

Alaska Salmon Research Task Force (final comments by 8/18/23)

1. Introduction and Overview (Directly from the Act)
 - a. Goal– salmon are an essential part of Alaska’s fisheries, including subsistence, commercial, and recreational uses, and there is an urgent need to better understand the freshwater and marine biology and ecology of salmon, a migratory species that crosses many borders, and for a coordinated salmon research strategy to address salmon returns that are in decline or experiencing increased variability.
 - b. Objectives
 - i. Conduct a review of Pacific salmon science and traditional knowledge relevant to understanding salmon returns in Alaska (List Research Areas (RA’s) from the ACT)
 - ii. Identify scientific research gaps in understanding the Pacific salmon life cycle in Alaska and variables that influence population trends
 - iii. Provide recommendations on filling knowledge gaps that warrant further scientific inquiry
2. Approach and Method
 - a. Establishment of the AKSRTF
 - b. Establishment of the AYK WG
 - c. Approach to address objectives in the ACT
 - i. Regional designations (include figures)
 - ii. Regional Teams (RT) and direction
 - iii. Research Areas
3. Review of existing knowledge (**SUGGESTED FORMAT** for organizing and reporting on what the **RT** provided in relation to the RA’s –)
 - i. Section # - Salmon Life Cycle (each species (RA 3))**
 1. Species specific life cycles
 2. Stock-species specific migration models (include figures)
 3. Include figure of oceanographic features of the NPO (see Myers paper)
 4. Stage-specific mortality/ climate change
 - ii. Section # - Status of Alaska Salmon (by Region; RA’s 1, 4, 5, 10)**
 1. TEK

2. Productivity trends (include overall relation to other domestic and international populations)
3. Methods for predicting run-timing and stock sizes
4. Genetic sampling and categorization of pop. structure
- iii. Section # - Freshwater Ecosystems (by Region; RA's 1, 7, 8, 9)**
 1. TEK
 2. Climate effects on habitat
 3. Processes that affect survival
 4. Predator/prey interactions
- iv. Section # - Marine ecosystems (by Region; RA's 1, 2, 6, 7, 8, 9)**
 1. TEK
 2. Climate effects on habitat
 3. Processes that affect survival
 4. Ocean models for insight into distribution, growth, survival
 5. Marine carrying capacity
 6. Predator/prey interactions
4. Scientific research gaps (by region; including findings from the AYK WG)
5. Recommendations for research (by region; including findings from the AYK WG)

Research Areas

1. Traditional ecological knowledge of salmon populations and their ecosystems
2. Marine carrying capacity and density dependent constraints, including an examination of interactions with other salmon species, and with forage base in marine ecosystems
3. Life-cycle and stage-specific mortality
4. Genetic sampling and categorization of population structure within salmon species in Alaska
5. Methods for predicting run-timing and stock sizes
6. Oceanographic models that provide insight into stock distribution, growth, and survival
7. Freshwater, estuarine, and marine processes that affect survival of smolts
8. Climate effects on freshwater and marine habitats
9. Predator/prey interactions between salmon and marine mammals or other predators
10. Salmon productivity trends in other regions, both domestic and international, that put Alaska salmon populations in a broader geographic context