

Salmon in the Nearshore

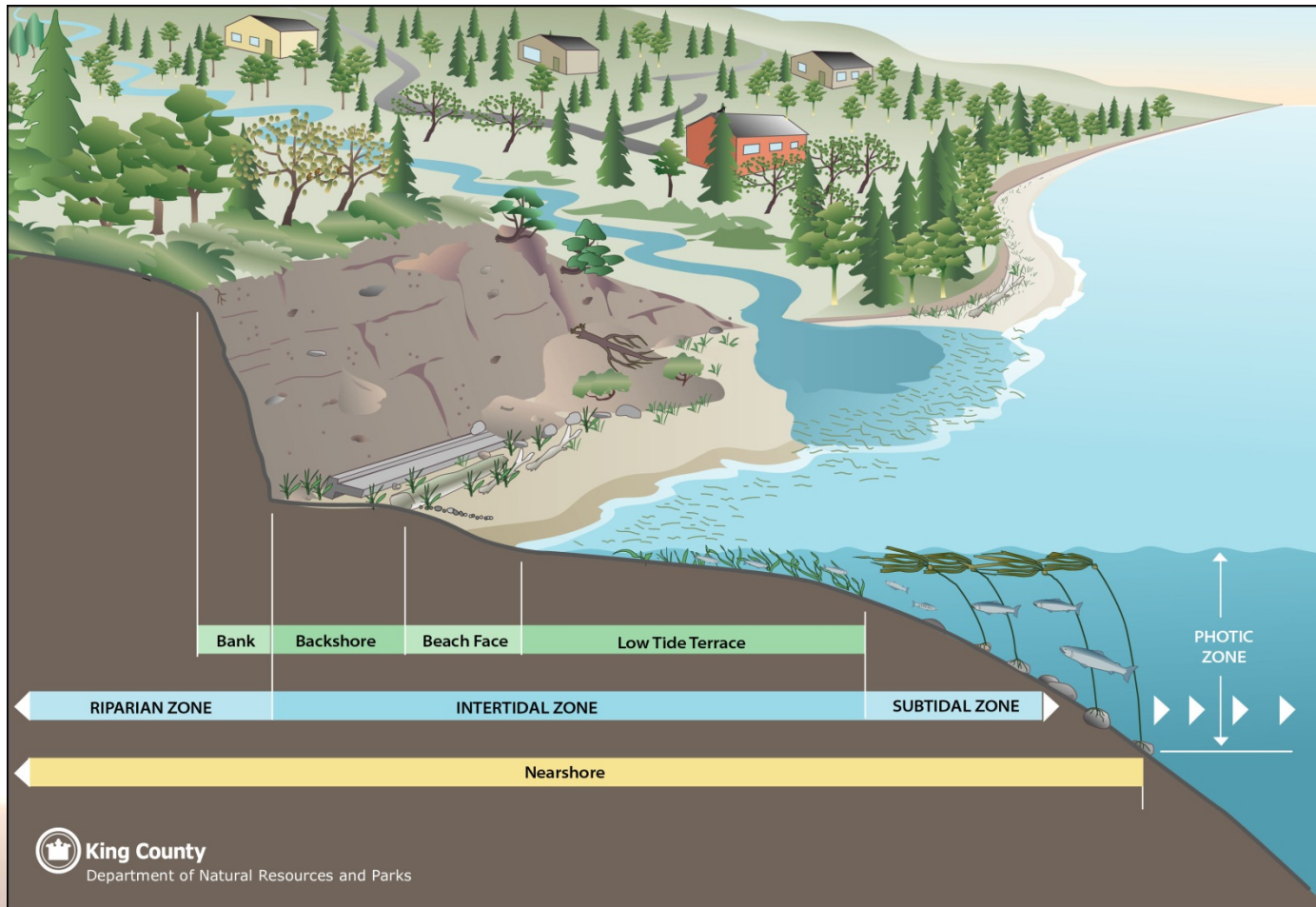


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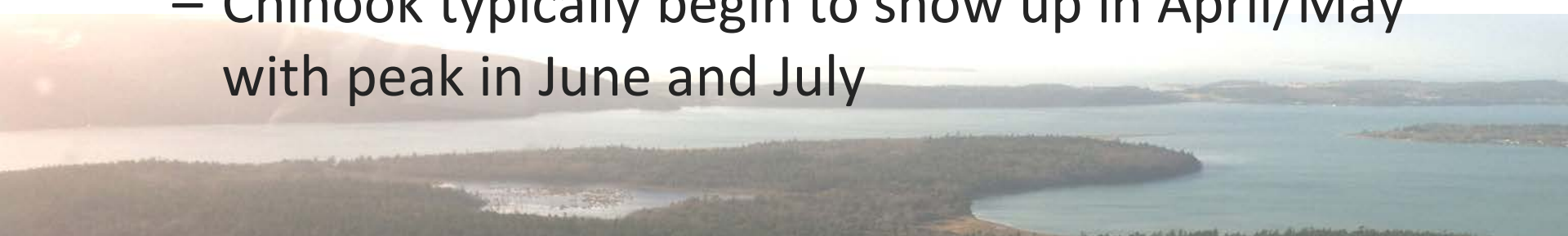


Marine Nearshore



Juvenile Salmonids in the Marine Nearshore

- Juvenile salmonids use of marine shoreline habitats varies by species, populations, and individuals
- Chinook and chum more closely associated with nearshore than other species
- Juvenile salmon in the nearshore almost year round
 - Chum typically begin to show up in March spring with peak in May and June
 - Chinook typically begin to show up in April/May with peak in June and July



Wide Dispersal

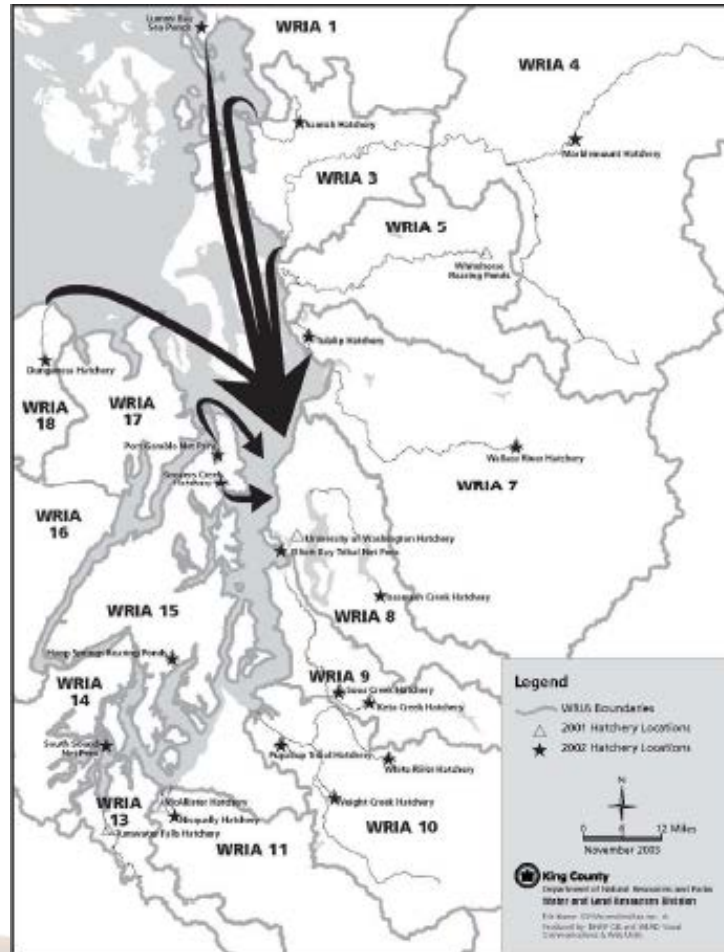


Figure 3.25. Unexpected movement patterns of North and western hatchery Chinook.

Habitat Requirements

It's all about survival!

- Avoid getting eaten
- Grow, grow, grow
- Adjust to new environment (salty)
- Move to big water



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Favorable habitats:

- Where predators can't get to easily
- Lots of food!
- Natal and non-natal tributary mouths
- Safe passage

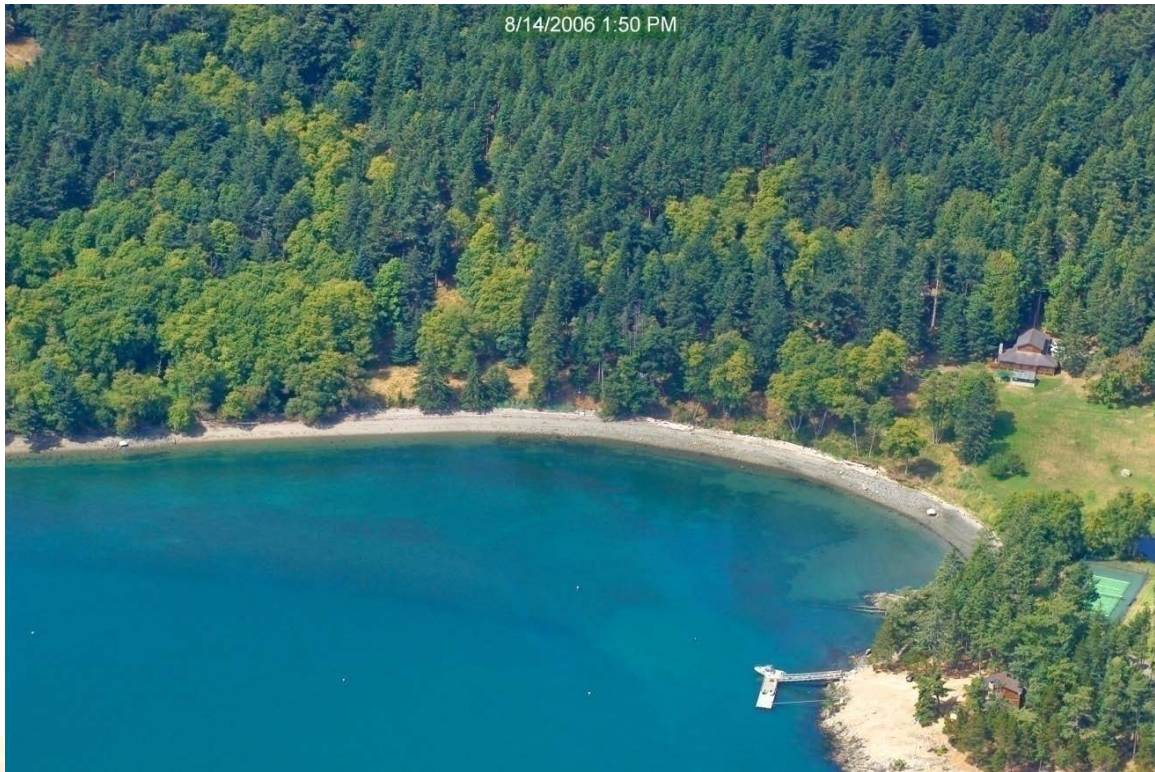


Habitat Utilization

- “Pocket estuaries” have been shown to have higher salmon utilization than other areas
- Non-natal stream mouths and lower stream reaches

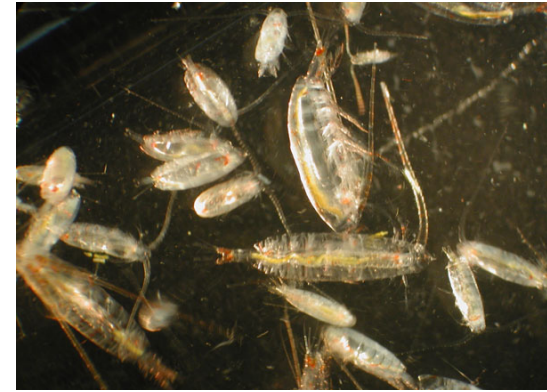


Habitat Utilization



Prey Types

- Amphipods, copepods, worms
- Crab larvae, fish larvae
- Terrestrial insects, spiders
- Other Fish (forage fish, salmonids)



Importance of the Marine Nearshore for Salmonid Populations

- Early marine growth important for salmonids overall marine survival
- Beamish and Mahnkens (2001) suggested salmonid survival during marine phase regulated at two stages
 - Early marine stage (↑ survival with ↑ size)
 - Fall/winter of first year (↑ survival with ↑ fitness)
- Duffy and Beauchamp (2011) found that hatchery Chinook marine survival was most strongly related to average body size in July
 - ↑ survival with ↑ size

