

Salmon Aquaculture in the Pacific Northwest



Newport High School, Newport, Oregon

Yuanbo Liu
Allison Printz
Emily Rackleff
Jason Brazel
Katie Collson

Definition of terms:

Wild



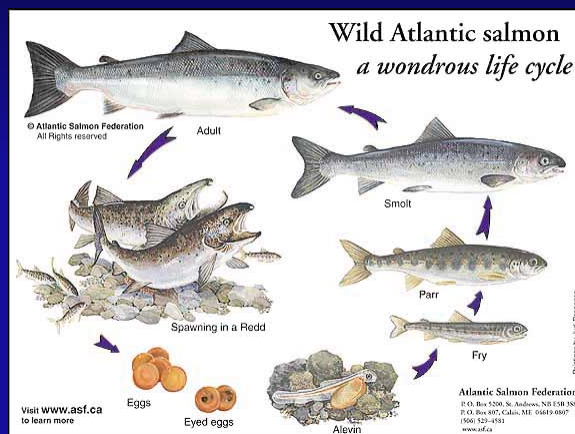
Farmed

Salmon Species



Chinook Coho Sockeye Pink Chum
Atlantic

Wild Salmon Lifecycle



Atlantic *Salmo salar*

Salmon Farms



Northwest



British Columbia

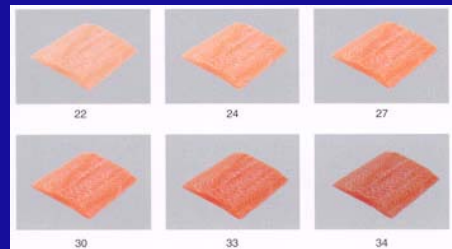
Farmed Salmon Lifecycle

- Incubate eggs
- Exposed hatched alevins to dim light
- Raise parr in freshwater to smolts



Farmed Salmon Lifecycle

- Raise the smolts to adult size in saltwater pens
- Harvest full sized fish
- Prepare harvested



Local Issues

Newport, Oregon



Commercial Fishing



Sport Fishing



Oyster Farms

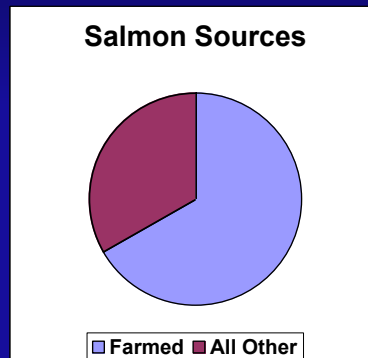
Pros

- Provides jobs
- Reduces demand on wild stocks



Pros

- Provides 2/3 of the world's demand for salmon
- Affordable
- Available year round
- Consistent



Cons

Effects on:

- Wild salmon
- The environment
- People



Effects on Wild Salmon

- Parasites & disease
- Interbreeding
- Competition



Effects on the Environment

- Pollution
 - Waste products
 - Chemicals



Effects on People

- Health
 - Unsafe levels of PCBs
 - Antibiotics & pesticides
 - Antifouling chemicals from pens
- Economic
 - Competition with fishermen



Possible Solutions

- Closed systems
- Sterilization
- Increase testing
- Bracketed tax increase
- Require insurance
- Monitor feed & chemicals

On the Horizon Transgenic Salmon



Farmed vs Wild



Salmon Species



Sockeye

Oncorhynchus nerka

Salmon Species



Chinook *Oncorhynchus tshawytscha*

Salmon Species



Pink *Oncorhynchus gorbuscha*