Received after August 30th Public Hearing

Laura Lievero
1203 North 38th Street
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RECEIVED
SEP 01 2010
CITY OF BURIEN

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

File No. Burien Shoreline Master Program

I have personally witnessed Lake Burien flourish into a habitat of eagles, herons, and other animal species that were not living there over forty years ago. The property owners along the shores of Lake Burien have taken excellent care of the ecological system within the lake and along its shores. I sincerely doubt that the public is able to do the same.

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 prefect 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. Introduction of invasive weeds that choke off the waterway, destroy oxygen levels in the lake and destroy wildlife,
2. 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. Introduction of 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. Boating contamination, speed and density issues that create habitat destruction and trauma to wildlife as well as serve at 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. Exceeds the carrying the 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. Increased turbidity to the water by 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,

L. A. Lievero

Laura Lievero

Janet Stallman

From: Public Council Inbox
: Chloe Swain
bject: RE: Public Access to Lake Burien

Ms. Swain,

Thank you for your comments. Your email will be included in the next agenda packet as Correspondence for the Record. The SMP document does not preclude the City from pursuing physical access to the lake in the future.

Janet S.

From: Chloe Swain [mailto:chloe@thegsdgroup.com]
Sent: Thursday, September 02, 2010 10:48 PM
To: Public Council Inbox
Subject: Public Access to Lake Burien

Hello,
I haven't been able to discern from looking through the current iteration of the SMP whether or not there is any possibility that at some point the majority of the citizens of Burien (i.e. those who don't own property on the lake) will ever have physical access to the lake itself. Can you tell me whether or not this is a possibility based on the SMP?
In the meantime, before any land would be available to provide public access, I propose a public art project. On the side of the road closest to the chain-link fence with the "private property" sign on it (the only view the rest of us have of our 'e other than on Google maps), where SW 156th St curves into 12th Ave SW is where the art piece would stand. It uld be similar in concept to the "Waiting for the Interurban" statue in Fremont. Only we would call it "Waiting for our lake". Maybe a statue of a family sitting on the bench staring through the fence longingly? The property adjacent to the fence belongs to the city. Why not use it to express what the majority of us feel?

Thanks for your time and tireless effort on the thankless endeavor known as the SMP.

Regards,
Chloe Swain

CFTR: 09/13/10

To: The Burien City Council
David Johanson

RE: August Draft of the Burien Shoreline Master Plan, Invasive Species to Lake Burien, The Importance of Shoreline Buffers and Setbacks

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CITY OF BURIEN

From: Chestine Edgar

September 8, 2010

At the August 16, 2010 City Council Meeting/Public Hearing on the August Draft of the Burien SMP, there was testimony given regarding the lack of importance of invasive species to Lake Burien and the lack of importance of shoreline buffers and setbacks to Lake Burien and the Urban Conservancy. As a result of that testimony, the Council stated that they needed some time to think about what they had heard. Additionally, there appeared to be some doubt by some of the Council members that there was not solid scientific evidence to support that invasive species were really a concern for Lake Burien and that shoreline buffers and setbacks worked and were of importance to protecting water quality, property values and public health and safety in our shorelines.

Attached are a series of articles relating to the cost of invasive species in the U.S.A. Additionally, the article on the spread of invasive species by boat that the speaker at the public hearing claimed could not be found or referenced is attached.

Topic 1-Invasive Species

Titre du document / Document title

Aquatic Invasive Species, Transport via Trailered Boats: What Is Being Moved, Who Is Moving It, and What Can Be Done

Auteur(s) / Author(s)

ROTHLISBERGER John D. ; CHADDERTON W. Lindsay ; MCNULTY Joanna ; LODGE David M. ;

Résumé / Abstract

Trailered boats have been implicated in the spread of aquatic invasive species. There has been, however, little empirical research on the type and quantity of aquatic invasive species being transported, nor on the efficacy of management interventions (e.g., inspection crews, boat washing). In a study of small-craft boats and trailers, we collected numerous aquatic and terrestrial organisms, including some species that are morphologically similar to known aquatic invasive species. Additionally, a mail survey of registered boaters (n = 944, 11% response rate) and an in-person survey of boaters in the field (n = 459, 90% response rate) both indicated that more than two-thirds of boaters do not always take steps to clean their boats. Furthermore, we used a controlled experiment to learn that visual inspection and hand removal can reduce the amount of macrophytes on boats by 88% ± 5% (mean ± SE), with high-pressure washing equally as effective (83% ± 4%) and low-pressure washing less so (62% ± 3% removal rate). For removing small-bodied organisms, high-pressure washing was most effective with a 91% ± 2% removal rate; low-pressure washing and hand removal were less effective (74% ± 6% and 65% ± 4% removal rates, respectively). This research supports the widespread belief that trailered boats are an important vector in the spread of aquatic invasive species, and suggests that many boaters have not yet adopted consistent and effective boat cleaning habits. Therefore, additional management efforts may be appropriate.

Revue / Journal Title

Fisheries ISSN 0363-2415

Source / Source

2010, vol. 35, n°3, pp. 121-132 [12 page(s) (article)]

Langue / Language

Anglais

Editeur / Publisher

American Fisheries Society, Bethesda, MD, ETATS-UNIS (1976) (Revue) **Titre du document / Document title**

The previous article makes the point that 67% of boaters do not regularly clean their boats. Additionally, the boats that were cleaned with high pressure at 104 degrees were still not 100% free of invasive organisms. However, boats are not the only means for the movement of invasive species to new areas. They also are carried by fishing and water sports equipment and animals such as dogs.

The next article discusses the steps that need to be followed to prevent the transport of invasive plants such as Eurasian Milfoil, Brazilian Elodea, etc.

CENTER FOR INVASIVE PLANT MANAGEMENT

www.weedcenter.org

Invasive Plant Prevention Guidelines[1]

Compiled by Janet Clark
Director, Center for Invasive Plant Management
Bozeman, Montana
September 2003

Introduction

The most effective, economical, and ecologically sound approach to managing invasive plants is to prevent their invasion in the first place. Often landowners and land managers direct limited resources into fighting firmly established infestations. By that stage, management is expensive and eradication is probably impossible. Certainly it is necessary to manage infestations to limit the spread of invasive plants – which are often categorized as "weeds" – into non-infested areas. However, limited resources might be spent more efficiently on proactive weed management that controls existing weed infestations but also focuses strongly on prevention or early detection of new invasions.

Elements of a proactive weed prevention plan include:

- limiting the introduction of weed seeds into an area;
- early detection and eradication of small patches of weeds;
- minimizing disturbance of desirable vegetation along roadsides, trails, and waterways;
- managing land to build and maintain healthy communities of native and desirable plants to compete with weeds;
- careful monitoring of high-risk areas such as human and animal transportation corridors and disturbed or bare ground;
- revegetating disturbed sites with desirable plants; and
- evaluating annually the effectiveness of the prevention plan so appropriate adaptations can be implemented the following year.

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[1] This guide is based on the USDA Forest Service "Guide to Noxious Weed Prevention Practices." Thanks to reviewers Steve Dewey (Utah State University), Kim Goodwin and Roger Sheley (Montana State University), Tony Svejcar (USDA Agricultural Research Service), and Steve Radosevich (Oregon State University); and to Rita Beard (USDA Forest Service) for initiating this compilation.

Invasive Plant Prevention: Water

Aquatic Recreation

To prevent new weed infestations and the spread of existing weeds, avoid or remove sources of weed seed and propagules from recreation equipment. Avoid moving weeds from one body of water to another.

- **Inspect boats (including air boats), trailers, and other boating equipment and remove any visible plants, animals, or mud before leaving any waters or boat-launching facilities. Drain water from motor, live well, bilge, and transom wells while on land before leaving the vicinity. Wash and dry boats, tackle, downriggers, anchors, nets, floors of boats, props, axles, trailers, and other boating equipment to kill weeds not visible at the boat launch.**
- Encourage boat-launching facilities to provide proper washing equipment and kiosks that describe proper and thorough cleaning.
- **Before transporting to new waters, rinse boat and boating equipment with hot (40°C or 104°F) clean water, clean boat or trailer with a pressure washer, or dry boat and equipment for at least five days.**
- Inspect seaplanes and remove weeds from floats, wires, cables, water rudders, and pump floats; wash with hot water or spray with high-pressure water, or dry for at least five days.
- Avoid taxiing seaplanes through heavy surface growths of weeds before takeoff; raise and lower water rudders several times to clear off plants. If weeds were picked up during landing, clean off the water rudders before take-off and leave the water rudders up during take-off. If water rudders were down during take-off, raise and lower water rudders several times to free weed plant fragments while over original body of water or over land. If weeds remain visible on floats or water rudders, the pilot may return to flight origin and remove plants if an extra landing and takeoff is not a safety concern.
- Maintain a 100-foot weed-free clearance around boat launches and docks.
- Promptly post sites if aquatic invasive weeds are found. Confine an infestation; where prevention is infeasible or ineffective, close the facility until the infestation is contained.
- **Wash and dry fishing tackle, downriggers, float tubes, waders, and other equipment to remove or kill harmful species not visible at the boat launch.**
- Avoid running personal watercraft through aquatic plants near boat access locations. Instead, push or winch watercraft onto the trailer without running the engine. After the watercraft is out of the water, start the engine for 5 to 10 seconds to blow out any excess water and vegetation. After engine has stopped, pull weeds out of the steering nozzle. Inspect trailer and any other sporting equipment for weed fragments and remove them before leaving the access area. Wash or dry watercraft before transporting to another body of water.
- Waterfowl hunters may use elliptical, bulb-shaped, or strap anchors on decoys because these types of anchors avoid collecting submersed and floating aquatic plants. **Remove aquatic plants and rinse mud from waders and hip boots before leaving the water. Remove aquatic plants, animals, and mud attached to decoy lines and anchors.**
- **Divers should clean their equipment after each use. Be especially careful to wash the buoyancy control device and other items that retain water. All gear should be rinsed with water heated to at least 140° F and everything should be allowed to dry completely between dives.**
- Construct new boat launches and ramps at deep-water sites. Restrict motorized boats in lakes near areas that are infested with weeds. Move sediment to upland or quarantine areas when cleaning around culverts, canals, or irrigation sites. Clean equipment before moving to new sites. Inspect and clean equipment before moving from one project area to another.
- **Drain the water in bait buckets, live wells, and transom wells on land or back into the water from which it was taken.**
- **Avoid dumping aquarium water or aquatic plants into local waters. Many plants for water gardens and aquaria are highly invasive.**

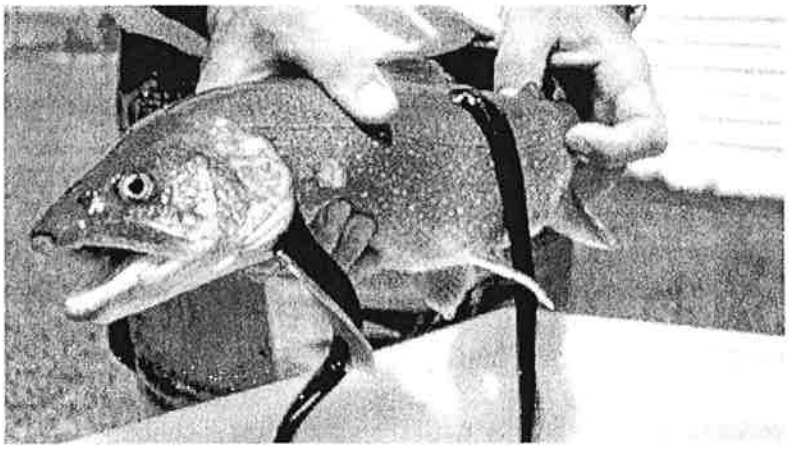
The following two articles are just two of hundreds of articles that discuss the annual cost of invasive species to the USA government and tax payers. Invasive species to Lake Burien are a real and expensive hazard to the lake, wildlife residents, water quality and public. If the Council would like more scientific data on this topic, please feel free to contact me.

Wild Life FORBES

When Invasive Species Attack

Daniel Fisher, 04.13.10, 12:00 PM EDT

From the Great Lakes to the Gulf Coast, these invasive species are crowding out the natives, chowing down on houses and ruining the fishing.



In Pictures: America's Most Dangerous Aliens

It's easy to grasp the menace posed by swarms of fire ants, with their nasty, venomous sting and strange appetite for electrical wiring, and feral pigs, fierce, tusked behemoths that out-eat most of their natural competitors and trample fields and pastures. But rock snot?

A slimy brown algae from Europe properly known as Didymosphenia geminata, rock snot is one of the most aggressive invasive species threatening the U.S. today. Just one cell carried in on the sole of a fisherman's boot can quickly fill a pristine trout-fishing stream with a bank-to-bank mass the consistency of wet toilet paper, smothering food sources that aquatic insects and fish depend on.

Like many invasive species, rock snot is no problem in its native environment, where there are natural limits on its growth. Introduce these species into a new area, and they can run rampant, killing native species and interfering with human infrastructure like croplands and water pipes.

The U.S. government spent $1.2 billion fighting invasive species in 2006, the most recent year for which comprehensive statistics are available. Cornell University agriculture expert David Pimentel estimates the total annual cost of invasive species at $120 billion a year. That's roughly equivalent to the damage caused by Hurricane Katrina.

Pimentel's definition of invasive species is fairly broad, including, among other things, infectious diseases and cats (the annual cost of house cats: $17 billion, if you think the songbirds they kill are worth $30 apiece). The worst invasive on his list is the Norwegian rat, at $19 billion in damages a year,

but since rats probably arrived on these shores aboard the first Pilgrim ship, most Americans would likely consider them domesticated by now.

Some of the newest invaders that are wreaking the most havoc are attacking the Great Lakes, which are essentially large puddles of fresh water left over from when glaciers melted at the end of the last ice age, 10,000 years ago. Lacking the more complex ecosystems of the oceans, these lakes are highly vulnerable to invaders like the sea lamprey, a nasty-looking sucker that has devastated commercial fishing since it first invaded the Great Lakes via the Erie Canal in the early 1920s. (On the East Coast, the lamprey is not considered a pest.)

One of the costliest invasives has been Zebra mussels, fast-growing mollusks from Eastern Europe that are believed to have hitched a ride into the Great Lakes aboard a seagoing freighter in 1997. The people of Monroe, Mich., discovered their reproductive powers the next year when their municipal water system went dry because of an invasion of the mussels.

With no natural predators, zebras can rapidly clog even enormous pipes like the 3-foot main serving Monroe. Utilities spend millions of dollars each year removing them from the water intakes of power plants, and the total annual cost of dealing with these otherwise useless clams is estimated to be $1 billion.

The good news is zebra clams only like shallow water, so municipalities can push their pipes further out into the Great Lakes to avoid them. The bad news is a close relative, the quagga mussel, is rapidly displacing zebra mussels, and it can grow at any depth. Quaggas have been discovered as far west as Lake Havasu in California, possibly carried there on a fisherman's outboard motor boat.

If they can find some dark moist place to hide, they can survive two weeks," says David Reid, a retired invasive-species expert with the National Oceanic and Atmospheric Administration's Great Lakes Environmental Research Lab in Ann Arbor, Mich.

Three species of Asian carp--including one that tends to leap in the air when startled, creating a threat to passing motorboaters--have spread up and down the Mississippi River and are now threatening Lake Michigan via the Chicago Sanitary and Ship Canal. The federal government plans to spend more than $20 million building physical and electric barriers to keep the bottom-feeders from further devastating the commercial fishing industry.

Plant invaders regularly sweep through commercially useful crops. One of the worst recent scourges is the innocuous-looking purple loosestrife, brought to the U.S. in the early 1800s as a decorative plant. It's fine in a house garden, but when it invades wetlands it can take over, creating a purple-blossomed monoculture where once there were many different species of plants and animals.

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SOURCE:
NATIONAL BIOLOGICAL INFORMATION INFRASTRUCTURE 9-8-10

Natural ecosystems are under siege by many harmful species of plants, animals and diseases. The impacts of invasive species are second only to habitat destruction as a cause of global biodiversity loss.

The current environmental, economic, and health costs of invasive species could exceed $US138 billion per year, more than all other natural disasters combined. Notorious examples include:

- West Nile virus and purple loosestrife (Northeast)
- Kudzu, water hyacinth, nutria, and fire ants (Southeast)
- Zebra mussels and leafy spurge, (Midwest)
- Salt cedar, Russian olive, and Africanized honeybees (Southwest)
- Yellow star thistle, Asian clams, and sudden oak death (California)
- Cheatgrass and knapweeds (Great Basin)
- Whirling disease of salmonids (Northwest)
- Hundreds of species like Coqui frogs (Hawaii)
- The brown tree snake (Guam)

Hundreds of new species from other countries are introduced intentionally or accidentally into the US each year. And many species originating in the US have been introduced into other parts of the world. This threat intensifies the need for scientists, managers, and the many stakeholders to rally together to build better systems for invasion prevention, improve early detection of invaders, track established invaders, and coordinate containment, control, and effective habitat restoration.

Topic 2-Shoreline Buffers and Setbacks

The paper presented by SNR Company speaker was not clear in its purpose. The speaker stated that he was there to discuss the merits of lawn over naturally occurring vegetation in the Puget Lowlands shorelines. However the title of the paper he was representing is "Shoreline Buffers". The major criticism of the paper's author (a different person than the speaker at the hearing) is that there is no documented research that has been done in the Puget Lowlands on buffers. However, there was no discussion about lawns in his Puget Lowlands paper but there is an attached USGS article relating to lawns in Wisconsin. **By the author's own standard this is an invalid article to attach because it not happen in the Puget Lowlands.** Additionally in reviewing the author's qualifications of 29 years noted in the paper, he has spend very little of his career doing field work/active research in the Puget Lowlands. This explains why he may be unaware of the extensive amount of research that has been done on the Puget Lowlands by the University of Washington, Washington State University and King County. **One such article that he might consider reviewing is, "Urbanization alters litterfall rates and nutrient inputs to small Puget Lowland Streams." Roberts and Bilby. October, 2009.** This study demonstrates that the historical native tree vegetation in the studied Puget Lowland Streams causes far fewer environmental issues than imported types of vegetation. The author of the paper also identifies himself as being strongly affiliated with the BIAW, MBA and the Pacific Legal Foundation. He teaches for these groups. All of these groups are extremely conservative groups opposed to environmental and government regulation.

Attached are a list of articles that the Council might consider reviewing about buffers and setbacks. Some of these articles are compilations of a number of studies rather than single pieces of research. Simply because they are compilations, does not make them invalid scientific research. As long as the authors of the original studies are cited (available for further examination) in the compilation, the validity of the document is solid.

WAC 173-26-201(2)(c) under Basic Concepts and Protection of Ecological Functions.

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. 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/EcoNatResidx?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')&idin=29082. Widths – pp. 222 – 223; Functions and development impacts: pp. 24 – 150.

Streams and Lakes: Spence, B. C., G. A. Lomnicky, 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/. 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.

There are literally hundreds of articles and modeling exercises on how buffers work. Again if the Council would like additional sources to read, please feel free to contact me or the University of Washington.

Lastly, there appears to be some confusion about what is the purpose of a setback by some members of the Council. Buffers are created as protections for wildlife, erosion control, water quality and aquifer protection. If development is allowed right at where the buffer begins, there is no room for the equipment of workers to work on the project because they cannot work in the buffer. Therefore setbacks are put in place to allow for the movement of machinery and humans around the area they are trying to develop. They are needed for the work to be accomplished outside of the buffer.

Once again, I am requesting that the setbacks on Lake Burien and the Urban conservancy be restored to 15 ft. As is, this is a very small setback for construction work to happen in. The Lake Burien area is a critical area that contains 26+ acres of wetlands and it is also a shoreline under the SMP. Its historical development pattern has never had homes being built at 30ft from the shoreline. **The majority of homes on Lake Burien have an historical 100 ft. setback and 5% impervious surface between SFR and the OHWM. (Grette-Burien SMP Technical Documents 2009, Adolphson,2002). Clearly, this shoreline has never been hardened to 30 ft before.**

C. Edgar