

Niewolny, Laurie (ECY)

From: Doenges, Rich (ECY)
Sent: Monday, February 25, 2019 8:22 AM
To: Niewolny, Laurie (ECY)
Cc: Galleher, Stacy (ECY)
Subject: FW: COOKE NPDES: Commercial fishermen's associations "opposition to marine finfish aquaculture in U.S. waters"
Attachments: SC75419022211420.pdf

Laurie,

Please include Stephanie's email and attachment with the other permit comments.

Thanks,

Rich

From: Stephanie Ross [mailto:srossonda@gmail.com]
Sent: Friday, February 22, 2019 6:37 PM
To: Doenges, Rich (ECY) <rdoe461@ECY.WA.GOV>
Cc: Rolfes, Christine <Christine.Rolfes@leg.wa.gov>; Owens, Linda <linda.owens@leg.wa.gov>; srossonda@gmail.com
Subject: COOKE NPDES: Commercial fishermen's associations "opposition to marine finfish aquaculture in U.S. waters"

Dear Mr. Doenges,

Please accept this submission, which is a duplicate of the submission at the Bainbridge Island hearing on the Cooke NPDES application. This, as authorized by Pacific Coast Federation of Fishermen's Association and Institute for Fisheries Resources, is submitted to support UNCONDITIONAL AND FULL DENIAL of any and all NPDES permitting non-native finfish open net pen aquaculture in Washington State.

Regards,

Stephanie Ross

Sent from my iPhone

Hand delivered - Stephanie Ross
Bainbridge Public Mtg 2/7/19
L. Newdomy Received

December 4, 2018

To: Members of the United States House of Representatives
Members of the United State Senate

Re: Opposition to marine finfish aquaculture in U.S. waters

Dear Senators and Representatives:

We the undersigned owners/operators of American commercial fishing vessels and representatives of American fishing organizations and communities write to collectively express our opposition to industrial ocean finfish farming in the U.S. Exclusive Economic Zone, whether through the Advancing the Quality and Understanding of American Aquaculture (AQUAA) Act, S. 3138/H.R. 6966, or any other legislative vehicle. This emerging industrial practice is incompatible with the sustainable commercial fishing practices embraced by our nation for generations and contravenes our vision for environmentally sound management of our oceans.

Industrial ocean fish farming – also known as open ocean, offshore, or marine finfish aquaculture – is the concentrated cultivation of captive finfish in the ocean, in net pens, pods, cages, or other devices. These operations are essentially underwater factory farms relying on natural currents to advect their waste and detritus to other parts of the ocean. The presence of finfish aquaculture in marine ecosystems poses significant challenges to the prosecution of domestic wild capture fisheries. As commercial fishermen, our livelihoods depend on good stewardship and science-based marine conservation to preserve sustainable fisheries for generations to come. The ocean currently provides a healthy and reliable food source and good jobs for many otherwise underserved coastal communities. We depend on a healthy marine ecosystem to supply quality, abundant wild fish stocks. Marine finfish aquaculture pollutes the natural ecosystem, degrades and threatens wild fish stocks, and challenges the economic viability of commercial fishing. **American commercial fishing and marine finfish aquaculture cannot coexist.**

We are concerned about the **economic burdens** that aquaculture, an emerging industry, poses to our long-established industry, America's oldest. The presence of a single marine finfish farm could bar access to hundreds of acres of marine space, which would no longer be available for us to navigate or fish. Finfish aquaculture pens also act as 'fish aggregating devices', subjecting wild fish stocks to excessive fishing pressure from recreational fisheries in areas that are inaccessible to many commercial gear types. Marine finfish aquaculture facilities aim to produce large amounts of fish at the lowest cost possible, which places downward pressure on seafood prices, harming our wild capture seafood markets. Flooding the market with cheap, low quality farmed seafood reduces the price that consumers are willing to pay for wild and sustainable seafood products, which directly impacts our well-being as sustainable seafood producers and the overall coastal economy. It also harms associated industries and workers who rely on a supply of high value product. Additionally, aquaculture is not dependent on seasonal accessibility, further driving consumers and the marketplace away from the natural seasonality of wild capture

fisheries. Simply put, industrial seafood farms threaten the integrity of the wild fish populations that are key to our industry's success, and the coastal communities we support.

Aquaculture harms the accessibility and quality of the wild fish stocks we depend on. Industrial ocean fish farming inevitably results in **farmed fish escapes** that can adversely impact wild fish stocks. Escaped aquaculture fish compete with wild fish and other species for food, habitat, and spawning areas. The culture of non-native fish brings attendant risks of introduction and invasion, while interbreeding of escaped aquaculture fish with wild stocks – a substantiated risk even with limiting cultivated species to “virtually” sterile or all-female native stocks – can lead to the modification and dilution of wild stocks' genetic integrity. Escapees can also spread a number of lethal diseases and parasites, such as sea lice and piscine reovirus. Escape events can limit fishermen's access to wild stocks and degrade the quality of wild fish available, reducing both the catch amount and the value. For these reasons, the potential for escapes by itself is reason enough to preclude open ocean aquaculture of any species, native or not.

Another important concern with large finfish aquaculture operations is the **marine pollution** caused by excess feed, untreated fish waste, antibiotics, and antifoulants. Such pollution alters the surrounding ecosystem and harms wild stocks. The release of excess nutrients degrades the marine ecosystem, leading to fish kills and impacting the seabed and water column. Ocean currents, no matter how strong, are not reliable methods for diluting net pen fish farm effluent. Often the ocean simply does not have the capacity to process this concentration and quantity of waste quickly enough, impacting wild fish stocks and their habitat. Fish farmers often disperse antibiotics and other chemicals within fish pens in an attempt to destroy pathogens. These toxins are harmful to the surrounding environment and marine life. Net pens also have high rates of deadly epizootic diseases, some of which can spread to wild fish stocks and cause a devastating loss to biodiversity and commercial fisheries. These impacts both degrade the environment and result in the loss of commercial catch.

Federal permitting and environmental review processes must thoroughly consider socioeconomic and environmental impacts, both in the National Environmental Policy Act (NEPA) process in other permitting processes. To date, such analyses have been inadequate. The NEPA process also requires consideration of alternatives including no action, closed-system fish culture approaches, and other actions that minimize adverse economic and ecological impacts posed by permitting these operations. We believe these adverse impacts are far too significant to justify permitting aquaculture activities in the EEZ.

Due to the extensive and well documented environmental harm caused by marine finfish aquaculture in the United States and elsewhere, this emerging industry should not be permitted. Neither the technology nor the knowledge is in place to sufficiently understand its environmental and socio-economic harms and satisfy federally-mandated environmental review and consultation processes. The legislation introduced by Senator Roger Wicker and Representative Steven Palazzo, the Advancing the Quality and

Understanding of American Aquaculture (AQUAA) Act (S. 3138/H.R. 6966), would hand regulatory authority over aquaculture to the National Oceanic and Atmospheric Administration under a radically permissive framework that ignores the severe consequences of aquaculture operations. But the AQUAA Act is not the only threat on the horizon – there is the possibility that an amendment to permit industrial ocean fish farms could be tacked onto a Magnuson-Stevens Act reauthorization package. Regardless of the legislative avenue, permitting this new industry would devastate ours.

Please protect our wild-capture fishing industry and the marine ecosystem by opposing any attempts to legitimize open net pen finfish aquaculture in our oceans.

Sincerely,

Noah Oppenheim
Pacific Coast Federation of
Fishermen's Associations
& Institute for Fisheries
Resources
San Francisco, CA

Mike McCorkle
Southern California Trawlers
Association
Santa Barbara, CA

Jeremy Brown
Coastal Trollers Association
Seattle, WA

Steve Bodnar
Coos Bay Trawlers Association
Coos Bay, OR

Beth Casoni
Massachusetts Lobstermen's
Association
Scituate, MA

Brett Tolley
Northwest Atlantic Marine
Alliance
Gloucester, MA

Avery Bates
Organized Seafood Association of
Alabama
Bayou La Batre, AL

Bonnie Brady
Long Island Commercial Fishing
Association
Montauk, NY

Lisa Griffith
National Family Farm Coalition
Washington, DC

Johnny Foss
Wild Salmon Nation
King Salmon, AK

Marsh Skeelee
Sitka Salmon Shares Inc.
Sitka, AK

Rob Seitz
South Bay Wild Inc.
Astoria, OR

Kevin Kondysar
Ocean Grown Inc.
Bodega Bay, Ca

Elizabeth Wiegand
NC Catch Inc.
Raleigh, NC

Annette Ernst
Sustainably Caught Inc.
Newport, OR

Craig Putnam Sr.
Slayers Guide Service, Inc.
Cheshire, OR

Mary Ellon Balance & William T.
Balance
Creative Ballance, Inc.
Hatteras, NC

Norman Pillen
Sea Lion Fisheries, LLC
Sitka, AK

Sharon Peele Kennedy
What's for Supper? Inc.
Hatteras, NC

Daniel J Farnham
Silver Dollar Seafood
New Bedford, MA

Joseph Conchelos
Conchelos Family Fisheries Inc.
Newport, OR

Kat Jones
Ventura Fresh Fish Inc.
Ventura, CA

Janis Angelini
Pac West Embroidery Inc.
Seattle, WA

Sean Barrett
Dock to Dish Community
Supported Fisheries Inc.
New York, NY

Scott Bertelsen
F/V Carina
Bodega Bay, CA

Erik Peterson
F/V Kingfisher
Pelican Alaska

Ken Clark
F/V Genki
Halfmoon Bay, CA

Aaron Longton
F/V Goldeneye
Port Orford, OR

Melissa Stringfield
Private citizen
Coos Bay, OR

Ramona Butters
Private citizen
Port Orford, OR

Aaron Ashdown
F/V Misty
Port Orford, OR

Lance Nacio
F/V Anna Marie & F/V Marisa
Jolie
Montegut, LA

Aaron weinzinger
F/V Regina Marie / CalPac
Fisheries
Noyo, CA

Scott Wintermute
F/V Grasshopper
Astoria, OR

Rick Metheny
F/V Joie Lynn
Trinidad, CA

Robert Johnstone
F/V Jeanne Arain
Garibaldi, OR

Linda Behnken
F/V Woodstock
Sitka, AK

Melissa Turvey
F/V The Shadow
Sitka, AK

Richard Nelson
F/V Pescadero
Friendship, ME

Matt Munkres
F/V Salish Sea
Gig Harbor, WA

Susan west
F/V Hollyhock Run
Outer Banks, NC

Rob West
F/V Lucy B.
Buxton, NC

Claudia Peele
Private citizen
Hatteras, NC

Carolyn Nichols
Commercial fisherman
Sitka, AK

Chris & Lisa Ystad
F/V Ocean Cape
Sitka, AK

Shannon oneal
F/V Shannon D
Hatteras, NC

David Oen
F/V Endurance
Sitka Alaska

Patrick S. Dixon
Dixon Photography
Olympia, WA

William Markowitz
F/V Canvasback
Cordova, Alaska

Jesse Remund
F/V Faithful
Sitka, AK

Joel Natterstad
F/V Swingin Lady
Ridgefield, WA

Robert C. Tillitz
F/V Ann
Crescent City, CA

Acey Hines
Commercial fisherman
Kitty Hawk, NC

Marty Remund
F/V Teasha
Port Alexander, AK

Bryson Jeff Cooper
Cooper Marine Inc.
Hertford, NC

Laura Luciano
Slow Food New York
Hampton Bays, NY

Wesley Peterson
F/V 2 Sea Sons
Montauk NY

Hope Stanger
Private citizen
Stamford, CT

Stefanie Sacks
Red Beets, LLC
Montauk, NY

Paul Farnham
Montauk Fish Dock Inc.
Montauk NY

Amy Tagliaferri
Slow Food South Shore
Oakdale, NY

David O'Neal
David O'Neal
Wanchese, NC

James Seitz
F/V Wrangler/ North Bay
Fisheries
Chinook, WA

Ronald Borjeson
F/V Angenette
Plymouth, MA

Dr Pennie Schwartz
Slow Foods East End
Southold, NY

Roxanne
Slow Food North Shore
Bayport, NY

Howard Miller
Kolossal Inc.
Venice, CA

Chris Miller
F/V Sea Spearit
Montauk, NY

Eric Hodge
F/V Rough Draft
Santa Barbara, CA

Ryan Speckman
Locals Seafood LLC
Raleigh, NC

Brett Houston
F/V BigDaddy
Wanchese, NC

Diane Wilson
F/V SeaBee
Seadrift, TX

Tom Joseph
F/V Sara Bella
Halfmoon Bay, CA

Jane & Ralph Pratt
Michael Kevin inc.
Marshfield, MA

Rob Odlin
Diving Adventures Inc.
Portland, ME

Jerry Rosell
F/V Good News
Hatteras, NC

Dan Strickland
F/V Little Sole
Washington, NC

Ananda Bossard
Otolith Sustainable Seafood
Sitka, AK

Alecia Moore
Private citizen
Westhampton Beach, NY

Robert Ingels
F/V Queen of Hearts
Halfmoon Bay, CA

Leesa Cobb
Port Orford Ocean Resource Team
Port Orford, OR

Richard Vergili
Slow Food Hudson Valley
Kingston, NY

Marc James
Marc James & Company
Kill Devil Hills, NC

Megan Spencer
Private citizen
Swan Quarter, NC

Sharon Feuer Gruber
Wide Net Project
Silver Spring, MD

Sam L Demmert
F/V Ocean Rambler
Yakutat, AK

Brian Chadwick
Chadwick Oysters Inc.
Marshallberg, NC

Ira Miller
F/V John V. Miller, Inc.
Tenants Harbor, ME

Richard Voliva
Commercial fisherman
Pamlico Beach, MD

Bill Telepan
Oceana Restaurant
New York, NY

Bill Hitchcock
Hitchcock Realty
Morehead City, NC

Robert Bryant
Bryant and Barnes Marine LLC
Charleston, OR

Chad Hatten
F/V Acrive II
Humboldt Bay, CA

Becky Duta
Commercial fisherman
Seattle, WA

Elizabeth Figus
Private individual/fisherman
Anchorage, AK

Lauren Mitchell
Commercial fisherman
Sitka, AK

James Palmer
F/V Night Winds
Port Orchard, WA

Brian Love
F/V Orca Roar
Brush Prairie, WA

Allan Richardson
F/V Saint Jude
Saint Jude

Pete Lastowski
Private citizen
Seattle, WA

Pete Lastowski
F/V Kathleen K
Seattle, WA

Nick Joseph
F/V Valiant Lady
Bellingham, WA

Susanne Ashland
Private citizen
Seattle, WA

Brian Johnson
Ocean Bay Marine
Seattle, WA

Giacomo Damato
F/V Giusy
Channel Islands, CA

John Norton
JD Concrete Inc.
Newport, OR

Marine Bannister
Viekoda LLC
Newport, OR

Suzanne McMillin
Private Citizen
Albany, OR

Dorothy Nagle
M/V David Ellis
Sebastopol, CA

Eric Marxmiller
Sunset Salmon Co.
San Francisco, CA

Jim Marxmiller
F/V Mocha
Dillingham, AK

John Myking
F/V Marie M
Honolulu, HI

Mili Lundgren
Bristol Legacy Salmon Inc.
Bristol Bay, AK

Michael Lundgren
Bristol Legacy Salmon Inc.
Bristol Bay, AK

David Sandvik
F/V Ingolf
Dillingham, AK

Celeste Beck-Goodell
FV Dirty Deeds
Kodiak, AK

Steve Fosso
F/V Miss Lauren
Anacortes, WA

Mark Meadows
F/V Ruth M
Valdez, AK

Sandra Earle
Bird Rock Fishery Inc.
Kodiak, AK

Nan Thompson
F/V Navigator
Moose Pass, AK

Giovanni Pennisi
F/V Irene's Way
Monterey, CA

Chuck Ridley
Seattle's Best Fish Inc.
Edmonds, WA

Michael Corl
F/V Renegade
Petersberg, AK

Stephen Hochberg
Private citizen
Seattle, WA

Paul Schuyler
Flyer Commercial Fisheries Inc.
Morro Bay, CA

George Bradshaw
F/V Swan
Crescent City

Mike Johnson
F/V South Sea
Ilwaco, WA

Cathy Anello
Anello Family Crab and Seafood
Inc.
Bodega Bay, CA

Tyson Fick
Taku River Reds Inc. & F/V
Heather Anne
Juneau, AK

Cody Chase
F/V Monde Uni
Newport, OR

Colin Duncan
Forever Wild Seafood Inc.
Portland, OR

Ari Georgakopoulos
Deschutes Lobster Co.
Bend, OR

Dori Olsen
F/V Independence
Kodiak, AK

Hailey Thompson
The Knotty Crew Inc.
Kodiak, AK

Ryan Keating
F/V Sea Hag
Dillingham, AK

Matt Gillman
F/V Martin
Westport, WA

Jody Pope
Wefish Inc.
Westport, WA

Robert Seitz
Artech Engineering Inc.
Kodiak, AK

Heather Jackson
Private citizen
Seattle, WA

Hand delivered - Stephanie Ross
Bainbridge Publiz Mtg 2/17/19
L. Niewolny Received

2017 Cooke Aquaculture Pacific
WDOE NPDES Net Pen Permit Renewal Application Additional Information

3.7) Feed additives, disease control chemicals and medications that may be used at the net pen facilities include the following;

Feed Additives-

Canthaxanthin and/or Astaxanthin - Natural and/or synthetically produced compounds of the two types of carotenoid pigments may be added to the fish feed in levels ranging from 30 ppm to 70 ppm. Both canthaxanthin and astaxanthin are approved by the USFDA for use in fish feeds to enhance the pink to orange/red coloration of salmonid flesh. In the animal kingdom, carotenoids are heavily utilized as a source for pigmentation, a vitamin A precursor, for improving intercellular communication, enhancing immune responses, and as antioxidants in vivo [1, 2]. Salmonid fish species achieve physiological benefits from storing pigments in their tissues.

Antioxidants - Antioxidants are added to the fish feed mixture to stabilize the vitamin supplements and increase the shelf life of the feed. Antioxidants that are used in the fish feeds are Ethoxyquin (in the fish meal), BHA (in the fish oil), and Vitamin E.

Antibiotic Medicated Feed-

Medicated feed may be periodically used to treat bacterial disease at the marine net pen sites. The use of medicated feeds is infrequent and used only to treat specific disease events.

Romet 30 (Sulfadimethozine-ormetoprim) - Romet 30 is the trade name for an aquatic animal premix containing a sulfadimethozine-ormetoprim antibiotic that is used to treat bacterial disease. When medicated feed is prescribed, the premix is added by the feed manufacturer during the feed milling process. Romet 30 is used to treat Furunculosis, Vibrio, Myxobacterial and other bacterial pathogens if they occur in the cultivated fish stocks. When a disease treatment is prescribed by a veterinarian, the Romet 30 medicated feed is manufactured at a concentration of 2.27 grams of active ingredient per one (1) pound of fish feed. The medicated feed is then fed to the fish to achieve a dosage rate of 50mg of active ingredients per one (1) kilogram of fish per day, for a treatment period of five (5) consecutive days.

Terramycin TM 200 (Oxytetracycline HCL) - TM 200 is the trade name of for an aquatic animal antibiotic premix that is used to treat Furunculosis, Vibrio, Myxobacteria and other bacterial diseases. The TM 200 pre-mix is added to the feed by the manufacturer when prescribed by the veterinarian to treat specific disease events. TM 200 is mixed to achieve a concentration of 5 grams of active ingredient per one (1) pound of fish feed. The medicated feed treatment is fed to achieve a dosage rate of 75mg active ingredient per one (1) kilogram of fish per day, for a period of ten (10) consecutive days.

3.7 cont.,)

Aquaflor- (Florfenicol) – Aquaflor is the trade name for the premix containing the antibiotic Florfenicol, and is approved by the USFDA for use in freshwater food fish to treat bacterial disease. In marine finfish aquaculture, Aquaflor can be used under the Investigational New Animal Drug (INAD) system administered by the USFWS and USFDA. When prescribed, Aquaflor medicated feed is used to treat bacterial disease and is mixed into the feed by the feed manufacturer at the active ingredient concentration rate of 0.302 grams per one (1) pound of fish feed. Aquaflor medicated feed is fed to the fish to achieve a dosage of 10 mg of active ingredients per one (1) kilogram of fish per day, for a period of ten (10) consecutive days.

Disease Control Chemicals- Other disease control chemicals that may be used at the farm sites are Finquel MS 222, Iodophor disinfectants and sodium hypochlorite (chlorine bleach) disinfectant solutions.

Finquel MS222 – Finquel (MS222) is a USFDA approved fish anesthetic that is periodically used when the fish are sampled for weight and condition factors. A small number of fish are periodically captured by dip net from a pen and then immersed in a tote of seawater with a small amount of MS222 mixed in. The MS 222 anesthetizes the fish so that they can be safely handled, inspected, weighed and then returned unharmed back to the fish pen. The fish quickly recover from the anesthetic when returned to ambient seawater.

Chlorine Bleach Solution and/or Argentyne Iodophor Solution – These surface disinfectants are used as a bio-security measure in footbaths at the farm sites and to periodically sterilize any shared equipment between the sites. Argentine Iodophor solutions are used in foot baths at the farm sites during the entire year. Estimated average annual consumption rates for each farming area of Iodophor solutions at the Bainbridge Island, Cypress Island, Hope Island and Port Angeles farm sites is approximately 55 gallons per facility. The use of sodium hypochlorite or chlorine bleach solutions at the net pen sites is infrequent.

3.8) Clean nets significantly reduce the drag loads exerted on the net pen structures and the netting materials themselves which in turn reduces the risks of tidal or storm damage causing a breach in the nets and fish escapement. Keeping nets clean also maintains a healthy growing environment for the fish by maintaining sufficient water flow through the net wall. Over the past several years, new netting materials have been developed by the industry that repels the accumulation of bio-fouling growth on the netting materials. The net pen industry has moved from using the older nylon blended net manufacturing materials to these newer polypropylene types of materials as they have been improved. The newer polypropylene net twines are tightly woven during the manufacturing process and have a hydrophobic property that helps to prevent the attachment of many bio-fouling organisms. This technological advancement has allowed the industry to reduce or completely eliminate the use of anti-foulant paint treatments on the netting material.

3.8 cont.,)

Beginning in 2012, the Cooke Aquaculture marine net pen sites eliminated the use of the Flex-Guard anti-foulant treatment on all of their nets. Over the past five years, the company has replaced nearly 100% of their net inventory with these newer polypropylene nets. At the same time, the company switched to a single stocking production plan that allows ample time for the containment nets to be removed from the farms and transported to an upland net washing facility for complete cleaning and repairs.

Fish containment nets are typically pulled to the surface once per year and net changes can occur during the 14 to 18 month production cycle as needed. Cleaned fish containment nets can be rotated into service during the growing period to minimize the amount of marine fouling growth on the nets. During the growing period, nets can be rinsed in-situ with pressurized seawater as needed to minimize active bio-fouling growth. At the end of the production cycle as the fish are harvested out, the fish containment nets are pulled to the surface and transported to the upland support facility. The nets are then trucked to an approved upland net cleaning facility specifically designed for handling these nets. Materials washed from the nets are captured and disposed of properly at this washing facility. The cleaned and repaired nets are then shipped back to the farm for installation and in preparation for the next generation of fish to be stocked at the site.

3.9) The Cooke Aquaculture Pacific Spill Prevention Control and Response Plans (Attachment B) contain an updated list of chemicals and petroleum products that may be used at the site and the approximate quantity kept in inventory. Disease control chemicals that may be used at the facilities are briefly described below.

Iodophor solution and chlorine bleach. Disinfectant used in footbaths and to disinfect farm equipment. Small quantities are used through out the year.

Finquel MS222. A fish anesthetic used occasionally during size sampling of juvenile fish during the production cycle.

Medicated Fish Feeds-

Romet 30- Sulfadimethozine-ormetoprim. (Described in previous answer above)

Terramycin TM 200 (Oxytetracycline HCL) (Described in previous answer above)

Aquaflor- (Florfenicol) (Described in previous answer above)

3.10) Solid waste disposal practices for the facility include the handling and proper disposal and/or recycling of fish mortalities, sanitary waste and operational debris generated by the facilities. The Cooke Aquaculture Pacific- Pollution Prevention Plans (Attachment C) contain further detail on solid waste handling and pollution control plans.

Fish Mortalities- Fish mortalities are collected from each pen a minimum of three (3) times per week. The frequency of fish mortality collection is increased as needed, dependent on the experienced mortality levels at the farm sites. The fish mortalities

3.10 cont.,)

(morts) are routinely collected by divers and brought to the surface in dive nets. The fish mortalities are put into large plastic fish totes which also have a single use, plastic tote liner placed inside of them. The tote liners are an additional barrier against leakage and also facilitate the cleaning and sanitation process after the contents are disposed of. The totes containing fish mortalities are frequently removed from the net pen sites and transported to the land based support facility where they are picked up and transported by truck to either a soil composting facility or a rendering facility. The fish totes are emptied at the receiving facility, the plastic liner is removed and disposed of, and the totes are steam rinsed and disinfected. Cleaned totes are then returned to their designated facilities for eventual reuse. The average monthly weight of fish mortalities removed from a site varies at different times of the year depending on what part of the growing cycle the fish population are in (new smolts or harvest size fish) and other factors that can increase the mortality rates such a harmful plankton bloom or disease event. Estimated average amounts of fish mortality biomass for a single generation of fish grown at the sites is given below.

Cypress Sites 1, 2 and 3-	Approx. 10,000 lbs. /month
Hope Island Site 4-	Approx. 3,000 lbs. /month
Port Angeles Site-	Approx. 6,000 lbs. /month
Bainbridge Island Sites-	Approx. 15,000 lbs. /month

Sanitary Waste and Operational Debris- The farm sites use chemical toilets (Port-a-Potties) for their employees and the proper disposal of sanitary wastes. The rented chemical toilets are routinely serviced by the company which provides them. Operational waste products generated by the net pen facilities are collected, stored in appropriate containment and then routinely transported to the shore side support facilities for appropriate disposal. Waste collection and recycling collection services are provided at the following land based support facilities:

- Port Angeles shore facility (Port Angeles net pens).
- Fort Ward dock facility (Fort Ward, Orchard Rocks, Clam Bay net pens).
- Anacortes dock facility (Cypress Is. Sites and Hope Is. Site).

The volume of solid refuse collected from each of these three locations is approximately 10 to 15 cubic yards per month.

Fish feed is transported to the site in large one (1) ton nylon bulk container bags. After the feed is removed from the nylon bags the bags are compiled and taken back to the land based support facility to be picked up for recycling.

Used oil and other hazardous materials are collected and transported to the associated upland support facility for eventual pickup and proper disposal by Emerald Services.

4) Environmental Monitoring

Site characterization and baseline studies were completed at the sites at the time of the original permitting process for the substantial development/shoreline conditional use permits/ Army Corps of Engineers Permits/ WDFW Hydraulic Permits/ and other related and necessary construction and operational permits. This application is for the renewal of existing NPDES permits for the company's marine net pen facilities. The original NPDES/Waste Discharge Permits for the facilities was issued in 1996. Cooke Aquaculture Pacific and the previous owners utilize the services of a third party consultant to conduct the required benthic monitoring and analysis. The required reports have been submitted to Ecology and WDNR as required by the conditions of the NPDES permits. Cooke Aquaculture Pacific can provide additional copies of specific past reports upon request.

Citations:

1. Goodwin TW: Metabolism, Nutrition, and Function of Carotenoids. *Annu Rev Nutr.* 1986, 6: 273-297.
2. Deming DM, Erdman JW: Mammalian carotenoid absorption and metabolism. *Pure Appl Chem.* 1999, 71: 2213-2225

December 4, 2018

To: Members of the United States House of Representatives
Members of the United State Senate

Re: Opposition to marine finfish aquaculture in U.S. waters

Dear Senators and Representatives:

We the undersigned owners/operators of American commercial fishing vessels and representatives of American fishing organizations and communities write to collectively express our opposition to industrial ocean finfish farming in the U.S. Exclusive Economic Zone, whether through the Advancing the Quality and Understanding of American Aquaculture (AQUAA) Act, S. 3138/H.R. 6966, or any other legislative vehicle. This emerging industrial practice is incompatible with the sustainable commercial fishing practices embraced by our nation for generations and contravenes our vision for environmentally sound management of our oceans.

Industrial ocean fish farming – also known as open ocean, offshore, or marine finfish aquaculture – is the concentrated cultivation of captive finfish in the ocean, in net pens, pods, cages, or other devices. These operations are essentially underwater factory farms relying on natural currents to advect their waste and detritus to other parts of the ocean. The presence of finfish aquaculture in marine ecosystems poses significant challenges to the prosecution of domestic wild capture fisheries. As commercial fishermen, our livelihoods depend on good stewardship and science-based marine conservation to preserve sustainable fisheries for generations to come. The ocean currently provides a healthy and reliable food source and good jobs for many otherwise underserved coastal communities. We depend on a healthy marine ecosystem to supply quality, abundant wild fish stocks. Marine finfish aquaculture pollutes the natural ecosystem, degrades and threatens wild fish stocks, and challenges the economic viability of commercial fishing. **American commercial fishing and marine finfish aquaculture cannot coexist.**

We are concerned about the **economic burdens** that aquaculture, an emerging industry, poses to our long-established industry, America's oldest. The presence of a single marine finfish farm could bar access to hundreds of acres of marine space, which would no longer be available for us to navigate or fish. Finfish aquaculture pens also act as 'fish aggregating devices', subjecting wild fish stocks to excessive fishing pressure from recreational fisheries in areas that are inaccessible to many commercial gear types. Marine finfish aquaculture facilities aim to produce large amounts of fish at the lowest cost possible, which places downward pressure on seafood prices, harming our wild capture seafood markets. Flooding the market with cheap, low quality farmed seafood reduces the price that consumers are willing to pay for wild and sustainable seafood products, which directly impacts our well-being as sustainable seafood producers and the overall coastal economy. It also harms associated industries and workers who rely on a supply of high value product. Additionally, aquaculture is not dependent on seasonal accessibility, further driving consumers and the marketplace away from the natural seasonality of wild capture

fisheries. Simply put, industrial seafood farms threaten the integrity of the wild fish populations that are key to our industry's success, and the coastal communities we support.

Aquaculture harms the accessibility and quality of the wild fish stocks we depend on. Industrial ocean fish farming inevitably results in **farmed fish escapes** that can adversely impact wild fish stocks. Escaped aquaculture fish compete with wild fish and other species for food, habitat, and spawning areas. The culture of non-native fish brings attendant risks of introduction and invasion, while interbreeding of escaped aquaculture fish with wild stocks – a substantiated risk even with limiting cultivated species to “virtually” sterile or all-female native stocks – can lead to the modification and dilution of wild stocks' genetic integrity. Escapees can also spread a number of lethal diseases and parasites, such as sea lice and piscine reovirus. Escape events can limit fishermen's access to wild stocks and degrade the quality of wild fish available, reducing both the catch amount and the value. For these reasons, the potential for escapes by itself is reason enough to preclude open ocean aquaculture of any species, native or not.

Another important concern with large finfish aquaculture operations is the **marine pollution** caused by excess feed, untreated fish waste, antibiotics, and antifoulants. Such pollution alters the surrounding ecosystem and harms wild stocks. The release of excess nutrients degrades the marine ecosystem, leading to fish kills and impacting the seabed and water column. Ocean currents, no matter how strong, are not reliable methods for diluting net pen fish farm effluent. Often the ocean simply does not have the capacity to process this concentration and quantity of waste quickly enough, impacting wild fish stocks and their habitat. Fish farmers often disperse antibiotics and other chemicals within fish pens in an attempt to destroy pathogens. These toxins are harmful to the surrounding environment and marine life. Net pens also have high rates of deadly epizootic diseases, some of which can spread to wild fish stocks and cause a devastating loss to biodiversity and commercial fisheries. These impacts both degrade the environment and result in the loss of commercial catch.

Federal permitting and environmental review processes must thoroughly consider socioeconomic and environmental impacts, both in the National Environmental Policy Act (NEPA) process in other permitting processes. To date, such analyses have been inadequate. The NEPA process also requires consideration of alternatives including no action, closed-system fish culture approaches, and other actions that minimize adverse economic and ecological impacts posed by permitting these operations. We believe these adverse impacts are far too significant to justify permitting aquaculture activities in the EEZ.

Due to the extensive and well documented environmental harm caused by marine finfish aquaculture in the United States and elsewhere, this emerging industry should not be permitted. Neither the technology nor the knowledge is in place to sufficiently understand its environmental and socio-economic harms and satisfy federally-mandated environmental review and consultation processes. The legislation introduced by Senator Roger Wicker and Representative Steven Palazzo, the Advancing the Quality and

Understanding of American Aquaculture (AQUAA) Act (S. 3138/H.R. 6966), would hand regulatory authority over aquaculture to the National Oceanic and Atmospheric Administration under a radically permissive framework that ignores the severe consequences of aquaculture operations. But the AQUAA Act is not the only threat on the horizon – there is the possibility that an amendment to permit industrial ocean fish farms could be tacked onto a Magnuson-Stevens Act reauthorization package. Regardless of the legislative avenue, permitting this new industry would devastate ours.

Please protect our wild-capture fishing industry and the marine ecosystem by opposing any attempts to legitimize open net pen finfish aquaculture in our oceans.

Sincerely,

Noah Oppenheim
Pacific Coast Federation of
Fishermen's Associations
& Institute for Fisheries
Resources
San Francisco, CA

Mike McCorkle
Southern California Trawlers
Association
Santa Barbara, CA

Jeremy Brown
Coastal Trollers Association
Seattle, WA

Steve Bodnar
Coos Bay Trawlers Association
Coos Bay, OR

Beth Casoni
Massachusetts Lobstermen's
Association
Scituate, MA

Brett Tolley
Northwest Atlantic Marine
Alliance
Gloucester, MA

Avery Bates
Organized Seafood Association of
Alabama
Bayou La Batre, AL

Bonnie Brady
Long Island Commercial Fishing
Association
Montauk, NY

Lisa Griffith
National Family Farm Coalition
Washington, DC

Johnny Foss
Wild Salmon Nation
King Salmon, AK

Marsh Skeele
Sitka Salmon Shares Inc.
Sitka, AK

Rob Seitz
South Bay Wild Inc.
Astoria, OR

Kevin Kondysar
Ocean Grown Inc.
Bodega Bay, Ca

Elizabeth Wiegand
NC Catch Inc.
Raleigh, NC

Annette Ernst
Sustainably Caught Inc.
Newport, OR

Craig Putnam Sr.
Slayers Guide Service, Inc.
Cheshire, OR

Mary Ellon Balance & William T.
Balance
Creative Ballance, Inc.
Hatteras, NC

Norman Pillen
Sea Lion Fisheries, LLC
Sitka, AK

Sharon Peele Kennedy
What's for Supper? Inc.
Hatteras, NC

Daniel J Farnham
Silver Dollar Seafood
New Bedford, MA

Joseph Conchelos
Conchelos Family Fisheries Inc.
Newport, OR

Kat Jones
Ventura Fresh Fish Inc.
Ventura, CA

Janis Angelini
Pac West Embroidery Inc.
Seattle, WA

Sean Barrett
Dock to Dish Community
Supported Fisheries Inc.
New York, NY

Scott Bertelsen
F/V Carina
Bodega Bay, CA

Erik Peterson
F/V Kingfisher
Pelican Alaska

Ken Clark
F/V Genki
Halfmoon Bay, CA

Aaron Longton
F/V Goldeneye
Port Orford, OR

Melissa Stringfield
Private citizen
Coos Bay, OR

Ramona Butters
Private citizen
Port Orford, OR

Aaron Ashdown
F/V Misty
Port Orford, OR

Lance Nacio
F/V Anna Marie & F/V Marisa
Jolie
Montegut, LA

Aaron weinzinger
F/V Regina Marie / CalPac
Fisheries
Noyo, CA

Scott Wintermute
F/V Grasshopper
Astoria, OR

Rick Metheny
F/V Joie Lynn
Trinidad, CA

Robert Johnstone
F/V Jeanne Arain
Garibaldi, OR

Linda Behnken
F/V Woodstock
Sitka, AK

Melissa Turvey
F/V The Shadow
Sitka, AK

Richard Nelson
F/V Pescadero
Friendship, ME

Matt Munkres
F/V Salish Sea
Gig Harbor, WA

Susan west
F/V Hollyhock Run
Outer Banks, NC

Rob West
F/V Lucy B.
Buxton, NC

Claudia Peele
Private citizen
Hatteras, NC

Carolyn Nichols
Commercial fisherman
Sitka, AK

Chris & Lisa Ystad
F/V Ocean Cape
Sitka, AK

Shannon oneal
F/V Shannon D
Hatteras, NC

David Oen
F/V Endurance
Sitka Alaska

Patrick S. Dixon
Dixon Photography
Olympia, WA

William Markowitz
F/V Canvasback
Cordova, Alaska

Jesse Remund
F/V Faithful
Sitka, AK

Joel Natterstad
F/V Swingin Lady
Ridgefield, WA

Robert C. Tillitz
F/V Ann
Crescent City, CA

Acey Hines
Commercial fisherman
Kitty Hawk, NC

Marty Remund
F/V Teasha
Port Alexander, AK

Bryson Jeff Cooper
Cooper Marine Inc.
Hertford, NC

Laura Luciano
Slow Food New York
Hampton Bays, NY

Wesley Peterson
F/V 2 Sea Sons
Montauk NY

Hope Stanger
Private citizen
Stamford, CT

Stefanie Sacks
Red Beets, LLC
Montauk, NY

Paul Farnham
Montauk Fish Dock Inc.
Montauk NY

Amy Tagliaferri
Slow Food South Shore
Oakdale, NY

David O'Neal
David O'Neal
Wanchese, NC

James Seitz
F/V Wrangler/ North Bay
Fisheries
Chinook, WA

Ronald Borjeson
F/V Angenette
Plymouth, MA

Dr Pennie Schwartz
Slow Foods East End
Southold, NY

Roxanne
Slow Food North Shore
Bayport, NY

Howard Miller
Kolossal Inc.
Venice, CA

Chris Miller
F/V Sea Spearit
Montauk, NY

Eric Hodge
F/V Rough Draft
Santa Barbara, CA

Ryan Speckman
Locals Seafood LLC
Raleigh, NC

Brett Houston
F/V BigDaddy
Wanchese, NC

Diane Wilson
F/V SeaBee
Seadrift, TX

Tom Joseph
F/V Sara Bella
Halfmoon Bay, CA

Jane & Ralph Pratt
Michael Kevin inc.
Marshfield, MA

Rob Odlin
Diving Adventures Inc.
Portland, ME

Jerry Rosell
F/V Good News
Hatteras, NC

Dan Strickland
F/V Little Sole
Washington, NC

Ananda Bossard
Otolith Sustainable Seafood
Sitka, AK

Alecia Moore
Private citizen
Westhampton Beach, NY

Robert Ingels
F/V Queen of Hearts
Halfmoon Bay, CA

Leesa Cobb
Port Orford Ocean Resource Team
Port Orford, OR

Richard Vergili
Slow Food Hudson Valley
Kingston, NY

Marc James
Marc James & Company
Kill Devil Hills, NC

Megan Spencer
Private citizen
Swan Quarter, NC

Sharon Feuer Gruber
Wide Net Project
Silver Spring, MD

Sam L Demmert
F/V Ocean Rambler
Yakutat, AK

Brian Chadwick
Chadwick Oysters Inc.
Marshallberg, NC

Ira Miller
F/V John V. Miller, Inc.
Tenants Harbor, ME

Richard Voliva
Commercial fisherman
Pamlico Beach, MD

Bill Telepan
Oceana Restaurant
New York, NY

Bill Hitchcock
Hitchcock Realty
Morehead City, NC

Robert Bryant
Bryant and Barnes Marine LLC
Charleston, OR

Chad Hatten
F/V Acrive II
Humboldt Bay, CA

Becky Duta
Commercial fisherman
Seattle, WA

Elizabeth Figus
Private individual/fisherman
Anchorage, AK

Lauren Mitchell
Commercial fisherman
Sitka, AK

James Palmer
F/V Night Winds
Port Orchard, WA

Brian Love
F/V Orca Roar
Brush Prairie, WA

Allan Richardson
F/V Saint Jude
Saint Jude

Pete Lastowski
Private citizen
Seattle, WA

Pete Lastowski
F/V Kathleen K
Seattle, WA

Nick Joseph
F/V Valiant Lady
Bellingham, WA

Susanne Ashland
Private citizen
Seattle, WA

Brian Johnson
Ocean Bay Marine
Seattle, WA

Giacomo Damato
F/V Giusy
Channel Islands, CA

John Norton
JD Concrete Inc.
Newport, OR

Marine Bannister
Viekoda LLC
Newport, OR

Suzanne McMillin
Private Citizen
Albany, OR

Dorothy Nagle
M/V DavidEllis
Sebastopol, CA

Eric Marxmiller
Sunset Salmon Co.
San Francisco, CA

Jim Marxmiller
F/V Mocha
Dillingham, AK

John Myking
F/V Marie M
Honolulu, HI

Mili Lundgren
Bristol Legacy Salmon Inc.
Bristol Bay, AK

Michael Lundgren
Bristol Legacy Salmon Inc.
Bristol Bay, AK

David Sandvik
F/V Ingolf
Dillingham, AK

Celeste Beck-Goodell
FV Dirty Deeds
Kodiak, AK

Steve Fosso
F/V Miss Lauren
Anacortes, WA

Mark Meadows
F/V Ruth M
Valdez, AK

Sandra Earle
Bird Rock Fishery Inc.
Kodiak, AK

Nan Thompson
F/V Navigator
Moose Pass, AK

Giovanni Pennisi
F/V Irene's Way
Monterey, CA

Chuck Ridley
Seattle's Best Fish Inc.
Edmonds, WA

Michael Corl
F/V Renegade
Petersberg, AK

Stephen Hochberg
Private citizen
Seattle, WA

Paul Schuyler
Flyer Commercial Fisheries Inc.
Morro Bay, CA

George Bradshaw
F/V Swan
Crescent City

Mike Johnson
F/V South Sea
Ilwaco, WA

Cathy Anello
Anello Family Crab and Seafood
Inc.
Bodega Bay, CA

Tyson Fick
Taku River Reds Inc. & F/V
Heather Anne
Juneau, AK

Cody Chase
F/V Monde Uni
Newport, OR

Colin Duncan
Forever Wild Seafood Inc.
Portland, OR

Ari Georgakopoulos
Deschutes Lobster Co.
Bend, OR

Dori Olsen
F/V Independence
Kodiak, AK

Hailey Thompson
The Knotty Crew Inc.
Kodiak, AK

Ryan Keating
F/V Sea Hag
Dillingham, AK

Matt Gillman
F/V Martin
Westport, WA

Jody Pope
Wefish Inc.
Westport, WA

Robert Seitz
Artech Engineering Inc.
Kodiak, AK

Heather Jackson
Private citizen
Seattle, WA