ordinance was eventually struck down by the State Supreme Court in *CAPR v. Ron Sims, et al* because it was a generalized; one size fits all "police power action" that the court interpreted as being a special tax on specific citizens.

What is important is to make sure you do not take citizen's rights away without due cause and that you use your police powers sparingly and only when absolutely necessary and only when you are sure that these actions are warranted and are based on real issues that require these actions. Also, use common sense and think carefully about what your actions will do to the property owners and make sure these actions are necessary and with merit and are based on diligent, area specific, peer reviewed research that demonstrates that the actions you take are well supported. Whether it is best available science or not, the most important aspect is whether you feel your actions are supported by these documents adequately enough to ensure that the use of the police power is appropriate and that the final ordinance does not result in an unnecessary and unconstitutional taking of private property.

Thank you for taking the time to review these comments, I hope that all of you will review the AG's 2006 document (this is required reading under the GMA which all of you have codified as your Comprehensive Plans and your critical areas ordinances). It can be found at <http://www.atg.wa.gov/takingsmemo.aspx>.

Thank you,  
SNR COMPANY



Steven F. Neugebauer – LEG, LHG, PG, REA  
Principal Environmental Geologist/Hydrogeologist  
State License Number: 000347

Mr. Neugebauer has over 29 years of experience in the environmental field and is licensed to practice in three states. He has worked in all but four states in the United States, all Canadian Provinces, all Mexican States, in the Middle East and Asia. He has worked with the USEPA in all regions and has extensive experience in environmental, ecological, hydrogeologic, hydrologic, and other geological sciences. His licenses in Washington State include the specialty licenses of hydrogeology and engineering geology.

He is very familiar with all Federal environmental regulations codified in Chapter 40 of the Code of Federal Regulations and familiar with most States environmental regulations, including Washington State and is very familiar with the provisions of the Growth Management Act and teaches a certified course on Washington State Critical Areas regulations through the MBA and BIAW. He is also very familiar with the SMA and other related State regulations and the interaction of these State regulations with the Federal regulations.

**Professional Qualifications for Steven F. Neugebauer**

- 28 years of experience in the fields of geology, hydrogeology, hydrology, geomorphology, stratigraphy, fluvial geomorphology, sedimentology, soils, and engineering geology.
- 23 years of experience with wetlands throughout the United States and in other countries, including Canada, Mexico, Thailand, Kuwait, and Qatar.
- State of Washington licensed geologist with specialty licenses in hydrogeology and engineering geology (license number 00347).
- Licensed geologist in Wyoming (PG-1311)
- Licensed environmental assessor in California (00406)
- Over 28 years of experience with hydrogeologic studies, studies includes:
  - Surface water/ground water interaction for detention facilities, dams, and floodplain analysis,
  - Ground water resource for municipal and private supplies,
  - RCRA and CERCLA related ground water studies including,
    - Fate and transport, remediation, and monitoring,
    - RCRA corrective action and CERCLA remediation,
    - Design and implementation of cutoff walls, slurry trenches, sheet piles, injection grouting, recovery, treatment, and re-injection, air sparging, in situ ground water treatment
  - Ground water studies related to wetland investigations
  - Ground water studies related to landslides and seismic hazards
  - Ground water modeling using MODFLOW, FLONET, HSSM, RETC, RockWorks, GSFLOW, and SUTRA software
  - Ground water studies related to perched ground water, spring, and seeps
  - Ground water studies related to ground water flooding
- Over 15 years of experience with surface water hydrology including floodplain, including:
  - Studies on the Mississippi River, including studies on the St. Paul/Downtown Airport
  - Studies on the Sacramento River including delta studies
  - Studies on the Duwamish River/Waterway
  - Most recent studies have been conducted on
    - North fork of Muck Creek in the Muck Creek drainage basin (Pierce County),
    - West fork of Hylebos Creek in the Hylebos Creek drainage basin (Pierce County), and
    - Mill Creek and "tributaries" in the Mill Creek/Mullen Slough drainage basin in King County.
  - Floodplain analysis using StormNet, RiverCAD, HEC RAS, HEC-HMS, HEC-GEORAS, HEC2, and HEC6.
  - Evaluate Phase I and Phase II Municipal Storm Water NPDES permit compliance and provide regulatory and technical support as necessary.
  - Evaluate Industrial Storm Water NPDES permit compliance and provide regulatory and technical support as necessary



**EXPERIENCE**

**SNR COMPANY**

3/2007 - Present

Principal Hydrogeologist/Engineering Geologist – Lead a team of geologists and environmental professionals. RCRA and MTCA environmental projects including VCP cleanup of impacted sites. Clean Water Act and Safe Drinking Water Act studies for impacts to ground water and surface water. Design sampling and analysis plans, health and safety plans, and remedial action plans including (RI/FS and RA) for impacted soils and ground water. Conduct detailed, comprehensive critical areas studies including wetland, fluvial, lacustrine, and geologic hazards. Develop detailed geomorphologic investigative procedures and initiate the use of advanced methods for studying soils and hydrology/hydrogeology based on USACE approved methods. Introduce geologic and hydrogeologic investigations and methods to the study of ecological critical areas. Design soil excavation sampling programs for the screening of excavated soils for placement at unrestricted fill sites. Provide technical and regulatory support for RCRA hazardous waste TSDFs and for MTCA listed sites.

**KRAZAN AND ASSOCIATES**

11/2005 – 3/2007

Environmental Division Manager, Pacific Northwest - Expand environmental services and add ecological services (critical areas, including wetland, fluvial, lacustrine, and geologic hazards.) Manage four offices throughout the Pacific Northwest and provide technical support of 11 other west coast offices. Upgraded environmental services to more complex VCP MTCA and CERCLA RI, RI/FS, and RA and was project manager for Brownfield, LUST, and RCRA projects. Conducted CEQA, SEPA, and NEPA EA and EIS investigations and developed new methods for conducting and reporting comprehensive ecological (including wetland and other critical areas), hydrologic, and hydrogeologic investigations.

**QATARI AMERICAL  
ENVIRONMENTAL  
CONSULTANTS**

05/2004 – 11/2005

Managing Director. Conducted ecological, environmental, and feasibility studies and investigations for a 1,000 plus acre landfill that is located where the New Doha Airport will be located. Conducted studies and designed the closure of historic landfills and designed and permitted new landfills. Extensive ground water studies for at abandoned uncontrolled landfills and developed permanent closure strategies. Conducted studies to located potable ground water, and studies to identify impacts to ground water and soils from petroleum production (dump wells, soaker pits, condensate pits, etc.), petrochemical wastes, radioactive wastes, pesticides, and biological wastes. Conducted ecological studies on sea turtles and lead a team that conducted a state wide soil survey identifying soil types throughout Qatar. Identified and studied sensitive ecosystems, including wetland areas in the State of Qatar. Also conducted ecological, environmental, and hydrogeology studies in Dubai, Kuwait, Abu Dhabi, and in Asia.

**DELTA ENVIORNMENTAL  
CONSULTANTS**

05/2002 – 05/2004

Senior Specialist/West Coast Industrial Division Project Manager. Regulatory expert, ground water studies and remediation, soils studies and remediation, environmental studies and closure of two 90 year old saw mills, including hazard and risk studies, MTCA cleanup, RCRA subtitle C & D landfills,



wood preservatives (PCP and CCA) and 1,4 - Dioxane in soil and ground water. RCRA corrective action for pesticide and herbicide manufacturer with over 300,000 mg/Kg of arsenic and lead in soils and over 30,000 mg/L of arsenic in ground water. Commencement Bay and Hylebos Waterway superfund and NRDA activities. Perform extensive studies in Qatar (assess and audit 32 Qatar Petroleum facilities, including offshore, and prepare Monitoring Plans for each facility) and conducted ecological and environmental studies to determine current impacts to the Arabian Sea in post Iraqi occupied Kuwait. Conducted fluvial geomorphology and hydrologic studies on the Mississippi River in the Minneapolis St. Paul area, and conducted numerous NEPA EIS studies. Conducted numerous wetland, fluvial, and lacustrine ecological studies throughout the western United States and Canada.

**NORTHWEST  
ENVIRONMENTAL**

06/1993 – 05/2002

**Principal Hydrogeologist/Engineering Geologist.** Phase I ESAs, MTCA VCP, RCRA permitting, Air Permitting, NPDES permitting, and UST work. Also conducted wetland delineation studies, ground water studies, and geologic hazard studies – including landslide stabilization. Also conducted NEPA, CEQA, and SEPA studies and prepared EIAs and EISs. Obtained the first exemption granted by the State of Louisiana for the thermal treatment of sewage sludges. Conducted studies at all PEMEX petrochemical facilities and many of the Terminals and refineries. Conducted clean up and remediation of soils and ground water at the petrochemical facilities including developing a new process to recycle hexachlorides. Conducted fluvial geomorphologic and hydrologic studies on the Mississippi River in Louisiana and environmental and ecologic studies on the barrier Islands along the Louisiana coast. Conducted environmental site audits and UST studies for all of the County of San Bernardino airports.

**SNR COMPANY**

03/1986 – 06/1993

**Principal Hydrogeologist/Engineering Geologist.** Conducted many "first of their kind" permitting (first in place closures of RCRA TSDFs in four USEPA Regions) and remediation projects. Developed new technologies, including one of the first uses of insitu low temperature oxidation. Also developed new techniques for thermal treatment and vitrification. Designed and constructed cutoff and slurry trenches for impacted ground water at a RCRA TSDFs and designed and implemented insitu ground water remediation for metals (hexavalent chromium, nickel, copper, zinc, etc.). Designed and implemented ground water remediation in karst aquifers, including sites impacted with halogenated hydrocarbons, metals, petroleum hydrocarbons, and PCBs. Characterized and designed/implemented ground water remediation for numerous sites impacted with halogenated and non-halogenated hydrocarbons, including sites with fractured bedrock. Conducted ecological studies for the Port of San Diego, the Port of Los Angeles, the Port of Long Beach and the several military bases.

**MITTLEHAEUSER CORP.**

11/1984 – 03/1986

**Director of Environmental Division.** Conducted numerous large environmental projects associated with RCRA permitting and corrective action. Also CERCLA RI/FS and RA. Other State regulatory programs that lead to soils and ground water remediation. One RCRA TSDF required corrective action at a site with over



# Summary of Qualifications for Steven Neugebauer

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14 million barrels of hydrocarbons on the ground water next to a major river. Conducted numerous ecological, fluvial geomorphologic, ground water, and environmental studies on the Sacramento River and delta, Trinity River, and Russian River and their deltas. Conducted detailed fluvial geomorphologic, ecologic, environmental, and hydrologic studies on the Colorado River in the Yuma, Arizona area.

## 2R ENGINEERING

09/1981 – 11/1984

**Principal Geologist/Hydrogeologist.** Lead numerous geotechnical, engineering geology, hydrologic, and hydrogeologic investigations. Including dams, containment basins, reservoirs, landslides, slope failures, fault mapping, seismic studies, geologic mapping, and other activities, including down hole logging in 24 and 30 inch bucket auger holes to 125 feet BGS. Activities included major commercial and residential developments, including the Irvine Ranch. Also developed one of the first petroleum ground water remediation systems approved by the RWQCB at a Texaco service station in Laguna Beach, CA. Conducted numerous marsh and back bay studies for the John Wayne airport and numerous similar studies for the Port of Long Beach. Conducted extensive ground water studies throughout the Mojave desert for potable ground water supplies.

## EDUCATION

Pasadena City College	Natural Science	AS	1977
University of California, Irvine	Biology	Undergraduate biology major.	1979
California State University, Long Beach	Geology/Hydrogeology	BS	1981
California State University, Long Beach	Engineering Geology	Graduate Studies	1983

## PROFESSIONAL LICENSES

Licensed Geologist, Hydrogeologist, and Engineering Geologist	Washington State
Professional Geologist	Wyoming, Indiana
Registered Environmental Assessor	California
Registered Geologist	Kentucky, Arkansas

## PROFESSIONAL ASSOCIATIONS

- National Ground Water Association
- Geological Society of America
- Master Builders Association of King and Snohomish Counties, Design Professionals Council, Board Member

# Effects of Lawn Fertilizer on Nutrient Concentration in Runoff from Lakeshore Lawns, Lauderdale Lakes, Wisconsin

## Introduction

Transport of nutrients (primarily forms of nitrogen and phosphorus) to lakes and resulting accelerated eutrophication are serious concerns for planners and managers of lakes in urban and developing suburban areas of the country. Runoff from urban land surfaces such as streets, lawns, and rooftops has been noted to contain high concentrations of nutrients; lawns and streets were the largest sources of phosphorus in residential areas (Waschbusch, Selbig and Bannerman, 1999). The cumulative contribution from many lawns to the amount of nutrients in lakes is not well understood and potentially could be a large part of the total nutrient contribution.

## Why study runoff from lawns?

The shorelines of many lakes are already highly developed, and the potential water-quality effects of this development are increasing. Many lawn-care professionals and homeowners hold a common belief that runoff from lawn surfaces is minimal and that phosphorus movement from lawns is not a problem (Barth, 1995). The homeowners' goal to maintain lush green lawns may conflict with the lake manager's goal to minimize nutrient inputs. In cooperation with the Lauderdale Lakes Lake Management District and the Wisconsin Department of Natural Resources, the U.S. Geological Survey (USGS) conducted a study during 1999–2000 to determine the magnitude of nutrient runoff from nearshore residential lawns surrounding a lake and to determine whether fertilizer application and the type of fertilizer (regular or nonphosphorus types) affect the amount of nutrients in runoff from lawns. Such information is important for developing stormwater best-management practices and for developing or improving shoreland zoning ordinances and other local regulations to protect or improve the water quality of lakes (Wisconsin Department of Natural Resources, Wisconsin Shoreland Management Program, <http://www.dnr.state.wi.us/org/water/wm/dsfm/shore/title.htm>, accessed February 8, 2002).

The study area was located at Lauderdale Lakes in Walworth County, a chain of lakes in the more populated southeastern part of Wisconsin (fig. 1). The 15-mile shoreline of the lakes is about 70 percent developed, primarily as single-family housing, and is the focus for additional residential development. Most of the lakefront homes have sloping lawns that are maintained to the water's edge (fig. 2). Information about the specific sources and amounts of phosphorus entering the lakes was needed to develop a plan for reducing the input of phosphorus. The lakes are phosphorus limited, meaning that phosphorus is the nutrient limiting plant growth and affecting lake productivity. A previous study (Garn and others, 1996) found that surface-water inflow from the small nearshore contributing drainage area accounted for only 4 percent of the water inflow to the lake but represented 51 percent of the total annual phosphorus input from all sources. The Lake Management District is in the process of installing

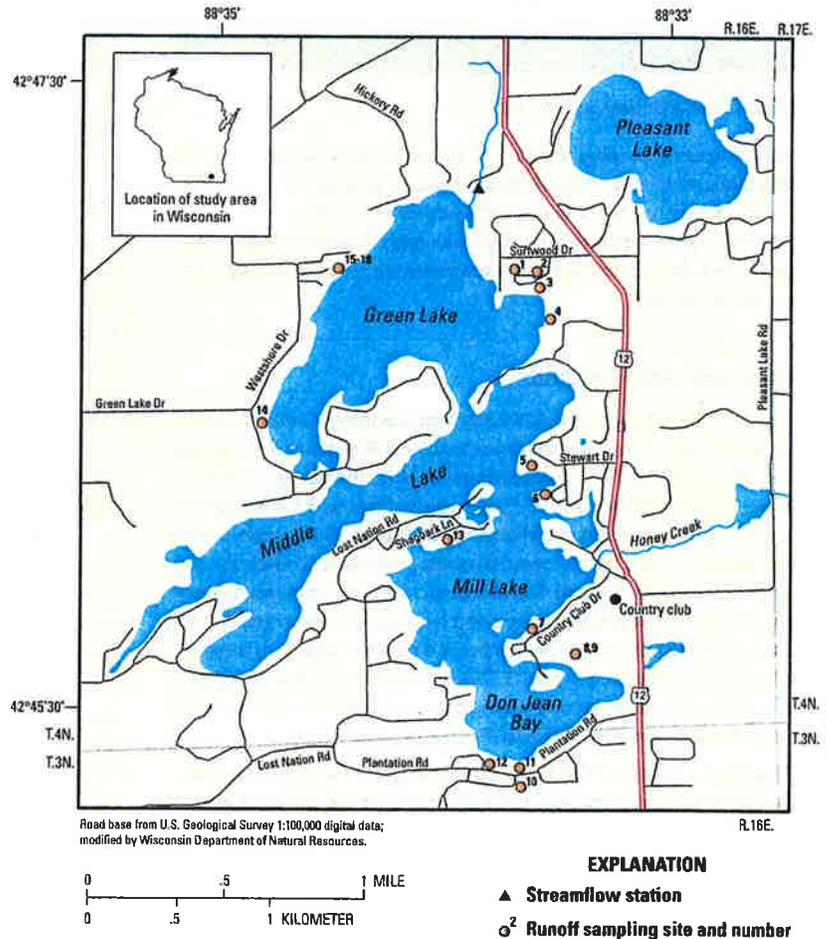


Figure 1. Site locations surrounding Lauderdale Lakes, Wis.



Figure 2. Lakeshore development and lawns at Lauderdale Lakes, Wis.



Figure 3. Tube-type lawn sampler (site 2).

and implementing various measures to reduce the phosphorus input to the lakes, among which is a “lake-friendly” fertilizer program that encourages residents to apply nonphosphorus turf fertilizer. The Lake Management District has been supplying residents with phosphorus-free fertilizer for purchase for about 3 years, and data were needed to evaluate the effectiveness of the program.

### Equipment and Methods

In 1999 and spring 2000, lawn samplers designed to collect surface runoff were installed using methods described in Waschbusch, Selbig, and Bannerman (1999, p. 7). The samplers collect runoff through two 5-foot pieces of 1/2-inch-diameter PVC tubing placed flush with the surface of the ground, on a sloping lawn, with an angle of about 150 degrees between the two tubes (fig. 3). Runoff entered the tubing through a 1/8-inch slot cut at intervals along the length of the tube; each tube was then wrapped with fiberglass screen to prevent insects and large debris from entering. The tube was held in place on the lawn surface with wire staples. At the end of each tube, a connecting piece of 1/2-inch silicone tubing directed the collected runoff into a covered 1-quart glass jar placed in the ground in a 4-inch-diameter protective PVC sleeve with a cover.

During the summer of 2000, the original sampler design was modified to increase sample volumes at sites that did not generate sufficient runoff samples and to minimize contamination problems caused by insects and earthworms entering the samples despite the fiberglass screen. One variation to increase runoff-collection efficiency was to enlarge the slots cut in the pipes to 1/4-inch. Another technique used at sites with the least runoff production was to replace the tubing with two lengths of 4-foot-long plastic lawn edging that directed runoff toward the collecting jar (fig. 4); this solution was more effective at increasing captured runoff and minimizing contamination than increasing the slot size.

Clean sample bottles were placed in the lawn samplers before each expected storm or at about 2-week intervals when sites were inspected if there was no rain. Samplers were cleaned and rinsed with deionized water



Figure 4. Edging-type lawn sampler (site 5).

during each visit to remove any accumulated dirt or debris. Notes were kept on volume of runoff in the collection bottle; color and noticeable sediment, debris, or insects in the bottle; and site condition. Sample bottles were collected as soon as possible after each storm (usually within 1 to 5 days) and brought to Madison, where the contents were filtered with a 0.45-micrometer filter, preserved with sulfuric acid, and then delivered to the Wisconsin State Laboratory of Hygiene for nutrient analyses. Samples were analyzed according to standard laboratory methods (Wisconsin State Laboratory of Hygiene, written commun., 2001) for concentrations of total phosphorus (TP), total dissolved phosphorus, total Kjeldahl nitrogen (TKN), dissolved ammonia nitrogen, and dissolved nitrate plus nitrite nitrogen. When insufficient sample volume was collected from a storm to analyze for all nutrients, analyses were done first for total phosphorus.

### Description of Sampling Sites

The Lauderdale Lakes are a chain of three interconnected lakes with a surface area of 807 acres. The lakes are ground-water drainage lakes in which more than 90 percent of the water inflows are from ground water and direct precipitation. Some surface water enters the lakes by way of a few ephemeral drainageways or as overland flow from the nearshore area. Lake and drainage-basin characteristics are described in detail by Garn and others (1996). Lakeshore developments include about 1,010 single-family homes, of which about 30 percent are year-round residences. Other developments include a golf course, a boat marina, and two recreational camps.

In the lakeshore area within 300 feet of the shoreline, soils consist primarily of the Casco-Rodman Complex (60 percent of the area), Rodman-Casco Complex (12 percent of the area), and Casco-Fox Silt Loam (6 percent of the area). The Casco-Rodman Complex is found on 20–30 percent slopes; surface textures range from loam to silt loam, and subsoils are clay loam to sandy loam. The Rodman-Casco Complex is found on slopes of 30 to 45 percent formed in loamy deposits over sand and gravel. The Casco-Fox soils are found on slopes of 6 to 12 percent and have a silt loam texture (Haszel, 1971). Soil disturbance can be severe during building construction in suburban areas, commonly resulting in subsoil compaction by heavy equipment followed by layering with topsoil. Such disturbance has the potential for greatly increasing runoff and nutrient losses.

Samplers were installed at 18 locations along the lakeshore (fig. 1), representing different types of lawn-fertilizer use, undeveloped areas, and one area of mixed land use (part agricultural, ditched paved roads, and lawns). Sites were grouped into three categories: regular-fertilizer sites, nonphosphorus-fertilizer sites, and unfertilized sites. Samplers were installed at 12 sites and operated during the growing season in 1999. In 2000, six additional sites were installed, including two samplers in a swale. Samplers were installed at seven lawn sites where traditional fertilizer was applied, three sites where nonphosphorus fertilizer was applied, and six control sites where no fertilizer was applied (three steep, wooded sites; two lawns; and an undeveloped grass field). Much of the area is wooded, and many of the lawns have an overhead canopy of hardwood trees. Two samplers were installed in a swale area on the south side of Mill Lake (Don Jean Bay) that collected mixed runoff from an agricultural field, lawns, and streets. The drainage area of the upgradient sampler was 8 acres and of the downgradient sampler was 38 acres, of which about 25 percent was cropland.

Property owners were asked to participate in the runoff study. It was assumed that most lawn fertilizer users followed usual manufacturer recommendations of four applications per season made in about April–May, June–July, August–September, and October at 3 to 3.5 pounds per 1,000 square feet. Homeowners applying regular fertilizer fertilized their lawns two or more times per year. Each participant’s property was inspected to ensure that lawn slope was at least 20 feet long, grade was at

**Table 1.** Physical characteristics of sampling sites at Lauderdale Lakes, Wis. [P, phosphorus; ppm, parts per million; %, percent, turf-quality values are defined in text; ft<sup>2</sup>, square feet; --, no data]

Site ID	Station number	Site type	Soil type/texture <sup>a</sup>	Soil P concentration <sup>b</sup> (ppm)	Slope (%)	Vegetative cover density (%)	Turf quality	Runoff area (ft <sup>2</sup> )	Number of samples	Percentage of storm events
<b>Regular fertilizer application sites</b>										
2	424652088333901	Wooded lawn	Hebron loam, gravelly	69	21	65	6	150	10	67
3	424650088333501	Lawn	Hebron loam	32	9	90	8.5	180	8	80
5	424616088334201	Wooded lawn	Casco-Rodman loam-silt loam	66	20	100	9	114	8	33
8	424541088334602	Golf course lawn	Casco-Rodman loam-silt loam	35	20	100	9.5	250	15	63
9	424541088334601	Golf course lawn	Casco-Rodman loam-silt loam	78	24	100	9.5	186	9	54
10	424514088334001	Swale	Casco-Fox silt loam	--	5	--	--	8 acres	9	69
11	424518088334301	Swale	Casco-Fox silt loam	--	4	--	--	38 acres	10	77
12	424519088334101	Lawn	Casco-Fox silt loam	28	16	100	10	104	1	8
15	424654088343103	Lawn	Fox silt loam	11	11	60	6	152	5	24
<b>Nonphosphorus-fertilizer application sites</b>										
6	424611088334001	Wooded lawn	Casco-Rodman loam-silt loam	20	14	80	7.5	250	18	67
13	424603088340201	Wooded lawn	Casco-Rodman loam-silt loam	21	34	60	5	140	15	54
14	424623088345101	Wooded lawn	Casco-Rodman loam-silt loam	70	14	85	8	225	8	30
<b>Unfertilized sites</b>										
1	424652088334401	Grass field	Fox sandy loam	65	9	100	7	128	2	13
4	424643088333601	Wooded lawn	Casco-Rodman loam-silt loam	38	12	85	8	188	6	47
7	424543088334001	Wooded lawn	Casco-Rodman loam-silt loam	14	22	70	6	209	12	46
16	424654088343101	Wooded	Rodman-Casco loam/sand, gravel	28	41	95	1	200	9	33
17	424654088343102	Wooded	Rodman-Casco loam/sand, gravel	24	33	95	1	300	13	48
18	424654088343104	Wooded	Rodman-Casco sandy, gravelly	16	30	65	2	140	7	28

<sup>a</sup>From Hazzel, 1971.

<sup>b</sup>50–75 ppm P optimum recommendation for turfgrass. Analysis by Soil and Plant Laboratory, University of Wisconsin, Madison.

least 5 percent, and sample catchment area was not affected by runoff from rain gutters, driveways, or other lawns or sources. A soil sample collected at the time of sampler installation was analyzed for soil texture, pH, and phosphorus content by the University of Wisconsin Soil and Plant Analysis Laboratory. A visual vegetative soil-cover density, in percent, and a turf-quality rating were assigned to each lawn during visits. Turf quality was based on a 1 to 10 scale: for example, a score of 10 represented 100 percent best-quality green grass cover, 5 represented 50 percent grass cover with bare spots, weeds, and dead grass providing additional cover, and 1 indicated no turfgrass cover, with dead grass, weeds, and other vegetation providing primary soil cover. The more heavily fertilized sites (5, 8, 9, 12) had the best turf-quality ratings. Various physical characteristics of the sampling sites are summarized in table 1.

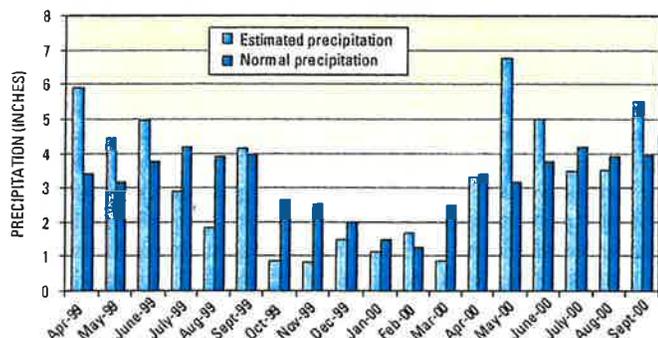
remainder of the season. In 2000, rainfall amounts for May, June, and September were substantially above average (fig. 5). Ten runoff events occurred from 12 storms in the 1999 sampling season and 13 runoff events occurred from 15 storms in 2000; generally, the storms in 2000 were larger than those in 1999. A storm event was defined as more than 0.3 inches of rain, and a runoff event as one that resulted in at least two runoff samples with sufficient volume for analysis (about 100 ml). A summary of the storm dates and precipitation amounts is given in table 2.

Although measurement of quantity of runoff was not part of this study, a qualitative evaluation of runoff may be obtained by comparing the

## Nutrient Concentration in Runoff

### Rainfall and Runoff

Long-term precipitation records from the National Weather Service stations at Whitewater (about 9 miles northwest of Lauderdale Lakes) and Lake Geneva (about 13 miles southeast) were used to estimate rainfall at Lauderdale Lakes (National Oceanic and Atmospheric Administration, 1999–2000). Data from a recording rain gage at a USGS streamflow-gaging station at Jackson Creek near Elkhorn (9 miles south) was used after the rain gage was installed on May 25, 1999. Rainfall was above the 1961–90 average for April, May, and June 1999 and near or below average the



**Figure 5.** Estimated monthly precipitation at Lauderdale Lakes, Wis., during 1999–2000 compared to normal monthly precipitation.

**Table 2.** Storm information and number of sites with runoff samples at Lauderdale Lakes, Wis., 1999–2000 [est, estimated]

Storm number	Storm start date	Total precip amount (inches)	Number of sites with runoff samples
99S1	4/9/1999	0.86 <sup>a</sup>	4
99S2	4/22/1999	3.73 <sup>a</sup>	9
99S3	5/12/1999	0.63 <sup>a</sup>	3
99S4	5/16/1999	0.80 <sup>a est</sup>	4
99S5	5/17/1999	0.66 <sup>a est</sup>	3
99S6	6/1/1999	0.70	8
99S7	6/10/1999	3.35	6
99S8	7/17/1999	1.11	4
99S9	8/13/1999	0.37	5
99S10	9/27/1999	3.66	11
00S1	2/21/2000	2.0 <sup>b</sup>	11
00S2	4/19/2000	2.59	2
00S3	5/9/2000	1.36	9
00S4	5/18/2000	1.95	5
00S5	5/27/2000	3.85	14
00S6	6/11/2000	1.95	9
00S7	7/2/2000	1.40	12
00S8	7/10/2000	1.33	5
00S9	7/31/2000	1.62	3
00S10	8/5/2000	1.17	16
00S11	8/17/2000	0.70	5
00S12	9/11/2000	1.94	17
00S13	9/22/2000	1.89	9

<sup>a</sup> Measured at Whitewater.

<sup>b</sup> From 6 inches snowmelt and light rain.



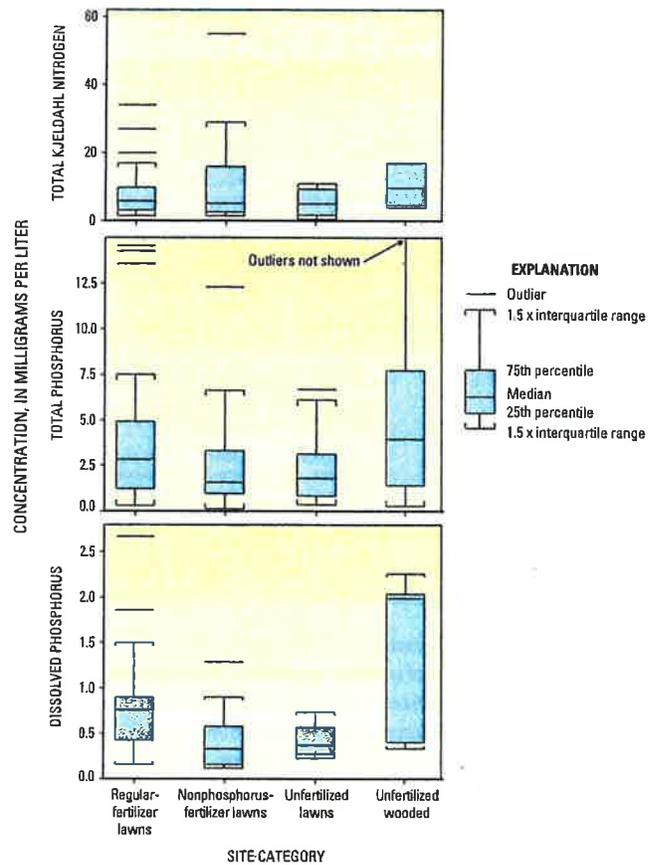
**Figure 6.** Site 12 at Lauderdale Lakes, Wis.—an example of high-quality turfgrass.

number of sites where runoff was sampled for each storm (table 2) and the number of storms sampled at each site (table 1). The magnitude of runoff is dependent on a combination of factors including rainfall amount and intensity, soil-surface storage and detention, and infiltration rate. Infiltration is affected by soil type, vegetative cover, slope, and other factors (Haan, Barfield, and Hayes, 1994, p. 52–54). In general, sites with dense vegetative cover and coarse soils with high infiltration rates produced less runoff. Specifically, site 12 of the fertilized sites (fig. 6), which had the best-quality turf and fertilizer applications of 4 times per year, produced the least runoff (only 8 percent of all storms). Other sites (5, 8, 9) with high turf quality and density produced more frequent runoff samples, possibly because of steeper slopes or other factors. At six of the lawn sites, more than 50 percent of the storm events produced runoff.

The phenomenon of soil-water repellency, or hydrophobicity, was observed at many of the lawn sites, especially after dry periods. Water repellency of soils reduces affinity to water so that the soil resists wetting, thus reducing infiltration capacity, decreasing plant growth, and increasing surface runoff. The phenomenon has been widely accepted as a problem for many soils in seasonally dry climates. Soils with grass cover in temperate climates have recently been found to develop resistance to wetting—a common problem known as “localized dry spot” on golf courses (Doerr, Shakesby and Walsh, 2000; Kostka, 2000). Therefore, water repellency could be an additional factor influencing runoff from residential lawn soils (L.F. DeBano, University of Arizona, oral commun., 2001). At Lauderdale Lakes, there was also some indication that lawn shading by trees and less frequent use of fertilizer (sites 6, 7, and 13) resulted in less dense and patchy turf cover, increasing runoff. In ongoing turf studies at the University of Wisconsin (W.R. Kussow, Department of Soil Science, written commun., 2000), researchers found that not fertilizing turfgrass caused thinning of the turf, increased the amount of runoff, and increased nitrogen and phosphorus loss. Generally, the percentage of storms resulting in surface runoff from many of the lawns was higher than expected. Runoff from lawns may occur more frequently than previously thought because of the complex interaction of many factors.

### Nutrient Concentrations in Runoff and Effects of Fertilizer Use

Summary statistics of nutrient concentrations measured in runoff from different site categories are given in table 3 and compared in figure 7. Detailed data for each of the sites were published annually in the U.S. Geological Survey Water-Data Reports (Holmstrom and others, 2000; Garn and others, 2001). There was a wide range in concentration of most nutrients among storms during the study period. Given this variability, geometric means or medians are more meaningful for comparison because they are better estimates of central tendency than arithmetic means. The nonparametric Kruskal-Wallis test was used to test for overall differences in concentration distributions, and the Wilcoxon rank sum test was used to test



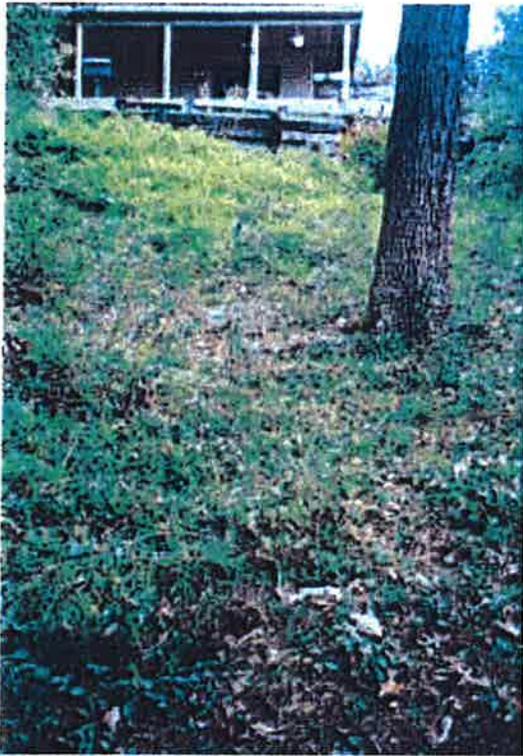
**Figure 7.** Nutrient concentrations in runoff from different categories of sampling sites at Lauderdale Lakes, Wis.

for differences in medians between pairs of lawn categories (P.W. Rasmussen, Wisconsin Department of Natural Resources, written commun., 2001). A confidence level of 10 percent ( $p = 0.10$ ) was chosen to evaluate the results of the statistical tests. The difference in medians for samples from two different lawn categories was considered statistically significant if  $p$  values were less than 0.10.

A quality-control study was done to determine nutrient-concentration effects of grass clippings, earthworms, and insects that managed to get into water samples. All of these contamination sources had a large effect by increasing nitrogen and phosphorus concentrations. Samples that were affected by these contamination sources, identified from field notes, were excluded from data analysis, but the exclusions did not significantly change the overall results.

No significant differences in concentration among lawn categories were found for any of the nitrogen species. Fertilizer use did not affect total nitrogen concentrations in runoff. In addition, nitrite plus nitrate concentrations in runoff were generally low.

Dissolved phosphorus concentrations were significantly different ( $p = 0.02$ ) among the lawn categories. Moreover, the median concentration of dissolved phosphorus from regular-fertilizer sites (0.77 milligram per liter (mg/L)) was significantly greater than that from nonphosphorus-fertilizer sites (0.33 mg/L) and unfertilized lawn sites (0.38 mg/L). Total phosphorus in runoff from regular-fertilizer sites compared to nonphosphorus-fertilizer and to unfertilized-lawn sites had  $p$ -values of 0.11 and 0.14, respectively. Thus, median total phosphorus concentrations were not significantly different at  $p < 0.1$ . Dissolved phosphorus was a fraction of total phosphorus, and its concentrations ranged from 22 to 45 percent of total phosphorus for all lawn categories.



**Figure 8.** Dense understory vegetation on wooded slope of sites 16 and 17 at Lauderdale Lakes, Wis.

The median dissolved phosphorus concentration in lawn runoff from regular-fertilizer sites was twice that for unfertilized and nonphosphorus-fertilizer sites. Runoff from lawn sites with nonphosphorus-fertilizer applications had a median dissolved phosphorus and total phosphorus concentration that was similar to unfertilized sites. Dissolved phosphorus in runoff is important because it is readily available for plant growth. Although not significant at  $p < 0.1$ , lawn sites with regular fertilizer applications had a median total phosphorus concentration in runoff that was 1.6 times that for unfertilized sites and 1.8 times that for nonphosphorus-fertilizer sites.

In comparison with other studies, phosphorus concentrations in lawn runoff at Lauderdale Lakes were slightly higher than concentrations found in runoff from urban lawns in Madison, Wis. (Waschbusch, Selbig and Bannerman, 1999), but were similar to those in lawn runoff from suburban lawns in Minneapolis/St. Paul, Minn. (Barten and Jahnke, 1997). Surprisingly, nutrient concentrations in runoff from the unfertilized, steep, wooded hillsides (sites 16, 17, and 18) were higher than those from the lawn sites and thus were separated from the unfertilized lawn sites in the data comparisons. These wooded sites (fig. 8) may be different from other wooded sites because of their steep slopes, thick surface organic and litter layer, and dense understory vegetation (crown vetch) planted for erosion control. Waschbusch, Selbig, and Bannerman (1999) found a direct relation between phosphorus concentration and percentage of overhead tree canopy that could affect source-area concentrations. In the Lauderdale Lakes study, however, all lawn categories contained sites with overhead tree canopy, and the lawn sites treated with regular fertilizer had the fewest trees; therefore, differences between regular-fertilizer sites and the other lawn sites could be even greater if there was an effect from tree cover.

Total phosphorus concentration in lawn runoff had a significant ( $p = 0.08$ ) relation to soil-phosphorus concentration (table 1); total dissolved phosphorus had no significant relation. The low category of soil-phosphorus concentration (0 to 24 parts per million (ppm)) had a significantly lower median concentration of total phosphorus in lawn runoff (about half) than

the medians from medium (25-65 ppm) or high (66 ppm or more) soil-phosphorus concentration lawns. There was no significant difference between runoff concentrations from medium and high soil-phosphorus concentration lawns. Barten and Jahnke (1997) also found a significant difference in concentration of phosphorus in runoff from different categories of lawn soil fertility. In their study, total and soluble reactive phosphorus concentrations in runoff from high soil-phosphorus concentration lawns were twice as large as the concentrations in runoff from low soil-phosphorus concentration lawns.

Median nutrient concentrations from the Don Jean Bay swale area with mixed land use were more similar to those from the unfertilized wooded sites and fertilized lawn sites than to those from other lawn sites (table 3). The range in concentrations for ammonia nitrogen and total Kjeldahl nitrogen in runoff from the swale, however, was greater than those for the other sites.

Although it was not within the scope of this study to measure runoff volumes from each of the sites and quantify the mass of nutrients transported offsite, the concentration data will be useful for future computations of unit-area loads (that is, mass of a particular nutrient species per unit contributing area). Concentrations of nutrients from lawns observed in this

**Table 3.** Statistical summary of nutrient concentrations in runoff from different site categories, Lauderdale Lakes, Wis. [n, number of samples; TKN, total Kjeldahl nitrogen; NO<sub>2</sub>, nitrite nitrogen; NO<sub>3</sub>, nitrate nitrogen; TP, total phosphorus; Diss P, dissolved phosphorus; all concentrations in milligrams per liter]

Regular-fertilizer lawn sites					
	Ammonia N	TKN	NO <sub>2</sub> + NO <sub>3</sub>	TP	Diss P
Geometric mean	1.11	5.9	0.09	2.57	0.7
Median	1.07	5.9	0.12	2.85	0.77
Mean	2.18	8.6	0.17	4.02	0.93
Max	14.5	34	0.56	23.2	3.32
Min	0.05	1.5	0.01	0.31	0.17
n	23	23	23	58	23
Nonphosphorus-fertilizer lawn sites					
	Ammonia N	TKN	NO <sub>2</sub> + NO <sub>3</sub>	TP	Diss P
Geometric mean	1	6.5	0.14	1.89	0.34
Median	0.93	5.2	0.14	1.58	0.33
Mean	3.95	12.2	0.57	3.3	0.45
Max	36.2	55	5.22	23.5	1.29
Min	0.04	1.5	0.14	0.14	0.12
n	14	14	14	38	15
Unfertilized lawn sites					
	Ammonia N	TKN	NO <sub>2</sub> + NO <sub>3</sub>	TP	Diss P
Geometric mean	0.76	4.08	0.12	1.73	0.4
Median	0.63	5.1	0.14	1.81	0.38
Mean	1.12	5.85	0.17	2.33	0.43
Max	2.98	11	0.4	6.69	0.74
Min	0.22	0.53	0.01	0.36	0.23
n	9	9	9	19	8
Unfertilized wooded sites					
	Ammonia N	TKN	NO <sub>2</sub> + NO <sub>3</sub>	TP	Diss P
Geometric mean	2.95	12.7	0.16	3.52	1.04
Median	4.38	9.8	0.24	3.98	1.99
Mean	5.33	29.3	0.9	6.78	1.4
Max	11.6	130	2.24	30.6	2.26
Min	0.41	4.1	0.01	0.3	0.33
n	5	6	5	28	5
Don Jean Bay swale sites					
	Ammonia N	TKN	NO <sub>2</sub> + NO <sub>3</sub>	TP	Diss P
Geometric mean	3.48	14.5	0.06	2.46	0.49
Median	3.96	19	0.04	2.66	0.41
Mean	11.91	31.3	0.15	3.55	0.91
Max	88.1	160	0.6	9.07	3.33
Min	0.56	2	0.01	0.37	0.18
n	11	11	10	19	9

study are much greater (by 3 to 5 times) than the estimated concentrations used to calculate total phosphorus load from surface runoff to Lauderdale Lakes in a previous study by Garn and others (1996, p. 16). All of the nutrient load from lawn runoff may not actually reach or be deposited in the lake because of varying flowpaths, soil permeability, breaks in slope, vegetative buffers, and other obstructions; however, in many cases, lawns extend and slope continuously to the water's edge to provide a direct source of loading.

The annual phosphorus load from the nearshore area of Lauderdale Lakes may be greater than the 430 pounds previously estimated. Using a revised median concentration of 2.3 mg/L for surface runoff from an estimated 220 acres of developed shoreline (67 percent of shoreline) within 200 feet from the edge of water, annual total phosphorus load from residential lawns could be as much as 370 pounds (assuming all of the phosphorus reaches the lake). If a delivery of 50 percent of the load is assumed, and the total surface-water load is recomputed using the surface runoff values from the previous study, the total annual surface-water load from the nearshore drainage area would be 620 pounds, which represents 60 percent of the total annual phosphorus input from all sources. Studies at Lauderdale Lakes and several other ongoing studies by the USGS in Wisconsin will provide additional information on the effects of lawns and shoreline development on nutrient loads to lakes.

## Limitations of Results

- Many runoff samples (about 30 percent) overflowed the collecting bottle and may not be truly representative of the mean concentration from each storm. According to T.D. Stuntebeck (U.S. Geological Survey, unpub. data, 2002), overflow samples for suspended solids and total phosphorus had higher concentrations than those from samples that did not overflow the container, but the opposite was true for dissolved phosphorus. Barten and Jahnke (1997) also found that overflow samples had lower concentrations for some constituents. Overflow occurred, however, for all categories of sites, and differences noted could potentially be even greater.
- The number of samples for some categories was relatively small for rigorous statistical analysis, and the small numbers could lead to inconsistencies among comparisons for different pairs of categories.
- Nutrient-concentration data are for onsite runoff and should be used with caution when making offsite interpretations. Not all of the nutrient load from lawn runoff may actually enter the lake.
- Some changes in nutrient species composition affecting dissolved constituents may have occurred in those samples that were not collected within 2 days after a storm.

## Conclusions

- A high percentage of storms resulted in surface runoff from many of the lawns. Runoff from lawns may occur relatively frequently, more than 50 percent of the storms for many lawns.
- Fertilizer use did not affect nitrogen concentrations in runoff. Nitrite plus nitrate concentrations in runoff were generally low.

## Information

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- Total phosphorus concentration in lawn runoff was directly related to the phosphorus concentration of lawn soils.
- Dissolved phosphorus concentrations were significantly different among the lawn categories; the median from regular-fertilizer sites was twice that from unfertilized or nonphosphorus-fertilizer sites.
- Runoff from lawn sites with nonphosphorus fertilizer applications had a median total phosphorus concentration that was similar to that of unfertilized sites, an indication that nonphosphorus fertilizer use may be an effective, low-cost practice for reducing phosphorus in runoff.

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