9:00-9:50  Plenary Session  Svea Room
A Zero Discharge Vessel? Responding to West Coast Water and Air Quality Regulation
*Charlie Costanzo, American Waterways Operators*

10:00-10:50  Air Session A: Sustainability  Svea Room
Port of Vancouver: Working Together Towards a Low Carbon Future
*Christine Rigby, Port of Vancouver, BC*

Water Session A: Regulations  Viking Room
Practical Solutions for ISGP Implementation and Compliance
*Deanna Seaman, Northwest Seaport Alliance*

11:00-11:50  Air Session B: Advancements  Svea Room
Port Related Air Quality and Climate Initiatives in Southern California and China
*Dennis McLerran, Cascadia Law Group*

Water Session B: Case Study  Viking Room
Oyster Shells & Stormwater: Reducing Zinc and Copper
*Jane Dewell, Port of Seattle*

12:00-1:00  Lunch (Free for Attendees and Presenters)  

1:00-1:50  Air Session C: Case Study  Viking Room
Emissions and Trends Near the Ports of Seattle and Tacoma
*Erik Saganic, Puget Sound Clean Air Agency*

Greening the Fleet: Washington State Ferries and the Potential for Electric Hybrid Vessels on the Puget Sound
*Kevin Bartoy, WSDOT Ferries Division (WSF)*

Contaminated Site Session  Svea Room
Cleaning the Air: Liability for Air Emissions at Contaminated Sites
*Joanne Kalas, Foster Pepper PLLC*
Seminar Abstracts

**Plenary Session**

**A Zero Discharge Vessel? Responding to West Coast Water and Air Quality Regulation**  
Charlie Costanzo, American Waterways Operators

Harborcraft and commercial vessels are faced with an increasing array of challenges to limit air emissions and water discharges that are incidental to operation. From invasive species and onboard sewage treatment to hybrid tugboats and zero-emission port initiatives, vessel operators on the U.S. West Coast face a complicated regulatory environment and a wide array of technological and operational paths forward. Which of the regulatory models are best for the environment? Which models pose concern to vessel operators? Can environmental advocates, regulators, and industry collaborate to identify paths forward that deliver meaningful wins for both the environment and for marine business? Charles Costanzo of the American Waterways Operators, the national trade association for the tugboat, towboat, and barge industry will speak to these challenges and describe AWO’s engagement with state and federal regulatory agencies to meet regulatory challenges in areas of water quality and air emissions.

**Air Session A: Sustainability**

**Working Together Towards a Low Carbon Future**  
Christine Rigby, Port of Vancouver, BC

With a vision to be the world’s most sustainable port, the Port of Vancouver’s approach to managing air emissions emphasizes the importance of collaboration. Informed by an in-depth emission inventory, the port works with tenants, customers, government and other stakeholders to reduce emissions that contribute to air quality and climate change. With the understanding that “the value of the whole is greater than the sum of the parts,” the port continues to reflect on where it is today on its journey to a low carbon future, to evolve its approach and further progress, and to explore new opportunities to look both within and beyond its jurisdiction to effect change locally, regionally and globally by working with others.

**Air Session B: Advancements**

**Port Related Air Quality and Climate Initiatives in Southern California and China**  
Dennis McLerran, Cascadia Law Group

The Ports of Los Angeles and Long Beach have recently released a draft update to the San Pedro Bay Clean Air Action Plan. The zero and near zero emission mandates in the Draft Plan have become quite controversial. But what happens in California typically migrates north to the Pacific Northwest. With strong Asia trade connections, what is occurring in China is of great interest to US trading partners. China recently updated its air pollution regulations and has adopted Domestic Vessel Emission Control Areas with similarities to the North American Emission Control Area recently implemented in the US and Canada under International Maritime Organization Rules. China has adopted significant mandates regarding air quality and climate change in its Thirteenth Five Year Plan as well with major funding and oversight of ports in the Provinces. Dennis McLerran will give an overview of key emission reduction strategies already implemented, what is on the horizon and what some of the key challenges are in moving towards a zero or near zero emission goods movement system.
**Water Session B: Case Study**

**Oyster Shells & Stormwater: Reducing Zinc and Copper**
Jane Dewell, Port of Seattle

In 2010, the Port of Seattle, like many with industrial stormwater permits, was struggling to meet Washington State’s copper (Cu) and zinc (Zn) water quality benchmarks. The Port’s industrial activities included two maintenance yards where staff worked on vehicles used to support maintenance work throughout Maritime Port properties. After reviewing stormwater treatment methods for increasing water hardness completed by the Port’s airport staff, which lead to reductions in metals in airport runoff, the Maritime stormwater team decided to install oyster shells into catch-basins at a maintenance yard. During the two quarters following installation of the oyster shell system, total Zn levels fell by as much as 89%, and total Cu fell as much as 84%. In addition to including oyster shells in catch-basins on industrial stormwater permit properties, the Port recently began installing oyster barrels on roof down-spouts for runoff treatment of galvanized roofs, or roof areas that are close to major transportation corridors that could receive airborne dust from roads. Success of the oyster shell systems in removing Cu and Zn has continued.

**Air Session C: Case Studies**

**Emissions and Trends Near the Ports of Seattle and Tacoma**
Erik Saganic, Puget Sound Clean Air Agency

In this presentation, Erik Saganic, an air quality scientist at the Puget Sound Clean Air Agency, will discuss the air emissions and air quality trends near the Ports of Seattle and Tacoma. He will cover current and future air quality in these areas, including studies that identify and quantify the air pollution types and locations. Additionally, he will also review the potential health impacts to local communities, and how social equity is an important issue in these areas. Lastly, he will also cover forecast emissions for these areas, and less studied topics, such as ultrafine particles.

**Greening the Fleet: Washington State Ferries and the Potential for Electric Hybrid Vessels on the Puget Sound**
Kevin Bartoy, WSDOT Ferries Division (WSF)

State law (RCW 70.235.050) sets greenhouse gas reduction goals for state agencies in Washington. By July 1, 2020, the Washington State Department of Transportation (WSDOT) is being asked to reduce emissions by 15% from the 2005 levels. As a division of WSDOT, Washington State Ferries (WSF) contributes over 60% of the total greenhouse gas emissions of the agency, primarily through the diesel fuel used to power the fleet. Alternatives such as liquid natural gas (LNG) and biodiesel have been suggested as possible routes to reduce emissions in the past. With funding for LNG conversion not available, the fleet currently runs on B5 (5% biodiesel) with a B10 (10% biodiesel) feasibility study underway. However, given advances in marine battery technology and pioneering work in Scandinavia with electric vessel conversions, WSF is now pursuing feasibility studies for electrifying the Jumbo Mark II Class of ferries, which are the largest in the fleet. This presentation will provide an overview of the work currently underway to green WSF’s fleet.
Contaminated Site Session

Clearing the Air: Liability for Air Emissions at Contaminated Sites
Joanne Kalas, Foster Pepper PLLC

The federal Superfund law (CERCLA) and Washington’s Model Toxics Control Act (MTCA) address the cleanup of hazardous substances at contaminated sites in Washington. In a case of first impression, the Ninth Circuit held in 2016 that a smelter was not liable under CERCLA for the emission of hazardous substances from its smokestacks that contaminated downwind surface water, sediments, and uplands. This holding turned on the definition of “disposal” under CERCLA, but did not address liability under MTCA for air emissions. This session addresses the liability of potentially responsible parties under CERCLA and MTCA for the cleanup of contaminated sites where air pathways exist after the Ninth Circuit’s decision.