

Oregon Coastal Coho Salmon Stocks Health Assessment

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**Tony Amandi
Fish Health Services**



Disease as a Factor for Decline

➤ Federal Register (1997) — “relative to effects of fishing, habitat degradation and hatchery practices, *disease* and predation are not believed to be major factors contributing to the overall decline of coho salmon in CA and OR”



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➤ 2004 — Current knowledge of the impacts of disease agents on naturally produced coastal coho salmon suggests the risks to the ESU are minimal

Causes of Disease In Coho Salmon

Infectious Agents

Parasites

Bacteria

Fungi

Viruses

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Non-Infectious Factors

Environmental

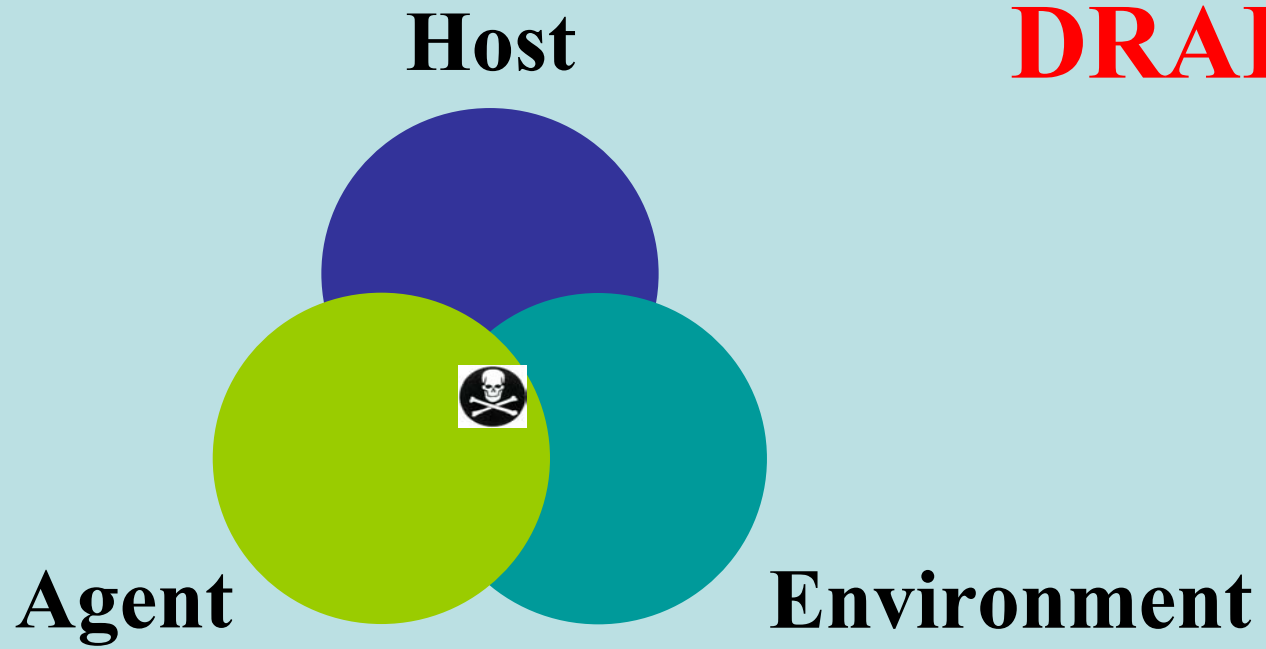
Nutritional

Genetic

Some Disease Causes Remain Unknown

Susceptibility of naturally reared and hatchery coho salmon to pathogens is varied and highly dependent on environmental and physical factors

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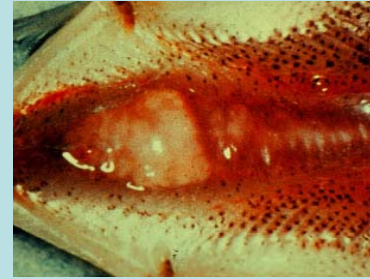


Coho salmon are highly susceptible to the following pathogens

Flavobacterium psychrophilum (CWD)

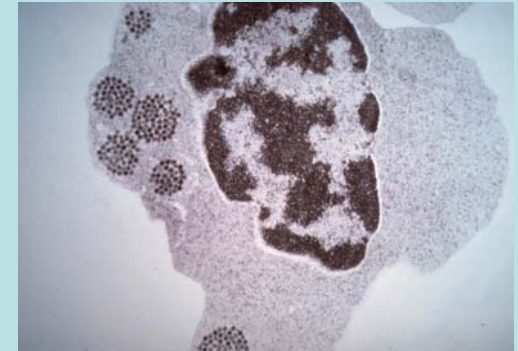


Renibacterium salmoninarum (BKD)



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Erythrocytic Inclusion Body Syndrome (EIBS)



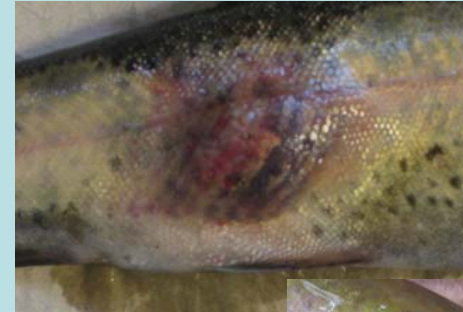
Coho Anemia Disease (CAD)



Other Pathogens of Concern for Coho Salmon

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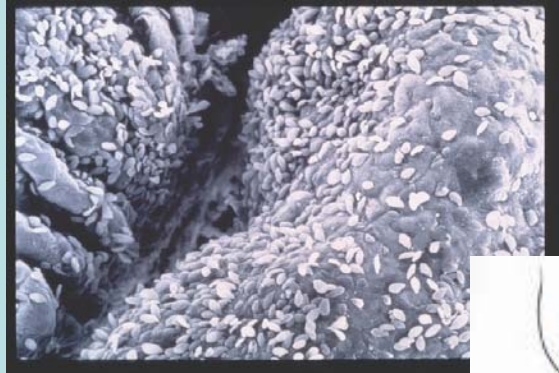
External fungi



Aeromonas salmonicida (Furunculosis)



Ichthyobodo



Gill Amoeba



Pathogen Detection in Hatchery Environments

- **All the previously listed pathogens have been detected**
- **Successful therapies exist for most**

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Pathogen Detection in Natural Environments

- **Limited information is available for most stocks**
- **Most previously discussed pathogens have been detected**
- **No therapies possible**

Pathogen Transmission

- **Fish in high densities in either hatchery or natural environments**
- **Extreme environmental or rearing conditions**

Pathogen Control

Natural Environments

- Little beyond increased water flows where possible

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Hatchery Environments

- Improve rearing conditions
- Disease agent avoidance
- Regular fish health monitoring exams
- Apply appropriate therapies

Reduce the impact of pathogens on naturally reared stocks

Department adopted two policies in 2003

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Fish Hatchery Management Policy

- **Improved hatchery practices will reduce stress and enhance resistance to pathogens**

Fish Health Management Policy

- **Control egg and fish movements**
- **Prescribe preventative, therapeutic and disinfection strategies**

Summary

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***R. salmoninarum* has the highest potential for impacting naturally reared stocks of coho salmon**

No outbreaks of this disease have been reported in naturally reared coastal coho salmon

Other pathogens may have an impact only during extreme environmental events

Applications of the rules in the policies adopted in 2003 will produce healthier hatchery reared fish populations

Current knowledge of the impacts of disease agents on naturally produced coastal coho salmon suggests the risks to the ESU are minimal

Questions?

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