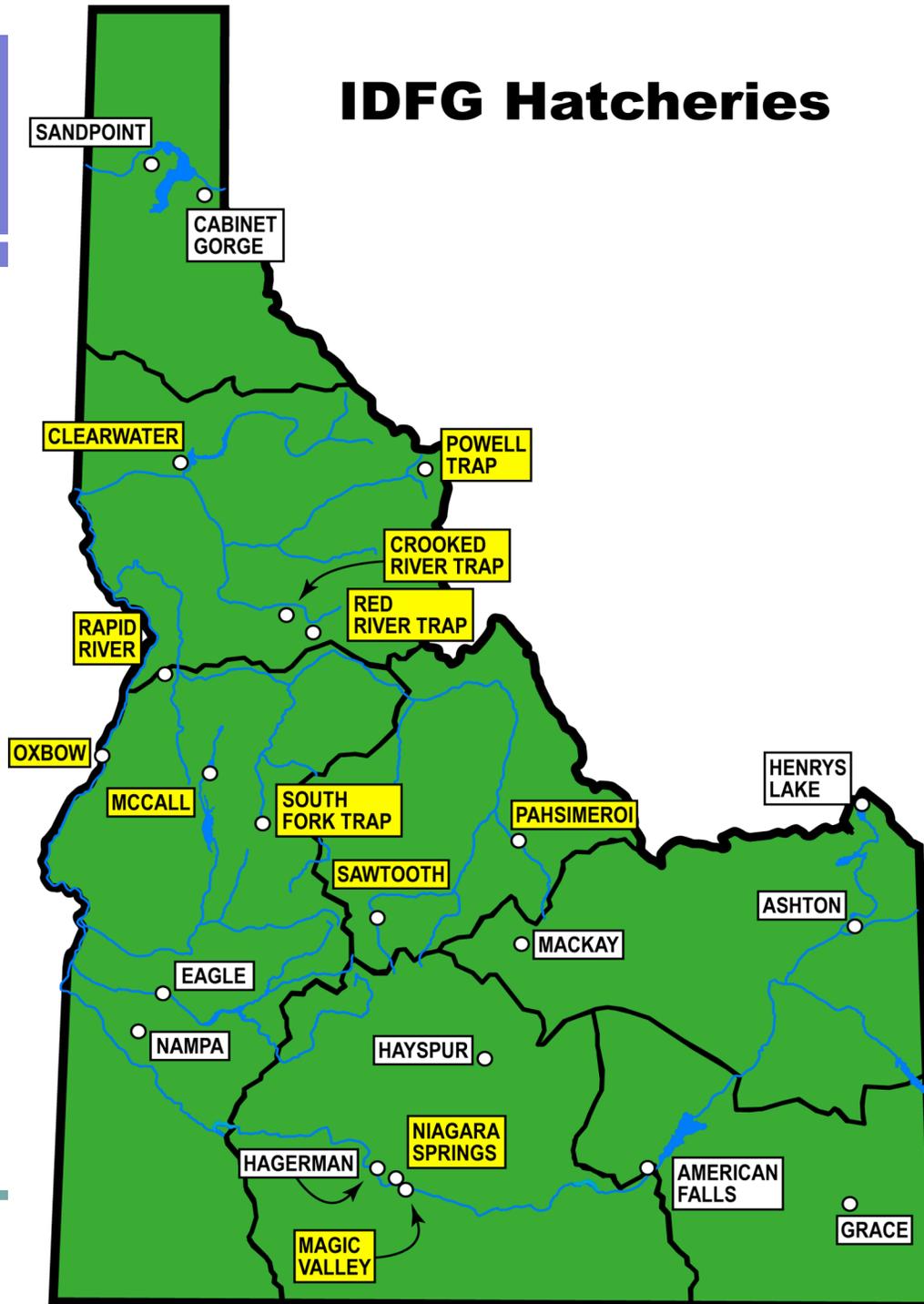


BKD MANAGEMENT AT IDFG CHINOOK FACILITIES

**DOUGLAS MUNSON
KEITH JOHNSON**

IDFG Hatcheries

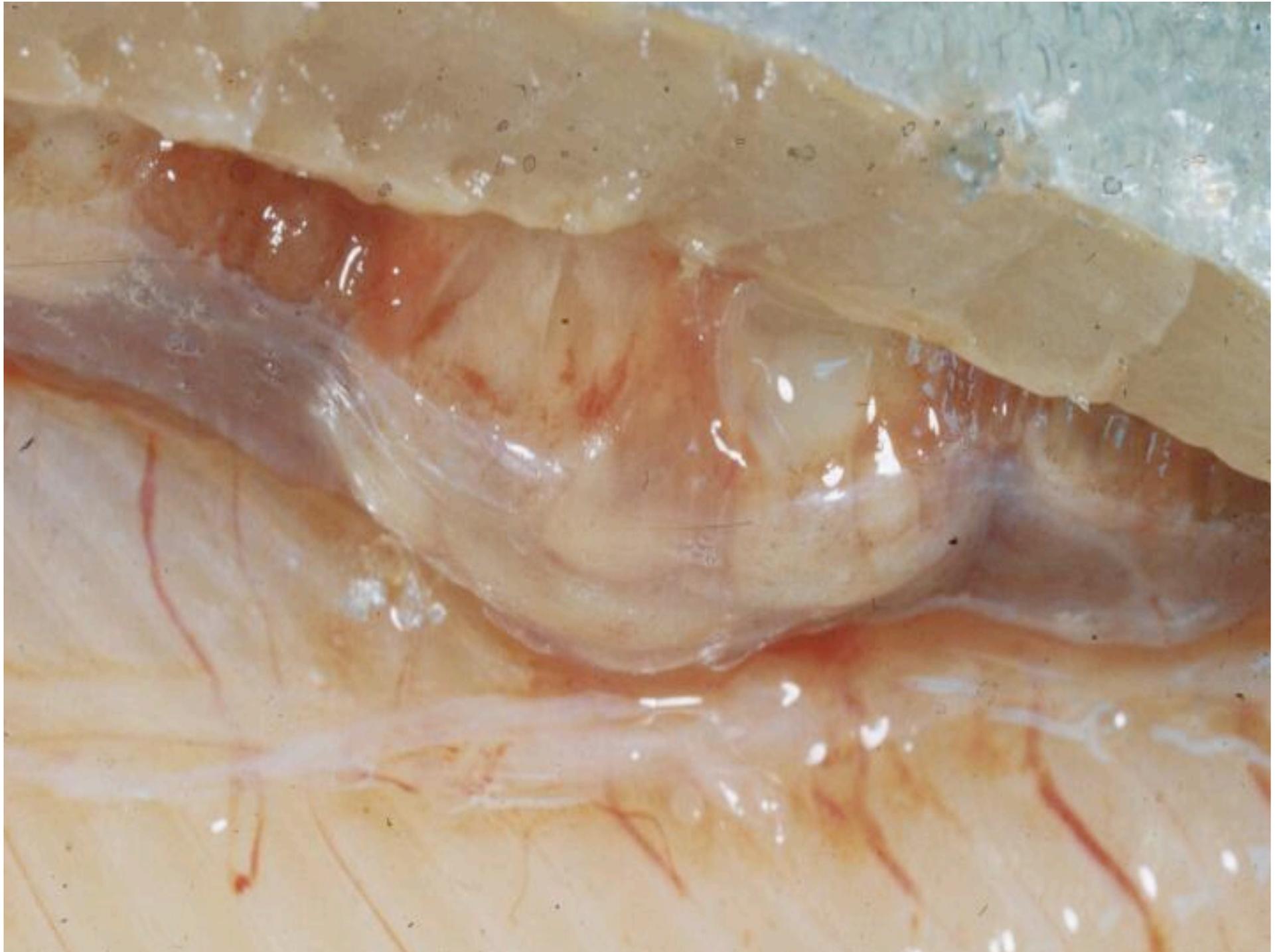












IODINE DISINFECTION OF EGGS



EGGS

ELISA-BASED CULLING PROGRAM



ALEVINS



FRY



**JUVENILE
PROPHYLACTIC
TREATMENT**



Male



Female

RETURNING ADULTS



SMOLTS

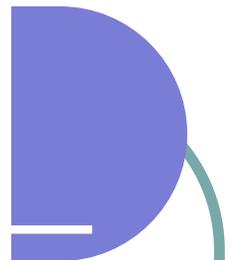
BROOD STOCK INJECTIONS

LIFE CYCLE OF CHINOOK SALMON

INTRA-PERITONEAL INJECTIONS



- **EACH RETURNING ADULT SALMON IS GIVEN AN INTRA-PERITONEAL INJECTION AT THE PELVIC FIN SITE.**
- **EACH FISH IS INJECTED WITH 20 mg/kg OF ERYTHROMYCIN.**
- **TO LIMIT PRE-SPAWNING MORTALITY DUE TO BKD.**



IODINE DISINFECTION OF EGGS

EGGS

ELISA-BASED CULLING PROGRAM



Male



ALEVINS

BROOD STOCK INJECTIONS



Female



FRY

RETURNING ADULTS

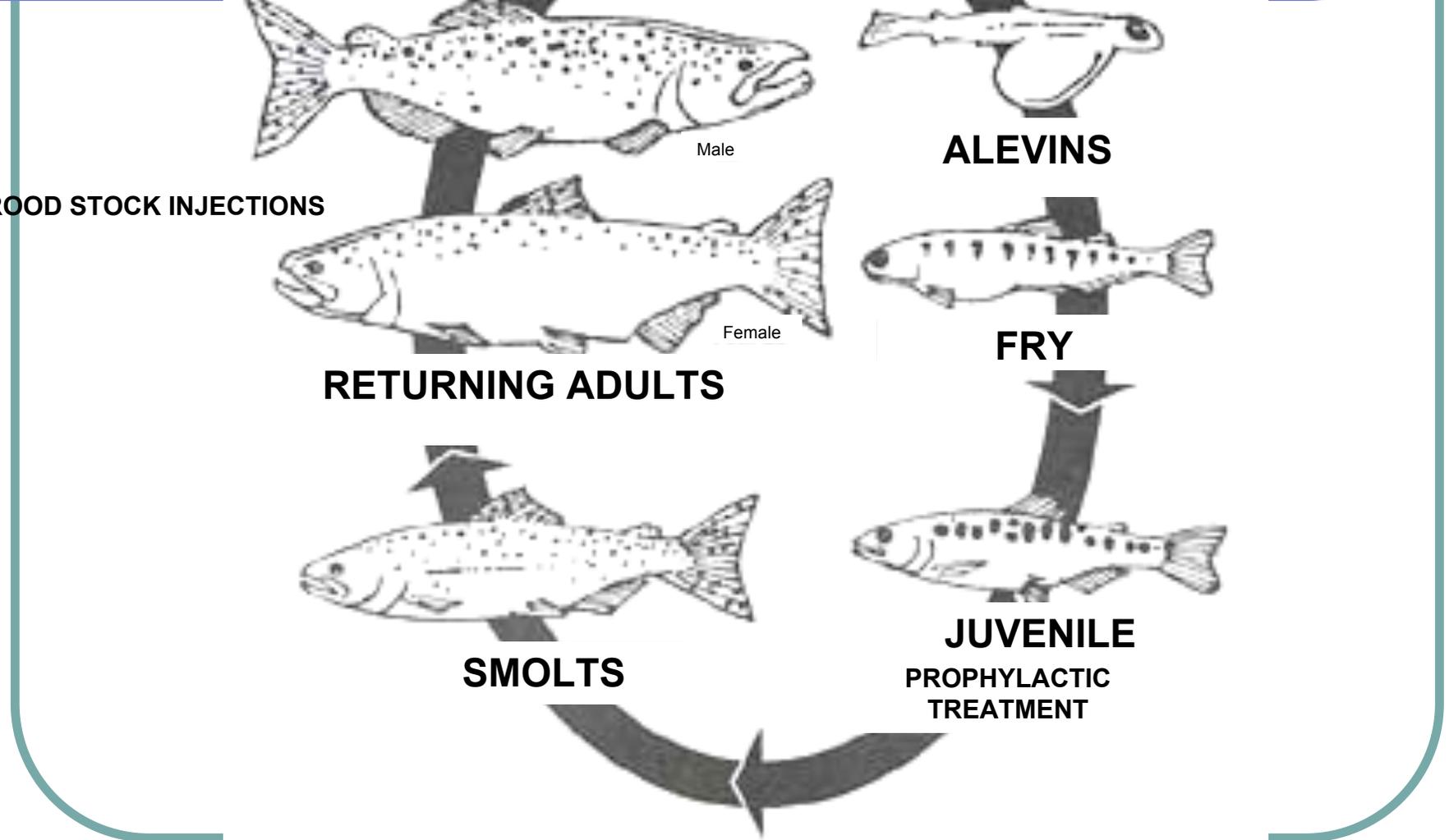


SMOLTS



**JUVENILE
PROPHYLACTIC
TREATMENT**

LIFE CYCLE OF CHINOOK SALMON





IODINE DISINFECTION OF EGGS



EGGS

ELISA-BASED CULLING PROGRAM



ALEVINS



FRY



**JUVENILE
PROPHYLACTIC
TREATMENT**



Male



Female

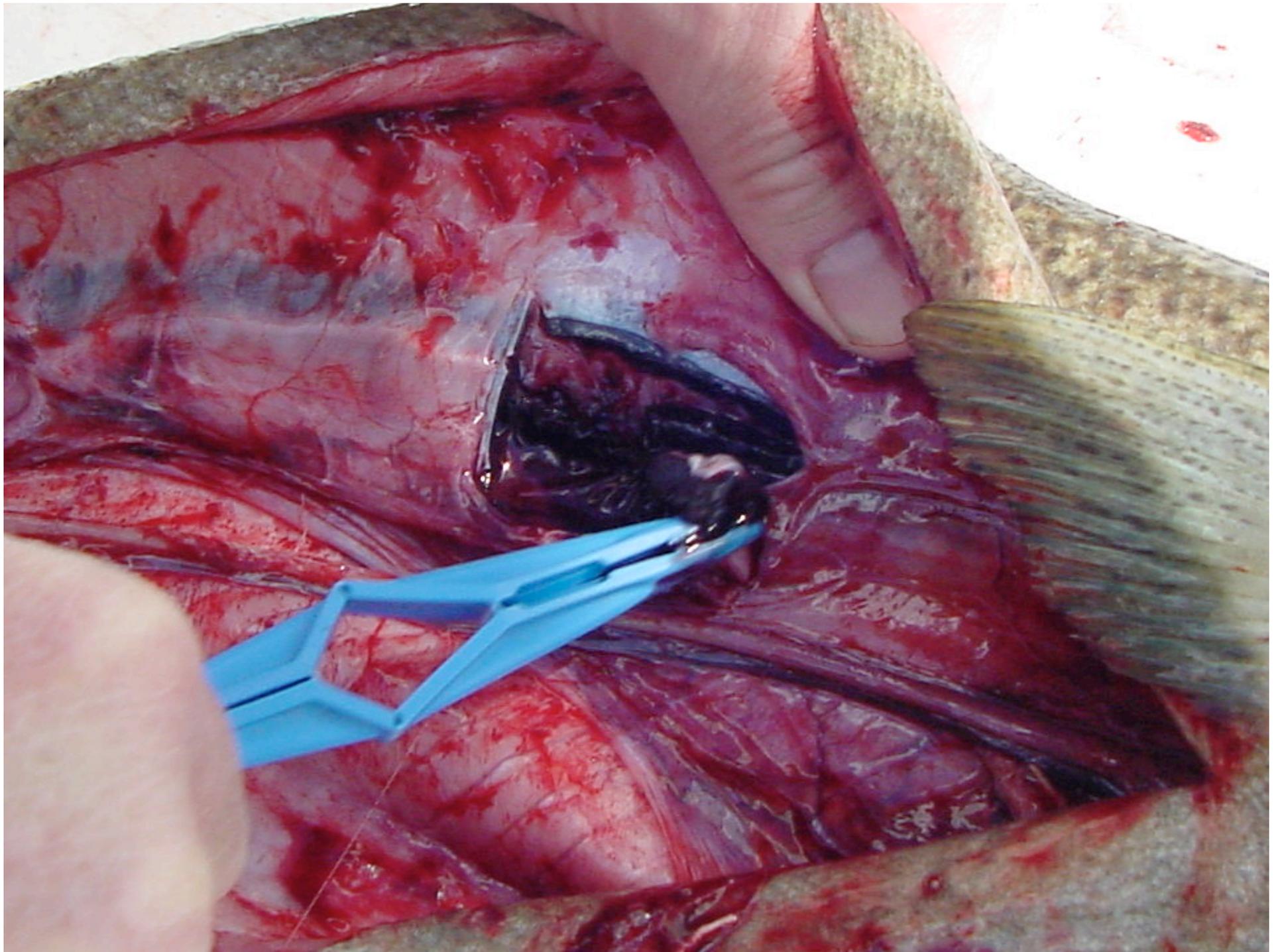
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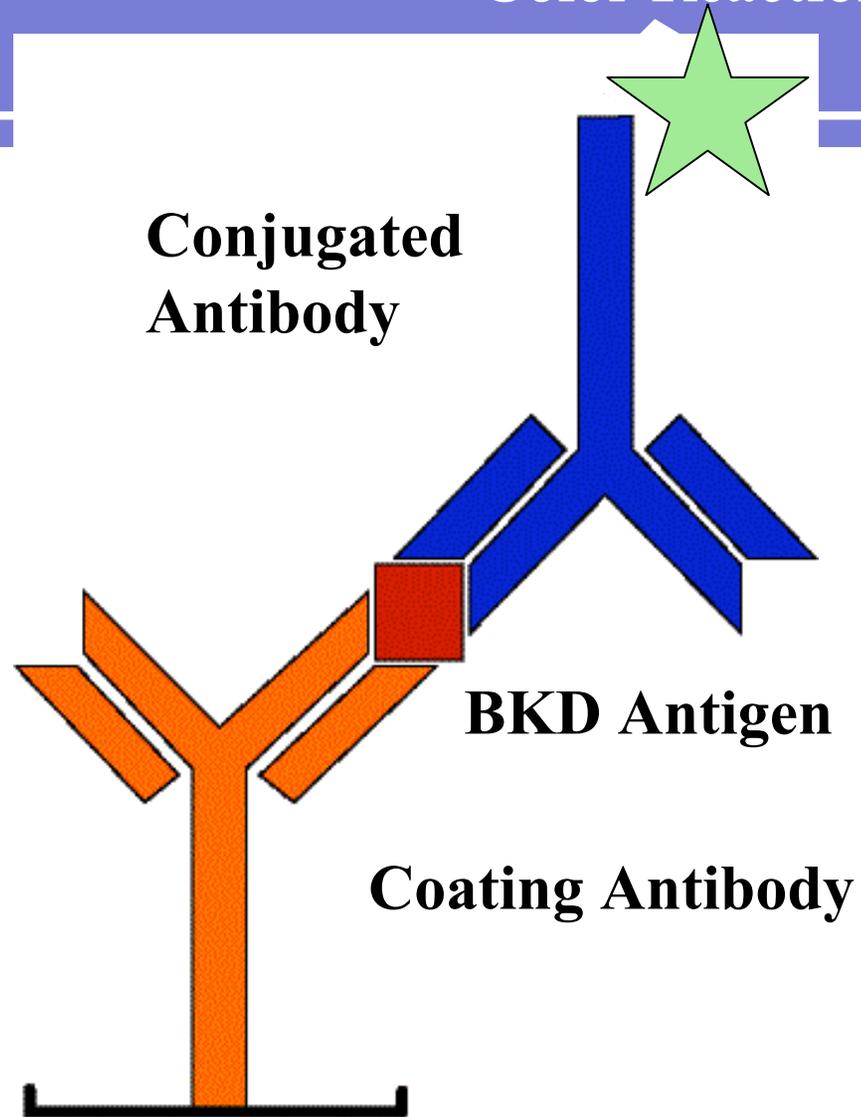
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BROOD STOCK INJECTIONS

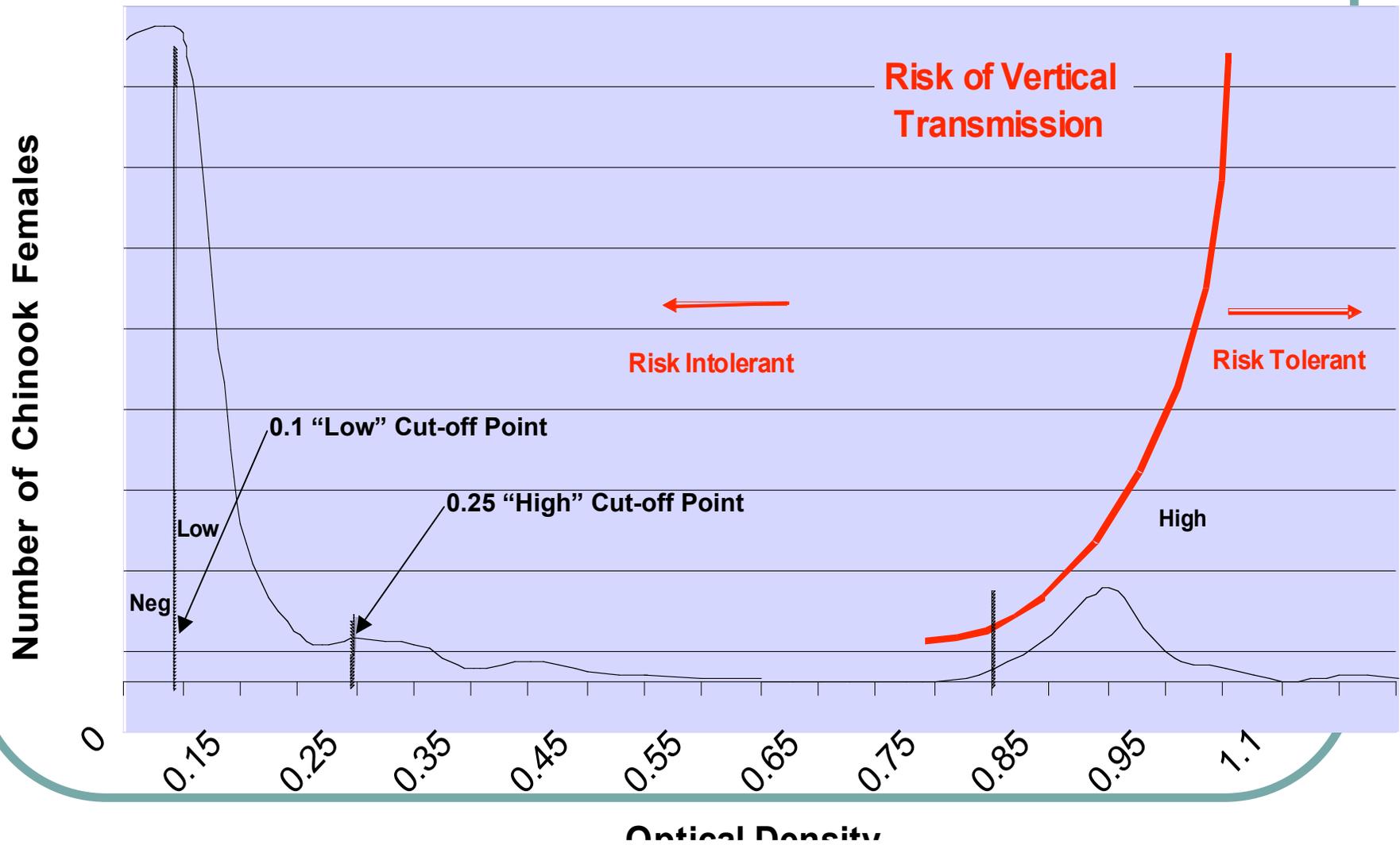
LIFE CYCLE OF CHINOOK SALMON



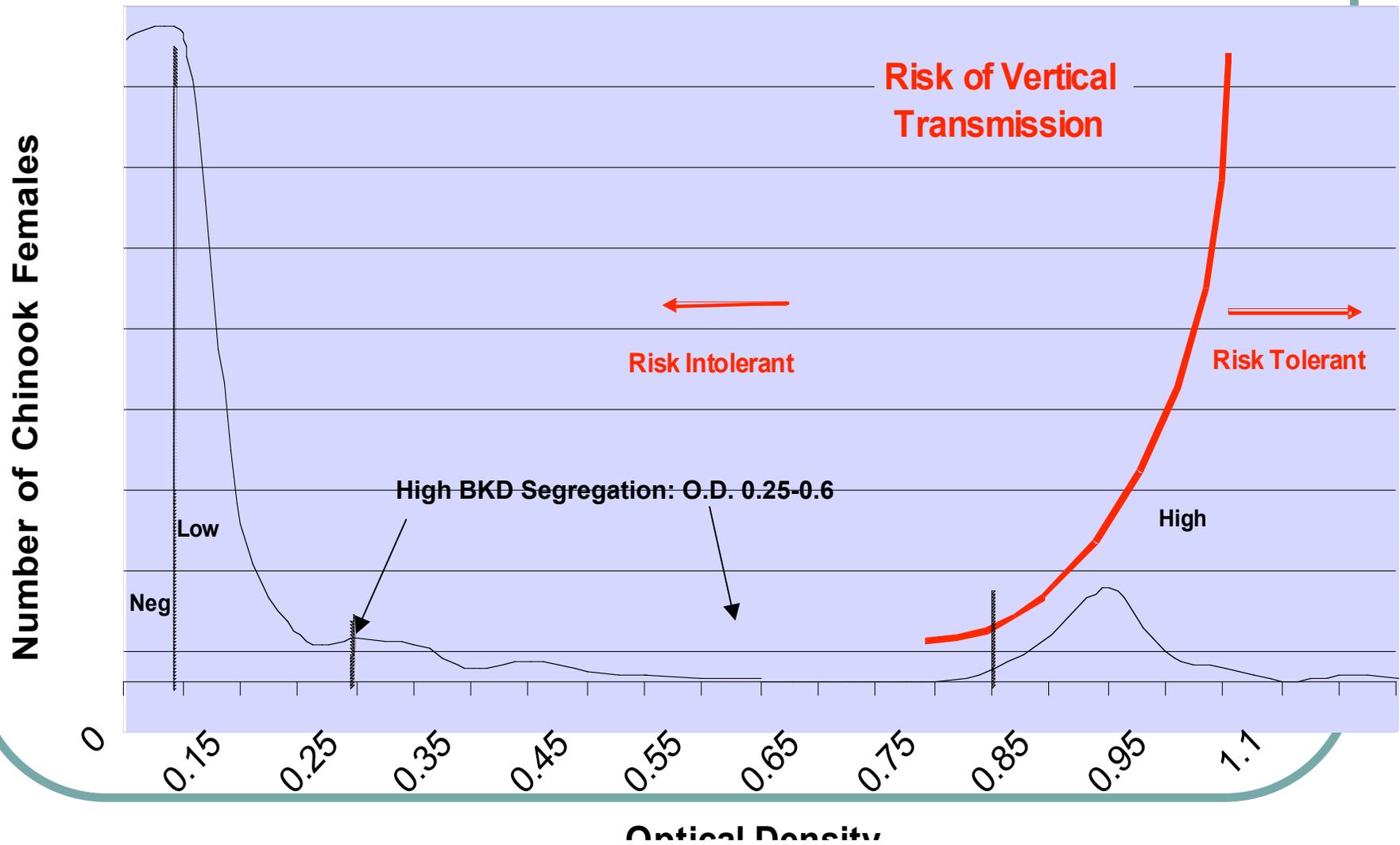
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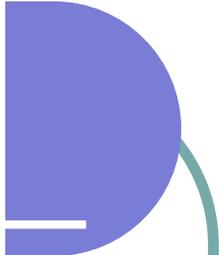


Selecting Culling/Segregation Cut-Off OD Values A Concept (Good KPL Antibody)



Selecting Culling/Segregation Cut-Off OD Values A Concept (Good KPL Antibody)





IODINE DISINFECTION OF EGGS



EGGS

ELISA-BASED CULLING PROGRAM



Male



ALEVINS

BROOD STOCK INJECTIONS



Female



FRY

RETURNING ADULTS



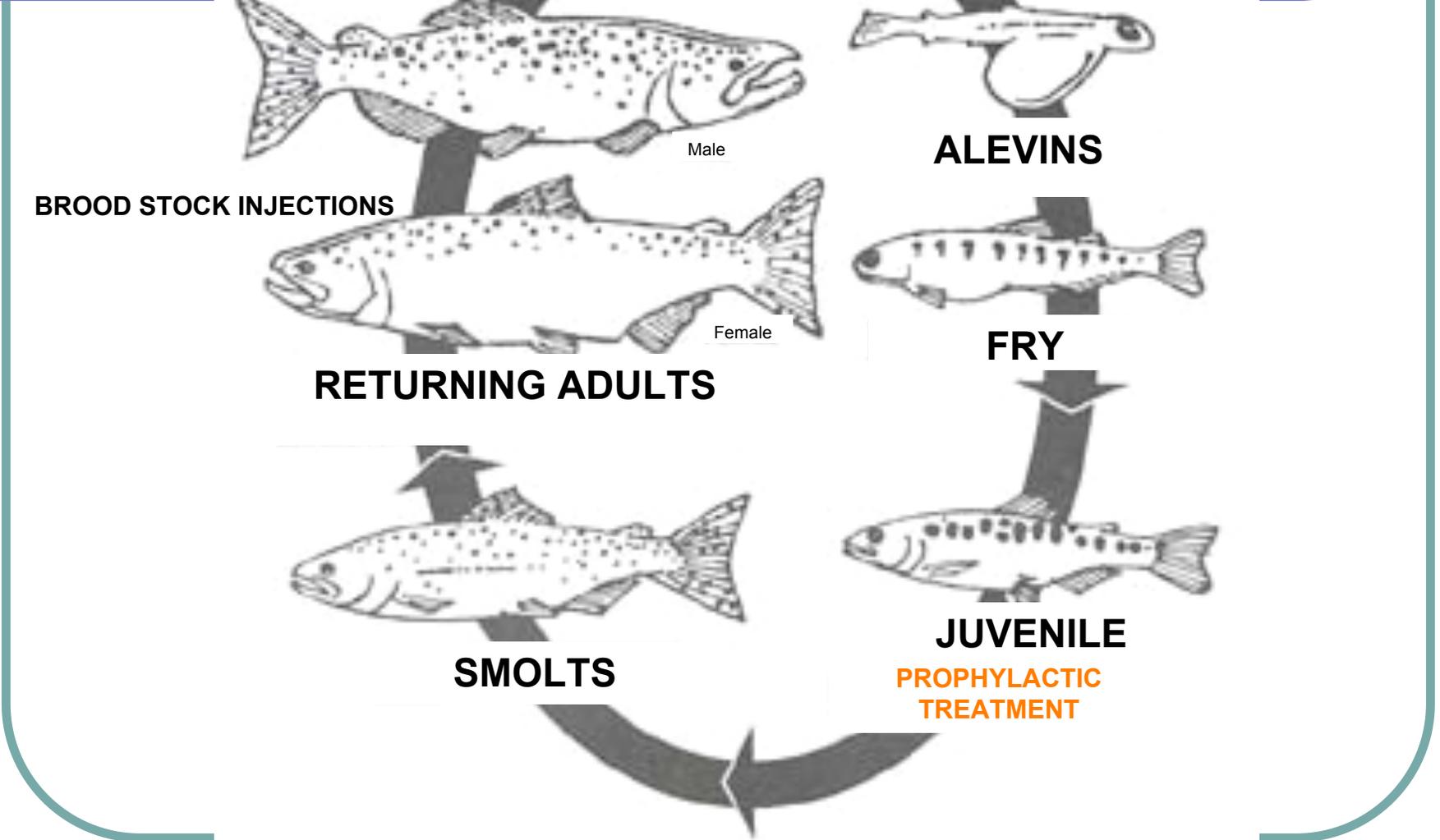
SMOLTS



JUVENILE

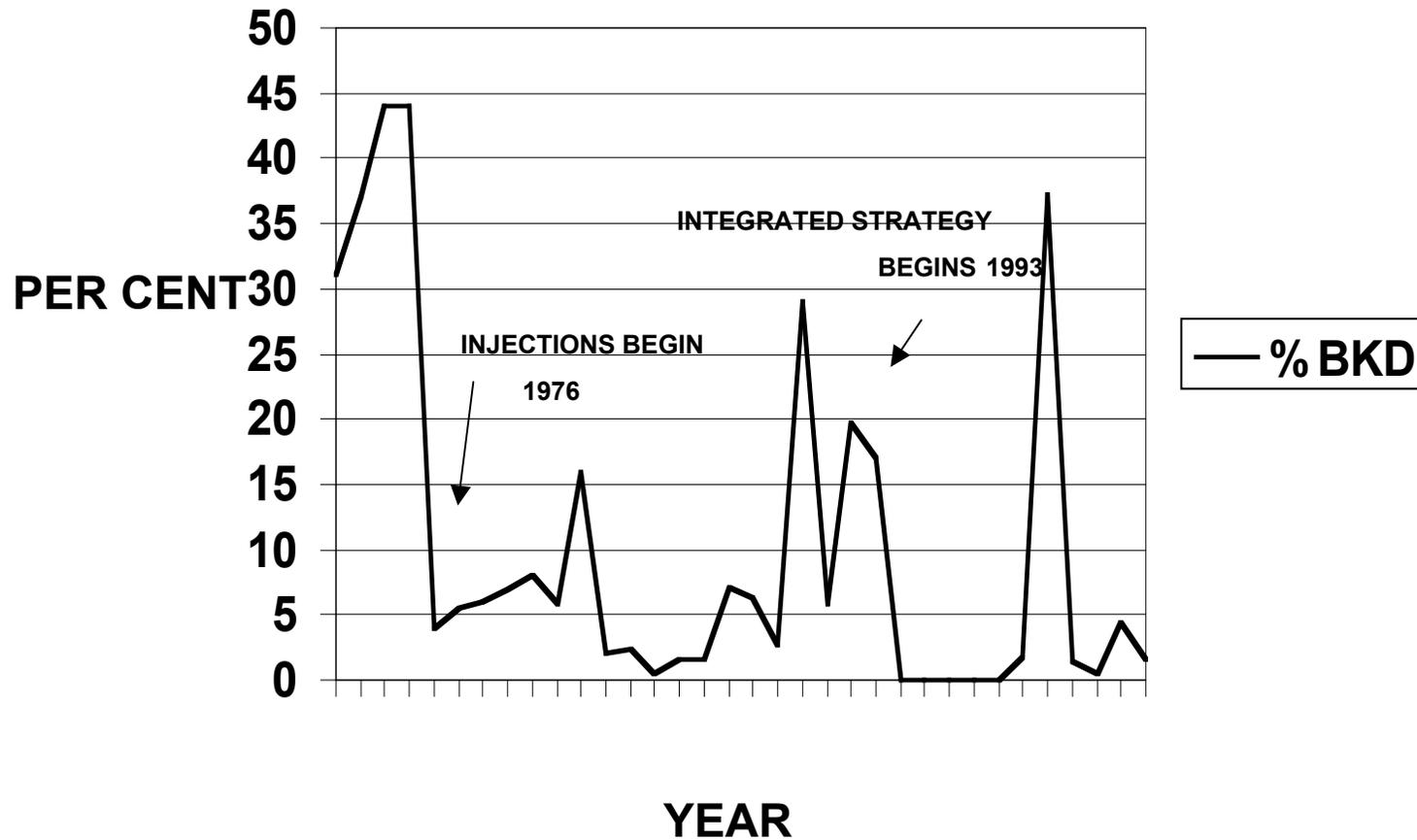
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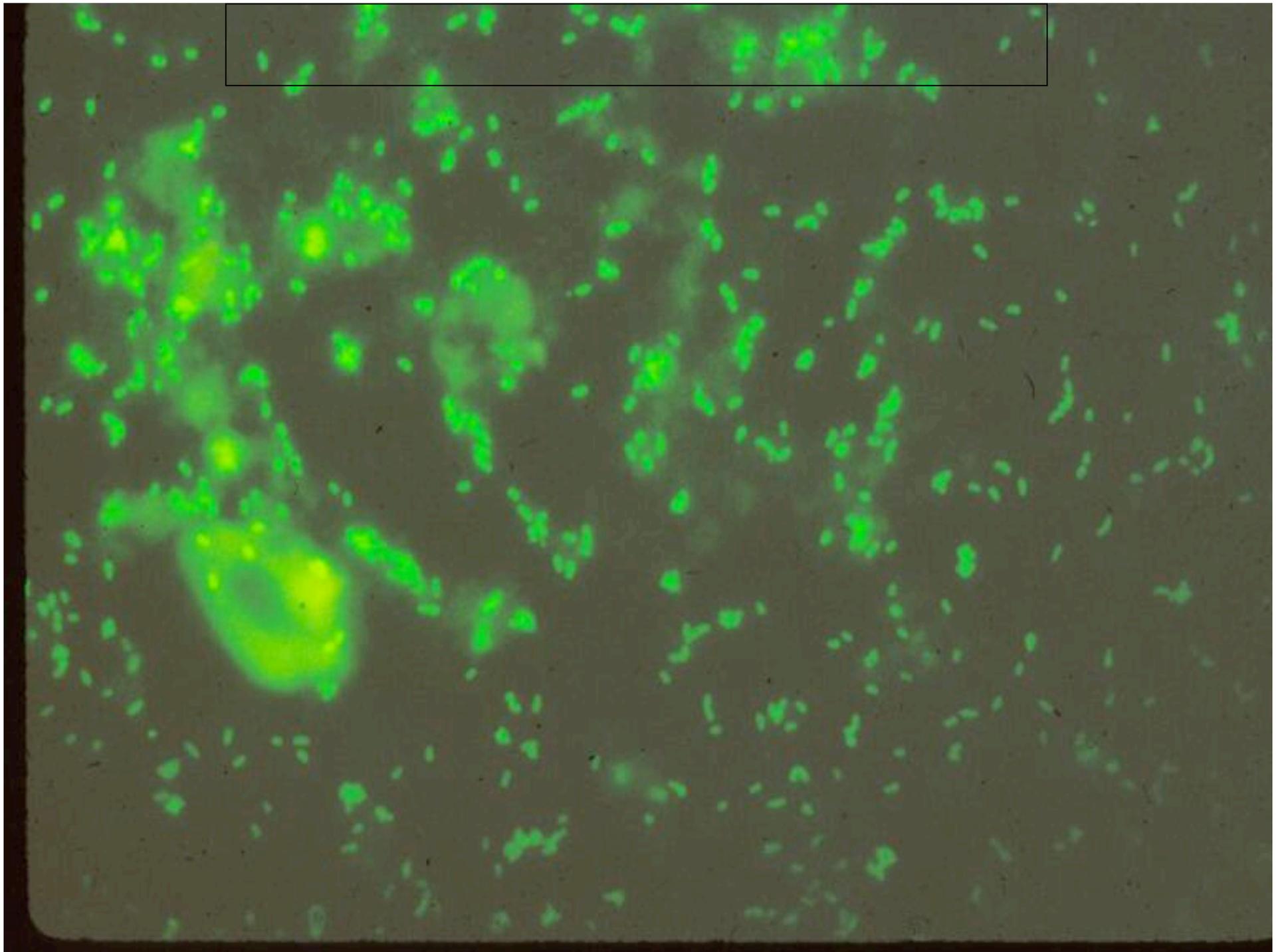
LIFE CYCLE OF CHINOOK SALMON



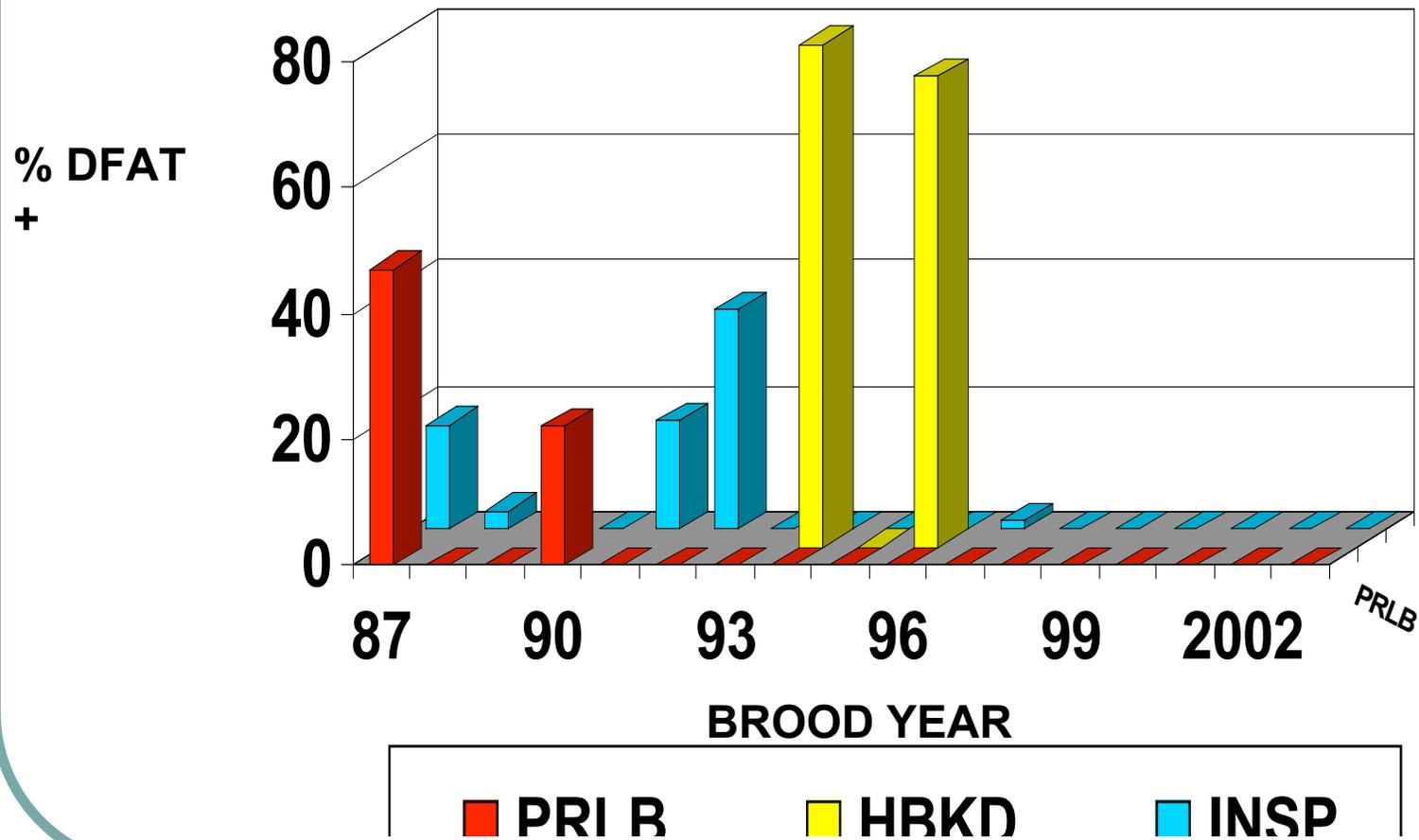


PRE-SPAWNING MORTALITY ATTRIBUTED TO BKD AT RAPID RIVER HATCHERY

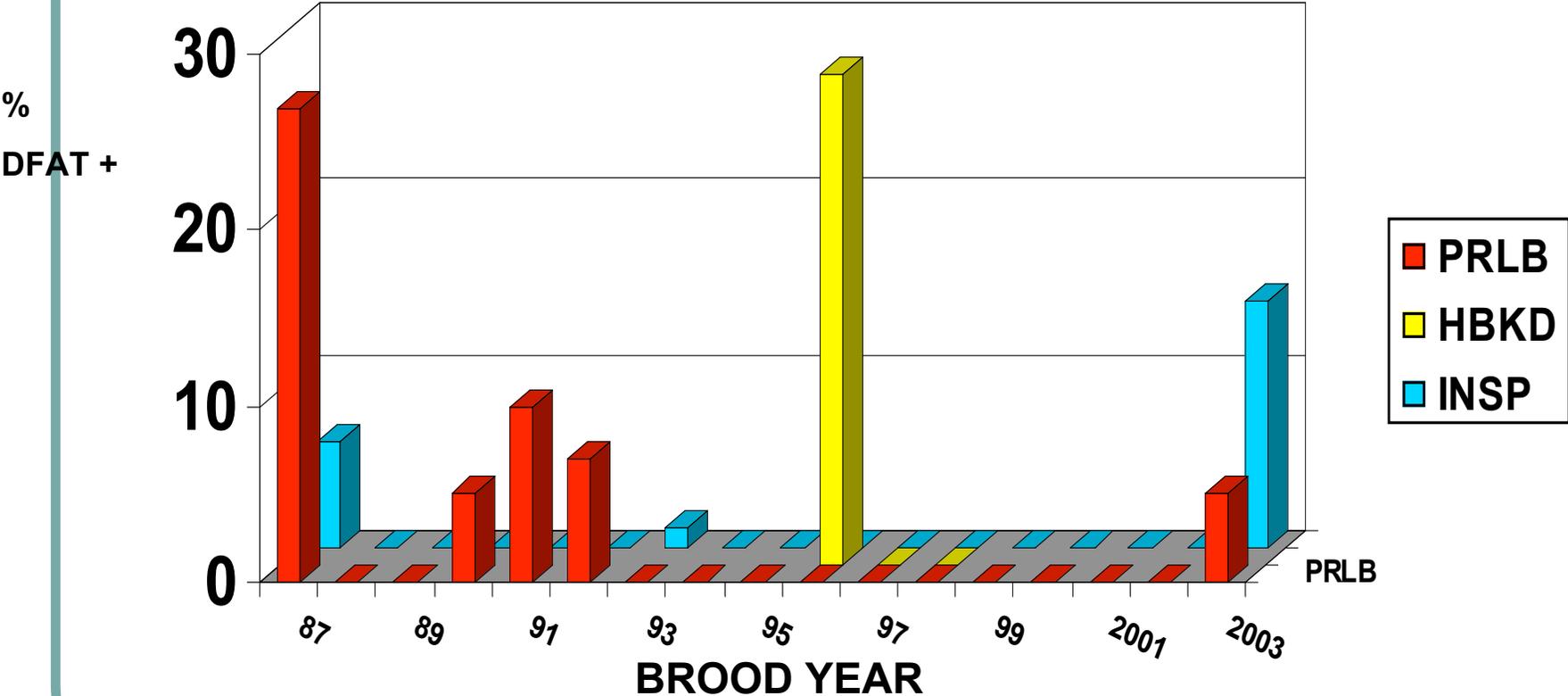




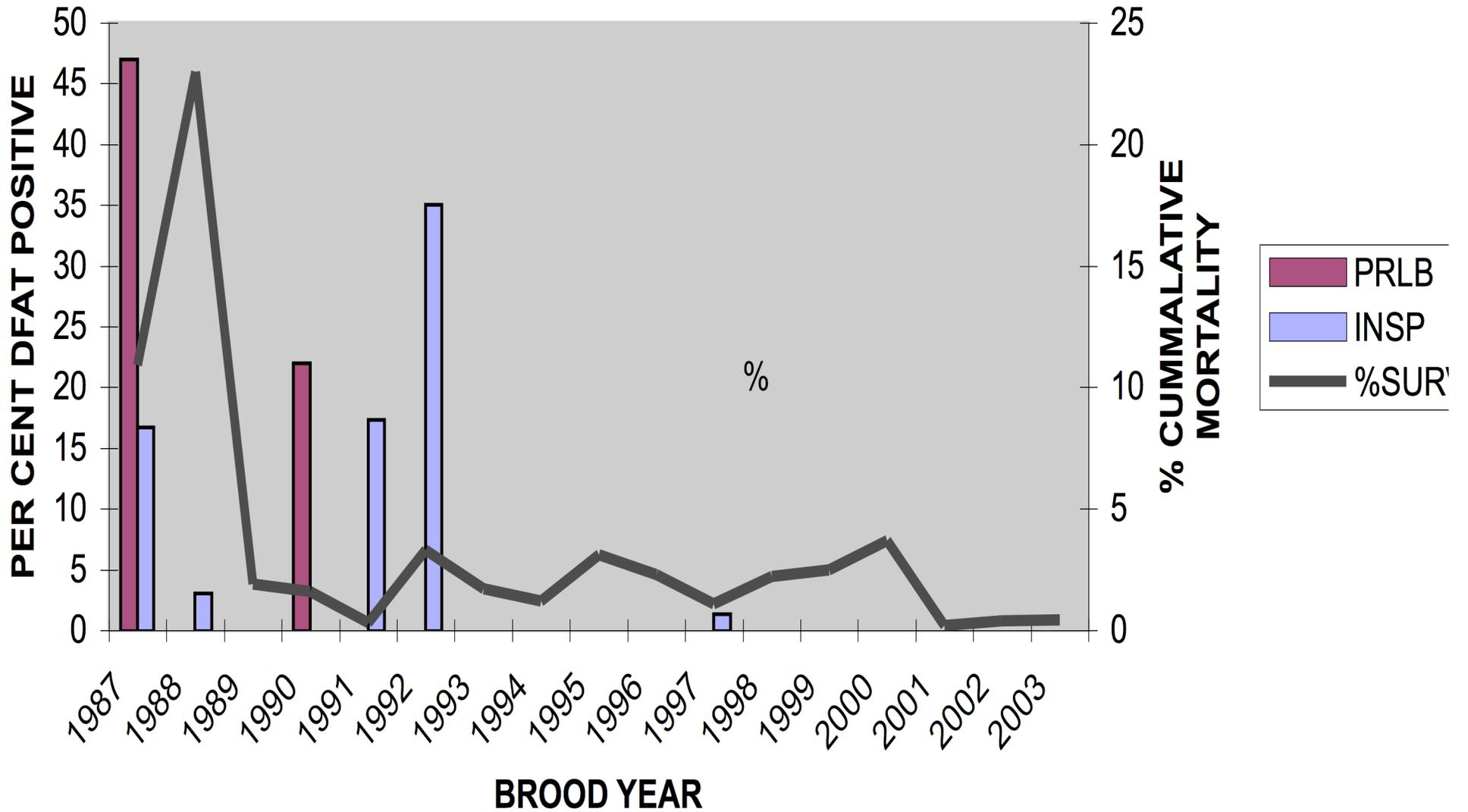
McCALL HATCHERY



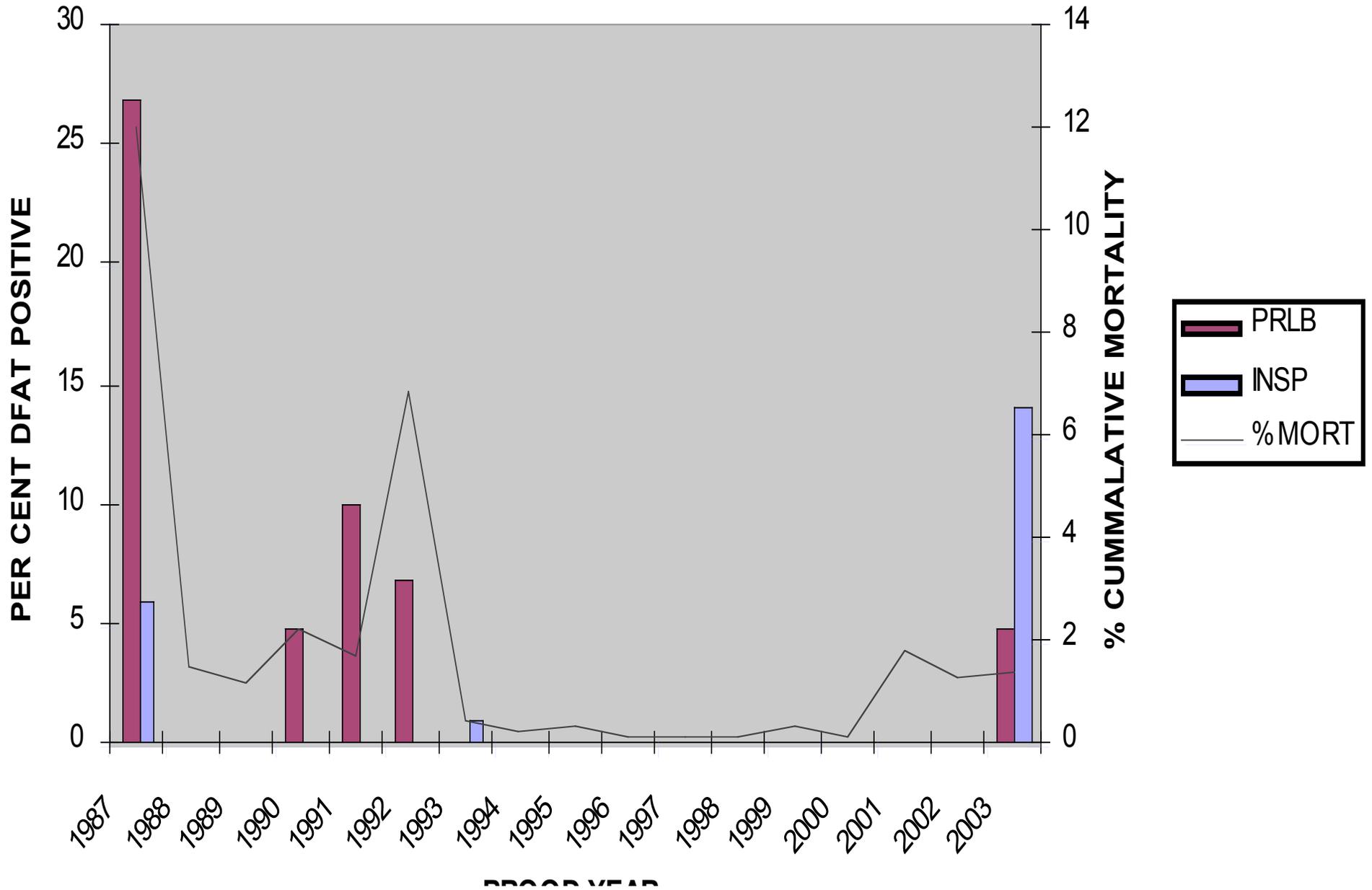
RAPID RIVER HATCHERY



McCALL HATCHERY



RAPID RIVER



CONCLUSION

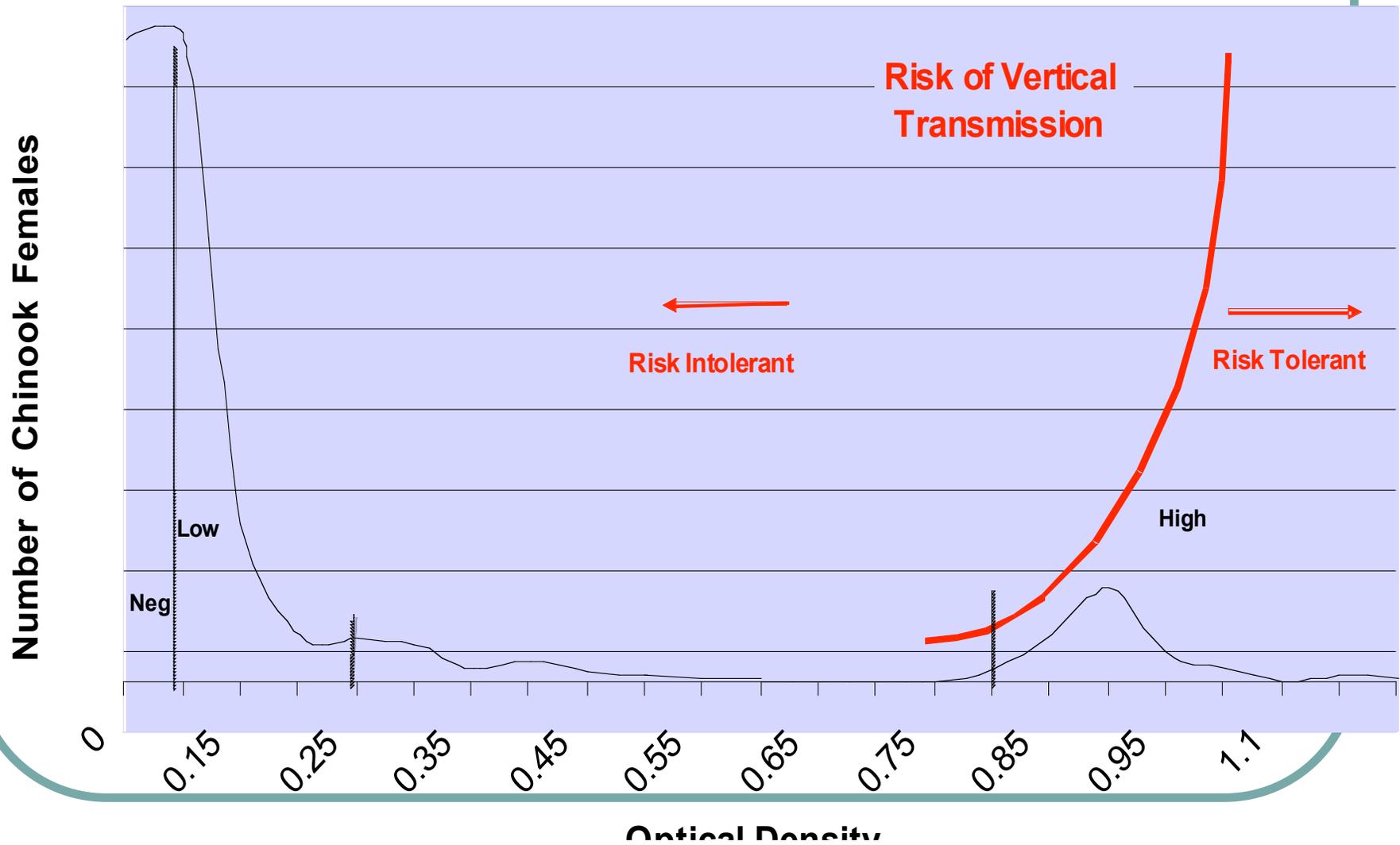
- **THIS INTEGRATED STRATEGY HAS LIMITED VERTICAL AND HORIZONTAL TRANSMISSION OF BKD WITHIN THE IDFG CHINOOK HATCHERY PROGRAM.**
- **INTUITIVELY BY LOWERING THE AMOUNT OF *RENIBACTERIUM* WITHIN OUR CHINOOK STOCKS, WE HAVE REDUCED THE RISK OF HORIZONTAL TRANSMISSION OF BKD TO OTHER HATCHERY STOCKS AND WILD/NATURAL STOCKS AFTER RELEASE FROM THE HATCHERY.**

FURTHERMORE

- **REDUCED BKD RELATED PRE-SPAWNING MORTALITY.**
- **REDUCED CUMULATIVE MORTALITY FROM PONDING TO RELEASE.**
- **IMPLEMENT THIS STRATEGY IF YOUR PROGRAM IS RISK INTOLERANT FOR BKD.**



Selecting Culling/Segregation Cut-Off OD Values A Concept (Good KPL Antibody)



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Sawtooth Hatchery Staff

Cassie Rohrbacker

EFHL



LOWER SNAKE RIVER
COMPENSATION PLAN
Hatchery Program