

pacifcgateway

BIGGER CRANES FOR THE BIGGEST SHIPS

Modernizing terminals and growing
capacity for the future

MORE SERVICES, SUPERIOR SERVICE

Delivering best-in-class service
with new shipping routes and
customer outreach

ROOTS OF THE SEATTLE-TACOMA PARTNERSHIP

Legacy of two ports
working together



FROM THE CEO



Earlier this year, we completed the Pier 4 reconfiguration project in our South Harbor on time and under budget and accepted four brand-new super-post-Panamax cranes, among the tallest on the West Coast. Four more cranes are currently in production in China with expected delivery in 2019. Additionally, the U.S. Army Corps of Engineers issued a Chief's Report recommending the deepening of waterways serving our North Harbor, clearing the way to make it one of the deepest container ports in the nation at 57 feet deep.

In these pages, you'll learn about how these modernization projects are reshaping our waterfront and expanding our capability to serve larger ships entering the trans-Pacific trade.

Keeping these major milestones in mind, we're also faced with the changes occurring within the shipping industry. Making massive infrastructure investments is no longer enough; we need to think about how to use that infrastructure more efficiently and cost effectively.

As the industry continues to change at an unprecedented pace, now is the time to lean into innovations that drive continuous improvement and pave the way for the future. As we strive to deliver next-level service to our customers, we recognize the need to proactively transform how we perform business across every aspect of the supply chain.

I was encouraged by the robust discussion around technology used to increase visibility across the supply chain at the

Agriculture Transportation Coalition's annual meeting in June. We helped welcome nearly 500 attendees to Tacoma, home of our South Harbor facilities. This was the first time the meeting was held in the Puget Sound region.

Innovation also relies on talent — smart, creative people prepared to take on new challenges. In this issue, we'll introduce you to Scott Pattison, who brings a wealth of knowledge around the domestic market, including our trade relationship with Alaska.

In 2011, the Port of Seattle marked the 100th anniversary of its founding, while the Port of Tacoma is celebrating its centennial this year. We look back at how the two ports have put aside their rivalry and worked together over the past decades on various projects, including promoting our gateway, securing our terminals and reducing our environmental footprint. The collaborative effort embraced by the past leaders, stakeholders and customers is one of the reasons why The Northwest Seaport Alliance is successful today.

And we're just getting started.

John Wolfe
Chief Executive Officer, The Northwest Seaport Alliance

On the cover: The arrival of the new cranes helped highlight how the NWSA is making major investments in keeping our terminals — and our region's global economy — competitive into the future.



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Chief executive officer

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NEWS BRIEFS



Washington Gov. Jay Inslee (center) helped break ground on the first phase of the Port of Tacoma Road Interchange Project in July.



The stormwater treatment system at Tacoma's North Intermodal Yard helped achieve a 95 percent reduction in zinc and copper.



The Port of Seattle kicked off its cruise season with the arrival of the 4,000-passenger Norwegian Cruise Line *Bliss*, the largest cruise vessel on the West Coast. Photo courtesy of Port of Seattle

NWSA launches new awards program

The NWSA rolled out the North Star Awards program this summer to recognize and reward partners in our gateway for outstanding business and environmental achievement. The nomination period closed in August, and the winners will be announced at our Annual Breakfast next spring. Learn more at nwseaportalliance.com/northstar

Port of Tacoma Road Interchange Project breaks ground

Joined by Washington Gov. Jay Inslee, Port of Tacoma commissioners and other local leaders, the City of Fife celebrated the groundbreaking of the first phase of the Port of Tacoma Road Interchange Project in July. The \$42.5 million project will improve freight and truck operations between the Port of Tacoma and Interstate 5.

NWSA earns awards for sustainability and customer service

The NWSA's commitment to reducing seaport-related emissions through the Northwest Ports Clean Air Strategy and its innovative solutions for managing stormwater runoff have earned *Inbound Logistics* magazine's 75 Green Supply Chain Partner honors for the second consecutive year. One of eight U.S. port authorities selected, the NWSA achieved a 95 percent reduction in stormwater zinc and copper at rail terminal operations; and reduced diesel emissions 47 percent from trucks, 51 percent from trains, and 88 percent from ships.

The NWSA ranked second overall in the U.S. West Coast category in *Logistics Management's* 2018 Quest for Quality Awards. Winners were selected by using five criteria: ease of doing business, value, ocean carrier network, intermodal network, and equipment and operations. A port had to receive at least 5 percent of the category vote to win. The NWSA was one of only four West Coast ports to reach that threshold.

NWSA's website gets a makeover

The NWSA launched a refreshed version of its website earlier this year to create a more streamlined user experience. This latest version takes advantage of advances in technology to reduce the number of clicks necessary to access databases of facilities, vessel and terminal schedules, gate cameras, trucker resources and other information. These enhancements were based on the valuable feedback we received from our customers.



The NWSA's latest version of the website features a more streamlined user experience.

HOMEPORT NEWS

Seattle cruise business continues to grow

The Port of Seattle will wrap up its biggest cruise season with more than one million passengers moving through its cruise terminals in 2018. The cruise season started with the spectacular arrival of the 4,000-passenger Norwegian Cruise Line *Bliss*, the largest cruise vessel on the West Coast, made especially for the Alaska cruise market. Due to strong demand, the Port of Seattle next year expects not only the *Bliss's* sister ship *Joy*, but the 5,000-passenger Royal Caribbean *Ovation of the Seas*. The Seattle cruise industry is a major economic driver for the region, providing more than 4,000 jobs and over \$500 million into the region's economy each season.

Port of Tacoma adds WW Solutions for auto processing facility

The Port of Tacoma commissioners approved a 30-year lease with Wallenius Wilhelmsen Solutions to develop an auto processing facility at its 90-acre property in Tacoma. The NWSA Managing Members also approved a 10-year vessel services agreement to set the rates for the breakbulk services, managed by the alliance. The \$35 million facility is expected to process up to 100,000 vehicles a year, most of which will be bound for the local market or transported by rail to the U.S. Midwest.



Wallenius Wilhelmsen Solutions' facility at the Port of Tacoma is expected to process up to 100,000 vehicles a year.

SCOTT PATTISON

How the NWSA's Alaska expert began at the bottom of the barrel

Fifth-generation Seattleite Scott Pattison remembers watching the ships on Elliott Bay with his great-grandmother when he was 6 years old.

"Do you know the difference between Spokane and Seattle?" she asked. "Seattle has a deep water harbor and Spokane doesn't," emphasizing the city's connection with the rest of the world.

Pattison said that's when he got the idea to work at the port someday.

As a senior manager for NWSA's business development team, Pattison is focused on the domestic market: Alaska, Hawaii and California. In fact, when he joined the NWSA in 2015, he suggested the domestic trade be separate from international markets.

"It's completely different," he said. "The domestic market has a much greater economic impact on the region per container because most of the goods in domestic containers are purchased in Puget Sound. They are not just passing through the region."

Pattison's job is a combination of operations, marketing and business development. His work includes real estate transactions, terminal operations, assisting domestic carriers and competitive research.

Mike Campagnaro, the NWSA's director of real estate, said Pattison brings an unparalleled perspective to the organization.

"Scott is extremely knowledgeable about the maritime industry. He's got so many stories dating back to his time

working in Alaska, which helps us connect with our customers who live in a truly unique part of the world," Campagnaro said.

Pattison's Alaska education started more than four decades ago when he was determined to find a way to pay for his own tuition at the University of Washington in Seattle.

Long fascinated with tugboats, he cold-called the president of a tug company and asked for a summer job on tugs. Instead, he was offered a job with a tug company based in Kotzebue, an arctic village in Alaska. His first job was cleaning 55-gallon drums with a wire brush and filling them with heating fuel.

"I started in this industry, literally, at the bottom of the barrel," said Pattison, who spent four summers working for Crowley on tugs, barges and the docks in arctic Alaska. He went on to work for Alaska Marine Lines, Lynden Incorporated and, after earning an MBA, Sea-Land Service before joining the Port of Seattle in 1992.

Estimated at \$5.4 billion annually, Alaska is our region's fourth-largest trading partner — ranking behind China, Japan and Korea.

"Alaska is a very important trade partner with the alliance," he said. "Most Alaska cargo either originates or terminates in Puget Sound — that's a huge economic impact to this region."

Just about everything Alaskans eat, wear, live in or ride moves through our gateway.

Ninety percent of all cargo transported to Alaska from Seattle and Tacoma goes by container, roll-on/roll-off ship or by tug and barge. Anchorage, Kodiak and Dutch Harbor are the three major deep-water ports that can support big container ships.

"Everywhere else is served by barges that don't require major port facilities. For example, on the Kuskokwim and Yukon rivers, barges literally tie off along the dirt riverbanks to deliver supplies to subsistence villages," Pattison said.

Pattison says his connection to Alaska has helped him learn the business and build trusting relationships. And a trading partner as important as Alaska must be nurtured — especially while its economy works through uncertain times due in part to a soft oil market.

"We believe the Alaska market will start to bounce back," Pattison said. "There are some major projects being contemplated. If one of these goes through, it will create significant volume for the Puget Sound region."

After all those years in the maritime industry, Pattison sees The Northwest Seaport Alliance adding a new dimension to our regional support of the Alaskan economy.

"It's really energizing being in the alliance," he said. "The entire team is comprised of outstanding individuals. I'm learning lots and enjoy forging new relationships." ■

ALL ABOUT SCOTT PATTISON

HOMETOWN
Seattle, Washington

FAMILY MAN
Married for 28 years, Pattison is incredibly proud of his wife, a primary care physician, and their two adult children. His son studies chemical engineering at the University of Washington. His daughter graduated from Yale University and works in management consulting in Boston.

BOYS IN THE BOAT
He built a 26-foot, 34-pound racing shell when he was in high school by receiving lots of tips and advice from George Yeoman Pocock, who famously built the UW boat that won a gold medal in the 1936 Summer Olympics in Berlin.

BEST ADVICE
One summer in Alaska, a tugboat captain said, "Get a college degree. But keep coming up here every summer to learn the business, too. A lot of people who have degrees never worked on the docks and on boats; and a lot of people who are experienced in operations don't have degrees. It's good to have both."

LOCAL LEGACY
Pattison's great-great-grandfather John McGraw arrived penniless in Seattle in 1876. He became the Seattle Police Chief, King County Sheriff, second governor of Washington and was instrumental in the development of the Lake Washington Ship Canal.

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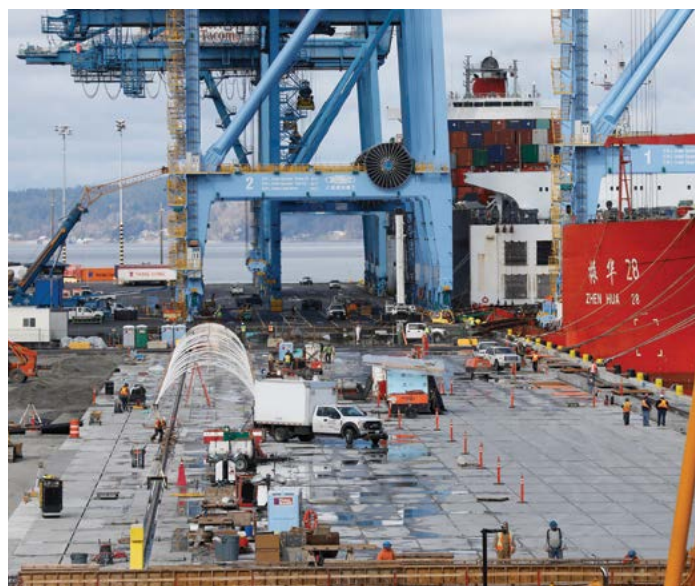
BUILDING FOR THE FUTURE: BIGGER CRANES FOR THE BIGGEST SHIPS



After more than six years of planning and investments, the new cranes expand the NWSA's big-ship handling capacity.

Four new cranes — each as tall as the Statue of Liberty — arrived safely at the South Harbor earlier this year, along with the capability to serve the largest container ships in the world.

“This is a huge improvement for The Northwest Seaport Alliance,” said Trevor Thornsley, the senior project manager overseeing \$266 million in upgrades at our South Harbor’s Husky Terminal. “There’s no limit, basically, to what we can do with these cranes, as far as the vessel sizes. So we’re set up here for the future.”



The reconfigured Husky Terminal on Tacoma's General Central Peninsula features a contiguous berth capable of serving two 18,000-TEU container ships.

An expansion of the Panama Canal in 2016 opened the waterway to ships that can carry more than 14,000 containers each. Of the 6,100 container vessels operating worldwide, more than 450 now have capacity exceeding 10,000 twenty-foot equivalent units (TEUs), according to maritime research firms Alphaliner and DynaLiners. Another 129 ultra-large container ships are on order through 2020.

Visible from miles away, the South Harbor's new cranes highlight more than six years of planning and investments to make the NWSA ready for this new generation of big ships.

A TALL ORDER

Shanghai Zhenhua Heavy Industries Co. Ltd. (ZPMC) won a competitive bid to assemble eight cranes for the

NWSA that incorporate operator cabs, brake systems and electronics from Europe. No U.S. company currently produces large container cranes, and ZPMC holds 70 percent of the global market for this specialized equipment.

Alliance personnel and consultants made frequent trips to China to monitor ZPMC's work, most of which took place at a plant outside Shanghai that employs about 10,000 people.

"Their managers were very proud of their factory, and it showed," said Joe Caldwell, Port of Tacoma's maintenance project manager. All the same, he relied on the port's team of structural, design and electrical engineers to scrutinize the work at each stage of assembly. "We wanted to get hands-on with our own inspections as much as possible to ensure the integrity of the structures."

Journeyman electricians and mechanics also made trips to China, as did long-shore representatives who suggested changes be implemented to make the operator cabs more efficient.

Building the first four cranes took about one year and wrapped up in January 2018. Before leaving the plant, they underwent a series of owner-acceptance tests of their various movements, weight capacities and endurance. From there, ZPMC welded the cranes to the frame of a specially designed heavy-lift ship.

After a brief weather delay, the cranes made their journey across the Pacific to Tacoma, Washington, where they were carefully pulled from the ship's deck onto the newly laid crane rails of Pier 4.

PREPARING THE PIER

Before the cranes arrived in February, the NWSA faced the challenge of creating a contiguous berth at Husky Terminal's Pier 3 and Pier 4 in the South Harbor that was capable of docking two 18,000-TEU container ships.

"Both of these projects are massive," Thornsley said.

Design of the pier began in 2012, and construction commenced in 2016. General contractor Manson Construction Co. and other local subcontractors and suppliers worked together on realigning the two piers to create a 2,960-foot contiguous pier. Upon demolishing most of Pier 4 and dredging nearly half a million cubic yards of material, crews drove 1,245 concrete piles into the seabed to support the new concrete pier

structure. The existing and new pier are now capable of berthing two ultra-large container ships. At the same time, Washington Patriot Construction erected a 6,700-square-foot marine building that includes offices and break facilities for longshore workers.

The cranes were delivered to the new section of the pier, making it all the more crucial to hit construction milestones on time, Thornsley said. Some of the last tasks included installation of just over half a mile of crane rail, utility work and paving that laid down 22,220 tons of asphalt. With both the pier construction and the first four cranes delivered, the realignment project wrapped up on time and \$16.1 million under budget.

With the cranes in place, the next step was another round of testing on-site. This involved lifting and moving a

65-ton load, over and over again, for 24 hours. Port maintenance employees monitored throughout, along with ZPMC representatives who troubleshooting any issues that occurred during the first 12 hours.

"We were trying to break it," said Thornsley. "If it can live through this 24-hour test, it can certainly live through normal operations."

NWSA turned over the big-ship ready Pier 4 to Husky Terminal in April and the cranes in late July after commissioning and longshore training were completed.

LESSONS LEARNED

In June 2017, the NWSA's Managing Members gave final approval to order the second set of four cranes from ZPMC. Their assembly is underway,



Thanks to the new cranes' 165-foot lift height and ability to reach across 24 containers, Hapag-Lloyd's *Kyoto Express* berthed at Husky Terminal in August without any stow restrictions.

“There’s no limit, basically, to what we can do with these cranes, as far as the vessel sizes. So we’re set up here for the future.”

Trevor Thornsley, senior project manager
Port of Tacoma

and the NWSA is applying all of its knowledge from the first delivery as it monitors the work.

Just as it did with the first four cranes, the alliance and Port of Tacoma staff flew to China to inspect the progress of the fabrication multiple times this year. The final four cranes are scheduled to arrive in Tacoma in February 2019.

When they do, the NWSA will be among the best-equipped port facilities in the country for ultra-large container ships.

Even as Pier 4 was under construction, the nearly 13,000-TEU *MSC Laurence* called at Seattle’s Terminal 46 in April. Prior to that, the *CMA CGM Benjamin Franklin* — the largest container vessel to ever visit the United States — berthed at Terminal 18. It boasts a capacity of 18,000 TEUs. To put that in perspective, a container ship that size is about 100 feet longer than the U.S. Navy’s largest aircraft carrier.

Attracting ultra-large ships like these offers new avenues for economic growth in the Pacific Northwest and demonstrates the NWSA’s commitment to preparing its terminals for decades to come.

Considering the scale of the Husky Terminal Modernization Project and the new cranes that will work there, Caldwell said, “It is an astonishing feat, that’s for sure.”

FEDERAL GOVERNMENT PREPARED TO MAKE PORT OF SEATTLE THE COUNTRY’S DEEPEST

Husky Terminal isn’t the only place where The Northwest Seaport Alliance is preparing for the super-post-Panamax future. In June, the U.S. Army Corps of Engineers finalized a multi-year feasibility study that cleared the way for dredging in the North Harbor.

“This project will make the Port of Seattle the deepest container port in the nation, at 57 feet deep,” said Courtney Gregoire, Port of Seattle commission president and co-chair of The Northwest Seaport Alliance.

Puget Sound enjoys a natural advantage over other gateways for large vessels, thanks to its depth. But years of shoaling made the channels in the North Harbor shallower, causing tidal delays for some ships. What’s more, said NWSA Chief Commercial Officer and Chief Strategy Officer Tong Zhu, the Port of Seattle realized several years ago that expanding container ship sizes would require depths at the facility greater than the 34 feet to 51 feet currently authorized by the Corps.

In 2014, the port successfully petitioned the Corps and Congress for a \$3 million feasibility study that was completed in June. The Port of Seattle contributed 50 percent of the cost, including in-kind contributions such as sediment sampling, contract management, economic research and public outreach. Roughly a dozen NWSA team members have contributed to the project. Construction is on track to

be authorized in this year’s Water Resources Development Act, which Congress is scheduled to pass this fall.

Navigation improvements in the East Waterway would come after a separate initiative overseen by the Environmental Protection Agency to remove pollutants from the waterway. That project is nearing the end of its feasibility-study stage. The resulting cleanup will remove much of the material needed to deepen the waterway before the Corps project dredges the rest. Meanwhile, the NWSA will prepare the infrastructure at Terminal 5 for super-post-Panamax ships.

The alliance also is working to ensure the new wharf in Tacoma will reach its full potential serving the world’s largest container vessels. The Corps’ work plan for fiscal year 2018 calls for a study on deepening the Blair and Sitcum waterways in the South Harbor, which currently are authorized at 51 feet. The berth for the newly reconstructed Pier 4 can be dredged to 57 feet, and NWSA seeks a channel of comparable depth.

“As we looked at the evolution of the shipping industry, the ship sizes and the amount of time it takes to complete such a project, we felt it prudent to begin the process with the Corps to study the feasibility of deepening the channel,” Zhu said. ■



The Seattle Harbor deepening project proposal includes deepening the East and West waterways to 57 feet, making it the deepest container port in the nation.

CLEANING UP THE AIR

As the fourth-largest container gateway in North America, The Northwest Seaport Alliance is committed to responsible, sustainable growth that extends beyond our customers to the communities where our ports reside. To help guide our future emissions reduction investments, the Puget Sound Maritime Air Forum’s emissions inventory measures air emissions from maritime-related equipment operating in the Puget Sound region every five years. Compared to the 2005 baseline and 2011 inventories, the 2016 report* showed a significant decrease in air pollution related to NWSA operations.

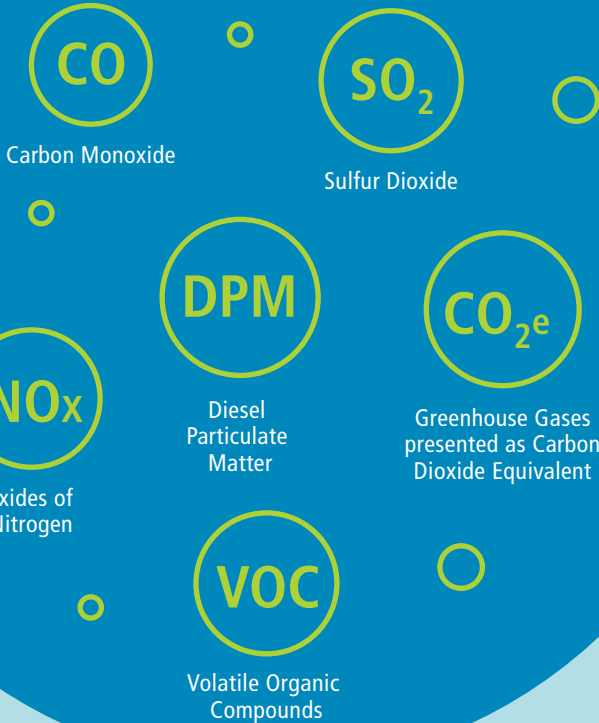
Read the full report:
www.pugetsoundmaritimeairforum.org

FINDINGS



Much of the clean air progress is due to more stringent fuel and engine standards and voluntary investments in newer, cleaner-burning equipment and vehicles, shore power for ships and efficiencies that reduce truck and train idling.

AIR POLLUTANTS



NORTHWEST PORTS CLEAN AIR STRATEGY



In 2008, the ports of Tacoma, Seattle and Vancouver, B.C., adopted the Northwest Ports Clean Air Strategy, a groundbreaking initiative to reduce seaport-related air emissions in the region.

The air strategy calls out two main goals by 2020 relative to the 2005 baseline:

- DIESEL PARTICULATE MATTER: 80 percent reduction per ton of cargo
- GREENHOUSE GASES: 15 percent reduction per ton of cargo

The Northwest Seaport Alliance maritime-related emissions within the airshed** (2005-2016)

POLLUTANT	OCEAN-GOING VESSELS	COMMERCIAL HARBOR VESSELS	LOCOMOTIVES	CARGO-HANDLING EQUIPMENT	TRUCKS	OVERALL	NORMALIZED PER TON OF CARGO
CO	-23%	24%	-30%	-56%	-53%	-36%	-34%
CO ₂ e	-27%	4%	-23%	-38%	9%	-20%	-17%
DPM	-88%	-26%	-51%	-68%	-47%	-81%	-80%
NO _x	-28%	-1%	-54%	-60%	-52%	-35%	-33%
SO ₂	-97%	-99%	-100%	-99%	-88%	-97%	-97%
VOC	-41%	-1%	-47%	-56%	-56%	-45%	-43%

Airshed emissions in tons/year diesel particulate matter (2005-2016 per category)

	OCEAN-GOING VESSELS	COMMERCIAL HARBOR VESSELS	TRUCKS	LOCOMOTIVES	CARGO-HANDLING EQUIPMENT
2005	868	18	89	53	42
2011	622	15	66	37	24
2016	105	13	47	26	13
TOTAL REDUCTION	-88%	-26%	-47%	-51%	-68%

*Because the ports of Tacoma and Seattle launched the NWSA in 2015, the report compares NWSA's emissions from activities in 2016 to what would have been included in 2005 in both harbors if the alliance had been in place.
**The study area covered the U.S. portion of Puget Sound/Georgia Basin International Airshed, an area about 140 miles long by 160 miles wide.



MORE SERVICES, SUPERIOR SERVICE

New shipping routes and ongoing outreach keep NWSA competitive

The Northwest Seaport Alliance stays competitive by cultivating business connections and making the most of its partners' access to foreign markets. So far in 2018, the NWSA reported progress in these areas:

NEW ASIA SERVICE AT TERMINAL 18

South Korean carrier SM Line introduced a new service at the North Harbor in May bringing vessels up to 4,300 TEU each week. SM Line's Pacific Northwest Service (PNS) offers direct calls from South and Central China and Korea for imports. It also offers a valuable export route to Tokyo and other Asian destinations for Pacific Northwest commodities like hay, apples and frozen french fries.

The NWSA's facilities also offered advantages over other ports. These include terminals capable of handling diverse cargo types, minimal draft restrictions, two Class I railroads with connections to the Midwest and substantial transload capacity at nearby warehouses.

Elsewhere in the North and South harbors, terminals continue to experience changes in services and schedules resulting from last year's consolidation of major ocean carriers into three alliances that now control 95 percent of the Asian container market.

The 2M Alliance, for example, replaced its TP1 service in Seattle with the higher-volume TP9 route. Likewise, services in the South Harbor have seen an increase in vessel size this year. These include THE Alliance's PN2 service, as well as the Ocean Alliance's PNW and PSW strings.

NWSA PORTS SERVING PORTLAND

The NWSA doesn't limit its outreach to stakeholders at the terminals or in the Seattle and Tacoma regions. The alliance recently gave an in-depth tour of its ports to beneficial cargo owners (BCOs) from Oregon, which has seen its container service severely curtailed in recent years.

The Port of Portland lost nearly all of its container services when two major carriers stopped operations there in 2015. Many agricultural products from Oregon's Willamette Valley are sold abroad, making NWSA a valuable gateway for the region.

Jeff Brubach, NWSA's business development manager, makes trips to Portland once or twice monthly to talk with different shippers and find ways to make their goods move more efficiently. As part of that outreach, the alliance partnered with drayage business Portland Container to show BCOs exactly how their cargo makes the transition from

land to sea. Fifty representatives from various industries made the trip in July to view operations at both harbors.

Much of the feedback gathered from the BCOs focused on truck turn times, gate processes and efforts to process cargo quicker. They also found it useful to see firsthand what's happening when their containers are waiting to be moved, Brubach said.

PLANNING FOR PEAK SEASON AND BEYOND

The alliance held its third annual peak planning meeting in May to prepare for the busy season that runs from August through October for imports and from October through March for exports.

This year's event brought together 150 representatives from the many diverse shippers that rely on the ports as well as the service providers that work in the gateway.

The NWSA launched this annual event to help the local supply chain better collaborate on best practices to increase efficiency and respond to customers' changing needs during the most critical time of the year. The meeting aligns with the NWSA's objective to be an efficient and customer-focused gateway.

In advance of the meeting, shippers completed a survey and forecast exercise to help guide discussions at the planning meeting and ensure topics of interest were addressed.

Most of the importers who responded to the survey forecasted to be busier than last year. And while exporters expressed similar optimism in general, many expressed concerns about the effects of tariffs.

Regardless of how economic conditions pan out, the alliance and its partners laid out the best ways to ready the gateway for peak volume. Discussions touched on a variety of topics including street-turn opportunities, off-dock yards for containers and the potential for dedicated services at the marine terminals for imports and exports.

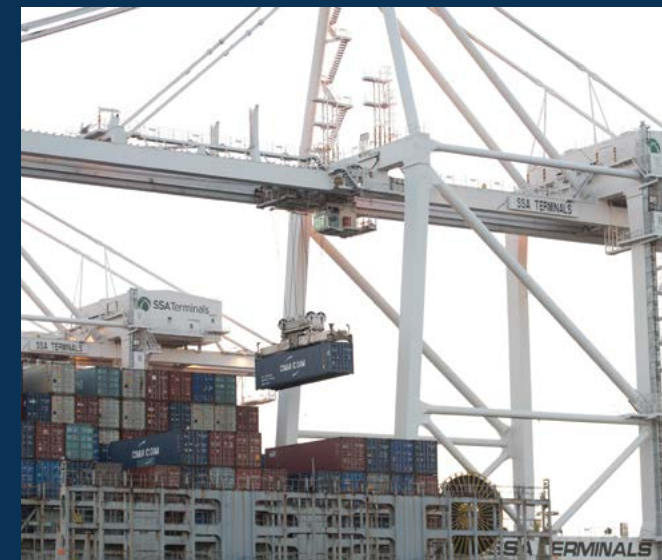
Participants engaged in lengthy discussions on various issues and learned firsthand the different challenges faced by each member of the complex supply chain.

A few weeks after this gathering, the meeting feedback was shared with the NWSA's Executive Advisory Council (EAC) to incorporate key topics into its long-term goals for the alliance.

The EAC members, which include terminal operators, labor and ocean carriers, shippers and truckers prioritized efforts beyond the annual peak planning process to smooth out demand for port facilities. This group will use the feedback to focus their efforts on areas that will have the greatest impact to improve service levels at the NWSA. ■

Left: South Korean carrier SM Line offers direct calls from south and central China and Korea for imports, in addition to export services to Tokyo and other Asian destinations.

Top right: Members of the NWSA's Executive Advisory Council incorporated feedback received at the peak planning meeting to set long-term goals for the alliance.



CONTINUOUS OPERATIONS BOOST PRODUCTIVITY

SSA Marine's Terminal 18 in the North Harbor and ILWU Local 19 longshore workers tried a new staffing plan this spring that improved both gate performance and vessel productivity. The terminal began operating continuously during the workday by staggering workers' break schedules. In one instance, longshore workers moved 5,500 containers on and off a single ship in April while maintaining an average of 30 crane moves per hour. Other terminals have taken note and are exploring similar arrangements.

PACIFIC NORTHWEST IS TOPS IN HOPS



Fertile soils, plentiful irrigation water and multi-generational family farms have helped Washington, Oregon and Idaho grow nearly 97 percent of the hops in the United States.



Photos courtesy of Hop Growers of America



As the world's appetite for craft beers continues to grow, we're proud to be the largest export gateway for hops.

Whether you like an IPA with a heavy, hoppy flavor or a stout with an earthy aroma, if it's beer — then it has hops in it, according to Jaki Brophy, communications director for Yakima-based Hops Growers of America.

Since the explosion of craft breweries, the little hop flower from a plant in the hemp family, has become an agricultural craft in itself. They're cultivated and prized for qualities that add distinctive flavors and aromas to all manner of beer.

Thanks to fertile soils, plentiful irrigation water and multi-generational family farms, Washington, Oregon and Idaho grow nearly 97 percent of the hops in the United States.

Washington's Yakima Valley accounts for 75 percent of the total.

This rich agricultural climate is complemented by modern regional storage and processing facilities that allow farmers to supply the brewing industry with the highest quality of hops, according to the Hops Growers of America.

While domestic breweries have historically been the heaviest consumers of Northwest hops, there's a growing appetite around the world.

"As with other agricultural commodities in Washington state, access to international markets is key to growth," said Steve Balaski, NWSA's senior business development manager. "Yakima's close proximity to our gateway means they have lower

transportation costs, improving their competitive position. They are able to provide a high-quality product at a competitive price to their international customers. Our goal at the NWSA is to ensure hops move efficiently and quickly through our gateway."

The NWSA exported more than \$69 million of hops in 2017, a 36 percent increase from 2015. The NWSA has a 60.8 percent share of export volume.

"We're seeing a lot of craft breweries popping up in international markets. We're very optimistic about increasing what we export," said Brophy, who spent a week checking out new craft breweries in Australia this summer.

New breweries are also cropping up in countries that we don't traditionally associate with beer like Brazil, Shanghai, Sweden, India, the Czech Republic and Russia.

Additionally, more breweries are exploring inventive ways to produce their brew. According to Brophy, there were about 30 varieties of hops ten years ago. Today there are more than 80 varieties identified by characteristics like fruity, citrus, floral, grassy and even spicy.

The flavors and aromas come from resins and oils inside the lupulin glands of the hop cones. For a long

time, hops were mostly used in lighter beers early in the brewing process as a bittering agent to balance out sweetness. With the advent of craft breweries and the growing popularity of hop aromas, they are added to more types of beer during more stages of the brewing process.

"As a result, some beers require four to five times as many hops than their lighter counterparts like a pilsner," Brophy said.

The flavors and aromas of a single hop variety can also change depending on when the crop is harvested.

"Each variety has its own window," she said. "Early on, it can smell fruity, like bubble gum; leave it later it can smell like pine. Leave it even later, it can smell dank."

By the way, dank isn't necessarily a bad thing. In fact, many beer enthusiasts like Brophy admit enjoying a wide array of beer styles depending on the time of the year.

"On a cold day, I like a good, dark porter," Brophy said. "But just after harvest season, there are a few weeks when you can get 'wet hop' beer. It uses hops that haven't been kilned — that's the best." ■



On Jan. 2, 1943, a gilded pick was used to break ground for the new airport. The ceremony marked the beginning of the two great ports of Puget Sound working together.



Former Washington Gov. Gary Locke and other dignitaries signed their names in concrete during the opening ceremony dedication of the Port of Tacoma Road Overpass project in 2001.



After 9/11, Transportation Worker Identification Credentials are required to access secure areas.



Port of Tacoma Commissioner Don Meyer (left) and Port of Seattle Commissioner Courtney Gregoire (right) joined Port of Everett's Lisa Lefebvre at the unveiling of the 2016 Puget Sound Maritime Air Emissions Inventory in March 2018.

ROOTS OF SEATTLE-TACOMA PARTNERSHIP RUN DEEP

Before the ports of Seattle and Tacoma formed The Northwest Seaport Alliance in 2015, some observers may have viewed the two Puget Sound ports solely as rivals. In honor of the Port of Tacoma's 100th anniversary this year*, we look back at five initiatives the pair have worked together on over the years.

**The Port of Seattle celebrated its centennial in 2011.*

1. 1943 – SEA-TAC AIRPORT GROUNDBREAKING

In 1941, the federal Civil Aviation Authority offered \$1 million to any local government that would build a new airport to serve the greater Seattle area. The Port of Seattle volunteered to lead the new airport construction. When a site at Bow Lake, roughly midway between Seattle and Tacoma, was chosen, the Port of Tacoma and the City of Tacoma both chipped in to build what would come to be known as Seattle-Tacoma International Airport — Sea-Tac for short. On Jan. 2, 1943 a gilded pick was used to break ground at the dedication ceremony. The ceremony was heralded as the beginning of an era of the two great ports of Puget Sound working together for the mutual good of both.

2. 1998 – FREIGHT ACTION STRATEGY FOR SEATTLE-TACOMA (FAST)

The ports of Seattle and Tacoma teamed up with other government agencies and industry representatives for the FAST Corridor partnership, which focused on 25 transportation projects designed to expedite freight movement

along the Interstate 5 corridor. Their combined efforts have garnered more than \$600 million in transportation investments in the Puget Sound region, and all but a handful of the bridge or underpass projects have been completed. In addition to moving freight from NWSA ports more efficiently, FAST improvements also reduce the impact of lengthy rail crossings on local motorists. And keeping trucks moving reduces costs, fuel consumption and vehicle emissions.

3. 2001 – SHARED SECURITY CONCERNS POST-9/11

In the wake of the 9/11 attacks, officials in both Tacoma and Seattle ports assessed the vulnerability of their facilities. With help from the U.S. Coast Guard and the Transportation Security Administration, new protocols were put in place, including the Transportation Worker Identification Credential, used to require access to secure areas. Both Tacoma and Seattle port officials worked with U.S. Sen. Patty Murray to secure funding for security improvements. She helped push for passage of the Maritime Transportation Security Act in 2002, which mandated comprehensive

security plans and offered matching grants to help beef up port security.

4. 1995 – PLAYING TO A GLOBAL AUDIENCE

The two ports jointly hosted the 19th International Association of Ports and Harbors (IAPH) Conference, which drew nearly 600 port officials from around the globe.

It was the first time since the association's 1955 founding that the meeting was held in the Pacific Northwest. Conference attendees toured both the North and South harbors and joined in the spirit of the conference's Western themes, donning cowboy hats and enjoying a seafood barbecue. While there were plenty of opportunities for fun, the conference also spotlighted the role played by the ports of Tacoma and Seattle in international trade.

5. 2008 – NORTHWEST PORTS CLEAN AIR STRATEGY

Three Northwest ports — Seattle, Tacoma and Vancouver, British Columbia — joined to work collectively on reducing port-related diesel

and greenhouse gas emissions. The Northwest Ports Clean Air Strategy developed emission targets for six sectors: ocean-going vessels, harbor vessels, cargo-handling equipment, trucks, locomotives and rail transport and port administration. The partner ports set a goal of reducing diesel particulates by 80 percent by 2020. The NWSA also will implement new "clean truck" standards, which will require the use of newer, cleaner-burning vehicle engines or certified emission controls in both the North and South harbors. ■



4. The 19th International Association of Ports and Harbors Conference in 1995 drew nearly 600 port officials from around the globe.

PRIDE OF THE PNW

Tacoma hosts largest AgTC meeting



Tariffs, trucking and technology took center stage when the nation's largest meeting of agricultural and forest products importers and exporters convened in June.

The Agriculture Transportation Coalition (AgTC) held its 30th annual meeting for the first time in the Pacific Northwest. Tacoma, Washington, hosted a record attendance of nearly 500 people during the four-day event.

"The Northwest Seaport Alliance ports serve as an important gateway for members as far away as the Midwest, as well as for members in Canada," said AgTC Executive Director Peter Friedmann. "Many of our members utilize the Pacific Northwest seaports and depend upon continued and enhanced performance in order to assure our members' own export competitiveness."

The NWSA is the top U.S. export gateway for refrigerated commodities, and the second-largest gateway for agricultural and forest products overall. The value of those exports totaled more than \$6.8 billion in 2016, making up 76 percent of NWSA containerized exports.

The June meeting gave agricultural importers and exporters, along with trucking providers, ocean carriers, marine terminal operators and others a chance to engage in dialogue around the important issues facing AgTC members.

"We are focused on how to provide the consistent services that they're looking for," said Steve Balaski, NWSA's senior business development manager. "Shippers need reliable service, and we do our best to offer that."

Outside of the meeting sessions, participants enjoyed a boat cruise of Commencement Bay that offered waterside views of terminals and vessels. They also had a chance to tour SSA Terminal, Husky Terminal, the NewCold automated cold storage facility, Tacoma Rail, MacMillan-Piper and the Brown & Haley candy factory.

Conference participant Jennifer Downey said the event gave her a chance to speak openly about successes, challenges and potential solutions in her industry.

She is an international logistics coordinator with Minnesota-based Lamex Foods, which imports frozen and chilled meat, poultry, seafood, produce and other foods.

"The guest speakers were industry experts," Downey said. "Adding speakers from outside the agriculture arena, such as Amazon and PepsiCo, helped drive home that the issues are not specific to agriculture and fall across many platforms."

Friedmann said a truck driver shortage, combined with new electronic reporting requirements for hours of service, delays at port terminals and other issues make trucking "one of the most fraught aspects of the export process."

"There is nothing in the United States that we produce in agriculture and forest products that cannot be sourced elsewhere in the world," Friedmann said. "As a result, U.S. exporters need to be able to provide their product to foreign markets as efficiently, dependably and affordably as possible."

Members are also keeping a careful watch on the impact of potential retaliatory tariffs from China, the European Union and Canada. They listened to economists share their analysis of short- and long-term impacts.

"We also discussed exciting new technological advances that will improve visibility into the supply chain and communication between all parties — ports, terminals, trucking, freight forwarders and shippers," Friedmann added.

Pleased with the success of this year's event, AgTC has announced its intent to return to Tacoma in June 2019.

"We in the Pacific Northwest have known for years that Puget Sound is a great place to work and play," Balaski said. "We're thrilled to have the opportunity to showcase the region." ■

CALENDAR

Meet Northwest Seaport Alliance staff at upcoming events.

Sept. 13

NWSA Annual Customer Reception
Renton, Washington

Sept. 16-18

IANA Intermodal Expo 2018
Long Beach, California

Sept. 18

CII West Coast Connie Awards Dinner
Long Beach, California

Sept. 26

Long Island Import Export Association Meeting
Long Island, New York

Sept. 29-Oct. 3

CSCMP 2018 Edge Supply Chain Conference & Exhibition
Nashville, Tennessee

Oct. 2-4

Breakbulk Americas 2018
Houston, Texas

Oct. 3-5

U.S. Pea & Lentil Trade Association Annual Meeting
Bellingham, Washington

Oct. 9-11

TPM Asia
Shenzhen, China

Oct. 16

Memphis World Trade Club Luncheon
Memphis, Tennessee

Oct. 18-21

WESCCON 2018
Palm Springs, California

Oct. 21-23

FDRA Footwear Trade & Distribution Conference 2018
Long Beach, California

Oct. 22

JOC Shipper Roundtable
Oak Brook, Illinois

Oct. 22-24

JOC Inland Distribution Conference 2018
Oak Brook, Illinois

Oct. 11

Foreign Commerce Club of New York 104th Steamship Night Dinner
New York, New York

Nov. 8

CONNECT 17th Annual Northeast Cargo Symposium
Providence, Rhode Island

Dec. 3-5

Washington State Tree Fruit Association Annual Meeting
Wenatchee, Washington

Dec. 6

AgTC Minneapolis Workshop
Bloomington, Minnesota

Dec. 10

CII East Coast Connie Awards Luncheon
Newark, New Jersey

Dec. 10-12

JOC Port Performance North America Conference
Newark, New Jersey

Dec. 18-20

USA Poultry & Egg Export Council Winter Meeting
Washington, D.C.

Jan. 16-17

Washington State Hay Growers Association Northwest Hay Expo
Kennewick, Washington

Jan. 21-24

Washington-Oregon Potato Conference
Kennewick, Washington

Jan. 30

AgTC Portland Workshop
Portland, Oregon

Feb. 1

AgTC Boise Workshop
Boise, Idaho

Feb. 24-27

RILA Retail Supply Chain Conference
Orlando, Florida

Feb. 28

Traffic Club of New York 113th Annual Anniversary Dinner
New York, New York

March 3-6

TPM 2019
Long Beach, California

March 6-7

PNWARS Spring Meeting
Portland, Oregon

March 7-9

2019 Finished Vehicle Logistics North America Conference
Huntington Beach, California

March 17-19

Seafood Expo North America
Boston, Massachusetts



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