



YOUR COMMUNITY...YOUR ENVIRONMENT...YOUR ECONOMY
YOUR PORT OF BELLINGHAM

2013 SUSTAINABILITY REPORT

A sustainable Port is one that provides efficient transportation gateways, responsibly maintains and upgrades its infrastructure, creates and retains good-paying jobs, and serves as a model for environmental stewardship. Over the past several years, the Port has directed historic investments to modernize Whatcom County's airport, improve key infrastructure, increase energy efficiency, restore salmon habitat, and set the stage for returning contaminated waterfront property in Blaine and Bellingham to productive use. These investments have reduced the impacts of the global recession by creating new jobs and providing new economic opportunities for local businesses. As the economy continues to recover, our investments will pay dividends in the form of sustainable jobs for the future.

It is an exciting time at the Port and we hope you enjoy watching the dramatic change that will occur in the coming years in Bellingham's new Waterfront District. The Port has invested heavily to clean-up historic contamination, rebuild waterfront terminals, and transition underutilized property into productive reuse. Our new waterfront will deliver a wide range of economic, environmental and community benefits and offer new opportunities for individuals to make sustainability a part of their experience living in Whatcom County.

This report provides a snapshot of how the model of sustainability has become part of framework for advancing the Port's mission and core values. Sustainability at the Port is more than just a philosophy, it is the way we do business.

You can learn more and share your thoughts with us online at www.portofbellingham.com

July 2013

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Moonrise Over Squalicum Harbor

Executive Summary

The Port's primary mission is to fulfill the essential transportation and economic development needs of the region and our legislative authorities also allow us to deliver our mission and goals by incorporating a wide range of sustainable outcomes for the citizens of Whatcom County.

The Port is a special purpose municipal government with diverse operations and activities. Sustainable strategies can be broadly grouped into the following categories: (1) using the Port's legislative authorities to deliver sustainable outcomes; (2) managing operations and assets in a sustainable and environmentally responsible manner; and (3) integrating economic, environmental, and community benefits into plans and projects. Examples of each are provided below:

Using the Unique Legislative Authorities Provided to Port Districts to Maximize a Wide Range of Sustainable Outcomes for the Citizens of Whatcom County

1. Cleaning-up Contaminated Property and Reclaiming Underutilized Property (\$130 million in environmental cleanup is planned on Bellingham's central waterfront over the next 5 years)
2. Sustainable Economic Development
3. Increasing Public Access to the Water
4. Constructing High Performance Buildings
5. Restoring Salmon Habitat

Managing Operations and Assets in a Sustainable and Environmentally Responsible Manner

1. Energy Efficiency Upgrades (\$1 million in energy improvements will be constructed in Port facilities in 2013)
2. Envirostar Facilities (Bellingham Cruise Terminal, Squalicum Harbor, and Blaine Harbor have earned the highest possible rating)
3. Hybrid Fleet Replacement
4. Environmental Compliance Assistance Program (recurring inspections of tenant properties)
5. Enhanced Recycling
6. Reuse of Building Materials
7. Recycling of Demolition Material
8. Better Purchasing Practices (ie: increased recycled content, eco-friendly cleaners, washable towels, etc.)
9. Tenant Resources (ie: clean marina guide, stormwater compliance training, etc.)
10. Planning Environmentally Aware Events

Integrating Economic, Environmental and Community Benefits into Plans and Projects

1. Bellingham International Airport Expansion (state of the art heating and lighting, waste compactors, improved recycling, etc.)



2. Squalicum Harbor Maintenance Dredging (the reuse of maintenance dredging material as an environmental cap at a nearby location saved millions of dollars in transport and disposal costs, reduced the environmental footprint of the project, and supported environmental cleanup efforts)
3. Clean Ocean Marina (This long-term project will transform a former wastewater treatment lagoon into a new downtown marina. This project will support the removal of over 400,000 cubic yards of contaminated treatment sludges from the waterfront, create a new, mile-long waterfront trail, and rebuild salmon friendly shorelines. An interim, mile-long waterfront public access trail around the lagoon is scheduled to open in Fall 2013.)

Port activity represents almost 10% of the local economy and the model of sustainability provides a comprehensive, integrated framework for advancing the Port's mission and values with strategies to lower costs, increase efficiency, reduce liability, improve strategic decision making, provide new economic opportunities, design better projects, and protect natural resources. Section 1 of this report details how the Port is meeting the current economic, environmental, and social needs of the community without compromising the ability of future generations to meet these needs. Section 2 describes how sustainable strategies are selected for implementation which are within the Port's capacity to act, consistent with the Port's mission, and produce tangible outcomes which create value for the citizens of Whatcom County. The Port has achieved many sustainable outcomes and Section 3 offers specific examples and provides a roadmap for continued success. Section 4 details key action areas such as environmental cleanup, stormwater management, sustainable economic development, habitat restoration and energy efficiency which will require diligence in the years to come.

A focal point of the Port's sustainability efforts over the past decade has been the cleanup and redevelopment of 228 acres of contaminated, heavy industrial property on Bellingham's downtown waterfront, one of the state's largest undertakings. This project has been described as "the opportunity of a lifetime" because it will connect downtown Bellingham to the waterfront and deliver a wide range of economic, environmental and community benefits including job creation, increased tax revenues, pollution reduction, new parks and waterfront trails, reduction of suburban sprawl, restored habitat, increased property value, and new business development opportunities. The Port has started to return some contaminated, underutilized waterfront property to productive use, but completing this complex undertaking will be a sustainability goal for many years to come.

From 2010-14 the Port will spend over \$67 million to upgrade and modernize the Bellingham International Airport with a terminal expansion, as well as paving and utility upgrades. This historic investment and the largest capital project in Port history will triple the size of the airport and add a range of sustainable features such as state-of-the-art heating and lighting systems, improved recycling, and waste compactors to reduce truck traffic and save money in disposal costs. Port spending at the airport has reduced the impacts of the global recession on the local economy and is serving as a catalyst for sustainable economic development. Earlier this year, the Port approved plans with a local hotel group to build an \$18.5 million hotel across the street from the airport's commercial terminal and businesses are increasingly interested in relocating to Whatcom County because of the prestige and improved customer access provided by enhanced air service.

1 | The Port's Mission & Values

The Port is a countywide special purpose district established by Whatcom County voters in 1920 to develop and maintain critical trade infrastructure. The Port's mission is to fulfill the essential transportation and economic development needs of the region while providing leadership in maintaining greater Whatcom County's overall economic vitality through the development of comprehensive facilities, programs and services. In so doing, the Port pledges to work cooperatively with other entities, within the framework of community standards, and to be a responsible trustee of our publicly owned assets.

The Port operates the Bellingham Airport, Bellingham Cruise Terminal, Bellingham Shipping Terminal, Fairhaven Transportation Station, Squalicum and Blaine Harbor, various real estate business and industrial developments, and a network of public parks, trails and boat launches. Passenger and air cargo services at the Bellingham International Airport, real estate transactions on Port property, and marina activities all work to contribute to the local economy, including the creation of jobs that employ more people in Whatcom County than any other organization. Port activity represents almost 10% of the local economy. Developing and maintaining critical transportation and trade infrastructure is a primary role of the Port and essential to economic sustainability in Whatcom County.



CORE MISSION

ECONOMIC
DEVELOPMENT

TRANSPORTATION
FACILITIES & SERVICES

RESPONSIBLE TRUSTEE OF
PUBLIC ASSETS

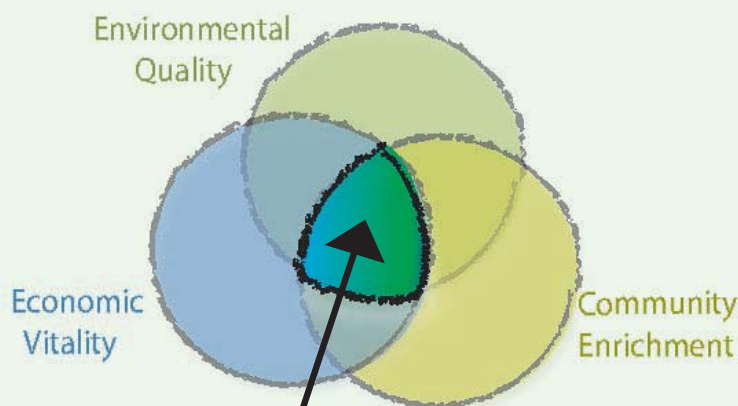
"within the framework of community standards"

The Sustainability Model

Sustainability is commonly defined as "meeting the current environmental, social and economic needs of the community without compromising the ability of future generations to meet these needs." The Port is

committed to achieving a high standard of environmental excellence and the model of sustainability provides a comprehensive, integrated framework for advancing the Port's mission and core values. The Port administers a sustainability program to help blend a balance of economic, environmental, and social concerns into its operations and procedures and guide decision-making within the framework of community standards. The program includes the development strategies for resource conservation, energy efficiency, material re-use and recycling, and the environmental stewardship of publicly-owned assets.

SUSTAINABILITY MODEL



The Framework of Community Standards

Sustainability at the Port



Sustainability has played a significant role in Port planning and decision-making for many years, in part due to lessons learned the collapse of Whatcom County's traditional natural resource-based economy and the negative effects unregulated industrial activities had on the health of the land and water. The Port is cleaning up pollution from historic industrial activities, exercising tight environmental control over users of public lands, and is committed to rebuilding an economy which includes a balance of economic, environmental and community objectives.

Sustainability provides a comprehensive, integrated framework for advancing the Port's mission and core values which can be applied in three general areas: (1) managing operations and assets in a sustainable and environmentally responsible manner, (2) integrating economic, environmental and community benefits into plans and projects; and (3) using the unique set of governmental authorities provided to port districts to maximize the value of sustainable outcomes for Whatcom County.

Managing Operations and Assets in a Sustainable and Environmentally Responsible Manner is good government and good business. The Port manages over 1,500 acres of publicly owned land and, when practicable, operates and manages its facilities to exceed environmental laws, regulations and other standards. The Bellingham Cruise Terminal, Squalicum Harbor and Blaine Harbor have earned the highest possible ratings from Envirostars, a state-wide effort to measure pollution prevention and waste reduction activities and certify environmentally-minded facilities.

The Port administers an Environmental Compliance Assistance Program (ECAP) with recurring inspections of more than 200 tenants to ensure the appropriate management of publicly owned assets and compliance with state and federal regulations. This program helps leaseholders understand the requirements and intent of increasingly complex stormwater regulations and consider "beyond



compliance” best management practices such as pollution prevention, resource conservation and environmental stewardship. Careful management of publicly owned assets preserves the ability for this generation and future generations of Whatcom County residents to meet their economic, environmental and social needs.

Many Port facilities are located in highly visible areas of transportation and commerce and, if managed sustainably, they become a tremendous model for everyone else. The Port emulates best management practices from public and private sectors and is committed to developing and maintaining high-quality, low-cost facilities. Strategies to enhance energy efficiency, conserve resources, and reuse and recycle materials offer a wide range of strategic benefits such as increased efficiency, reduced liability, and lower utility and maintenance costs..

Integrating Economic, Environmental and Community Benefits into Plans and Projects

Each year the Port makes major capital investments to enhance the county’s transportation infrastructure, improve the efficiency of port facilities and stimulate economic development. These investments include environmental infrastructure projects to clean soil and underwater sediment, protect wildlife, and improve water quality. Capital investments are an important commitment of public resources that can have serious consequences on the financial stability and credibility of the Port. Fundamental to all significant investments is an economic evaluation which includes the initial conception of the project and continues through

planning, design, procurement, construction, start-up, operation and maintenance. Port decision-making typically includes a traditional Return on Investment analysis, an assessment of the strategic benefits and risks, and consideration of the environmental and social dimensions of a proposed project.

To ensure responsible decision-making, project sponsors at the Port coordinate a range of components including concept feasibility, financing, design, bidding, construction, accounting, sales, legal issues and public outreach. Opportunities to increase the economic, environmental, or social benefits often arise during the course of the project and project managers are trained to be observant and opportunistic.

All Port projects and activities are discussed during Commission meetings which are open to the public. The Port maintains close ties to an extensive set of external stakeholders in government, industry, and non-profit organizations to help examine the economic, environmental and social aspects of proposed projects and provide input. This network helps the Port maximize the long-term value of its plans and projects for diverse stakeholders and catalyze positive change in Whatcom County.

Using the Governmental Authorities Provided to Port Districts to Maximize the Value of Sustainable Outcomes for Whatcom County. Port districts in Washington have a unique set of governmental authorities and each of the 75 districts throughout the



A low impact development rain garden is used to manage stormwater at the Bellingham Airport



Economy

This \$7.3 million project will generate over 50 direct construction jobs and over 50 secondary jobs in Whatcom County.

All costs for marina improvements are being paid for with revenues from marina customers. Up to half the cost of the landfill cleanup will be paid for by Washington State cleanup grants.

Port marinas are an important part of the local economy. Boaters generate around \$50 million in total annual economic output and contribute over 200 direct jobs to Whatcom County.

Community

Whatcom County has a rich history as a maritime community and over 80% of the Port's marina customers are from Whatcom County.

Squalicum Harbor provides Whatcom County residents with a transportation gateway to some of the best cruising waters in the world.

Dredging is needed to maintain navigation depths in Squalicum Harbor as the result of several decades of sediment deposited into Bellingham Bay from the Nooksack River.

Environment

Sediment removed from Squalicum Harbor will be reused during initial cleanup work at the Cornwall Avenue Landfill cleanup site. The sediment will be spread on top of a portion of the site to reduce the flow of contaminated groundwater into Bellingham Bay.

Reusing the material nearby, rather than transporting it to eastern Washington for disposal, reduces the carbon emissions associated with this project.

This project will remove 194 creosote-treated pilings from the marine environment and replace them with concrete pilings. Creosote is a toxic substance.

Cornwall Landfill Cleanup

The Port, with oversight by the Department of Ecology, is taking an initial step in the cleanup of a historical landfill at the south end of Cornwall Avenue. The Cornwall Avenue Landfill cleanup site has been used for a variety of industrial purposes beginning in the late 1890s including the City of Bellingham's waste municipal waste landfill from 1955-1985. The landfill is a source of contamination in Bellingham Bay. The initial cleanup work will place the sediment dredged from Squalicum Harbor on a portion of the landfill. This material will be contained to direct rainwater away from Bellingham Bay and covered with a waterproof sheet. These actions will reduce the amount of contaminated groundwater reaching Bellingham Bay. The final cleanup is expected to be complete in 2-3 years.

Potential Impacts

Notes: Work will occur mostly during normal business hours, but may vary depending on tide cycles. Odors: The dredge material may have a moderate odor similar to the smell of raw fish. Views: Views of Bellingham Bay from the South Bay Trail will not be obstructed. The material will be placed on the landfill in mounds up to 15 feet high and covered with plastic sheeting.

Project Schedule

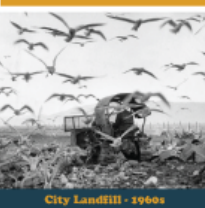
October 2011 - March 2012

Project Contacts

Brian Gorman, Environmental Site Manager, Port of Bellingham, 360/76-2580

Rick Strickland, Site Manager, Department of Ecology, 360/407-2218

Cornwall Landfill Cleanup



City Landfill - 1990s



Squalicum Harbor Improvements

The Port is performing an important maintenance project by removing 40,000 cubic yards (about 2,000 dump truck loads) of sediment from Squalicum Harbor to restore navigable water depths at the east entrance to the harbor, the waterway adjacent to P & G docks, and within the berthing areas of the J & G Basin themselves. Dredged sediment will be barged to the former Georgia-Pacific property at 300 W. Laurel Street for handling then trucked to the Cornwall Avenue Landfill cleanup site. This Project will also remove 194 creosote-treated pilings and deteriorating concrete and timber floats from Gate 3 and replace them with new concrete piles.

Squalicum Harbor Improvements

Project Schedule

Fall 2011 - Spring 2012

Project Impacts

Notes: Project work will occur mostly during normal business hours but may vary due to the needs of adjacent businesses.

Project Contact

Mike Tabbler, Squalicum Harbormaster, Port of Bellingham, 360/76-2582



Project Partners: Washington State Department of Ecology, Washington State Department of Natural Resources, City of Bellingham

The Port develops educational signs to describe how economic, environmental and community benefits are integrated into major capital projects like this \$7.3 million capital project to improve Squalicum Harbor and clean-up an old City landfill.

state has its own characteristics. As the Port considers opportunities to initiate sustainable outcomes, it is important to strategically target limited resources in order to maximize the value and effectiveness of these outcomes for the citizens of Whatcom County. The Port is well positioned to advance a range of sustainable outcomes including:

- **Sustainable Economic Development:** A key function of the Port is to develop projects and programs that stimulate the economy and create jobs. The Port can build buildings and structures to accommodate virtually any type of economic activity and pursue economic development programs such as industrial development, infrastructure development, tourism and entrepreneurial development. Whatcom County is increasingly recognized as a place on the forefront of transition to a green economy and a priority for the Port is job creation, industry

recruitment and economic development associated with this emerging industry.

- **Cleaning up Historic Contamination and Reclaiming Underutilized Property:** Whatcom County is still suffering from the collapse of its traditional, natural resource based economy which, for many years, was powered by a seemingly limitless supply of timber, fish, coal and other natural resources. Many waterfront properties now lie vacant and contaminated as a result of many years of unregulated heavy industrial activity and redevelopment efforts are hindered by the liability and uncertainty of cleanup costs.

Contaminated waterfront property represents a significant lost opportunity for economic development and other community improvements. Since 2004, the Port has acquired

a considerable amount of compromised property in an effort to rebuild the waterfront economy, create new jobs, increase the local tax-base, mitigate public health and safety concerns, and improve the community's image.

The Port's governmental authorities make it well-suited to acquire and redevelop contaminated property. The Port's public enterprise character makes it more nimble and entrepreneurial than other government agencies and allows it to take on major cleanup efforts. The revitalization of Bellingham's central waterfront will take decades and the Port is not bound by the bottom-line need for an immediate return on investment like private companies. The Port is eligible for grant funding from the Washington State Department of Ecology and has secured millions of dollars in state cleanup grants to support local restoration efforts.



- **Habitat Restoration:** In 1999, Chinook salmon were listed as threatened under the Endangered Species Act in the waters surrounding Whatcom County. Many Port facilities are located in sensitive estuarine areas and the Port plays an important role in preserving, creating and enhancing habitat for salmon and other species. The Port has integrated habitat restoration into its waterfront redevelopment plans and is managing a number of capital projects to the benefit of salmon recovery efforts. Returning salmon runs to sustainable harvest levels will assist with the recovery of Puget Sound and support local industries like tourism and commercial fishing over the long-term.
- **Public Access to the Waterfront:** The Port recognizes the importance of public access to Port lands and has built shoreline access facilities and trails, boat ramps, viewing areas, beaches and interpretive exhibits. Focused areas of public access are intended to provide the community with high-value interaction with the water while minimizing the disturbance to sensitive nearshore habitat and water-dependent commercial properties.



Before and after pictures showing the removal of 1700 tons of derelict creosote structures from the Squalicum Creek estuary

2 | Developing Sustainable Strategies & Programs



“Port facilities are portals to the outer world which give visitors their first impression of a community’s standard for environmental stewardship. If Ports can manage their operations sustainably, they become this tremendous model for everyone else.”

Clyde Ford

Local author of ‘Boat Green: 50 Steps Boaters Can Take to Save Our Waters’

The Port’s cross-divisional Green Team helps generate new ideas and integrate sustainable strategies into diverse operations and procedures. Regular meetings keep sustainability in the spotlight and ensure communication and coordination among Port divisions. New strategies and programs are also developed through:

- The regular review of existing practices
- Research into the sustainable practices of other port districts and government agencies
- Staff interviews
- External energy and waste audits
- Community and stakeholder input

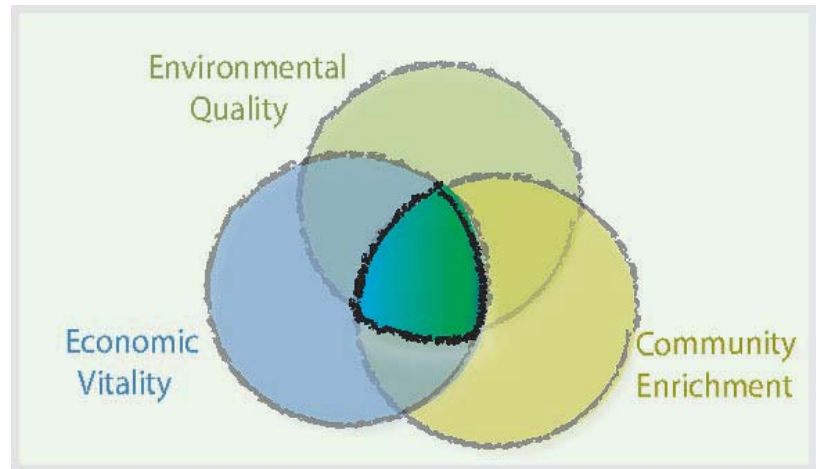


All ideas and suggestions are retained for regular reevaluation. Sustainable strategies determined unfeasible today might be feasible in the future as the quality and selection of “green” products, services, and technologies improves, prices decline, and the culture of sustainability intensifies.

Evaluating Potential Actions

The Port is a relatively small agency with limited resources. It is critical to focus efforts on sustainability actions which are within the Port's capacity to act, consistent with the Port's mission, and produce tangible outcomes which create value for citizens of Whatcom County. Strategies and programs proven to be effective at other organizations do not necessarily have the same cost/benefit relationship for the Port. An evaluation framework was developed to inform decision-making, maximize opportunity costs, and guide business and development decisions in support of efficient operations.

- Key Economic Considerations
 - Initial Cost Premium
 - Lifecycle Cost Savings
 - Operational Impacts
 - Grant Funding Opportunities
- Key Environmental Considerations
 - Measurable Benefit
 - Above and Beyond Compliance
 - Transformational Change Opportunity
- Key Community Considerations
 - Community Standards
 - Educational Benefit
 - Partnership Opportunities



Appendix A provides an example of how the Port's evaluation framework improved Best Management Practices associated with the replacement of carpool vehicles by looking beyond the initial purchase price to consider fuel efficiency, long-term maintenance, and environmental stewardship. The selection of gas/electric hybrids resulted in net financial savings and environmental benefits without sacrificing performance criteria.



A button was developed to brand the Port's sustainability program

3 | Keys to Success

The Port has successfully implemented many sustainable strategies. The following examples highlight keys to success which can be used to inform future efforts.

- **Lower Costs and Increase Efficiency:** Sustainable strategies which reduce operating costs and/or improve efficiency are excellent candidates for implementation. *Example:* In 2009 the Port spent \$513,973 for electricity, \$228,025 for water, and \$113,122 for natural gas to support its operating divisions. To help identify opportunities to improve efficiency and reduce associated utility costs, the Port commissioned an external energy and waste audit. The Port identified energy efficiency priorities as renovations to the Bellwether Office Building envelope and garage lighting, upgrades to the roofing and insulation at Fairhaven Marine Industrial Park, and exterior lighting upgrades at Fairhaven Station. In 2013 the Port will implement these improvements which will reduce annual maintenance costs, reduce annual utility costs by over \$13,000 and reduce annual carbon dioxide emissions by 174,208 pounds.
- **Identify Low Hanging Fruit:** Proposed actions are screened for “low hanging fruit”— low-cost strategies which can be quickly be put into practice with minimal operational impacts. *Example:* the Green Team identified a paper recycling container as too small to meet the needs of the Administrative office. The container was immediately replaced with a larger alternative and a sign that said “New Recycling Container...Courtesy of the Green Team.” Changing the bin was cheap and easy and increased awareness about the sustainability program. Achieving quick victories with “low hanging fruit” helped build momentum for the program.
- **Support Departmental Objectives:** Each Port division sets goals and objectives as part of the annual budget process. Sustainable strategies which support these divisional goals and objectives are a good fit for implementation. *Example:* In 2011, the recertification of Squalicum Harbor’s 5-Star EnviroStar rating and development of boater outreach materials were established as objectives of the Marinas Division. The sustainability program provided funding and assistance to develop maps highlighting clean boating amenities at Squalicum and Blaine Harbor such as oil and waste collection facilities, sewage pump-out



Signs are a cheap and easy way to increase awareness and promote responsible behavior



A new bike rack and participation in the Smart Trips program encourages non-motorized transportation

stations, fueling areas, spill response numbers, vacuum sanders, restrooms and showers, and recycling areas.

- **Reduce Liability:** Environmental risks (i.e., risks associated with environmental damage and compliance with local, state and federal laws and regulations) are common to Port activities. Sustainable practices help the Port manage environmental risks so it can protect its assets, financial health, property, reputation, constituents, and natural resources. The sustainability program provides a forum for the Port to evaluate, control and reduce the environmental impact of its activities, products and services, resulting in greater operational efficiency and control. Benefits to the Port include environmental compliance and performance; better awareness, involvement, and competency throughout the organization; better communication about environmental issues inside and outside the organization; improved efficiency; reduced costs; greater consistency; and better relationships with regulators. **Example:** The Port is legally required to obtain permits for a variety of activities. At the Bellingham International Airport, an industrial stormwater permit requires the Port to sweep all paved surfaces a minimum of once per quarter to remove accumulated pollutants. Through the sustainability program, a walk-behind vacuum sweeper was identified as an opportunity to improve operational efficiency and support regulatory compliance. When not in use at the airport, this sweeper is used to maintain sidewalks, promenades, pedestrian spaces and parking lots at other Port facilities reducing the need for leaf blowers and their associated noise and emission impacts.
- **Start Small and Build Momentum:** Success breeds success. While sustainability actions are being implemented is a great time to increase the size or scope of projects. **Example:** A local boater recommended the Port provide vacuum sanders to marina customers in support of clean boating practices. This suggestion occurred while clean marina maps were under development which provided momentum to purchase vacuum sanders and include them as a clean boating feature called out in the marina maps.
- **Look for Partnership Opportunities:** The Port maintains close ties to an extensive set of external stakeholders and partners in government, private businesses, academia, industry, and non-profit organizations. This network supports the Port's strategic and technical work while also helping catalyze positive change in Whatcom County. Partnerships increase the credibility of proposed actions, provide additional resources,



An energy audit identified money saving opportunities



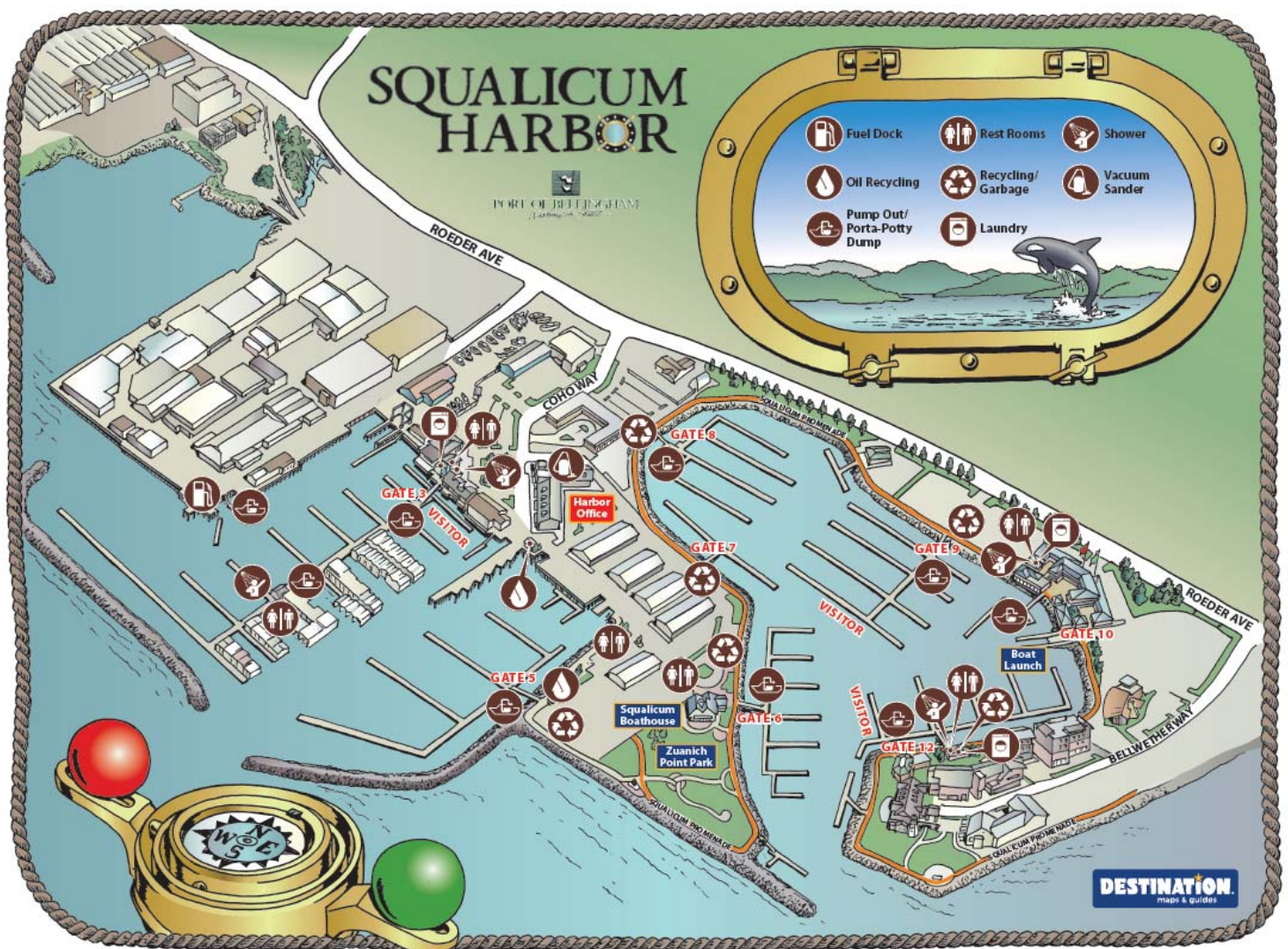
The Green Machine reduces stormwater management liability and increases operational efficiency

and make projects more appealing for grant funding. **Example:** The Port is co-manager of the Bellingham Bay Pilot, a partnership of 14 different local, state, federal and tribal agencies which has brought millions of dollars in grant funding to Whatcom County to support environmental cleanup, habitat restoration and public access projects in Bellingham Bay. The Bellingham Bay Pilot stakeholder team includes the Port of Bellingham, the City of Bellingham, Whatcom County, Lummi Nation, Nooksack Tribe, WA Department of Ecology, WA Department of Fish and Wildlife, WA Department of Natural Resources, Washington Department of Transportation, Puget

Sound Partnership, NOAA, US Army Corp of Engineers, US Environmental Protection Agency, and the US Fish and Wildlife Service. The Bellingham Bay Pilot Team works cooperatively together to develop comprehensive strategic environmental planning and well-integrated projects that include the cleanup of polluted sediments, restoration of historically lost habitat, control of pollution sources, and the revitalization of under-utilized waterfront properties.

Another Port partnership example is the Innovation Partnership Zone, established on Bellingham's waterfront to stimulate the growth of industry clusters and build the regional economy. The Port built a 10,000 square foot Technology Development Center to bring Western Washington University, Bellingham Technical College and local industries together to develop technologies focused on industrial design, advanced materials applications and clean energy.

- Find Out what Employees Care About and Support Internal Champions:** Sustainable strategies often require internal champions to be effective and the Green Team helps empower employees to become agents of change. **Example:** A Green Team member enrolled the Port in Whatcom County's Smart Trips program which promotes transportation by walking, bicycling, sharing rides, and riding the bus, coordinates bike to work events, and promotes the use of alternative transportation. Another employee is "greening" Port-hosted community events by reducing waste, increasing recycling opportunities, and using more environmentally preferable products.



Clean Marina Maps highlight green boating amenities at the Port's 5-Star EnviroStar marinas



The replacement of Port carpool vehicles with fuel efficient hybrids saves money and is good for the environment

- **Have Fun:** Having fun is essential to increasing participation and building enthusiasm for sustainable strategies. **Example:** The Green Team celebrates Bike to Work Day with prizes, biking videos, a “celebration station”, and the coveted “Iron Pedal Award” for the Division with the highest percentage of riders. The success of this event has led to the development Rideshare Maps, additional Bike to Work events, and participation in the Smart Trips program.
- **Search for Opportunities:** Every project or decision has the opportunity to better integrate a balance of economic, environmental, and social concerns. With this mindset it is easy to find opportunities to advance sustainable strategies. **Example:** The decision to replace several carpool vehicles with gas/electric hybrids was made only after a conversation about vehicle replacement was overheard in the hallway in which someone asked if a more fuel efficient alternative had been considered.
- **Establish Pilot Programs:** Pilot programs are a great way to introduce sustainable strategies and gather information to address concerns which could otherwise deter the program. **Example:** A pilot program at the Bellingham Cruise Terminal was established to test the effectiveness of several environmentally preferable products including Green Seal certified bathroom cleaners, garbage can liners containing less plastic, and reusable towels and rags as a substitute for paper towels. This trial resolved uncertainties about these products and is supporting a broader application throughout Port facilities.
- **Make a Statement:** Sustainability is a culture that must be developed. High visibility projects can be used to increase awareness and build support for sustainable strategies. **Example:** The Green Team identified the placement of improved recycling containers in highly visible public areas as a top priority. Recycling bins made from 100% recycled content were purchased for the Bellingham International Airport, Bellingham Cruise Terminal, Blaine Harbor, Commission Chambers, and the Rail Station. New outdoor recycling containers were also added to Port parks and open space to collect bottles, cans and plastic containers. The new recycling bins made a statement within the Port and to the community about the Port’s commitment to sustainability.
- **Communication and Coordination:** Many sustainable strategies require internal champions to be successful and internal presentations and conversations can be used to raise awareness and recruit ambassadors to answer questions and spread positive messages on a project’s behalf.



New recycling containers are within the framework of community standards

4 | On the Horizon

Sustainable Economic Development

Economic development is a major priority for the Port. As the United States' economy continues to transition to one that is lower carbon, lower pollution, energy/resource efficient, and ecologically supportive; there are significant opportunities for job creation, industry recruitment and economic development associated with this industry. The definition of "green job" is wide-ranging as one that "produces goods or services that result in generating and storing renewable energy; recycling existing materials; energy efficient product manufacturing, distributing, construction, installation and maintenance; education, compliance and awareness; and natural and sustainable product manufacturing." A growing number of Whatcom County businesses are providing "green" goods and services to local, regional, national and international markets. The Port is well positioned to play a greater role catalyzing growth in this field by:

- Recruiting businesses that specialize in environmental products and services to relocate or expand in Whatcom County.
- Supporting the development of green industries which specialize in conservation, resource efficiency, renewable energy generation, pollution prevention, and waste minimization and recycling. (In 2007, the Port, in partnership with Western Washington University, Bellingham Technical College and private industry, opened the Technology Development Center on Bellingham's waterfront to develop technologies focused on industrial design, advanced materials applications and clean energy; and train the workforce needed to meet the demands of these emerging industries).
- Developing eco-friendly industry clusters and helping expand their economic role in Whatcom County.
- Fostering the economic, social, and environmental infrastructures which provide the financial, workforce development, educational, and resource systems that green industries need.
- Branding and marketing the economic, social, cultural, physical, and natural advantages of Whatcom County as an ideal location for environmentally minded businesses to locate and grow.
- Speeding up the approval process. Sometimes the local, state and/or federal regulatory approval process can take years--even for projects which result in a net environmental benefit. The Port is helping local, state, and federal agencies streamline the approval process to provide the necessary level of environmental protection and make Whatcom County a more business friendly environment.
- Supporting the environmental and financial performance of existing firms and encouraging businesses to become greener, and at the same time, more productive.
- Supporting development which is mixed use, mixed income, walkable, energy and resource efficient, and transit oriented so Whatcom County continues to develop a reputation as an ideal location to live, work and play.



A meteorological tower was used to explore the potential for commercial wind energy production on Bellingham's waterfront



The cleanup of a Bunker C tank on Bellingham's central waterfront in December 2011

Environmental Cleanup

Environmental cleanup will continue to require substantial Port resources for the immediate future. The Port is bringing environmentally compromised land at 16 different sites back into functioning and productive use in order to increase jobs and the local tax base, provide new commercial opportunities, mitigate public health and safety concerns, increase public access to the water, restore salmon habitat and improve Whatcom County's image. In 2005, the Port commenced its most ambitious waterfront redevelopment project when it purchased Georgia Pacific's former pulp, paper and chemical facility on Bellingham's downtown waterfront and partnered with the City to clean up and redevelop 220 contiguous waterfront acres contaminated by historic industrial activities. This extension of Bellingham's downtown community is under development as one of the nation's first LEED-ND (Leadership in Energy and Environmental Design for Neighborhood Development) projects and has the opportunity to shape and lead the regional, national and international thinking about sustainable strategies.

The clean-up of contaminated properties is regulated by the Washington State Model Toxics Control Act (MTCA) and Ecology is the lead agency responsible for the implementation and enforcement. The formal MTCA cleanup process includes multiple steps from the discovery of contamination to construction and the average time required per site is 12 years. As a public agency, the Port is eligible for MTCA grants to pay for up to 50 percent of the environmental cleanup costs and has secured millions of dollars to support a higher and better used waterfront. This investment allows a "ripple effect" of economic development and investment which creates jobs and bolsters the local economy.

Environmental clean-up projects represent multi-million dollar capital investments and there are significant opportunities to integrate sustainable practices throughout the investigation, design, construction, operation and monitoring phases of remediation. For example, it may be possible to reduce the amount of contaminated soil that needs to be excavated and disposed of by constructing buildings over less-contaminated areas, and/or paving areas of contamination to reduce exposure. As cleanup technologies continue to advance, green remediation strategies offer significant potential for increasing the net benefit of cleanup, saving project costs,

and expanding the universe of long-term property use or reuse options without compromising cleanup goals.

Developing cleanup solutions which support future commercial activities and meet a range of community objectives requires comprehensive environmental planning and interagency coordination. Cleanup plans are reviewed by the Bellingham Bay Pilot, a partnership of 14 different local, state, federal and tribal agencies to help coordinate habitat restoration and public access opportunities. The clean-up and redevelopment of the vacant and dilapidated Weldcraft boatyard provides an excellent example of how the Port is returning waterfront property to active use and meeting multiple community objectives.



To cost-effectively mitigate for habitat impacts caused by site improvements to the boatyard, and to address requirements of the state's salmon recovery program for Endangered Species Act-listed species, the Port partnered with the Army Corps of Engineers (ACOE) and the Washington State Department of Natural Resources (DNR) to construct a two-acre marine habitat bench. With guidance from the Port, ACOE beneficially re-used dredge spoils from regularly scheduled maintenance dredging of a nearby federal channel to build the habitat bench. ACOE performed construction without charge and DNR waived their normal fee for dredging state-owned material from the federal channel, and also allowed construction of the habitat bench without financial compensation to DNR. The habitat bench supplied over one-acre of marine habitat beyond compensation requirements to help meet bay-wide restoration and enhancement objectives.

The once vacant and contaminated site is now occupied by Seaview North, an active boatyard which provides approximately 25 family-wage jobs and offers important services to the boating community. Site improvements included the removal of dilapidated structures, the remediation of 8,000 cubic yards of contaminated



Contaminated sediments are removed from the Weldcraft boatyard

sediment, and the removal of 215 creosote-treated pilings and about 9,000 square feet of creosote-treated timbers from the marine environment. This project serves as a model for how Whatcom County benefits both environmentally and economically from an integrated and cooperative approach to contaminated sediment cleanup, habitat restoration, source control, and land-use.

Climate Change

Many Port facilities are water-dependent and therefore dependent on the water as part



of the intrinsic nature of its operation. The Intergovernmental Panel on Climate Change is projecting sea level rise in the Pacific Northwest of between 4 and 52 inches from 1990 to 2100 and a reasonable estimate in Bellingham Bay by 2100 is assumed to be up to approximately 2.4 feet over current levels. Climate change poses a long-term threat to Whatcom County's environment and economy and will challenge the natural and built systems in the Pacific Northwest. As sea levels rise, water-dependent Port facilities will need to be raised, strengthened or retrofitted to maintain their functionality.

For the long-term development of Bellingham's downtown waterfront, the Port has developed one of the first generation of plans to analyze the potential

impacts of global climate change over the next 50 to 100 years and to proactively factor this analysis into planning. To address the potential impact of sea level rise, different mitigation alternatives have been selected for different areas of the waterfront based on criteria which includes the cost and natural resources required for implementation with the value and anticipated life-span of development features.

In areas of the waterfront planned for high-density mixed use development, most development features will be high value with an expected life span over 100 years. Given the nature of this development, an adaptive management approach is not sufficiently protective. In these areas, the site grades will be raised up to four feet above current elevations to protect this public and private investment from the long term effects of predicted global climate change.

Some locations on Bellingham's downtown waterfront are reserved for water-dependent marine industrial uses. Development features for these areas have a shorter design life, or are well suited to the application of an adaptive management approach. For example, marina breakwaters require periodic maintenance and an adjustment of structure height to accommodate sea-level rise can be integrated within maintenance activities. This provides greater certainty regarding the degree of protection required, and allows unnecessary resource use and environmental impacts (e.g., fill placement within aquatic areas)



to be avoided except where required by observed sea level changes and trends. Certain other industrial structures have shorter design lives, allowing the level of mitigation to be assessed specific to the anticipated operational life of the structure, in consideration with other factors.

The solution to climate change will require comprehensive, coordinated efforts at the local, state, regional, national, and international levels. As the Port continues to promote business activity in Whatcom County; it will support the implementation of cost-effective, fact-based air pollution control strategies which maintain good air quality, minimize health risks and protect the environment.



Flooding events like this one will become more frequent as the sea level rises as the result of climate change

The Port has taken a number of voluntary actions to proactively reduce GHG emissions and plan for the long-term impacts of climate change. Some of these activities include:

- **Green Building Practices:** Buildings are one of the largest contributors to Whatcom County's GHG emissions. The Port has been upgrading its facilities to increase energy efficiency, conserve water and recycle materials, among other things. In 2011, the Port installed 30 LED (light-emitting diode) green street lights at the airport which will provide energy savings, reduce maintenance and energy costs, and reduce carbon dioxide emissions. In 2013 the Port will spend \$986,289 to implement a range of energy efficiency improvements which will reduce utility costs and result in an annual emissions reduction of 174,208 pounds of Carbon Dioxide.
- **LEED Certified Buildings:** The Port completed construction of its first LEED Gold building in 2012. LEED certified buildings have a number of demonstrated benefits including conserving energy and reducing GHG emissions.
- **Alternative Fuel Vehicles:** The Port has started replacing carpool vehicles with fuel efficient hybrids to reduce GHG emissions and criteria pollutants.
- **Renewable Energy Research and Development:** The Port, in partnership with the City of Bellingham and Western Washington University is evaluating the feasibility of a District Energy system in the downtown waterfront with potential sources which include hydro-power from a 48-inch water main extending from Lake Whatcom to the site, heat recovery from the City's primary sewer trunk line, deep water cooling from Bellingham Bay, waste heat recovery from Puget Sound Energy's Encogen boiler, clear southern exposure for solar power, waste heat generated by cooling office buildings and light industrial users, geothermal associated with the high water table, and waste heat recovery from downtown municipal buildings. A District Energy system could increase energy efficiency, reduce heating costs and ultimately help achieve long-term GHG emissions reduction. The Port is also promoting the research and development of renewable energy technologies in the Technology Development Center on Bellingham's waterfront.
- **Maritime Emission Reductions:** Maritime operations throughout the Puget Sound are expected to grow significantly in the future and the Port's Shipping Terminal offers shore power for prospective tenants to shut down diesel engines and reduce GHG emissions during ship calls in Bellingham.
- **Sustainable Neighborhood Design:** The Port is incorporating sustainable design principles (LEED for

Neighborhood Development, EcoDistrict, etc.) into plans for Bellingham's downtown waterfront which include strategies to reduce GHGs from both the building and transportation sectors.

- **Site Design for Projected Sea Level Rise:** Many Port facilities are located at a low elevation and vulnerable to the long-term effects of climate change. On Bellingham's central waterfront, the Port has developed the first generation of land use plans to analyze the potential impacts of global climate change over the next 50 to 100 years and to proactively factor this analysis into the development planning. To address the potential impact of sea level rise, different mitigation alternatives have been selected for different areas of the Waterfront District based on criteria which includes the cost and natural resources required for implementation with the value and anticipated life-span of development features.
- **Recycled Oil:** The Port uses recycled oil to service its maintenance equipment.

High Performance Buildings

High performance buildings are becoming a competitive differentiator in the real estate marketplace and the Port's ability to cost-effectively deliver these assets will continue to grow in importance. Many businesses and tenants who prefer lower operating costs and healthier indoor environments are demanding green buildings. According to research by McGraw-Hill Construction, LEED certification for new buildings increases the occupancy rate by 6.4% and rent by 6.1%.

The Port completed construction of its first LEED Gold building in 2012, the 16,000 square foot Index Industries manufacturing facility. Index relocated to Whatcom County bringing 35 new family wage jobs in part because the Port was able to deliver a high performance building. Constructing buildings with energy, economic and environmental performance that is substantially better than standard practice will help attract 'green' businesses to the region and support Whatcom County's overall economic vitality. The Port also benefits from an expedited City permitting process, an increase in surrounding property values, and greater residual values when leases expire.

Buildings in the United States account for 39% of total energy use, 68% of total electricity consumption, 12% of total water consumption, and 35% of carbon dioxide emissions. To earn a LEED certification, buildings must be designed and built to minimize their impact on the environment, such as the use of recycled construction materials and designs that maximize the use of natural light and cut down on electricity consumption. High performance buildings have a number of well-documented benefits (lower energy bills, lower water bills, lower costs for facility maintenance and repair, lower costs to reconfigure space because of changing needs, increased worker productivity, reduced employee illness and improved employee attendance, improved ability to attract



The Port completed it's first LEED Gold building in 2012 bringing Index Industries and 35 family wage jobs to Whatcom County

employees, “green” marketing benefits, etc.) and tenants are increasingly demanding “green” office space. The LEED rating system provides a good template for building high performance buildings and additional cost of building to LEED standards is typically less than five percent if planned from the beginning of development

Habitat Restoration

Habitat restoration will remain a priority for the Port until salmon runs have been returned to sustainable harvest levels. In 1999, Chinook salmon were listed as threatened under the Endangered Species Act in the waters throughout Whatcom County. These fish, the largest of the Pacific salmon, once filled the surrounding waters and represented the natural heritage of the northwest coast. A combination of factors including overfishing, the destruction of habitat in the rivers and the ocean, and dams and other barriers, brought these massive fish to the brink of extinction. The decline of salmon is closely associated with the decline in the health of Bellingham Bay and Puget Sound. Over the past one hundred years there has been a large recession in the population of species which inhabit the surrounding area including forage fish, bottom fish, orca whales, salmon and marine birds. The restoration of shoreline habitat is critical to a coordinated, ecosystem-wide restoration effort and figures prominently Port’s redevelopment plans for the Bellingham’s central waterfront.

Bellingham’s central waterfront was once surrounded by shallow mudflats and extensive eelgrass beds which offered a surplus of food and protection to juvenile salmon as they left nearby rivers and adjusted to salt water in preparation for a journey out to sea. This natural environment has been devastated by more than a century of unregulated heavy industrial activity on the waterfront. Historic industrial development expanded on top of traditional salmon spawning grounds and the shallow mudflats were filled to create new industrial land. Shorelines were hardened with bulkheads, docks, wharves and rip rap and, as young salmon lost their traditional habitat, they became increasingly vulnerable to predators.

Today, the shorelines throughout Whatcom County include a legacy of failing bulkheads, old docks and over-water industrial structures. While these structures were important to the waterfront operations that supported our economy for many years, they are now recognized as impediments to the new community waterfront. Removing this infrastructure will create opportunities to soften and reshape the shorelines to provide richer and more productive habitat for salmon at all tidal stages.

The Port, working in collaboration with the multi-agency task force, the Bellingham Bay Pilot, has identified the highest priority habitat restoration areas in Bellingham Bay. Projects include the restoration of urban shorelines, the removal of creosote pilings and unnecessary overwater structures, the removal of fish passage barriers, enhanced nearshore connectivity, new shallow habitat benches, and eelgrass seeding.



Removing failing bulkheads creates opportunities to soften and reshape shorelines. Baby salmon need shallow beaches with a gentle gradient for protection from predators that hunt in deeper waters.

Squalicum Creek

The restoration of the Squalicum Creek estuary is a high priority for the Port. Squalicum Creek has the highest potential for salmon habitat restoration in the City of Bellingham jurisdiction and likely supports the largest number of salmon species. As a result of historic shoreline development, the mouth of Squalicum Creek has been relocated and confined between two concrete box culvert bridges in a heavily armored channel with a concrete bottom that creates jump, depth and velocity barriers to fish passage at most tidal elevations. In addition, nearshore modifications have reduced the historic estuary delta of Squalicum Creek to a remnant .75 acre sediment fan which is limited in its waterward extent and potential by a Corps maintained Federal Navigation Channel.



The Port has been managing efforts to restore habitat within the Squalicum Creek estuary since 2004. In 2007 and 2009, the Department of Natural Resources removed 850 abandoned creosote pilings and a derelict pier with over 15,000 square feet of overwater coverage. The remaining habitat restoration work has been split into three phases to allow flexibility in timing and funding sources. The Port has received commitments from Ecology, the City and the County for \$2,085,000 to fund the complete design and permitting of the project as well as construct Phase 1 which includes the replacement of the Roeder Avenue Bridge and the replacement of the City's sewer trunk line. Phase 2 of this project will remove of the concrete bottom currently in-place between the BNSF bridge and the Roeder Avenue bridge and replace the BNSF bridge. Phase 3 will create 2.5 acres of estuary habitat adjacent to the existing 0.75 acre creek delta. In addition to the habitat benefits of this project, removing the fish passage barriers will increase Squalicum Creek's stormwater conveyance capacity making flooding events less frequent.



A fish passage barrier at the mouth of Squalicum Creek

Mount Baker Plywood Shoreline Restoration / Eelgrass Seeding

The Port is designing improvements to replace several hundred feet of concrete rubble revetment along northwest side of the Mount Baker Plywood peninsula with a soft-bank alternative. The Port is also supporting research efforts into more effective methods of eelgrass seeding in Bellingham Bay.

Public Access to the Water

The Port recognizes the importance of public access to port lands and manages shoreline access facilities and trails, boat ramps, viewing areas, and interpretive exhibits. The redevelopment of Bellingham's central waterfront over the next 40-50 years will include extensive new public access to the water. The redevelopment area includes nearly 3 miles of shoreline. In some areas, new beaches will be created to restore habitat and provide kayak launch points and other opportunities for the community to interact with the water. In other areas, public access to the water will be strategically located along boardwalks, trails and promenades to protect high value habitat areas along the shoreline (intertidal and shallow sub-tidal areas) in support of salmon recovery efforts.



Before and after the Port restored a hardened shoreline at Marine Park to improve public access to the water