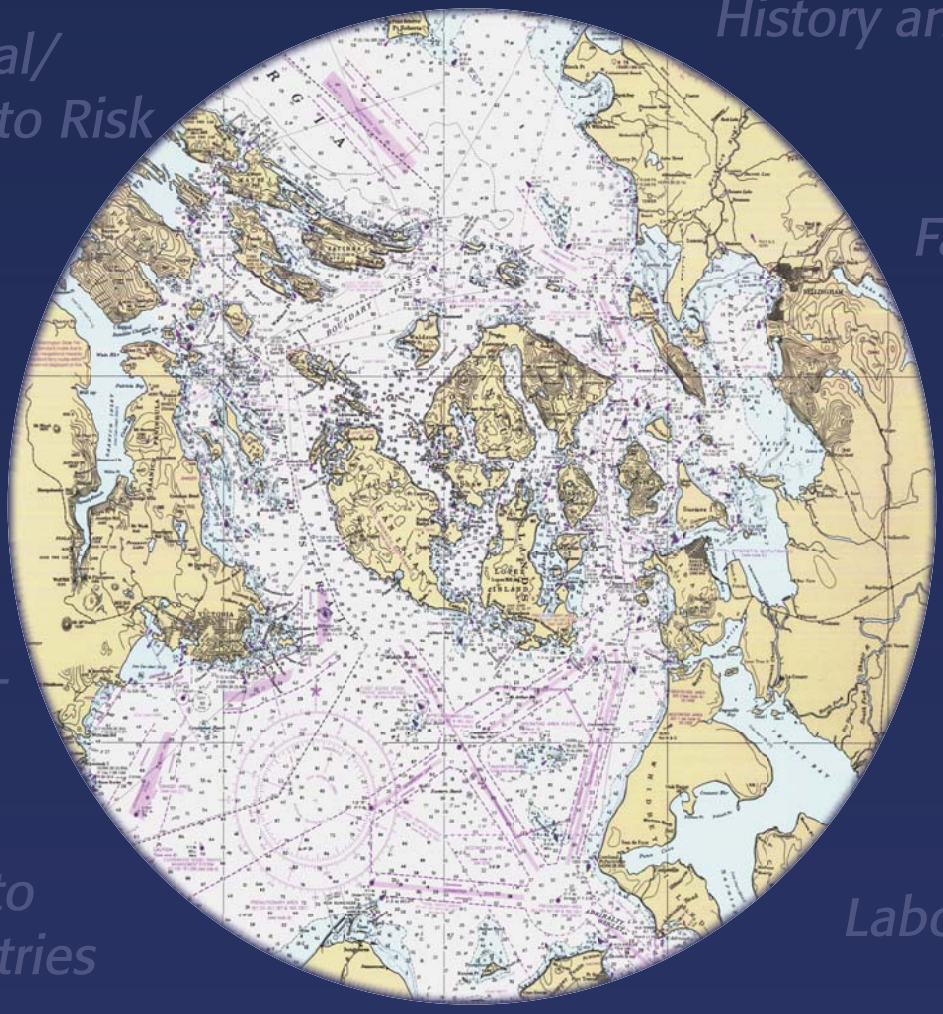
Northwest Washington Marine Industry Cluster Study

Entrepenurial/ Willingness to Risk

History and Experience

Small Businesses

Family-Owned



Innovative

Diversified Products

Community-Focused

Global Industry

Connected to Other Industries

Labor Dependent

Local Economic Drivers

Quality Products and Service

Final Report
June 20, 2007

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RE: Northwest Washington Marine Industry Cluster Study and Action Strategies

June 20, 2007

Dear Governor Gregoire:

Thank you for the opportunity to transmit this Northwest Washington Marine Industry Cluster Study to you, CTED, and the Northwest Washington marine community. This report is the result of a focused, six-month research effort to explore and analyze the marine sector in Skagit, Island, Whatcom and San Juan Counties. The study defined this sector as comprising of ship and boat manufacturing; boatyards and shipyards; boat and ship suppliers; ship and boat repair and maintenance businesses; marinas; boat charters; and boat storage and non-marina boat storage facilities.

A Growing Industry Operating in a Global Arena. The study finds that the Northwest marine industry generates significant economic benefits to the region and the State. For every one job created in boat and ship building, an additional 1.2 jobs are created through indirect and induced effects statewide. The industry is diversified, growing and operates in a globally competitive marketplace, while providing jobs and benefits for both skilled and entry-level workers. Boats and ships manufactured in the region serve three very different markets: recreation, commercial and defense/homeland security. Customers, suppliers and competitors are equally diverse and global. Customers are from all over the U.S. as well as (but not limited to) Canada, Germany, France, and Italy; suppliers are from developed and developing nations such as Germany, Sweden, Finland, United Kingdom, Netherlands, New Zealand, Australia, China and Thailand. Competitors are from the east, west and gulf coast states in the U.S., as well as China, Korea, New Zealand, Australia, Brazil, South Africa and Western Europe.

Businesses in the industry cluster include many small and family-owned firms that are the bedrock of their communities. The industry is known worldwide for the quality of its products and services, a point of enormous pride for the companies. Innovation and risk-taking too, are hallmarks of an industry that has roots in agriculture, logging and traditional marine construction, yet is evolving to provide complimentary products in transportation, advanced manufacturing and aerospace.

A Strong and Collaborative Support Network. This report was a major collaborative effort of the four-county support network for the marine industry. Thirteen public and non-profit organizations contributed time, money and networking resources to the effort. These partners are the Bellingham-Whatcom EDC; the Island County EDC; the Economic Development Association of Skagit County; the Northwest Washington Workforce Development Council; the Ports of Bellingham, Skagit, Anacortes, and South Whidbey; the Northwest Center of Excellence for Marine Manufacturing and Technology; Skagit Valley College; Bellingham Technical College; and San Juan County. The Center for Economic and Business Research at Western Washington University also played a key role in assembling and analyzing industry economic data.

Many businesses also generously contributed time and effort to the study. Dozens of businesses participated in focus groups held in Anacortes, La Conner and Bellingham through; detailed telephone interviews and contributions of firm-specific information and materials; and hosting site visits from the consultant team. Other research conducted for the project included comparative research on practices and policies in other states and other sectors; and collection and analysis of economic data to determine employment and economic impacts.

Study Outcomes and Actions. The products and outcomes of this study include a deeper understanding of the sector, its economic benefits and strategic opportunities; a set of actionable strategies to help propel the industry towards more job growth and increased competitiveness nationally and globally; and an industry directory that can be maintained by the partners following completion of the study. The directory is a contact database that can serve as a resource, connecting industry stakeholders to facilitate future information sharing, collaboration, and marketing initiatives.

We are proud of the contributions of the Northwest marine sector to the regional and statewide economy, and enthusiastic about the role that this report can play in increasing understanding and raising the profile of this strong and growing industry. We are committed to the success of the recommendations and action strategies in this report and are already working towards their implementation.

On behalf of the marine community in our four counties, thank you for your support for this effort. We very much look forward to discussing our plan with you in the coming months.

Sincerely,

PROJECT TEAM FOR THE NORTHWEST WASHINGTON
MARINE INDUSTRY CLUSTER STUDY

NORTHWEST WASHINGTON MARINE INDUSTRY CLUSTER STUDY

Executive Summary

I. PROJECT OVERVIEW

In 2006 Governor Gregoire unveiled a new economic development strategy—The Next Washington— to take the State to another level of economic growth and global competitiveness. The Next Washington Economic Development Plan provides a vision for an integrated mix of initiatives to support economic expansion, environmental quality and cultural diversity. In conjunction with this strategy and the State's interest in facilitating job creation, economic development and regional clusters of growth and innovation, the Washington State Department of Community, Trade and Economic Development (CTED) awarded six regional grants in late 2006 to analyze industry clusters across the State. A partnership of public and nonprofit agencies in four counties—Skagit, Whatcom, Island, and San Juan—applied for and received CTED grant funding to analyze the strengths and job-creation opportunities within the region's marine sector.

Study Partners. The result of the grant was a six-month study sponsored by a consortium of 13 regional and local entities spanning the four counties. The project was a true collaborative effort among the participating organizations; was managed by staff from the Bellingham-Whatcom Economic Development Council, with the Economic Development Association of Skagit County (EDASC) serving as fiscal agent. Other participants were the Northwest Workforce Development Council, the Port of Bellingham, the Port of Skagit, the Port of Anacortes, Port of South Whidbey, the Island County Economic Development Council, the Northwest Center of Excellence for Marine Manufacturing and Technology, Skagit Valley College, Bellingham Technical College, and San Juan County.

Two research institutions played a key role in assembling and analyzing industry economic data: Western Washington University's Center for Economic & Business Research (CEBR) and the Labor Market and Economic Analysis (LMEA) Division of the State Employment Security Department.

The purpose of conducting this cluster study is to gain a better understanding of the issues, challenges, and opportunities facing local marine businesses, and to develop a set of strategies that the cluster can collectively pursue to grow and promote the industry as a whole. The proposed strategies are based on a myriad of political, financial, and logistical considerations and are measurable, achievable, and results-oriented.

Defining the Northwest Marine Sector. Early in the project the Steering Committee grappled with defining the limits of this multi-faceted and diverse sector. For the purposes of this cluster study, the Northwest marine industry is defined as follows: ship and boat manufacturing; boatyards and shipyards; boat and ship suppliers; ship and boat repair and maintenance; marinas; boat charter; boat storage; and non-marina boat storage facilities. Sectors not included in this study are: commercial fishing; seafood processing; freight and cargo shipping; raw material suppliers (aluminum, steel, wood etc); water taxis; tourism (except indirectly); and sports and recreation-type businesses.

II. OVERVIEW AND CHARACTERISTICS OF THE NORTHWEST MARINE INDUSTRY

The Northwest marine industry can be defined as a complex and vibrant spectrum of businesses that provide living wage jobs, produce world-class products, create positive impacts on other industry sectors, and attract people to the region. The industry is recognized within and outside the State as a model of excellence in boat and shipbuilding, ranging from small sailboats, to fiberglass mega-yachts, to commercial vessels made of steel and aluminum. The region is also home to a number of marinas, boat repair shops, charter boat businesses, custom tooling and machine shops, rope manufacturers, and marine-related retail shops.

The ship building, boat building, boat dealer, and marina industries directly employed over 9,000 people in Washington State in 2005. Approximately 1,900 of these jobs are located in the four-county region comprising the Northwest Marine Industry Cluster. Accounting for ripple (multiplier) effects within the state and regional economy, these industries support more than 4,000 jobs in the region. In 2005, these industries generated over $362 million in economic activity.

Exhibit ES - 1
Economic Activity Generated by the Northwest Marine Cluster

Total Output	**$362,095,173**
Direct Activity	$195,292,238
Induced and Indirect Activity	$166,802,935
Total Jobs	**4,050**
Direct	2,079
Induced and Indirect	1,971
Total Wages	**$148,582,994**
Direct	$94,028,501
Induced and Indirect	$54,554,493

Source: Berk & Associates, 2007

The industry's competitive advantages lie in the region's access to some of the world's best cruising and sailing grounds, its innovative and risk-taking businesses, and the number of marine-related firms living in close proximity to one another. Many of the marine-related firms have family roots in the area and strong ties to the community, with businesses sometimes passed down over multiple generations. While businesses tend to be small (fewer than a 100 employees), there are a number of firms that exceed this number, with the largest marine-related business in the four-county region employing 500 people.

The four-county region has a rich supporting network to assist the sector, including: trade associations, economic development councils, and workforce training and development organizations; ports and marinas; and community, technical and four-year colleges. The services and assistance that these agencies offer provide a holistic approach to sustaining and improving the industry's economic vitality. However, it appears that many businesses do not fully utilize these supporting agencies. This may be due to businesses not being aware of the broad array of assistance offered, time constraints on both the employer and employee side, and logistical challenges. This is normal and expectable, and there are many opportunities for enhanced connections between the supporting workforce and economic development services and businesses.

The industry operates in a global marketplace, with competitors, suppliers, and customers located all over the world. This trend appears likely to continue, with raw materials coming more and more from developing nations (as the price of steel and aluminum increases), the entering of new markets and new customer bases (due to rising living standards and changes in demand within other countries), and overall improvements in the movement of goods across water, air, and land.

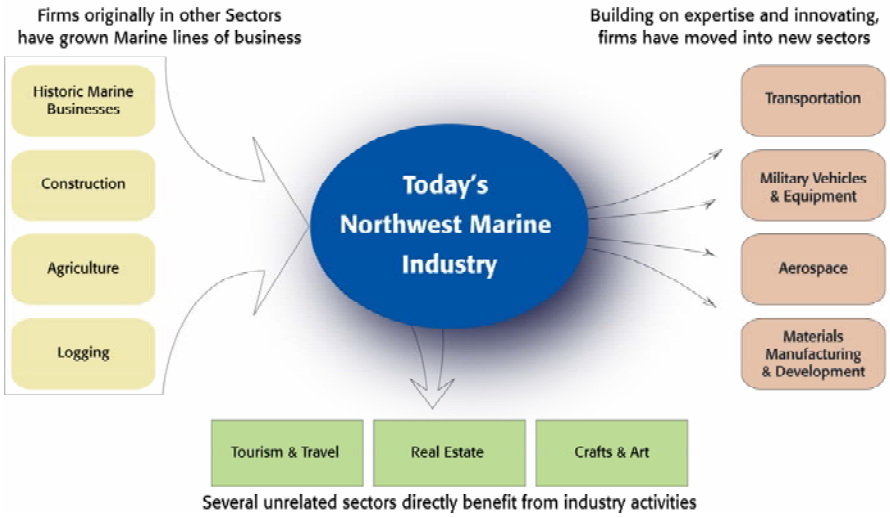
Marine businesses are highly dependent on a high caliber workforce for their success. Competition to find qualified workers is strong, which in turn provides firms with incentives to offer a package of good pay, benefits, and work environments to their employees. Workforce needs are such a business driver for the industry that there is a general concern that current skilled worker shortages and gaps, which exist across the board, will affect the ability and profitability of many companies within the sector.

There is also a strong reliance on surrounding infrastructure in the form of marinas that offer access to shiplifts, slipways, drydocks, and deepwater berths, affordable and available land located near the water, and access to rail and roadways. The increasing demand by customers for larger vessels has in turn produced needs on the manufacturing side to expand facilities, invest in better equipment that can move larger and heavier products, and to find docks that can moor boats over 60 feet in length.

Maintaining competitiveness in the marine sector is correlated to the amount of investment in research and development that fosters innovation and technology improvements. Emerging technologies in marine manufacturing, such as fiberglass composite boat building and improved use of advanced molding techniques, are an essential component in maintaining the industry's reputation as world-class.

The industry has evolved and grown over time, from its roots in natural resources and traditional maritime businesses, to more technology-based manufacturing processes that have been transferred beyond marine manufacturing to other sectors. At the same time, the core marine industry helps support service businesses-real estate, travel, and transportation, as well as crafts and art-making.

Exhibit ES - 2
Industry Evolution, Growth, and Interconnected Sectors



Berk & Associates, 2007

While a significant contributor to the State of Washington's economic health, the marine industry has the potential to increase its visibility and ranking as a premier recreational and commercial boat building region, as well as further build its reputation in other critical areas such as charter boat rentals, engine manufacturing, mold composites, and vessel retrofitting and repair. The growth and evolution of the local marine industry demonstrates that the sector is highly adaptive and responsive to change, which are ideal qualities in today's fast-paced and competitive global marketplace.

Many businesses interviewed for this project expressed a desire for the industry to have a higher profile both in-State and globally. They maintain that the marine sector should be considered along with aerospace, trade, information technology, life sciences, wine, and clean technology as a preeminent and defining sector for Washington. They would like the industry to position itself in this realm, and would look to the State to help with this objective.

III. RECOMMENDATIONS AND STRATEGIC ACTIONS

The following recommendations and strategies will help the Northwest marine industry build upon its strengths and realize its potential to function as a synergistic cluster.

A. Cluster Organization, Marketing and Communication

While small pockets of collaboration exist, such as the Anacortes Marine Trades Association, boat and shipbuilding and repair businesses do not currently work together to share information, support workforce training initiatives, or promote the industry. Strategies to develop a regional cluster are:

1. Identify Business Leadership to Grow and Promote the Cluster

To be successful, business leaders need to play a visible role in the cluster. To maximize effectiveness as a marketing and advocacy force, and to realize greater cohesion, business leaders within the industry will need to be identified and targeted for specific roles and involvement in the cluster.

2. Develop an Industry Brand and Strategic Marketing Program

Brand Development. With the active involvement and engagement of industry representatives, brand the Northwest's boat and ship building industry to create a unique and recognizable identity, and to raise its profile and stature within the State, nationally and internationally.

Strategically Marketing the Cluster's Brand. The region is already known across the world for its high quality products, innovative designs and service orientation. Firms in the cluster would benefit from an overarching marketing and promotion campaign that reinforces and messages the attractiveness of purchasing products from the cluster.

Branding should not only be directed at potential customers, but also potential employees. The industry should work equally as hard to market itself to youth as an attractive and viable career path. Parents, teachers, and students should be educated about what the industry can offer its workers in regards to pay, benefits, and quality of life. The industry should engage in outreach not only at high schools, but also at the elementary and middle school levels.

3. Build on Existing Organizations to Address Cluster Needs

To the extent possible, the existing support network for the marine industry should play roles in advancing the cluster. A strategic evaluation of the roles that existing organizations can play is recommended, including the Northwest Marine Trades Association, the future Skills Center, and the Center for Excellence, as these organizations engage in (to a certain degree) some of the activities that this study suggests the industry pursue as a whole. The following activities are recommended to advance and promote the cluster:

- Raise the profile of the industry, create a public presence for the sector, be the "face" of the industry;
- Advocate to promote industry needs and interests, particularly in Olympia but potentially at the federal level;
- Develop a website that provides an overview of the industry, directory of businesses, employment offerings, and industry-related news;
- Encourage involvement in State trade missions and other opportunities for visibility, education and global marketing;
- Coordinate strategies to recruit, retain, and grow the marine-industry workforce;
- Facilitate dialogue between the public, private, and nonprofit sectors, especially regarding the intersection between business and education/training institutions;
- Promote research and development efforts to keep the region and State's competitive advantage in technological innovation and high-quality standards of production and repair;
- Market the industry and serving as a marketing resource to businesses.

4. Define and Expand the Marine Cluster's Boundaries

Major boat and ship building firms operate in Clallam, Jefferson, Grays Harbor, Kitsap, Snohomish and King Counties. Most of the firms located in these Counties have similar challenges as those faced by companies in the four-county region. In fact, the recently submitted WIRED grant proposal to the U.S. Department of Labor encompassed 12 counties. Including additional counties in the cluster's definition—to form a true Northwest regional marine cluster—will allow for a systemic approach to addressing the marine industry's needs. Expanding the cluster's geographic reach will increase its resources and increase the industry's influence in addressing regional, statewide and federal issues.

5. Communicate and Promote Linkages with Other Sectors, Including Aerospace, Materials Manufacturing, Transportation, Tourism and the Arts

Other Manufacturing Sectors. The evolution of marine manufacturing processes and products to other manufacturing is an interesting story of innovation and entrepreneurship. It is a story well worth documenting and communicating broadly—within the State and nationally. Additionally, employees working within other manufacturing sectors should be made aware of the transferability of skills among industries.

Tourism. Communicate the linkages between the industry and tourism. Take advantage of opportunities for cross-marketing between the two industries. On the industry website, include information and contacts for tourism sites, hotels and motels, shopping and restaurants.

Crafts and Art. Identify and leverage opportunities to connect the industry with artists, craftsmen and the arts community. A local example of such connections is the program Arts Parts Project on Whidbey Island (www.artsparts.org). The Project's motto is: "Integrate artists and craftspeople with your next building project or living space." There may also be opportunities to co-locate and directly link crafts makers and artists with the marine industry. For example, the Port of South Whidbey is evaluating renting space at its facilities to both marine-related trades and artists. By placing both industries under one roof, boat owners taking in their boat for repair or servicing may be more inclined to purchase art for their vessel or work with a specialty woodworker to make custom cabinets.

B. Workforce Education and Training

1. Provide Group Safety and Technical Training through Business-Friendly Scheduling and Delivery

Continue to identify opportunities to provide this training at times and places that work best for companies and their employees. For example, establish a monthly safety training seminar in various locales across the region and state where businesses could send new employees. This would include exploring creative opportunities for distance learning to help businesses and workers access training.

2. Develop Transferable Safety and Technical Training Certificates

The creation of transferable safety training certificates recognized by the State would enable employees to move from one job to another without having to retake mandatory safety training. This will not only be a benefit to employees, but also help businesses as training costs could be reduced. At present, Washington Industrial Safety and Health Administration (WISHA) has strictly avoided any public endorsement of safety and health training programs or certificates unless they were authorized by law.

Standardizing marine technician training certificates offered across high schools and colleges would reduce training time and costs, potentially increase workers wages, and ensure a greater degree of quality control across the board. American Boat and Yacht Council, National Marina Electronics Association, and Manufacturing Technology Advisory Group certifications are already being implemented in a few high schools and technical colleges within the region. These efforts should be encouraged by promoting the importance of such certifications to businesses, local and state government, schools, and the general public.

3. Publicize the Availability of Current Worker Training Funds and Opportunities

Three programs are available for in-service worker training: jobs skills development; customized training development; and incumbent worker training. Providing this information to firms along with eligibility requirements and approaches for how businesses can utilize this funding is another avenue to providing worker training, especially on-site training.

4. Facilitate Workforce Education and Training for Non-English Speaking Employees

Facilitate Access to English as a Second Language Training. Work with businesses and the community colleges to develop ESL training programs that are accessible to the industry's non-English speaking workforce.

Develop Programs to Provide Critical Skills Training in Other Languages. Provide additional programs for safety training, and other education and training programs in other languages that will enable this segment of the workforce to advance in the industry.

5. Sustain and Expand Communication Paths and Forums to Enable Information Sharing about Firms' Training Needs

Establish implementable communication approaches for businesses to provide regular feedback to the community colleges on current training needs. The colleges need to effectively reach out and solicit industry input on training and curriculum. This will entail clarifying and communicating opportunities for businesses to engage and participate in shape worker training programs. This process has already started through the Marine Advisory Committee and by the existing partnership with ABYC and the newly developed partnership with NMEA.

6. Facilitate Development of Standardized Instruction for Teaching Marine-Related Trades Statewide, from High School to Community College

Support the Manufacturing Technology Advisory Group (MTAG), a State coalition of industry, labor, education, state government and community service organizations. MTAG, founded in 1992, is chartered to develop and promote a Manufacturing Technology Education Program that begins in high school and leads to an associate degree at a community or technical college. High School students who successfully complete this basic curriculum will be encouraged to continue their education at a community or technical college by specializing in a specific field of manufacturing.

7. Promote Boat Building as a Sustainable Career at the High School and Middle School Level, and Develop Pathways for Students to Enter Technical, Community, and Four-Year Colleges

Specific actions and recommendations are:

- Engage the business community in providing technical assistance and equipment to training programs in middle schools and high schools, to improve training, making it more practical and real. For example, in the automotive industry, firms like Honda often donate cars to schools for students to work on.
- Work with four-year accredited colleges to offer marine-related degrees in areas such as engineering and management.
- Encourage more career fairs at high schools and middle schools during the school year as well as in the summer.
- Work with high school counselors and educators to promote alternatives to passing the WASL. This includes 2006 legislation that specifies students failing the exam can still graduate if they earn a recognized certificate in a technical field. This could be a valuable opportunity for the sector to promote itself as a viable career path.
- Explore development of Running Start-type programs for vocational and technical education for high school students with an interest in the trades.

C. Business Services and Strategic Assistance

1. Continue to Provide Business and Legal Assistance to Smaller and Start-up Businesses

Businesses identified several areas of assistance that would be helpful, including business planning, seminars on workmen's compensation, workshops on dealing with regulatory and environmental requirements, and training seminars on Longshore and Harbor (L&H) insurance rules. Many supporting agencies throughout the region already offer some level of assistance within these specified areas. It will be important for these organizations to further market their services to businesses as well as try to tailor these services to specific businesses by offering more night time and weekend classes, on-site training, and on-call help via phone or email.

2. Convene and Facilitate Best Practices Information Sharing Forums on Environmental Health and Safety Practices

Some firms are more advanced, experienced and sophisticated than others in the area of environmental health and safety. Those firms could establish best practice standards and share information about how their programs were developed, including tips and techniques for program management. All firms could likely benefit from information sharing and cross-learning about methods to improve safety, respond to accidents and improve the environmental health of the industry's manufacturing facilities.

3. Advocate and Work to Reform Insurance Requirements for the Marine Industry

The industry needs to evaluate the feasibility of having the State act as a guarantor (co-signer) to private surety companies to secure bonding on behalf of contractors of commercial boat/ship construction. Currently, the U.S. Small Business Association (SBA) has a very limited program for this purpose, but the contract amounts are limited to $2 million, which is not sufficient in today's market.

Also needed is advocacy for the State directly act as the surety for government based contracts. In today's boat/shipbuilding market, almost all contracts requiring bonding are coming from governmental agencies. The good news is that the bond requirements are usually less than 100% of the contract's value so exposure is limited.

Lastly, in addition to training seminars for Longshore and Harbor Insurance, there is a pressing need to reform these Federal requirements to ensure that while continuing to protect workers, they do not financially cripple businesses.

4. Continue to Advocate and Serve as a Liaison between the Department of Ecology and Key Marine Businesses as Needed, for Selected Issues

The industry should identify key businesses that have strong working relationships with government agencies and use them as examples of best practices for other businesses to follow. The industry should also identify key areas that need to be improved upon so that business and government can better communicate, coordinate, and collaborate with one another.

5. Pursue a Waterfront Innovation Partnership Zone or other opportunities to Support Research in Science and Advanced Materials

For example, a Bellingham Marine Innovation Zone would support WWU's planned expansion, providing research and lab-market capacity to support marine technologies through engineering technology and advanced materials science. Workforce training resources to participate in and support the Innovation Zone could be drawn from Bellingham Technical College and Skagit Valley College, and the Northwest Workforce Development Council.

For another example, funding has been approved for development of a Marine Skills Center in Anacortes. Similar to Bellingham a proposal is under consideration to develop an Innovation Partnership Zone in conjunction with this Skills Center.

D. Infrastructure and Facilities Improvements

Port Strategies

The following recommendations should be seen as a starting point for each port within the four-county region to develop its own specific strategies to further encourage marine-related growth and development.

1. Develop and Promote new Facility Space for Marine Businesses and Expand Moorage Slips to House Larger Boats

The ports should continue efforts to develop flexible industrial spaces (1,000 to 20,000 square feet) to accommodate growing marine businesses, particularly small businesses. These efforts include the Marine Trade Center proposal in Bellingham waterfront redevelopment plan, and business park space that the Port of Skagit is currently planning. In addition, the ports need to keep pace with the growing trend of boats over 60 feet by building larger moorage slips to berth theses vessels.

2. Assess the Market Demand for Location and Construction of Heavy Boat Haul Lifts in Anacortes, Bellingham and Whidbey Island

The ports should analyze market demand for heavy boat lifts in several communities. A potential model is that of the Port of Port Townsend, which in 1997 invested in a heavy haul out for its shipyard. The Port constructed a travel lift that can accommodate a boat/ship up to 330 tons, 150 feet in length and a beam of just over 30 feet. This capital investment has been a critical factor in helping the marine businesses in Jefferson County grow their work in vessel construction, repair, and retrofit. These facilities could be privately-owned and operated on port properties.

3. Maintain and Improve Commercial Boat Launch Facilities in Anacortes, Bellingham, Whidbey Island

Regional ports might consider the following:

- Develop public boat launch facilities;
- Consider possible dry stack facilities with concierge services;
- Provide boating services in the upland – ranging from full-service to do-it-yourself areas;

- Consider a new full-service haul out, upland of new marina as part of a new boat ramp and/or include redevelopment of existing boatyards;
- Continue with local Master Plan processes, which anticipate additional facilities and incorporates existing amenities.

4. Provide Environmentally-Sound Paint Booths

It is determined that there may be a need to develop marine paint booths operated either by private contractors or the ports in the region. Such booths should be built with the most up-to-date and forward thinking environmental standards and be a regional-use facility. The booths could also be marketed to non-marine businesses, to fully utilize it year-round.

5. Develop Pier Expansion/Reconstruction Projects to Support Marine Industry, Particularly Area Shipyards

For example, the Port of Bellingham should engage in the reconstruction and redevelopment of the wood portion of the pier at Fairhaven Shipyards on Harris Avenue. This involves working with Fairhaven Shipyards to create a pier that can support the loads required for their current and expected future needs, and extending lease terms to ensure that Fairhaven Shipyards has an operational shipyard for the future. This could be a potential State and locally supported/funded economic development project.

Another example for the Port of Bellingham is to move the Outer Harbor Line enough to allow larger dry dock or larger ships to be moored at the Harris Avenue Pier enabling more varied types of work for Fairhaven Shipyards.

An additional example is to upgrade the Pier 1 at the Port of Anacortes, which provides more in-water capacity and ability to work on larger vessels.

Telecommunications Strategies

6. Work with Firms to Identify and Facilitate Fiber Optic and Broadband Infrastructure in Areas Where It Is Needed

Evaluate which areas within the four-county region are in need of fiber optic and broadband infrastructure improvements. Determine logistical and funding opportunities for such expansion. Implementation steps could include pooling resources, lobbying for funding, or applying for grants.

NORTHWEST WASHINGTON MARINE INDUSTRY CLUSTER STUDY

NORTHWEST WASHINGTON MARINE INDUSTRY CLUSTER STUDY

1.0 INTRODUCTION AND PROJECT PURPOSE

1.1 Project Overview and Background: A Multi-Agency, Collaborative Effort

In 2006 Governor Gregoire unveiled a new economic development strategy—The Next Washington— to take the State to another level of economic growth and global competitiveness. The Next Washington Economic Development Plan provides a vision for an integrated mix of initiatives to support economic expansion, environmental quality and cultural diversity. As the Governor stated in announcing the new Strategy: "The Next Washington Plan acknowledges the unique regional economic needs of the state and lays out specific initiatives to improve workers' skills, connect research universities more directly with private sector and economic-development enterprises, boost telecommunications and energy infrastructure and make it easier to do business with government."

In conjunction with this strategy and the State's interest in facilitating job creation, economic development and regional clusters of growth and innovation, the Washington State Department of Community, Trade and Economic Development (CTED) awarded six regional grants in late 2006 to analyze industry clusters across the State. A partnership of public and nonprofit agencies in four counties—Skagit, Whatcom, Island, and San Juan—applied for and received CTED grant funding to analyze the strengths and job-creation opportunities within the region's marine sector.

The region's ports, economic development, and workforce agencies are actively working to facilitate growth in the sector. Their activities include establishing manufacturer networks and industry panels, applying for and receiving training grants, establishing incubator programs, and liaising between firms and government agencies. This Marine Cluster study is a logical extension of current economic development and workforce efforts in the region.

Study Partners. This six-month study was sponsored by a consortium of 13 regional and local entities spanning the four counties. The project was a true collaborative effort among the participating organizations; was managed by staff from the Bellingham-Whatcom Economic Development Council, with the Economic Development Association of Skagit County (EDASC) serving as fiscal agent. Other participants were the Northwest Workforce Development Council, the Port of Bellingham, the Port of Skagit, the Port of Anacortes, Port of South Whidbey, the Island County Economic Development Council, the Northwest Center of Excellence for Marine Manufacturing and Technology, Skagit Valley College, Bellingham Technical College, and San Juan County.

Two research institutions played a key role in assembling and analyzing industry economic data: Western Washington University's Center for Economic & Business Research (CEBR) and the Labor Market and Economic Analysis (LMEA) Division of the State Employment Security Department.

Project Purpose. The importance of the marine industry to the four-county region is reflected in the number and diversity of stakeholders who collaboratively worked together to devote significant financial resources, time, and energy to finding ways to maintain and improve the economic health and sustainability of the sector. The purpose of conducting this cluster study is to gain a better understanding of

the issues, challenges, and opportunities facing local marine businesses, and to develop a set of strategies that the cluster can collectively pursue to grow and promote the industry as a whole. The proposed strategies are based on a myriad of political, financial, and logistical considerations and are measurable, achievable, and results-oriented.

The study acknowledges that while significant competition is likely to exist among marine-related businesses, common areas and issues are likely to emerge that can effectively be tackled as colleagues. In looking for these commonalities, the study will focus on issues concerning: workforce training and skill needs and gaps; infrastructure concerns; policy and regulatory issues that facilitate economic growth; and marketing strategies and tactics to communicate the region's comparative advantage.

Cluster Theory. Under cluster theory, first defined and popularized by Michael Porter in 1990, benefits can be conferred by collaboration, integration, and cooperation within industries. Clusters are defined as "geographic concentrations of competing, complementary, or interdependent firms and industries that do business with each other and/or have common needs for talent, technology, and infrastructure." These geographically concentrated, cooperative networks of interdependent firms, research, and development institutions and supporting intermediaries (economic development and workforce agencies and trade associations) benefit significantly from the close contact of members and ongoing knowledge exchange—all of which contributes to the increased competitiveness of individual firms and the region as a whole. Specific benefits associated with clustering are:

- Improved productivity through increased access to specialized suppliers, skills, and information;
- Greater opportunities for innovation as the sharing of information, brainpower, and expertise can lead to technological improvements in processes of production;
- Better ability as a group to target funding for research and development, infrastructure improvement, skills development, and legislation that advances the industry's interests;
- Once established, clusters will continue to grow as a result of the creation of new firms and the entrance of new suppliers.

The cluster concept has been applied by many governments and industry organizations all over the world as a way of stimulating economic growth at the local and regional levels. This project explores the potential for cluster development in Northwest Washington's long-standing marine industry.

1.2 Defining the Northwest Marine Sector: What Is and Is Not Included

Early in the project the Steering Committee grappled with defining the limits of this multi-faceted and diverse sector. The group discussed the core question: for the purposes of this cluster study, what does and doesn't the sector include? Based on this discussion, the Northwest marine industry is defined as follows:

- Ship and boat manufacturing
- Boatyards and shipyards
- Boat and ship suppliers
- Ship and boat repair and maintenance
- Marinas
- Boat charter
- Boat storage
- Non-marina boat storage facilities

Sectors not included in this study are: commercial fishing; seafood processing; freight and cargo shipping; raw material suppliers (aluminum, steel, wood etc); water taxis; tourism (except indirectly); and sports and recreation-type businesses.

1.3 Comprehensive Study Process and Approach

This study focuses on understanding, documenting, assessing and developing economic development strategies for the regional marine industry. Data collection and analytic methods included:

- **Regional focus groups with businesses.** Three focus groups were held, in Anacortes, La Conner and Bellingham, with facilitated discussion of key strengths, challenges and opportunities for the industry generally, and the businesses in attendance specifically. In total, about 60 people attended the focus groups, across a diverse spectrum of business types. Topics covered in the focus groups included: workforce availability, training and development, including skills development and specialized training; infrastructure needs, including transportation, electric power, land, buildings and facilities, and telecommunications; economic development support services, including business technical assistance, business retention, and expansion and attraction services; regulatory and public policy options to facilitate business growth, retention and attraction; and marketing and communications needs.

- **Telephone interviews with key stakeholders.** Interviews were conducted with more than 25 key industry stakeholders, representing boat and ship manufacturers, marine-related suppliers, economic development councils, ports, and community colleges. Firms were specifically queried in the interviews about plans for expansion or investment and issues that may affect the firm's plans to remain and continue to invest in its current location. Given that workforce shortages have been identified as a particular challenge for the industry in the region, interviewees were asked in detail about their workforce needs, both for skilled and general workers.

- **Site visits to businesses.** Site visits and on-site interviews were conducted to gain an understanding of business structure, current issues, and production processes. The visits, which were made to facilities in Bellingham, Whidbey Island and Skagit County, included two boat building facilities, a ship building facility, and two boat suppliers.
- **Comparative research on practices and policies in other states and other sectors.** Research and policy analysis was conducted to assess lessons learned and how the marine industry is developing and promoting itself in other states, including Maine, Florida, and in the Gulf Coast region. Comparative research was also done in other sectors, such as the automotive and wine industry, to identify potential models and best practices.
- **Collection and analysis of industry economic data.** Data provided by the Washington State Department of Labor and Industries (L&I), Washington LMEA, and the Federal Bureau of Labor Statistics (BLS) was analyzed and mapped.
- **Literature review of relevant topics.** Research and analysis was conducted on the academic literature, as well as reports and materials produced by marinas, marine-related trade associations, and others.
- **Strategic assessment of the industry.** A strategic situation assessment was developed, synthesizing the economic data, interviews, site visits, and comparative research. Current industry status, characteristics, trends, and shifts were identified, and key discussion questions formulated for the sponsoring partners.
- **Monthly meetings and dialogue among the partnering agencies.** The partners met throughout the study's course, debriefing on findings and potential strategies as they emerged.
- **Northwest Washington Marine Industry Directory.** A contact database of firms and support services was developed for the four-county region. The directory, which exists in Access database format, can be maintained by the partners following completion of the study, and can be posted to various website to serve as a resource tool. It will enable industry stakeholders to strategically target specific businesses for future information sharing, collaboration, and marketing initiatives.

1.4 Report Overview

This report is organized into six sections:

Chapter 1 Introduction to the study, information on how the study defines "marine" industry, an overview of the region, and report methodology;

Chapter 2 Overview of geography and economic influences, conceptual cluster schematic of internal and external sector linkages, defining features of the industry, and a summary-level description of customers, competitors, and suppliers;

Chapter 3 Cluster employment data and economic impact analysis;

Chapter 4 Summary of the sector's supporting government, nonprofit, educational, and infrastructure agencies; ports; economic development and workforce organizations; and community and technical colleges;

Chapter 5 Description of key industry trends, summary of the relationships the marine industry has with other sectors and a strategic situation assessment that identifies strengths, challenges, and opportunities facing the industry;

Chapter 6 Recommendations and strategies for sector growth and vitality.

Attachments to the report contain documentation of key findings and additional supporting materials for the recommendations and strategies, as follows:

Attachment A Summary of Stakeholder Interviews, list of interviewees, and stakeholder interview protocols

Attachment B Summary of Focus Groups, list of attendees, and focus group discussion guide

Attachment C Boat Building Definitions

2.0 DEFINING THE NORTHWEST WASHINGTON MARINE INDUSTRY

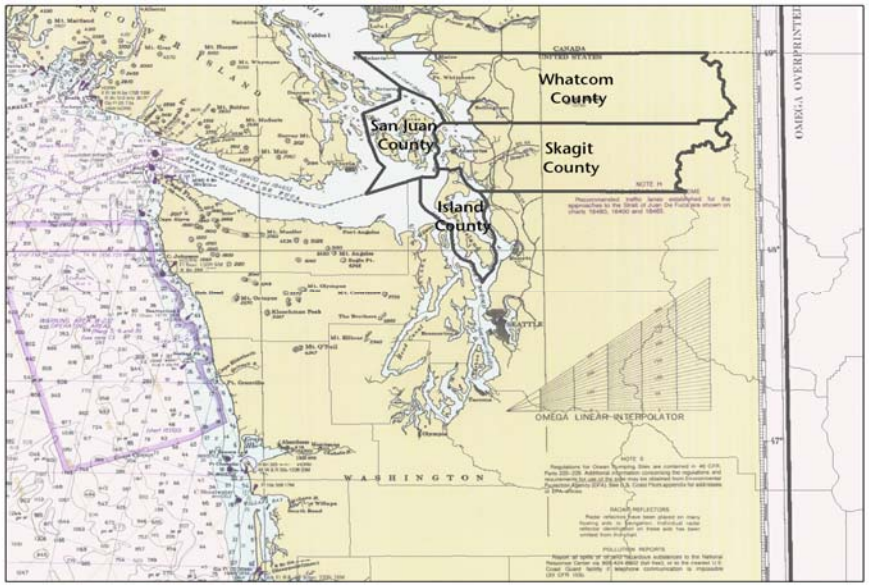
2.1 Geography and its Economic Influence

Exhibit 1 presents a map of the four Washington State counties encompassed in this study: Skagit, Whatcom, Island, and San Juan. The region has a total population of 381,500, with Whatcom being the largest of the four counties with a population of 184,300, followed by Skagit with 111,300, Island with 77,698 then San Juan with 14,077. The area has enormous natural beauty, including mountain views, wildlife and wildfowl, and lingering evening sunsets; a diverse shoreline and sheltered waters; and a marina infrastructure for boat chartering, refueling, repair, and overnight stays. All of these assets combined have earned the region a reputation as one of the premier cruising areas in the United States, and have made the area a popular destination for recreational boaters from across the country and worldwide.

From a manufacturing and business operations perspective, the region has served as home to boat and ship building companies for more than 100 years. The region has both long-established and newer companies, existing manufacturing infrastructure, a network of local suppliers and repair shops, an experienced and skilled workforce, supportive workforce and economic development organizations, multiple port districts that provide business park and marina space and economic development support, and community and technical college training programs and resources. The majority of marine-related businesses are located in Whatcom and Skagit Counties, with the industry's center situated in Anacortes (Skagit County). Island County is home to one of the biggest boat builders in the region, Nichols Brothers Boat Builders, while San Juan possesses a significant percentage of repair and supply businesses.

The region's location along the Pacific Coast and close proximity to international markets such as Canada and Asia, both strong centers in their own right for marine-related businesses, provides the industry with a competitive advantage for export-related growth opportunities.

Exhibit 1
Map of Skagit, Whatcom, Island, and San Juan Counties



Source: Berk & Associates, 2007

2.2 Boat Building, Repair, and Moorage

Northwest marine industry has experienced growth in recent years, and many companies in the region expect further growth. Large recreational vessels, in particular, have been a development area nationally for the past decade, with accelerating consumer demand, particularly in the larger yacht category. Similarly, demand for homeland security and military-related vessels have increased in recent years, and additional growth is expected in the near and intermediate term. Industry growth coupled with an unusually low unemployment rate in Northwest Washington, have combined to make workforce development a significant industry challenge in the region. Moreover, the boat and ship building and repair industry requires some of the same skill sets that other manufacturing and construction sectors employ, including welding, electrical installation, woodworking, and general construction—creating both cross-training opportunities and competition for workers across sectors. As such, sectors are constantly competing with one another for skilled employees.

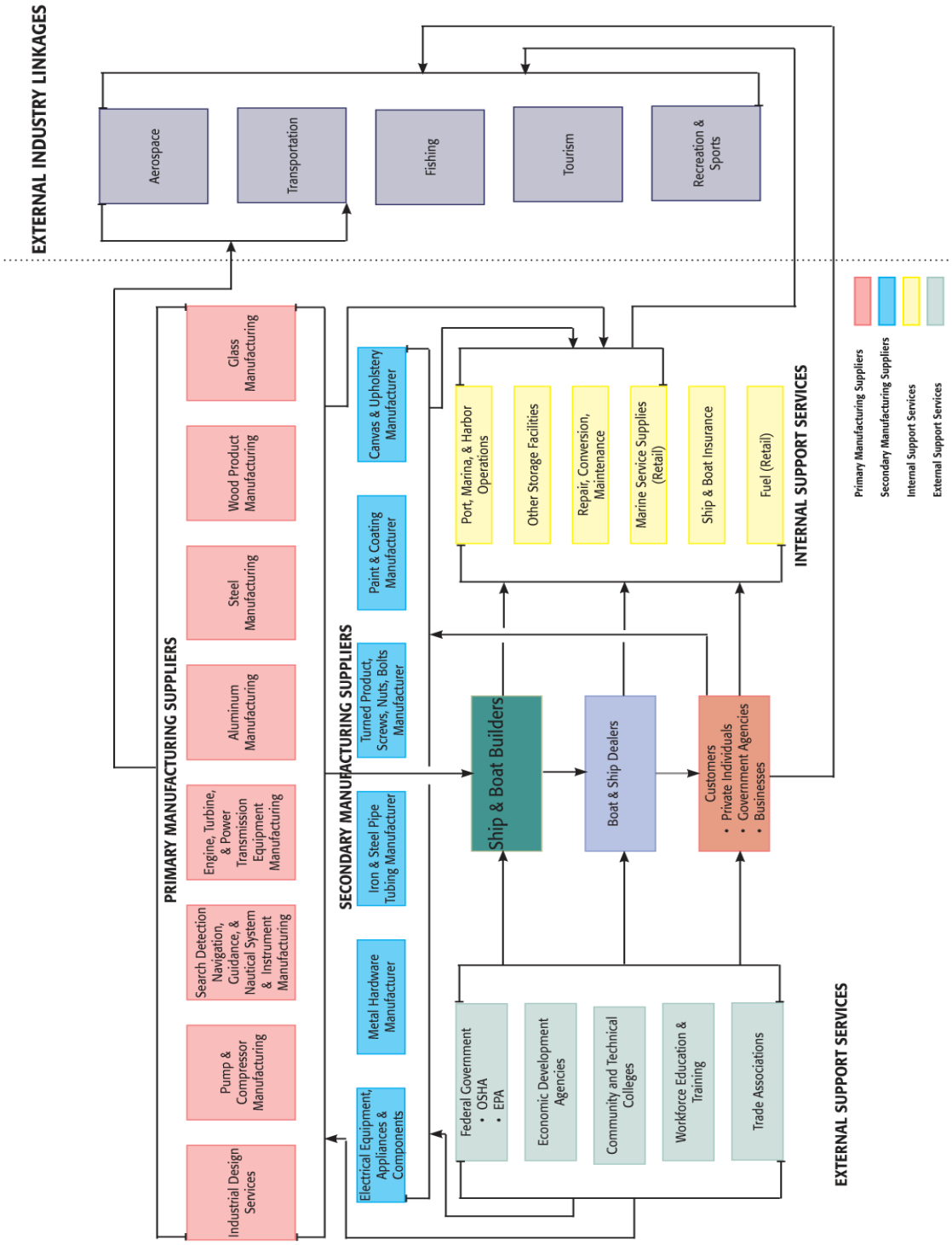
Whatcom, Skagit, Island, and San Juan Counties are known both within and outside the State for fiberglass pleasure boat manufacturing. In addition to this distinction, the area also produces steel and aluminum defense ships for the U.S. Navy, ferry vessels for local and state governments, cruising ships for private industry, research vessels for academic institution, and much more.

The four-county region is also a popular area to moor boats due to the proximity to the waterways and the San Juan Islands. Of the four counties, Whatcom accounts for the largest share of permanent boat moorage slips (44%), with Skagit second (35%), San Juan third (16%), and Island fourth (5%).

2.3 Northwest Marine Industry Cluster Ecosystem: A Global System

A complex and diverse relationship of internal and external linkages exists within the marine sector. Exhibit 2 presents a conceptual picture of how these associations work. As the schematic shows, primary and secondary manufacturing suppliers (located all over the world) provide goods and services to the marine cluster's core businesses, such as boat and ship manufacturers, repair businesses, boat dealerships, marinas, and retail shops. The same suppliers also serve other industries such as aerospace, transportation, fishing, tourism, and recreation. These connections in turn create even more linkages, as external industries provide goods and services back to the marine industry as well as the suppliers. Government agencies, port districts, workforce development councils, technical and community colleges, economic development agencies, and trade associations, which are classified as external support services, provide a supporting framework within this environment to the marine businesses, suppliers, and other benefiting industries.

Exhibit 2
Schematic of the Northwest Marine Industry Cluster: Relationships and Interconnections



Berk & Associates, 2007

2.4 Defining Features of a Complex, Multi-faceted Industry

The information below summarizes the key characteristics that define the Northwest marine industry.

Business Scale, History and Community Connections

Small Businesses. Businesses in the four-county region tend to be small. Although the legal definition of "small business" varies by county and industry, in the United States, firms with fewer than 100 employees generally meet this classification. While the majority of regional businesses fall within this description, a significant range of company size exists, with businesses consisting of one person to as large as 450 employees and growing. Some of the larger-sized businesses in the region include Janicki Industries (~450), Nichols Brothers (~175), Dakota Creek (~200), Nordic Tugs (~150), Samson Rope (~150), and Fairhaven Shipyards (~125).

Family Owned. Many of the businesses in the industry are family owned. This holds true for boat manufacturers, suppliers, and repair shops. Even more striking is the fact that firms, such as Janicki Industries, Nichols Brothers, and Sea Sport Boats, have been passed down over generations, with grandchildren and great grandchildren now serving at the helm. This unique feature produces a strong sense of pride and ownership of the products produced, with the owners often intensely involved in all levels of the firm's business processes. Likewise, the firms have a long history and connection to the communities that have supported their business growth.

History and Experience. The geography, large number of marine-related businesses, and skilled labor force complement one another and contribute to industry growth and sustainability. Many individuals employed in the marine industry have parents and grandparents that have worked as boat builders, carpenters, painters, welders, and electricians. These skills have been passed down family lines, as well as reinforced by the numerous technical training centers located in the region, where students can learn to become welders, repairmen, and fiberglass infusion specialists. Many of the businesses employ a hands-on approach to training, where new employees can grow and improve their skills by working alongside seasoned professionals.

Janicki Industries

Janicki Industries, one of the three largest private employers in Skagit County, produces industrial tooling/molds for the aerospace and marine industry. Janicki is owned by a long-time timber family who also owns Janicki Logging & Construction, a 50-year old business.

The Janicki process utilizes various materials including wood, foam, carbon fiber, resin, fiberglass and steel. Its 5-axis mills are capable of cutting all these materials within five thousandths of an inch in accuracy. The company has also received ISO 14,000 certification, allowing it to compete for military and other large scale projects.

Janicki recently purchased 100 acres in Skagit County and are in design and permitting for a new production facility.

Niche: Industrial tooling/molds for the aerospace and marine industry

Competitors: Marine Concepts

Customers: Boeing Company, Lockheed Martin, Northwest Composites, Delta Marine, Goodrich Corporation, Westport Shipyard, Northrop Grumman, Pratt and Whitney, US Marine, and Vought Aircraft Industries

Employees: ~450

Vertically Integrated. There is a predominance of vertical integration within the marine industry, particularly among boat and ship manufacturers. These businesses are focused on quality of workmanship and production, and many customize the interiors of each boat sold. To maintain the quality standards they demand, the firms have adopted a business model of vertical integration, controlling all aspects of production, from hull design, installing electrical equipment, interior woodworking, to upholstery and painting. Each of these production processes are conducted on-site, with some employees cross-trained for various tasks. Even with the possibility of increased efficiencies and cost savings, businesses interviewed stated that contracting out specialty-type work is not generally done due to concerns about quality control.

Connection to the Community. While a few businesses have moved (or are considering moving) out of the region to other states or abroad in order to cut down on production, labor, or capital costs, it appears that the majority of marine-related firms are here to stay. Local businesses are not only tied to the region by family, but also by the community. The larger and older companies have a history of giving back to the region by offering financial and technical assistance to local high schools and technical colleges, participating in community events, and serving as businesses and policy leaders.

Quality Products and Services

Products Defined by Quality, Craftsmanship, and Customization. Northwest Washington boat and ship builders are defined by their craftsmanship and high-level of customization. Meticulous attention to detail and care in manufacturing was a theme articulated strongly in the three focus groups conducted. Many companies take great pride in their level of quality and customer experience. Some examples of exemplary firms on the recreational side are Northern Marine and San Juan Composites, which are both known throughout the world for their unique designs, quality of materials, application of cutting edge technologies, and the customer service they offer to their clientele. Many of their yachts sell in the millions of dollars to demand customers who are accustomed to buying nothing less than top quality products and services. Examples of product superiority on the commercial side are All American Marine and Workskiff, whose vessels are tailored to meet high-performance client specifications, including evacuation of people in natural disasters, putting out fires, performing rescue operations, and responding to oil spills.

San Juan Composites LLC

San Juan Composites LLC was founded in 1998 by Donald Campbell and Randy McCurdy to build a line of very high end motor yachts.

"Our philosophy for our line of SanJuanYachts is that they must include three fundamental qualities. They must be beautiful to look at. They must be built to the highest standards in our industry. Lastly they must provide outstanding performance."

Niche: 30'-60' fiberglass luxury yachts

Competitors: A few boat manufacturers in Maine

Customers: Private individuals and families (local and international)

Employees: ~80

Diversity of Products, Growth and Innovation

Diversity of Products. While the region is especially known throughout the world for fiberglass recreational boat manufacturing, firms in the industry produce a depth and variety of products for a diverse clientele base. The region is home to engine and rope manufacturers, steel and aluminum boat makers, and mold composite firms. For example, Aluminum Chambered Boats markets its strong and durable aluminum vessels not only to private sport fishermen, but also to government agencies, research organizations, and private firms. Dakota Creek Industries, one of the two steel shipbuilders in the area, makes vessels for commercial fishing, government defense, and private boat charter companies. Nichols Brothers manufactures an eclectic mix of vessels, from passenger ferries to high-speed catamarans for defense agencies.

SeaSport Boats

Sea Sport Boats has been building the premier pilothouse boat since 1955, and is one of the oldest family owned boat manufactures in the United States. Sea Sport is an ABYC and CE certified company with all of its models falling under these certifications.

"We have been building boats for well over 50 years and have stayed true to what we know well, and that is building reliable boats that will provide enjoyment and safety in all sea conditions. This philosophy, which has guided us through the many years since the beginning, has been the foundation from which we were able to take a local Whatcom County boat builder to an Internationally recognized company with our product lines being exported into the Asian and European Marketplaces."

Niche: 22' - 32' Fiberglass pilothouse boats

Competitors: Skagit Orca (Auburn WA), Parker Marine Enterprises (Beaufort, NC).

Customers: Families, Sportfisherman, United States Military (Navy), Multiple Law Enforcement Agencies, and various non-military Government Agencies

Employees: ~65 employees

Innovation. Innovation is a key ingredient in the success of the regional marine industry, and firms operate along a spectrum of innovation from less to more innovative. A number of firms are highly innovative, and in general, are serving to push other firms along the innovation curve. Within many marine manufacturing operations, changes in businesses and production processes are ongoing, due to factors such as regulatory requirements, increasing output capacity, reducing costs, or the desire to create new products. Examples of innovative processes include the investment of new technologies such as resin infusion by SeaSport and Northern Marine, which has allowed these businesses to move from open to closed production systems (dramatically reducing the amount of particulate matter emitted into the air). Other firms utilizing cutting edge materials, tools and machinery include American Expedition Yachts, which produces boats made by fiberglass composites, and Janicki Industries, which employs state-of-the-art equipment to make its mold composites.

Organic Growth and Transformation. Firms have evolved over the years to meet changing economic trends and customer needs. In particular, Janicki Industries, which started out in the logging businesses, evolved first into the marine sector, then into advanced manufacturing for the transportation and aerospace industries. In the Bellingham area, KMI-Sea Lift was originally focused on developing recycling technologies for municipalities. This adaptability reflects the flexibility, creativity, and foresight of local businesses to understand and seize upon opportunities for future business growth and development.

Entrepreneurial Spirit and Willingness to Risk. Another factor in the success of the industry is the willingness of individuals and businesses to take risks. It is not uncommon in the industry for employees to leave an existing company and start their own business, often taking along other employees who are willing to work hard in an unproven company, with no promise of guaranteed successes. These entrepreneurs and risk takers contribute to the dynamism and creativity of the industry as a whole, pushing individuals and companies to compete for new ideas and talent.

Competing in a Global Marketplace

Global Relationships. The local marine industry is strongly connected to the global market by its people, parts, and products. Customers, suppliers, and competitors hail from all over the world, and it appears that this trend will only increase over time. Washington's current competitive advantage over boat building countries such as China and Korea is the quality of the region's products and the customer service provided. This "quality niche" is an important defining feature, as the industry cannot compete on price with low cost manufacturers in Korea and especially China. The region's customers are those willing to pay the price for a superior and even premium product.

Proving a Living Wage and Contributing to the Local Economy

Job Creation and Earning Potential. Local marine businesses provide an opportunity for local residents to earn a living wage. Individuals with little to no background experience in marine-related fields, or even without work experience, are typically provided salaries well above minimum wage. Within boat building, starting production line floor workers generally start around $10-$12 per hour. Importantly, these jobs also come with health care benefits.

Local Economic Drivers. Firms in the industry generate significant amounts of economic activity for the region, and are major economic drivers in their counties. For example, Nichols Brothers Boat Builders is the largest private employer in Island County, and Janicki is the second largest in Skagit County. The industry's employment profile and economic benefit profile are explored further in Chapter 3.

Dakota Creek Industries (DCI)

DCI history is rooted in shipbuilding and ship repair going back to 1975 when it began building crab boats in a small shipyard. Since that time, DCI has steadily grown to become a well-known shipyard specializing in the construction and repair of steel and aluminum vessels up to 400 feet (122 meters).

Previous and current construction projects include research vessels, specialized offshore support vessels, tugs (including 10,000 hp docking/escort), fishing vessels, high-speed ferries, oil recovery vessels, fireboats, and barges.

Niche: Steel and aluminum shipbuilding and repair facility

Competitors: Nichols Brothers Boat Builders, TODD Shipyards

Customers: Government, military, private industry (local and international)

Employees: ~200

Nichols Brothers Boat Builders, Inc.

Founded by the late Frank Nichols, Nichols Brothers has been building steel and aluminum vessels for over four generations. The firm's work includes the construction of large passenger vessels, work boats/military vessels, fishing boats, as well as boat and ship conversion and repair.

The largest private employer in Island County, Nichols Brothers has two locations, a main yard in Freeland and an outfitting yard in Langley.

Niche: Steel and aluminum shipbuilding and repair facility

Competitors: Dakota Creek Industries, TODD Shipyard

Customers: Military, government, commercial, and recreational fisherman (local and international)

Employees: ~170 (has been as high as 265)

Connection to Other Industries

Complex Linkages to Other Sectors. The industry is connected to many other industries, such as transportation, aerospace, sports and recreation, arts, tourism, and real estate. These relationships are connected in multiple ways. Local crafts and arts-producers are also supported by the industry. Bayview Edison Industries (B.E.I.), which produces fiberglass molds, auxiliary engines, rudders, and cabinets for boats, also has customers in the agriculture, construction, and transportation sectors. Boat purchasers often spend substantial amounts of money outfitting their boats, which benefits local craftsmen and artists (arts being an especially strong sector in Island and San Juan Counties).

Workforce Dependent

Labor Force is Vital to Businesses Growth. Despite advances in technology and an increased use of automation, the marine industry still heavily relies upon physical labor. Finding skilled workers is one of the greatest challenges facing the regional marine industry, and firms are constantly in competition with each other for retaining and attracting skilled and talented employees. As such, businesses have strong incentives to retain workers by offering competitive salaries, good benefits, and comfortable work environments. Within the industry, firms tend to match each others' benefits. For example, the four-day work week (Monday-Thursday, ten hours per day) has become a standard practice in many firms.

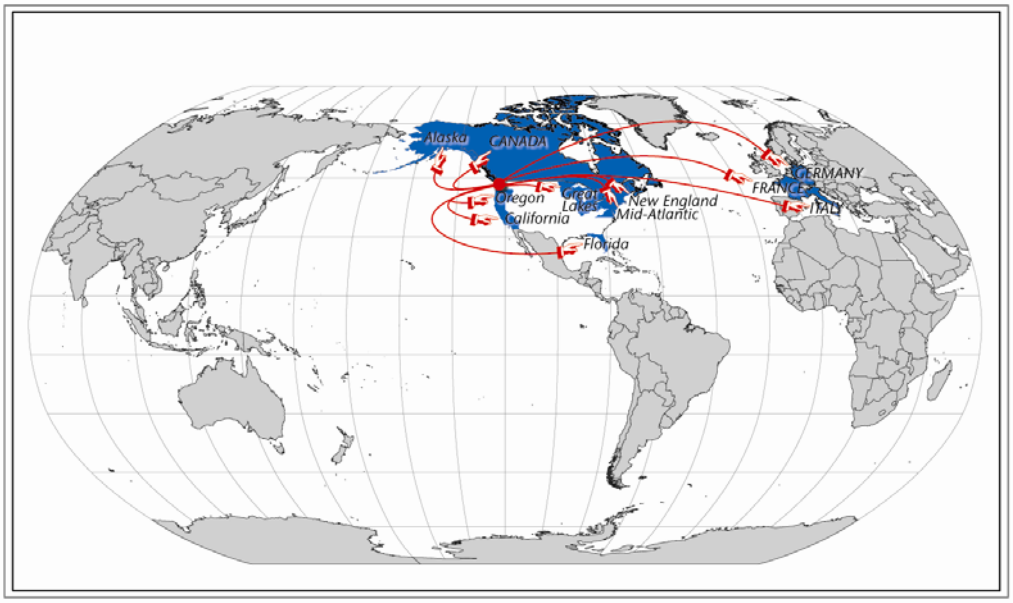
2.5 Suppliers, Competitors, and Customers are Located Worldwide

The following Exhibits provide a summary-level geographic snapshot of the regional marine industry's relationship to the global market. They illustrate the global nature of the industry and the firms within it. A reader caveat: the maps were developed from information provided by some of the firms interviewed in this study. As such, they are not intended to capture in detail the full breadth of all business interactions in the industry, but rather are presented to show the industry's general relationships to people, parts, and products located all over the world.

Customers are Mostly from Europe, Canada, and the United States

A large portion of the customers of the firms interviewed are located in the United States, Canada, Germany, France, and Italy. Within the U.S., Alaska, Oregon, California, New England, and Florida appear to be areas of greater customer concentration. Europe is increasingly seen by local pleasure boat manufacturers as a region for further market expansion due to growing customer demands for new and innovative products not sold on the continent.

Exhibit 3
Customers Come from the U.S., Canada, and Europe

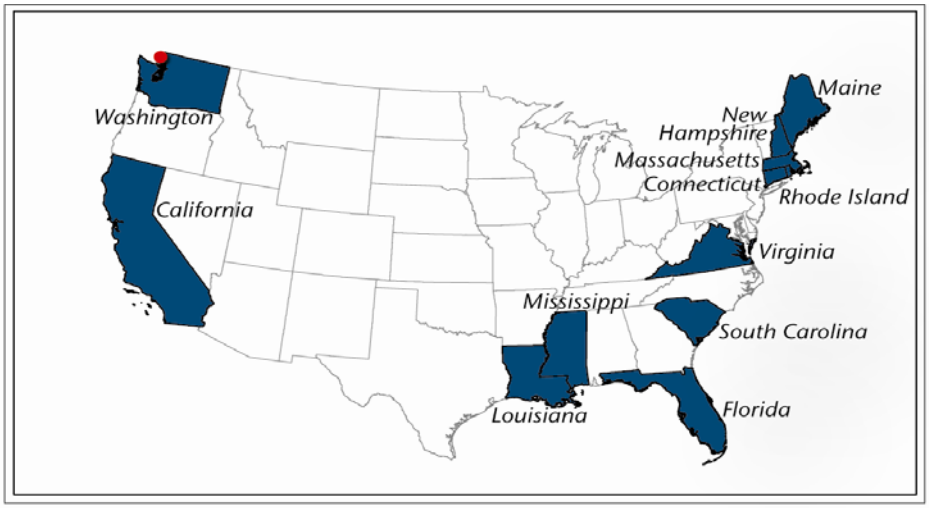


Source: Berk & Associates 2007

Competitors are from all Over the World

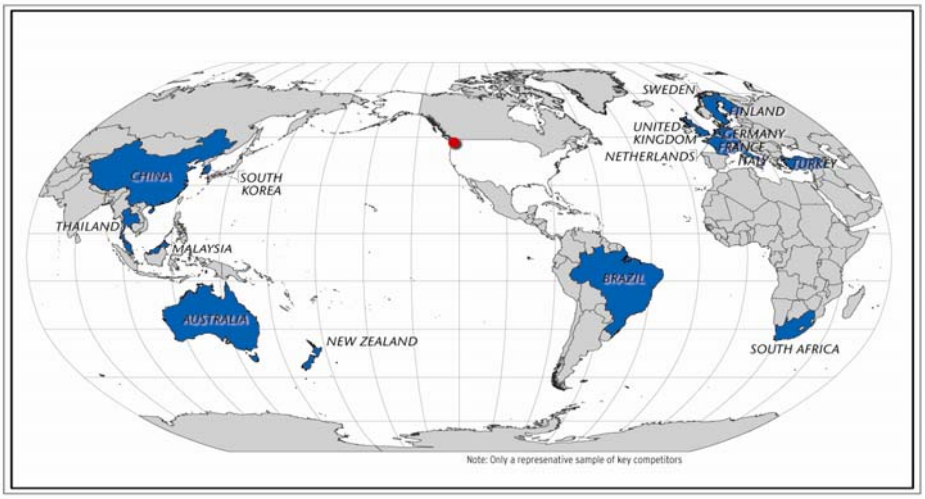
As Exhibit 4 shows, states with competitive boat building industries in the United States are on the west and east Coasts, in California, Connecticut, Florida, Louisiana, Maine, Massachusetts, Mississippi, New Hampshire, Rhode Island, South Carolina, and Virginia. Internationally, China, Korea, New Zealand, Australia, South America, South Africa and Western Europe (Britain, The Netherlands, Germany, France, Italy, Finland, and Sweden) are considered areas with strong and growing boat building economies, as reported by the businesses interviewed. China in particular, is rapidly increasing its boat manufacturing market share, although Washington's competitive advantage continues to be the quality and customization of its products.

Exhibit 4
Key Domestic Competitors on the West and East Coasts



Source: Berk & Associates 2007

Exhibit 5
Global Competitors are Worldwide

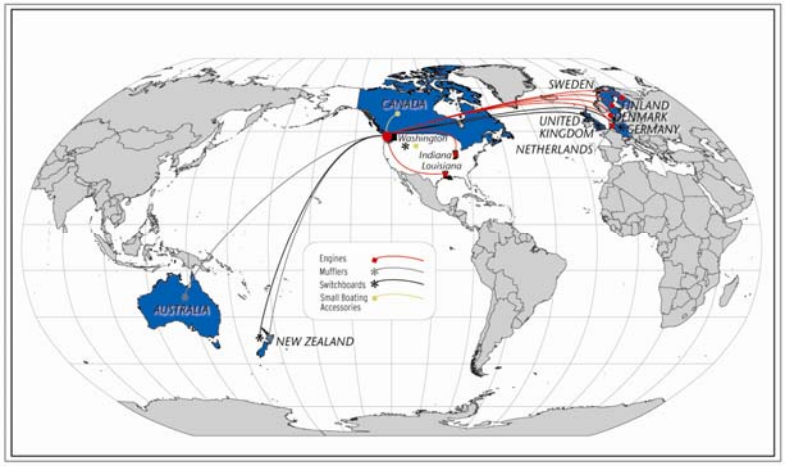


Source: Berk & Associates 2007

Raw Materials are from Developing Countries While Components are from Developed Countries

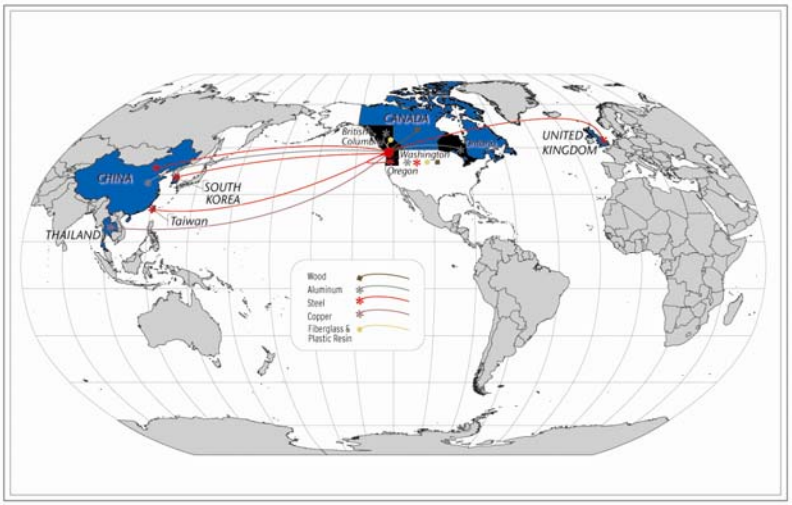
At the study's outset, a question was posed about inadequacies and opportunities to improve the industry's supply chain. This question was explored in the study. However, it appears that the region's marina businesses do not appear to have any major supply chain issues and are accustomed to buying raw materials as well as finished components locally, across the U.S., and overseas. The rising cost of raw materials such as steel and copper is forcing businesses to look increasingly to developing countries where prices are more competitive, such as China and Thailand. On the other end of the manufacturing process, firms often purchase high-end components such as search and navigation systems, engines, and mufflers from more developed countries, such as Germany, Sweden, Finland, United Kingdom, Netherlands, New Zealand and Australia.

Exhibit 6
Suppliers: Components



Source: Berk & Associates 2007

Exhibit 7
Suppliers: Raw Materials



Source: Berk & Associates 2007

3.0 CLUSTER EMPLOYMENT DATA AND ECONOMIC IMPACT ANALYSIS

3.1 Regional Population and Employment Overview

Exhibit 8 below presents a population and employment snapshot of the region. As the Exhibit shows, Skagit County has the highest median household income ($48,773), while San Juan County has the lowest ($43,491). All the counties have relatively low unemployment rates, particularly compared with state unemployment levels in recent years. Skagit County's unemployment rate of 5.2% is at an unprecedented low. San Juan County has the lowest unemployment rate of the four counties at 3.2%. Whatcom County's unemployment rate is 5.4%, and Island County's unemployment rate is currently 7.3%.

Exhibit 8
Regional Population, Employment and Household Income, by County, 2005

County	Total Population	Population 16 Years and Over in the Labor Force	Percent of Labor Force in Manufacturing Industries	Median Household Income
Whatcom	178,425	96,299	10.6%	44,248
Skagit	111,330	56,473	11.0%	48,773
Island	77,698	37,423	5.0%	46,695
San Juan	14,077	6,822	6.1%	43,491
Washington	6,146,338	3,235,872	5.2%	49,262

Source: American Community Survey, 2005

Both Skagit and Whatcom counties have a significant portion of their labor force employed in the manufacturing industry. Skagit County employs the largest portion of its labor force in manufacturing industries (11.0%), followed closely by Whatcom (10.6%), San Juan (6.1%), and Island Counties (5.0%).

3.2 Definition of Core Marine Industry NAICS Codes

As described earlier, this Marine Industry Cluster study focuses on a core group of industries including boat and ship building and repair, marinas, and boat storage. Commercial fishing; seafood processing; freight and cargo shipping; raw material suppliers (aluminum, steel, wood etc); water taxis; tourism (except indirectly); and sports and recreation businesses are not covered directly by this study.

Local, state, and federal employment agencies classify business activity using the North American Industry Classification System (NAICS). The following six-digit NAICS code industry categories were selected to comprise the core Marine Industry Cluster. Unless otherwise noted, all industry and economic analysis in this section focuses only on these five industry categories.

- **336612 Boat Building.** Establishments primarily engaged in building boats (watercraft typically suitable or intended for personal use).
- **336611 Ship Building and Repairing.** Establishments primarily engaged in operating a shipyard and the construction, repair, and alteration of ships (watercraft typically suitable or intended for other than personal or recreational use).

- **441222 Boat Dealers.** Establishments primarily engaged in retailing new and/or used boats, outboard motors, trailers, marine supplies, parts, and accessories.
- **713930 Marinas.** Marinas operating docking and/or storage facilities, possibly engaged in retailing fuel and marine supplies and repairing, maintaining, or renting pleasure boats. This category does not include public or port-operated marinas.
- **811490 Other Personal and Household Goods Repair and Maintenance.** Establishments primarily engaged in repairing personal or household-type goods, including motorboats, canoes, sailboats, and other recreational boats.

The Boat and Ship Building, Boat Dealers, and Marinas categories all have a fairly direct connection to marine activities but the Other Goods Repair category includes several non-marine repair activities. This should be kept in mind when assessing job and wage data for this industry category.

A significant number of boat and ship suppliers are not captured within these codes, such as tooling, carpentry and machine shops, rope manufacturers, and search and navigation equipment companies. These suppliers were not included in the employment and economic analysis because it was not possible to separate the marine related operations from the more general carpentry, machine shop, electronics, and manufacturing categories they fall within. Even though they are not included in the employment and wage summary tables later in this section, suppliers are an important extension to the core Northwest Marine Industry Cluster.

3.3 Employment and Wage Analysis

Exhibit 9 shows the distribution of firms, jobs, and wages in the Marine Cluster by county in 2005. Skagit County and Whatcom County have the most firms (47 and 46 respectively), but Skagit has over twice as many marine jobs (1,197) due to several large employers. Total marine employment in Island and San Juan Counties is smaller, comprising 343 jobs and about 16% of the four-county regional total. Compared to the State, the Northwest Marine Cluster makes up about 20% of all marine industry jobs in the State.

In terms of wages, Island County has the highest average wage per employee ($45,172) because almost 90% of its marine workforce is in the high-paying Boat and Ship Building category. Overall, wages in the Northwest Marine Cluster ($36,059) are slightly lower than the State average ($39,132).

Exhibit 9
Northwest Marine Cluster Employment and Wages by County, 2005

	Annual Avg Number of Firms	Annual Avg Total Employment	Total Wages	Annual Avg Wage per Employee
Skagit County	47	1,197	$42,776,659	$35,727
Whatcom County	46	539	$17,513,673	$32,468
Island County	15	256	$11,541,353	$45,172
San Juan County	12	87	$3,144,491	$36,144
NW Region Total	**120**	**2,079**	**$74,976,176**	**$36,059**
Washington State	**685**	**10,530**	**$412,065,093**	**$39,132**

Source: Washington State Employment Security Department, 2007

Exhibit 10 shows the same firm, employment, and wage statistics for each of the marine industries in the Northwest Region and the State. The Boat Building category comprises over half of the Marine Cluster's total employment (1,089 jobs) followed by Ship Building and Repairing (398). The other three categories each have about 200 employees.

In the Northwest Region, average wages are highest in the Ship Building and Repairing category ($47,384), followed by Boat Building, Marinas, and Boat Dealers all between $32,000 and $35,000. The Other Goods Repair category has the lowest average wage ($28,213) but as mentioned earlier, the category includes several non-marine related repair activities. Compared to statewide averages, Northwest Region wages are all a little lower except for the Marinas category, which shows higher wages in the Region ($34,257) than statewide ($26,827). A possible explanation for the slight wage disparity between State and Regional averages is the higher cost of living in the Central Puget Sound area, where many marine related jobs are located.

Exhibit 10
Northwest Marine Cluster Employment and Wages by Industry, 2005

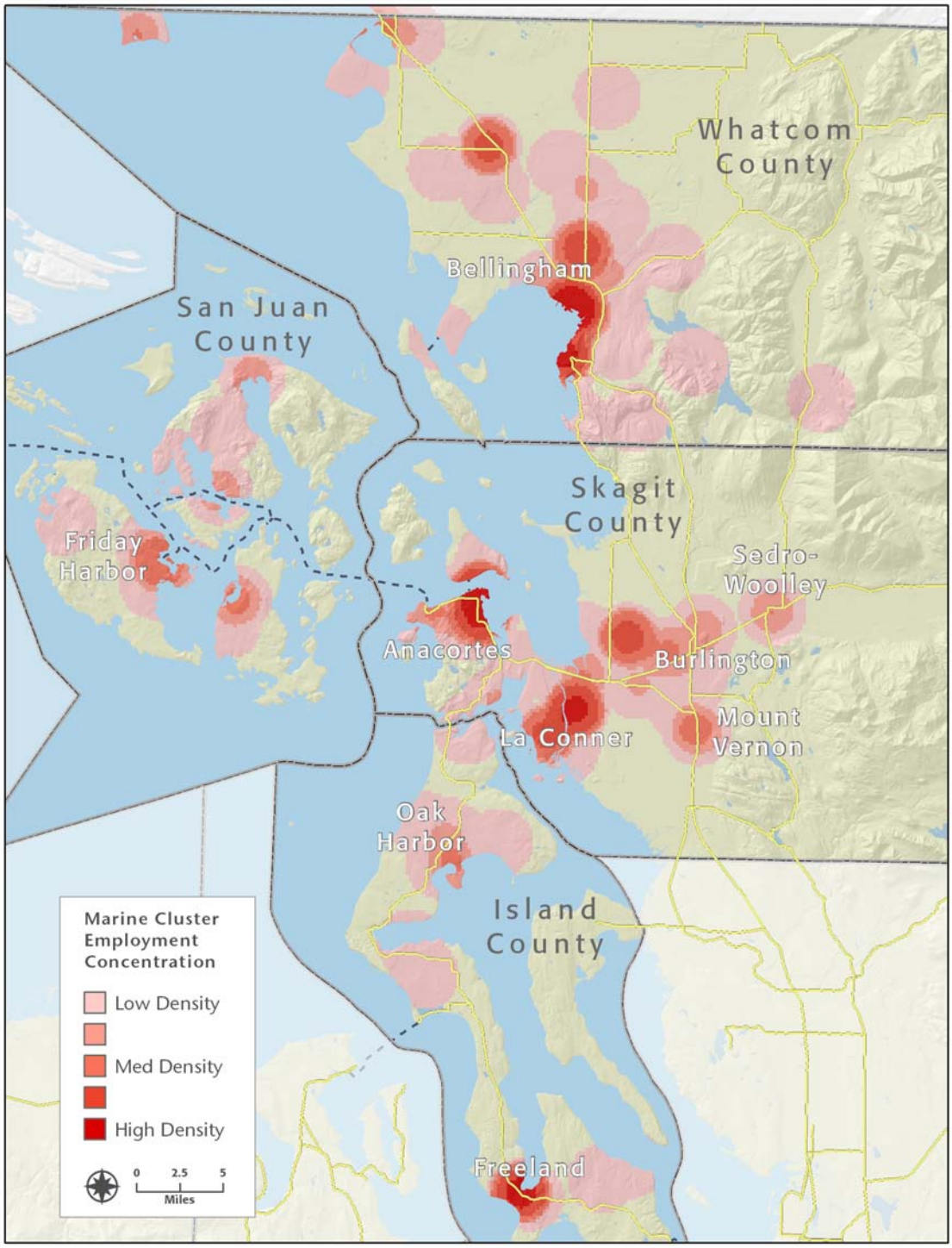
6 Digit NAICS Code	Industry Description	Annual Avg Number of Firms	Annual Avg Total Employment	Total Wages	Annual Avg Wage per Employee
Marine Industry Employment and Wages in the Four-County NW Region					
336611	Ship Building and Repairing	5	398	$18,862,779	$47,384
336612	Boat Building	34	1,089	$37,355,341	$34,308
441222	Boat Dealers	29	216	$6,982,555	$32,402
713930	Marinas	21	189	$6,483,159	$34,257
811490	Oth Pers and HH Goods Rep and Maint	31	188	$5,292,342	$28,213
	NW Marine Industry Total	**120**	**2,079**	**$74,976,176**	**$36,059**
Marine Industry Employment and Wages Statewide					
336611	Ship Building and Repairing	38	2,590	$129,988,192	$50,188
336612	Boat Building	100	4,490	$173,229,681	$38,581
441222	Boat Dealers	145	1,404	$49,647,482	$35,361
713930	Marinas	88	521	$13,976,873	$26,827
811490	Oth Pers and HH Goods Rep and Maint	314	1,525	$45,222,865	$29,654
	Washington State	**685**	**10,530**	**$412,065,093**	**$39,132**

Source: Washington State Employment Security Department, 2007

3.4 Geographic Distribution of Marine Industry Employment

In addition to analyzing employment totals, it is helpful to assess the geographic distribution of employment in the four-county Northwest Region. Exhibit 11 shows a map of Marine Cluster employment concentrations derived from point-level location data. The map shows the largest concentrations of marine industry activity around Anacortes, Bellingham, La Conner, and the Burlington/Mount Vernon/Sedro-Woolley area. Friday Harbor, Oak Harbor, and Freeland also show moderate concentrations of marine industry employment. Understanding the spatial distribution of the industry will help inform strategies later in this report that focus on infrastructure, accessibility, and centralized educational and support facilities.

Exhibit 11
Northwest Marine Industry Employment Concentration, 2007



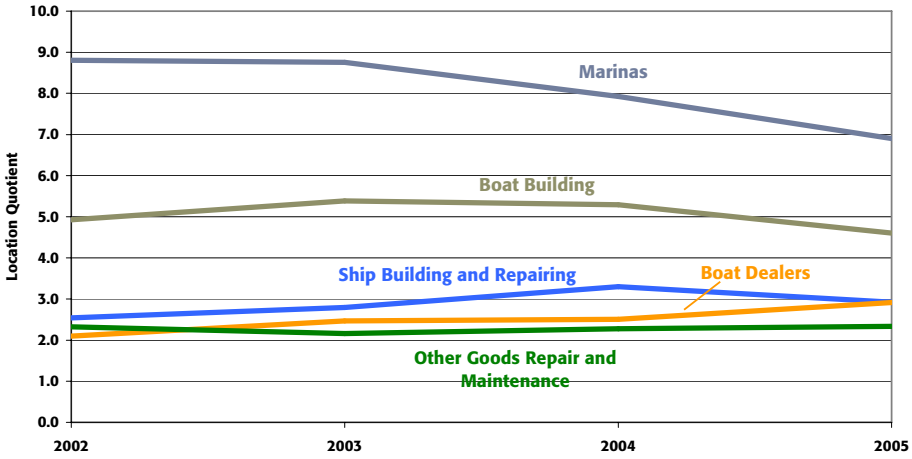
Source: InfoUSA Data, 2007 2nd Version, Washington State Employment Security Department
Note: The NAICS category "Other Personal and Household Goods Repair and Maintenance" (811490) was not included in this map.

3.5 Location Quotients

A location quotient is an index measure that compares the concentration of a particular industry in an area with the concentration of the same industry in a larger reference area.[1] The greater the relative concentration of an industry in an area is, the higher its location quotient will be. If a location quotient is higher than 1.0 it indicates that the regional concentration of an industry is greater than the state or national concentration and some portion of the industry is likely exporting goods and services out of the region.

For this study, the concentration of marine industries (measured in jobs) in the four-county Northwest Region was compared to the concentration of marine industries statewide and nationwide. Exhibit 12 shows location quotients for marine industries in the four-county Northwest Region compared to statewide concentrations. Location quotients for all the core marine industries are higher than 1.0, indicating the strength of the cluster and that the Northwest Region is exporting marine goods and services. Location quotients for the Marinas category are the highest in the region (6.9 in 2005), followed by Boat Building (4.6). Ship Building, Boat Dealers, and Other Repair all have location quotients between 2.1 and 3.3.

Exhibit 12
Location Quotients for Northwest Marine Industries, 2002-2005
(Northwest Region vs WA State)



6 Digit NAICS	Industry Description	Location Quotient - NW Region vs State 2002	2003	2004	2005
336611	Ship Building and Repairing	2.5	2.8	3.3	2.9
336612	Boat Building	4.9	5.4	5.3	4.6
441222	Boat Dealers	2.1	2.5	2.5	2.9
713930	Marinas	8.8	8.8	7.9	6.9
811490	Oth Pers and HH Goods Rep and Maint	2.3	2.2	2.3	2.3

Source: Washington State Employment Security Department, 2007

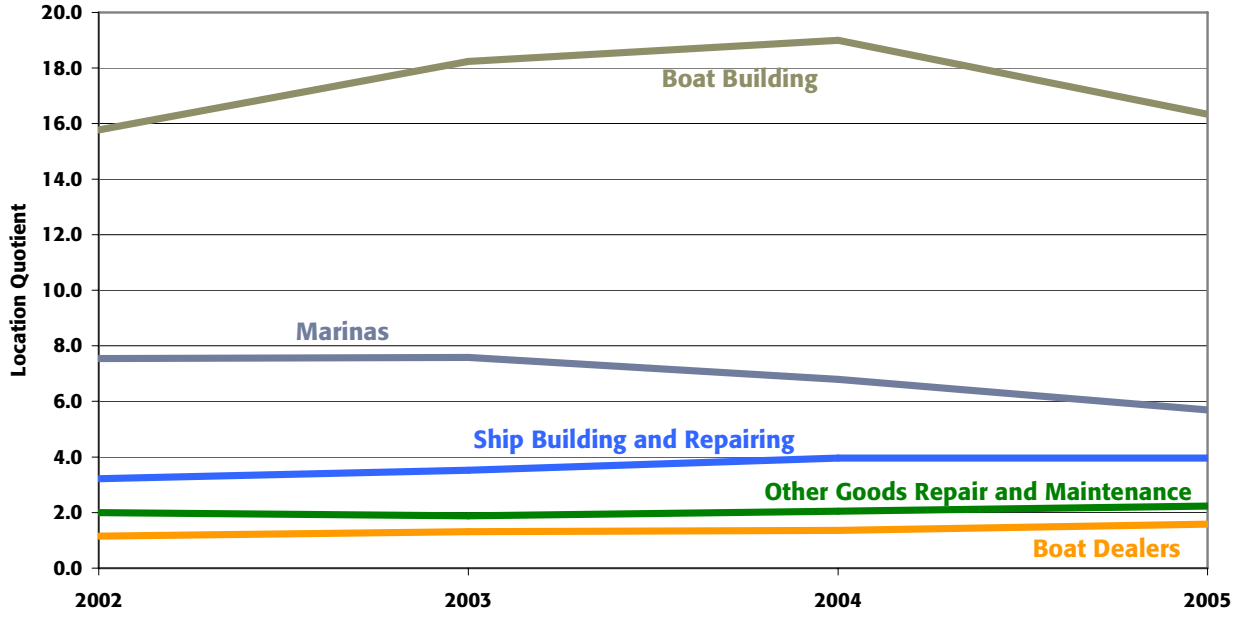
[1] A location quotient is calculated by comparing two ratios: taking the concentration of an industry in an area (jobs in specific industry in area/total jobs in all industries in same area) and dividing it by the concentration of the same industry in a larger reference area (jobs in industry in reference area/total jobs in all industries in reference area).

Given the Northwest Region's strong orientation to the marine environment, it is not surprising that location quotients for Marine Cluster industries are significantly greater than average. In this context, the principal benefits of location quotients are their ability to illustrate (1) how the relative importance of an industry to a region changes over time and (2) the character of the relative mix of industries within the cluster.

Among the component industries in the Northwest Marine Cluster, Marinas and Boat Building are the two most heavily-concentrated industries. The three remaining industries, while still strong in the region, are not as dominant as one might see in other marine-oriented economies (see Exhibit 14 on page 23 for a comparison of location quotients for other economies).

Exhibit 13 shows similar location quotient statistics comparing Northwest Region marine industry concentrations to national marine industry concentrations. As with the Region versus State comparison, all location quotients are higher than 1.0 showing the industry's relative strength. The Boat Building location quotient is the highest (16.3 in 2005), followed by Marinas (5.7), Ship Building (4.0), Other Repair (2.2) and Boat Dealers (1.6).

Exhibit 13
Location Quotients for Northwest Marine Industries, 2002-2005
(Northwest Region vs Nation)



6 Digit NAICS	Industry Description	Location Quotient - NW Region vs Nation 2002	2003	2004	2005
336611	Ship Building and Repairing	3.2	3.5	4.0	4.0
336612	Boat Building	15.8	18.2	19.0	16.3
441222	Boat Dealers	1.2	1.3	1.4	1.6
713930	Marinas	7.5	7.6	6.8	5.7
811490	Oth Pers and HH Goods Rep and Maint	2.0	1.9	2.1	2.2

Source: Washington State Employment Security Department, 2007; U.S. Bureau of Labor Statistics, 2007

Location Quotient Comparisons with Other States

As expected, the concentrations of marine industries in the coastal four-county Northwest Region are greater than the concentrations in the State and nation, which both include many landlocked areas. To gain a better understanding of how typical the region's location quotients are, the State of Washington's marine industries were compared with the same industries in other well-known centers of ship and boat building activity – the states of Florida, Maine, and California.[2]

Exhibit 14 summarizes the location quotients for each of the comparable states vs the national average. Washington's location quotients in Boat Building (3.5) and Ship Building (1.4) are both relatively strong and are only exceeded by the concentrations in Maine. Almost all of Maine's marine industry location quotients are strong, particularly in the Ship Building and Repairing category (24.0). However, this is partially influenced by the fact that the economy in Maine is much smaller and less diverse than the other three states. Compared nationally, Washington's ship and boat building industry concentration is high, while other segments of the Marine Cluster (Marinas and Boat Dealers) are less concentrated.

Exhibit 14
Location Quotients for Marine Industries in Other States, 2005
(Selected States and NW Region vs Nation)

6 Digit NAICS	Industry Description	Location Quotient - States vs Nation			
		Florida	Maine	California	Washington
336611	Ship Building and Repairing	0.5	24.0	0.8	1.4
336612	Boat Building	3.1	5.7	0.4	3.5
441222	Boat Dealers	1.0	0.9	0.3	0.5
713930	Marinas	2.9	6.9	0.6	0.8
811490	Oth Pers and HH Goods Rep and Maint	0.9	0.6	0.6	1.0

Source: Maine Department of Labor, Florida Agency for Workforce Innovation – Labor Market Statistics program, California Employment Development Department, Washington Employment Security Department, U.S. Bureau of Labor Statistics, 2007

3.6 Retail Sales

Businesses in Washington collect and remit retail sales tax on the sale of most tangible goods and certain services such as cleaning, repair, alteration, and improvement of personal property. Depending on the amount and type of commercial activity in a community, these taxable retail sales (TRS) typically provide a significant portion of local government revenue and play an important part in long-term fiscal sustainability for most jurisdictions.[3]

[2] A comparison between the four-county NW Region and other county-level centers of marine activity would have been ideal but due to data limitations, a state-level comparison was made instead.

[3] Business and Occupation (B&O) taxes represent another potential source of city revenues, but most cities in Washington State do not currently levy B&O taxes.

Of the core industries in the Marine Cluster, Boat Dealers is the category with the most significant retail component. Exhibit 15 shows the statewide Gross Business Income (GBI) [4] and TRS totals for Marine Industries in 2006. Boat Dealers has the highest percentage of GBI in retail sales (54%), followed by Personal and Household Goods Repair (44%) and Marinas (33%). Ship and boat building have relatively smaller percentages of GBI in retail sales – each category having less than 10% in TRS. The small percentage of TRS in the two manufacturing categories is partially due to the retail sales tax exemption of sales to the federal government and sales of manufacturing machinery and equipment.

Exhibit 15
Gross Business Income and Taxable Retail Sales for Marine Industries Statewide, 2006

6 Digit NAICS	Industry Description	Economic Activity (Millions $) Gross Business Income (GBI)	Taxable Retail Sales (TRS)	Percentage of GBI that is TRS
336611	Ship Building and Repairing	349	29	8.3%
336612	Boat Building	1,184	76	6.4%
441222	Boat Dealers	785	427	54.4%
713930	Marinas	63	21	33.1%
811490	Oth Pers and HH Goods Rep and Maint	310	138	44.4%
Total	**All Industries**	**551,671**	**111,442**	**20.2%**

Source: Washington Department of Revenue, 2007

In the four-county Northwest Region, TRS generated by the Marine Industry is quite significant for communities such as Anacortes, which have large amounts of Boat Dealer, Boat Repair, or Marina activity. [5] For cities like these, success of the Marine Cluster is very important, since sales tax revenue generated by marine activities can support a good portion of the city budget.

TRS has grown steadily in marine industries over the past five years. Exhibit 16 shows that recent TRS growth rates in all marine industry categories, with the exception of marinas, have outpaced statewide average growth. Ship Building and Repairing has seen the largest annual average growth (24.9%) in TRS but Boat Dealers have exhibited the largest absolute TRS growth ($130 M) between 2001 and 2006. These retail sales statistics indicate that marine related activities are increasing in the State of Washington and boat dealers are the primary source of TRS in the Marine Cluster.

TRS growth in the Marine Cluster is even more impressive considering that sales of watercraft to non-residents of Washington for use outside the State (RCW 82.08.0266) are exempt from retail sales tax. As

[4] GBI, as reported by the Washington Department of Revenue, includes gross income for all retail sales, business and occupation (B&O), and public utility taxes.

[5] County-level and City-level TRS data for the Northwest Region were not included in this analysis because several data points were withheld, in accordance with the excise tax confidentiality statute, to protect the confidentiality of certain businesses.

shown in Exhibit 3 earlier, customers for boats, ships, and marine supplies produced in Washington come from across the country and internationally from Canada and Europe. Sales of boats to these non-resident customers are not represented in the TRS totals but they represent another important source of demand and for marine industry activity.

Exhibit 16
Taxable Retail Sales for Marine Industries Statewide, 2001-2006

6 Digit NAICS	Industry Description	Taxable Retail Sales (Millions)						Avg Annual % Growth
		2001	2002	2003	2004	2005	2006	2001-2006
336611	Ship Building and Repairing	10	13	9	16	22	29	24.9%
336612	Boat Building	56	52	56	59	66	76	6.4%
441222	Boat Dealers	296	307	327	388	422	427	7.6%
713930	Marinas	17	19	18	19	18	21	3.6%
811490	Oth Pers and HH Goods Rep and Maint	94	93	96	112	126	138	8.0%
Total	**All Industries**	**84,914**	**85,368**	**87,664**	**93,441**	**102,154**	**111,442**	**5.6%**

Source: Washington Department of Revenue, 2007

3.7 Economic Activity Generated by the Northwest Marine Industry Cluster

The ship building, boat building, boat dealer, and marina industries directly employed over 9,000 people in Washington State in 2005[6]. Approximately 1,900 of these jobs are located in the four-county region comprising the Northwest Marine Industry Cluster. Accounting for ripple (multiplier) effects within the state and regional economy, these industries support more than 4,000 jobs in the region.

When discussing economic effects of industries, economists talk about three categories of effects:

- **Direct Effects**: economic activity (jobs, income, and sales) associated with the target industry (in this case, the Northwest Marine Cluster industries) as they respond to demand for their products and services.
- **Indirect Effects**: economic activity generated when Marine Cluster industries purchase goods and services as inputs to their production.
- **Induced Effects**: activity generated when owners and employees of Marine Cluster industries and their suppliers spend their earnings. Dollars earned from production are spent on food, housing, autos, entertainment, etc., and their dollars circulate (and re-circulate) through the regional economy.

In the parlance of input-output modeling, the latter indirect and induced effects are referred to as *multiplier* effects. Another related and commonly-used term, *economic multiplier*, describes the combined activity generated as a result of direct, indirect, and induced effects. As an example of *multiplier effects*, for every

[6] The "Other Personal and Household Goods Repair and Maintenance" category was not included in the economic impacts analysis because this industry category includes several types of businesses not directly related to marine activities. Job totals in this section reflect this exclusion and are slightly different than totals cited earlier in the report.

one job created in boat and ship building, an additional 1.2 jobs are created through indirect and induced effects statewide. In this example, the *economic multiplier* for jobs in these industries is 2.2 (one job in the industries in question generates 1.2 additional jobs and 2.2 jobs in total).

An input-output model describes the multiplier effects associated with industries, providing detailed representations of the economic linkages within a particular economy. The assessment summarized here is based on the 2004 update of the Washington State input-output model, created for the Office of Financial Management. The input-output model makes it possible to trace and summarize the impact of demand for any given industry on all other industries in the State. These impacts are measured as:

- The amount of business activity (or output) generated in all industries,
- The number of jobs created in all industries, and
- The amount of labor income earned in all industries.

This analysis describes the total economic activity of the four-county Northwest Marine Cluster's Ship Building, Boat Building, Boat Dealer, and Marina industries on the statewide economy (NAICS codes: 336611, 336612, 441222, and 713930).

Exhibit 17
Economic Activity Generated by the Northwest Marine Cluster

Total Output	**$362,095,173**
Direct Activity	$195,292,238
Induced and Indirect Activity	$166,802,935
Total Jobs	**4,050**
Direct	2,079
Induced and Indirect	1,971
Total Wages	**$148,582,994**
Direct	$94,028,501
Induced and Indirect	$54,554,493

Source: Berk & Associates, 2007

Exhibit 17 illustrates the total annual economic activity associated with the Northwest Marine Cluster industries within the Washington economy. In 2005, these industries generated over $362 million in economic activity. In addition, they supported a total of 4,050 jobs and over $148 million in wage income. Among Marine Cluster industries, the boat and ship building industry is responsible for the majority of the total economic activity because (1) it is a high value production industry and (2) it generates greater ripple effects in the economy. As a production industry, the boat and ship building sector has many linkages with other segments of the economy and generates demand for many additional inputs (goods and services) in order to produce its products. As noted above, for every one job created in boat and ship building, an additional 1.2 jobs are created Statewide (2.2 jobs combined). In comparison, for every one job created in marinas and boat dealers, an additional 0.01 job is created Statewide. The ripple effects generated by marinas and boat dealers are smaller because these industries do not generate as much demand for output in other industries through their activities.

Non-Cluster Industries That Benefit from the Northwest Marine Cluster

In addition to the five specific industries that comprise the Northwest Marine Cluster, other manufacturers within the four-county region are clearly strengthened by the Marine Cluster. An example of such a business might be a manufacturer of boat lifts. To the extent that a boat lift manufacturer sells products to Northwest Marine Cluster businesses, the economic effects of the manufacturer's activities are included in the figures reported above. However, when this manufacturer sells products into markets outside the region (or to other industries within the region), the direct and multiplier effects associated with these sales are *not* included in the economic effects cited above.

Clearly, a boat lift manufacturer can be characterized as a component of the Marine Cluster. It is also clear that the manufacturer benefits from the existence of a strong cluster. However, due to definitional issues in industrial classifications, this analysis does not include this category or similar categories of manufacturing.

4.0 SUPPORTING NETWORK AND ENVIRONMENT

A strong regional network is already in place to assist the boat and shipbuilding industry at various levels of marketing, advocacy, workforce training and recruitment, and general business development. This network includes industry associations, community and technical colleges, economic development councils, workforce development and training organizations, and ports.

The following section of the report provides an overview of existing nonprofit and trade organizations that currently exist in the region to assist marine businesses in growing the sector.

4.1 Economic, Workforce, and Development Organizations

Economic Development Councils

Economic Development Association of Skagit County (EDASC)

EDASC preserves, promotes, and creates healthy businesses and employment by: working with companies that are relocating or expanding to Skagit County; local companies that are expanding or starting up; or Skagit County companies that are trying to retain jobs. EDASC is also responsible for helping create the Skagit County Manufacturers Network, which serves as an information resource for all members and Workforce Team Skagit which helps match employers with potential employees.

www.skagit.org

Bellingham-Whatcom EDC

The Bellingham-Whatcom EDC provides economic development leadership and programs to sustain and enhance the economic vitality of Whatcom County. The EDC encourages existing industrial and commercial businesses to expand, and works to attract new industrial and commercial businesses to Whatcom County that can provide quality employment and augment the county's economic base.

www.bwedc.org

Island County EDC

The Island County EDC's mission is to enhance and diversify the local economy. The EDC offers business and finance programs, demographic information, business information and counseling, promotion, seminars and training, referrals, and an ombudsman to represent business before local and state government.

www.islandweb.org/edc/

San Juan County EDC

The San Juan County EDC is broadly representative of community interests and seeks to diversify and strengthen the economy of San Juan County and to promote and preserve the overall quality of life.

www.islandway.org

Workforce Training & Development

Northwest Workforce Development Council

The Council is a 27-member private industry-led board responsible for governance and oversight of the workforce development system in the four-county region. The Council's core business is to improve the ability of the local workforce to meet the demands of business and industry. The system provides an array of business services, with resource investment in targeted areas. The Council plays a critical role in convening industry, education, and labor leaders around industry-specific issues. Innovative solutions are drawn from vibrant partnerships and through strategic resource investment of training and other funds.

The Council provides financial resources to qualified individuals for occupational or technical education programs and customized training in high demand occupations. Through resource leveraging with public and private investments, the Council targets its training resources to increase the number of workers on the high skill path and make certain the skill gap is narrowed for employers.

www.nwboard.org

Northwest Center of Excellence for Marine Manufacturing and Technology

The Northwest Marine Center of Excellence for Marine Manufacturing & Technology is located at Skagit Valley College, Whidbey Island Campus. Supporting a statewide alliance of private industry, education, economic and workforce development professionals, the Center's mission is to increase the competitiveness of the boat and ship building, repair and refit industries of Washington State. Serving as the hub for innovation and education, the Center helps to highlight and share best practices related to industry trends and emerging technologies fostering economic vitality through collaboration with state, national and international partners.

Serving as a statewide leader since 2004, the Center is dedicated to building a world-renowned marine industry through training and sharing curriculum; delivering collaborative distance education programming; offering consultation services to strengthen programs across the state; sharing instructional equipment, tools and materials; presenting faculty development workshops on industry trends; marketing to support the industry; keeping the workforce systems informed and by continually improving processes and practices through outreach and collaboration.

www.marinecenterofexcellence.com and www.skagit.edu

WorkSource Northwest

WorkSource Northwest offers businesses assistance in recruitment, training, industry profiles, and legal, technology, and business information. For job seekers, it provides career planning, education training, employment programs, unemployment insurance, and employment help.

www.worksourceNorthwest.com

PrepWork Consortium

The Consortium office serves as a link between the ten high schools in Skagit, Island and San Juan Counties, Skagit Valley College, and local business/labor organizations. The Consortium's goal is to assist all youth by providing opportunities for community-based educational experiences and long-range career goals. The Consortium holds manufacturing summits to help form alliances in developing a manufacturing career pathway from high school to work, to college and beyond.

www.prepwork.org

Advisory Groups, Panels, and Alliances

Manufacturing Technology Advisory Group (MTAG)

MTAG is a Washington state coalition of representatives from industry, labor, education, state government and community service organizations. MTAG is chartered to develop and promote a Manufacturing Technology Education Program that begins in high school and leads to an associate degree at a community or technical college. Students who successfully complete this basic curriculum will be encouraged to continue their education at a community or technical college by specializing in a specific field of manufacturing.

www.mtag-wa.org

State Marine Advisory Committee

Created by the Center of Excellence, the Advisory Committee is composed of 48 leaders representing a variety of marine industry stakeholders. Meeting twice per year, this Committee works to assess the effectiveness of Center of Excellence initiatives and programs. There are four working subcommittees: Education; Business Outreach; Technology and Marketing. The work of the subcommittees includes, but is not limited to the following: identification of labor market need, trends and opportunities; identification of emerging technologies and processes; assistance in the development of career opportunities for youth and others through industry internships and career exploration; identification of job skill requirements, gaps, and skill standards; recommendation of occupational performance standards and criteria for marine program requirements and provision of resources for Center and partner activities.

Marine Manufacturing and Technology Skills Panel

In 2004, the Workforce Development Councils – Olympic (Clallam, Jefferson, and Kitsap Counties), Pacific Mountain (Grays Harbor, Mason, Wahkiakum, and Pacific Counties) and Northwest (Island, San Juan, Skagit, Whatcom Counties) – in cooperation with the Center for Excellence, formed one regional and three local skill panels to address industry workforce needs. The panels provide a forum for industry leaders and public partners to identify skill standards and reduce skill and labor shortages.

4.2 Ports

The regional marine industry is also supported by multiple ports and world-class marine facilities. There are a total of five ports within the four-county region (Bellingham, Skagit, Anacortes, South Whidbey, and Friday Harbor) that directly own and operate property which benefits the industry. These ports play a valuable role in supporting critical infrastructure that links the movement of goods by water to land-based transport (including road and rail); providing services, facilities, and land to a variety of businesses; and serving as a home and destination point for government, commercial, and recreational vessels. In addition, port-operated marinas are tourist attractions in their own right, bringing people into the region who do not own or operate boats.

The majority of the ports in the region have plans to expand and develop their facilities to further accommodate the growing demand for bigger vessels as well as an evolving customer base.[7] This translates into increasing the size of moorage slips, building infrastructure to improve access to shiplifts, slipways, and drydocks, and attracting more businesses that support the marine industry.

The Ports of Skagit and Bellingham own business parks that are home to marine businesses; both Ports are planning expansion projects that will provide additional facility space to marine business tenants. The Port of Anacortes is also a landlord for marine tenants, and the Port of South Whidbey is assessing opportunities to expand its role and investment in facility space for new tenants.

Port of Bellingham	Owns: two marinas (Squalicum Harbor and Blaine Harbor), Bellingham Airport, the Airport Industrial Park, Bellingham Cruise Terminal, Bellingham Shipping Terminal, Fairhaven Station, Fairhaven Marine Industrial Park, Harris Avenue Shipyard, and 140 acres of property acquired from GP. http://www.portofbellingham.com/
Port of Skagit	Owns: La Conner Marina, Skagit Regional Airport, as well as one industrial park, Bayview Business and Industrial Park (BBIP). http://www.portofskagit.com/
Port of Anacortes	Owns: three marine terminals (Pier I, Pier II, and Curtis Wharf) and the Anacortes Airport. http://www.portofanacortes.com/
Port of South Whidbey	Owns: six boat ramps, six public beach accesses, a fishing pier and a 200-car commuter parking lot. The Port has agreed to acquire the Langley marina from the City of Langley on January 1, 2009, and is now developing plans for improvement. http://www.portofsouthwhidbey.com/
Port of Friday Harbor	Owns: Friday Harbor Marina, Airport, International Seaplane Base, and Jackson's Beach. http://www.portfridayharbor.org/

[7] For more information regarding the Port's current roles, existing infrastructure,, and future development plans, please refer to Attachment A at the end of the report.

4.3 Colleges That Provide Marine-Related Training

Community and Technical Colleges

Effectively training the workforce is a critical factor in growing the marine industry. The lack of skilled labor is cited consistently by marine businesses as a major challenge, and one of the handful of major impediments to growth (along with finding adequate facility space). Exhibit 18 maps the community and technical colleges in the area that currently provide marine-related training (four year colleges were not included in this map). As the map notably illustrates, only Bellingham Technical and Skagit Valley College (SVC) are situated within the four-county region, with the majority of colleges located in King County. Additionally, Anacortes, which is the hub of the local marine industry, does not have any college that offers relevant training, although this will change once SVC moves into the newly authorized Marine Skills Center funded by the Legislature in the 2007 session.

Exhibit 18
Location of Community and Technical Colleges Providing Marine Training

Source: Berk & Associates 2007

Exhibit 19 shows the breadth of available classes and programs, and their geographic dispersion throughout the region. Such a wide dispersal of training centers is a benefit in many regards, but is also problematic if the schools tend to specialize. For example, classes in Engineering Technology are only offered at Edmonds College, which creates logistical challenges and barriers to access for potential students who live in the Islands or in Whatcom County. Conversely, SVC (Whidbey Island) focuses more heavily on marine maintenance, ship repair, and building composites than the other colleges. Its location on Whidbey is likely time consuming and a challenge for mainlanders such as employees of marine businesses in Anacortes and La Conner.

The most common classes appear to be welding, with all colleges offering these courses except for Seattle Central. It should be noted automotive and construction courses were not included in this Exhibit, although the potential exists for students within these disciplines to apply their skills to marine-related trades.

Exhibit 19
List of Classes and Programs Across Technical and Community Colleges

Engineering Technology	
Edmonds	Composite Technician
Edmonds	Material Science Tech
Edmonds	Material Science Work Ready Cert
Skagit-Whidbey	Marine Out Drives 1,2
Skagit-Whidbey	Vessel Electrical Systems 1, 2
Skagit-Whidbey	Vessel Auxilary Systems
Skagit-Whidbey	Marine Drive Train System Inboard
General	
Skagit-Whidbey	Marine Trades - Introductory Course
Skagit-Whidbey	Cooperative Educational Experience
Skagit-Whidbey	Safety Tools and Fastening
Marine Carpentry/Boatbuilding	
Bates	Basic Boat Building-Design & Construction
Bates	Boat Builder
Bates	Boat Building
Bates	Fiberglass Boat Building & Repair
Bates	Wood/Composite Boat Building
Grays Harbor	Intro to Yacht Finish Carpentry
Grays Harbor	Yacht Finish Carpentry
Seattle Central	Wood Construction/Marine Carpentry
Seattle Central	Wood Construction/Marine Carpentry
Skagit-Whidbey	Boat Lines, Stability, and Construction
Skagit-Whidbey	Fiberglass Infusion
Marine Maintenance/Fitter & Ship Repair	
Olympic	Marine Systems Technology
Skagit-Whidbey	Boat Production Shop
Skagit-Whidbey	Boat Repair Yard
Skagit-Whidbey	Charter Company
Skagit-Whidbey	Independent Employment
Skagit-Whidbey	Marine Maintenance Technology
Skagit-Whidbey	Marine Maintenance Technology
Skagit-Whidbey	Trailer Boat Dealer
Skagit-Whidbey	Fiberglass Boat Building & Repair
Skagit-Whidbey	Outboard Motor Maintenance 1,2
Skagit-Whidbey	Accessories and Equipment Installation
Skagit-Whidbey	Marine Coating Systems
Cabinetmaking & Millwork	
Bates	Architectural Woodworking/Cabinet Making
Bates	Production Cabinet Making
Grays Harbor	Intro to Trim Carpentry
Grays Harbor	Trim Carpentry
Seattle Central	Wood Construction/Cabinetmaking
Seattle Central	Wood Construction/Cabinetmaking
Carpentry	
Bates	Carpenter Technician
Bates	Carpentry
Grays Harbor	Carpentry Tech
Green River	Carp Tech-Interm Construction Mgmt Skills
Green River	Carp Tech-Res & Light Comml Carpentry
Green River	Carp Tech-Res & Light Comml Framing 1, 2
Green River	Carp Tech-Res Concrete Forming & Place
Green River	Carp Tech-Res Exterior Finish 1
Green River	Carp Tech-Res Interior Finish 1, 2
Green River	Carpentry Tech-Residential/Light Comml
Peninsula	Carpentry
Peninsula	Carpentry: Basic Carp & Concrete Foundations
Peninsula	Carpentry: Exterior & Interior Finish
Peninsula	Carpentry: Framing
Peninsula	Framing
Peninsula	Framing I, 2, 3
Seattle Central	Wood Construction/Carpentry
Seattle Central	Wood Construction/Carpentry
Skagit Valley	Wood Refinishing
Diesel Tech	
Bates	Diesel & Heavy Equipment Mechanic
Bates	Diesel Service Helper
Bates	Electrical
Bates	Engines
Bates	Hydraulics & Pneumatics
Bates	Lube Technician
Bates	Power Trains
Bellingham	Basic Diesel Skills
Bellingham	Basic Diesel Skills II
Bellingham	Diesel Engines & Electrical Electronic Systems
Bellingham	Diesel Equipment Technology
Bellingham	Diesel Service Technician
Bellingham	Diesel–Drive Train/Brakes/Susp/Steer/Elect
Bellingham	Diesel–Hydraulics Preventative Maint
Grays Harbor	Advanced Diesel Technology
Grays Harbor	Diesel Technology
Grays Harbor	Diesel Technology Fundamentals
Grays Harbor	Diesel Technology Level 1, 2, 3, 4, 5
Lake Washington	Diesel & Heavy Equipment Technician
Lake Washington	Diesel & Heavy Equipment Technician
Skagit Valley	Diesel Power Technology
Skagit Valley	Diesel Power Technology
South Seattle	Diesel & Heavy Equipment Tech
South Seattle	Diesel & Heavy Equipment Tech
South Seattle	Heavy Duty Diesel
Skagit Valley	Marine Engine Service Diesel

Source: Berk and Associates, State Board for Community and Technical Colleges 2007

Exhibit 19 (continued)
List of Classes and Programs Across Technical and Community Colleges

Welding	
Bates	Welder
Bates	Welding
Bates	Welding Level I
Bates	Welding Level II
Bellingham	Basic Welding Skills
Bellingham	Industrial Welding
Bellingham	Welding Technology
Clover Park	Welding Technology
Everett	Adv Mfg Tech–Welding & Fabrication
Everett	Adv Mfg Tech–Welding & Fabrication
Everett	I-BEST Welding
Everett	Metal Fabrication
Everett	Welding
Everett	Welding
Grays Harbor	Industrial Welding Level 4
Grays Harbor	Pipe Welding Level 3
Grays Harbor	Related Welding
Grays Harbor	Welding Basics Level 1
Grays Harbor	Welding Basics Level 2
Grays Harbor	Welding Technology
Grays Harbor	Welding Technology
Green River	Advanced Arc Welding
Green River	Basic Arc & Flame
Green River	Intermediate Arc & Flame
Green River	Welding Technology
Lake Washington	Welding Fabrication & Maint Tech
Lake Washington	Welding Fabrication & Maint Tech
Olympic	Precision Metal Cutting
Olympic	Welding Technology
Olympic	Welding Technology
Olympic	Welding Technology
Peninsula	Arc Welding
Peninsula	Arc Welding
Peninsula	Beginning Welding
Peninsula	Intermediate Welding
Peninsula	Pipe Welding
Peninsula	TIG Welding
Peninsula	Welding Technology

Welding (Continued)	
Peninsula	Welding Technology
Peninsula	Wire Feed Welding
Renton	Basic Welding
Renton	Welding
Renton	Welding
Skagit Valley	Aluminum GMAW
Skagit Valley	Aluminum GTAW
Skagit Valley	Basic Arc Welding
Skagit Valley	Flux-Cored Arc Welding
Skagit Valley	Gas Metal Arc Welding
Skagit Valley	Gas Tungsten Arc Welding
Skagit Valley	Shielded Metal Arc Welding
Skagit Valley	Welding Technology
Skagit Valley	Welding Technology
South Seattle	Aluminum Boat Building
South Seattle	Beginning Blacksmithing
South Seattle	Intermediate Blacksmithing
South Seattle	Welding - Level I
South Seattle	Welding - Level II
South Seattle	Welding - Level III
South Seattle	Welding - Level IV
South Seattle	Welding Fabrication
South Seattle	Welding Fabrication
South Seattle	Welding Fabrication
South Seattle	Welding Fabrication Technology
Merchant Marine Officer	
Seattle Central	100 Ton Master's Course
Seattle Central	Able Seaman's Course 1, 2
Seattle Central	Basic Safety Training
Seattle Central	Basic Safety Training
Seattle Central	First Aid & CPT
Seattle Central	Lifeboatman/PSC
Seattle Central	Marine Deck Tech
Seattle Central	Marine Engineering Tech

Source: Berk and Associates, State Board for Community and Technical Colleges 2007

Four-Year Colleges

While in general there is a lack of marine-related degree programs offered at four year colleges, there are a few universities that are contributing to research and development, training and education for the sector such as the College of Science and Technology in Western Washington University (WWU) and the Marine Engineering Program at the University of Washington. The College of Science and Technology has engineering technology programs for plastics/composites, manufacturing technology, and industrial design. WWU was recently funded for a new Advanced Materials and Engineering Center to provide an undergraduate degree program. The facility has worked with Bayliner in Arlington and Sea Sports locally. WWU is increasing its stature as the "3rd" research institution in the state.

Certification Programs

SVC is the only American Boat and Yacht Council (ABYC) certified community college in the State and is now working with the National Marine Electronics Association (NMEA) for additional training certification. The ABYC Marine Technician Certification program is designed to improve the quality and professionalism of boat maintenance and repair. This certification provides a standards-based, continuing education opportunity for marine technicians throughout the industry. The NMEA Association is responsible for developing boat installation standards, certifications for marine electronics technicians, and installer certification programs.

In addition, the Manufacturing Technology Advisory Group (MTAG) is partnering with several community colleges and high schools, as well as the State and local businesses, to create a Manufacturing Technology Certificate and Associate Degree programs. Part of this work also includes developing a core curriculum based on skill-leveel standards. These training and certification initiatives represent best practices within the industry in creating a competitive edge for the marine sector as a whole.

Plans for an Integrated Marine Skills Center

In 2007 the State Legislature approved $6.6 million authorization in funding to build a 27,000 square foot Skills Center for the marine trades in Anacortes. The Anacortes School District will assume control and responsibility for the Skills Center, although the marine-trades program at Skagit Valley College (located on Whidbey Island) and the Center for Excellence for Marine Manufacturing and Technology have plans to move into the facility upon its completion. The Skills Center will target three stages of worker training and development: (1) high school students coming to receive marine training; (2) advanced studies for continuance in the marine trades (post-secondary study) and; (3) re-training for current workers.

4.4 Marine Trade Association

Northwest Marine Trade Association (NMTA)

The NMTA is the oldest and largest regional boating trade organization in the nation, representing the interests of approximately 850 member companies. The purpose of the NMTA is to promote boating and the marine industry by producing boat shows, supporting reasonable measures to protect the marine environment, and promoting local, state and national legislation beneficial to boating and the marine industry. The 13 member board represents retail boat dealers, boat manufacturers, marinas, boatyards, and other marine businesses.

www.nmta.net

Northwest Yacht Brokers Association (NYBA)

Consisting of over 340 members, the NYBA is a non-profit organization formed in 1988 as an answer to the changing markets of boat brokers, dealers and other industry professionals. The creation of the association is a result of consolidated interests and efforts of a wide range of brokers and dealers in getting better representation for their segment of the marine industry which was vital to the expanding network of marine services and products.

www.nwyachtbrokers.com

Anacortes Marine Trades Association

Anacortes Marine Trades Association is an organization of roughly 20 local businesses that work to create a healthy business climate for marine-related trades in Anacortes. The group meets as needed and maintains a website.

www.anacortesmarine.org

5.0 STRATEGIC SITUATION ASSESSMENT

5.1 Significant Industry Trends

There are a number of industry trends and current issues that translate into strategic advantages and opportunities for the Northwest marine industry. Key trends include the following:

Industry Growth Leads to Opportunities

A Mature yet Growing Industry. While employment among the industry's larger manufacturers can fluctuate from year to year, as a whole the industry is growing. Indicators of such healthy growth include new business starts and employment growth in some businesses. As reflected in the firm cameos in this report, a number of the region's successful businesses were started in the 1990's, either as new endeavors or as spin-offs from established firms. Growth appears to be occurring in all three major markets for boat and ship building: recreational, commercial, and defense. Some of the growth is a result of product innovation; some the result of product superiority; and some due to increasing customer demand.

Growth and Evolution of the Recreational Boat-Building Industry. Pleasure boating is a cyclical business, subject to downturns in the national economy, shifts in financing, competition domestically and from overseas, and changes in tax law, among other factors. Currently, a trend is for smaller recreational boats to be stored more out-of-the water, and perhaps used less by their owners, given trends in fishing regulations and increasing fuel prices. However, despite such structural challenges, recreational boating has seen significant growth in recent years.

There is increasing interest all across the globe in recreational boating. Due to technology advances and changing consumer preferences, recreational boating is now a year-round activity. A significant percentage of customers for recreational boats are members of the baby boomer generation, with disposable income and time. As this generation matures and retires, recreational boating has become an increasingly desirable way to spend one's leisure time.

Bayview Edison Industries (B.E.I)

Started in 2005, B.E.I. produces a wide variety of products such as: five-axis tooling and molds; tank test models; the Bayview Auxiliary's Drive (BAT System); articulating rudder; reusable infusion ports; yacht style cabinetry; and custom metal work and machining. In addition to the marine sector, B.E.I. caters to may other industries such as aerospace, transportation, and agriculture.

B.E.I. and its sister company, American Expedition Yachts (AEY), are owned by Pacific Shores International, a holding company and sales firm. AEY is currently building the Northwest 42' and will be involved in custom builds.

Niche: Custom machine shop

Customers: Companies from the marine, transportation, and aerospace industries

Employees: ~60 (including AEY)

The demand for bigger boats is growing at a much faster rate annually than the demand for smaller boats. Thus, while recreational fishing is still an important factor influencing boat ownership, "cruising" is increasingly a major factor in purchasing a boat, particularly among larger vessels. This interest is reflected in a growing market for larger yachts, with those boats commissioned and purchased by wealthy individuals across the country and worldwide. Many of the out-of-state customers for these boats especially enjoy traveling to the Northwest while their boats are being constructed, combining a site visit with a vacation in the region.

Nordic Tugs

In 1979, Nordic Tugs®, Inc., was officially formed by Jerry Husted (President), Gail Davis, teacher, small business owner and avid boater (Vice-President and Treasurer) and Jerry's brother Jim Husted, a retired Air Force Colonel (Vice-President). In 2007, Nordic Tugs received National Marine Manufacturers Association (NMMA), American Boat and Yacht Council (ABYC) Certification for it's entire product line – an important distinction in the marine industry. With interest and inquiries increasing worldwide, Nordic Tugs is gearing up to export its boats into the European market.

Nordic Tugs is currently adding 7,500 square feet to the lamination building and constructing a new 30,000 square foot building for additional production capacity to accommodate demand for larger boats

Niche: 32'-52' tug-style custom yachts

Competitors: American Tug, Selene, Kadey-Krogran, Grand Banks, Camano, Mainship, Nordhaven

Customers: Families and sport fisherman (local and international)

Employees: ~150

Relatedly, the industry is also experiencing growth in the charter boat sector. Northwest Washington is especially well positioned to experience business growth from this trend. Charter operations, with their high level of boat use and wear and tear, are also a steady source of work for the region's repair shops.

Growth and Evolution of the Commercial Boat-Building Industry. A number of companies in the region are experiencing the growth effects of increased demand for work boats for homeland security, emergency management and preparedness, and for military operations. Demand from this source is not subject to economic cycles, and is expected to continue to grow.

Additionally, the location of the region near large commercial fishing areas such as Alaska and Asia gives the industry a competitive advantage in producing boats and ships for this specific trade as well as for boats that are indirectly supported by this business, such as oil-spill vessels, tugboats, and fireboats.

Growth within the Boat Repair Industry. This sector is also growing, and based on interviews conducted, appears to be realizing stronger revenue growth overall than boat manufacturing. Many repair businesses are also beginning to cater to different clientele, with some now exclusively focusing on repairing and retrofitting larger and more expensive recreational boats.

Within the repair sector, customers and competitors are more localized than boat and ship manufacturers. Boat owners tend to have their boat worked on in areas where their vessels are immediately moored. The increase in fuel prices is having an impact on repair businesses as boat owners are less willing to travel distances to have their boats repaired.

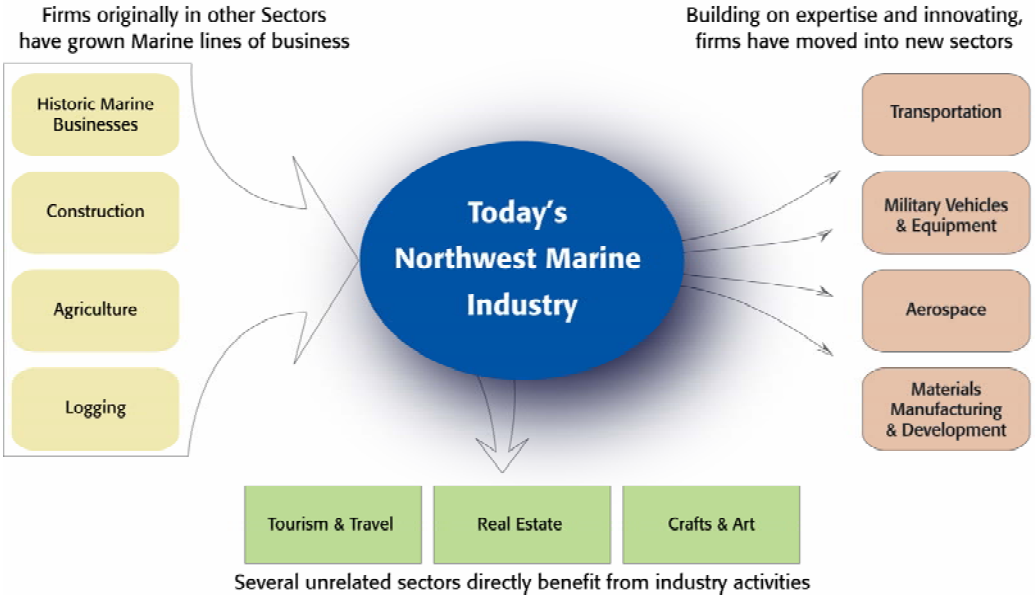
Job Opportunities at Livable Wage Levels. The marine industry provides job opportunities for skilled and unskilled workers. Unskilled workers can obtain starting wages of $10-12 hour, and learn on the job, progressing in responsibility and pay levels. For skilled workers, at the journeyman level, workers can earn up to three times that level. For individuals without college training, the industry offers family wage jobs, a career path and opportunity to advance.

The Marine Industry is Linked to Multiple Other Industries, Some Not Obvious

The Northwest marine industry is connected to multiple industries in multiple ways. As Exhibit 20 shows, Historically, the region has a rich history of agriculture and logging. Over generations, some families have evolved from farmers and woodcutters to boat makers and repairmen. Additionally, various firms that produce products for the marine industry also supply to businesses in manufacturing sectors such as transportation, construction, and aerospace. Other sectors influenced and affected by activity in the marine industry are tourism, real estate, recreation and sports, retail shopping, and fishing. This is due to multiple factors, such as customers who travel to the region to watch their boat being contracted or moor their boat in the vicinity, and partake of local services and products.

As Exhibit 20 shows, the industry has evolved and grown over time, from its roots in natural resources and traditional maritime businesses, to more technology-based manufacturing processes that have been transferred beyond marine manufacturing to other sectors. At the same time, the core marine industry helps support service businesses–real estate, travel, and transportation, as well as crafts and art-making.

Exhibit 20
Industry Evolution, Growth, and Interconnected Sectors



Berk & Associates, 2007

Technological Change is a Driver

Changes in Process Manufacturing are Advancing the Industry. On the manufacturing side, the use of composite materials, resin infusion processes and "closed manufacturing systems" have changed the rules of the game. Many companies in the region have shifted to resin infusion processes, and this is clearly the future for the industry. These manufacturing process changes require capital investments, investments in training and new methods, and often, wholesale changes in a company's approach to manufacturing. The consequences of these changes, however, are both higher quality products and a smaller environmental footprint, including reduced particle emissions, providing benefits to both workers and the surrounding environment.

On the design side, there has been a similar evolution towards computer-aided layout and design. Use of this technology also represents a change in operating practices, with new skill requirements. Some firms have made this transition, many have not.

Some States Have Organizations to Support and Promote the Marine Industry

Below is a list of organizations that are actively involved in supporting and developing the boat building industry, particularly the recreational boat building sector, at the regional and statewide level. The majority of these organizations provide some level of information sharing, advocacy, marketing and branding, and workforce assistance for marine-related businesses. Going forward, there may be aspects of some of these organizational models that the State would choose to adopt to support Washington's marine industry.

Marine Industries Association of Florida (MIAF)

MIAF is a statewide nonprofit that serves as representative for the Florida Marine Industry in networking with other businesses as well as advocacy. Their website provides employment postings, advocacy info, boating articles, and an events calendar.
http://www.boatflorida.org/

Southern California Marine Association/ Northern California Marine Association

These two regional trade associations in California devote their efforts and resources to the promotion of boating in Southern California, for the benefit of the industry, its members and the boating public. These organizations work closely with local, regional and national marine organizations in an effort to increase the industry's effectiveness.
http://www.scma.com/about.htm
http://www.ncma.com/about.html

Michigan Boating Industries Association (MBIA)

The MBIA is a non-profit trade association dedicated to the promotion, protection and advancement of the recreational boating industry in Michigan. The association provides information to its 400 members on important legislative issues that impact the boating industry as well as connects local businesses with one another.
http://www.mbia.org/

Maine Built Boats, Inc.

Maine Built Boats, Inc. was established in 2005, and is comprised of industry members and partnerships with the state and federal government, to help support marine industry training, development of new technologies, and enhance industry products and performance. The organization is working especially hard on branding the boats built in Maine[8].
http://www.mainebuiltboats.com/

Connecticut Marine Trades Association (CMTA)

The CMTA's function is to promote the interests of recreational boating, improve industry conditions, monitor legislative and regulatory issues, and advance the education of those in the industry in Connecticut. The association works with government agencies and affiliated local and national organizations on all issues affecting the boating industry.
http://www.ctmarinetrades.org/aboutcmta.html

[8] Maine Built Boats recently published a study on the boating industry that provides valuable insight into general industry trends. The report can be accessed on the organization's website http://www.mainebuiltboats.com/.

5.2 Industry Strengths and Assets

Diversity of Product Types and Uses

Diversity of product lines across the industry is a primary contributor to its strength and vitality. The region's boat and shipbuilding industry is strikingly diverse. While the region may be best known for pleasure craft manufacturing, it also produces many varieties of boats and ships for governmental and commercial use.

Another key finding is that due to the diversity of products offered across the region, local firms often compete less with each other and more with others across the country and overseas. This situation provides an encouraging starting point to consider collaborative, cluster strategies that can benefit the entire industry.

Reputation for Quality Products and Quality Experience is a Market Differentiator

Companies take considerable pride in their product quality, and the theme of quality emerged over and over again in firm interviews and focus groups. Businesses in the region define themselves by the quality and customization of their products, strong customer service, and the positive customer experience they provide. The region's reputation in the boatbuilding industry is for quality products, made with great pride.

Innovation is Ongoing

A number of firms have demonstrated an ability to innovate in their processes and products, leading to new business opportunities and in some cases, new businesses. The ability to innovate strengthens the industry and increases its ability to adapt to the changes in the business market.

The Industry Operates in a Global Marketplace

The Northwest marine industry operates in a global marketplace. Customers, suppliers and competition are local, national, and global. Inputs to production include components purchased anywhere from Seattle to Indiana to Thailand. Customers are from Washington, Alaska, Canada, and Europe. Competition too is local, national and global: businesses compete with firms from Florida, Maine, China, and New Zealand.

Aluminum Chambered Boats (ABC)

ACB was founded in 1998 by Larry Wieber. The company started with 3 employees in a 2,000 sq ft. facility building 14' boats. Today ACB has 110 employees, builds several styles of vessels from 25'-32,' and is about to outgrow its 86,000 sq ft facility. The patented Aluminum Chambered hull design is the platform for all styles of vessels.

"Whether the customer is performing a rescue mission, patrolling the waters, or is an avid fisherman – we build a tough as nails, virtually unsinkable, high performance boat meant for rough water conditions."

Niche: 25'-38' aluminum multi-purpose vessels

Competitors: Safe Boat, Almar, Grady White

Customers: Military, government, commercial, and recreational fisherman (local and international)

Employees: ~110

China has a growing boat building industry and competes directly on price with firms in Washington. Firms in the country have reportedly learned quickly how to make boats, in part by reverse engineering vessels manufactured in Washington, and elsewhere. Due to its low cost of labor, China provides particularly strong competition for firms in Washington (and many other places), although the level of quality is considered to be much lower. Still, many in the industry note that China poses an ongoing competitive threat, as firms there learn, innovate and grow.

The strength and job-creation opportunities the industry generates have been noticed out-of-state too. Businesses report being recruited to move to other states, such as Louisiana and Mississippi.

Supply Chain Relationships are in Place

The industry does not appear to have major supply chain challenges. Focus group attendees stated that components are ordered, often on a just-in-time basis, and are regularly delivered directly to businesses – some from Seattle and some from overseas, and points in-between. A few supply issues mentioned by firms are the rising prices of raw materials and an increasing dependency on buying supplies from abroad, which can sometimes lead to delays, in transport and clearing customs.

Business Leadership and Supportive Network

The industry has a number of hardworking and charismatic business owners, who have demonstrated an ability to grow their firms and participate in the community. Some of these owners have relationships in the economic development and workforce community and are helping to shape the agendas and collaborations in those realms. In the future, these leaders (and potential leaders) can be tapped to represent the industry in larger forums within the state and overseas.

Northwest Trawlers

Northwest Trawlers has operated in the Pacific Northwest since 1992. After many years in Friday Harbor, Northwest Yachts moved their office to Washington and also added an office on Lake Union in Seattle. Northwest Yachts is a dealer for Tayana Sailing Yachts and the builder of the Northwest Trawlers.

Having built other trawlers in China, Peter Whiting (President of Northwest Yachts) decided to bring the building process for the new line of Northwest Trawlers to Anacortes. The wealth of local marine building talent and the desire to build a superior yacht made the move an easy decision.

Niche: Boat dealer and manufacturer of 42'- 62' recreational fishing trawlers.

Competitors: Nordhaven, Nordic Tugs, American Tug, Selene Yachts

Customers: Families and sport fisherman from all over the U.S.

5.3 Current Challenges and Opportunities

Maintaining and Growing a Skilled Workforce

Workforce Development. Many businesses are struggling to find qualified workers. In particular, there are not enough young people entering the industry as the baby boomer generation ages and retires. Many do not think about the boat building and repair industry as providing a viable career.

Current Workforce. Employee training is typically done in-house, through an informal process. Businesses are increasingly hiring Hispanic workers who often have little to no English speaking ability, creating greater challenges to training.

Competition for Workers. Local businesses often compete aggressively with each other for skilled workers. It is commonplace for employees to suddenly change jobs and businesses are often spending considerable time and resources recruiting and training new workers. Some businesses have permanent "help wanted" sings posted outside their facilities. With unemployment rates at unprecedented lows in the region, companies feel that they often have limited choices from within the labor pool. Businesses report that only three of ten unskilled hires makes it past 90 days; one business reduced that figure to one in ten.

Non-English Speaking Workforce. There are a growing number of workers from areas such as Central and South America, Asia, and Eastern Europe who speak very little to no English. Boat building businesses in Skagit and Whatcom Counties, workers who do not speak English comprise roughly 25-30% of the workforce. This trend has created cultural and linguistic challenges for business owners and senior managers in effectively training their staff.

Utilization of Services. Many businesses are not actively using available workforce development services such as training, recruitment, and ESL classes. This lack of utilization may be due to a number of factors. Businesses may not be aware of what assistance is offered and employers and employees often do not have the time to attend classes that are offered off-site.

Technical and Community Colleges

Many Institutions and Training Facilities, Geographically Spread. The current marine workforce training program is fragmented across facilities and communities. While a number of schools offer a wide degree of marine-related training, Skagit Valley College (the Whidbey Island branch) is the only one that offers a certificate in multiple areas of the marine trades.

Strengthening Connections between Businesses and the Colleges. Despite best efforts by the workforce training system, a certain disconnect exists between businesses and colleges in sharing sector needs. While the community and technical colleges are endeavoring to work collaboratively with the region's businesses to identify and meet their workforce training needs, many firms interviewed feel that the schools are not adequately preparing students with "real world" skills for the marine trades. One perspective voiced was the perception that the colleges focus more on boat repair than manufacturing.

In general, there is a lack of knowledge on the part of some businesses about the training available from the community and technical college system. Some confusion exists among businesses between the community college program, its Advisory Committees and the Northwest Workforce Development

Council's Skills Panel. On the other hand, many businesses and the industry as a whole are not strongly involved in providing financial or technical assistance to marine-related programs.

A stronger and improved communication and feedback mechanism between the colleges and the business community would be helpful. Businesses are asking the colleges to spend time finding out what is really important to firms at the local level.

The Role of High Schools

Businesses note that while the State is focusing on improving educational performance in high schools, the reality is that the majority of students graduating will not go on to obtain a four-year college degree. There is an opportunity to help direct some of these students to obtain training that will equip them to be successful in the trades, where jobs await at wages that can support a family.

Businesses have identified a need for outreach, to reach out to kids and communicate the opportunities in the marine field. Especially, "for the kids that aren't focused, assistance is needed to help them find the trades." Some of this assistance is already happening, through career fairs and other efforts of the Workforce Development Council especially. Businesses say that more is needed.

The high schools need to be exploring opportunities to offer trade-related training and to expose and connect students to the marine trades. This includes direct training opportunities as well as interactions with local marine businesses; the potential employers. Connections between the high schools and businesses with jobs could be strengthened. For example, in Anacortes, which is the hub of the Northwest marine industry, the high school only offers one marine-related training class.

Currently, as one business owner said, "its not intuitive for students where you go, how you become a carpenter. Students need help understanding the career path." Another interviewee stated: "Kids will need occupations. The schools aren't knocking on the door of businesses, and maybe we (the businesses) should be knocking on their doors." Job shadowing programs were mentioned as an opportunity to make opportunities in the trades more real, and to connect students directly with businesses. Again, some of this is happening, and more is needed.

Challenges identified in responding to this need include having high school teachers that are familiar with the trades, and can teach classes and speak to students about the industry. Another challenge is obtaining manufacturing equipment for classes; this equipment can be expensive both to purchase and to maintain. A role for businesses has been identified in meeting this challenge: businesses can donate materials, such as boat hulls, for students to work on. This is a model that has been used in automotive repair classes, where businesses donate auto parts for repair and reconstruction training.

Business Climate

Some businesses expressed frustration with environmental regulations, and the costs of doing business in Washington, including regulatory and labor costs. Labor costs, for example, are higher on average in the region compared to other boat manufacturing centers such as Florida and the Gulf states. Many of the regulatory issues cited as challenges by businesses are at the federal level. Some issues that are State-specific are related to the Department of Ecology's environmental and permitting regulations and practices. The State's Labor and Industries agency is also seen as often being adversarial and not providing helpful assistance to smaller businesses in meeting bonding requirements.

Infrastructure

Businesses identified a shortage of building space for manufacturing and marine support activities in the region. This is particularly an issue in Anacortes, with businesses expressing a need for facility spaces near the water that are large enough to support boat manufacturing facilities. The Port of Skagit, Port of Bellingham and others are actively planning for additional facility space that can be leased to marine tenants. This space will be of varying sizes, including smaller spaces for small and start-up companies.

Businesses also identified the need for in-water access facilities, docks and additional marina space for larger boats. In Anacortes, the need identified by businesses is for a larger boat lift at the Port of Anacortes. In Bellingham, the Port's major waterfront development will provide additional moorage space and water access generally.

Transportation and getting goods to market was identified as need in some interviews, but in generally was not cited as a major problem for businesses.

Land Use and Regulation

Especially in Anacortes, there is a shortage of industrial zoned land near the water in the region which makes choosing areas to develop and expand limiting.

The permitting process (administered by the Army Corps of Engineers), was consistently noted as a major challenge to expansion and development.

Smaller businesses lack technical and legal guidance to adhere to newly implemented regulations. Changes are often done on a trial-and-error basis (e.g. resin infusion).

5.4 Growth Opportunities

Linkages to Other Industries

The Northwest marine industry is interrelated with, and provides benefits to, several other industries in the four-county region. On the innovative industry front, the linkages are to transportation equipment, aerospace and manufacturing of composite-based materials for multiple purposes.

In the tourism and recreation realms, the linkages are especially apparent. The tourism industry in particular, including hotel, restaurant and retail and services, was identified as a beneficiary of the boat building and repair sector. Customers purchasing large boats enjoy coming to the area to "visit their boats," checking on progress and making construction and outfitting choices. Once these customers visit the region, they often decide to permanently moor their vessels in the area or even relocate here. The real estate industry is thus a beneficiary—some people decide to buy homes nearby.

For Island and San Juan Counties, where the art industry is a relatively small but important part of both community character and the economy, there are opportunities to increase and strengthen linkages with local artisans and craftsmen. These opportunities include connecting boat builders and owners with custom cabinetry and other woodworking, glass making and other crafts, as well as visual artists. Other recreation and leisure time related linkages between the marine industry are with fishing, recreation and sports activities.

Environmental Health and Safety, Innovation and Information Sharing

There are opportunities for firms to innovate in process design, manufacturing, and delivery of environmental health and safety programs. Environmental regulations regarding particulates are serving to encourage businesses to move to closed manufacturing systems, and that has spurred the adoption of new practices in some companies. For example, fiberglass manufacturers are beginning to use resin infusion processes, which have significantly cut down on emitted pollutants. These processes have been identified as "the future" for fiberglass manufacturing firms. However, these changes have required investment in new equipment as well as expenditures in training employees to learn different skills. Some firms have invested more than others in advancing the move toward closed systems and environmental health and safety programs generally. There is an opportunity for those firms to share information with others, providing their knowledge and experience regarding lessons learned and effective approaches to program design and implementation.

Communication, Marketing and Promotion as a Sector

A major finding in the project was that businesses of all sizes and types believe that the sector needs a higher profile and greater recognition of its importance within the State. The industry is already well known across the world for its high quality boats and innovative materials manufacturing. It needs to enhance and raise its profile here at home, in Washington State, and in Olympia particularly. Conducting this cluster study is a useful first step in documenting and communicating the industry's products and economic benefits. Next steps would be to begin a broader communication effort to gain recognition for the role the industry plays in the region, and to begin participating in statewide initiatives such as trade missions and related outreach activities.

6.0 SUMMARY, RECOMMENDATIONS AND STRATEGIC ACTIONS

6.1 Summary

The Northwest marine industry can be defined as a complex and vibrant spectrum of businesses that provide living wage jobs, produce world-class products, create positive impacts on other industry sectors, and attract people to the region. The industry is recognized within and outside the State as a model of excellence in boat and shipbuilding, ranging from small sailboats, to fiberglass mega-yachts, to commercial vessels made of steel and aluminum. The region is also home to a number of marinas, boat repair shops, charter boat businesses, custom tooling and machine shops, rope manufacturers, and marine-related retail shops.

The industry's competitive advantages lie in the region's access to some of the world's best cruising and sailing grounds, its innovative and risk-taking businesses, and the number of marine-related firms living in close proximity to one another. Many of the marine-related firms have family roots in the area and strong ties to the community, with businesses sometimes passed down over multiple generations. While businesses tend to be small (fewer than a 100 employees), there are a number of firms that exceed this number, with the largest marine-related business in the four-county region employing 500 people.

The four-county region has a rich supporting network to assist the sector, including: trade associations, economic development councils, and workforce training and development organizations; ports and marinas; and community, technical and four-year colleges. The services and assistance that these agencies offer provide a holistic approach to sustaining and improving the industry's economic vitality. However, it appears that many businesses do not fully utilize these supporting agencies. This may be due to businesses not being aware of the broad array of assistance offered, time constraints on both the employer and employee side, and logistical challenges (i.e. services are not offered in the nearby vicinity). This is normal and expectable and there are many opportunities for enhanced connections between the supporting workforce and economic development services and businesses.

Global Marketplace. The Northwest marine industry operates in a global marketplace, with competitors, suppliers, and customers located all over the world. This trend appears likely to continue, with raw materials coming more and more from developing nations (as the price of steel and aluminum increases), the entering of new markets and new customer bases (due to rising living standards and changes in demand within other countries), and overall improvements in the movement of goods across water, air, and land.

Workforce Needs. The industry is highly dependent on a skilled and high caliber workforce for its success. Competition to find qualified workers is strong, which in turn provides firms with incentives to offer a package of good pay, benefits, and work environments to their employees. Workforce needs are such a business driver for the industry that there is a general concern that current skilled worker shortages and gaps, which exist across the board, will affect the ability and profitability of many companies within the sector.

Infrastructure. There is a strong reliance on its surrounding infrastructure in the form of marinas that offer access to shiplifts, slipways, drydocks, and deepwater berths, affordable and available land located near the water, and access to rail and roadways. The increasing demand by customers for larger vessels has, in turn, produced needs on the manufacturing side to expand facilities, invest in better equipment that can move larger and heavier products, and to find docks that can moor boats over 60 feet in length.

Innovation as an Ingredient for Competitiveness. As in most industries, maintaining competitiveness in the marine sector is also correlated to the amount of investment in research and development in order to foster innovation and technology improvements. Emerging technologies in marine manufacturing, such as fiberglass composite boat building and improved use of advanced molding techniques, are an essential component in maintaining the industry's reputation as world-class.

Increasing the Industry's Profile and Brand. While a significant contributor to the State of Washington's economic health, the marine industry has the potential to increase its visibility and ranking as a premier recreational and commercial boat building region, as well as further build its reputation in other critical areas such as charter boat rentals, engine manufacturing, mold composites, and vessel retrofitting and repair. The growth and evolution of the local marine industry demonstrates that the sector is highly adaptive and responsive to change, which are ideal qualities in today's fast-paced and competitive global marketplace.

Many businesses interviewed for this project expressed a desire for the industry to have a higher profile both in-State and globally. They maintain that the marine sector should be considered along with aerospace, trade, information technology, life sciences, wine, and clean technology as a preeminent and defining sector for Washington. They would like the industry to position itself in this realm, and would look to the State to help with this objective.

6.2 Recommendations and Strategic Actions

The following recommendations and strategies will help the Northwest marine industry build upon its strengths and realize its potential to function as a synergistic cluster.

A. Cluster Organization, Marketing and Communication

While small pockets of collaboration exist, such as the Anacortes Marine Trades Association, boat and shipbuilding and repair businesses do not currently work together to share information, support workforce training initiatives, or promote the industry. Strategies to develop a regional cluster are:

1. Identify Business Leadership to Grow and Promote the Cluster

To be successful, business leaders need to play a visible role in the cluster. To maximize effectiveness as a marketing and advocacy force, and to realize greater cohesion, business leaders within the industry will need to be identified and targeted for specific roles and involvement in the cluster.

2. Develop an Industry Brand and Strategic Marketing Program

Brand Development. With the active involvement and engagement of industry representatives, brand the Northwest's boat and ship building industry to create a unique and recognizable identity, and to raise its profile and stature within the State, nationally and internationally.

Strategically Marketing the Cluster's Brand. The region is already known across the world for its high quality products, innovative designs and service orientation. Firms in the cluster would benefit from an overarching marketing and promotion campaign that reinforces and messages the attractiveness of purchasing products from the cluster.

Branding should not only be directed at potential customers, but also potential employees. The industry should work equally as hard to market itself to youth as an attractive and viable career path. Parents,

teachers, and students should be educated about what the industry can offer its workers in regards to pay, benefits, and quality of life. The industry should engage in outreach not only at high schools, but also at the elementary and middle school levels.

3. Build on Existing Organizations to Address Cluster Needs

To the extent possible, the existing support network for the marine industry should play roles in advancing the cluster. A strategic evaluation of the roles that existing organizations can play is recommended, including the Northwest Marine Trades Association, the future Skills Center, and the Center for Excellence, as these organizations engage in (to a certain degree) some of the activities that this study suggests the industry pursue as a whole. The following activities are recommended to advance and promote the cluster:

- Raise the profile of the industry, create a public presence for the sector, be the "face" of the industry;
- Advocate to promote industry needs and interests, particularly in Olympia but potentially at the federal level;
- Develop a website that provides an overview of the industry, directory of businesses, employment offerings, and industry-related news;
- Encourage involvement in State trade missions and other opportunities for visibility, education and global marketing;
- Coordinate strategies to recruit, retain, and grow the marine-industry workforce;
- Facilitate dialogue between the public, private, and nonprofit sectors, especially regarding the intersection between business and education/training institutions;
- Promote research and development efforts to keep the region and State's competitive advantage in technological innovation and high-quality standards of production and repair;
- Market the industry and serving as a marketing resource to businesses.

4. Define and Expand the Marine Cluster's Boundaries

Major boat and ship building firms operate in Clallam, Jefferson, Grays Harbor, Kitsap, Snohomish and King Counties. Most of the firms located in these Counties have similar challenges as those faced by companies in the four-county region. In fact, the recently submitted WIRED grant proposal to the U.S. Department of Labor encompassed 12 counties. Including additional counties in the cluster's definition—to form a true Northwest regional marine cluster—will allow for a systemic approach to addressing the marine industry's needs. Expanding the cluster's geographic reach will increase its resources and increase the industry's influence in addressing regional, statewide and federal issues.

5. Communicate and Promote Linkages with Other Sectors, Including Aerospace, Materials Manufacturing, Transportation, Tourism and the Arts

Other Manufacturing Sectors. The evolution of marine manufacturing processes and products to other manufacturing is an interesting story of innovation and entrepreneurship. It is a story well worth documenting and communicating broadly—within the State and nationally. Additionally, employees working within other manufacturing sectors should be made aware of the transferability of skills among industries.

Tourism. Communicate the linkages between the industry and tourism. Take advantage of opportunities for cross-marketing between the two industries. On the industry website, include information and contacts for tourism sites, hotels and motels, shopping and restaurants.

Crafts and Art. Identify and leverage opportunities to connect the industry with artists, craftsmen and the arts community. A local example of such connections is the program Arts Parts Project on Whidbey Island (www.artsparts.org). The Project's motto is: "Integrate artists and craftspeople with your next building project or living space." There may also be opportunities to co-locate and directly link crafts makers and artists with the marine industry. For example, the Port of South Whidbey is evaluating renting space at its facilities to both marine-related trades and artists. By placing both industries under one roof, boat owners taking in their boat for repair or servicing may be more inclined to purchase art for their vessel or work with a specialty woodworker to make custom cabinets.

B. Workforce Education and Training

1. Provide Group Safety and Technical Training through Business-Friendly Scheduling and Delivery

Continue to identify opportunities to provide this training at times and places that work best for companies and their employees. For example, establish a monthly safety training seminar in various locales across the region and state where businesses could send new employees. This would include exploring creative opportunities for distance learning to help businesses and workers access training.

2. Develop Transferable Safety and Technical Training Certificates

The creation of transferable safety training certificates recognized by the State would enable employees to move from one job to another without having to retake mandatory safety training. This will not only be a benefit to employees, but also help businesses as training costs could be reduced. At present, Washington Industrial Safety and Health Administration (WISHA) has strictly avoided any public endorsement of safety and health training programs or certificates unless they were authorized by law.

Standardizing marine technician training certificates offered across high schools and colleges would reduce training time and costs, potentially increase workers wages, and ensure a greater degree of quality control across the board. American Boat and Yacht Council, National Marina Electronics Association, and Manufacturing Technology Advisory Group certifications are already being implemented in a few high schools and technical colleges within the region. These efforts should be encouraged by promoting the importance of such certifications to businesses, local and state government, schools, and the general public.

3. Publicize the Availability of Current Worker Training Funds and Opportunities

Three programs are available for in-service worker training: jobs skills development; customized training development; and incumbent worker training. Providing this information to firms along with eligibility requirements and approaches for how businesses can utilize this funding is another avenue to providing worker training, especially on-site training.

4. Facilitate Workforce Education and Training for Non-English Speaking Employees

Facilitate Access to English as a Second Language Training. Work with businesses and the community colleges to develop ESL training programs that are accessible to the industry's non-English speaking workforce.

Develop Programs to Provide Critical Skills Training in Other Languages. Provide additional programs for safety training, and other education and training programs in other languages that will enable this segment of the workforce to advance in the industry.

5. Sustain and Expand Communication Paths and Forums to Enable Information Sharing about Firms' Training Needs

Establish implementable communication approaches for businesses to provide regular feedback to the community colleges on current training needs. The colleges need to effectively reach out and solicit industry input on training and curriculum. This will entail clarifying and communicating opportunities for businesses to engage and participate in shape worker training programs. This process has already started through the Marine Advisory Committee and by the existing partnership with ABYC and the newly developed partnership with NMEA.

6. Facilitate Development of Standardized Instruction for Teaching Marine-Related Trades Statewide, from High School to Community College

Support the Manufacturing Technology Advisory Group (MTAG), a State coalition of industry, labor, education, state government and community service organizations. MTAG, founded in 1992, is chartered to develop and promote a Manufacturing Technology Education Program that begins in high school and leads to an associate degree at a community or technical college. High School students who successfully complete this basic curriculum will be encouraged to continue their education at a community or technical college by specializing in a specific field of manufacturing.

7. Promote Boat Building as a Sustainable Career at the High School and Middle School Level, and Develop Pathways for Students to Enter Technical, Community, and Four-Year Colleges

Specific actions and recommendations are:

- Engage the business community in providing technical assistance and equipment to training programs in middle schools and high schools, to improve training, making it more practical and real. For example, in the automotive industry, firms like Honda often donate cars to schools for students to work on.
- Work with four-year accredited colleges to offer marine-related degrees in areas such as engineering and management.
- Encourage more career fairs at high schools and middle schools during the school year and in the summer.
- Work with high school counselors and educators to promote alternatives to passing the WASL. This includes 2006 legislation that specifies students failing the exam can still graduate if they earn a recognized certificate in a technical field. This could be a valuable opportunity for the sector to promote itself as a viable career path.

- Explore development of Running Start-type programs for vocational and technical education for high school students with an interest in the trades.

C. Business Services and Strategic Assistance

1. Continue to Provide Business and Legal Assistance to Smaller and Start-up Businesses

Businesses identified several areas of assistance that would be helpful, including business planning, seminars on workmen's compensation, workshops on dealing with regulatory and environmental requirements, and training seminars on Longshore and Harbor (L&H) insurance rules. Many supporting agencies throughout the region already offer some level of assistance within these specified areas. It will be important for these organizations to further market their services to businesses as well as try to tailor these services to specific businesses by offering more night time and weekend classes, on-site training, and on-call help via phone or email.

2. Convene and Facilitate Best Practices Information Sharing Forums on Environmental Health and Safety Practices

Some firms are more advanced, experienced and sophisticated than others in the area of environmental health and safety. Those firms could establish best practice standards and share information about how their programs were developed, including tips and techniques for program management. All firms could likely benefit from information sharing and cross-learning about methods to improve safety, respond to accidents and improve the environmental health of the industry's manufacturing facilities.

3. Advocate and Work to Reform Insurance Requirements for the Marine Industry

The industry needs to evaluate the feasibility of having the State act as a guarantor (co-signer) to private surety companies to secure bonding on behalf of contractors of commercial boat/ship construction. Currently, the U.S. Small Business Association (SBA) has a very limited program for this purpose, but the contract amounts are limited to $2 million, which is not sufficient in today's market.

Also needed is advocacy for the State directly act as the surety for government based contracts. In today's boat/shipbuilding market, almost all contracts requiring bonding are coming from governmental agencies. The good news is that the bond requirements are usually less than 100% of the contract's value so exposure is limited.

Lastly, in addition to training seminars for Longshore and Harbor Insurance, there is a pressing need to reform these Federal requirements to ensure that while continuing to protect workers, they do not financially cripple businesses.

4. Continue to Advocate and Serve as a Liaison between the Department of Ecology and Key Marine Businesses as Needed, for Selected Issues

The industry should identify key businesses that have strong working relationships with government agencies and use them as examples of best practices for other businesses to follow. The industry should also identify key areas that need to be improved upon so that business and government can better communicate, coordinate, and collaborate with one another.

5. Create a Bellingham Waterfront Innovation Partnership Zone to Support Research in Science and Advanced Materials

The Bellingham Marine Innovation Zone will support Western Washington University's planned expansion, providing research and lab-market capacity to support marine technologies through engineering technology and advanced materials science. Workforce training resources to participate in and support the Innovation Zone could be drawn from Bellingham Technical College and Skagit Valley College, and the Northwest Workforce Development Council.

D. Infrastructure and Facilities Improvements

Port Strategies

The following recommendations should be seen as a starting point for each port within the four-county region to develop its own specific strategies to further encourage marine-related growth and development.

1. Develop and Promote new Facility Space for Marine Businesses and Expand Moorage Slips to House Larger Boats

The ports should continue efforts to develop flexible industrial spaces (1,000 to 20,000 square feet) to accommodate growing marine businesses, particularly small businesses. These efforts include the Marine Trade Center proposal in Bellingham waterfront redevelopment plan, and business park space that the Port of Skagit is currently planning. In addition, the ports need to keep pace with the growing trend of boats over 60 feet by building larger moorage slips to berth theses vessels.

2. Assess the Market Demand for Location and Construction of Heavy Boat Haul Lifts in Anacortes, Bellingham and Whidbey Island

The ports should analyze market demand for heavy boat lifts in several communities. A potential model is that of the Port of Port Townsend, which in 1997 invested in a heavy haul out for its shipyard. The Port constructed a travel lift that can accommodate a boat/ship up to 330 tons, 150 feet in length and a beam of just over 30 feet. This capital investment has been a critical factor in helping the marine businesses in Jefferson County grow their work in vessel construction, repair, and retrofit. These facilities could be privately-owned and operated on port properties.

3. Maintain and Improve Commercial Boat Launch Facilities in Anacortes, Bellingham, Whidbey Island

Regional ports might consider the following:

- Develop public boat launch facilities;
- Consider possible dry stack facilities with concierge services;
- Provide boating services in the upland – ranging from full-service to do-it-yourself areas;
- Consider a new full-service haul out, upland of new marina as part of a new boat ramp and/or include redevelopment of existing boatyards;
- Continue with local Master Plan processes, which anticipate additional facilities and incorporates existing amenities.

4. Provide Environmentally-Sound Paint Booths

It is determined that there may be a need to develop marine paint booths operated either by private contractors or the ports in the region. Such booths should be built with the most up-to-date and forward thinking environmental standards and be a regional-use facility. The booths could also be marketed to non-marine businesses, to fully utilize it year-round.

5. Develop Pier Expansion/Reconstruction Projects to Support Marine Industry, Particularly Area Shipyards

For example, the Port of Bellingham should engage in the reconstruction and redevelopment of the wood portion of the pier at Fairhaven Shipyards on Harris Avenue. This involves working with Fairhaven Shipyards to create a pier that can support the loads required for their current and expected future needs, and extending lease terms to ensure that Fairhaven Shipyards has an operational shipyard for the future. This could be a potential State and locally supported/funded economic development project.

Another example for the Port of Bellingham is to move the Outer Harbor Line enough to allow larger dry dock or larger ships to be moored at the Harris Avenue Pier enabling more varied types of work for Fairhaven Shipyards.

An additional example is to upgrade the Pier 1 at the Port of Anacortes, which provides more in-water capacity and ability to work on larger vessels.

Telecommunications Strategies

6. Work with Firms to Identify and Facilitate Fiber Optic and Broadband Infrastructure in Areas Where It Is Needed

Evaluate which areas within the four-county region are in need of fiber optic and broadband infrastructure improvements. Determine logistical and funding opportunities for such expansion. Implementation steps could include pooling resources, lobbying for funding, or applying for grants.

ATTACHMENT A

STAKEHOLDER INTERVIEWS

INTERVIEW SUMMARY

STAKEHOLDER INTERVIEWS CONDUCTED

Boat & Ship Manufacturers

Aluminum Chambered Boats Inc., Larry Wieber

Bayview Edison Industries, Dan Thompson

Dakota Creek Industries Inc., Richard Nelson

Nichols Brothers Boat Building, Matt Nichols

Nordic Tugs, Inc. Buddy Brown

Northwest Yachts, Peter Whiting

San Juan Composites, LLC, Randy McCurdy

SeaSport Boats, Jeff Lindhout

SeaSport Boats, Scott Boysen

Repair & Dealers

Oceanaire Yachts, LLC Jeff Harmon

Flowers Marine, Joe Flowers

Suppliers

Janicki Industries, Lisa Janicki

Samson Rope, Tony Bon

Ports & Marinas

Oak Harbor Marina, Mack Funk

Port of Anacortes, Bob Hyde

Port of Bellingham, Lydia Bennett

Port of South Whidbey, Edwin Field

Port of Skagit, Patsy Miller

Community & Technical Colleges

Bellingham Technical College, Satpal Sidhu

Shoreline Community College (Center for Manufacturing Excellence), Phil Savereux

Skagit Valley College, Bruce Alexander

Skagit Valley College, Mike Sweitzer

Skagit Valley College (NW Center for Excellence for Marine Manufacturing and Tech), Ann Avary

Economic Development Agencies

ICEDC, Sharon Hart

1.0 INTRODUCTION AND GUIDE TO THIS SUMMARY

- This draft Interview Summary encompasses the results of stakeholder interviews conducted from mid-February through mid-April 2007.
- The Summary is a collection of the comments made by interviewees, organized by theme.
- Each bullet point represents a single person's comments.
- All points made and issues identified in this Summary are those conveyed by the interviewees. To obtain useful information, interviewees were assured that responses would not be attributed to specific individuals or organizations.
- Attachment A presents a list of stakeholders interviewed.
- This Interim Report represents a work-in-progress, and will be added to in the coming weeks.

2.0 INDUSTRY OUTLOOK AND TRENDS

2.1 Industry Niche

- High-end 25-38 foot aluminum sport boats.
- Ship repair and ship building.
- Large five-axis millings of marine patterns and molds.
- Commercial ship builders.
- High-end "Rolls Royce"-type boats (recreational high-end yachts).
- Pilot house boat manufacturer.
- Fiberglass (22-32 ft) sport fishing pilot boat.
- Building, maintenance, and repair of Tullycraft Boats.
- Yacht brokerage and dealership, as well as produce a new product line of trawler boats for recreational purposes (on a joint venture with another local business).
- High end luxury trawlers.
- Dealership and repair business.

2.2 Key Issues and Challenges for the Industry Right Now

Workforce

- There is a lack of skilled labor.
- There is a labor shortfall of skilled workers in general.
- We have workforce shortages across the board. We need qualified personnel from all areas. Right now there is no training. We have given money or other support to various colleges and associations, but now I've given up and stopped helping.
- We don't have labor shortages, but we are an anomaly up here. We are truly building a Rolls Royce type boat. Many people here say they build quality boats, but the other stuff around is reasonably generic. The artisan would much rather work here as they can utilize their craft and we take good care of them. Our greatest challenge is consumer confidence. Additionally, with the deficit growing we can foresee our taxes going up.
- Our biggest challenges are finding and retaining personnel and ongoing training.
- Around our region the problem is finding good, qualified employees. There is a lot of competition and are all vying for the same employees. Overall, it's hard to also retain

employees. As a smaller company, we are a training ground for workers to move to bigger companies who pay higher wages and have great benefits.

- Right now its finding qualified people – although this is not a new phenomenon. However, we can be a little picky and we are looking for people with some experience, although it doesn't have to be in boat building (i.e. we have converted a lot of house carpenters). Recently we lost a significant portion of our staff (25 out of about 140) to a new startup business.
- We really need trained mechanics. Right now there is not a lot of people going into the industry. It's been about the same for the last five years.

Regulatory

- Our biggest problem is government intervention, especially the Army Corps of Engineers as permits are impossible to get in order to develop and modernize our facilities. For example, we have been working seven years on one permitting process.
- There are a lot of regulatory challenges, specifically concerning the Department of Ecology. It is a lot cheaper to work out of State.
- Small companies don't know how to deal with L&I and HR rules – they are too busy building boats. Business support is a little tougher for small boat builders who don't turn to L&I for help until it's too late. We need a way to help them be pro-active with regulatory issues. Many don't have an attorney at their beck and call like the large boat builders. These smaller businesses need some business skills assistance in learning issues such as regulatory compliance.
- There are a lot of environmental issues. The last three shipyards that left stated they were moving due to union/workforce problems, lack of qualified people, and environmental regulations at the federal and state level.

Competition

- For the boat building industry in general, a main issue is competition coming from abroad (i.e. China). However, in our niche it's not a problem, but it is for boat building in general. Labor in general terms (in the U.S.) is 60% of the cost. We are using the same equipment as builders abroad but they pay a lot less in labor.
- There are a lot of bigger boat builders moving to China (i.e. North Star in WA was building 115 footers and then moved to China) and leaving behind the smaller boat companies.

Infrastructure

- It's hard to find a reasonable work space available for lease around here. There is a lack of facilities that are large enough to support our growing business. In fact, we had to build on our current site due to this problem.
- We would love it if Oak Harbor could expand, but there are land constraints (especially as we live on an Island).

Supply and Demand

- I don't see any major shifts in demand or supply.
- There are big shifts in demand requests. We have bigger projects that are requested to be done in less time.

- Lots of products have gone up four times in price. Due to inflation, many raw materials (copper, steel, aluminum) have recently increased three to four times.
- We have not had a problem in supplying because demand is so low. There has not been a strong demand since the late 90s. The guys that are busy here are mostly building spec boats (inventory), which creates a false sense of business. They don't have the customers but are making the boats by borrowing money. They do this to keep the business running and keep the crew occupied.
- We are somewhat isolated from the main shifts in demand and supply. We are the 3rd oldest family-owned fiberglass boat manufacturing company in the U.S. – we have been here for over 50 years.
- Things are not getting any better but also not getting any worse. It's been fairly consistent in regards to supply and demand.
- On the boat building side there is a lot of good used boats in the market. So people are going to buy a used boat and put money into that. You need a lot of money to make a new boat and people don't generally seem to want to spend those kinds of dollars. However, most of my business is from the repair side which is quite lucrative. I'm not seeing a lot of people asking for a new boat to be built.
- The demand is starting to increase. However, we are fairly new so it's hard to tell although our customer base keeps growing.
- Not really. Our market is tied to the stock market. However, we have a very solid dealer network.
- The price of good is going up quickly and we can't price ourselves high enough fast enough to keep up with rising costs.

2.3 Key Factors Affecting Business in the Next Three to Five years

- We are on a rapid growth curve. Right now we are planning to open a new plant (up to 200,000 square feet). We are looking at other states for the new facility as they have a greater labor pool. We are looking for locations with high unemployment rates such as Tennessee and Michigan.
- Labor is a big issue as well as interest rates and inflation.
- There is a lot of legislation that is helpful to manufacturers right now at the state and Federal level, such as the manufacturing sales tax exemption (which is now 10 years old). We constructed our facilities in a rural area – so the buildings are sales tax exempt. If these types of legislation go away, it will make things very difficult for our business and the industry.
- We will have the same environmental and workforce problems.
- A challenge is the political situation in the world and how it's affecting American spending. People are not spending money like they used to before and we are not sure how long this trend will continue.
- Petroleum prices are number one. Second is the needed influx of younger personnel. We need high school individuals to see us as a viable career option.
- Probably the same issues as right now except as companies grow and expand (and new companies come in) I can see the competition for qualified and trained employees will get worse. Smaller new companies can also end up taking a few employees (i.e. startup companies often promise the world).
- It's becoming harder to find good employees. We need someone to be able to multi-task – a worker that knows building and repair.

- The Chinese are a concern. They are taking our ideas and might be catching up to our level of quality. They are building the necessary infrastructure and are producing more products.

Levels of Expected Revenue Growth

- In the tens of millions due to our government contracts.
- We have done ok. Our business has a great future so we are optimistic.
- We have been going strong for 43 years, but for the last three years growth has been somewhat stagnant because we can't expand operations. The economy is good but there are so many roadblocks set up by the government that inhibit growth.
- Our revenue growth is flat right now as we are just not selling boats like we used to.
- We are doing ok. It's been a challenge the past few years but we still have been producing. Our international business and government contracts have helped. It's good we are diversified with our clientele. Right now we are looking towards the European marketplace as an untapped resource. Europe has an existing and flourishing boat building market and there hasn't been a need for European customers to look at the U.S. However there are currently not any suppliers for pilot house boats in Europe while there is a demand. So we are trying to exploit that.
- We are pretty consistent where we are at (80-100 boats per year). At the facility we are at we can't expand right at this point in time – we just picked up another boat line so we are set for the next few years. Over the last few years it's been pretty tough but now it's getting better (the economy is usually cyclical). We have been on the downswing but things should start back up again.
- This year has been one of our better years. We had a customer come up from DC and spend 100,000 on a 75 footer for repair and maintenance. Overall, growth has been in repair. The calls for new boats have been way down.
- We are a new company so we are probably going to do about two and a half million dollars this year in deliveries. The following year we expect about five to six million dollars in deliveries.
- We are increasing in revenue growth a little bit.

Business Expansion

- Yes we do plan to expand.
- We would like to restructure (dredging, new docks, upland work, etc.) on our current premises but we can't get permits.
- Yes we plan to expand. We bought 100 acres in Skagit County but we are still looking to possibly expand in another state (i.e. East Coast, Florida, Utah, and maybe California) due to regulatory challenges here.
- We don't know right now if we are going to expand – we are watching the economy. We had a big expansion planned and due to environmental regulations and labor issues we are not sure if we will be doing that anymore.
- Not in the foreseeable future. We added on to our facility in anticipation of building more boats but nothing is happening. Consumer confidence is down.
- Not in the next year or two at least. We don't have any hard plans for expansion.
- No, I don't have plans to expand. I'm comfortable with what we have. We have low overhead and I do a lot of the work myself.

- We are expanding and adding a 13,000 square foot building to our Mount Vernon facility as we couldn't find the right kind of space available for lease for our purposes.
- We are currently expanding our existing space.
- We are expanding a little bit but nothing too excessive. Overall, we are pretty content with our size and we have not thought of moving to another location.

2.4 Advantages and Disadvantages to Locating/Expanding Your Business in the Four-County Region

- This is a great place to live, especially if you are retired. However, it is really hard to recruit people as the housing is expensive and this area is not business friendly.
- There are no advantages to doing business here. I would move somewhere else with less rules but we need deep water and low banks. We have not really been looking out of Washington State as the market just isn't the same in other places.
- We are a family owned company and the community relationships we have here are very important. There is a huge support network for marine businesses through the marine colleges system (i.e. Center for Marine Excellence). More and more boat builders are coming to live here – there is a huge concentration of industry.
- There are no advantages to operating our business here. They are almost driving us to Texas (right now we are seriously considering that possibility). We are strongly thinking about moving to a different state.
- We are all from this area – we have a base of family and a support network. We receive recruitment calls all the time from Mississippi, Alabama, and Louisiana trying to get us to move. While these offers are tempting, our families live here and we like the quality of life in the Pacific NW. Additionally, there is a boat building industry here with a good labor pool (and we are near the water). Overall, we picked this location for quality. I do know if you build in Florida it is cheaper to make boats. They pay their staff a lot less but there is a lot of immigration out there so it's a cheaper labor pool. The Pacific Northwest is one of the most expensive places to run a business like ours. There are more reasons not to build boats here than to start a business. We are only here because our families are here.
- We have been around the area for a long time so we have a solid base of customers and supply relationships. Disadvantages are the cost of building, land and EPA issues. However, these are issues everywhere, it doesn't matter what state you are living in.
- The advantage is that more and more people are moving into the area. So the pool of labor to draw from might increase. However, workers compensation issues in this state seem pretty difficult to deal with.
- Bellingham is known for good quality boat repair people – there is a lot of industry here and a history of boat building. Some of the disadvantages are that a lot of customers far away may bring up there boats less because fuel costs have gone up. Most of my customers are from outside the immediate area – I hardly have customers out of the local marina here, although a few have come from Anacortes.
- There are a lot of advantages if you can overcome the problems (i.e. finding a good workforce). However, labor is available as long as you offer people the right wages to attract them. In fact we are part of a reverse trend. We used to build boats in china and imported them back over her. We decided to move back to the U.S. for a number of reasons – some personal and some business related. I didn't like the distance and the amount of travel required going back and forth from China to the U.S. In China

there were also quality concerns, warranty issues, and perceived value by the American buyers (they like made in America).
- It's good to be close to water. Also, the marine industry is here for parts, equipment and people. However, doing business in the state of WA is difficult (i.e. regulations from WISHA regarding air permits).
- We are pretty rural. If we moved to other areas there would be significantly more foot traffic. But that doesn't interest me.

2.5 Description of the Industry – Innovative, Capital-Intensive, Technology-Focused, Workforce-Dependent, etc

- The industry is all four – innovative, capital-intensive, technology-focused, and workforce-dependant.
- I would describe the industry as tough.
- The industry is very workforce dependent. Boat builders are very innovative in process and design (there are a lot of start-up companies here). WestPort (one of our biggest customers) is really progressive in their thinking and way they build their molds and have streamlined their production process. Fathom Boat Works is a new and innovative company. Boat builders come up with a new idea and take risks – you must be constantly innovating to do well.
- It's a pretty healthy industry. A lot of competition has gone away.
- All of the above. There are constant challenges to being in the boat business. If you went to a bank to start a boat building company they would laugh at you. We have all been privately funded. The track record is too bad for banks to give you a loan.
- All of the above. The industry is definitely becoming more technology focused due to all the regulations that change the boat building process (i.e. emission reforms). The industry is also workforce dependent.
- This is a workforce dependent industry.
- The boat business is lagging behind the automotive industry in regards to technology. There is a lack of technological innovation across the board. It's starting to pick up, but the technology is mostly going into high-priced yachts as it is so expensive.
- Definitely capital-intensive as it takes a lot of time to recoup costs and get a return on investment.
- The industry is very innovative as boat building is an ever changing marketplace. And as we are high end, our clientele demands the latest technology, design, etc.

2.6 Competition and Collaboration

Competitive Advantage

- We build one of the safest, fastest, most fuel efficient boats in our class in the world (in our class). We are on the highest end of manufacturing and have inquiries from all over the world about our boats.
- Being small, we are flexible and our overhead can be kept down.
- Our advantage is our five-axis mills (computer design is cut to this 5-axis mill). Beforehand, boat artisans would take a look at the picture of the mold and then try to reconstruct it. The 5-axis mill enables a business to take a design from a computer and have a prototype cut out of foam and wood in a few weeks. We can take it from a

computer model to a real model in a few weeks. Before the artisans would build it from scratch and it would take months. We can turn around a plug and mold really fast with amazing accuracy (3,000 of an inch). So, our advantage is milling, accuracy, and the materials we are using (we have a propriety resin developed in-house). But not every boat needs to be as accurate as things built for aerospace – which has allowed us to step into that industry due to our skills in precision

- We do high-quality construction and provide great service. We are also there for warranty claims. Additionally, we are always on time and on budget.
- Our special high-end niche.
- Our advantage is being a semi-custom boat builder (we tailor the boat to our individual customer needs). We do both recreational and government.
- Our advantage is the longevity of our company. We have been building boats for over 50 years and have stuck to our niche. We know what we do well.
- We are in a unique position as we only build and service Tollycraft Boats. Tulllycraft went out of business in 1989 and I purchased some of the molds and have renamed the line. Overall, our advantage over our competitors is that we completely revamp the used boats that come in. When the boat leaves our facility we know we have changed the entire system (interiors, heating systems, engines etc) and everything is top quality. Also, the cost of labor here is cheaper than in Seattle which keeps our prices very competitive.
- We are using high technology processes in our approach. We have the largest large five axis milling machine in-house. In fact, I don't know any other businesses who have a five axis milling machine here – most contract out to Janicki Industries.. That is what separates us from our competitors. We can make changes fast to designs, modify molds easily, and maintain top quality control.

Major Competitors

- SAFE Boats International in Port Orchard is a competitor. In the recreational market there is Grady White Boats in North Carolina. However, we are at the top of the pyramid. Our competition is lower priced single hull boats.
- Our main competitors are Nichols Brothers (Freeland, WA) and Todd Shipyard (Seattle, WA).
- We compete on the marine side with large boat companies that have their own 5-axis mills in-house. There is nobody in WA that we compete with. Boeing said we have 30% of the world capacity for large scale 5-axis mills (88 feet). On the marine side the closest competitor is in Florida. However, they are a limited competitor – they could never do the American's Cup Boat.
- Our major competitors are Dakota Creek (Anacortes, WA), Martinac Shipyards (Tacoma, WA), and Todd Pacific Shipyards (Seattle/Bremerton/Everett, WA).
- A few companies in Maine. Nobody here.
- Osprey used to be a competitor but now they are located within our facility. So our main one now is Orca Boats (Skagit County, WA).
- Orca Boats (Skagit County, WA) and Parker (East Coast) – are both pilot house style boat manufacturers.
- Most of my competitors are in Anacortes and in Seattle. I don't advertise my business – I just operate word of mouth.

- There is always competition for dollars. We don't consider Nordic Tug a direct competitor because they cater to different customers (they are 500,000 dollar range and we are in the 900,000 range). Our big competitors are all abroad – such as Nordhaven (Asia) and Selene Ocean Trawlers (China).
- Our biggest is Maineship (China) – they are the biggest distributors of tug boats. In 2005 they distributed 95 tugs and we came in second with 52.
- We are the only service facility of this type (service and sales) in the nearby area. The competition is others marinas which are located 34-40 miles away (the closest of which is Anacortes).

Collaborations

- We have a teaming agreement with Northrop Grumman (defense contractor headquartered in Los Angeles, California).
- We do not work with anyone.
- We sometimes work with the Center for Marine Excellence and Naval Architects Group (they do periodic tours at our facility).
- We helped out a lot with local colleges before (i.e. Centralia has a tech school), but this year we have not done anything. We do not see any results from our assistance.
- We don't really work or collaborate with anyone here.
- Not really. We are members of the NW Marine Trade Association.
- I don't really collaborate with anyone.
- We are on a joint venture (producing trawler boats) with Bay View Edison.
- We do not collaborate with anyone.

2.7 Boat Building and Repair Supply Chain

Major Suppliers

- We have numerous aluminum suppliers inside and outside the state and outside the country. One example is Belfast Aluminum and Vinyl located in Ontario, Canada.
- Our suppliers are all over the place. Some of our steel we get from Seaport Steel (Seattle, WA), Farwest Steel (Eugene, OR), and a lot are international. We get Caterpillar engines from Louisiana and other engines from Finland. We also buy a lot from Scandinavia and Denmark. Many of our switchboards are from Germany, Seattle, and the UK.
- A lot of our suppliers are local such as Seaport Steel (Seattle, WA), Pacific Diesel (Seattle, WA), and Everett Industrial (Everett, WA).
- In terms of dollar values, our major suppliers are Composites One (Arlington, WA), Yanmar Marine (international distributor with WA dealers), and Pacific Diesel (Seattle, WA).
- Our biggest suppliers are Volvo Penta (VA), DIAB (TX), and Composites One (Arlington, WA).
- Our big suppliers are Fisheries Supplies (Seattle, WA), Redden Marine (Bellingham, WA), and local harbor sales.
- They are Fisheries Supply (Seattle, WA), and Cummins Engine Company (Columbus, IN).
- Major suppliers are Composites One (Arlington, WA), Stellar Industrial Supply (Seattle, WA), and Fisheries Supply (Seattle, WA).
- Most of our major suppliers are in the Seattle area (i.e. Fisheries Supply).

Major Customers

- Fifty percent of our customer base is the Federal Government and 20 percent are individual customers looking for fishing boats who are usually from Alaska, BC, or the West Coast.
- For repair, some of our big customers are Crawley Maritime (Oakland, CA) and WA State Ferries. We just did a new construction for customers in Alaska and Delaware. We do a lot of work in California, Alaska, Canada, and the East Coast. Less than 25 percent of our customers are located in Washington. We bring a lot of money into the State.
- Our major marine related customers are Core Builders (Anacortes, WA) who are building BMW Hull for the America Racing Cup. Our second biggest client is WestPort (we deal mostly with their new Port Angeles facility). Our third biggest customer is Delta Marine (Seattle, WA).
- Some or our biggest customers are Crowley Maritime (San Francisco, CA), Water Transit Authority (WTA) (San Francisco, CA), and Argosy Cruises (Seattle, WA).
- Billionaires (five of our clients) and multi-millionaires. For our customers, money is never an issue.
- Our biggest customers are from the government and individuals wanting a recreational boat.
- Customers are from all over. Traditionally WA, OR, and Alaska but now our customer base has expanded to all over U.S. Older retirees to younger dot-comers.
- They are mostly in the Seattle area and Canada although I have had customers as far as Florida.
- We are still in startup mode with our business but most of our clients so far have been baby boomers.
- Most of them are ex-blue water sailors who are tired of sailing. Most of our customers have owned boats before.

Challenges in Supply Chain Relationships

- I don't see any challenges.
- The wait is longer than we are used to. It now takes longer for manufacturers to put everything together – which is challenging, as customers want a faster turnaround time.
- No.
- No.
- We are pretty good in regards to supply chain relationships.
- Fuel prices have impacted our materials. It's hard to find the most competitive pricing.
- No

3.0 INDUSTRY-SPECIFIC NEEDS AND OPPORTUNITIES

3.1 Current Workforce Needs and Challenges

Workforce Availability and Skills Gaps

- We have a shortage of welders and electricians.
- We have workforce shortages at the production level.
- A major issue is finding experienced crew – we can't find ship fitters, welders, engineers etc.

- We don't really have any skill gaps. We are always looking for people although we don't have any real shortages. Sometimes we will put a young keen inexperienced person with experienced people – but we don't do too much of that.
- Smaller companies are feeding grounds for the bigger guys so it's hard to retain workers as they gain skills and then move on to places that can pay them bigger salaries.
- One of the major areas in need is lamination in general. A lot of 20-25 year veterans are laminators that are good at it, but this is a field that young people are not getting into (it's a dirty messy job). One of the things we are doing is going to infusion in our lamination process (it's a lot cleaner). We need more training in infusion in the lamination process. The rest of the skill gaps are woodwork, electrical, finish work, etc.
- Skill level and knowledge is critical. We do expect people here to have some basic knowledge of the industry.
- Over on the mold-building side it is difficult to find good computer programmers.
- The biggest one is patch and detail people (i.e. body work). Automotive crosses over into this so we are not just looking at people in the marine industry. We are also looking for gel coaters and cabinet makers.

Training and Skills Development

- We need to put trade schools back in high schools. Young people just are not aware you can make a living making boats.
- We are trying to get a younger base to draw from. It's imperative we get into the high school. Youth need to know you can earn a living wage building boats. We do a lot of in-house training. You need to be more pro-active. I sit on the board for the Advisory Committee for the State of WA (WorkSource). We are pushing how to tap into that younger generation and show them that this is a growing stable industry.
- The major barriers I see to training are that younger people want time-and- a-half in pay to come in on Saturday to learn a new skill. They should see this as an opportunity to enhance their skills and resume and not demand pay (or at least higher pay).
- Our major barrier to training is time. It is a never ending process as there are so many new people coming in and leaving.

Specialized Skills and Specialized Training

- We have on-site training. The length of the training depends on what the needs are. We are currently putting a formal in-house program together.
- We have our own in-house training. We often take people with no experience and slowly train them. We will train people if they have the right attitude.
- We have formal in-house training programs.
- Every Tuesday and Thursday at 2pm we have an in-house training session. The training depends on the level and group that is meeting.
- A lot of our processes are unique so we have to train to a certain degree, but most people have some experience. Training is done in-house, although we don't have a formal program.
- We are constantly doing in-house training. Most of the people that come here have little or no experience. And we train them from the ground up (it's hard to retain them too).
- Most of the people here have some experience and then we just do hands on training – we don't have a formal program.
- We do on-site training which is an informal process.

- We have formal on-site training. When people come on board they have an orientation and then full day training. We also have an annual training program for everyone as well as specialized training.

3.2 Infrastructure Needs and Gaps

- There is a shortage of industrial land in Skagit County as well as a shortage of working waterfront (at least affordable working waterfront).
- We need more of everything – roads, land, buildings, and facilities (port, docks etc*).*
- Building is a huge problem here. That is why we are looking outside the area. We can't afford land and the permitting process is too difficult.
- We need permits for larger and stronger docks. The permitting process is too slow due to regulations by the Army Corps of Engineers.
- We need more available land and buildings. It is difficult to find land that is close to the avenues of transportation.
- Bellingham Marina needs to expand. It's overcrowded and need to be updated to bring in more tourism to Bellingham. If someone comes to visit and parks their boat at the marina, they have to go a far distance to get to a grocery store. Also, there are no close affordable hotels and things to do (no entertainment).
- We need more marinas/docks that can hold and launch bigger boats.

3.3 Economic Development Services: Grants, Technical Assistance, Recruitment Services, Actions to Promote Innovation etc

- We have not really used these kinds of services.
- We have been working Everett and Skagit colleges for training purposes and that has been great. We do not use recruitment resources – we do it all in-house.
- There is too much red tape with grants (too many restrictions). We were awarded a grant and we cancelled it as we looked closely at the fine print. It was a five million grant but you only received the money if you spent 26 million.
- In addition to the Center for Marine Excellence, we use the Business Resource center at EDASC. They connect me with the right people and have also scheduled meetings for me with the Department of Revenue. There are a lot of government, nonprofit, and for profit members so it's a good group to network across the board.
- We currently receive no help at all from economic development services. We used to apply for a few grants but the big companies stopped us from getting the money about five years ago. They didn't want the small businesses getting any sort of help.
- We don't use any services.
- Our last grant was through WorkSource. It was a helpful grant for training. We use WorkSource, Skagit Valley College, and also the local paper (Skagit and Bellingham Herald) for recruiting.
- We've used economic development services a little bit but we have not found them to be very useful. We got some grant money for training and that was just a year ago. It was a matching grant and it is just difficult as we don't have time to pull people off the floor to do this conference type training (it was good for safety training but not really beneficial in terms of teaching people how to actually build a boat). We find hands on training on the floor more helpful. We did send a few guys to infusion training in Mount Vernon (which is part of Skagit Valley College). That was helpful.
- No, I don't use these services.

- Our business partners are members of EDASC and I encourage that relationship. I think we should coordinate efforts to train our workers. Skagit Valley College is a great program and they are doing a lot of the right things. I appreciate the effort and attempt here as other states don't help the local industries as much.
- We had a few useful grants from Skagit Valley College – we used the Marine Center to train our electricians (so far we have sent 14 people.

3.4 Key Regulatory and Public Policy Actions That Would Encourage Industry Growth

- WA should become more competitive on taxes. The government needs to improve its permitting process for developing land (time is money and the government is very slow to respond). Service is not a priority in government.
- Improve the permitting process. The number one problem is environmental regulation. The government needs to change its environmental regulations (i.e. Army Corps, Department of Fisheries, Department of Ecology, and Native American Tribes). The number two priority is providing education training for technicians. Number three is tax breaks.
- The government can reduce taxes. The controls that are in place to protect employee/environment are good but it makes international competition tough.
- We need better and more tax breaks.
- Revamping the workers compensation program (the system is very abused and broken). The government could be more tax friendly also.
- I have not been very hindered by government regulations too much as my business is small.
- There is new legislation (HB 1002) that I hope will pass. This bill would provide a sales tax exemption for boats purchased in Washington by nonresidents when they acquire a permit and remain in the State for no more than 12 months. This will stop our customers from outside the State from buying our boats and then leaving immediately to Canada. If they stay, money will be generated through boat repairs, upgrades, marina permit fees, etc.
- Environmental regulations, specifically air permits, are a problem. We have the same air permits as refineries (they are classified as a Title 5, which is the highest). We might be the only boat builder around here which is classified as a Title 5. Overall, fiberglass has a lot more emissions than aluminum/steel (i.e. Nichols brothers is not a Title 5).
- There should be transferable training certificates. There is mandatory state-level training for fire prevention, hazardous material, emergency action plans etc. It just doesn't make sense if a new employee has had this training at a previous job but is now required to undergo the training again. It would make sense if you had an actual certificate that you can take with you from job to job.

3.5 Marketing and Communication Strategies

- For our business our marketing is just fine. We don't advertise and we like it that way. We don't need anyone else to advertise us – especially the government.
- We already have great marketing and communication. I don't think the government should be involved in doing this as the government does not know how to sell our product and should not be involved. They should just leave us alone.

- We are fine on our own with internal marketing. We don't need to market the industry up here as a whole. I never see people talk about regions in general, just businesses.
- The industry in the last few years has started to better market itself. There is a "Grow Boating" campaign I hear is doing well (the NW Marine Trade Association and the National Marine Manufacturers Association are involved in this). However, I think more could be done to promote the industry.
- I don't think we need a strategy - we have a lot of marketing resources if we want to use them.
- It's just a thought but maybe EDASC could form its own marine trade arm and be responsible for a website that promotes marine industry with a section where we can post jobs and other information so people inside and outside the State are aware of what is going on.
- Washington State should be advertising that we are a boat Mecca of the world.

4.0 COLLEGES AND TECHNICAL PROGRAMS

- Northwest Washington does not have a shortage of labor, but rather is lacking in *skilled* labor. The problem is the same all over manufacturing. There are not enough tool and dye makers, machinists, manufacturing engineers etc. Many manufacturers are bursting at the seams with work, but they can't find employees to do the job. Companies are outsourcing work not just for cheap labor but also for skilled labor. Right now the jobs that are staying here are primarily technology based. The Dream It Do It Campaign run by the National Association of Manufacturers (NAM) is running ads that promote careers in manufacturing (across the board).

Standards and Certification

- The Center for Manufacturing Excellence is building on the work of the Manufacturing Advisory Technology Group (MTAG) and other state organizations to define basic manufacturing skills and abilities required for entry level manufacturing employment. Skagit Valley is beginning to put together a curriculum based on MTAG standards, which is a pretty broad based set of manufacturing courses.
- The Center for Manufacturing Excellence is also working on developing a statewide manufacturing committee (focused on machinist trades) to try to adopt a statewide certification process. Right now there are welding certificates but not any for metal working. The National Institute of Metal Working Skills (NIMs) has a metal working certification that we would like to see more fully implemented here. Bringing credentialing into the high school and colleges would be very beneficial. Ultimately, we are trying to get manufacturing programs in schools to have the same names and similar NIMs credentials.
- NIMs is more expensive to get credentialed which is why some schools can't afford to have it. Businesses need to start helping out with this. For example, in the automotive industry businesses helps pay for courses taught in colleges/schools as well as donates cars.
- Every curriculum has a safety module–both NIMs and MTAG have safety components –so in order to pass certification you need safety training and this could be state recognized.

Promotion of the Industry as a Viable Career

- Only 21 percent of high school students in WA will end up with a degree from a four year college but 100 percent of the focus is getting students a BA degree. Colleges and high schools have gutted manufacturing labs and replaced them with computer facilities. These changes are not just based on curriculum decisions but also have to do with financial factors. For instance technical/manufacturing equipment is expensive and it is a lot cheaper to put in computers.
- There is so much focus on WASL. We would like to see manufacturing programs being offered as an alterative so students can have a better chance of passing the WASL if they take math as part of a manufacturing program. They are cancelling manufacturing programs (much cheaper to replace with computers). One Skagit Valley High School is pioneering in doing the certificate program, where students are required to work with a manufacturer. We need this to happen across the board.
- For the boat/ship industry, the challenge is to maintain a healthy workforce. This issue of a healthy workforce is a problem all across manufacturing. We are trying to keep a skilled workforce in place and replace people that are leaving the industry. We need to educate younger people and make them aware of the marine industry. I think the State of Washington has finally recognized the marine trades as a viable industry. Twenty years ago the boating industry wasn't what it was today. It used to be seasonal, but now boating is year round. Boats are larger and have greater capabilities to be self-sustainable (i.e. make their own heat) so boating can be more year round. Bigger boats have capabilities to be in the water in the winter (NW Marine, San Juan Yachts).
- The high school student is mainlined into an academic career as opposed to a trade career. The concern in high school is the WASL test, so the academic part is the main emphasis as opposed to working with your hands. Governor Gregoire passed a bill that if a high school student can't pass the WASL they can present a plan to do technical training so they can get their high school diploma.
- We need to have a set of standards that all training facilities are teaching to so that everyone coming out into the workforce is equal. The work on the West Coast should be the same performance as the East Coast (this should be nationalized). Some people think the standard should be ABYC, but that has its own problems. ABYC was started back in early 1950s by people who had already finished their careers and decided to write specifications on how a boat should be put together (a set of standards). They then decided to start some certification program with these standards. But the people who are running the program have put up a lot of barriers to passing the test. They charge a lot of money for certification and make it difficult to scholastically pass the test. People take the ABYC to show they are an expert in their trade. Business owners like having employees with ABYC as they can potentially charge more for their work.
- In the small boating industry there is no union. So if you have ABYC you can possibly negotiate a higher wage. ABYC is an honored set of standards that boats are based upon. ABYC is not offered in high school, it is offered through the ABYC organization. In Skagit we do ABYC electrical certification. ABYC has streamlined the process and cut out the lab part of it. ABYC sends one of their instructors to a convenient location where he spends three days delivering a lecture (where a test is given out in the end). Skagit Valley College doesn't think that just having a lecture is enough so we still do lab

work in addition to the lecture (and we then proctor the test for certification). While Skagit just does electrical certification, ABYC has many others (corrosion, systems, electrical, and diesel etc).

- MTAG is an effort to standardize the instruction from high school to technical training so everyone is on the same page with what they are delivering (there is not a certification process).
- ProBoat.com. The people who have produced wooden boat magazine have donated a large portion of their staff and money to produce another magazine called Professional Boat Builder (this is a premier magazine) which you can get it for free. Every magazine is filled with info on the marine trade (production, design). ProBoat has also developed eMarine, which are online training courses. They are very dedicated to training people. You have to pay for the training. Most everyone is aware of Professional Boat Builder Magazine.
- In the Pacific NW – Skagit Valley College probably has the only full circle training program. And then there are other colleges that focus on specific aspects of marine trade. Lake Washington used to have a small engines class, Bates has a small delivery of marine trades. Skagit is the only one who offers a certificate in multiple areas of the marine trades. Bellingham Technical College now has a new welding facility. They have a focus in marine trades but not as much as Skagit Valley College.
- Skagit Valley College will hopefully be funded for a Skills Center housed on their campus in Mount Vernon and then have a marine center in Anacortes. Anacortes right now has only one marine class in their high school that more of an informative piece. We need a high school component. The Center of Excellence will be moving to Anacortes with us. This facility will have three arenas: 1) high school students coming to receive marine training; 2) advanced studies for continuance in the marine trades (people after high school wanting to learn) and; 3) re-training for current workers. In coming to the Skills Center Younger people will see a career path to the marine trades. Currently, there is no skill center that focuses entirely on the marine trades. La Conner High School has also been supportive of Anacortes Marine Trades Center coming in. So have other schools. So everything will be under one roof and high school students will come from surrounding areas. A bus would bring a group of students to the high school and would receive lectures and hands-on training for the areas of their interest.
- Anacortes is the hub of the boat and ship building. Right now at Skagit Valley (Whidbey Island) my classes are so small due to space issues. We have no space. Whidbey Island is the only branch of Skagit Valley College that offers marine related training.
- Ultimately, we want to also have an avenue so people can also go to a four year accredited college. This way, students can transfer from technical college to 4-year college and study something like marine engineering, management etc. University of WA has a marine engineering degree. But this is rare.

5.0 PORTS & MARINAS

5.1 Port of Anacortes

Expansion/Long Term Plans

- We are planning on expanding on other people's land. The primary land owner we are working with is MJB (Merlino family) that owns 80 acres of vacant waterfront land in Anacortes. With this expansion, we plan to put in a ramp for large boat access. Ultimately, the City, Port, and MJB are the primary players in pushing this forward.
- Currently, the Port has two properties it owns but neither is good for building the large boat ramp (one the properties is landlocked and the other is adjacent to the marina).
- Overall, Anacortes needs to develop public access for larger boats. Most of the waterfront property we plan on expanding onto needs cleanup/mitigation before work can be started. The government needs to be of this development process–the rest can be done by the private sector.
- The City and the Port need to build infrastructure to allow yachts to move around. For example, Northern Marine is building a 155 foot yacht that needs to be moved a mile before it can be launched (at Dakota Creek Shipyard). We need better infrastructure to effectively move big boats like these around.
- All Port has subject to similar governmental regulation. What un-levels the playing field is when cities pile on additional requirements. For example, the Shoreline Master plan will make it more difficult to build in Anacortes.
- There is a long history of tension between the Port and the City. The Port is always trying to flex its independence but in reality it's just a small special purpose district. The City has the real power in that it overlays zoning and land use (which the Port must follow).
- In addition to its Airport Advisory Committee, the Port is developing a Marine Advisory Committee.
- The Skills Center is coming to Anacortes and will be likely placed in the marina (on Port Land). We have four to six acres that are good for that. However this property would not be good for a huge launching area for mega-yachts.
- We have ten acres available in the marina for non-industrial use.
- There is a lot of land available at the Airport. The marina is gentrifying. What used to be small fishing boats are now luxury mega-yachts. As boats change in the Marina, land is becoming more expensive so some traditional businesses are leaving.
- The Marina will change to less boat repair to more small retail shops (marine related) and become more tourist friendly (i.e. greater public access, high-end restaurants etc).
- The Marina will also be expanding the slips to accommodate larger, high-end boats.
- As fuel prices rise and lives get busier, people will increasingly want their boats moored here (as we are so close to the San Juan Islands). San Juan will also be an attraction for mega-boats).
- There is pressure on Marina slips in the 40-60 foot range. We have locals with 20 foot slips getting priced out. These smaller boats are now being stored out of the water.
- The Charter operation is really helping the repair industry as the boats have to be in pristine condition.

5.2 Port of Skagit

Business Outlook for Marine Firms

- Who are our growing tenants? Tomco, Pacific Mariner, Nordic Tugs.
- The competitive issues are overseas competitors, especially in China. The Chinese have been copying boat designs; they have the appearance but not the quality of boats made in this region. Competition with China has grown as a trend within the last five years; its really increased.

Environmental Regulations and Challenges

- Previously, the greatest difficulty for our marine tenants was environmental permitting, especially for shipyards and boatyards. That seems to be stable now.
- The new stormwater regulations are an upcoming question and potential challenge. We don't know yet when the new Phase 2 stormwater regulations will be issued by DOE. Skagit County is a Phase 2 County and is required to implement these additional requirements, so that's a potential factor for manufacturing businesses.

Workforce Needs and Challenges

- Firms are struggling to find enough qualified employees. The training programs don't seem to be where they need to be, to get qualified applicants. It seems like there is a role for the secondary school system to play, to help kids find the trades that businesses need, to provide support to the students.
- Students aren't exploring what opportunities there are—kids will need occupations and its not intuitive what the career paths are. Maybe the businesses should be knocking on the schools' doors; maybe the schools should be more knocking on businesses' doors.
- Job shadowing is an example of a tool that could help connect students with employers. Kids are doing job shadowing, but its not easy.

Building and Facility Space Needs

- At the Port we have some industrial space that is ready to develop. Businesses need property that is ready to build; its subdivided, with the utilities in place.
- There is also some demand for larger tracts of land; what we have are smaller parcels, five acres or smaller, but its ready-to-go.
- Most businesses want space in existing buildings (they don't want to build).
- We own about 20 buildings at the Bayview Business and Industrial Park, and 2.5 industrial buildings at the marina. Its about 200,000 square feet of space. We are completely full – we don't have any space available and we are hearing that no one does.
- There is a need for construction of new building space, in the 1,000 to 5,000 and up to 10,000 square feet range. We are talking to our Commission this month about proceeding with some a new development project in 2008.

Transportation

- Transportation is a major issue; getting products to market. It costs businesses a lot of time and money to get through the traffic bottlenecks in the region.

5.3 Port of Bellingham

Business Outlook for Marine Firms

- There are three major boat builders in the area: Fairhaven Shipyards (has a dry dock, does bigger ships, for NOAA and the Coast Guard, for example.); Aluminum Chamber Boats and All American Marine (builds catamaran vessels for NOAA and ferry services). Plus there are brokerages and yacht sales and many other supporting businesses.
- We have about 72 marine-related enterprises here at the Port; in direct or marine-related businesses.
- There is a general anxiety about the Port's ability to provide the appropriate facilities. This includes the question of how much marine businesses should have to pay to be near the water. Can some marine businesses exist away from the water? There is a finite supply of land for businesses that need to be on the water; we have to preserve the land for those whose businesses depend upon it.
- We are wrestling now with how much of the waterfront should be planned for industrial development.

Environmental Regulations and Challenges

- DOE is applying strict rules in enforcing the State Shorelines regulations. The City of Bellingham is applying even more stringent rules. It presents a challenge for businesses, to serve their customers in the face of these regulations.

5.4 Port of South Whidbey

Expansion/Long Term Plans

- Beforehand, we were mostly a funding agency that was focused on the recreational side. We are now expanding our scope and doing more economic development. We have a comprehensive plan in process that reflects this current transition.
- With the new comprehensive plan we are focusing on acquiring the Langley Marina and engaging in commercial type development in the area of the Air Park (the Port's only industrial zone).
- Right now there are just three commissioners, one staff person, and two park managers. We don't have any tenants but we are hoping to change that soon. In five years we hope to have an expanded marina facility down in Langley with a new port office (which is currently in Freeland).
- If we manage to acquire Langley Marina, perhaps we might develop a marine service center where a person can build their boat and also have a full service of sub-contractor shops. We would not be self operating, but would bring in tenants and provide the incubator space.
- Having a service mall on Port facilities might help local businesses like Nichols Brothers, which is a big player over here. We would make sure what we are offering does not try to compete with the local businesses but rather seeks to support them. So, we are looking to fill in existing gaps with businesses that would compliment businesses like Nichols Brothers.

Challenges for the Port and Industry in General

- There is a lack of definition and lack of awareness among marine-related businesses here. We have a strong sense that there are a lot of support industries but we don't have a grip on how big the economy really is in our Port District (which encompasses the lower third of Island County).
- Mobilization is a big problem. The Port is not aware of any marine associations in Island County.
- We feel like there is a lot of opportunity for the Port to develop but there are a lot of environmental problems. For example, there are a lot of challenges in Port expansion due to the permitting process.
- Our levy limits are really tight right now - we have one of the lowest levy rates in the state so we need to look at other ways to raise funds. As an option, we are contemplating the development of an industrial district in the Air Park. As Langley is not zoned industrial, it would be appropriate to bring in marine services such as electrical boat repair and small subcontractor shops.
- We are looking to other Ports for examples. Skagit has done a lot of stuff with incubator space that has been interesting. The biggest industry on the south end of Island County is probably the arts. We are also contemplating taking that incubator space model and using it for artists.
- There are some challenges to our development plans: Wharf Street down at Langley Marina is very undersized public street road. Crawford Road to the Air Park is also very undersized. Additionally, this is a private street which the Port would need to acquire as it is the access to the Air Park.

5.5 Oak Harbor Marina

Expansion/Long Term Plans

- In Oak Harbor, we are surrounded by the navy so we would like to acquire use of their property. Currently, the boats in Oak Harbor Marina are about 95 percent recreational, with a small amount of fishing vessels.
- Oak Harbor property is very limited in terms of land and water. We have shallow water depth, which is a limiting factor as it restricts the size of the boats that can dock here. Most of Puget Sound has deep water. As such, 85 percent of the marinas don't have a huge dredging problem.
- We are currently embarking on a dredging program but that is very expensive. As we don't have a commercial shipping channel, the Army Corps of Engineers will not financially offer assistance with this.
- Public Ports have an advantage over city owned marinas. Ports can generate revenue from a levy while city marinas have to operate more like a private business. Additionally, Ports have a primary focus on trying to develop the marina and related industry. The city is concerned with so many other functions that the marina is kind of a sideline.
- Prices for moorage are going up here so people with smaller boats are taking those boats with them in the wintertime (as they don't want to pay for this fee all year round).
- Oak Harbor is going to re-configure its marina. We are tearing out smaller slips and putting in larger ones. The bigger boats (60 feet and larger) are growing at a rate nine times faster than that of smaller boats.

- We are in Phase One of development which is adding bigger slips. Then in five years we want to add some additional marina-related business such as coffee shop, art stores, etc.
- We right now have mini-storage units, which is not the best use of our waterfront. The marina should partner with private industry to try to attract businesses that support the boat and ship building (i.e. repair).
- The permitting process is terrible and really hurts expansion. It is not any easier for a public agency than for a private company to deal with these regulations.

INTERVIEW PROTOCOL

Interviewee _____

Interviewer_____

Date_____

Introduction and Study Overview

As part of a Statewide economic development effort, the State has awarded the four-county region (Skagit, Whatcom, San Juan and Island Counties) a grant to collaboratively develop an industry cluster strategy for the boat building and repair sector. The consortium supporting this work includes ports, the NW Workforce Development Council, the NW Center of Excellence, local colleges, and economic development agencies.

The following interview questions will help identify the key strengths, needs, challenges, and opportunities to help promote growth and job creation in the industry. Thank you in advance for your help with this project.

Industry Outlook and Trends

1. What is your niche in the industry?

2. What are the key issues and challenges for your industry right now?

    - Are there shifts in demand? Supply?

3. What are the key factors affecting your business in the next three to five years?

    - What levels of revenue growth are you expecting, and why?

    - Do you plan to expand your facilities?

4. What are the advantages to locating/expanding a business like yours in the four-county region? What are the disadvantages?

5. How would you best describe the industry in a few words, for example: innovative, capital-intensive, technology-focused, workforce-dependant, etc?

6. Competition and collaboration

    - What would you say is your firm's competitive advantage?

    - Who do you compete with most directly? (firms and geographic areas)

    - Are there firms or organizations that you collaborate with?

7. We are especially interested in understanding the full boat building and repair supply chain.

   - Who are your major suppliers (top 3-4) and where are they located?
   - Who are your major customers (top 3-4 categories) and where are they located?
   - Are there any major challenges in regards to supply chain relationships?

Industry-Specific Needs and Opportunities

We are interested in understanding needs in the industry to increase growth and competitiveness, including business retention and attraction to the region.

8. **What are your current workforce needs and challenges?**

   - Workforce availability? Skills gaps?
   - Training and skills development? What are your barriers?
   - Specialized skills and specialized training? Are you training on-site or off-site?
   - Other

9. **Infrastructure needs and gaps?**

   - Roads and transportation?
   - Electric power or telecommunications?
   - Land, buildings, or facilities?
   - Other

10. **Economic development services?**

    - Business technical assistance?
    - Grant applications?
    - Business retention, expansion and recruitment services? For example, _____
    - Actions to promote innovation?
    - Other

11. **Regulatory and public policy actions**. What are the top two or three actions that government could/should take to encourage growth within the industry?

12. **Marketing and communication strategies**. What would help the industry most effectively communicate the region's comparative advantages for business location and expansion?

Further Information and Assessment

13. Who else should we talk to?

ATTACHMENT B

FOCUS GROUP MEETINGS

FOCUS GROUP ATTENDEES

Boat & Ship Manufacturers

American Expedition, Stuart Archer

All American Marine, Del McAlpine,

Aluminum Chambered Boats, Craig Adams

Bayview Edison Industries, Dan Thompson

Bayview Edison Industries, Ted Ginsburg

Branko Boats, Branko Jurkovich

Cap Sante Marine, Dianna Chonka

Cap Sante Marine, Richard Wright

Cap Sante, Dave Kruse

Fathom Yachts LLC, Eric Reid

Fathom Yachts LLC, Tracy Prescott

Nordic Tugs, David Goehring,

North Island Boat Company, Jason Graham,

Northern Marine, Bud LeMieux

Northwest Yachts, Peter Whiting

Pacific Mariner Inc., George Johnson

TOMCO, Kurt Dilworth

TOMCO, Mike Shoppert

West Coast Marine Services Inc., Pete Foti

Workskiff, Lisa Kooney

Charters

Adventure Charters Northwest , Bill Jenkins

Adventure Charters Northwest, Deanna Jenkins

Anacortes Yacht Charters, Mike Lovell

Suppliers

Anacortes Marine Electronics, Inc., Bryan Hennessey

Anacortes Marine Electronics, Inc., Laura Hennessy

Emerald Machine, Andy Stewart

Blue Sea Systems, Craig Smith

Fidalgo Machine, Bob Maryott

Fidalgo Machine, Jan Maryott

KMI Sea-Lift, Darryl Krause

KMI Sea-Lift, Mike Whitney

Government Agencies

Anacortes Chamber of Commerce, Mitch Everton

Anacortes City Council, Erica Pickett

City of Anacortes, Dean Maxwell

City of Anacortes, Ian Munce

Port of Anacortes, Bob Hyde

Port of Anacortes, Keith Rubin

Trade Associations

Anacortes Marine Trade Association, Dave Malseed

Repair Services, Boatyards & Private Marinas

Blaine Marine Services Inc., Al Teshera

Granville Marine LLC, Jeff Granville

La Conner Maritime Service, Ed Oczkewicz

La Conner Maritime Service, Isaac Oczkewicz

Landings at Colony Wharf, Robert Sternhagen,

North Harbor Diesel, Howard Bean

Twin Bridges Marina, Bill Youngsman

Other Services

Arrow Launch Service, Jack Harmon

Ballenger Rentals, Judy Ballenger

Northwest Rigging, Andy Schwenk,

Pacific Rim Marine Surveyors, David Jackson

Transpac Marinas, Inc., Dan Jankelson,

Transpac Marinas, Inc., Dave Rytand

LA CONNER FOCUS GROUP SUMMARY: FEBRUARY 13, 2007

What are the factors affecting business growth and expansion?

Workforce Issues

- We can't build boats fast enough and there is a lack of qualified workforce. We are all competing for the same people.
- It is hard for finding marine woodworkers. This is a highly skilled craft and takes years to master.
- Even in the repair business, it's hard to find people.
- There are no qualified welders. We have a lot of metal cut outside as we don't have the expertise to do this in-house.
- Repair tends to be cyclical more than construction (i.e. peak and off-peak season) and staff does not often stay long. Boat manufacturers want someone for the long term (10 years).
- We are looking for people with some training and experience.
- Skagit Community College could do a little better for the industry in regards to training. The College is focused mostly on the marine repair business, not manufacturing. This signifies that the College has not done a good job in understanding what is happening within the community. The College thinks that boat repair is where the money is, but that is not true as manufacturing can be far more lucrative.
- Many applicants are unable to pass a simple math test and are unable to read a tape measure.
- Community colleges and high schools need a feedback mechanism to find out what is really important at the local level (i.e. talk to local industries). At present the schools just look at the federal curriculum not at the local issues.
- A large portion of the workforce is Hispanic and there are language problems as well as challenges associated with learning a new measurement system (metric to U.S. measure).

Land/Facilities-Use Issues

- A lot of land here is earmarked which means there is not a lot of room for commercial development. The manufacturing business in general needs space to build boats and it has become harder and harder to develop land.
- There is a lack of marinas for large yachts in the area.
    - Pacific Mariners builds 85-foot boats and there is no place to park them.
    - Anacortes does not have a decent marina for large boats.

Government Regulations

- A lot of business has been affected by outside sources such as the government imposing what we can produce. Government regulations force boat makers to change their manufacturing processes.
- The education level of the workforce is changing as everyone has to adapt to government regulations.
- Government will want boat manufacturers to eventually go to closed systems (due to the volume of resin production) which will be costly. Big boats manufacturers already have mostly closed systems as they proportionally produce more resin.
- Due to regulations and earmarks, it's hard to develop land.
- There are a lot of antiquated laws. It is difficult to build anything over 165 feet because of these laws.

Insurance

- Florida State has an L&H program to assist the industry.
- WA State Labor and Industries (L&I) is often adversarial and doesn't provide much help.
    - However, WA is the only state in the union that has a public L&I – the rest of the states have private L&I.

What is happening in regards to innovation?

- We need a good engineering infrastructure to foster innovation. Boeing has sucked a lot of workforce, as the local boat building industry can't pay comparable salaries.
- The use of technologies such as AutoCad makes building simple but it also takes away the craftsmanship as people become less skilled at what they do. More and more we need to dumb things down for people on the floor.

What are the benefits of this region for the boat industry?

- This is a great place to live and you have the water. A lot of people (from all over North America) come here to see their boat being built and then buy land.
    - There is a direct link with the boat building industry to tourism and real estate.
- Base of people in the area who have experience (history) in boat building and repair.
- There is a strong work ethic in the Pacific NW.

Who are your competitors?

- Competitors are from all over the world:

  - One of the main competitors is China: the Chinese really limit the upper end of the prices we can charge for our products. However, the Chinese are not currently comparable on quality – but that will probably change over time.

  - In China, the government is putting a plan together to help the marine industry. The U.S. does not do that (i.e. help with advertising, marketing). Maybe the State Government needs to talk more about the growth of the industry. The State helps out Boeing a lot (i.e. tax breaks, subsidies) because they don't want them leaving Washington. Maybe we need a stronger lobbying arm.

  - Canada is also a strong competitor - some of their boats are half the price of ours. In the U.S. we are limited by the cost of benefits we pay our workers (more expense per employee). If you are providing health benefits, it really bites into profits (over the last two years the cost has gone up about 24 percent). It is hard to compete with countries that don't have that problem as they provide universal healthcare.

  - Malaysia, Taiwan, and Hong Kong are also strong competitors.

- Also a lot of competition from within the U.S. – Louisiana has a program that allows them to subsidize U.S. Long shore and Harbor (USL&H) coverage to give them a competitive advantage. This makes it hard to compete with them.

What are the infrastructure needs and gaps?

- We need another road coming into La Conner.

- Waterfront issues – Port of Bellingham was looking at putting down railroad tracks but then started looking at building condos instead. The boat industry (repair/manufacturing) doesn't produce the revenues per square foot as a high rise condominium.

- We need more marinas and docks in general as well as marinas and docks that can hold large boats.

  - This is also a regulatory issue. We need to change the laws. Right now we can put two 35 ft boats in one slip but not one 60 ft boat in the same slip.

  - There is no place in Anacortes to tie a 150 ft boats. So Anacortes is losing a lot of money due to this.

- Cities and Counties need to better understand the community's infrastructure needs.

How are the Economic Development Services?

- The State ignores the marine industry a lot of the time. The Governor failed to mention in the State of the State Address that there even is a boating industry.

  - It feels like the marine industry is just an afterthought. This is a marketing and communication issue.

- The State should start looking at the marine industry seriously and begin highlighting it to the general public so everyone sees that the industry is important.

  - Maybe this will help the public see that the boating industry can offer a viable career path.

- State needs to help more with training (*many of the attendees were unaware of the WorkSkill Training Center*).

- For those who go after government contracts, bonding is a big issue – this is important not just locally, but for the whole U.S Marine industry. Not many governments will deal with ship yards due to bad track records. We could use more assistance in obtaining bonding.

Are there any major supply issues?

- Our supply issues are the same here as in Tacoma. Suppliers come up quite quickly – we get pretty good service from all over the country and it's getting better.

- We are also looking more and more to international markets for supplies.

    - If you are buying stainless, you are probably buying it from China. A lot of glass is from China (don't see new glassmakers opening shop anymore in the U.S.).

    - We are getting more and more components from overseas. A lot of businesses are moving to China. More and more manufacturing is moving to cheaper venues with no environmental/labor laws. This could be a problem on the supply side if this trend continues.

- The one advantage to being here is that the suppliers are located in the bigger cities and they deliver right to our door (they don't do that when you live in the city).

- There is some difficulty with overseas supplies as the government ties up some goods in bondage for a while. Due to these regulations, goods can sit in a warehouse for months.

Do you outsource?

(Most attendees noted that most of the entire boat building process is done in-house and not outsourced.)

- We have tried outsourcing before, but we end up not being happy with the subcontractors as they do not have the same type of quality control.

    - To retain quality, everything is done in-house.

- The only reason you subcontract if for cost. There is a known fixed cost with a flat fee.

How would you describe the local boat and ship building industry?

- Most of the boat builders here are fiberglass products. From Vancouver to Bellingham there are several large manufacturers. If you want the best fiberglass boat, you come to the Pacific Northwest.

- Characteristic of the boat building industry here is quality, customer service, customer experience (i.e. visiting La Conner when tulips are out, stay in a bed & breakfast, etc.).

- There is also a strong metal manufacturing industry, but they tend to focus on work boats not recreational ones.

- The quality of welders and fabricators are relative higher here than the rest of the U.S. We have a lot of solicitation from the Gulf Coast states to expand out there as we have a good reputation.

What are the top things the study should look at?

- Workforce concerns
- Washington State should emphasize/market the marine industry
- Develop some kind of USL&H/bonding assistance for the marine industry
- Assistance by the State to act as a guarantor for bonding issues
- Not a lot of young people coming into the industry
- Math training needs
- Work closely with colleges and high school levels (and even junior high school) to expose kids to marine trades
- Environmental regulations – we need support rather than mandates
- Government program that will help us to create better recycling programs
- Colleges develop better welding programs
- Shortage of number of qualified applicants
- Increasing Hispanic workforce – specific issues and challenges
- Need more in safety training – instead of individual safety training, have a centralized training facility (lot cheaper) that offers a three day course
- Planning for water development and the docks
- Get youth to understand there is a future in this industry
- Facilities is a big issue
- State support throughout – advertising and marketing outside and inside the State
- State needs to invest in the industry - there are some great programs but requirements are so narrow that it's hard to meet criteria
- More economic development from Governor's office in the marine industry cluster

PORT OF ANACORTES FOCUS GROUP SUMMARY: FEBRUARY 13, 2007

What are the factors affecting business growth and expansion?

- The biggest challenges in Anacortes are trained personnel, and availability of land to build facilities.
- There is an issue with a single landowner sitting on a large parcel of industrially-zoned land, neither developing it nor willing to sell.
- One business owner is looking to move and expand, but cannot find the right parcel (to buy or lease) to meet their needs. We need both industrially-zoned land, appropriate buildings (that can handle large amounts of poser and data bandwidth).
- Need industrially-zoned land on the market. Can't force landowner to sell with WA laws.
- Behind workforce and land is more in-water space. Can't get approvals for in-water use.
- Buffer issue: Ecology/CTED: 100ft forested buffer along waters issue. Won't be flexible.
- A positive example is how the State dealt with eel-grass in Bellingham Bay.
- National Pollutant Discharge Elimination System (NPDES) permits from the federal Environmental Protection Agency are going to be an issue.
- Department of Ecology is issue number one, land is number two. Coming up are rules like the Western Hemisphere Travel Initiative's Real ID requirements—requiring a passport to enter the U.S.
- Need more boat access for lifting boats. Right now we go all the way to Bellingham, Seattle and Port Townsend to take large boats out of the water. Need bigger lift capacity (port has some, but not big enough).
- Need more trailer ramps and parking at boat ramps.
- Department of Labor & Industry and its rules are a problem. Expensive.

What are the benefits of locating businesses in and working in Anacortes?

- Good infrastructure to build boats.
- Anacortes has a focused group of businesses. Not a lot of other industries—marine is it. There is migration to here because of the industry.
- Employee base in town. One owner prefers to hire workers from Anacortes. But there needs to be a careful balance to keep it a livable place.
- High quality of employees. But cost of living is prohibitive for many people to live here. Many workers can't buy a house.
- Anacortes is close to Mount Vernon, which can act as a bedroom community for Anacortes' marine industry.

- However, there is a danger that businesses will relocate to where the workers are as commuting gets more expensive. Need to have a worker training center here in Anacortes—move the program currently on Whidbey Island up to Anacortes.

What are the areas of industry innovation?

- One company has a new hydraulic machine to pull boats in & out of the water. It can be used to put more boats in the same dry storage space.
- The City would like the State to be more innovative. For example: contaminated sediment— Trade cleanup for permits. State is inflexible on permits, while CTED is pushing for flexibility to encourage economic development.

What are the factors affecting business growth and expansion?

Workforce

- One small shop reports that none of his employees could afford to live here, even to rent the one rental property the owner has. It would be very hard to bring in young employees: they'll have to live a long way away and commute in, because the business can't pay them enough for them to live in town. There is already too much traffic in town—it is hard to get out of town between 4 and 5pm. This company has had traffic accidents when moving boats, even with flags.
- Bringing condos to the water would be a problem. Very large & heavy boats—bad for roads, bad for traffic. Better to have industrial land near the water, not move the boats a long ways.
- Affordable housing.
- Friday Harbor is worse than Anacortes when it comes to work ethic among youngsters. Has trouble finding summer labor at the wage rate he is willing to pay in both cities, but worse in Friday Harbor.
- One owner reports that the hardest thing about growing his business is getting good help. He personally went through Skagit Valley College's Marine Maintenance Technology training program. He wants people who have gone through school with a focus—those make good workers. He's behind retraining, getting new people into the workforce & trained as whatever, who can be useful at any kind of boat yard. Wants industrial waterfront. Wants recognition as a destination, not just Gateway to the San Juans. A pleasure boating mecca, acknowledged or not. Need support facilities & services to back that. A good time for the state/city/port to work out the future of the area.
- Is it possible to move the SVC MMT program to Anacortes from Whidbey Island?
- One business reports needing mechanical & electrical technicians.
- Most businesses are growing, so need more workers. All types.
- One owner reports that SVC MMT graduates don't have much direction. He needs people with specific interests & skills, but the program doesn't focus students.

- The advisory board for SVC MMT doesn't listen to the community/businesses on what the students should learn. The Northwest Center of Excellence for Marine Manufacturing & Technology is trying to change this.
- One owner reports good success hiring refrigeration technicians from Bellingham Technical College.

Economic Development

- The City of Anacortes reports there are currently several ideas for improving housing opportunities, including mixed retail/residential development; accessory dwelling units; and in-fill on big lots. But balancing to maintain quality of life.

Marketing/Communication

- The Anacortes Marine Trade Association is a help with marketing. Members of the group refer business to each other. It is one example of how the city's marine community works well together.
- There is a one-page directory of the local marine industry. It started four years ago for the Seattle Boat Show. Laura Hennessy did it for three years; no 4th year, but 2008 will be Howard Bean's daughter. Copies can be found at the port office—people get off their boat & pick up a copy.
- Full-service in Anacortes. Everything you need done to a boat can be done here.
- http://www.anacortesmarine.org/
- Watch the Canadian dollar—as it goes up, more work might come here.
- Sales tax on boats, take to Canada to avoid sales tax (45 days to ½ year) to have additional work. A bill in the Legislature would allow buyers to defer sales tax for 1 year after purchasing a permit. This would allow more add-on work to be done in-State for out-of-State owners. The Northwest Marine Trade Association is behind the bill.
- There are some 200 charter boats based in Anacortes each summer. Charter boats are used more than single-user privately-owned boats, meaning more business for the other businesses.

Are there any major supply chain issues?

- Anacortes is a big market, no problem getting supplies.
- Challenges with importing tropical hardwoods, and the softwood tariff with Canada, both drive up prices. As an industry, it is harder to get enough good wood.

Where is the competition located?

- Anacortes
- Local
- For yacht charters: Bellingham, north of Seattle, and Canada

- The Internet: since there is often less sales tax when people buy online, it is a challenge for local retailers
- Seattle
- Port Townsend—it has a big yard where projects can lay out for a long time. (For local boat-owners, it is harder to work on their own boats. Issues of space, but also environmental issues.)

What are the top things the study should look at?

- Taxes and permits
- State Department of Ecology regulations and permitting process (4)
- Regulations—designed for big businesses, don't work for small businesses
- Qualified personnel
- Moorage
- People
- Work space
- State/DOE
- Training
- Land (3)
- Land & buildings
- Growth—tax bite, regulations, bureaucracy
- Large scale, waterfront-accessible industrially zoned space
- Encroachment—land prices, views, housing. Airport has trouble, too. Gentrification: noise, smells, lights, traffic
- Buildable marine land
- Gasoline prices
- Qualified help
- In-water boat space
- Dock space—moorage prices are quite high compared to Seattle

PORT OF BELLINGHAM FOCUS GROUP SUMMARY: FEBRUARY 13, 2007

What are the factors affecting business growth and expansion?

- Overall, a major factor impacting growth is the general economy in the U.S. As the housing market falls, fewer people are taking equity out of their homes and putting it into purchasing a boat.
- Louisiana has a program to help builders obtain bonding. Because we build over 65 feet, we have restrictions. We have a problem with the State as they take almost an adversarial role (they try to shove off everything in the L&H program – which make it very expensive). The Louisiana businesses have some of their L&I rates subsidized.
- We are a service and dealer. The storage of boats is the biggest issue for us. We see a need here for more storage– not just moorage but dry land storage.
- It would be helpful if we could more centralize a boating area (where people can get fiberglass done, electrical work done). You end up taking boats all over the place for repair.
- We rent land for construction projects (mostly local contractors). We rent to about 15 businesses (all marine related) on our property. We have a short lease with the City and Port and that impacts what we want (and can) do at the facility.

Where are your customers, suppliers, and competitors?

- Our customers come from France Italy, Germany, U.S. and Canada.
- We have one direct competitor that replicates what we offer, which is headquartered out of New Zealand. There are also a few indirect competitors in Florida and the North East whom make just a portion of the products we offer.
- We are second largest company building conveyors like this in the world. Right now we are working with some government agencies to build a SeaLift that can haul up to 100 tons. We do a lot of work for cities in Washington, Alaska, and even Florida (i.e. helping pull boats out of the water in hurricanes).
- We have a lot of government contracts, but also deal with the private sector.
- Our current customer base is mainland U.S. and Alaska. A lot of customers are government (from local to federal level). It seems that more and more of our customer base is becoming government. We are also seeing a lot of inquiries from outside the U.S. in the last year as a lot of countries are thinking more and more about homeland security (our products are ideal for this type of work).
- Most of our market is the tour operations business (a third is government and research). We have quite a few competitors in the Gulf Coast States.
- Because of the Jones Act, a lot of competitors are in the U.S. It's hard to compete with out type of craft overseas as the vessels we build require bonding. It is extremely difficult and expensive for shipyards to get bonding insurance.

- Most of our customers are local and in Alaska. We do a fair amount of government work (coast guard work) in terms of service. We also have some private customers (in fishing and construction companies).

- We are a land management type company. We own 14 acres on the waterfront. The majority of our boat customers are local although we do some work out of Alaska and Canada.

Infrastructure –what are the needs and gaps?

- We build some large pieces of equipment which is hard to move across five lanes of traffic. The roundabouts are going in are going to be problematic. We contract with trucking firms. The problem is the roads. It's hard to ship a 100 ton system (176 ft wide and 80 ft long).

- Boat launch parking is an issue during the summer months. If they can't use their boats it doesn't help any of us.

- Direct access to the water is an issue. We have to rely on another company's availability and schedule. We lose a lot of flexibility in our operation as a result as not having direct water access.

- We nee more access to the water. We launch on ramps to test boat and there is limited access.

Are there any supply chain issues?

- Industry average is about 14 weeks for major driver type components and gear boxes. For sand casting everyone is going over seas. Suppliers are often from overseas.

- Some of our suppliers are from Langley Canada and Asia. We use a lot of copper that comes from Thailand.

- We have about 3-5 steel trucks coming in every day. Some of it is American (Morris, All American Steel), but 50-70% is from China, and Korea. Things are assembled in the USA but the parts are from abroad.

- The clearance in the Port of Portland is a lot quicker than in Seattle (although I don't know why).

- There is a great local supply chain for small marine bases type components (i.e. electrical). However, a lot of foreign made and processed aluminum comes from China. A lot of other marine related parts come from New Zealand and Australia (certain types of mufflers, marine type of seeding, certain type of ceiling headliners systems).

- Companies here are used to seeing supplies coming from abroad (especially larger parts such as engines, transmissions, sonar equipment etc). The lead time for U.S. manufacturers are getting longer and longer. Any company that manufactures these types of items is experiencing labor shortages. That creates longer time in lead time in getting major components.

- We buy some aluminum out of Canada (but it really is from China).

- Mostly we get aluminum here (Seattle) and in Canada (B.C.). We often go to B.C. to form large pieces of aluminum due the limitations on the size of our machine.

How are the economic development services?

- I would like the State to look at other states (particularly in the Gulf Coast) to see what they are doing to help the marine manufacturing industry. They appear to be limiting some of the costs to entering/competing in the marketplace. We get calls from Mississippi and Alabama to relocate there quite often.
- The industry should spend time marketing itself so people look at the Pacific Northwest as an attractive area for boat building. Also try to open up the eyes of youth that this is a good areaas a career.
- Trying to find experienced people is tough. Whatcom County is a farm based industry (we all have a farming background). Bellingham Technical College has done a great job with their welding program. My dad and I went to Bellingham Tech School. It has a really great program.
- We need small assembly skills –but it is still hard to get good people. We are tied very heavily to recreational industry – so we are seasonal. In December, that is when our low season hits. During that time we rely heavily on contract business. The way the employment law is worked it is hard to get a person to work full time for six months. Maybe the State can help with this.l

What are the top things the study should look at?

- State needs to make it easier for local businesses in regarded to taxes and regulations.
- The environmental problems (i.e. working on the water in a boatyard) are very challenging.
- We should see if tech schools have a lot of people in their programs as we can't seem to find qualified people.
- They don't push kids in school to go into the trades.
- Change tax structure and labor regulations
- Need labor to design boats (engineers etc).
- There isn't much of a marine architect base to draw on. Perhaps there should be a marine architecture program or marine engineering program (as opposed to just a general degree).
- Need greater access to water. We are 100 feet from the water and it cost us $27,000 to get us into the water every launch.
- I don't want the State to run our business for us and subsidize everything. However, we would like to see State government agencies being more pro-active towards businesses. For example, there is an employee tax credit for businesses in rural areas, but it so restrictive and hard to use. The State focuses less on intent and more on making sure everyone is following law 100%

ATTACHMENT C

Ship and Boat Building Definitions

KEY DEFINITIONS

Difference between a Boat and a Ship:

As defined by the Oxford English Dictionary, the distinction between ships and boats is that a ship is a square-rigged craft with at least three masts, and a boat isn't. With regard to motorized craft, a ship is a large vessel intended for oceangoing or at least deep-water transport, and a boat is anything else.

Types of Boat and Ships Manufactured Within the Region

Cargo Ship or Freighter: any sort of ship or vessel that carries cargo, goods and materials from one port to another. Cargo ships are usually specially designed for the task, being equipped with cranes and other mechanisms to load and unload, and come in all sizes.

Catamaran: a type of boat or ship consisting of two hulls joined by a frame. Catamarans can be sail or engine-powered.

Cruise Ship: a passenger ship used for pleasure voyages, where the voyage itself and the ship's amenities are considered an essential part of the experience.

Ferry: a form of transport, usually a boat or ship, but also other forms, carrying (or *ferrying*) passengers and sometimes their vehicles. Ferries are also used to transport freight (in lorries and sometimes unpowered freight containers) and even railroad cars.

Fireboat: a specialized watercraft, often resembling a tugboat, with pumps and nozzles designed for fighting shoreline and shipboard fires. They are particularly useful for fighting fires on docks and shore side warehouses as they can directly attack fires in the supporting underpinnings of these structures.

Landing Craft: boats and seagoing vehicles used to convey a landing force (infantry and vehicles) from the sea to the shore during an amphibious assault.

Passenger Ship: a ship whose primary function is to carry passengers. The category does not include cargo vessels which have accommodations for limited numbers of passengers, such as the ubiquitous twelve-passenger freighters once common on the seas in which the transport of passengers is secondary to the carriage of freight.

Pilothouse Boat: a boat with enclosed pilothouse that often serves as inland waterway cruisers, river cruisers and intercoastal waterway cruisers as well as being very well suited to fishing and fair weather offshore boating.

Skiffs: a flatbottom open boat of shallow draft, having a pointed bow and a square stern and propelled by oars, sail, or motor.

Trawler: a fishing vessel designed for the purpose of operating a trawl, a type of fishing net that is dragged along the bottom of the sea (or sometimes above the bottom at a specified depth). A trawler can also refer to a cruising trawler which is a recreational boat so named because it resembles a fishing trawler.

Tugboat: a boat used to maneuver, primarily by towing or pushing other vessels (see shipping) in harbors, over the open sea or through rivers and canals. They are also used to tow barges, disabled ships, or other equipment like towboats. A tugboat can also refer to a recreational boat that resembles a tug in shape but is not capable of or designed for towing.

Yacht: defined as any of various relatively small sailing or motor-driven vessels, generally with smart graceful lines, used for pleasure cruises or racing. Often, non-sailing yachts are also referred to as motor yachts, to differentiate them from yachts designed for use with sail power.