

USDA Aquaculture Atlantic Salmon Listening Session, Orono, Maine  
June 6, 2018  
Notes

Co-Hosts:

- USDA National Institute of Food and Agriculture, National Program Leader, Aquaculture
- USDA Agricultural Research Service, National Cold-Water Marine Aquaculture Center (NCWMAC) at the New England Plant, Soil and Water Research Laboratory located on the University of Maine Campus in Orono, Maine

25 attendees: producers, industry, academia, and federal and ARS scientists – see list

**Genetics, Breeding and Broodstock:**

- Continue selection in Atlantic salmon for growth in net pen production systems while minimizing inbreeding.
- Evaluate genetic by environmental interactions for Atlantic salmon reared in recirculation aquaculture systems and net pens.
- Establish a breeding program to improve performance of Atlantic salmon in recirculating aquaculture systems.
- Support open sharing of information, resources for salmonid breeding.
- Develop broodstock for year-round availability of Atlantic salmon eggs.
- Need for specific pathogen free fish, including HPRO (Infectious Salmon Anemia Virus).
- Stakeholders documented a lack of interest in the NCWMAC Arctic char broodstock, favoring cryopreservation of the line and shifting of resources to higher priorities.
- Establish lumpfish broodstock selected for effectively removing sea lice.
- Seasonal availability of lumpfish.

**Fish Health:**

- Integrated technologies that reduce impacts of sea lice.
- Explore potential for disease transmission using lumpfish?
- Vaccines for lumpfish pathogens.
- Vaccines for Atlantic salmon pathogens.
- Develop integrated approaches for managing fish health in RAS, similar to NCCCWA (National Center for Cool and Cold Water Aquaculture) approaches for rainbow trout.
- Need field validations of different alternatives to antibiotics: Do pre- and pro-biotics have practical applications for fish health?

**Nutrition:**

- Evaluate the impact of fish feeds on off flavor in recirculating aquaculture systems.
- Evaluate the impact of different binders on feed digestibility and water quality in recirculating aquaculture systems.
- Validate US sources of single cell protein, algal oil as ingredients in fish feeds.
- Using wastes from local industries to develop feeds for local fish production.
- Evaluate natural and synthetic sources of pigments.

**Additional Priorities:**

- Workforce Development for Maine Aquaculture Industry. Need for training with skills that reduce the cost/risk of new hires (including hands-on experience).

- Tools for traceability of seafood in the US market-place.
- Education (youth, millennials) on current practices in aquaculture (e.g., 4-H, STEM education).
- Waste discharge management in recirculating systems. What value is there in the solids recovered?

#### LIST OF ATTENDEES

<b>Name</b>	<b>Affiliation</b>
Andrea Maker	Pierce Atwood
Armin Ramirez	Bio-Oregon
Bill Keleher	Kennebec River Biosciences
Brian Peterson	USDA, ARS - Franklin, ME
Brittany Peachey	Hudson Valley Fish Farms, Inc
Caird Rexroad	USDA, ARS Office of National Programs
Christopher Good	The Conservation Fund Freshwater Institute
Dave Morang	Cooke Aquaculture, USA
Davin O'Connell	USDA/ARS-Franklin, ME
Deborah Bouchard	University of Main
Dina Proestou	USDA/ARS-Kingston, RI
Frank Powell	Cooke Aquaculture, USA
Gary Burr	USDA/ARS-Franklin, ME
Gene Kim	USDA NIFA
Greg Lambert	Cooke Aquaculture, USA
Jake Elliot	Cooke Aquaculture, USA
Jason Collins	FishVet Group
Jason Mann	Reverence and Evaqua Farms
Jennifer Fortier	Whole Oceans, LLC
Mark Rath	NOAA
Michael Pietrak	USDA/ARS - Franklin, ME
Rob Young	Riverance and Evaqua Farms
Sebastian Belle	Maine Aquaculture Association (unable to attend)
Steve Eddy	University of Maine
Steven Summerfelt	The Conservation Fund Freshwater Institute