

Westward Region



Bering Sea &
Aleutian Islands

Alaska Peninsula

Chignik

Kodiak



Westward Region Team

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Impact: Climate

Related impact info:

- Freshwater habitat changes
- TBD

Gap Description:

- Changes in Chinook productivity are evident but the reasons for it are not
- TBD

Species:

- Primarily Chinook

Lifecycle:

- Gravel to gravel

Why should we prioritize this, what are the factors that make this a priority?

- It may be affecting Chinook productivity
- TBD

Research Need / Project Idea:

- Gravel to gravel Chignik/Black Lake assessment
- TBD

Impact: Predation

Related impact info:

- Seen an increase in marine mammal abundance in the Westward Region
- Anecdotal reports of Steller Sea Lions Chinook Salmon for prey

Gap Description:

- We don't know the magnitude of effect this has on local Chinook Salmon populations.
- We don't know if any other species are being affected.

Species:

- Chinook Salmon

Lifecycle:

- Returning adult lifestage

Why should we prioritize this, what are the factors that make this a priority?

- Statewide issue
- Westward region may have unique circumstance of healthy chinook populations on North Peninsula but poor chinook production on South Peninsula

Research Need / Project Idea:

- Chinook gravel to gravel, comparing South and North peninsula systems
- TBD

Impact: FW Habitat Changes

Related impact info:

- Production in certain lakes within the region are changing.
- Likely causing a bottleneck to growth in FW rearing habitats.

Gap Description:

- Limnology baselines need updating
- Interspecies competition in FW for rearing

Species:

- ALL, mostly chinook, sockeye, chum

Lifecycle:

- Fresh water

Why should we prioritize this, what are the factors that make this a priority?

- Can lead to increase in size-selection mortality
- Huge pink salmon escapements lead to superseding redds of salmon species that spawn prior to pinks (chinook, summer chum) on spawning grounds

Research Need / Project Idea:

- Updated Limnology Collection Project
- Compare limnology baselines across systems within the Peninsula to see differences
- Black & Chignik Lakes, Karluk
- TBD

Impact: Marine Food Web

Related impact info:

- Recent increase of forage fish in nearshore habitat.
- Herring abundance up currently, although forage fish including herring typically have wide swings in productivity, often driven by climate
- International year of the salmon, NOAA, and ADF&G studies have demonstrated causal links in marine food web to chum survival

Gap Description:

- Forage fish abundance change effects on salmon survival and growth.
- Near shore mortality along shelf is one of least known and studied elements of early marine life of the salmon

Species:

- ALL

Lifecycle:

- TBD

Why should we prioritize this, what are the factors that make this a priority?

- The marine food web, including the first 45 days of salmon in near shore marine environment can be most significant mortality period

Research Need / Project Idea:

- Near shore shallow boat trawls to assess abundance and health of juvenile salmon
- Pattern after NOAA's SECM program
- TBD

Impact: Marine and FW Harvest

Related impact info:

- Bycatch impacts
- Interception impacts
- Commercial harvest
- TB

Gap Description:

- Harvest stocks genetic composition
- Shifting migration patterns
- Release mortality rates

Species:

- Chinook and chum salmon

Lifecycle:

- Ocean to Spawning phases

Why should we prioritize this, what are the factors that make this a priority?

- We don't know magnitude of long term effects of genetic removals from individual stocks
- Climate change may be shifting migration patterns
- Are released salmon caught in one fishery surviving, returning, and spawning success?

Research Need / Project Idea:

- In-season genetic testing
- Tagging Studies
- Mortality Studies
- Expand WASSIP type genetic stock study to areas beyond the South Peninsula area.

Impact: Hatchery/Wild Interactions

Related impact info:

- Asian chum salmon (Japan & Russia) observed via WASSIP studies 2007-2009 & 2022
- <https://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2023-2024/hatchery/1-overview-of-scientific-understanding-of-salmon-competition-at-sea-and-an-update-on-research.pdf>
- TBD

Gap Description:

- TBD

Species:

- TBD

Lifecycle:

- TBD

Why should we prioritize this, what are the factors that make this a priority?

- TBD

Research Need / Project Idea:

- TBD

Impact: Disease

Related impact info:

- There have not been reports or anecdotal observation of salmon disease in Westward region
- TBD

Gap Description:

- TBD

Species:

Lifecycle:

- TBD

Why should we prioritize this, what are the factors that make this a priority?

- TBD

Research Need / Project Idea:

- TBD

Impact: Other

Related impact info:

- Chinook Salmon age structure shifting
- TBD

Gap Description: Updated age structure tables

- Decline in size at age & decline in fecundity of all salmon, and disappearance of large Chinook is a decades long phenomena. What is causing it?

Species: Chinook Salmon

Lifecycle:

- ALL

Why should we prioritize this, what are the factors that make this a priority?

- Chinook is iconic in Alaska, it may be smallest in biomass but the most prized of all salmon
- TBD

Research Need / Project Idea:

- Does selected harvest of large chinook by human and marine mammals explain age class shift in Chinook salmon.
- TBD

Impact: Other

Related impact info:

- Lots of current data in different agency databases

Gap Description: Best way to maximize the data we already have

Species: ALL

Lifecycle:

- ALL

Why should we prioritize this, what are the factors that make this a priority?

- There may be unanalyzed data that could have answers to some of the defined gaps
- TBD

Research Need / Project Idea:

- Collating all agency data in central database
- TBD