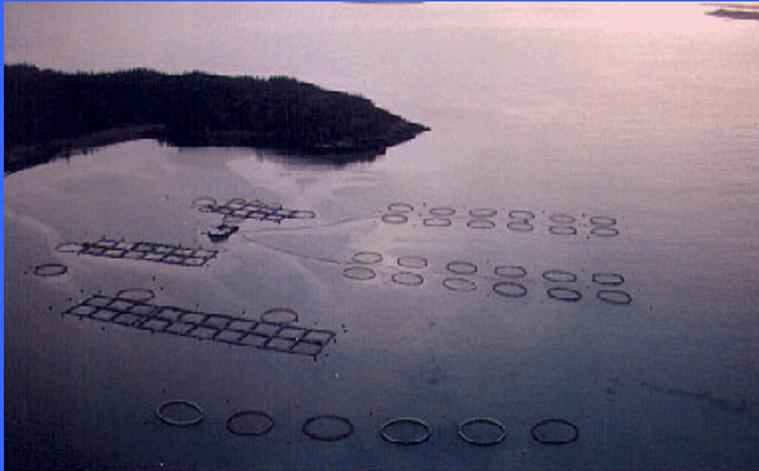


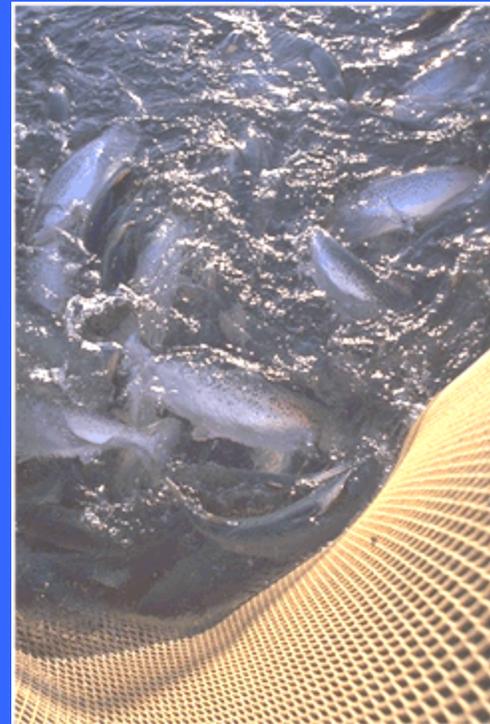
# National Aquaculture Program

- APHIS' National Aquaculture Program is administered by APHIS' Veterinary Services (VS) and APHIS' Wildlife Services (WS). VS provides Federal leadership in aquatic animal health monitoring and disease eradication while WS provides solutions to wildlife damage and other wildlife conflicts with aquaculture.

# The Salmon Industry



- Raising in the pens

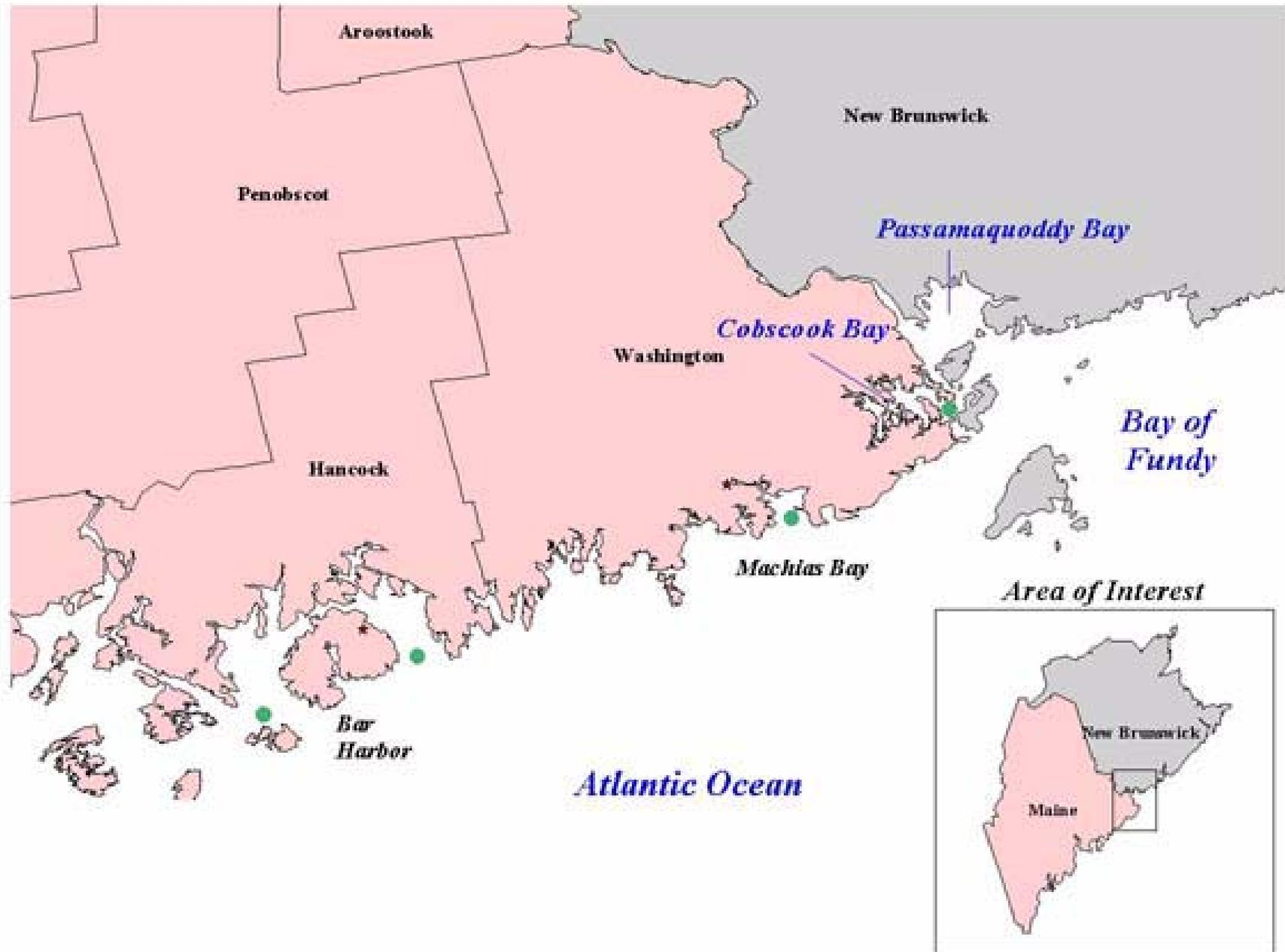


# Harvesting and Processing



Processing  
Plant

# Salmon Pen Sites in Maine



# Infectious Salmon Anemia

## Foreign Animal Disease

- Depopulation
- Trade Embargo
- Economic Disruption
- **History:**
  - Norway, 1984
  - New Brunswick, Canada, 1996
  - Nova Scotia, Canada, 1998
  - Scotland, 1998
  - Faroe Islands, 2000
  - Chile, 2000
  - United States, 2001

# Wild Atlantic salmon *a wondrous life cycle*



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Adult



Smolt



Spawning in a Redd



Eggs



Eyed eggs



Alevin



Fry



Parr

Visit [www.asf.ca](http://www.asf.ca)  
to learn more

Atlantic Salmon Federation

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(506) 529-4583  
[www.asf.ca](http://www.asf.ca)

Illustrations by Judi Penman

ISA virus infected fish with external hemorrhages



ISA virus infected fish with internal hemorrhages

# Maine Response

- **Improved biosecurity**
- **FHTC & EAVA ISA awareness**
- **ISA vaccine trials**
- **Surveillances key to early and effective damage control and management strategies**
- **Disinfection and waste management protocols established**
- **Single year-class populations and fallowing**

# USDA Implements ISA Program

- **December 13, 2001-Declaration of Animal Health Emergency.**
- **\$8.3 million for ISA control and indemnity program for farm raised salmon (\$7.2M for indemnity, \$1.1M for APHIS, VS).**
- **\$1.1 million for Program activities, depop and disposal, cleanup and disinfection, surveillance sampling, epidemiology and diagnostic support, and training for producers and veterinarians.**

# **APHIS ISA Vision for the Future**

- **Commercial Aquaculture**
- **No outbreaks of ISA in low risk zones**
- **Reduction of outbreaks in High risk zones to zero**
- **Eliminate reoccurrences of ISA in cultured salmon**
- **Assist Industry & State in establishing self – insurance program for indemnity for ISA**

# Currently Available Biologics for Fish

- **Aeromonas Salmonicida Bacterin**
- **Aeromonas Salmonicida-Vibrio Anguillarum Bacterin**
- **Autogenous Vaccine & Autogenous Bacterin**
- **Aeromonas Salmonicida-Vibrio Anguillarum-Salmonicida Bacterin**
- **Aeromonas Salmonicida-Vibrio Anguillarum-Salmonicida-Viscosus Bacterin**

# Currently Available Biologics for Fish

- **Yersinia Ruckeri Bacterin**
- **Vibrio Anguillarum-Ordalii Bacterin**
- **Vibrio Anguillarum-Salmonicida Bacterin**
- **Vibrio Salmonicida Bacterin**
- **Aeromonas Salmonicida-Vibrio Anguillarum-Ordalii-Salmonicida Bacterin**
- **Arthrobacter Vaccine, Live Culture**
- **Edwardsiella Ictaluri Bacterin**
- **Edwardsiella Ictaluri Vaccine, Live Culture**

# Currently Available Biologics for Fish

- **Flavobacterium Columnare Bacterin**
- **Infectious Salmon Anemia Virus Vaccine, Killed Virus**
- **Infectious Salmon Anemia Virus Vaccine, Killed Virus, Aeromonas Salmonicida-Vibrio Anguillarum-Ordalii-Salmonicida Bacterin**
- **Renibacterium Salmoninarum Antigen Test Kit**

## **Web Sites for More Information**

- <http://www.aphis.usda.gov/vs/aqua/aquaphis.html>
- <http://www.aphis.usda.gov/vs/cvb/AquaLicenses.htm>
- <http://www.aphis.usda.gov/vs/aquaculture.htm>
- <http://aquanic.org>