City of Burien, Washington

Shoreline Advisory Committee
Meeting Agenda

Wednesday, February 11, 2009, 4:00 – 6:00 pm

Burien Community Center
425 SW 144th Street, Room 9
(206) 241-4647

MEETING # 5

(1) SIGN IN/ROLL CALL - (5 min.)

(2) CONFIRM AGENDA - (5 min.)

(3) REVIEW AND APPROVE MEETING #4 SUMMARY - (5 min.)

(4) SHORELINE MASTER PROGRAM UPDATE, PROGRESS REPORT AND RECAP - (5 min.)

(5) SHORELINE RESTORATION PLAN – (20 min.)

(6) CUMMULATIVE IMPACT ANALYSIS – (20 min.)

(7) SHORELINE ENVIRONMENT DESIGNATIONS – (20 min.)

(8) SHORELINE USE AND MODIFICATION POLICIES AND REGULATIONS - (30 min.)

(9) NEXT MEETING - (5 min.)

TENTATIVE DATE: Wednesday, May 13, 2009, 4:00 - 6:00 pm:
Shoreline Advisory Committee Meeting # 6
Burien City Hall
15811 Ambaum Blvd. SW, Suite C

CITY OF BURIEN, WASHINGTON
MEMORANDUM

DATE: February 3, 2009

TO: Burien Shoreline Advisory Committee

FROM: David Johanson, AICP, Senior Planner

SUBJECT: Burien Shoreline Master Program Meeting No. 5

The purpose of this memo is to provide the Shoreline Advisory Committee a summary of your upcoming meeting for Wednesday, February 11, 2009 from 4-6:00 pm.

SPECIAL NOTE: Please note we will be meeting at the Burien Community Center located at 425 SW 144th Street
Room 9

There are two parking options. You may either park in the main lot accessed off of 4th Avenue SW or in the lot accessed from SW 144th Street.

Since our last meeting the consultant team and City staff have been busy preparing a number of items required by the shoreline master program update guidelines and our grant agreement with the Department of Ecology. Attached to your agenda are copies of those draft work products. They are as follows:

- Shoreline Restoration Plan
- Cumulative Impacts Analysis
- Shoreline Environment Designations
- Shoreline Use and Modification Policies and Regulations

Please take the time to review these documents and note any questions you may have. We will be presenting these to you at your next meeting and be available to answer any questions you may have. If you think of questions before our meeting, I encourage you to forward them to me so we can be prepared to answer them at the meeting. You can e-mail me at davidj@burienwa.gov.

The level of input and feedback we are looking for from the Shoreline Advisory Committee is more content based as opposed to detailed editing. Now that the master program is taking some shape we want to ensure that we have addressed all the key shoreline issues important to the Committee.

City of Burien, Washington

Shoreline Advisory Committee
DRAFT
Meeting #4 Summary

September 10, 2008
4:00pm

(1) ATTENDANCE

SAC Members present	Technical Staff Present	Interested Parties Present
Bruce Berglund Jim Branson Cyrilla Cook Joe Fitzgibbon Patrick Haugen David Johanson Rebecca McInteer Emelie McNett Lee Moyer Kim Otto Annie Phillips George Yocum Don Warren Joe Weiss	Liz Ockwell Karen Stewart	

(2) CONFIRM AGENDA

1. The agenda was confirmed

(3) REVIEW AND APPROVE MEETING #3 SUMMARY

1. The meeting summary was accepted as presented with a few clarifying comments
   - Clarification regarding idea of making private beaches available to the public, discussion clarified the statement that maybe there is a way for access to be provided by private owners at specific times.
   - Clarification on potential policy about public access and where it should be provided, the idea was to disperse access equally throughout the city to make it more available to all neighborhoods.

(4) SHORELINE GOALS AND POLICIES, Continued DISCUSSION

1. General Policy Language
   - Policy language is "wishy-washy" - Instead of using 'should', 'shall' should be used instead

- Discussed implications of using should vs. shall language
- Discussion regarding if 'shoreline' be removed from policy language as this document is the Shoreline Master Program

2. 2.13 Shoreline Element
   - *Consensus:* Language defining the shoreline jurisdiction should be added to this section
   - *Consensus:* Language should also be added such as from the Port Townsend SMP to clearly state how this SMP refers to Burien specifically
3. Goals and Policies Applicable to All Master Program Elements
   - *Consensus:* Pol. ALL 1.2 should be changed to "Regulation and management of Burien's shorelines should be guided ~~informed~~ by ongoing and comprehensive science".
   - *Consensus:* Pol. ALL 1.8 should read "When drafting new regulations the City should consider an incentive base system to encourage redevelopment projects to comply with accepted ~~current~~ shoreline best management practices and standards."
4. Economic Development Master Program Use Element
   - Discussion on whether customer service and permitting policies are appropriate in a shoreline document. 5 in favor of keeping 5 in favor of removing.
   - *Consensus:* Was to remove Pol. ED 1.4, however it will remain in city's comp plan but not recommended to be in SMP policies.
5. Public Access Master Program Element
   - *Consensus*: Goal PA.1 should read "Increase and enhance public access to shoreline areas, consistent with the natural shoreline character, private property rights, and public safety
   - *Consensus*: Pol. PA 1.8.b should read "Ensuring that ~~a minimal amount of~~ public parking is available, and that any new parking ~~facilities~~ developed would be harmonious with the surrounding neighborhood"
   - *Consensus*: Pol. PA 1.8.c should read "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 ~~character~~"
6. Recreation Master Program Element
   - *Consensus*: Pol. REC 1.3 should read "Public information and education programs, and relevant

~~attendant~~ enforcement procedures, should be developed ....."

- *Consensus*: Pol. REC 1.7 should read "Trails and pathways on steep shoreline bluffs should be located, designed and maintained to protect bank stability without need for shoreline armoring"

7. Circulation Master Program Element
   - *Consensus*: Pol CI 1.2 should clarified to read "Cross-sound bridges should be prohibited within the Burien shoreline jurisdiction"
   - *Consensus*: Add Pol CI 1.12 to read "Parking for non water dependent uses should be located as far away as feasible from shorelines"
   - *Consensus*: Pol CI 1.9 should read "Utilities are necessary to serve shoreline uses and shall ~~should~~ be properly installed so as to protect the shoreline and water from contamination and degradation"
8. Use Master Program Element
   - *Consensus*: Pol CI 1.5 should be rephrased and reworded to read "If feasible, septic systems should be connected to the sanitary sewer system where connections are available"
9. Conservation Master Program Element
   - *Consensus*: there should be a new policy that should read
   - *Consensus*: Pol. CON 1.21 should be amended to read "The City should require development proposals to include non structural measures to stabilize soils, hillsides, bluffs and ravine sidewalls and to promote wildlife habitat by removing invasive vegetation and retaining or restoring native vegetation"
   - *Consensus:* Pol. CON 1.26.c should read "~~Commercial and recreational~~ Shellfish areas"
10. Restoration Master Program Element
    - Formatting error noted in numbering should read 2.13.10~~12~~

(5) NEXT MEETING

The next meeting is tentatively scheduled for February 2009. David Johanson will try and provide a meeting 4 summary and send it to the committee. He will also be incorporating the consensus items in a Preliminary Goals and Policy DRAFT for circulation.

The meeting concluded at 6:05pm.

CITY OF BURIEN
SHORELINE MASTER PROGRAM UPDATE

RESTORATION PLAN DRAFT

PREPARED FOR:

CITY OF BURIEN
DEPARTMENT OF COMMUNITY DEVELOPMENT
15811 AMBAUM BLVD SW STE C
BURIEN, WASHINGTON 98166-3066

SUBMITTED TO:

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FEBRUARY 3, 2009

Grette Associates LLC
ENVIRONMENTAL CONSULTANTS

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TABLES

1 INTRODUCTION

This report is intended meet the requirements of Restoration Planning component of the City of Burien's (City's) Shoreline Master Program (SMP) update. It builds upon other elements, draft or final, of the City's SMP update completed to date including the draft Shoreline Inventory (March 2008, revised October 2008) (Grette Associates 2008a) and Shoreline Analysis and Characterization (June 2008, revised October 2008) (Grette Associates 2008b). The report is organized in such a way that it clearly follows Ecology's guidance for Restoration Planning, based on WAC 173-26-201 (2) F, which is presented below in *italics* for reference:

[WAC 173-26-201 (2)] F. Shoreline restoration planning. Consistent with principle WAC 173-26-186 (8)(c), master programs shall include goals, policies and actions for restoration of impaired shoreline ecological functions. These master program provisions should be designed to achieve overall improvements in shoreline ecological functions over time, when compared to the status upon adoption of the master program. The approach to restoration planning may vary significantly among local jurisdictions, depending on:

- *The size of the jurisdiction;*
- *The extent and condition of shorelines in the jurisdiction;*
- *The availability of grants, volunteer programs or other tools for restoration; and*
- *The nature of the ecological functions to be addressed by restoration planning.*

Master program restoration plans shall consider and address the following subjects:

(i) Identify degraded areas, impaired ecological functions, and sites with potential for ecological restoration;

(ii) Establish overall goals and priorities for restoration of degraded areas and impaired ecological functions;

(iii) Identify existing and ongoing projects and programs that are currently being implemented, or are reasonably assured of being implemented (based on an evaluation of funding likely in the foreseeable future), which are designed to contribute to local restoration goals;

(iv Identify additional projects and programs needed to achieve local restoration goals, and implementation strategies including identifying prospective funding sources for those projects and programs;

(v) Identify timelines and benchmarks for implementing restoration projects and programs and achieving local restoration goals;

(vi) Provide for mechanisms or strategies to ensure that restoration projects and programs will be implemented according to plans and to appropriately review the effectiveness of the projects and programs in meeting the overall restoration goals.

1.1 RESTORATION PLANNING AND THE BUILT ENVIRONMENT

It is important to approach SMP-mandated Restoration Planning using the definitions for restoration provided for that purpose in the WAC, as it is different from definitions that exist in other regulatory realms (e.g., critical areas regulations, federal Clean Water Act). WAC 173-026-020 (27) reads: *"Restore," "restoration" or "ecological restoration" means the reestablishment or upgrading of impaired ecological shoreline processes or functions. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions.* Under this definition, restoration includes actions which improve degraded shoreline processes or functions and does not require a complete reversal to pre-development conditions. This is important, particularly in built environments such as the City of Burien where reestablishment of pre-development processes and functions may not be feasible. There are substantial constraints in terms of property ownership and development condition for the vast-majority of Burien's shorelines. In this case, the incremental benefits of smaller-scale actions, such as shoreline revegetation or structure removal on the scale of individual residential lots, must be acknowledged. There is added benefit to these smaller scale actions where the science addressing larger processes and functions within shoreline environments can inform their relative benefits, for instance restoring sediment transport to potential forage fish spawning areas.

The approach of this document is to consider all previously identified restoration opportunities within the context of both the built environment and the available science informing shoreline processes and function, building directly on the Inventory (Grette Associates 2008a) and Analysis and Characterization (Grette Associates 2008b) already prepared as part of this SMP update. Note that although this document is not organized by sections according to SMP reach (Table 1), reach is used as a descriptor for each restoration opportunity.

Table 1. Shoreline inventory reaches in the City of Burien.

Location	Reach	Description	Approximate Length (ft)	Approximate Length (mi)
Marine	M1	Primarily residential marine shoreline extending south from City limit to the north edge of Seahurst Park.	6,001	1.14
Marine	M2	Seahurst Park and primarily undeveloped shoreline south to the point at which consistent shoreline residential development begins again. Corresponds to a line projected west from SW 149th Street to intersection with the shoreline.	6,382	1.21
Marine	M3	Consistent residential development extending south to the tip of Three Tree Point.	9,246	1.75
Marine	M4	Consistent residential development from the tip of Three Tree Point to the southern City limit.	7,597	1.44
		Marine Subtotal	*29,226*	*5.54*
Lake Burien	LB	Entire perimeter of Lake Burien	6,172	1.67
		Total Jurisdictional Shoreline	**35,399**	**7.21**

1.2 REPORT ORGANIZATION

This document is organized as follows. First, the overall goals and priorities as described earlier in the SMP process are described (Section 2). This is followed by a detailed discussion of the on-going restoration and conservation activities within City shorelines, namely Seahurst Park and Eagle Landing Park (Section 3). Other areas identified as degraded or impaired under the Inventory (Grette Associates 2008 a), and Analysis and Characterization (Grette Associates 2008 b) are summarized in Section 4, along with discussion of restoration and/or conservation measures to address them.

Because this document is not explicitly organized around the six required subjects identified under WAC 173-26-201 (2) F (see page 1), Table 2 provides a summary of how this restoration maintains consistency with those requirements.

Table 2. Consistency with WAC 173-26-201 (2) F.

Restoration Plan Requirement	How and where addressed
(i) Identify degraded areas, impaired ecological functions, and sites with potential for ecological restoration;	For Seahurst Park and Eagle Landing, described in Section 3. For all others summarized from Inventory (Grette Associates 2008 a) and Analysis and Characterization (Grette Associates 2008 b) in Section 3 (Table 3).
(ii) Establish overall goals and priorities for restoration of degraded areas and impaired ecological functions;	Already completed under SMP process, provided in Section 2.
(iii) Identify existing and ongoing projects and programs that are currently being implemented, or are reasonably assured of being implemented (based on an evaluation of funding likely in the foreseeable future), which are designed to contribute to local restoration goals;	Applies only to Seahurst Park and Eagle Park activities as described in Section 3.
(iv) Identify additional projects and programs needed to achieve local restoration goals, and implementation strategies including identifying prospective funding sources for those projects and programs;	Summarized from Inventory (Grette Associates 2008 a) and Analysis and Characterization (Grette Associates 2008 b) and expanded upon in Section 4 (Table 3). Potential funding sources identified in Section 4 (Table 4).
(v) Identify timelines and benchmarks for implementing restoration projects and programs and achieving local restoration goals;	Seahurst and Eagle Landing Parks as described in Section 3; other restoration opportunities are not yet well enough defined for detailed planning.
(vi) Provide for mechanisms or strategies to ensure that restoration projects and programs will be implemented according to plans and to appropriately review the effectiveness of the projects and programs in meeting the overall restoration goals.	Seahurst and Eagle Landing Parks as described in Section 3; other restoration opportunities are not yet well enough defined for detailed planning.

2 GOALS AND POLICIES

The City's Shoreline Advisory Committee (SAC) has approved the following goal and associated policies for the restoration element of the SMP update, as of November 5, 2008.

Goal

Restore areas which are ecologically degraded to the greatest extent feasible while maintaining appropriate use of the shoreline

Policies

- Promote restoration actions that are doable, practical, and effective.
- The City shall be a good steward of public lands and should integrate restoration and/or enhancement of fish and wildlife habitats into capital improvement projects whenever feasible.
- Establish incentives that provide opportunities for new development or redevelopment activities in the shoreline to restore impair ecological functions and processes. Incentives might include, but are not limited to: flexible development standards (e.g., setbacks, height limits, lot coverage), reduced or waiver of permit fees, and tax relief.
- The City shall promote voluntary shoreline enhancement projects through educational and incentive programs for individuals and organizations.
- The City should implement the restoration plan associated with this Shoreline Master Program.
- Improve natural stream and shoreline conditions to an environmental quality level that supports the return and continuation of salmon runs.
- Eliminate fish blockages.
- Stream banks and stream channels should be maintained or restored to their natural conditions wherever such conditions or opportunities exist.
- Increase availability of large woody debris and opportunities for recruitment in the nearshore zone.
- Restore degraded shoreline areas with native species.
- The City should investigate partnerships with local environmental groups, city, state, or county agencies, or tribes to implement projects and conduct follow-up monitoring and reporting.

3 EXISTING AND ONGOING RESTORATION PROGRAMS

3.1 SEAHURST PARK

The vast majority of existing and ongoing shoreline restoration efforts within the City has been focused on, and are currently planned for, Seahurst Park. The Seahurst Park Master Plan (Anchor 2002) described specific restoration opportunities within Seahurst Park (located in Reach M2). The plan proposed to preserve all the existing undeveloped area, increase the natural habitat area and function through extensive restoration and land acquisitions. Per the Master Plan (Anchor 2002), sustaining and restoring the marine shoreline at Seahurst Park is based on four concepts: removing existing shoreline protection structures; modeling restored beach slopes and substrates after natural conditions; replenishing gravel and sand lost to erosion; and restoring and protecting the natural delivery paths of sediment to the beach. Since adoption of the Master Plan, the City has added an additional concept: to preserve existing functioning nearshore habitats including unstable forested bluffs, eelgrass beds, and stream deltas. These concepts now form a five-pronged strategy for the City to restore and protect nearshore habitats and restore habitat forming processes (S. Roemer, City of Burien Parks Planner).

As part of the Seahurst Park Master Plan (Anchor 2002), the long seawall reach south of the south park entrance was removed and the beach reshaped to a more natural shoreline state, including native vegetation and large longshore wood placement. Work in this area included the removal of 1,000 feet of seawall (including approximately 8,200 cubic yards of gabion and toe stone in addition to fill materials); and installation of approximately 9,350 cubic yards of washed gravels and coarse sand to mimic slope and surface substrates at reference beaches. Volunteers and contractors together installed over 8,300 trees, shrubs, groundcovers, and dune grasses as part of revegetation efforts.

Additional phases of the Master Plan include seawall redevelopment and nearshore restoration for the remainder of the park. The City is developing a project feasibility analysis for activities at the Park's northern shoreline. A number of alternatives are currently under consideration by the City and various state and federal regulatory agencies. The proposal potentially would include the removal of up to 1,800 feet of shoreline protection structures including concrete bulkheads, riprap revetments, and rock groins. Once these structures are removed, substrates would be placed and slopes shaped similar to what was completed at the south end of the park shoreline. In some locations, these actions would restore the natural delivery paths of sediments from the creeks and bluffs. All of the alternatives included in the feasibility analysis incorporate conservation of the bluff at the north end of the park, which is the segment ranked as the highest conservation priority within drift cell KI-5-1 (Johannessen, MacLennan, and McBride, 2005). Although the alternatives under consideration vary in the degree of restoration to be implemented, all alternatives include a substantial improvement from the existing condition.

In addition to the restoration actions being undertaken as part of the Master Plan, park staff and volunteers have conducted on-going vegetation management within shoreline areas, including invasive species removal and native plant installation.

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3.1.1 Timeline, Benchmarks, and Funding

The feasibility evaluation of the Seahurst North Shoreline project has been reviewed in its draft form with the project stakeholders and permitting agencies, and will be coordinated with the Army Corps of Engineers (ACOE) and finalized in 2009. Following this task the project will progress into 30% design documents, a funding and phasing plan, and environmental review, all of which are anticipated to be completed during 2009..

All phases of current and future project development incorporate review by stakeholders and permitting agencies. In addition, project funding partners currently including the ACOE, Washington Department of Fish and Wildlife (WDFW), King Conservation District (KCD), as well as anticipated Puget Sound Partnership (PSP), will be provided restoration goals, benchmarks and timelines. Current project funding includes $1,100,000 from WDFW and $150,000 from KCD, with an additional $2,000,000 request submitted to the Puget Sound Partnership. Final project design and construction is anticipated to begin in summer 2010.

3.1.2 Implementation and Review Mechanisms

Throughout the Seahurst North Shoreline project there are in place mechanisms that provide for stakeholder and permitting agency reviews. Project alternatives, design development and environmental checklists will be shared with multiple internal and external partners and agencies. The monitoring of natural processes, which have been an ongoing process in the recently completed Seahurst South Shoreline restoration, will continue to occur with the restoration of the north shoreline. Processes currently monitored include; eelgrass, beach profile, benthic macroinvertebrate surveys and forage fish. Monitoring has and will occur on a pre and post construction basis in order to evaluate restoration success and to share this information with local and regional entities.

3.2 EAGLE LANDING PARK

Eagle Landing Park, acquired by the City in 2002, consists of approximately 5 acres of land set aside for passive recreation and conservation. Since that time the City has opened trails and performed reforestation work for the purposes of preserving salmon habitat and providing public water access. During the last four years a substantial effort based on community volunteer labor, largely coordinated through the City's Adopt-A-Park program and local community volunteers, has been focused on removing invasive vegetation and planting native shrubs and trees. The Parks Department is planning to complete a Vegetative Management Plan (VMP) for the Park in 2009, which will provide site-specific habitat evaluations and recommendations for the property. The City is currently acquiring funding and identifying consultants to complete this work.

3.2.1 Timeline, Benchmarks, and Funding

Restoration efforts at Eagle Landing Park continue to be included as on-going Adopt-A-Park work parties to remove invasive plant species and planting of native species. These efforts occur three times a year, with the next work party scheduled for February 27, 2009. In addition to these volunteer efforts, the more comprehensive VMP is anticipated for completion in 2009, with partial funding acquired from the Washington Department of Natural Resources (WDNR) and staff seeking additional funds through other local granting agencies. The VMP will establish a

baseline for current vegetative habitat conditions and development a multi-year work plan to guide future funding and management priorities.

3.2.2 Implementation and Review Mechanisms

The VMP will comprehensively assess current habitat types and conditions, identify publicly accepted restoration goals and develop a strategy for implementing restoration efforts based on resource capabilities. This will guide future restoration efforts within a variety of economic climates to ensure constant forward progress towards habitat management goals.

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4 ADDITIONAL RESTORATION OPPORTUNITIES

Both the Shoreline Inventory (Grette Associates 2008a) and Shoreline Analysis and Characterization (Grette Associates 2008b) describe general and specific restoration opportunities within the City of Burien in addition to the existing and ongoing Seahurst and Eagle Landing Parks activities discussed previously (Section 3). Currently, there are no specific plans in place to fund or implement any of these activities apart from those described in Section 3. This list should not be considered exhaustive of all restoration potential within the City, but does reflect a thorough review of those documented opportunities gathered during the Shoreline Master Plan process.

Restoration opportunities based on degraded conditions and/or impaired function, as identified earlier in the Shoreline Master Plan process, are described in Table 3. This table is geographically by shoreline reach. It also includes a column for special considerations, for instance property ownership issues or that areas have been identified as high priority for restoration or conservation actions. For consistency, Seahurst Park and Eagle Landing Park are included in this table.

It is important to note that Draft Cumulative Impacts Analysis for this SMP update concludes that adverse cumulative impacts resulting from reasonably foreseeable development activity are expected to be limited, particularly given benefits of the planned restoration activities within Seahurst and Eagle Landing Parks (Reid Middleton 2008). While implementation of the actions for which no current formal plans exist may not be necessary to offset cumulative impacts, the City should use this information to identify or prioritize restoration efforts as opportunities for funding arise and/or as the need for restoration in order to mitigate for development impacts occurs.

As plans for implementing restoration actions are developed, either as actions in and of themselves or as mitigation for impacts associated with development or, more likely, redevelopment, timelines and benchmarks for implementation will be developed. Project monitoring would be a requirement for any action which is undertaken as mitigation for development impacts. For projects which are implemented solely as restoration actions, the City should ensure that appropriate monitoring is conducted to demonstrate the actions have been effective. In some cases, for instance removal of creosote pile, monitoring may not be appropriate.

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Table 3. Additional shoreline restoration opportunities in the City of Burien.

Reach	Type	Location; Degraded Condition and/or Impaired Function	Description of Impaired/Degraded Condition	Special Considerations	Restoration Opportunities
Marine, All	General	All shorelines, water quality	Category 5 (Fecal Coliform), Category 4 (Fish Habitat), generally associated with M3, but applicable to all shorelines.	Private property ownership for majority of shoreline area limits non-voluntary restoration actions. Note also that actions (voluntary or otherwise) outside of the shoreline zone but draining to shorelines could improve shoreline water quality.	Voluntary actions for shoreline users: vegetation enhancement (run-off buffer), pet-waste management.
Marine, All	General	All shorelines, water quality	While most of the shoreline area is serviced by the Southwest Suburban Sewer District (SWSSD), there are areas within draining to the shoreline areas of all marine reaches that are not (http://www.swssd.com/misc-pdf/sewer-map-20080718a.pdf). The SWSSD continues to receive reports of failing septic systems above reach M3 which corresponds to an area of mapped by King County Department of Health as having failing septic features between the 1970s – 1990 (D. Johanson, City of Burien Senior Planner).	Extension of sewer services can be costly dependent on a number of different factors, and requires significant neighborhood coordination, including formation of a Utility Local Improvement District (ULID).	Monitor for and repair failing septic systems (near term); work toward incorporating shoreline users into the SWSSD (long term).
M1	Specific	Salmon Creek Mouth, fish access	Fence at mouth of Salmon Creek impedes upstream access for salmonids	Fence is located on private property. Current status of fence unknown (D. Johanson, City of Burien Senior Planner).	Remove fence. Other restoration activities (vegetation enhancement, stream channel restoration) may be possible, no specific plans describe these activities

Reach	Type	Location; Degraded Condition and/or Impaired Function	Description of Impaired/Degraded Condition	Special Considerations	Restoration Opportunities
M1	General	Entire reach; sediment transport, shoreline armoring	Modified shorelines including bulkheads and bluff residential development (toe and top) degrade sediment source and transport; this may affect potential/documented forage fish spawning areas. Some opportunities for conservation of existing function.	High priority for feeder bluff restoration (Johannessen, MacLennan, and McBride, 2005[1]); property ownership limits non-voluntary actions; development pattern limits opportunities based on continued safe occupation and use of property. Large-scale reestablishment of historic feeder bluff conditions not feasible, but benefit may be had from incremental, voluntary actions as well as conservation of relatively intact areas. Forage fish spawning areas may receive additional benefit from incremental actions.	Conserve areas north of Seahurst Park that are not currently bulkheaded; Encourage voluntary bulkhead removal and/or setback where appropriate to improve function including sediment transport. Consider beach recontouring and/or substrate placement to improve conditions for forage fish spawning. Conserve existing function.
M1	General	Entire reach; degraded shoreline vegetation	Residential development with highly modified vegetation (native vegetation limited/absent, ornamental and invasive vegetation present).	Private property ownership for majority of shoreline area limits non-voluntary restoration actions.	Encourage voluntary vegetation enhancement and restoration actions on private property to improve shoreline function. Conserve existing function.

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Reach	Type	Location; Degraded Condition and/or Impaired Function	Description of Impaired/Degraded Condition	Special Considerations	Restoration Opportunities
M2	Specific	Seahurst Park; sediment transport, shoreline armoring, degraded vegetation, degraded habitat conditions	Historic development in the park resulted in substantial shoreline modifications including shoreline hardening, fill, disconnection between uplands and marine areas, and other modifications. Restoration and park redevelopment actions are described in the park's Master Plan. See Section 3.1 for additional discussion of Seahurst Park.	South Seawall actions completed in 2005 (cooperation with ACOE) included restoration in high priority feeder bluff restoration area (Johannessen, MacLennan, and McBride, 2005[1]). North shoreline of the Park is high priority for feeder bluff conservation (Johannessen, MacLennan, and McBride, 2005[1]). Alternatives for the North Seawall are currently in consideration (see Section 3.1).	Elements of planned restoration include removal of shoreline protection structures, restoration of beach slopes and substrates, and native vegetation enhancement and restoration, as well as preservation of existing functioning habitat elements (see Section 3.1).
M2	General	South of Seahurst Park; shoreline armoring,	Residential lots primarily with development outside of the shoreline zone; very limited armoring with largely undeveloped shoreline (some vacant lots). Includes potential/documented forage fish spawning areas. Opportunity for conservation of existing function.	Private property ownership for limits non-voluntary restoration actions.	Relatively low priority for restoration of sediment source/transport (Johannessen, MacLennan, and McBride, 2005[1]), voluntary bulkhead removal and/or setback would require evaluation for safety of continued use of developed site. Consider beach recontouring and/or substrate placement to improve conditions for forage fish spawning. Conserve existing function.

Reach	Type	Location; Degraded Condition and/or Impaired Function	Description of Impaired/Degraded Condition	Special Considerations	Restoration Opportunities
M2	General	South of Seahurst Park; degraded shoreline vegetation	Likely degraded vegetation (invasive vegetation) as has been typical in similar conditions at Seahurst and Eagle Landing Parks. Opportunity for conservation of existing function.	Private property ownership for majority of shoreline area limits non-voluntary restoration actions.	Encourage voluntary vegetation enhancement and restoration actions on private property to improve shoreline function. Conserve existing function.
M2	Specific	Eagle Landing Park; degraded vegetation	Native vegetation limited, invasive vegetation present	On-going efforts in the park at large to remove invasive species and plant native vegetation see Section 3.2); City acquiring funding for vegetation management plan (S. Roemer, City of Burien Parks Planner).	Continued volunteer-supported vegetation management, integrate implementation of the vegetation management plan once it is available (see Section 3.2).

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Reach	Type	Location; Degraded Condition and/or Impaired Function	Description of Impaired/Degraded Condition	Special Considerations	Restoration Opportunities
M3	General	Entire reach; sediment transport, shoreline armoring	Reach is almost entirely developed with single family residences located near or within the shoreline zone; most of which have armored shorelines. Includes potential/documented forage fish spawning areas.	High priority for feeder bluff restoration and conservation (Johannessen, MacLennan, and McBride, 2005[1]), property ownership limits non-voluntary actions; development pattern limits opportunities based on continued safe occupation and use of property. Large-scale reestablishment of historic feeder bluff conditions not feasible, but benefit may be had from incremental, voluntary actions as well as conservation of relatively intact areas. Forage fish spawning areas may receive additional benefit from incremental actions.	Although high priority for restoration and conservation (Johannessen, MacLennan, and McBride, 2005[1]), bulkhead removal and/or setback generally not appropriate due to development pattern. Consider beach recontouring and/or substrate placement to improve conditions for forage fish spawning.
M3	General	Degraded shoreline vegetation (native vegetation limited/absent, invasive vegetation present)	Residential development with highly modified vegetation (native vegetation limited/absent, ornamental and invasive vegetation present).	Private property ownership for majority of shoreline area limits non-voluntary restoration actions.	Encourage voluntary vegetation enhancement and restoration actions on private property to improve shoreline function.
M3	General	Mouths of unnamed tributaries; degraded vegetation	Native vegetation limited, invasive vegetation present	Private property ownership limits non-voluntary restoration actions	Encourage voluntary vegetation enhancement and restoration actions on private property to improve shoreline function.

Reach	Type	Location; Degraded Condition and/or Impaired Function	Description of Impaired/Degraded Condition	Special Considerations	Restoration Opportunities
M4	General	Entire reach; sediment transport, shoreline armoring	Reach is almost entirely developed with single family residences located near or within the shoreline zone; most of which have armored shorelines. Includes potential/documented forage fish spawning areas.	Property ownership limits non-voluntary actions; development pattern limits opportunities based on continued safe occupation and use of property. Benefit may be had from incremental, voluntary actions. Forage fish spawning areas may receive additional benefit from incremental actions.	Relatively low priority for restoration of sediment source/transport (Johannessen, MacLennan, and McBride, 2005[1]). Bulkhead removal and/or setback generally not appropriate due to development pattern. Consider beach recontouring and/or substrate placement to improve conditions for forage fish spawning.
M4	General	Degraded shoreline vegetation (native vegetation limited/absent, invasive vegetation present)	Residential development with highly modified vegetation (native vegetation limited/absent, ornamental and invasive vegetation present).	Private property ownership for majority of shoreline area limits non-voluntary restoration actions.	Encourage voluntary vegetation enhancement and restoration actions on private property to improve shoreline function.
M4	Specific	Sediment transport; water quality	Removal of a groin and/or a number of creosote pile would improve shoreline conditions (Johannessen, MacLennan, and McBride (2005).	May be located in-part or entirely on private land; limits non-voluntary restoration actions.	Remove groin and/or creosote pile.
M4	Specific	SW 172nd Street; water quality	Untreated storm water runoff from the road enters Puget Sound		Implement treatment measures along this stretch of roadway.

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Reach	Type	Location; Degraded Condition and/or Impaired Function	Description of Impaired/Degraded Condition	Special Considerations	Restoration Opportunities
LB	General	Water quality	Water quality is affected by storm water input and non-point runoff from maintained property surrounding the shoreline.	Private property ownership limits non-voluntary restoration actions and precludes programmatic restoration.	Opportunity for property owners to maintain water quality through coordinated stewardship and landscape maintenance practices.

[1] Analyses in this document are based solely on comparison of current and historic shoreline conditions and do not take into account biological or socioeconomic factors.

Table 4. Potential funding sources for shoreline restoration projects.

Grant Name	Allocating Entity	Contact
Aquatic Lands Enhancement Account	Washington State Recreation and Conservation Office	Leslie Ryan-Connelly Phone: (360) 902-3080 E-mail: leslie.ryan-connelly@rco.wa.gov
Bring Back the Natives	National Fish and Wildlife Foundation	Barrett Bohnengel Phone: (503) 417-8700 E-mail: Barrett.Bohnengel@nfwf.org
Community-Based Restoration Program	National Oceanic and Atmospheric Administration	Polly Hicks Phone: (206) 526-4861 E-mail: Polly.Hicks@noaa.gov
Cooperative Endangered Species Conservation Fund	United States Fish and Wildlife Service	Heather Hollis Phone: (503) 231-2372 E-mail: Heather_Hollis@fws.gov
Estuarine and Salmon Restoration Program	Washington Department of Fish and Wildlife; Puget Sound Nearshore Partnership	Jenna Norman Phone: (360) 902-2658 E-mail: ESRP@dfw.wa.gov Paul Cereghino Phone: (360_ 902-2603 E-mail: ceregprc@dfw.wa.gov
Five-Star Restoration Program	National Fish and Wildlife Foundation	Amanda Bassow Phone: (202) 857-0166 E-mail: Amanda.Bassow@nfwf.org
King County Community Salmon Fund	National Fish and Wildlife Foundation	Cara Rose Phone: (503) 417-8700 E-mail: Cara.Rose@nfwf.org
Landowner Incentive Program	Washington Department of Fish and Wildlife, Lands Division	Ginna Correa Phone: (360) 902-2478 E-mail: corregcc@dfw.wa.gov Jeff Skriletz Phone: (360) 902-8313 E-mail: skriljks@dfw.wa.gov

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Grant Name	Allocating Entity	Contact
Puget Sound Coastal Program	United States Fish and Wildlife Service	Ginger Phalen Phone: 360-753-9008 E-mail: Ginger_phalen@fws.gov
Salmon Recovery Funding Board	Washington State Recreation and Conservation Office	Tara Galuska Phone: (360) 902-2953 E-mail: Tara.Galuska@rco.wa.gov
Water Quality Grants and Loans	Washington Department of Ecology	Jeff Nejedly Phone: (360) 407-6566 E-mail: jnej461@ecy.wa.gov

5 REFERENCES

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Grette Associates. 2008b. City of Burien Shoreline Master Program Update Shoreline Analysis and Characterization. Prepared for the City of Burien. June 12, 2008, revised October 23, 2008.

Johannessen, J.W., MacLennan, A., and McBride, A. 2005. Inventory and Assessment of Current and Historic Beach Feeding Sources/Erosion and Accretion Areas for the Marine Shoreline of Water Resource Inventory Areas 8 & 9, Prepared by Coastal Geologic Services, Prepared for King County Department of Natural Resources and Parks, Seattle, WA. December 2005.

Draft

City of Burien Shoreline Master Program

Cumulative Impacts Analysis

1. Introduction

The Washington State *Shoreline Master Program Guidelines* state that local Shoreline Master Programs are required to "evaluate and consider" the cumulative impacts of reasonably foreseeable future development on shoreline ecological functions and other shoreline functions promoted by the Shoreline Management Act. The guidelines further state that "to ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities."

Specifically, the guidelines state that the evaluation of cumulative impacts should consider:

i. current circumstances affecting the shorelines and relevant natural processes;
ii. reasonably foreseeable future development and use of the shoreline; and
iii. beneficial effects of any established regulatory programs under other local, state, and federal laws.

Additionally, the guidelines indicate that an appropriate cumulative impacts analysis will also consider the effects of unregulated activities and development exempt from permitting on shoreline ecological functions and other shoreline functions and uses. Furthermore, the guidelines indicate that particular attention should be paid to policies and regulations concerned with the platting or subdividing of property, laying of utilities, and mapping of streets that establish a pattern for future development.

The guidelines note that methods for determining reasonably foreseeable future development may vary depending on local circumstances, including demographic and economic characteristics, as well as the nature and extent of shorelines.

This cumulative impacts analysis is organized into five sections:

1. Introduction
2. Current Circumstances Affecting the Shorelines and Relevant Natural Processes
3. Reasonably Foreseeable Future Development and Use of the Shoreline
4. Beneficial Effects of Any Established Regulatory Programs Under Other Local, State, and Federal Laws
5. Cumulative Impacts Summary

2. Current Circumstances Affecting the Shorelines and Relevant Natural Processes

The City of Burien *Shoreline Inventory* and *Shoreline Analysis and Characterization* describe in-depth current circumstances affecting Burien's shorelines and relevant natural processes. This section of the cumulative impacts analysis references the shoreline reach-scale information documented in the *Shoreline Analysis and Characterization*. For more details regarding current circumstances affecting Burien's shorelines and relevant natural processes, please consult the *Shoreline Inventory* and *Shoreline Analysis and Characterization* documents.

In both of these documents, Burien's shorelines were divided into five lineal reaches according to land use and environmental characteristics (Table 2.1). The first four reaches are contiguous and together constitute Burien's shoreline situated along Puget Sound. The fifth reach consists of the Lake Burien shoreline.

Table 2.1. Shoreline inventory reaches in the City of Burien.

Location	Reach	Description	Approximate Length (ft)	Approximate Length (mi)
Marine	M1	Primarily residential marine shoreline extending south from City limit to the north edge of Seahurst Park.	6,001	1.14
Marine	M2	Seahurst Park and primarily undeveloped shoreline south to the point at which consistent shoreline residential development begins again. Corresponds to a line projected west from SW 149th Street to intersection with the shoreline.	6,382	1.21
Marine	M3	Consistent residential development extending south to the tip of Three Tree Point.	9,246	1.75
Marine	M4	Consistent residential development from the tip of Three Tree Point to the southern City limit.	7,597	1.44
		Marine Subtotal	*29,226*	*5.54*
Lake Burien	LB	Entire perimeter of Lake Burien	6,172	1.67
		Total Jurisdictional Shoreline	**35,399**	**7.21**

2.1 Marine Reaches

Per WAC 173-26-201(3)(d)(i)(C), shoreline ecological functions in marine waters include, but are not limited to:

- Hydrologic – Transporting and stabilizing sediment, attenuating wave and tidal energy, removing excessive nutrients and toxic compounds, recruitment, redistribution and reduction of woody debris and other organic material.

- Vegetation – Maintaining temperature, removing excessive nutrients and toxic compound, attenuating wave energy, sediment removal and stabilization, and providing woody debris and other organic matter.
- Habitat for aquatic and shoreline-dependent birds, invertebrates, mammals, amphibians, and anadromous and resident native fish – Habitat functions may include, but are not limited to, space or conditions for reproduction, resting, hiding and migration, and food production and delivery.

Reach-scale shoreline functions are described below for each of the marine reaches (Reach M1-M4).

2.1.1 Reach M1

Reach M1 is the northernmost marine reach along the Burien shoreline, extending from Seola Beach to the north end of Seahurst Park. The reach is 1.14 miles in length. Historically, most of Reach M1 was exceptional or potential feeder bluff. Now it is almost entirely modified shoreline. Additional summary information for Reach M1 is presented in Table 2.2.

Table 2.2. Reach M1 summary.

Total Acreage / Land Use[1]	Stream Discharges	Public Shoreline Access	Hazard Areas	Habitat / Habitat Potential
25.00 acres Single Family: 72% Vacant: 23% Tracts/Other: 4% Low Density MFR: 1% Institutional: 0.01%	Seola Creek, Salmon Creek, unnamed tribs	None	Landslide, Flood	Wetlands, Stream, Fish and Wildlife Areas (salmonids, forage fish, shellfish, eelgrass, Urban Natural Open Space)

[1] Percentages may not total 100 percent due to rounding during GIS analysis.

Current Land Use

This reach is predominantly single family use, with portions of undeveloped property associated with high gradient slopes and vacant parcels comprising approximately 24 percent of the reach.

Hydrologic Function

The shoreline of Reach M1 is primarily residential, and much of the shoreline is hardened by private bulkheads and boat ramps. These structures affect the hydrological functions of the shoreline, altering the transportation of sediment to and from the shoreline reach. Woody debris and organic material redistribution is restricted to the shoreline area waterward of the bulkheads.

Freshwater input is limited to that from Seola and Salmon Creeks, as well as unnamed tributaries entering Puget Sound from the uplands adjacent to the shoreline. In some cases, small culverts or pipes drain freshwater from the upland through existing armored structures into Puget Sound.

Approximately 70 percent of Reach M1 is mapped as 100-year floodplain. Armoring of the shoreline can contribute to impacts of flooding as an artificial physical boundary can impede the flow during inundation and recession of floodwater.

Vegetation Function

Vegetation along Reach M1 is also influenced by the existing land use in that much of the upland consists of the manicured yards of residential properties. Marine shorelines with highly altered vegetation are not as effective in removing excess nutrients, stabilizing sediment and contributing organic matter as unmodified shorelines. However, any trees along the shoreline, whether native or part of a landscaped yard, contributes to overwater shading of the intertidal zone.

Additionally, the entire reach is mapped as a landslide hazard area, a Critical Area type. Removal of shoreline vegetation, such as that resulting from development, leads to erosion of the shoreline and may contribute to landslide activity.

Other Habitat Function

Critical Areas within this reach include the southerly bank and buffer of Seola Creek, Salmon Creek and associated buffers, and several small unnamed tributaries to Puget Sound. The forested ravines associated with these streams are mapped as Urban Natural Open Space, a Priority Habitat in Washington State. Deep forested ravines and the associated streams provide small mammal, bird and fish habitat.

A high stream gradient limits opportunities for salmonids in Seola Creek and the unnamed tributaries within Reach M1. Salmon Creek has historically had coho salmon (*Oncorhynchus kisutch*) presence. A private structure near the mouth of Salmon Creek confines the channel and may impede fish passage to habitat upstream.

The physical separation of marine waters from the upland resulting from the armoring of shorelines limits the utilization of the transitional intertidal habitat; however, within Reach M1, there are several areas of quality habitat for shoreline-dependent animals along the marine shoreline. Below the ordinary high water mark, the entire reach is mapped as having geoduck (*Panopea abrupta*) beds. Eelgrass (*Zostera* sp.) patches are present as a sparse fringe along the reach, and provide habitat for fish spawning, juvenile fish and invertebrates. The southernmost end of Reach M1 is mapped having surf smelt (*Hypomesus pretiosus*) spawning habitat. All of these areas are considered Fish and Wildlife Habitat Conservation Areas, a Critical Area type. In addition, estuarine wetlands associated with the marine aquatic bed are considered Category 1 wetlands.

2.1.2 Reach M2

Reach M2 is a marine shoreline reach comprised of Seahurst Park and the relatively undeveloped shoreline south of the park to SW 149th Street or the northern edge of resumed shoreline development. Reach M2 is 1.21 miles long. Historically, Reach M2 included areas of feeder bluff, potential feeder bluff, and exceptional feeder bluff, some of which has now been modified. An accretion shoreform is present along most of its north end. Additional summary information for Reach M2 is presented in Table 2.3.

Table 2.3. Reach M2 summary.

Total Acreage / Land Use[1]	Stream Discharges	Public Shoreline Access	Hazard Areas	Habitat / Habitat Potential
28.72 acres Park: 78% Single Family: 14% Vacant: 9%	Unnamed tribs	Seahurst Park, Eagle Landing Park	Landslide, Flood	Wetlands, Stream, Fish and Wildlife Areas (bald eagle, forage fish, shellfish, eelgrass, Urban Natural Open Space)

[1] Percentages may not total 100 percent due to rounding during GIS analysis.

Current Land Use

Nearly 80 percent of Reach M2 is park, the majority of which is the shoreline of the 152-acre Seahurst Park. To the south of Seahurst Park is a smaller public park, the 5-acre Eagle Landing Park. This publicly-owned land is set aside for passive recreation and conservation. Seahurst Park is currently in the process of redevelopment and restoration. The second highest percentage of land use is single family with 14 percent and the remainder of the reach is vacant. Unlike the other marine reaches, the majority of the single family lots within Reach M2 do not extend far into the intertidal zone.

Hydrologic Function

Historically, much of the shoreline in Reach M2 incorporated bulkheads or some type of armoring; however, restoration efforts in the publicly-owned parks have been focused on reestablishing the shorelines' natural hydrology through removal of this armoring. As described in Section 2.1.1 for Reach M1, armoring limits the amount of both physical and biological interchange that can occur between the upland and the water. However, in areas where a more natural hydrology has been restored (such as areas within Seahurst Park), the shoreline allows for sediment transport, wave attenuation and redistribution of organic materials (including large woody debris) across all tidal elevations. Additionally, the single family lots between Seahurst Park and Eagle Landing Park have very little armoring.

Water flows from the upland onto the marine shoreline of Reach M2 through culverts that have been installed beneath parking lots and road fill embankments, draining water through or under bulkheading. Most of these modifications to drainage courses within Seahurst Park were made by the early 1970s by King County.

Approximately 30 percent of Reach M2 is mapped within the 100-year floodplain. As explained in Section 2.1.1, armoring of shorelines can intensify the impacts of flooding, as armoring inhibits the natural inundation and recession of floodwater.

Vegetation Function

Reach M2 has the largest area of native or unaltered shoreline vegetation of any of the shoreline reaches. The vegetation along the shoreline of the parks provides a source for large woody debris and other organic material that will enter the water, as well as overwater shading. Vegetation located upland of armored shorelines does not function to attenuate wave energy;

however, the vegetation of the unaltered or restored shorelines within the reach aids in sediment removal, stabilization and habitat for insects that serve as a supplemental food source.

As with much of the marine shorelines in the City, Seahurst Park is entirely flanked on the upland side with a landslide hazard area. The restoration and conservation of native vegetation that has occurred in or is planned for Reach M2 decreases the amount of erosion that occurs, and could aid in decreasing the occurrence of landslides.

Other Habitat Function

Reach M2 has several important Critical Area types represented within the reach. Two large stream systems dominate the reach, with associated buffers. The riparian ravines surrounding the streams are mapped as Urban Natural Open Space, providing habitat to wildlife and fish species as well as plant diversity.

The streams within Reach M2 are high gradient, incised streams with salmonid habitat limited to the lowest reaches. The southern stream system has some habitat available at the toe of the slope incline. The northern stream system has been modified to accommodate the fish acclimation facilities at the Marine Occupational Center in the North end of the park. These facilities rear coho salmon as part of the Highline School District marine science curriculum.

Below the ordinary high water mark, the entire reach is mapped as having geoduck beds. Eelgrass patches are present as a sparse fringe along the reach. Most of Reach M2 has surf smelt spawning habitat and a portion of the intertidal in front of the park has been mapped as Pacific sand lance (*Ammodytes hexapterus*) spawning habitat. All of these areas are considered Fish and Wildlife Habitat Conservation Areas, a Critical Area type. In addition, estuarine wetlands associated with the marine aquatic bed are considered Category 1 wetlands. A bald eagle (*Haliaeetus leucocephalus*) nest located outside of the shoreline zone near the south end of Reach M2 has a buffer for nest and forage area protection that extends into the shoreline zone and occupies nearly half (southern half) of Reach M2. The nest is located within the boundaries of Eagle Landing Park.

2.1.3 Reach M3

Marine shoreline Reach M3 is the longest shoreline reach within the City of Burien and is delineated by the increased residential development at the south end of Reach M2 and the tip of Three Tree Point at the south end of the reach. Reach M3 is 1.75 miles long. Historically, Reach M3 (KI-7-2) included feeder bluff and potential feeder bluff areas alternating with accretion shoreforms. The bluffs in this reach have been entirely modified, as have some of the accretion shoreforms. Additional summary information for Reach M3 is presented in Table 2.4.

Table 2.4. Reach M3 summary.

Total Acreage / Land Use[1]	Stream Discharges	Public Shoreline Access	Hazard Areas	Habitat / Habitat Potential
40.23 acres Single Family: 87% Vacant: 12% Tracts/Other: 1% Low Density MFR: 0.4%	Unnamed tribs	Street ends (several)	Landslide, Seismic, Flood	Wetlands, Stream, Fish and Wildlife Areas (bald eagle, forage fish, shellfish, eelgrass, kelp, Urban Natural Open Space)

[1] Percentages may not total 100 percent due to rounding during GIS analysis.

Current Land Use

Land use in Reach M3 is developed single family residential with 87 percent of the shoreline developed in that land use category. The remaining areas of the reach are vacant.

Hydrologic Function

The marine shoreline of Reach M3 is hardened with private bulkheads and numerous private boat ramps that affect littoral drift and longshore migration during most tidal stages. Reach M3 also has several single family docks. Hydrologic functions including sediment transport, wave attenuation and redistribution of organic materials along the shoreline are decreased by the presence of these artificial structures.

Several unnamed tributaries flow into the Reach M3 and storm water drains onto the shoreline through culverts running under or through bulkheads.

Twenty-six percent of Reach M3 is mapped as 100-year floodplain. As addressed in previous sections, armoring of the shoreline can hinder the flow of floodwaters to and from the shoreline.

Vegetation Function

The majority of the shoreline is residential; therefore, most of the vegetation within the Reach M3 shoreline consists of highly altered landscapes. Yards maintained with chemical fertilizers and herbicides, can increase the nutrient and toxic load into the shoreline. Further, a decrease in the amount of native vegetation decreases the function of the shoreline, reducing its capacity to attenuate wave energy, stabilize sediments and provide organic materials. However, any trees located along the shoreline can improve habitat conditions by providing overwater shading.

Removal of large amounts of vegetation and replacement with vegetation not as suited for the environment can increase erosion. Increases in erosion can increase the probability of landslides. The entire upland area of Reach M3 is mapped a landslide hazard area.

Other Habitat Function

Critical Areas within Reach M3 include several small unnamed tributaries to Puget Sound and their associated buffers. The forested ravines associated with these streams are mapped as Urban Natural Open Space, a Priority Habitat in Washington State.

High stream gradients limit opportunities for salmonids in the unnamed tributaries within Reach M3. The intertidal areas utilized by juvenile salmon are separated from uplands functions by the high intensity of vertical bulkheads and the nearshore vegetation maintained in a highly altered (manicured) state.

Despite the separation of upland and marine waters resulting from the armoring of shorelines, there are several Fish and Wildlife Habitat Conservation Areas located with Reach M3. Below the ordinary high water mark, almost the entire reach is mapped as having geoduck beds, which extend almost all the way south to the tip of Three Tree Point. Eelgrass patches are present as a sparse fringe along the reach and kelp (order Laminariales) beds are mapped within this reach. The southern half of Reach M3 is mapped as having surf smelt spawning habitat, overlaying a small reach of Pacific sand lance spawning habitat near SW 156th Street. The buffer associated with a bald eagles nest in Reach M2 extends into Reach M3 to approximately SW 156th Street. In addition, estuarine wetlands associated with the marine aquatic bed are considered Category 1 wetlands.

2.1.4 Reach M4

Reach M4 is similar to Reach M3 in that it is characterized by consistent residential development with a south facing aspect. The reach extends from the tip of Three Tree Point to the southern City limits. Reach M4 is 1.44 miles long. Historically, Reach M4 was feeder bluff, which has subsequently been modified, and an accretion shoreform that is still functioning despite shoreline modifications. Additional summary information for Reach M4 is presented in Table 2.5.

Table 2.5. Reach M4 summary.

Total Acreage / Land Use[1]	Stream Discharges	Public Shoreline Access	Hazard Areas	Habitat / Habitat Potential
22.41 acres Single Family: 91% Low Density MFR: 5% Vacant: 3% Commercial: 1%	Unnamed tribs	Street end (one)	Landslide, Seismic, Flood	Wetlands, Stream, Fish and Wildlife Areas (forage fish, shellfish, eelgrass)

[1] Percentages may not total 100 percent due to rounding during GIS analysis.

Current Land Use

Land use in Reach M4 is developed single family residential with 91 percent of the shoreline developed in that land use category. The remaining areas of the reach are split between low density multifamily use (4.99 percent), vacant (2.65 percent) and commercial use (1.23 percent). Reach M4 is characterized as having narrower parcels than the other marine reaches, which extend into the intertidal area south of Three Tree Point.

Hydrologic Function

As with the majority of the other marine reaches, the shoreline of Reach M4 is hardened with private bulkheads and a few private boat ramps that affect littoral drift and longshore migration during most tidal stages. Reach M4 also has several single family docks. These alterations to the shoreline affect the hydrology of the reach, as described in Sections 2.1.1 – Section 2.1.3.

Drainage into the reach from upland flows through culverts and from several unnamed tributaries. SW 172nd Street parallels the shoreline near most of the reach immediately behind the small residential (garage) structures along the beach; storm water runoff from the road enters Puget Sound with no opportunity for treatment.

Forty-eight percent of Reach M4 is mapped as 100-year floodplain. As discussed previously, armoring can reduce the ability of the shoreline to accommodate floodwater.

Vegetation Function

Due to the fact that land use within Reach M4 is similar to that within the other highly modified shorelines discussed above (Reach M1 and Reach M3), the same limitations on shoreline vegetation function exist in Reach M4 as do in the other marine reaches; please see Sections 2.1.1 and 2.1.3 for more details.

Removal or alteration of vegetation can contribute to erosion, thus increasing the chance for landslides. The entire upland area of Reach M4 is mapped a landslide hazard area, except the soils surrounding Three Tree Point and immediately south; those soils are mapped as a seismic hazard zone.

Other Habitat Function

Reach M4 includes few small unnamed tributaries to Puget Sound and their associated buffers. These are very high gradient streams with no associated Urban Natural Open Space. Although none are known as being salmon-bearing streams, they have the potential to provide habitat to other fish species.

The intertidal areas utilized by juvenile salmon are separated from uplands functions by the high intensity of vertical bulkheads and the nearshore vegetation maintained in a highly altered (manicured) state. This separation limits the function provided by the shoreline.

Below the ordinary high water mark, the entire reach is mapped having geoduck beds. Eelgrass patches are present as patchy beds along the Reach M4 shoreline. A small segment of the reach is identified as Pacific sand lance spawning habitat. All of these areas are considered Fish and Wildlife Habitat Conservation Areas, a Critical Area type. In addition, estuarine wetlands associated with the marine aquatic bed are considered Category 1 wetlands.

2.2 Freshwater Reaches

Per WAC 173-26-201(3)(d)(i)(C), shoreline ecological functions in lakes include, but are not limited to:

- Hydrologic – Storing water and sediment, attenuating wave energy, removing excessive nutrients and toxic compounds, recruitment of large woody debris and other organic material.

- Shoreline vegetation – Maintaining temperature, removing excessive nutrients and toxic compound, attenuating wave energy, sediment removal and stabilization, and providing woody debris and other organic matter.
- Hyporheic functions – Removing excessive nutrients and toxic compound, water storage, support of vegetation, and sediment storage and maintenance of base flows.
- Habitat for aquatic and shoreline-dependent birds, invertebrates, mammals, amphibians, and anadromous and resident native fish – Habitat functions may include, but are not limited to, space or conditions for reproduction, resting, hiding and migration, and food production and delivery.

2.2.1 Reach LB

Reach LB consists of the entire shoreline of Lake Burien and is the only freshwater shoreline reach in the City. The perimeter of the lake is 1.67 miles long. Additional summary information for Reach LB is presented in Table 2.6.

Table 2.6. Reach LB summary.

Total Acreage / Land Use[1]	Stream Discharges	Public Shoreline Access	Hazard Areas	Habitat / Habitat Potential
28.80 acres Single Family: 87% School: 8% Vacant: 3% Tracts/Other: 1% Low Density MFR: 1%	Unnamed tribs	None	None	Wetlands, Aquifer Recharge Area

[1] Percentages may not total 100 percent due to rounding during GIS analysis.

Current Land Use

Lake Burien is occupied almost entirely by single family development (87 percent) and multifamily (1 percent). The lone exception to this is at the northeast corner of the lake where the Ruth Dykeman Children's Center is located. The density of single family development along the Lake Burien shoreline is somewhat higher than that along the marine shoreline. Reach LB is almost entirely developed to its maximum potential. Approximately 60 overwater structures are located around the perimeter of the lake. Additionally, there are several (approximately 5) overwater structures in the lake that are unattached to the surrounding uplands.

Hydrologic and Hyporheic Function

The shoreline of Reach LB is highly altered, as it is surrounded almost entirely by privately-owned residences. Given the relatively small size of the lake, there is not much wave action affecting the shoreline; however, the shoreline would effectively attenuate any waves produced in the lake. The lakeshore bank is low bank with a very gentle upland gradient. Flooding along the shoreline of the lake is not a documented problem, as Lake Burien is not located within the 100-year floodplain.

While a system of storm water drainage pipes has been installed to divert runoff flowing into the lake, several drainage points into the lake remain and the lake still functions as a water storage area. Lake Burien is mapped as an Aquifer Recharge Area, a Critical Area. Alterations to the surface conditions within an Aquifer Recharge Area associated with development, such as changes in impervious surface area, channeling of runoff and changes in the soils, can affect the rate and quantity of water entering the aquifer. Additionally, contamination of waters within the Aquifer Recharge Area can adversely impact the entire aquifer.

Vegetation Function

Due to the nature of land use surrounding Lake Burien (mostly residential), much vegetation within the shoreline of Reach LB consists of manicured lawns. Maintenance of lawns often increases the input of chemicals (fertilizers and herbicides) into the water and limits the input of organic material (including large woody debris) into the lake. However, any trees present along the shoreline contribute to the shading of the shoreline. Due to the topography around Lake Burien, the lack of native vegetation does not greatly increase erosion along the shore; there are no landslide hazard areas associated with the lake.

Other Habitat Function

Lake Burien in its entirety has been rated a Category 2 wetland. The buffer associated with a Category 2 wetland is 100 feet. While there are no Priority Habitat and Species documented within Lake Burien or along the shoreline, wetlands provide habitat for other small mammals, birds and fish (such as feeding, breeding and spawning). There is no fish access into Lake Burien; therefore, anadromous salmonids are not expected within the lake.

3. Reasonably Foreseeable Future Development and Use of the Shoreline

In this section, the reasonably foreseeable future development and use in each of Burien's five shoreline reaches is described.

In general, Burien's shorelines have little potential for new future development as they are already largely developed to their current potential. The predominant use of the shoreline, single-family residential, is not expected to change significantly. Therefore, the majority of the reasonably foreseeable future shoreline development activity is expected to consist of the redevelopment of existing structures.

Because Burien's shorelines are already largely developed to their current potential and shoreline use is not expected to change significantly, neither activities that would establish a pattern for future development (such as the platting or subdividing of property, laying of utilities, and construction of new neighborhood streets), nor effects of unregulated activities and development exempt from permitting affecting shoreline functions, are expected to occur to a significant extent.

3.1 Reach M1

The zoning designation for Reach M1 is RS 12,000 Residential Single-Family; the comprehensive plan designations for Reach M1 are Low Density Residential Neighborhood and Public Park/Schools/Recreation/Open Space. Additional shoreline development and use information for Reach M1 is summarized in Table 3.1.

Because the comprehensive plan designations closely match current land uses, reasonably foreseeable future use is not expected to change significantly.

Reasonably foreseeable future development in this reach is expected to consist of the redevelopment of existing structures and the possible development of some of the currently vacant parcels (approximately 18). However, the development of the currently vacant parcels is expected to be limited, as they generally have development constraints (such as steep slopes).

Table 3.1. Reach M1 shoreline development and use summary.

Total Acreage / Current Land Use[1]	Current Vacant Parcels	Current Zoning Designation(s)	Comprehensive Plan Designation(s)
25.00 acres Single Family: 72% Vacant: 23% Tracts/Other: 4% Low Density MFR: 1% Institutional: 0.01%	Approximately 18 (all privately owned)	RS 12,000 Residential Single-Family	Low Density Residential Neighborhood & Public Park/Schools/Recreation/Open Space

[1] Percentages may not total 100 percent due to rounding during GIS analysis.

3.2 Reach M2

The zoning designation for Reach M2 is RS 12,000 Residential Single-Family; the comprehensive plan designations for Reach M2 are Low Density Residential Neighborhood and Public Park/Schools/Recreation/Open Space. Additional shoreline development and use information for Reach M2 is summarized in Table 3.2.

Because the comprehensive plan designations closely match current land uses, reasonably foreseeable future use is not expected to change significantly.

Reasonably foreseeable future development in this reach is expected to consist of the redevelopment of existing structures and the possible development of some of the currently vacant parcels (approximately 6). However, the development of the currently vacant parcels is expected to be limited, as they generally have development constraints (such as steep slopes). Additionally, Seahurst Park is currently in the process of redevelopment and restoration.

Table 3.2. Reach M2 shoreline development and use summary.

Total Acreage / Current Land Use[1]	Current Vacant Parcels	Current Zoning Designation(s)	Comprehensive Plan Designation(s)
28.72 acres Park: 78% Single Family: 14% Vacant: 9%	Approximately 6 (all privately owned)	RS 12,000 Residential Single-Family	Low Density Residential Neighborhood & Public Park/Schools/Recreation/Open Space

[1] Percentages may not total 100 percent due to rounding during GIS analysis.

3.3 Reach M3

The zoning designation for Reach M3 is RS 12,000 Residential Single-Family; the comprehensive plan designation for Reach M3 is Low Density Residential Neighborhood. Additional shoreline development and use information for Reach M3 is summarized in Table 3.3.

Because the comprehensive plan designation closely matches current land uses, reasonably foreseeable future use is not expected to change significantly.

Reasonably foreseeable future development in this reach is expected to consist of the redevelopment of existing structures and the possible development of some of the currently vacant parcels (approximately 31). However, the development of the currently vacant parcels is expected to be limited, as they generally have development constraints (such as steep slopes).

Land use information for Reach M3 is summarized in Table 3.3.

Table 3.3. Reach M3 shoreline development and use summary.

Total Acreage / Current Land Use[1]	Current Vacant Parcels	Current Zoning Designation(s)	Comprehensive Plan Designation(s)
40.23 acres Single Family: 87% Vacant: 12% Tracts/Other: 1% Low Density MFR: 0.4%	Approximately 31 (1 city-owned, remainder privately owned	RS 12,000 Residential Single-Family	Low Density Residential Neighborhood

[1] Percentages may not total 100 percent due to rounding during GIS analysis.

3.4 Reach M4

The zoning designation for Reach M4 is RS 12,000 Residential Single-Family; the comprehensive plan designation for Reach M4 is Low Density Residential Neighborhood. Additional shoreline development and use information for Reach M4 is summarized in Table 3.4.

Because the comprehensive plan designation closely matches current land uses, reasonably foreseeable future use is not expected to change significantly.

Reasonably foreseeable future development in this reach is expected to consist of the redevelopment of existing structures and the possible development of some of the currently vacant parcels (approximately 12). However, the development of the currently vacant parcels is expected to be limited, as they generally have development constraints (such as steep slopes).

Table 3.4. Reach M4 shoreline development and use summary .

Total Acreage / Current Land Use[1]	Current Vacant Parcels	Current Zoning Designation(s)	Comprehensive Plan Designation(s)
22.41 acres Single Family: 91% Low Density MFR: 5% Vacant: 3% Commercial: 1%	Approximately 12 (2 city-owned, remainder privately owned)	RS 12,000 Residential Single-Family	Low Density Residential Neighborhood

[1] Percentages may not total 100 percent due to rounding during GIS analysis.

3.5 Reach LB

The zoning designation for Reach M4 is RS 7,200 Residential Single-Family; the comprehensive plan designations for Reach M4 are Moderate Density Residential Neighborhood and Special Planning Area 2. Additional land development and use information for Reach LB is summarized in Table 3.5.

Because the comprehensive plan designations closely match current land uses, reasonably foreseeable future use is not expected to change significantly.

Reasonably foreseeable future development in this reach is expected to consist primarily of the redevelopment of existing structures and the possible development of some of the currently vacant parcels (approximately 3). Private docks on Lake Burien are already at density of close to one per residence, so any development of new docks on Lake Burien would be very limited.

Table 3.5. Reach LB shoreline development and use summary.

Total Acreage / Current Land Use[1]	Current Vacant Parcels	Current Zoning Designation(s)	Comprehensive Plan Designation(s)
28.80 acres Single Family: 87% School: 8% Vacant: 3% Tracts/Other: 1% Low Density MFR: 1%	Approximately 3 (all privately owned)	RS 7,200 Residential Single-Family & Special Planning Area 2	Moderate Density Residential Neighborhood & Special Planning Area 2

[1] Percentages may not total 100 percent due to rounding during GIS analysis.

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4. Beneficial Effects of Any Established Regulatory Programs Under Other Local, State, and Federal Laws

In addition to the Shoreline Management Act, several other established regulatory programs yield beneficial effects on the City's shorelines. Some of these regulatory programs are briefly described below.

4.1 Local Programs and/or Laws

City of Burien Comprehensive Plan

Burien's first comprehensive plan was adopted in November 1997 following months of town meetings, workshops, and public hearings. The plan has been amended several times since then, most significantly in December 2007 due to growth management requirements for plan updates. The plan is based on the *Burien Vision*, an expression by the community of what the community should be in 20 years. The plan reflects the goals and guidelines of Washington's 1990 Growth Management Act (see below). A major plan concept is the creation of a sustainable community (a community that is socially, economically, and environmentally healthy).

City of Burien Municipal Code

There are several sections of the Burien Municipal Code (BMC) that have provisions that specifically apply to Burien shoreline areas. BMC Title 19 is the zoning code that implements the City's comprehensive plan. The zoning code contains numerous regulations with beneficial effects on Burien's shorelines including lot coverage, building height, and landscaping. It also includes critical areas regulations that are largely incorporated into the shoreline master program. BMC Title 17 contains regulations regarding subdivision of land and BMC chapter 15.55 addresses flood damage prevention. Chapter 7.30 contains rules governing use of park facilities that specify prohibited activities in the marine reserve areas.

King County Countywide Planning Policies

In order to effectively balance land use, infrastructure, and finance between a county and its cities, the Growth Management Act requires that an overall vision be established via a collaborative planning process involving the county and its cities. This process, formalized as the King County Countywide Planning Policies, is intended to serve as a framework for the development of each jurisdiction's comprehensive plan, ensuring consistency between a county's comprehensive plan and the comprehensive plans of the incorporated jurisdictions within its boundary.

4.2 State Programs and/or Laws

Growth Management Act

Many of Washington's cities and counties, including Burien, plan according to the Growth Management Act (GMA). While the goals and policies of the Shoreline Management Act are themselves a goal of the GMA, other goals of the GMA are relevant in shoreline jurisdictions. Those goals include: "Encourage economic development consistent with resources and facilities throughout the state," and "Protect the environment and enhance quality of life." To meet the goals of the GMA, jurisdictions planning under the GMA are required to designate and protect critical areas, as well as to use the best available science in developing policies and regulations to protect their functions and values. Also, the land use element of comprehensive plans is required to consider stormwater management and discharges into waters of the state.

State Environmental Policy Act

The State Environmental Policy Act (SEPA) aims to maintain and improve environmental quality. SEPA does so by requiring procedures designed to insure that governmental agencies give proper consideration of environmental matters when making decisions on development actions. If initial governmental review of a proposed action indicates that the action will have probable and significant adverse environmental impacts, preparation of a detailed environmental impact statement is required. The Burien Municipal Code Title 14 addresses environmental protection through the use of SEPA. The review of projects in the shoreline area triggering SEPA affords Burien's shorelines additional environmental protection.

Water Pollution Control Laws

The state also has water pollution control laws (RCW 90.48) with beneficial effects on Burien's shorelines. In enacting these laws, the legislature declared that it is "public policy of the state of Washington to maintain the highest possible standards to insure the purity of all waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of the waters of the state of Washington. Consistent with this policy, the state of Washington will exercise its powers, as fully and as effectively as possible, to retain and secure high quality for all waters of the state."

4.3 Federal Programs and/or Laws

Coastal Zone Management Act

The United States Congress recognized the importance of meeting the challenge of continued growth in the coastal zone by passing the Coastal Zone Management Act (CZMA) in 1972. The CZMA, administered by the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, provides for the management of the nation's coastal resources and balances economic development with environmental conservation.

The CZMA outlines two national programs, the National Coastal Zone Management Program and the National Estuarine Research Reserve System. The 34 coastal programs aim to balance

competing land and water issues in the coastal zone, while estuarine reserves serve as field laboratories to provide a greater understanding of estuaries and how humans impact them. The overall program objectives of CZMA remain balanced to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

Federal Water Pollution Control Act

The objective of the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act, is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

Endangered Species Act

The Endangered Species Act protects shoreline flora and fauna by requiring all projects permitted, funded, or authorized by the federal government to protect threatened and endangered species.

Magnuson-Stevens Fisheries Conservation and Management Act

The Magnuson-Stevens Fisheries Conservation and Management Act requires federally funded, authorized, or permitted projects that may adversely affect Essential Fish Habitat to be consulted upon by National Oceanic and Atmospheric Administration Fisheries.

5. Cumulative Impacts Summary

As discussed in Section 3, Burien's shorelines are already largely developed to their current potential, and shoreline use is not expected to change significantly in the reasonably foreseeable future. For these reasons, any adverse cumulative impacts on shoreline functions resulting from reasonably foreseeable development activity are expected to be limited. Moreover, the ongoing shoreline restoration efforts at Seahurst Park and to a lesser extent Eagle Landing Park should yield beneficial effects on shoreline ecological functions which have been degraded due to past cumulative impacts.

However, to minimize the potential for adverse cumulative effects to occur as a result of reasonably foreseeable development activity, and to foster activity which might yield beneficial cumulative effects, the Burien Shoreline Master Program contains several pertinent policies and regulations. These policies and regulations, as well as potential non-regulatory measures which could have beneficial effects on shoreline functions degraded due to cumulative impacts, are shown below in Table 5.1.

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Table 5.1. Cumulative impacts.

Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
Hydrologic (and Hyporheic in freshwater) Function	Shoreline protection structures (e.g. bulkheads)	Policies: REC 1.7 Trails and pathways on steep shoreline bluffs should be located, designed and maintained to protect bank stability without the need for shoreline armoring. USE 1.16 City should have development standards that promote the siting of new structures such that they will not require shoreline stabilization and protective measures in the future. USE 1.17 Shoreline stabilization and protective measures should be limited in number and extent. The use of "soft" stabilization and protective measures, such as vegetation, is preferred over the use of "hard" measures, such as concrete bulkheads. CON 1.5 New development or redevelopment should avoid or mitigate additional loss of shoreline ecological functions. Developments should be encouraged to improve ecological functions and restore riparian buffers. CON 1.10 The City should provide education and technical assistance on low-impact development techniques. Regulations: For bulkheads not subject to the single-family residence exemption, a shoreline conditional use permit is required. Structures may not result in a net loss of critical	Conduct a shoreline stewardship program to educate property owners about nonstructural approaches to shoreline protection.

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Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
		saltwater habitat or ecological functions. Construction materials that come in direct contact with the water shall not be treated or coated with toxic materials. Non-structural methods to stabilize the shoreline are used if feasible. Minimize size, height and quantity of material utilized for the bulkhead. Replacement bulkheads are generally not allowed waterward of the existing structure.	
	Boat ramps	Policies: USE 1.18 Encourage joint-use activities in proposed shoreline developments. CON 1.5 New development or redevelopment should avoid or mitigate additional loss of shoreline ecological functions. Developments should be encouraged to improve ecological functions and restore riparian buffers. Regulations: Prohibit construction of new boat ramps.	
	Overwater structures (e.g. docks)	Policies: USE 1.18 Encourage joint-use activities in proposed shoreline developments. CON 1.5 New development or redevelopment should	

Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
		avoid or mitigate additional loss of shoreline ecological functions. Developments should be encouraged to improve ecological functions and restore riparian buffers. <u>Regulations:</u> No covered moorage or dock structure is allowed water ward of the ordinary high water mark. Only one dock, moorage, float or launching facility is allowed for each single family detached residential lot. Only joint use dock, moorage, float or launching facilities are allowed for attached dwelling unit developments.	
	Impervious surface area	<u>Policies:</u> PA 1.2 Publicly owned shorelines should be limited to water-dependent or public recreational uses, otherwise such shorelines should remain protected open space. REC 1.11 Development of recreational facility along City shorelines should implement Low Impact Development techniques whenever feasible. CI 1.1 Minimize impacts to the topography and other natural characteristics of the shoreline by appropriately locating transportation routes. New roadways for vehicle circulation should be located outside of or minimized within the shoreline area.	

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Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
		CI 1.7 Parking facilities should be located and designed to minimize adverse impacts, including those related to: stormwater runoff; water quality; visual qualities; public access; and vegetation and habitat maintenance. CI 1.8 Parking should be planned to achieve optimum use. Where possible, parking should serve more than one use. CI 1.12 Parking for non water dependent uses should be located as far away as feasible from shorelines. CON 1.5 New development or redevelopment should avoid or mitigate additional loss of shoreline ecological functions. Developments should be encouraged to improve ecological functions and restore riparian buffers. CON 1.10 The City should provide education and technical assistance on low-impact development techniques. CON 1.11 Provide public outreach and education about shoreline ecological functions and processes, and engage the public in stewardship and enhancement activities. CON 1.11 Encourage minimizing the amount of impervious surfaces in new development through the use of appropriate low-impact development techniques and removing paved areas or using retrofit options in existing developments, where applicable, to minimize runoff.	

Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
		CON 1.12 The City shall consider the impacts of new development on water quality as part of its environmental review process and require where appropriate any mitigation measures. CON 1.13 Educate the public on water quality issues and impacts of stormwater flow. <u>Regulations:</u> The removal or modification of existing vegetation and the alteration of topography shall be the minimum necessary. Parking, storage, loading and service areas and facilities serving commercial or office uses should minimize their visual impact on the shorelines, utilize low impact development approaches and be placed a minimum of 200 feet away from the water. The building setback from Lake Burien is 20 feet and 25-30 feet from a wetland within shoreline jurisdiction. No accessory structures (such as boathouses or sheds) or impervious surfaces are allowed within the wetland buffer.	
Vegetation Function	Clearing of native vegetation	<u>Policies:</u> PA 1.12 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.	

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Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
		CON 1.5 New development or redevelopment should avoid or mitigate additional loss of shoreline ecological functions. Developments should be encouraged to improve ecological functions and restore riparian buffers. CON 1.11 Provide public outreach and education about shoreline ecological functions and processes, and engage the public in stewardship and enhancement activities. CON 1.17 The City will protect wetlands by maximizing infiltration opportunities and promoting the conservation of forest cover and native vegetation. CON 1.19 The City shall consider the impacts of new development on the quality of land, wildlife and vegetative resources as a part of its environmental review process and require any appropriate mitigating measures. Such mitigation may involve the retention of significant habitats. CON 1.20 The City shall encourage an increase in tree canopies through the addition and the preservation of existing vegetation and use of landscaping as an integral part of development plans. CON 1.21 The City should require development proposals to include non structural measures to stabilize soils, hillsides, bluffs and ravine sidewalls and to promote wildlife habitat by removing invasive vegetation and retaining or restoring native vegetation. CON 1.22 The City should consider developing	

Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
		policies that balance the removal of vegetation to preserve and enhance views with the need to retain vegetation to promote slope stability and open space. CON 1.23 Enhance riparian vegetation to improve shoreline ecological functions and processes where possible. CON 1.29 Native plant communities and wildlife habitats shall be integrated with other land uses where possible. Development shall protect wildlife habitat through site design and landscaping. Landscaping, screening, or vegetated buffers required during development review shall retain, salvage and/or reestablish native vegetation whenever feasible. Development within or adjacent to wildlife habitat networks shall incorporate design techniques that protect and enhance wildlife habitat values. REST 1.9 Increase availability of large woody debris and opportunities for recruitment in the nearshore zone. REST 1.10 Restore degraded shoreline areas with native species. <u>Regulations:</u> The removal or modification of existing vegetation and the alteration of topography shall be the minimum necessary. All clearing, grading and vegetation removal shall be the minimum necessary except for the removal of noxious and invasive vegetation using hand equipment if feasible.	

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Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
		Place priority on retention of snags and trees that provide overhanging vegetation and/or nesting or perching branches for eagles, other raptors, or priority species. Private access from single family detached residences shall avoid removal of trees and other woody vegetation when feasible.	
	Chemical fertilizers and herbicides	Policies: CON 1.11 Provide public outreach and education about shoreline ecological functions and processes, and engage the public in stewardship and enhancement activities. CON 1.14 Educate individuals and households about different ways to reduce pollution. Regulations: Limit use of pesticides and herbicides within and adjacent to the shoreline jurisdiction. The City shall give preference to mechanical means rather than the use of herbicides for roadside brush control on City streets in shoreline areas.	
Habitat Function	Shoreline protection structures (e.g. bulkheads)	Under "Hydrologic (and Hyporheic in freshwater) Function" above	

Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
	Barriers to fish passage	Policies: CON 1.5 New development or redevelopment should avoid or mitigate additional loss of shoreline ecological functions. Developments should be encouraged to improve ecological functions and restore riparian buffers. REST 1.6 Improve natural stream and shoreline conditions to an environmental quality level that supports the return and continuation of salmon runs. REST 1.7 Eliminate fish blockages Regulations: Navigation channels shall be kept free of hazardous or obstructing uses and activities. Culverts shall be located and installed in accordance with City of Burien standards and specifications.	
	Clearing of native vegetation	Under "Vegetation Function" above	
	Habitat alteration, destruction	Policies: CON 1.3 The City of Burien's Critical Areas Map shall be used as a reference for identifying the City's critical areas. Other unmapped critical areas do exist throughout the City. Any site containing critical areas are subject to the special development regulations and conditions found in the City's Critical Areas Ordinance. CON 1.4 Development should be directed toward areas where their adverse impacts on critical areas	

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Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
		can be minimized. CON 1.5 New development or redevelopment should avoid or mitigate additional loss of shoreline ecological functions. Developments should be encouraged to improve ecological functions and restore riparian buffers. CON 1.6 The City shall maintain a system of development regulations and a permitting system to prevent the destruction of critical areas. Development regulations should at a minimum address wetland protection, aquifer recharge areas important for potable water, fish and wildlife habitat conservation areas, frequently flooded areas, and geologically hazardous areas. CON 1.7 The City shall require permit review approval before any activity or construction is allowed to occur in, adjacent to, or impact a critical area. CON 1.19 The City shall consider the impacts of new development on the quality of land, wildlife and vegetative resources as a part of its environmental review process and require any appropriate mitigating measures. Such mitigation may involve the retention of significant habitats. CON 1.24 The City should maintain and enhance existing species and habitat diversity including fish and wildlife habitat that supports the greatest diversity of native species. CON 1.25 All development activities shall be located, designed, constructed and managed to avoid	

Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
		disturbance of adverse impacts to fish and wildlife resources, including spawning, nesting, rearing and habitat areas and migratory routes. CON 1.26 Fish and wildlife habitat should be protected, conserved and enhanced, including: a. Habitats for species which have been identified as endangered, threatened, or sensitive by the state or federal government; b. Priority species and habitats listed in the Adopted King County Comprehensive Plan, November 1994; c. Shellfish areas; d. Kelp and eel-grass beds; e. Herring and smelt spawning areas; and f. Wildlife habitat networks designated by the City. CON 1.27 Fish and wildlife should be maintained through conservation and enhancement of terrestrial, air and aquatic habitats. CON 1.29 Native plant communities and wildlife habitats shall be integrated with other land uses where possible. Development shall protect wildlife habitat through site design and landscaping. Landscaping, screening, or vegetated buffers required during development review shall retain, salvage and/or reestablish native vegetation whenever feasible. Development within or adjacent to wildlife habitat networks shall incorporate design techniques that protect and enhance wildlife habitat values. CON 1.31 The City shall promote voluntary wildlife enhancement projects which buffer and expand existing wildlife habitat, through educational and incentive programs for individuals and businesses. CON 1.32 The City shall seek to retain as open space,	

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Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
		those areas that provide essential habitat for any rare, threatened or endangered plant or wildlife species. CON 1.33 The City should maintain, protect and enhance greenbelts riparian corridors and wildlife habit corridors so that the extent and intensity of the built environment is balanced by these natural features. <u>Regulations:</u> Development shall not intrude into or over critical saltwater habitats except when an alternative alignment or location is not feasible. Use the best available technology to avoid adverse impacts. Development of underwater pipelines and cables on tidelands is prohibited except for deepwater outfalls and facilities where no other reasonable alternative exists.	
	Habitat fragmentation	<u>Policies:</u> CON 1.25 All development activities shall be located, designed, constructed and managed to avoid disturbance of adverse impacts to fish and wildlife resources, including spawning, nesting, rearing and habitat areas and migratory routes. CON 1.26 Fish and wildlife habitat should be protected, conserved and enhanced, including: a.	

Shoreline Function	Existing and Reasonably Foreseeable Shoreline Alterations with Potential Cumulative Impacts on Shoreline Function	Shoreline Policies and Regulations	Potential Non-Regulatory Measures
		Habitats for species which have been identified as endangered, threatened, or sensitive by the state or federal government; b. Priority species and habitats listed in the Adopted King County Comprehensive Plan, November 1994; c. Shellfish areas; d. Kelp and eel-grass beds; e. Herring and smelt spawning areas; and f. Wildlife habitat networks designated by the City. CON 1.28 The City should ensure that habitat networks throughout the City are designated and mapped. The network should be of sufficient width to protect habitat and dispersal zones for small mammals, amphibians, reptiles, and birds. These networks should be protected through incentives, regulation and other appropriate mechanisms. Site planning should be coordinated during development review to ensure that connections are made or maintained amongst segments of the network. <u>Regulations:</u> Development shall not intrude into or over critical saltwater habitats except when an alternative alignment or location is not feasible. Utilities shall be placed underground whenever possible.	

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City of Burien Shoreline Master Program

Policies and Regulations for Selected

Shoreline Uses and Modifications

Type of Shoreline Permit Required for Shoreline Uses and Modifications

Shoreline Environment Designations	Shoreline Residential	Aquatic	Urban Conservancy
Art	CU	CU	CU
Aquaculture	X	CU	X
Boat Mooring Buoy	X	CU	X
Boat Ramp	X	X	X
Boat House (covered moorage)	X	X	X
Breakwater & other in-water structures	X	X	X
Bulkheads*	CU	CU	CU
Cell towers	CU	X	X
Commercial	CU	X	X
Dredging	X	X	X
Fill	X	X	X
Floating home	X	X	X
Flood protection	SDP	SDP	SDP
Forestry (clearing)	CU	X	CU
Grading	CU	X	CU
Habitat Enhancement or Restoration	SDP	SDP	SDP
Industrial & Ports	X	X	X
Jetty	X	X	X
Mining	X	X	X
Office	CU	X	X
Recreation	SDP	SDP	SDP
Residential Single family**	SDP	X	SDP
Residential Multi family	SDP	X	CU
Schools	CU	X	CU
Transportation Facilities	SDP	X	SDP
Utilities	SDP	CU	SDP

SDP Shoreline substantial development permit.
CU Shoreline conditional use permit.
X Prohibited.

* Construction of the normal protective bulkhead common to single-family residences is exempt from shoreline substantial development permit requirements, in accordance with WAC 173-27-040(c), as amended.

** 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), as amended.

General Regulations

The following provisions shall apply to all development within shoreline jurisdiction:

1. All new shoreline development shall be located and designed to prevent the need for shoreline stabilization and structural flood hazard reduction measures for the life of the development, when *feasible*.

2. Development should be designed to minimize impacts to both views of the shoreline and views from the water. Building orientation, height and the creation of view corridors shall be considered in site and structure design.

3. The removal or modification of existing vegetation and the alteration of topography shall be the minimum necessary to construct the project.

4. When vegetation is disturbed within shoreline jurisdiction, those areas shall be replanted with native species by the next growing season when required or appropriate.

5. Non-structural shoreline stabilization or flood protection measures shall be used instead of structural solutions unless the project proponent demonstrates that a non-structural solution is not feasible and there would be no net loss of shoreline ecological functions.

6. Development shall not intrude into or over critical saltwater habitats except when an alternative alignment or location is not feasible and the development would result in no net loss of *critical saltwater habitat*.

7. Construction materials that come in direct contact with the water 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.

8. Limit use of pesticides and herbicides within shoreline jurisdiction.

9. Preference for shoreline permitted uses shall first be given to *water dependent uses*, then to *water related* and *water enjoyment uses*.

10. *Water dependent uses* shall only be allowed overwater if the overwater location is necessary for the operation of the water dependent use. Primary uses which are not water dependent shall not be permitted overwater unless specifically stated otherwise in the regulations for the applicable shoreline environment.

11. Navigation channels shall be kept free of hazardous or obstructing uses and activities.

12. BMC 19.40—Critical areas shall apply to the shoreline jurisdiction with the exception of the reasonable use provisions contained in BMC 19.40.070 (4).

Aquaculture

Aquaculture means the culture, harvesting or farming of food fish, shellfish, or other aquatic plants and animals. Activities include the hatching, cultivating, planting, feeding, raising, harvesting, and processing of aquatic plants and animals and the maintenance and construction of necessary equipment, buildings and growing areas. Cultivation methods include but are not limited to fish pens, fish hatcheries, shellfish rafts, racks and long lines, seaweed floats and nets and the culture of clams and oysters on tidelands and subtidal areas.

Policies

1. Aquaculture operations shall not be located in critical saltwater habitat.

2. Limit aquaculture to geoduck harvesting within Department of Natural Resources tracts or aquaculture for recovery of a native aquatic population.

3. No aquatic organism shall be introduced into City of Burien shoreline areas without the prior written approval of the Director of the Washington State Department of Fish and Wildlife or the appropriate regulatory agency for the specific organism.

4. Farming and/or harvest of geoducks shall follow all applicable State and Federal regulations and the most recent guidelines.

5. No aquacultural processing, except for the sorting or culling of the cultured organism and the washing or removal of surface materials or organisms, shall be permitted waterward of the ordinary high water mark unless fully contained within a tending boat or barge.

6. Permitted aquaculture developments must be located, designed and operated in a manner that is compatible with existing adjacent uses and in keeping with the shoreline environment designation.

Regulations

1. Aquaculture is allowed subject to a shoreline conditional use permit in the Aquatic environment designation.

2. Aquaculture is prohibited in the Urban Conservancy and Shoreline Residential environment designations.

3. Geoduck harvesting is not permitted in kelp or eelgrass beds.

4. Commercial geoduck harvesting is allowed when permitted by the Department of Natural Resources on a DNR owned tract provided that the applicant demonstrates that the location, design and operation will not:

    a. Cause a significant adverse impact on natural shoreline processes;
    b. Obstruct navigation channels;
    c. Interfere with the migration of aquatic organisms;
    d. Significantly degrade aesthetic quality.

5. Shellfish seeding and culturing is allowed when conducted for native population recovery in accordance with a government and/or tribal approved plan.

6. All other aquaculture developments and activities are prohibited within the City of Burien's shoreline jurisdiction.

Bulkheads

A solid or open pile wall erected generally parallel to and near the ordinary high water mark for the purpose of protecting adjacent uplands from waves or current action. Bulkheads are typically constructed of steel, timber or concrete piling.

Policies

1. Construction of a bulkhead is only permitted when non structural methods of shoreline protection are not feasible to protect a residence or other primary structure or essential public facility.

2. Bulkheads shall be located and constructed in a manner which will not result in adverse effects on *littoral drift* and adjacent properties.

3. Locate, design and construct shoreline stabilization structures to avoid no net loss of critical area ecological functions or values.

4. Minimize the effect of bulkheads on public access to publically owned shorelines.

5. Do not allow bulkheads to be installed for the purpose of creating upland by filling behind the bulkhead.

6. Bulkheads should be designed to blend in with the surroundings and not detract from the aesthetic qualities of the shoreline.

Regulations

1. Bulkheads may be permitted as a shoreline conditional use in the Aquatic, Urban Conservancy, and Shoreline Residential environment designations.

2. Minimize the size and quantity of material utilized for the bulkhead to protect the structure from the estimated energy intensity of the shoreline hydraulic system.

3. An existing bulkhead may be replaced with a similar structure if there is a demonstrated need to protect an existing residence from erosion caused by currents, tidal action, or waves.

4. Replacement bulkheads shall not encroach waterward of the ordinary high water mark or existing structure, unless removal of the old structure would result in greater negative impact on ecological functions.

5. Existing shoreline protection shall not be allowed to be replaced if it is resulting in the loss of ecological functions.

6. On lots where the abutting lots on both sides have legally established bulkheads, a new bulkhead may be installed no further waterward, as measured at an elevation two feet above the current ordinary high water mark, than the bulkheads on the abutting lots, provided that the horizontal distance between existing bulkheads on adjoining lots does not exceed one hundred feet.

7. The maximum height of a bulkhead on the marine shoreline will be no greater than one foot above the elevation of extreme high water as determined by the National Ocean Survey published by the National Oceanic and Atmospheric Administration.

8. The maximum height of a bulkhead on Lake Burien will be four feet above the ordinary high water mark.

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Commercial, Institutional and Office

Commercial development means those uses and facilities that are involved in wholesale or retail trade or business activities. Office development is defined in the City's zoning code in section 19.10.385.

Policies

1. The location, design and construction of commercial, institutional and office uses and redevelopment shall achieve no net loss of ecological functions.

2. Preference should be given to commercial, institutional and office developments which include water dependent and water related uses and activities as primary uses within shoreline areas.

3. Priority shall be given to uses that allow a substantial number of people to actively or passively enjoy the shoreline.

4. Design commercial, institutional and office developments adjacent to the shoreline in a manner that provides landscaping and environmental restoration consistent with constitutional and other limitations on the regulation of private property.

Regulations

1. Commercial, institutional and office uses are allowed subject to a shoreline conditional use permit in the shoreline residential environment designation and prohibited in the Aquatic and Urban Conservancy environment designations.

2. Parking, storage, loading and service areas and facilities serving commercial or office uses should minimize their impacts on the shorelines, including but not limited to stormwater runoff, water quality, visual impact, public access and vegetation maintenance. Parking facilities should also utilize low impact development approaches and be placed a minimum of 200 feet away from the ordinary high water mark.

3. Commercial, institutional and office developments in shoreline jurisdiction shall provide public access to the nearby shoreline.

4. Bed and Breakfast establishments proposed within a Residential zoning district are required to meet the policies and regulations for both Residential and Commercial use.

5. Overwater commercial, institutional or office structures are prohibited.

Flood protection structures

Flood protection structures are typically dikes, levees, dams and weirs. There is a weir at the outlet of Lake Burien that functions as a flood protection structure.

Policies

1. New structural flood protection measures shall only be allowed when necessary to protect existing development or to facilitate restoration projects.

2. When emergency repair of flood protection structures are necessary, permits for the work including mitigation, shall be obtained in a reasonable time frame or the structure shall be removed.

3. All flood protection measures, including repair and maintenance, shall conform to standards set forth in approved floodplain management plans, when available.

4. Flood protection shall not have adverse impacts on the property of others.

Regulations

1. Flood protection structures may be allowed in shoreline jurisdiction if a shoreline substantial development permit is obtained.

2. Flood control methods must be consistent with BMC 15.55-Flood Damage Prevention and BMC 19.40-Critical Areas.

3. New and expanded public flood protection measures may be permitted subject to City of Burien review and approval of a critical area study and the approval of a Federal Biological Assessment by the federal agency responsible for reviewing actions related to a federally listed species.

4. Subdivision proposals shall be consistent with the need to minimize flood damage by conforming to the adopted Base Flood Elevation regulations.

5. The City maintains the outlet weir at Lake Burien.

Habitat Restoration/Enhancement

Policies

1. Shoreline restoration/enhancement shall be designed to result in a natural shoreline with functions, vegetative communities and structure similar to what would historically have been found on the site or in the vicinity.

2. All shoreline restoration/enhancement projects should ensure that critical areas and function are not degraded by the action.

3. Nonstructural approaches for shoreline restoration/enhancement should be used for shoreline stabilization instead of bulkheads or other structural stabilization measures, where feasible.

4. Existing artificial structures that appear to be impeding natural recovery of a species and/or habitat should be removed.

5. All clearing, grading and vegetation removal shall be the minimum necessary except for the removal of noxious and invasive vegetation. Hand equipment should be used when *feasible*.

6. When habitat is restored or enhanced, priority shall be given to retention of snags and trees that provide overhanging vegetation and/or nesting or perching branches for eagles, other raptors, or priority species.

Regulations

1. Shoreline habitat restoration or enhancement projects are allowed in shoreline jurisdiction with a shoreline substantial development permit.

2. Shoreline habitat restoration or enhancement projects shall not adversely impact sediment processes, littoral drift, wetlands or fish and wildlife habitat conservation areas.

3. Beach enhancement shall not be allowed within spawning, nesting or breeding habitats unless the completed project will result in a greater long term benefit to the ecological functions and values.

Recreation

Outdoor recreation is any leisure activity that takes place within the out-of-doors or natural environment. Water oriented activity involves both active and passive opportunities to enjoy shoreline areas.

Policies

1. Recreation uses are allowed subject to a substantial development permit in the Shoreline Residential, Aquatic and Urban Conservancy shoreline environments.

2. Allow a variety of active and passive recreation opportunities in the shoreline areas.

3. Encourage provision of view points, rest areas and picnic facilities in public shoreline areas.

Regulations

1. Recreation projects are allowed in shoreline jurisdiction with a shoreline substantial development permit.

2. Recreation facilities shall be designed to take maximum advantage of and enhance the natural character of the shoreline area.

3. Recreation facilities shall provide signage and enforce regulations that prohibit tree cutting and restrict the collecting of marine life, driftwood and other natural materials.

4. Recreation areas shall promote public health, safety and security and not materially interfere with the normal public use of the water and shorelines.

5. Recreation facilities shall provide adequate provisions to prevent the general public from trespassing and overflowing into adjacent, privately owned properties.

6. The use of off-road all-terrain vehicles is prohibited on shorelands.

7. Jet skis and water craft with combustion engines are prohibited on Lake Burien.

8. Washing, cleaning or waxing of automobiles or other vehicles are prohibited in public parks or parking lots.

9. No person shall drain or dump refuse or waste from any trailer, camper, automobile or other vehicle in any park area.

10. No person shall flush any marine head or similar sanitary sewage device into an associated marine area, not cause any human or animal waste to be deposited into an associated marine area or when entering or leaving the area.

11. No person shall deposit any waste or refuse of any nature, including human or animal waste, fertilizers, pesticides, or chemicals, into any stream, lake or other body of water running in, through, or adjacent to any park area.

12. No person shall moor, anchor or dock a boat or other object overnight on or within 50 feet of the ordinary high water mark at any city beachfront park without authorization from the City of Burien Parks Department.

13. All laws, rules and regulations of the State Game Commission relating to season, limits, and methods of fishing are applicable to fishing for game fish in park areas.

14. All laws, rules and regulations of the State Department of Fish and Wildlife relating to season, limits, and methods of taking are applicable to the taking of shellfish or fish food in city park areas and, in addition to such laws, the city of Burien may close certain city park areas to the taking of shellfish. Such closed areas shall be posted with appropriate signs.

15. Seahurst Park and Eagle Landing Park are designated as marine reserve areas. The marine reserve designation shall allow and encourage the protection of fragile marine ecosystems and the education of the public regarding proper beach uses. The taking or intentional damaging of shells, rocks, plants, driftwood, shellfish or animals dead or alive from the beaches within marine reserve areas is prohibited.

16. Swimming in the marine waters and nearshore areas of Burien's parks shall be confined to:

    a. Designated swimming areas, or
    b. Swimming areas marked with buoys, log booms, or other markers, clearly designating the boundaries of such areas. Swimming shall be permitted only within these areas.
    c. The city shall not be liable for unintentional injuries to park users who swim in unsupervised areas not designated for swimming.

17. Skin-diving and scuba diving in the marine waters and nearshore areas of Burien's parks shall be prohibited:

    a. Within 100 feet of any public boat ramp, patrolled public beach designated as a swimming area, except pursuant to a permit issued by the Parks Department and except for commercial diving, or

b. In any other area unless the diver shall be accompanied by a watercraft or the area in which he or she is diving shall be marked by an adequately displayed diver's flag.

Recreational Mooring Buoys

A recreational mooring buoy is a device used to tie up a boat consisting of a line from the boat attached to a float at the water's surface with a cable or line fixed underwater to the submerged ground. The anchor line allows the boat to float and swing around the fixed buoy anchor.

Policies

1. Mooring buoys are the preferred method to provide moorage instead of constructing new residential docks, piers or floats.

2. Mooring buoys shall be located as close to the shore as possible and no farther waterward than existing authorized mooring buoys unless the drift of the boat dictates it.

3. Mooring buoys should be clustered away from critical saltwater habitat(s).

4. Mooring buoys shall utilize a system design that minimizes damage to underwater lands and marine vegetation.

Regulations

1. Recreational mooring buoys are permitted as a shoreline conditional use in the Aquatic environment designation and prohibited in the Urban Conservancy and Shoreline Residential environment designation.

2. Individuals owning residential property abutting state-owned aquatic lands may install a mooring buoy on those public lands for recreational purposes after obtaining approval from the State of Washington Department of Natural Resources (DNR).

3. Recreational mooring buoys on public lands must be installed using a DNR approved system.

4. Buoys must be visible under normal daylight conditions at a minimum of 100 yards during daylight hours and must have reflectors for night time visibility.

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5. Recreational mooring buoys on public lands are not to be used for commercial and transient uses or live-aboards.

6. Boats must be sixty feet or less in length to tie up to a recreational mooring buoy on public lands.

7. A second buoy to help secure moorage to the first buoy is allowed, however, generally only one mooring buoy for an adjacent waterfront lot is allowed.

Residential

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.

Policies

1. Design of new residential development should protect existing shoreline and water views, promote public safety, and avoid adverse impacts to marine bluffs and nearshore habitat.

2. Proposals for 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.

Regulations

1. Residential uses not subject to WAC 173-27-040 (2) (g) may be allowed with a shoreline substantial development permit in the Shoreline Residential environment designation and prohibited in the Aquatic designation.

2. Single family dwellings not subject to WAC 173-27-040 (2) (g) may be allowed subject to a shoreline substantial development permit in the Urban Conservancy environment designation.

3. Multi family developments may be allowed subject to a shoreline conditional use permit in the Urban Conservancy environment designation.

4. New residential developments adjacent to a water body that create greater than three dwelling units or lots shall be required to provide public access to the water's edge.

5. Lot size calculations shall not include portions of the lot that are waterward of the ordinary high water mark.

6. New development on 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.

7. The building setback from Lake Burien is 20 feet and 25-30 feet from a wetland within shoreline jurisdiction. No accessory structures (such as boathouses or sheds) or impervious surfaces are allowed within the wetland buffer.

8. Private access from single family detached residences shall avoid removal of trees and other woody vegetation when *feasible.*

9. Accessory structures that are not appurtenances must be proportional in size and purpose to the residence and compatible with onsite and adjacent structures, uses and natural features.

10. Only joint use dock, moorage, float or launching facilities are allowed for attached dwelling unit developments.

11. Only one dock, moorage, float or launching facility is allowed for each single family detached residential lot.

12. No covered moorage or dock structure is allowed waterward of the ordinary high water mark.

13. Floating homes or houseboats are not allowed in shoreline jurisdiction.

Transportation Facilities and Parking

Transportation facilities are those structures and developments that aid in land and water surface movement of people, animals, goods and services. They include streets, bridges, bikeways, trails and other related facilities.

Policies

1. New transportation and parking facilities should be located outside of the shoreline jurisdiction or as far landward from the ordinary high watermark as feasible.

2. Design and maintain roads to minimize erosion and preserve natural drainage ways.

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Construction debris, overburden and other waste materials should not be allowed to enter into any water body by disposal or erosion from drainage, high water or other means.

Regulations

1. Transportation facilities shall be permitted in the Shoreline Residential and Urban Conservancy environments subject to obtaining a shoreline substantial development permit.

2. Transportation facilities shall provide public access appropriate to the location and extent of the facility.

3. New roads and parking areas shall provide safe travel options for bicycles and pedestrians.

4. The City of Burien shall prohibit the vacating of street-ends that abut the marine waters and Lake Burien, unless the street is not suitable for recreation, viewpoint, education, or other public purpose.

5. Require transportation and utility facilities share use of rights-of-way to minimize disturbance in shoreline areas.

6. Landscaping shall be provided to minimize visual impacts for all new and expanded transportation facilities in shorelines. A landscape plan shall be provided in conjunction with review and issuance of a shoreline substantial development permit.

7. Stairs to the beach are allowed 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.

8. Beach stairs must 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 and landings shall be located upland of existing bulkheads.

9. All shoreline areas disturbed by facility construction and maintenance shall be replanted and stabilized. Such vegetation shall be maintained by the agency or developer constructing or maintaining the road until established.

10. The City shall give preference to mechanical means rather than the use of herbicides for roadside brush control on City streets in shoreline areas.

Utilities

Services and facilities that transmit, store, or process water, sewage, communications, electric power, fuel and natural gas.

Policies

1. Utilities should be located to meet future needs and serve areas planned to accommodate this growth, while minimizing conflicts with existing shoreline uses.

2. Utilities should be located and designed to minimize harm and mitigate impacts to critical areas, ecological functions, and ecosystem-wide processes.

3. Utilities shall be placed underground whenever possible.

4. Wherever *feasible*, utility easements should be utilized to provide public access to shoreline areas.

Regulations

1. Utilities are allowed in the Shoreline Residential and Urban Conservancy environment designations subject to obtaining a shoreline substantial development permit.

2. Utility projects require a shoreline conditional use permit in the Aquatic environment designation.

3. Development of underwater pipelines and cables on tidelands is prohibited except for deepwater outfalls and facilities where no other reasonable alternative exists.

4. Utility transmission lines, pipes and wires shall be located in existing rights-of-ways when possible and cross shoreline jurisdiction by the shortest, most direct route feasible, unless an alternative route would result in less environmental impact.

5. Cable crossings for telecommunications and power lines entering or leaving a body of water shall be bored or buried below the surface of the water body's bed from the ordinary high water mark out to a minimum water depth of minus ten feet (-10') below mean lower low water.

6. Directional boring, instead of excavation or trenching, is required where feasible.

7. Aerial utility lines and vertical utility facilities shall make maximum use of topography to minimize visual contrast with the surrounding area.

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8. Communication and radio towers shall not obstruct or destroy scenic views of the water. This may be accomplished by design, orientation and location of the tower, height, camouflage of the tower, or other features consistent with utility technology.

9. Use the best available technology to avoid adverse impacts; be routed around or drilled below aquatic critical habitat or species; be installed in sites free of vegetation, as determined by physical or video seabed survey; from the uplands to waterward of the deepest documented occurrence of native aquatic vegetation.

10. Culverts shall be located and installed in accordance with City of Burien standards and specifications.

11. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.

12. Except for water lines, all underwater pipelines transporting substances hazardous to aquatic life or water quality are prohibited unless no other practical alternative exists. Such facilities shall include an automatic shut off valve on both shorelines and maintenance procedures are established.

CITY OF BURIEN, WASHINGTON
MEMORANDUM

DATE: September 2, 2008

TO: Burien Shoreline Advisory Committee

FROM: David Johanson, AICP, Senior Planner

SUBJECT: Burien Shoreline Master Program Environment Designations

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The purpose of this memo is to provide the Shoreline Advisory Committee a draft of the proposed shoreline environment designations. Consistent with the state guidelines for preparing shoreline master programs, the document includes a purpose, criteria and management policies for each of the three proposed designations: Aquatic, Urban Conservancy, and Shoreline Residential.

PURPOSE AND BACKGROUND

Shoreline environment designations are a required part of a shoreline master program that provide a policy and geographic framework to help guide the City in evaluating proposed activities and permit applications in the City's shoreline jurisdiction. The guidelines (WAC 173-26-211 (4) (b)) recommend a classification system with six basic environments: "High-Intensity," "Shoreline Residential," "Urban Conservancy," "Rural Conservancy," "Natural," and "Aquatic". Staff and the consultants have evaluated these designations for potential application to the Burien shoreline jurisdiction. Several of the designations match the existing land uses and intensity of development and are consistent with the current shoreline environment designations. In addition, the shoreline characterization and analysis of ecological conditions and functions was also referred to in selecting appropriate environment designations.

ACTION/DISCUSSION

The Shoreline Advisory Committee is requested to review and comment on the preliminary draft of the shoreline environment designations document including the purpose, criteria for designation, and management policies for each of the designations. Staff is looking for your guidance on assigning the designations to the shoreline reaches.

Some of the key questions to consider are:

1) **Do the proposed designations and management policies accurately reflect Burien's shorelines?**

2) **Are the proposed shoreline environment designations consistent with the comprehensive plan designations and implementing zoning?**

3) **How should institutional uses (i.e., Ruth Dykeman facility) be addressed?**

ATTACHMENTS

1. City of Burien Shoreline Master Program—Shoreline Environment Designations (Draft), 8/20/08

City of Burien Shoreline Master Program
Shoreline Environment Designations
February 3, 2009

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, the marine shorelines below the extreme low tide are designated shorelines 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.

Aquatic

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 or extreme low tide. This is accomplished by managing water dependent uses and modifications to prioritize preservation and restoration of critical saltwater habitat and overall ecological functions of the nearshore area, navigation and recreation, by assuring compatibility between shoreland and aquatic uses.

Criteria for Designation

An Aquatic shoreline environment designation will be assigned to lands waterward of the ordinary high water mark for both saltwater and freshwater bodies of water, including any submerged or inter-tidal areas. For the City of Burien, this designation applies to Lake Burien and all marine (Puget Sound) areas waterward of the ordinary high water mark out to the center of the channel within the City limits. The Aquatic shoreline environment designation includes the water surface together with the underlying lands and the water column.

Management Policies

1. 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.

2. New overwater structures should be allowed only for water-dependent uses, public access, or ecological restoration if it can be clearly shown that the cumulative environmental impacts of such structures will not cause significant adverse impacts to protected species.

3. The size of new overwater structures should be limited to the minimum necessary to support the structure's intended use and should support multiple use.

4. All developments and uses on navigable waters or their beds should be located and designed to minimize interference with surface navigation and moorage.

5. All developments and uses should consider impacts to public views and access and allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration.

6. Restoration opportunities associated with project impacts should be encouraged in the aquatic environment.

7. Uses that adversely impact the ecological functions of critical saltwater and freshwater habitats should not be allowed except where necessary to achieve the objectives of RCW 90.58.020, and then only when their impacts are mitigated according to the sequence described in WAC 173-26-201(2)(e) necessary to achieve no net loss of ecological functions.

Urban Conservancy

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.

Criteria for Designation

An "Urban Conservancy" environment designation will be 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.

Management Policies

1. 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.

2. Public access and public recreation objectives should be implemented if feasible and wherever any significant ecological impacts can be mitigated.

3. Water-oriented uses should be given priority over non-water-oriented uses with water-dependent uses given the highest priority.

4. New development should be designed and located to preclude the need for shoreline armoring, vegetation removal, flood control, and other shoreline modifications.

5. 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.

Shoreline Residential

Purpose

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

Criteria for Designation

A "shoreline residential" shoreline environment designation has been 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.

Management Policies

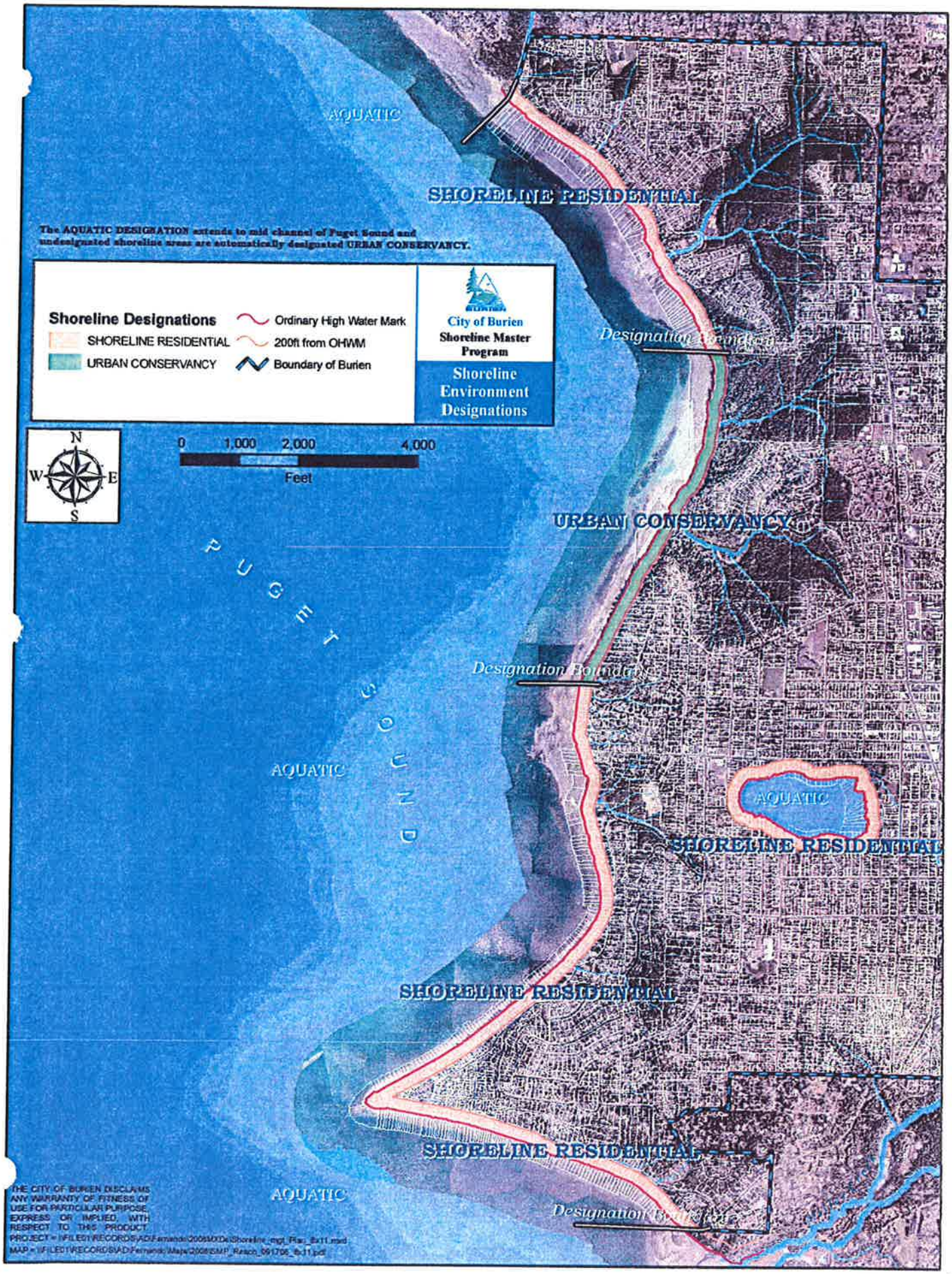
1. Residential and accessory uses, recreation facilities and public access shall be the preferred uses.

2. Multifamily and multi-lot residential and recreational developments should provide public access and joint use for community recreational facilities.

3. Water-oriented recreational uses should be allowed.

4. Any new development or redevelopment should utilize low impact development techniques where feasible.

5. Standards for density or minimum frontage width, setbacks, lot coverage limitations, buffers, shoreline stabilization, vegetation conservation, critical area protection, and water quality shall be set to assure no net loss of shoreline ecological functions.


AQUATIC
SHORELINE RESIDENTIAL
The AQUATIC DESIGNATION extends to mid channel of Puget Sound and undesignated shoreline areas are automatically designated URBAN CONSERVANCY.
Shoreline Designations
SHORELINE RESIDENTIAL
URBAN CONSERVANCY
Ordinary High Water Mark
200ft from OHWM
Boundary of Burien
City of Burien
Shoreline Master Program
Shoreline Environment Designations
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CITY OF BURIEN

SIGN IN SHEET

Date: 2/1/09

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