

# **Genetic Stock Composition of the Commercial Harvest of Sockeye Salmon in Kodiak Management Area, 2014–2016: Separating Cook Inlet into Four Groups**

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**A Report to the Alaska Board  
of Fisheries**

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**Division of Commercial  
Fisheries**

**Oral Report: RC 18**

**Written Report: FMS 17-07**

# Topics to be covered:

## 1. Background

- KMA Salmon Fishery
- Kodiak Genetics Study

## 2. Genetic Baseline Testing

- Split Cook Inlet Reporting Group

## 3. Genetic Mixed Stock Analysis Results

- Stock-Specific Harvest
  - By Area
  - By Time

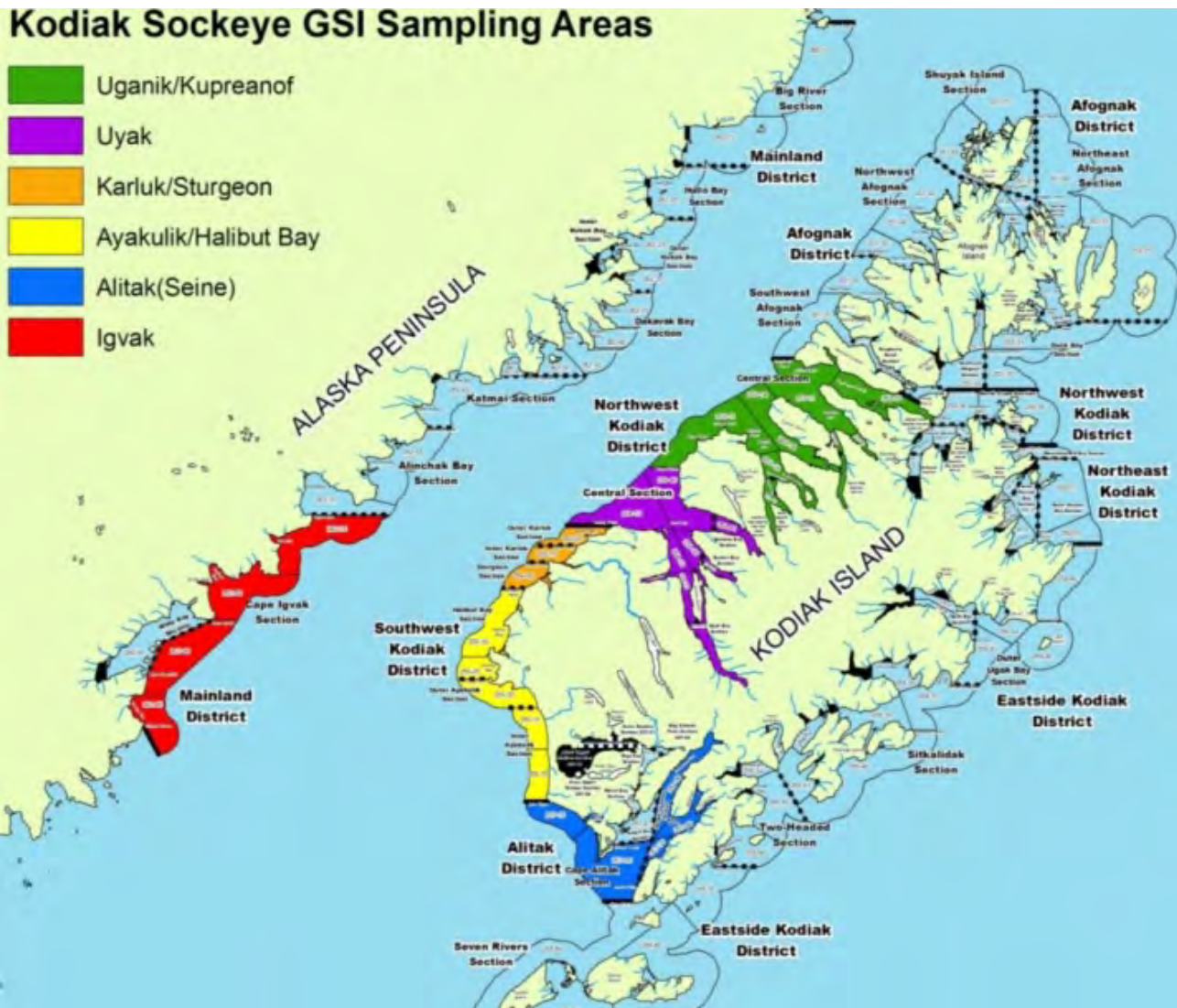
## 4. Interpretation

# Background: KMA Salmon Fishery

- Kodiak Salmon Fishery
  - Sockeye, pink, chum, coho
- Late 70s, BOF mgmt plans (e.g. Westside, Alitak, Igvak)
- Maintain traditional fishing opportunities and allocations
- Mixed stock fisheries (local and non local)
  - Previous sockeye studies



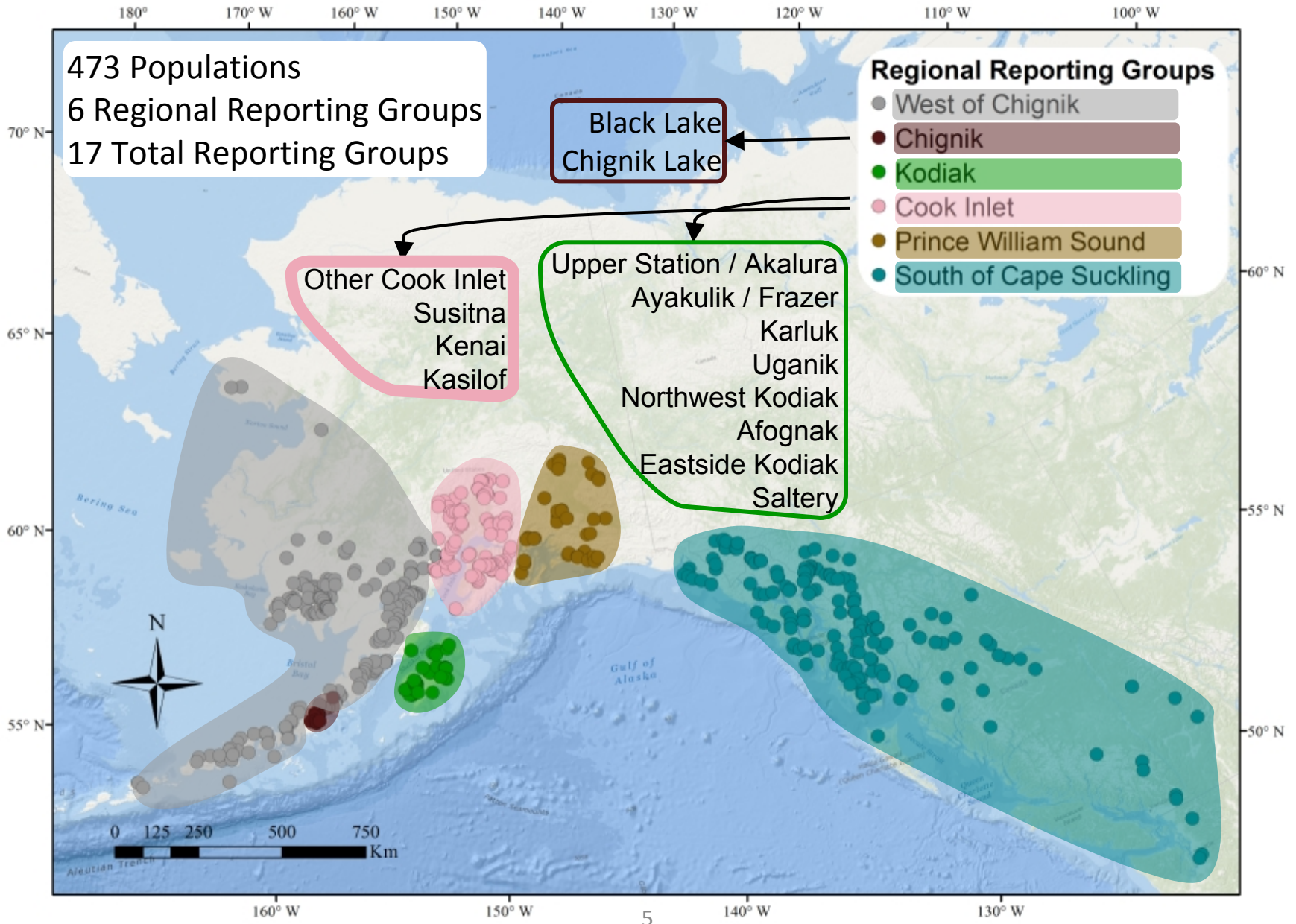
# Background: Kodiak Genetics



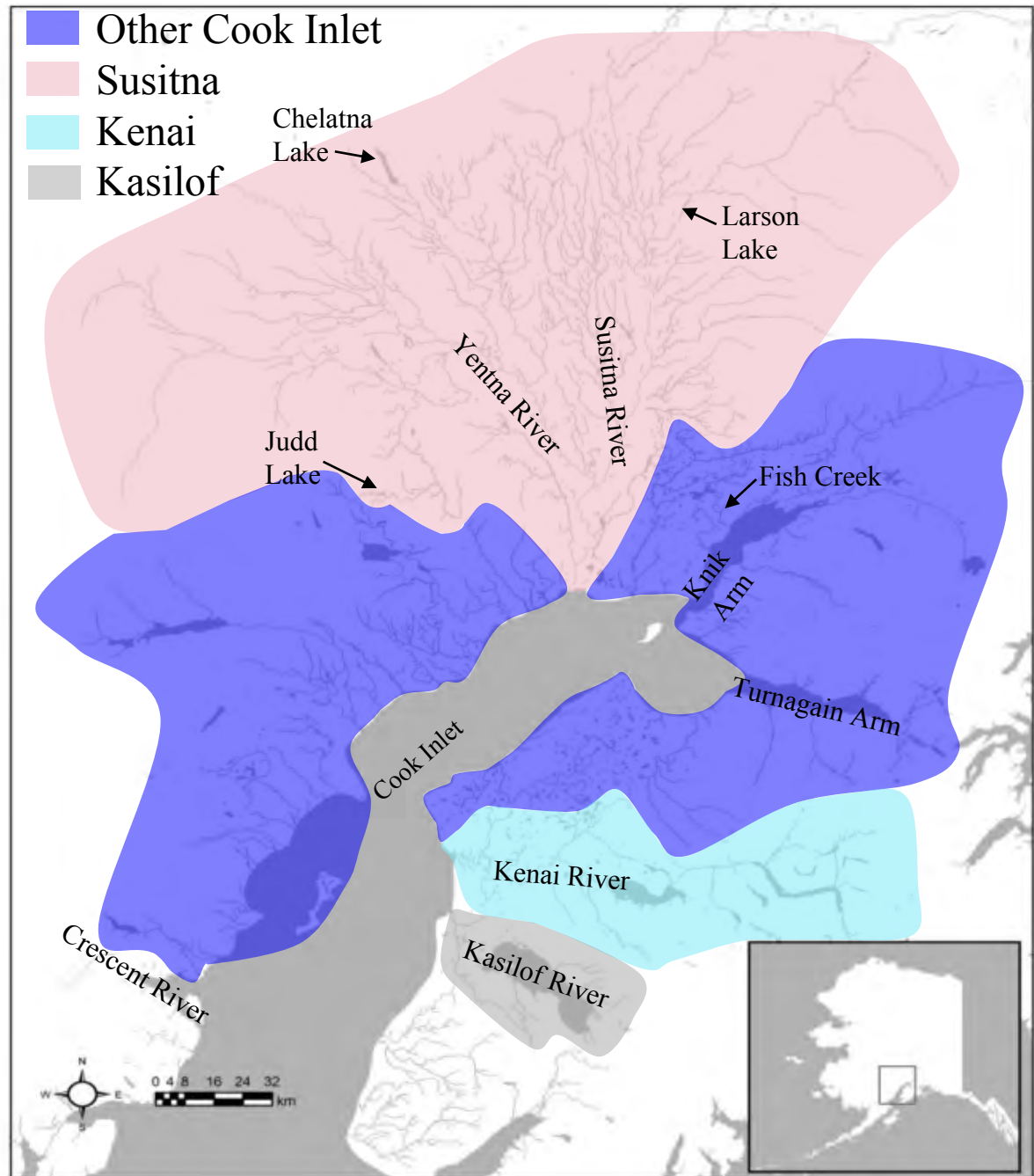
- 6 Areas
- 3 Temporal
  - Early (June)
  - Middle (July)
  - Late (Aug)
- 3 Years (2014-16)
- 45K samples
- 18K genotyped
- Board of Fisheries
  - Kodiak (Jan)
  - UCI (Feb)



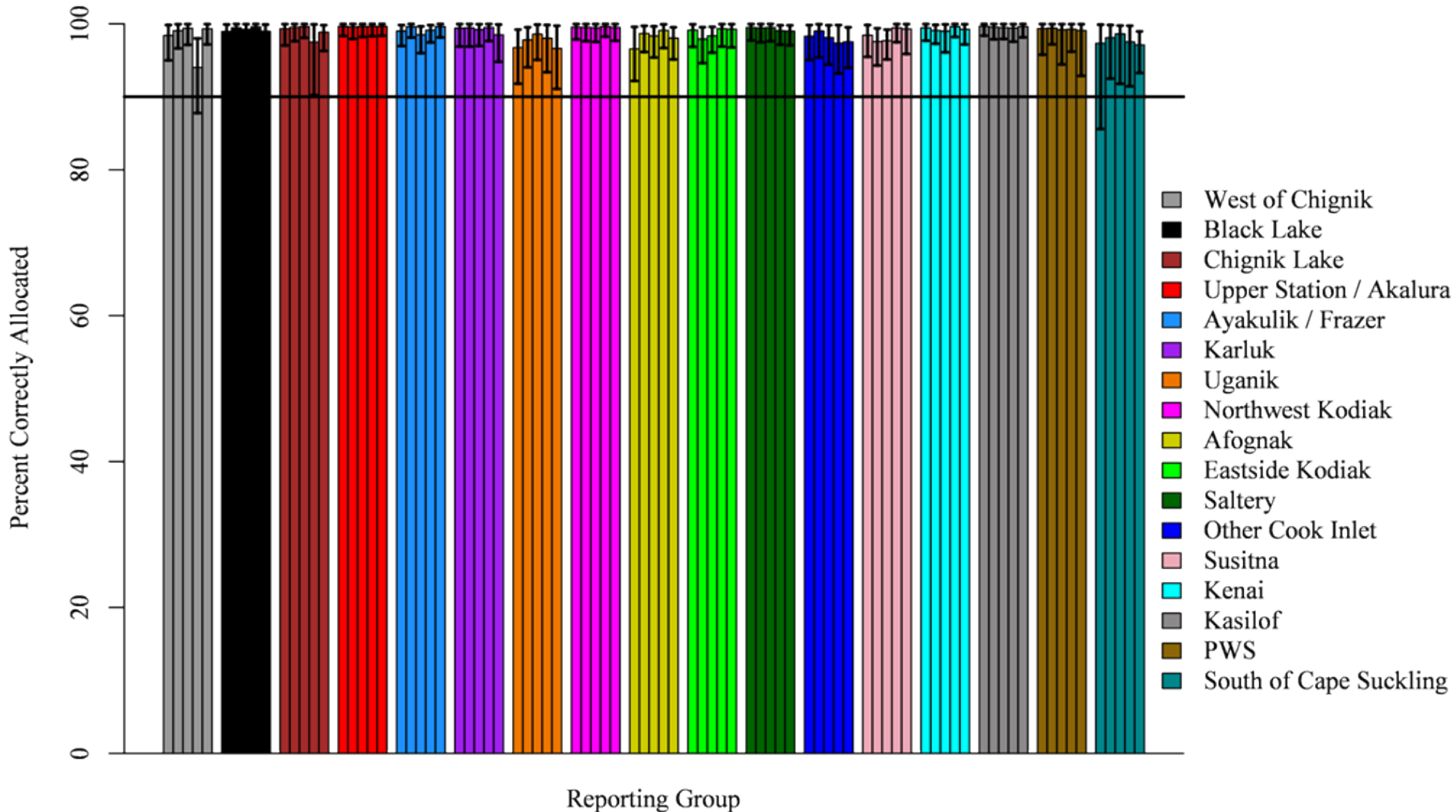
# Genetic Baseline



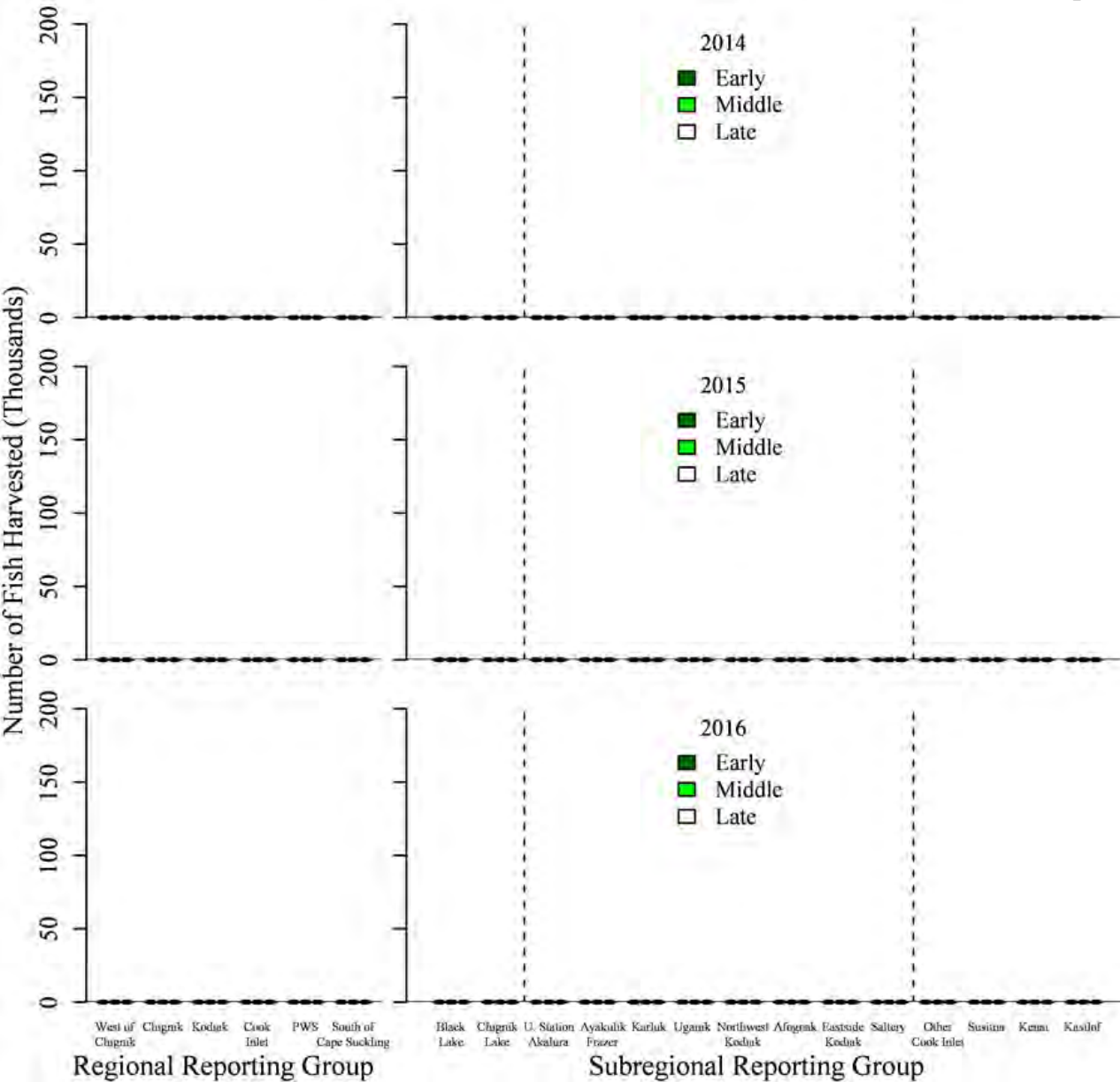
# Genetic Baseline: Cook Inlet



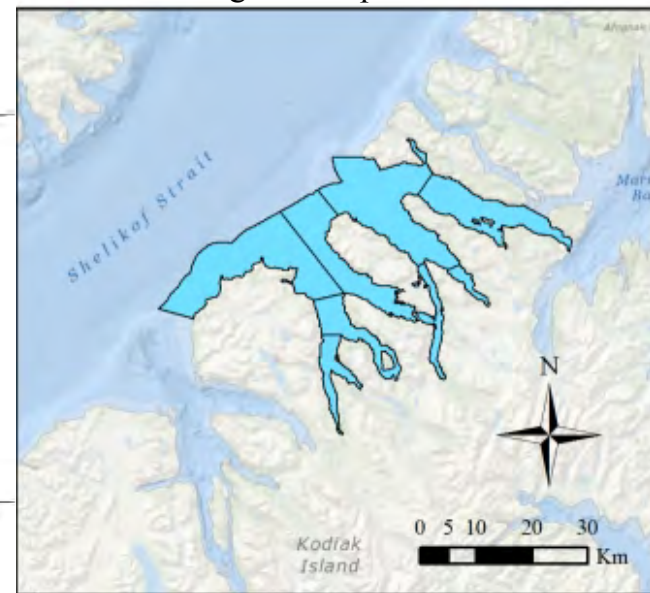
# Genetic Baseline



# Results-Example

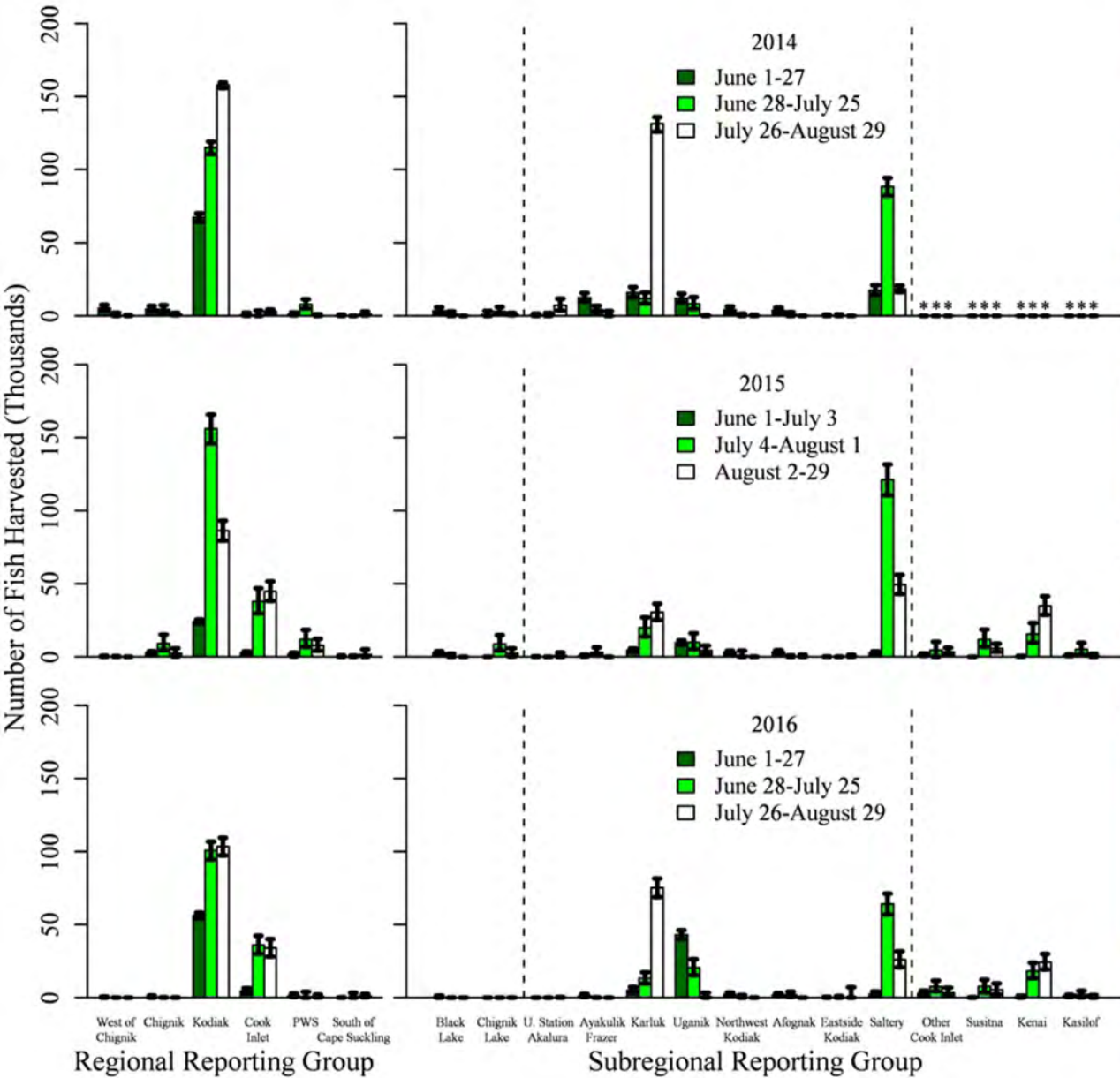


Uganik-Kupreanof

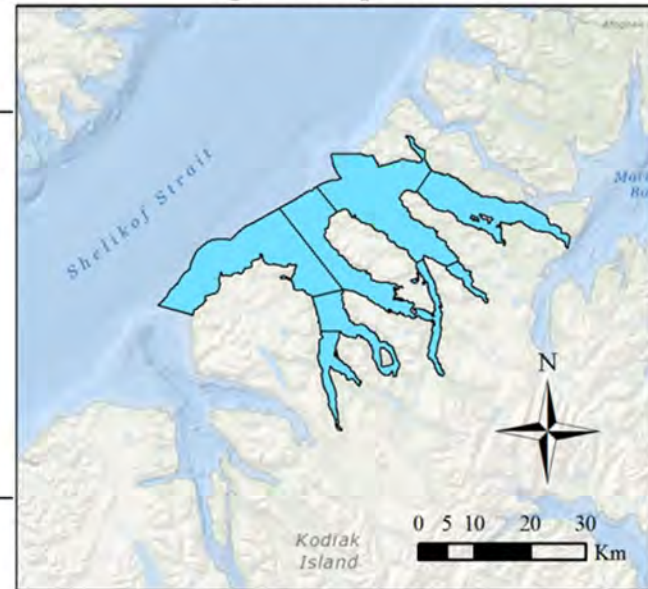




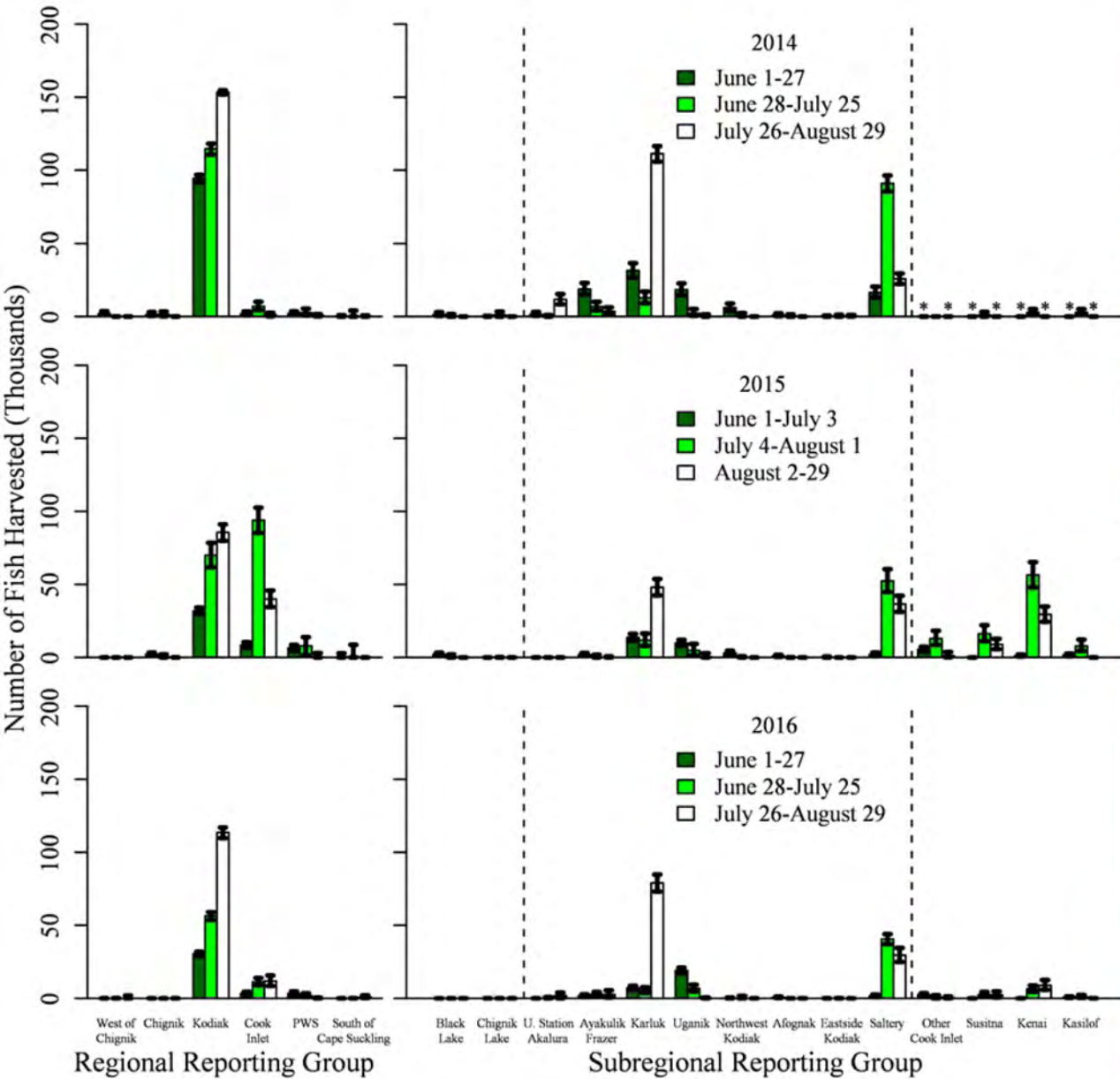
# Uganik-Kupreanof Stock-Specific Harvest



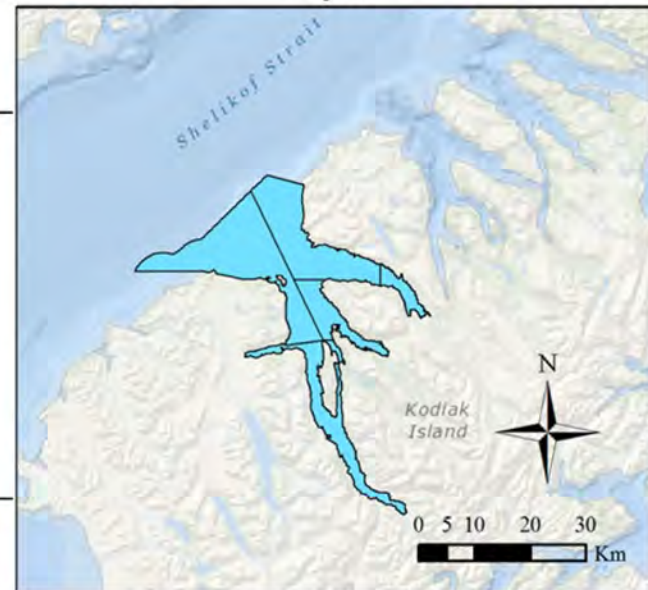
Uganik-Kupreanof



# Uyak Stock-Specific Harvest

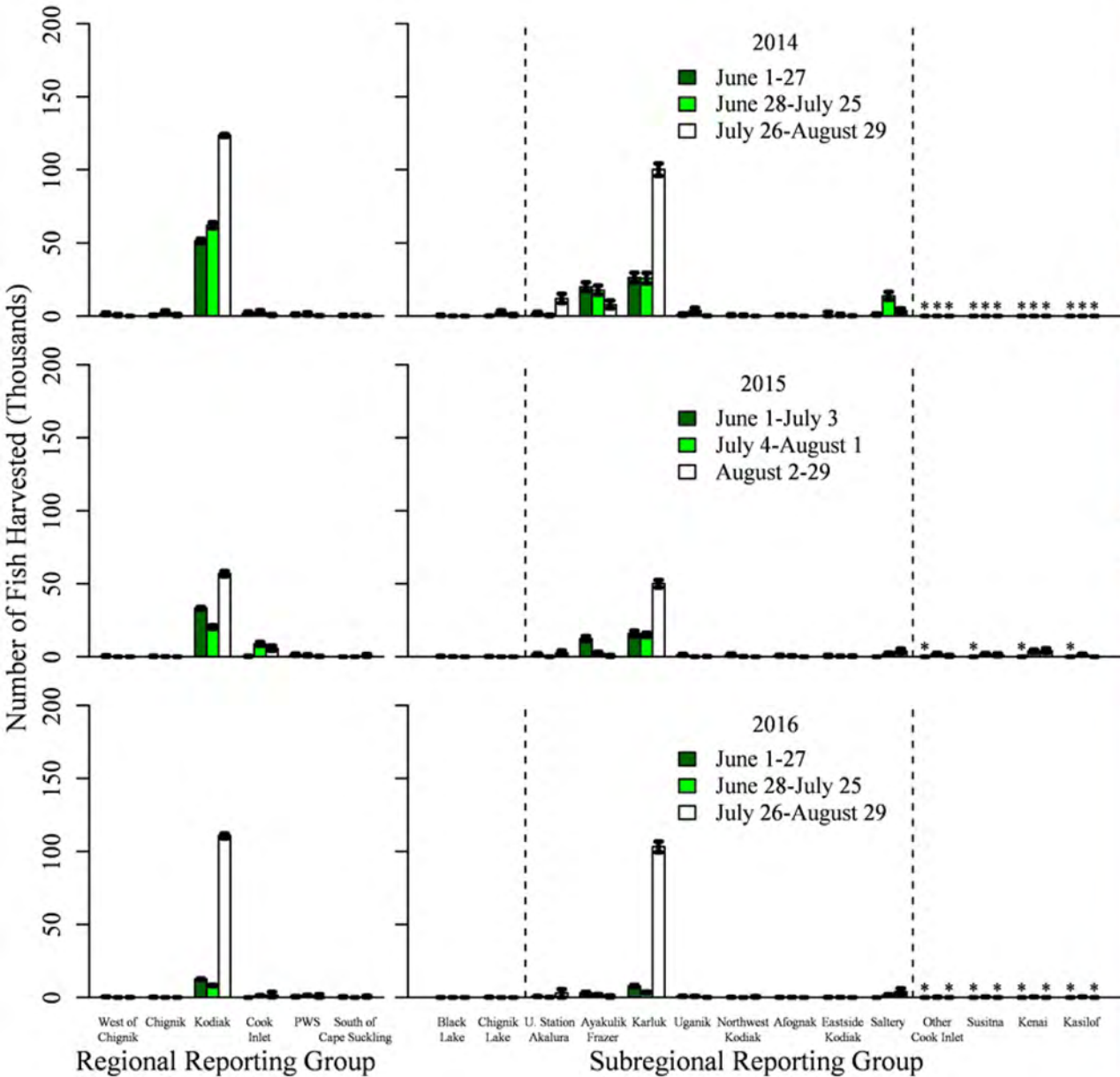


Uyak

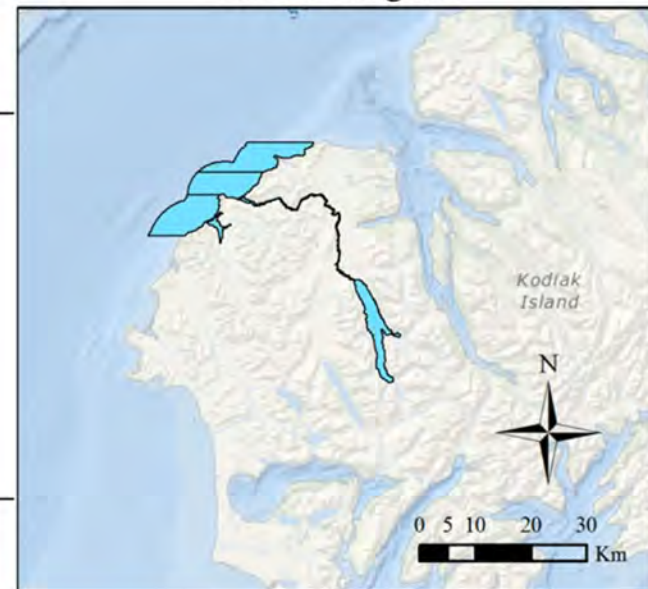




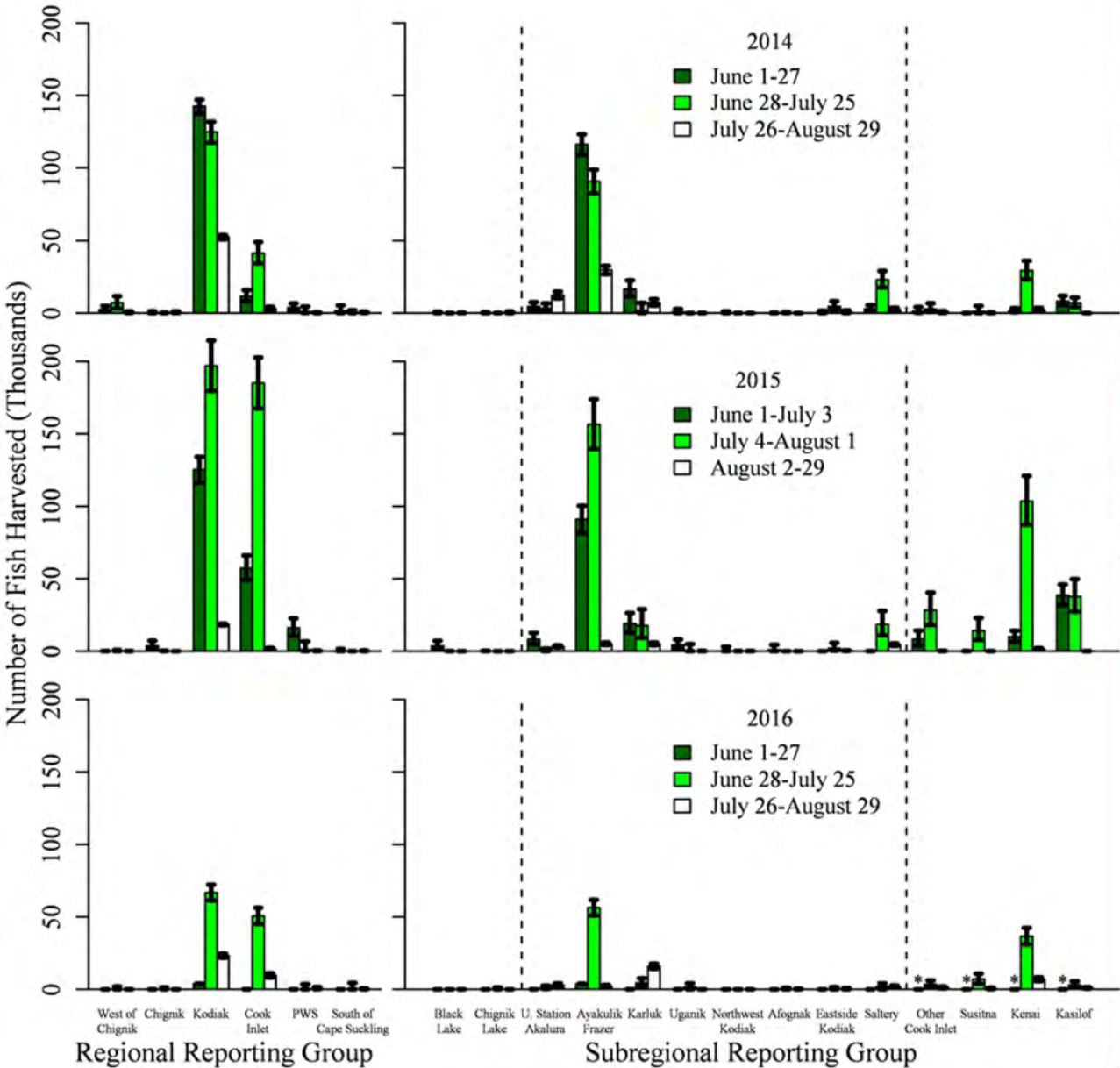
# Karluk-Sturgeon Stock-Specific Harvest



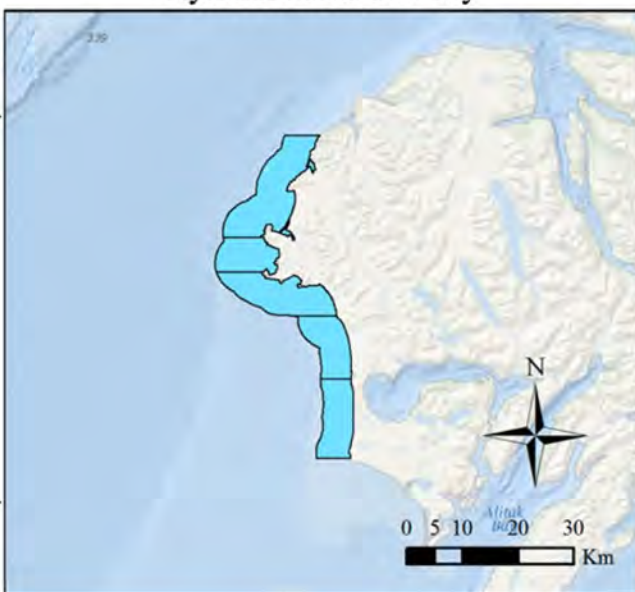
Karluk-Sturgeon



# Ayakulik-Halibut Bay Stock-Specific Harvest

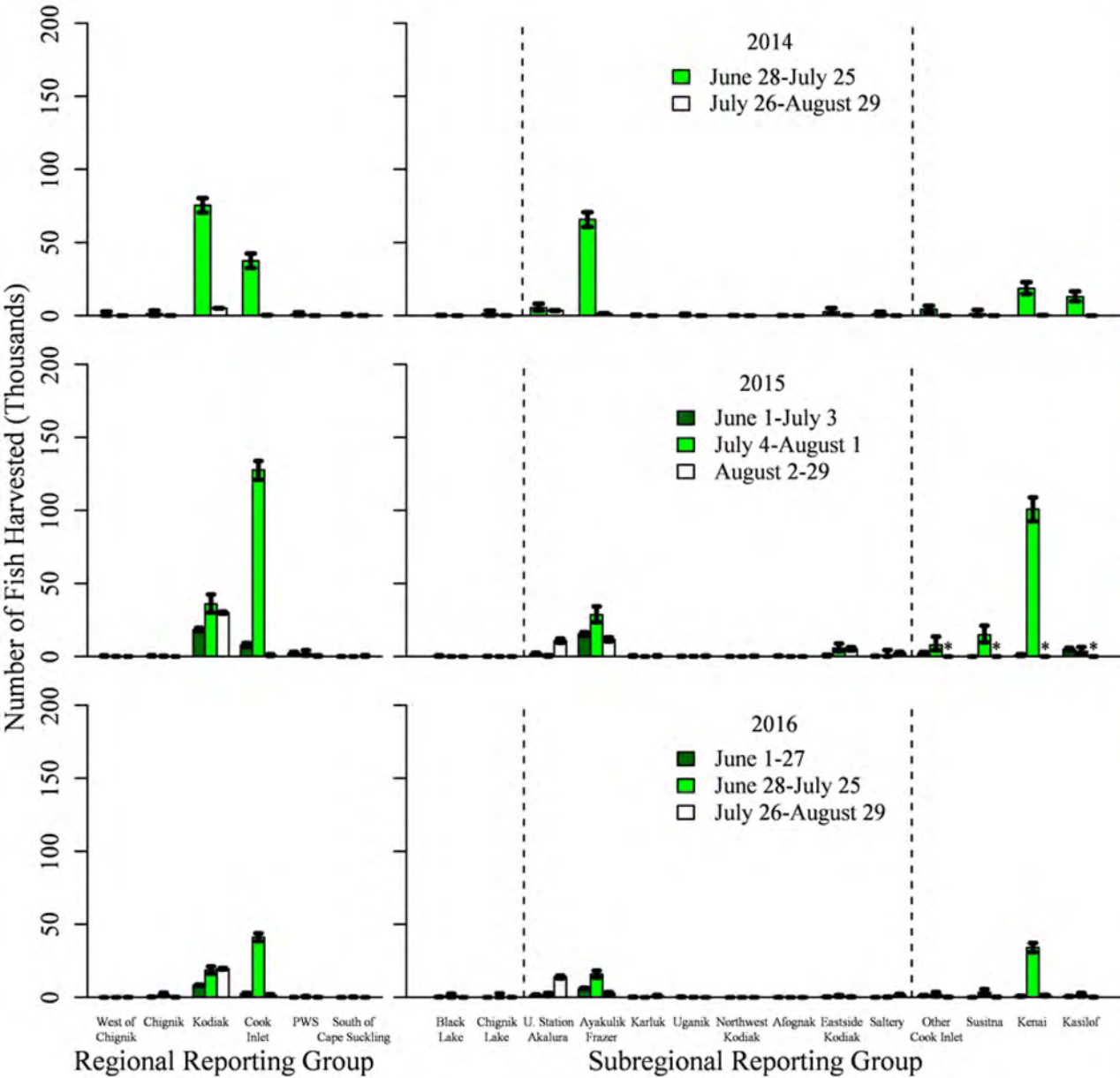


Ayakulik-Halibut Bay

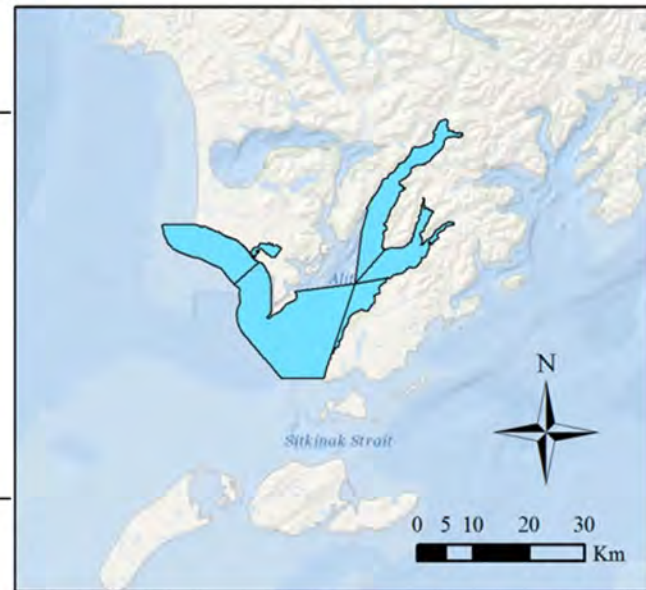




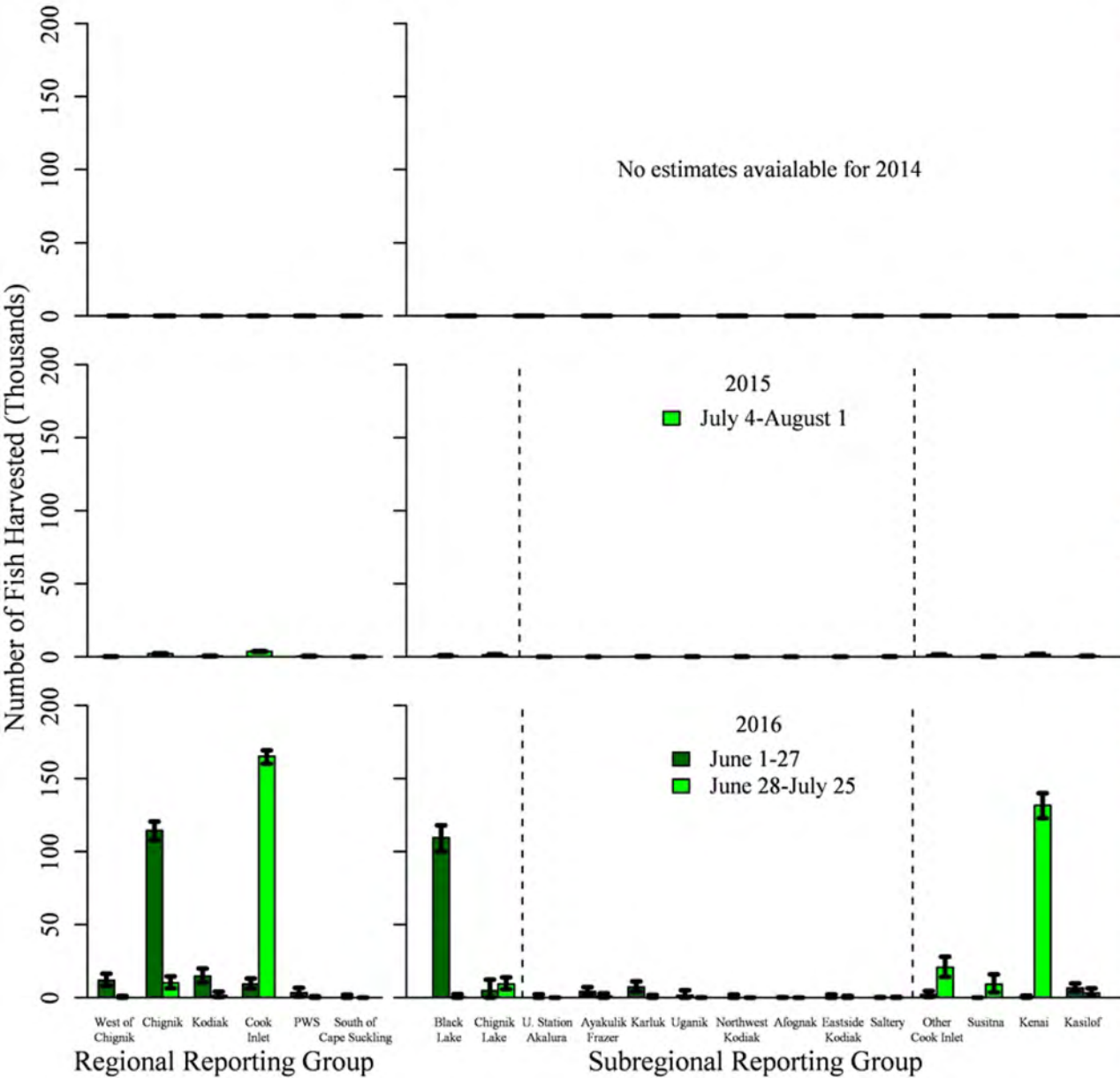
# Alitak Stock-Specific Harvest



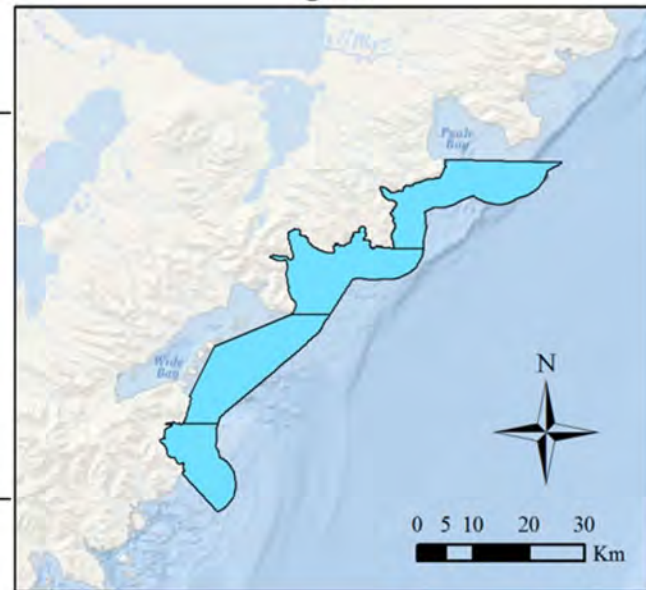
Alitak



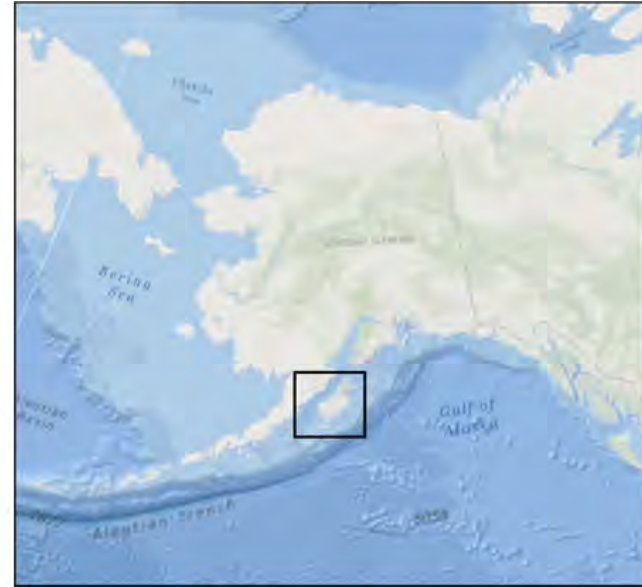
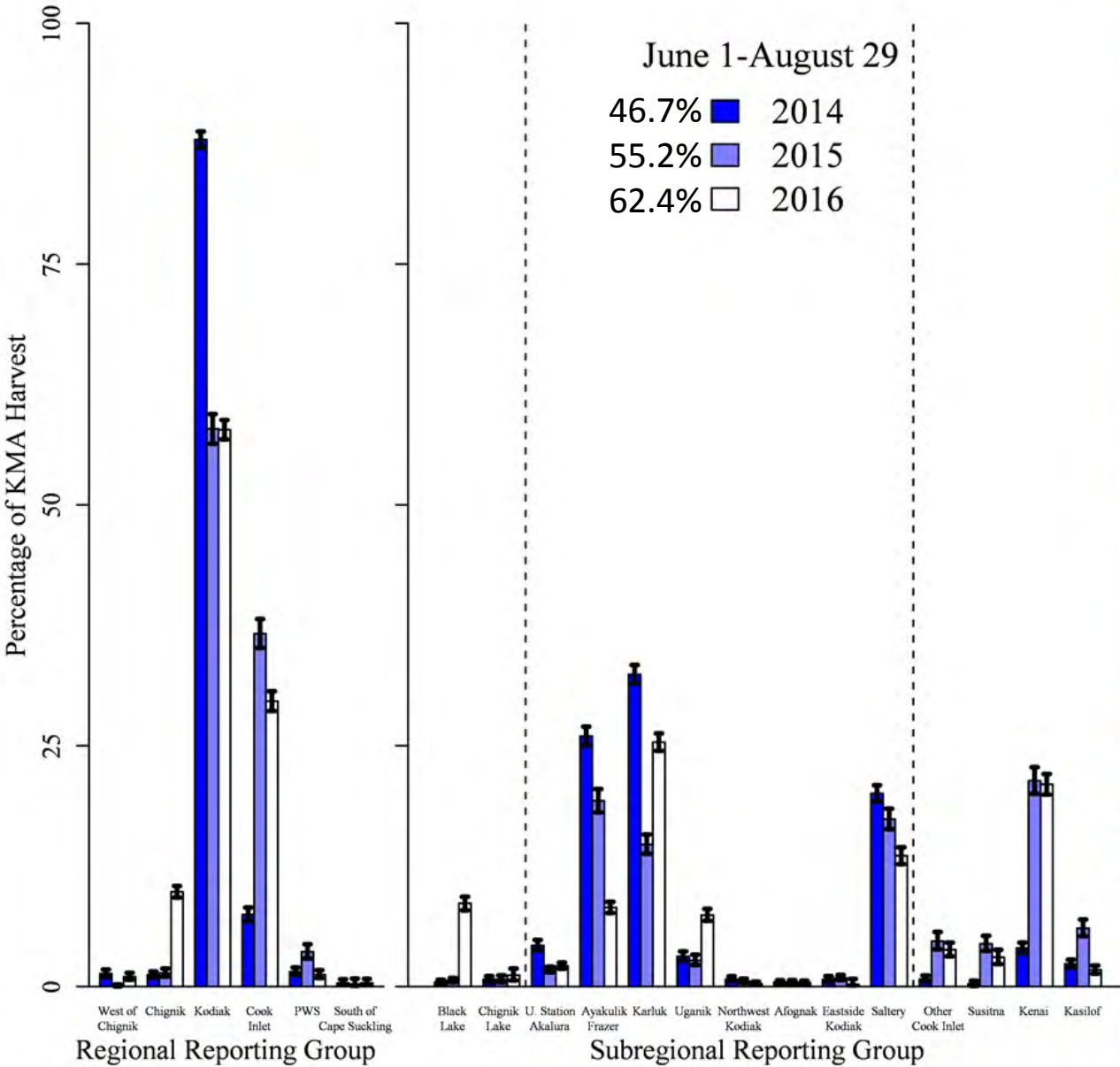
# Igvak Stock-Specific Harvest



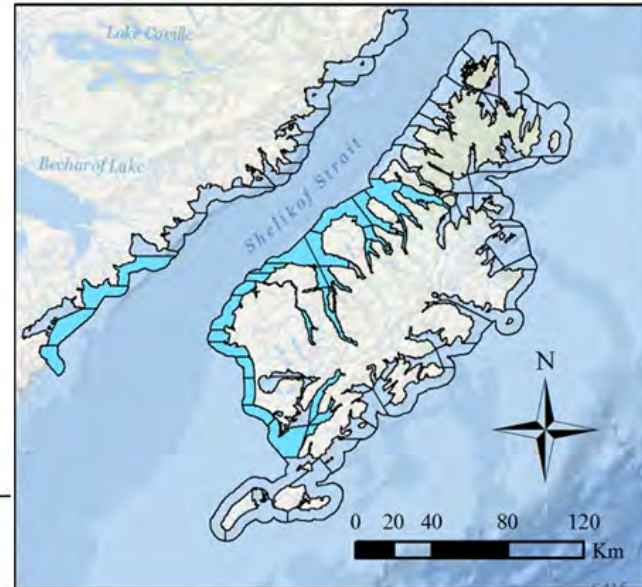
Igvak



# KMA Stock Composition

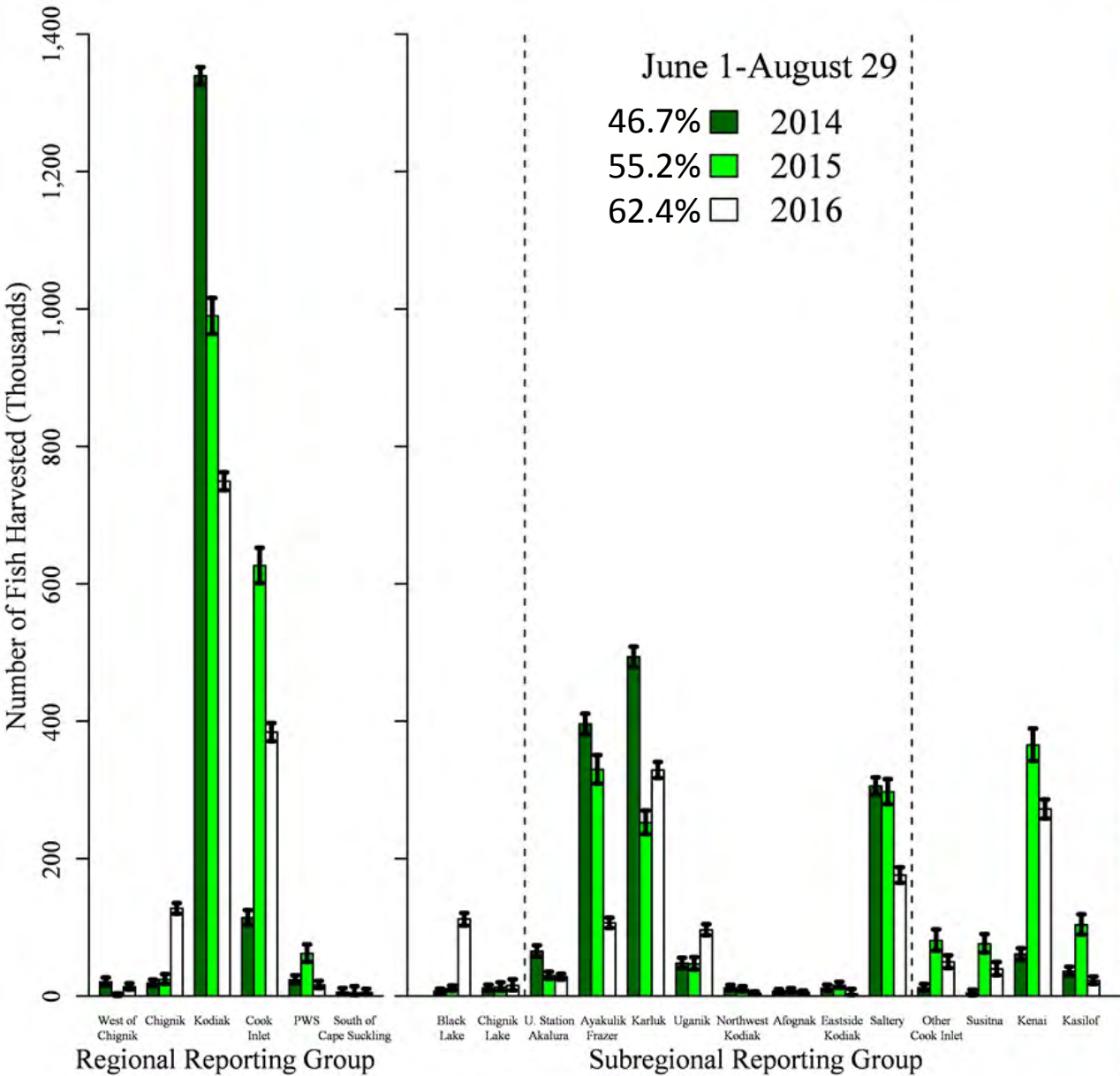


Kodiak Management Area

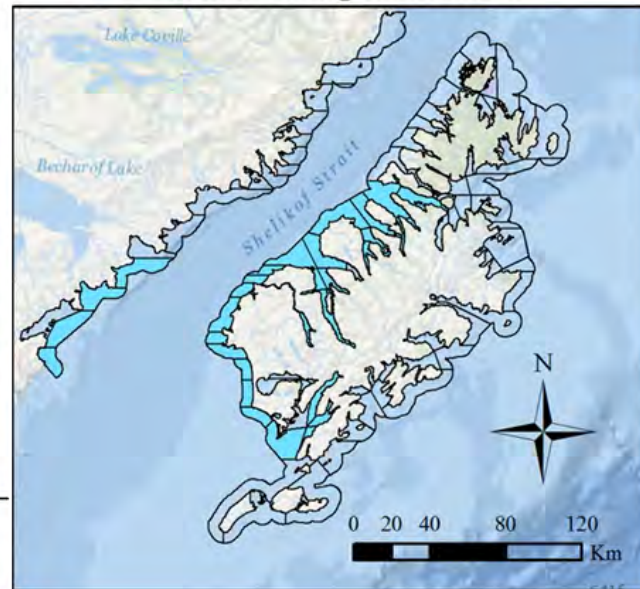




# KMA Stock-Specific Harvest

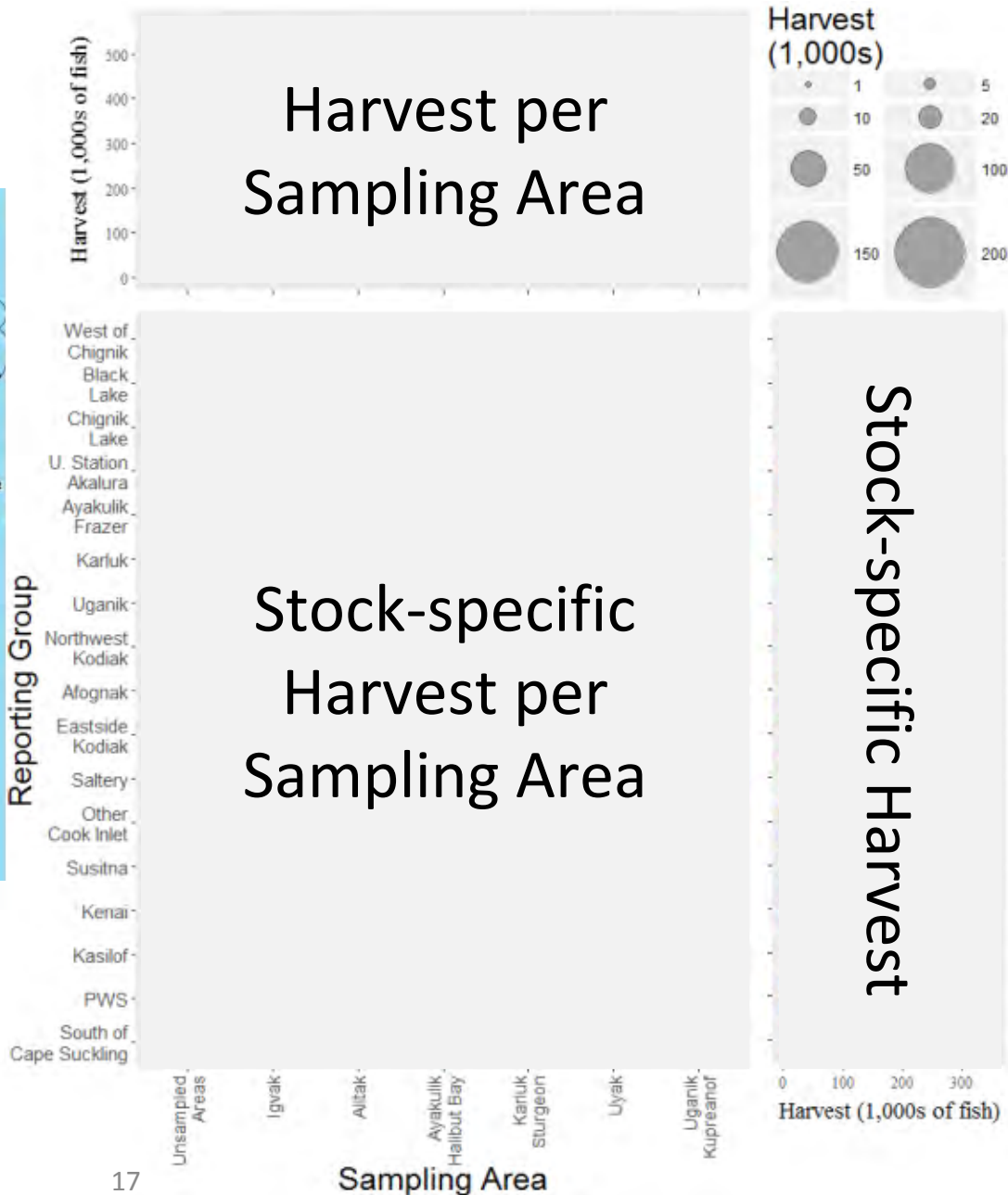
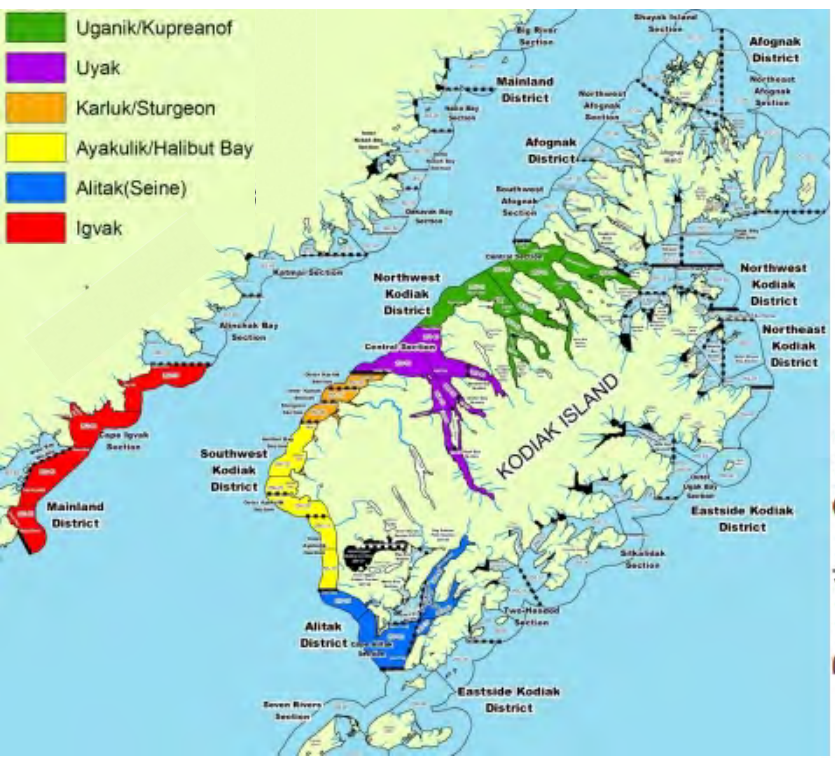


Kodiak Management Area

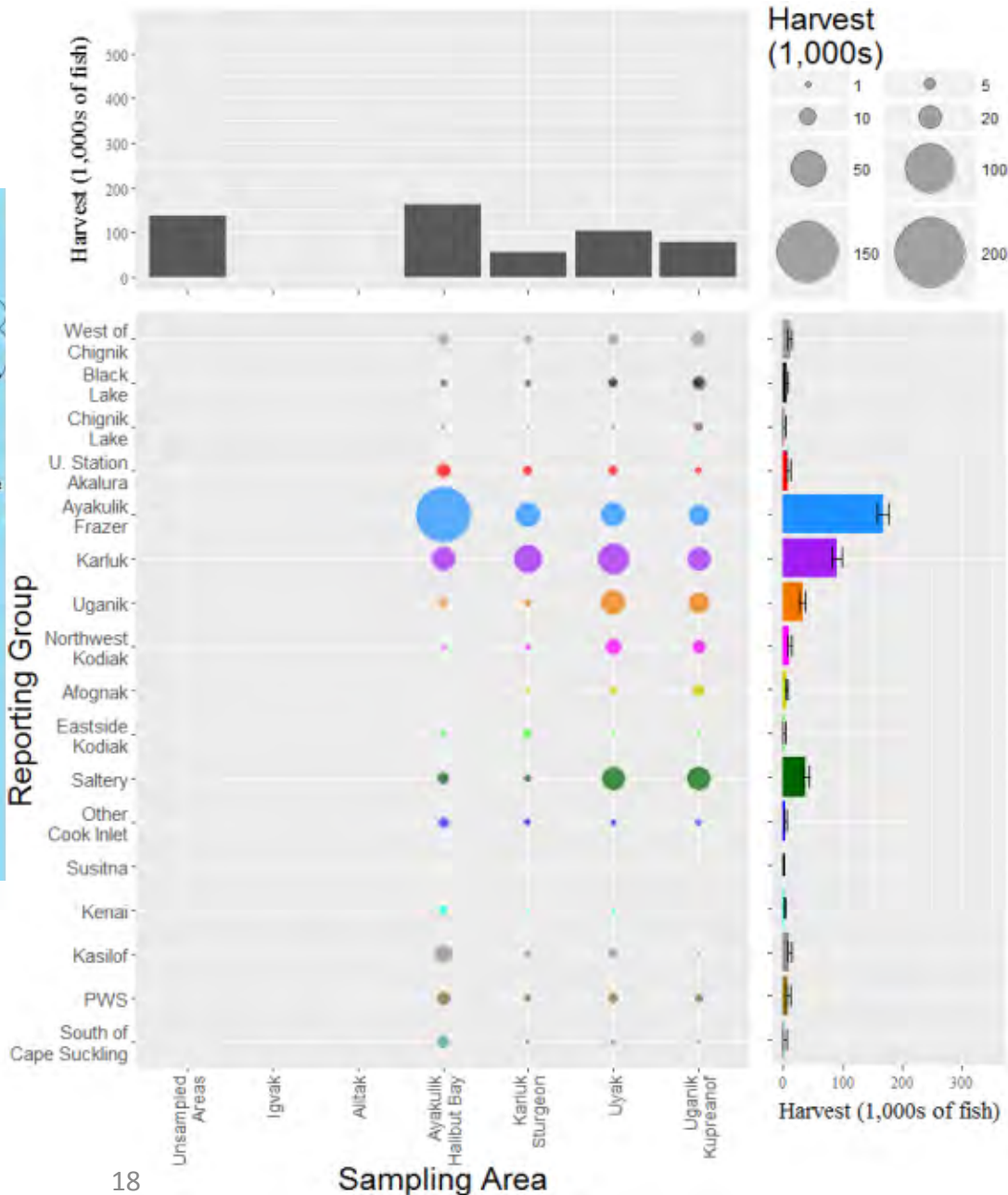
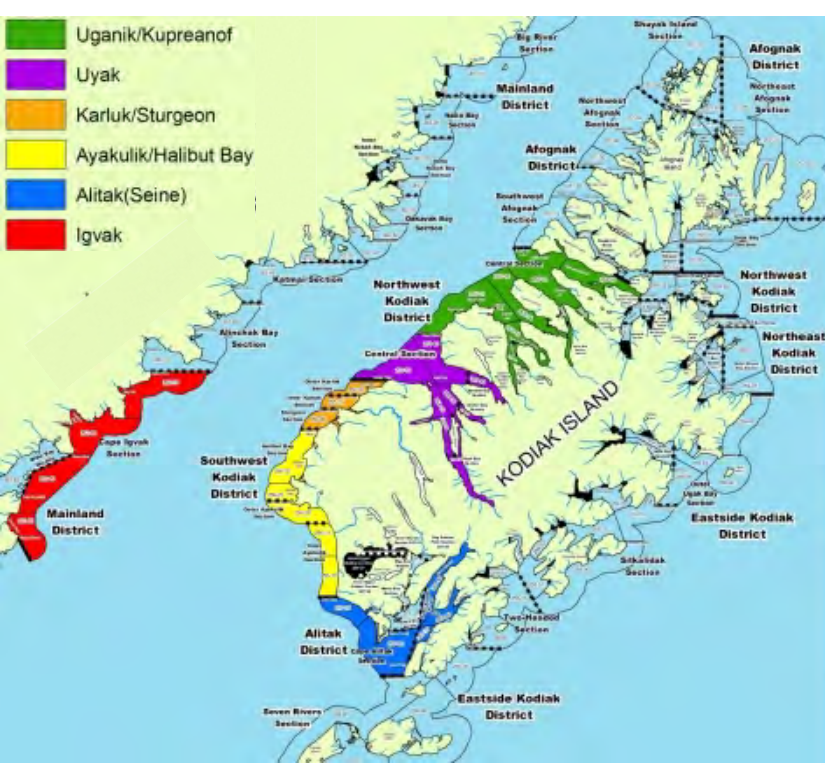




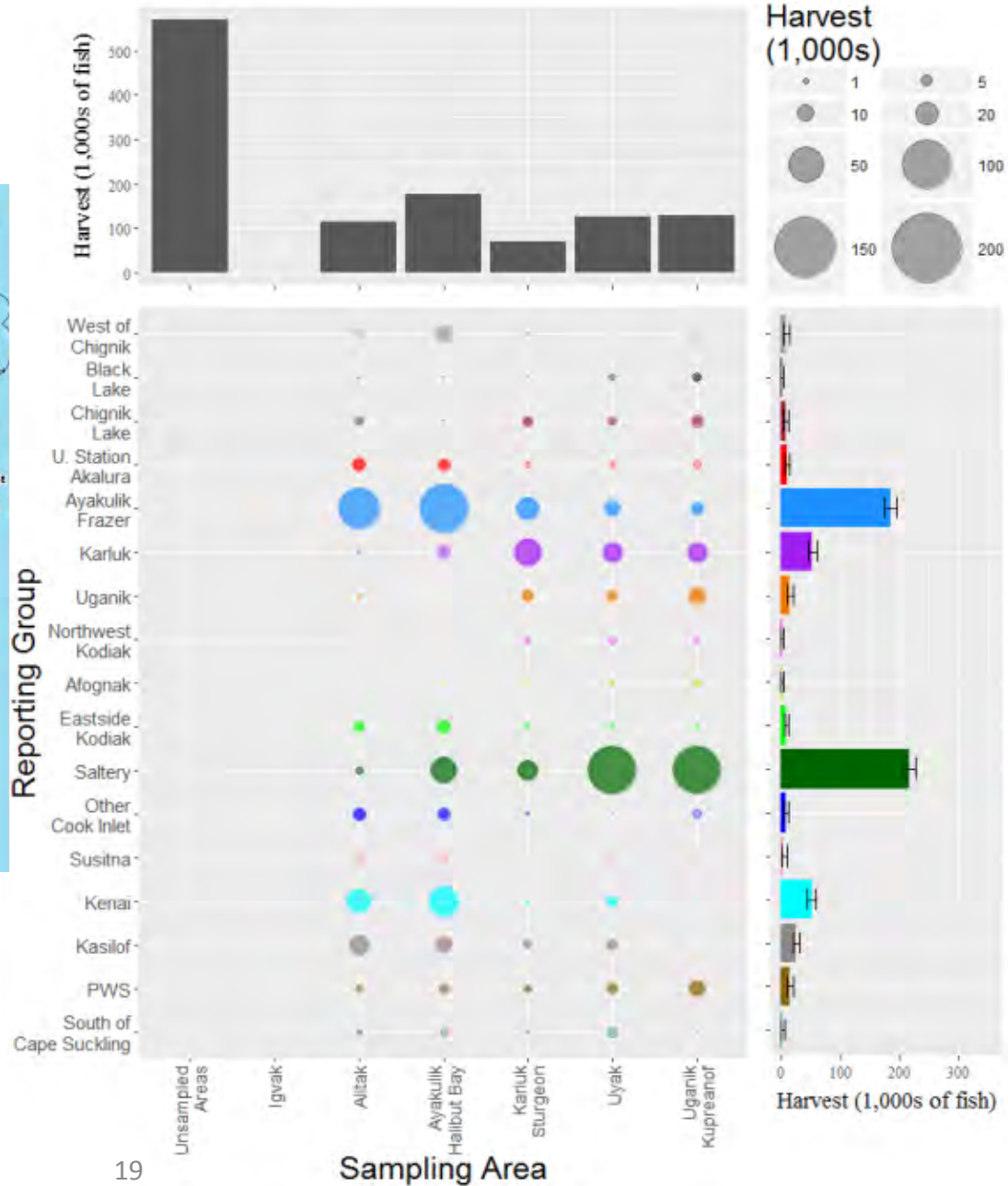
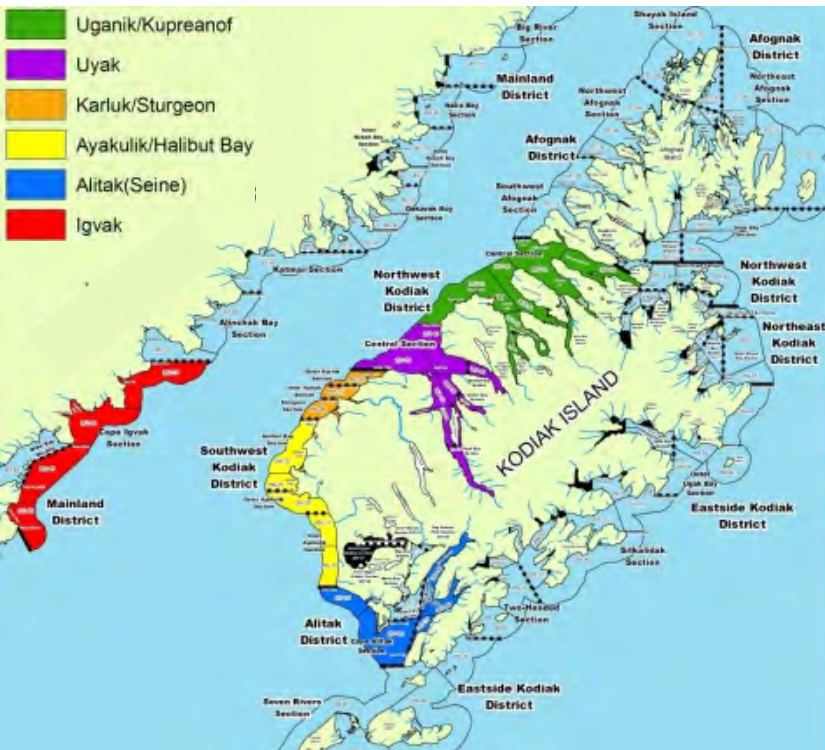
# Example Plot



# 2014 Early Stratum

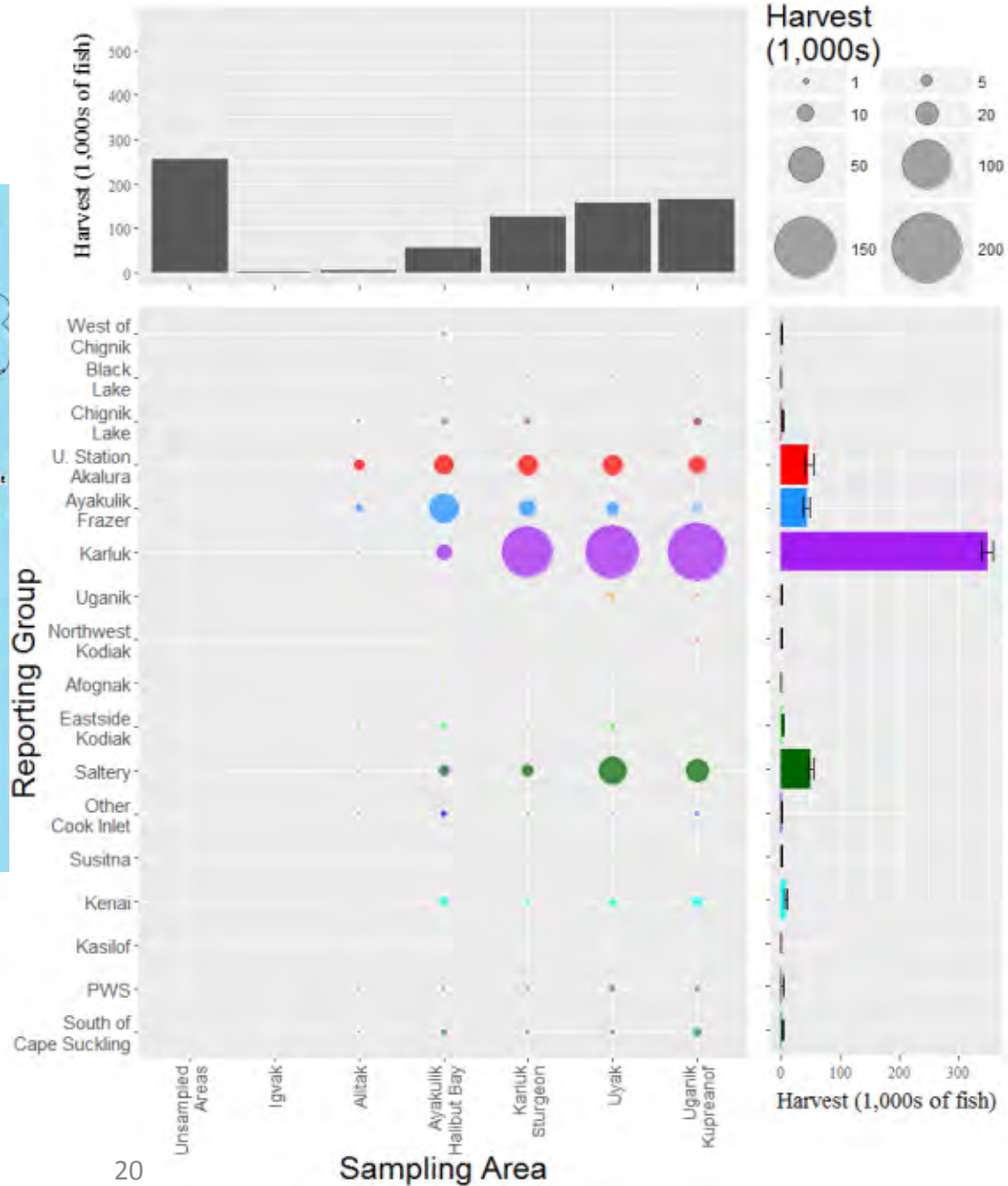
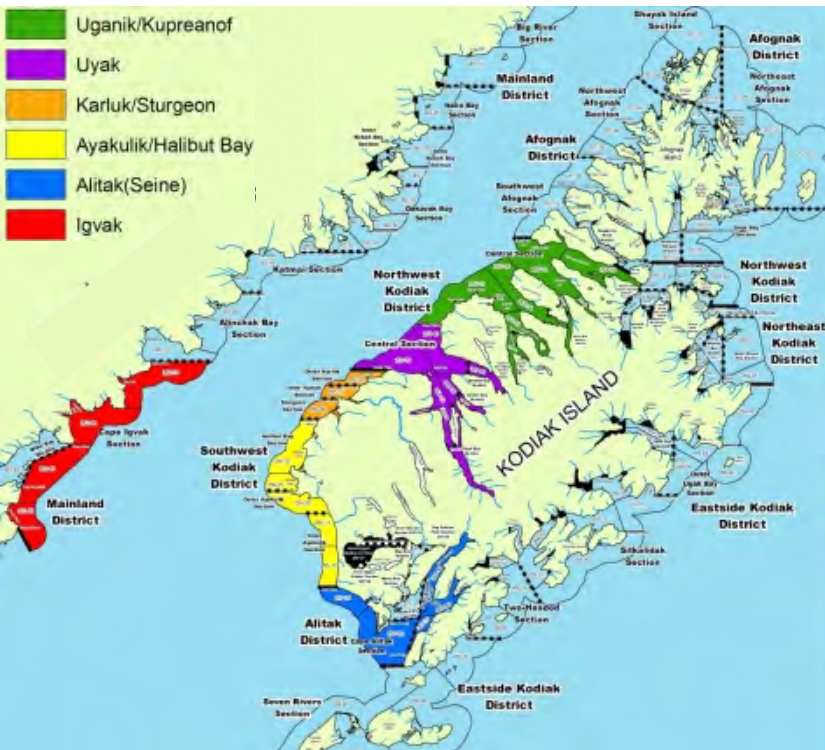


# 2014 Middle Stratum



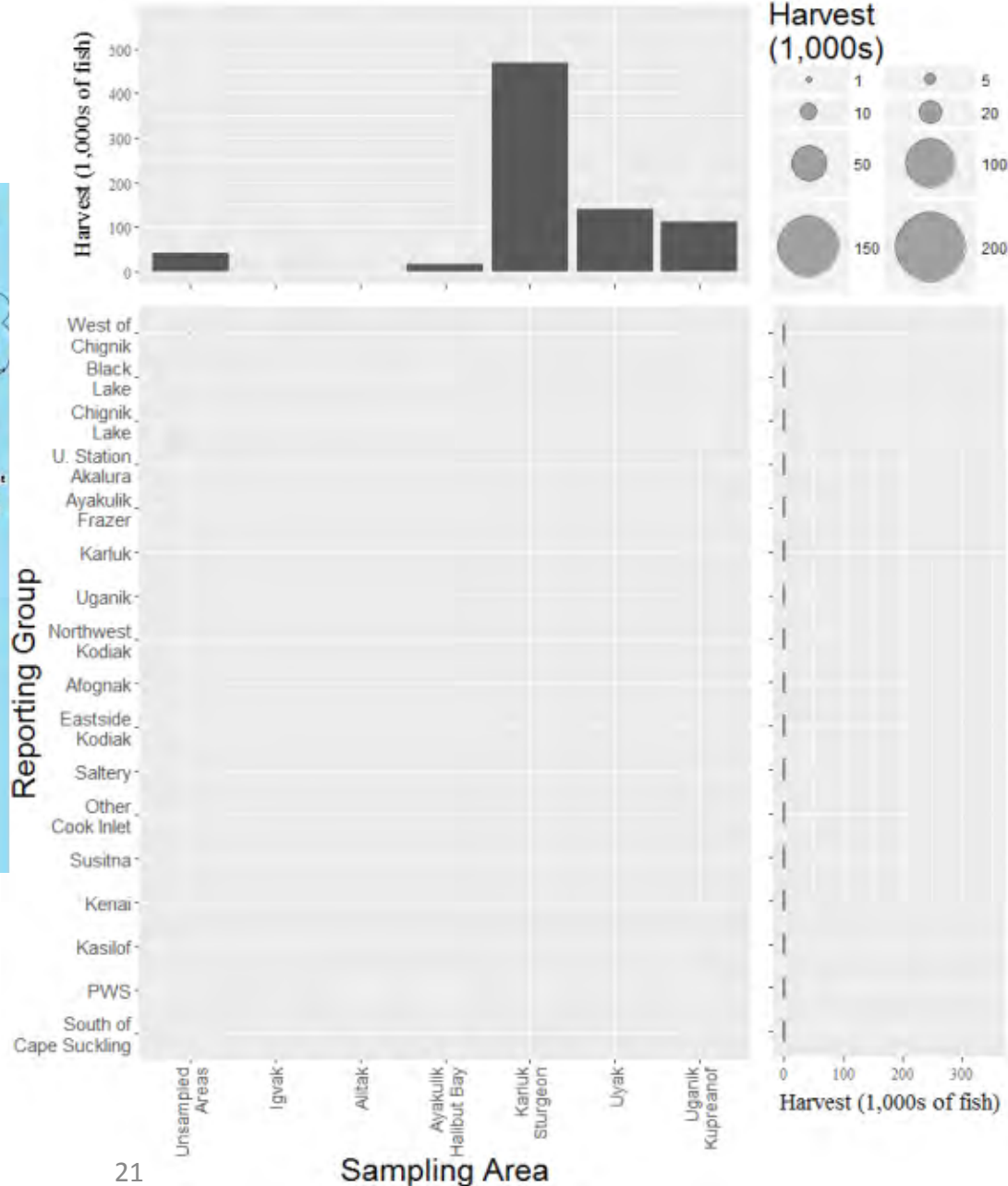
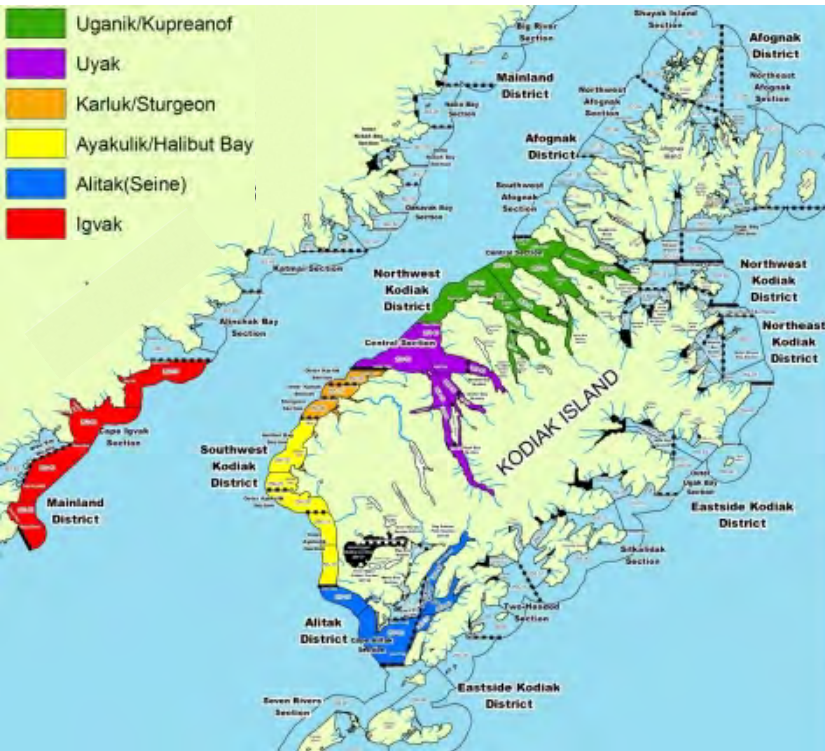


# 2014 Late Stratum

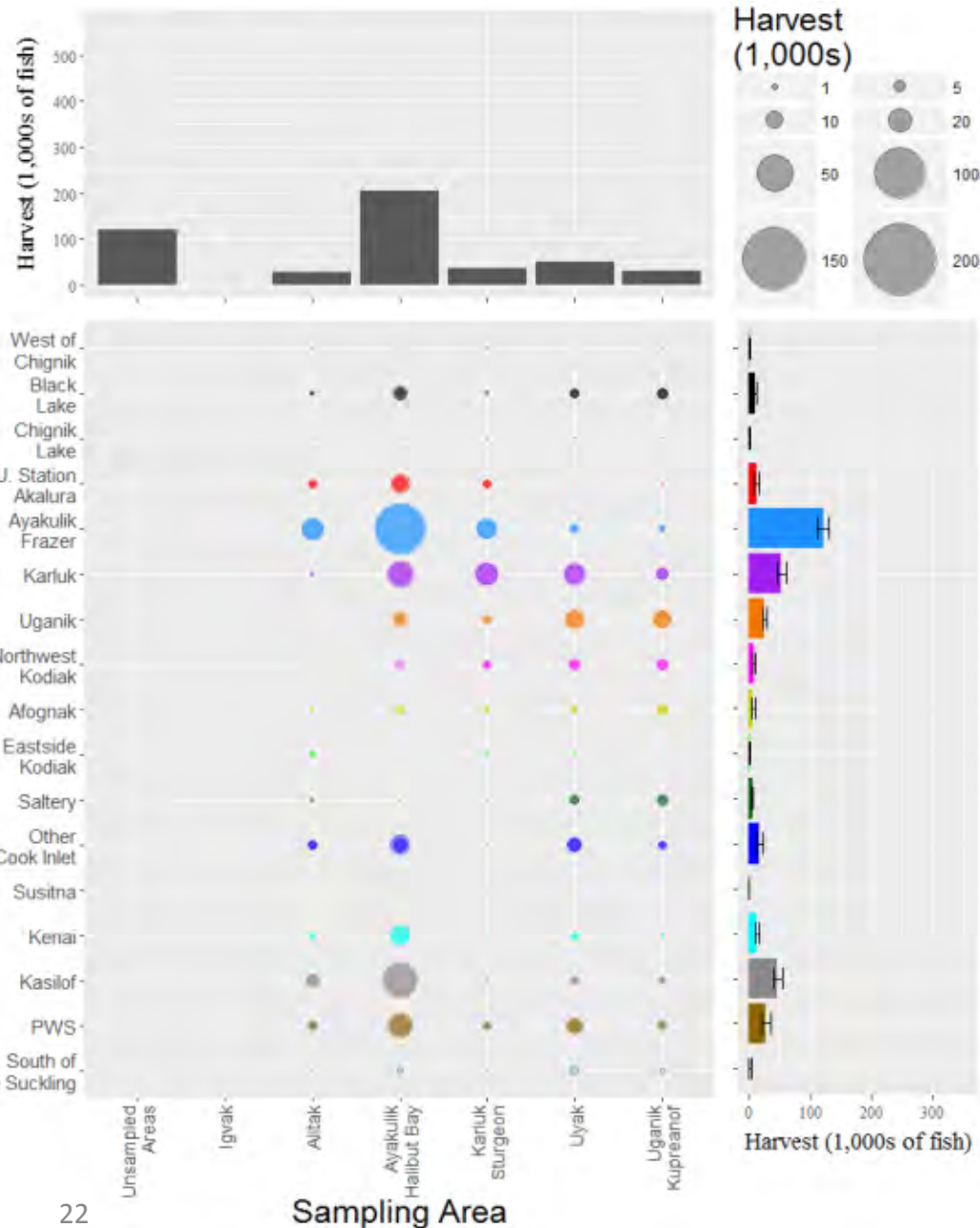
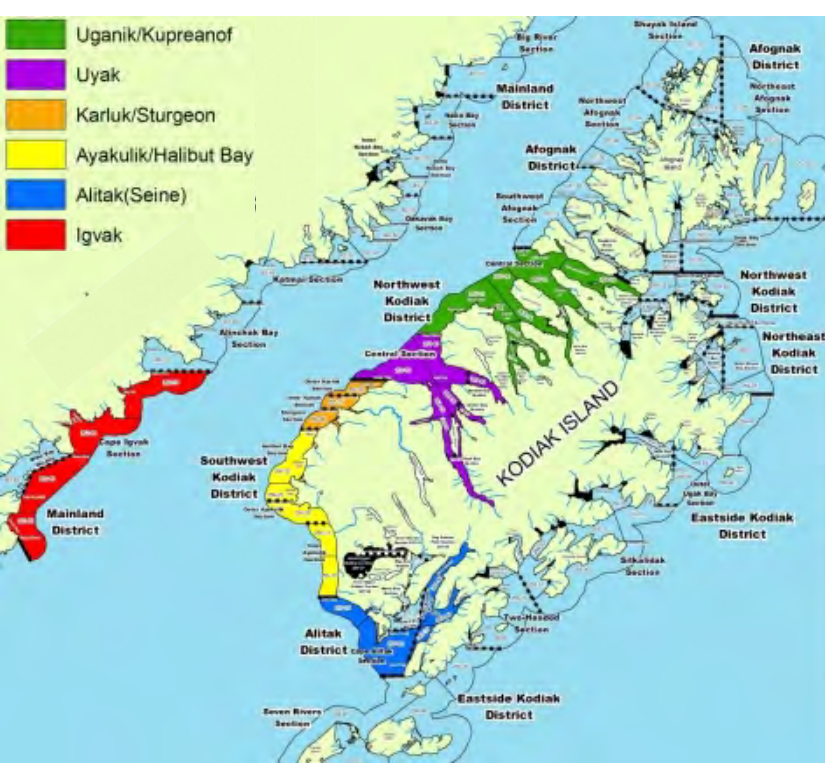




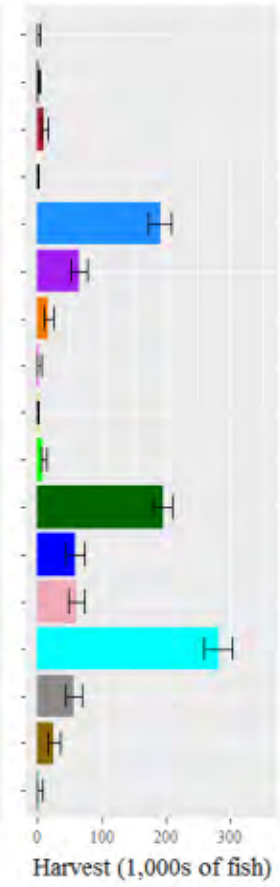
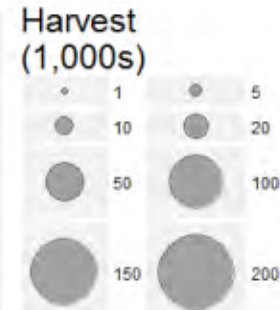
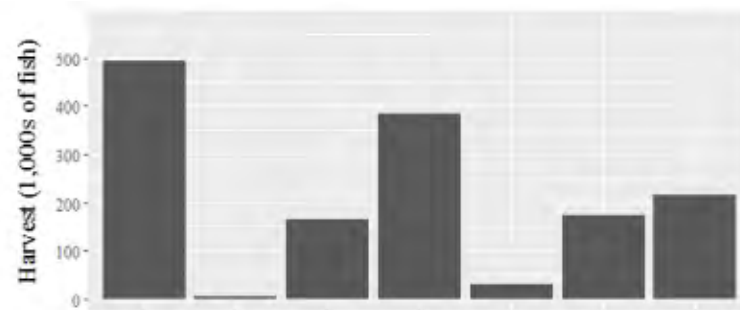
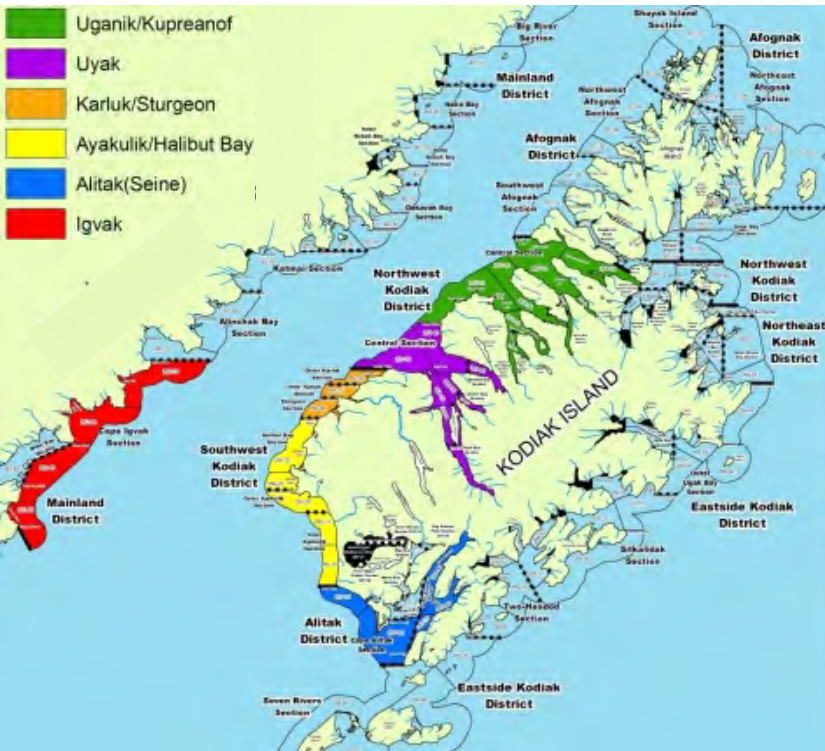
# 2014 Post Sampling



# 2015 Early Stratum

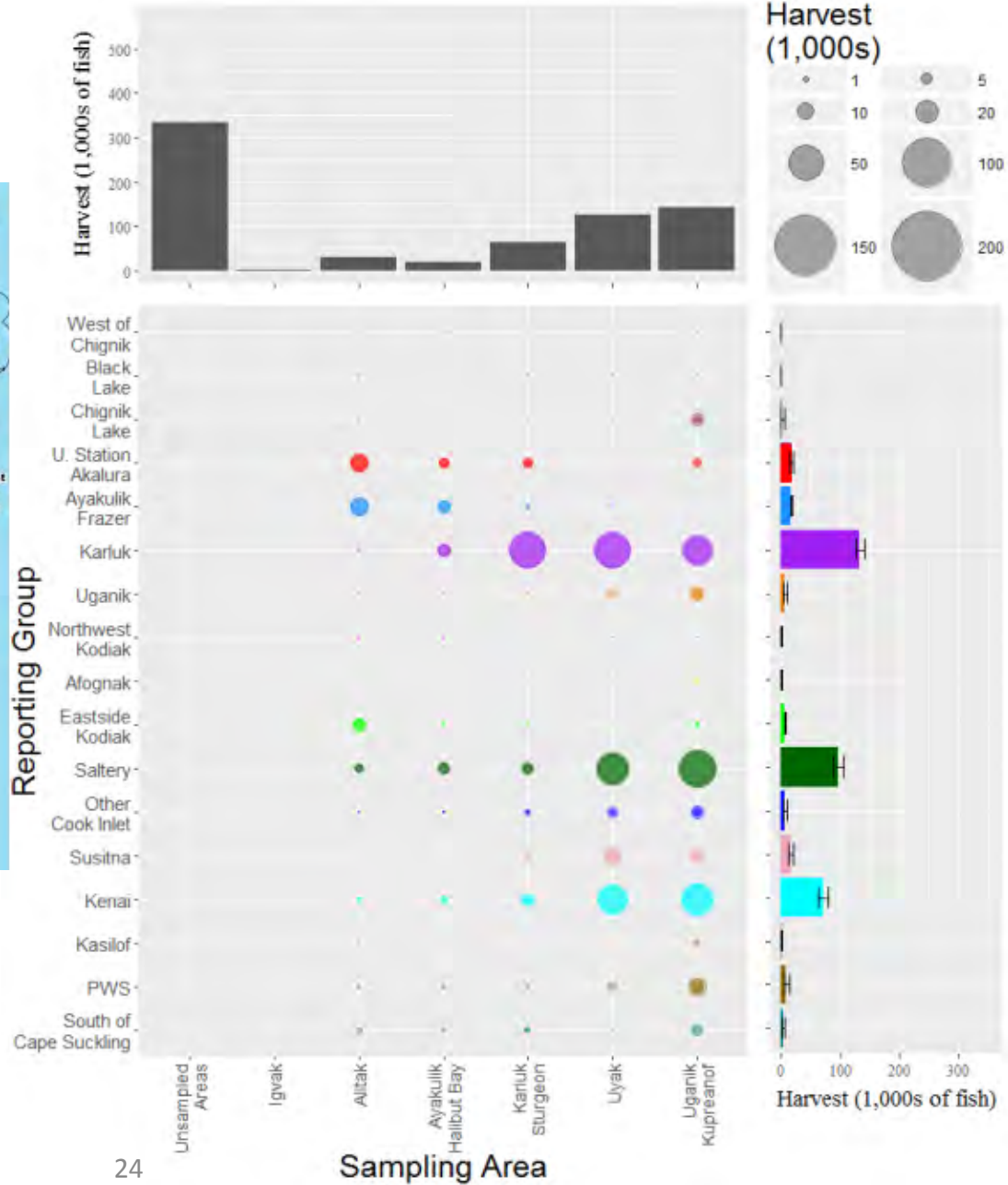
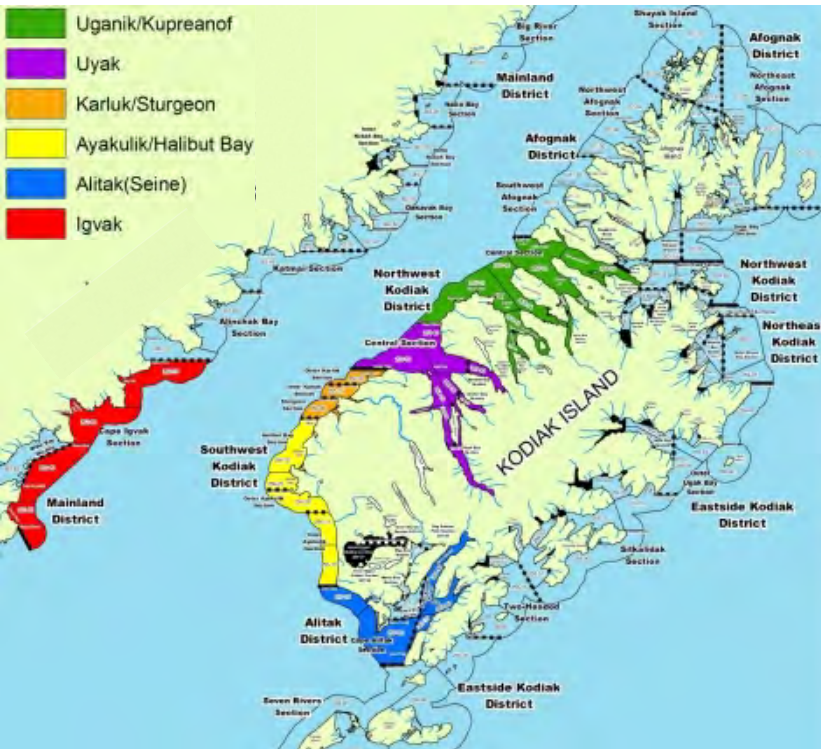


# 2015 Middle Stratum



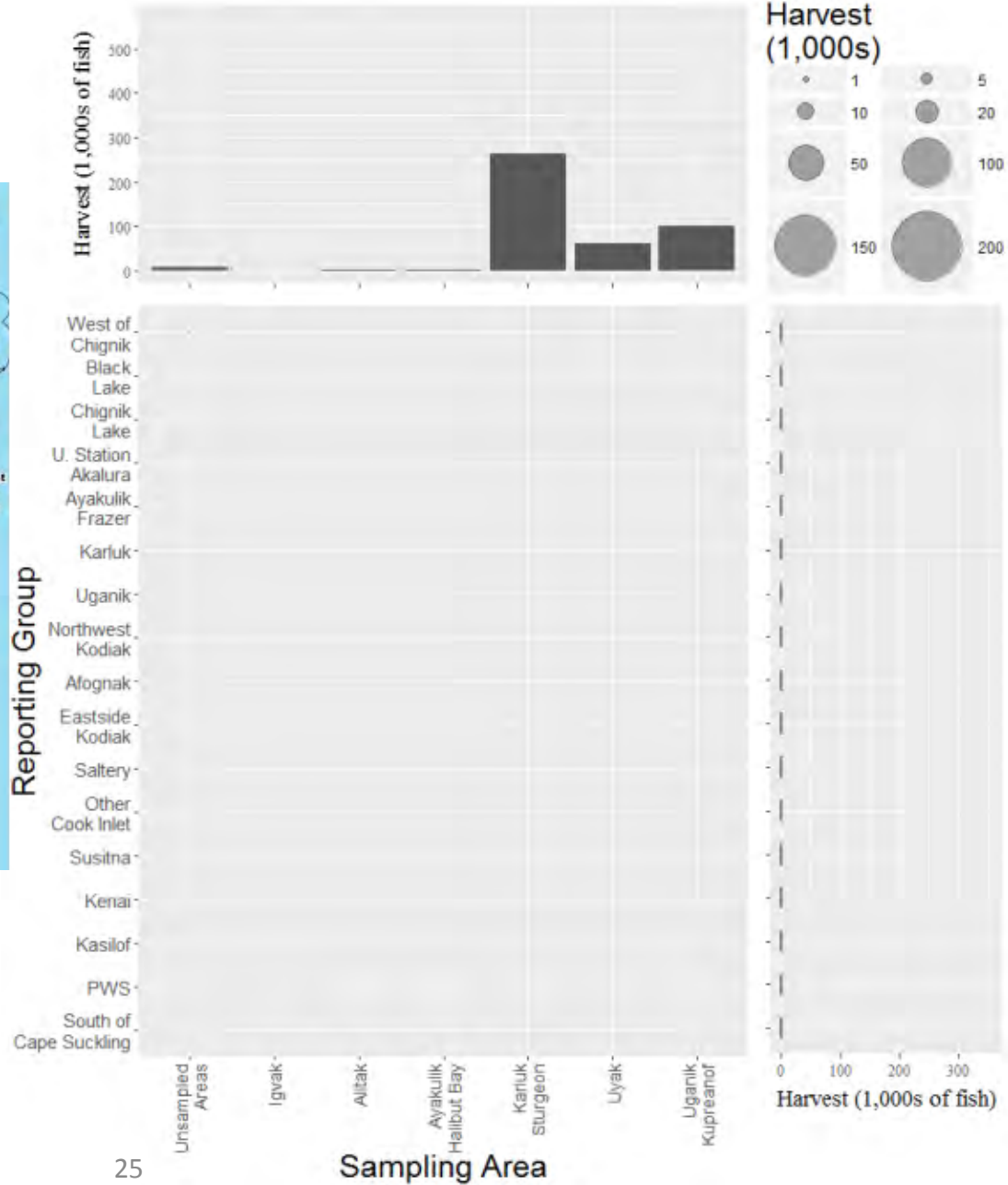
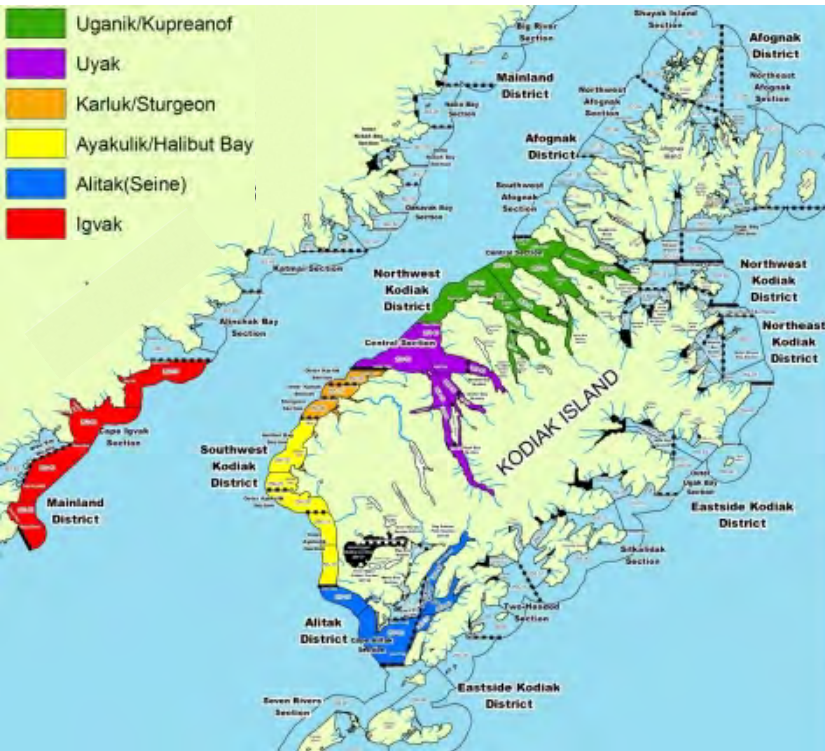


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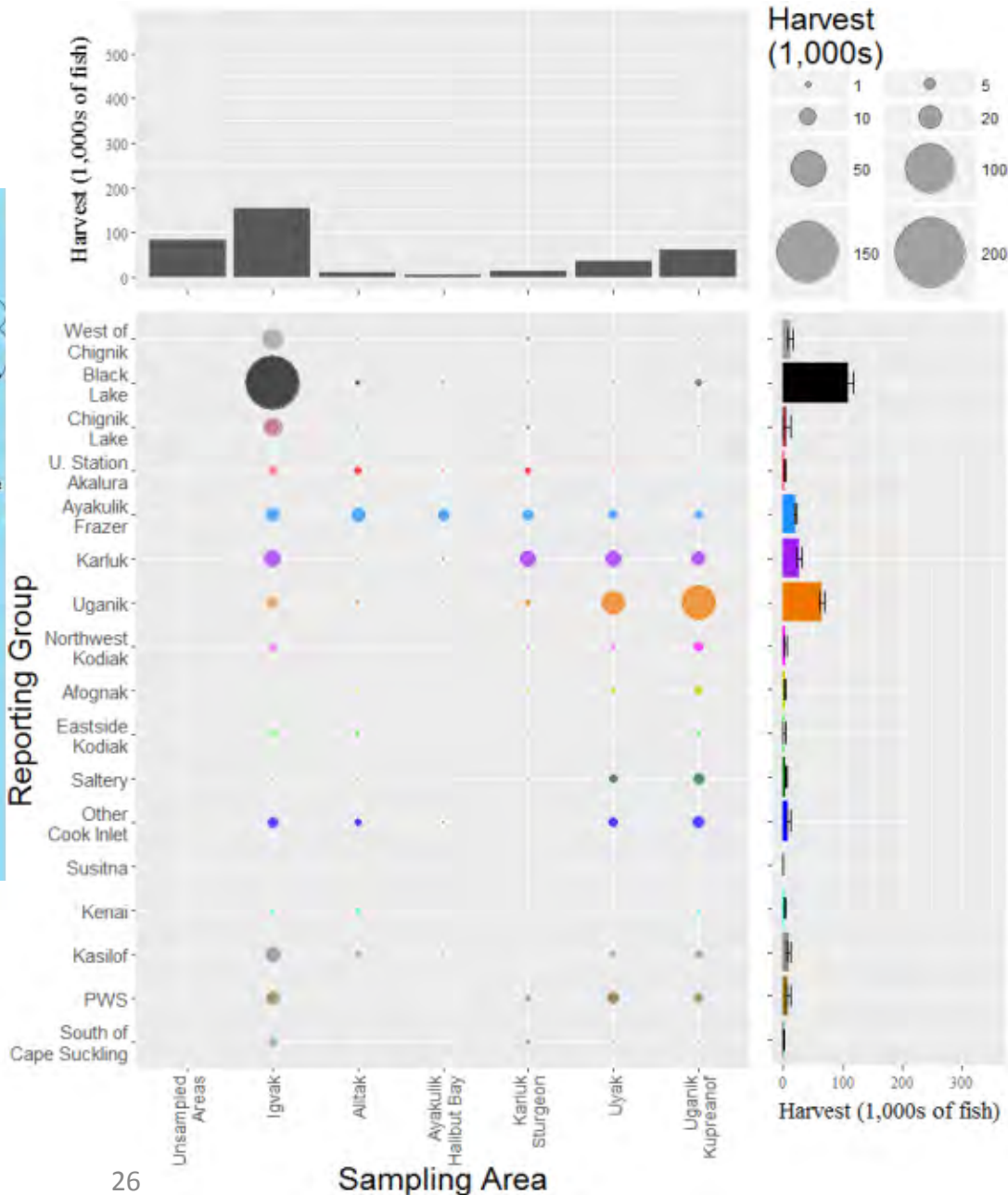
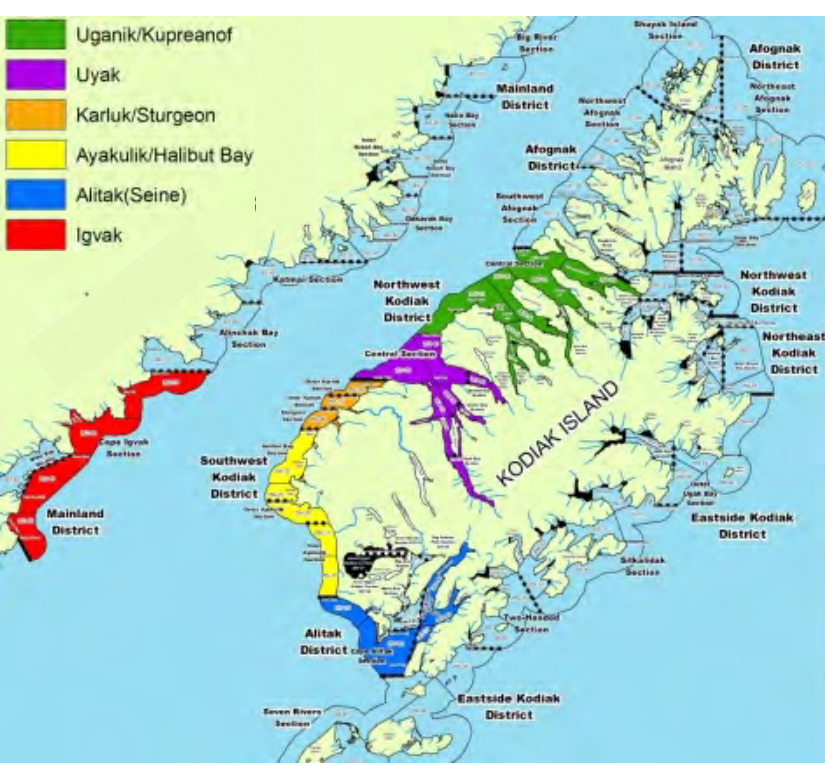




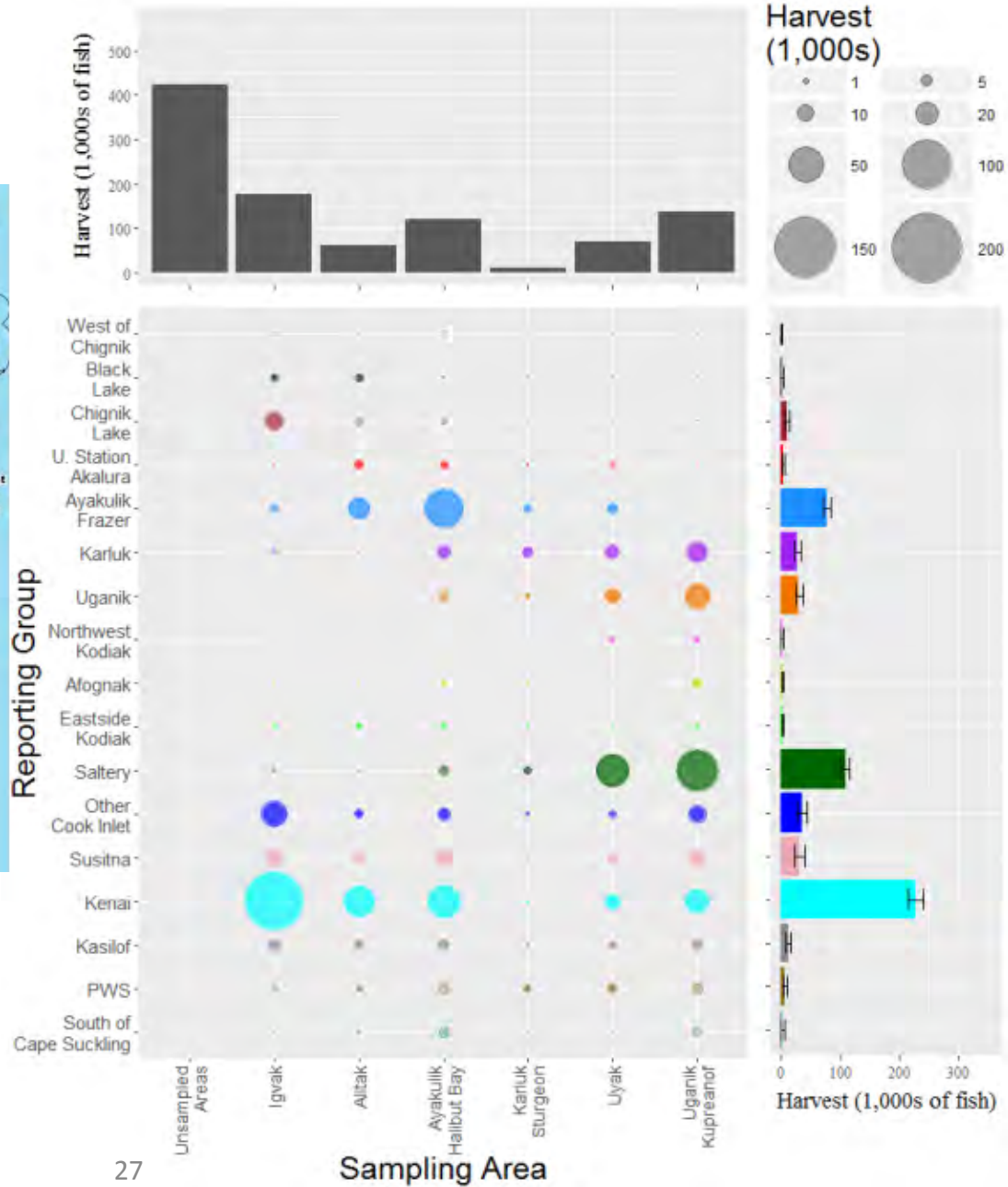
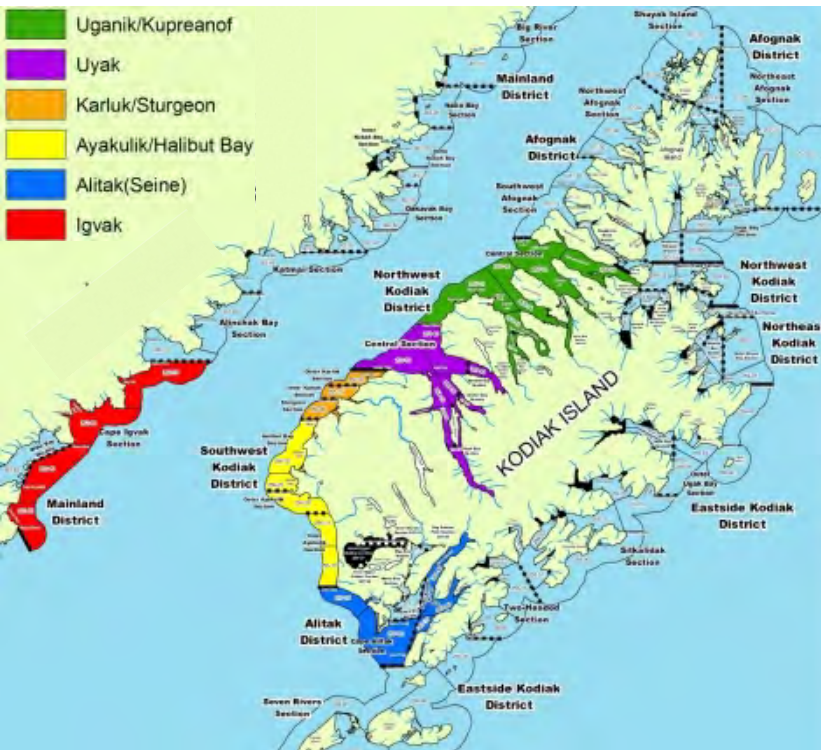
# 2015 Post Sampling



# 2016 Early Stratum

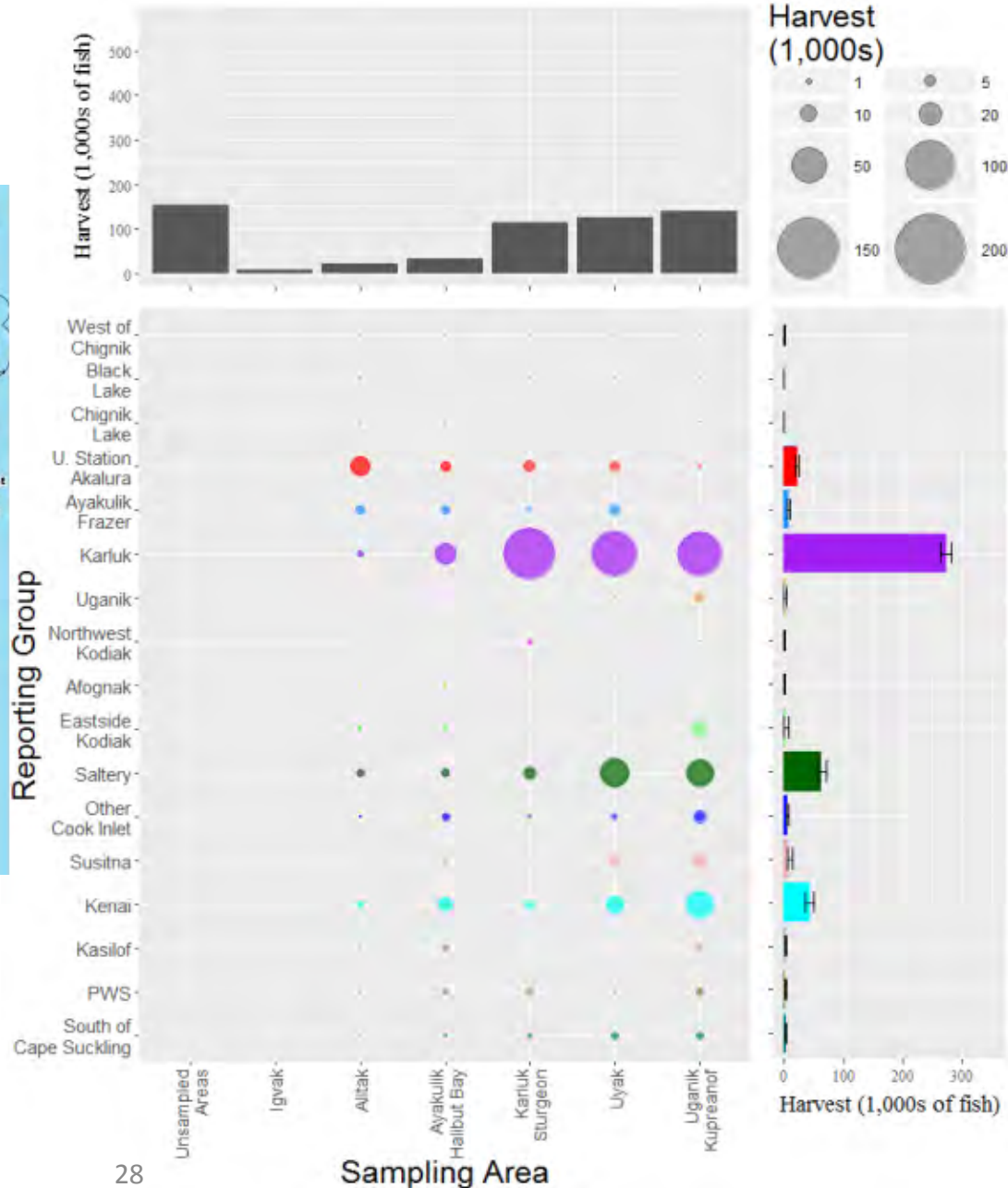
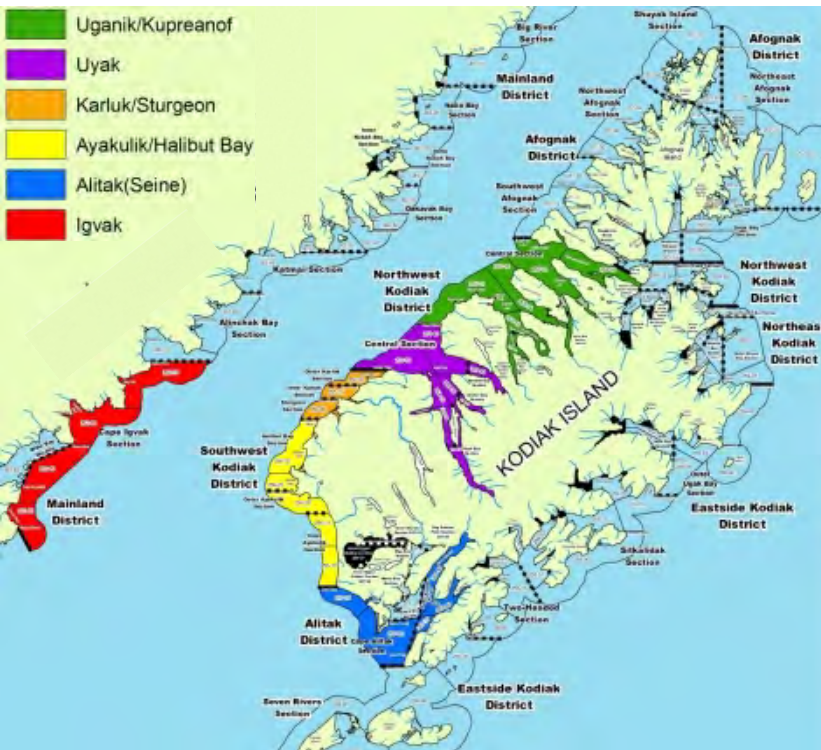


# 2016 Middle Stratum

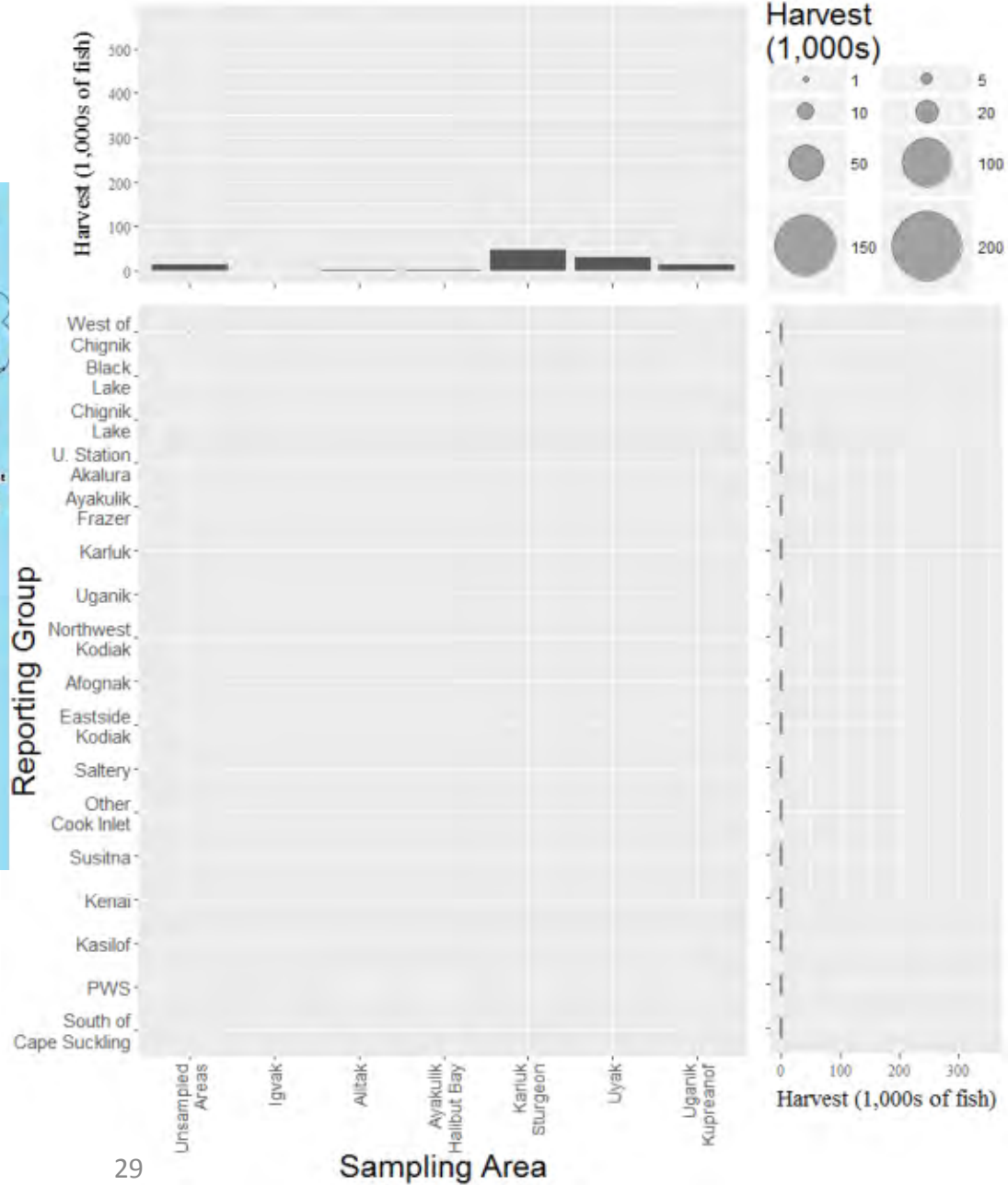
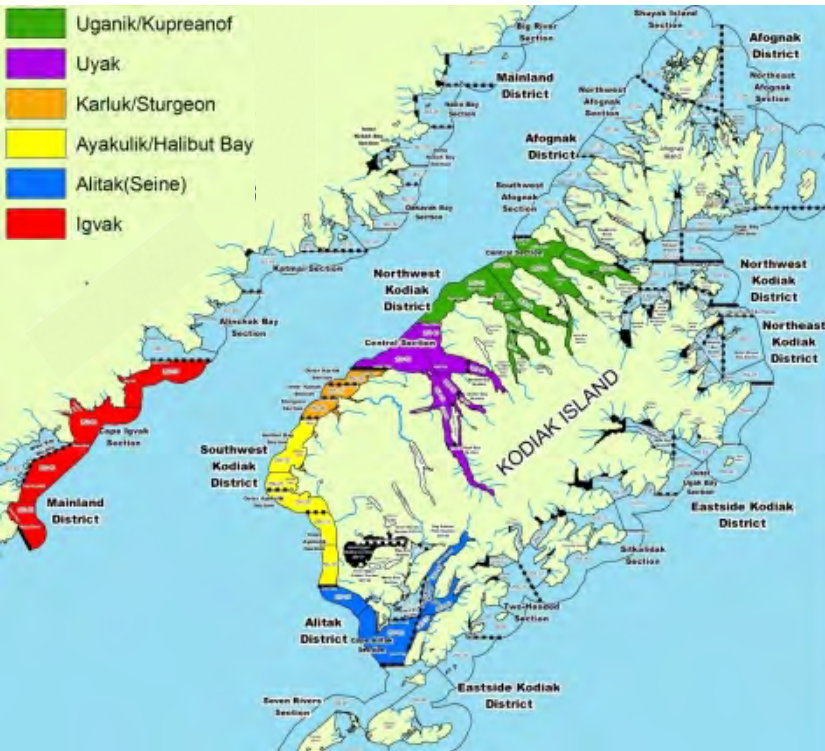




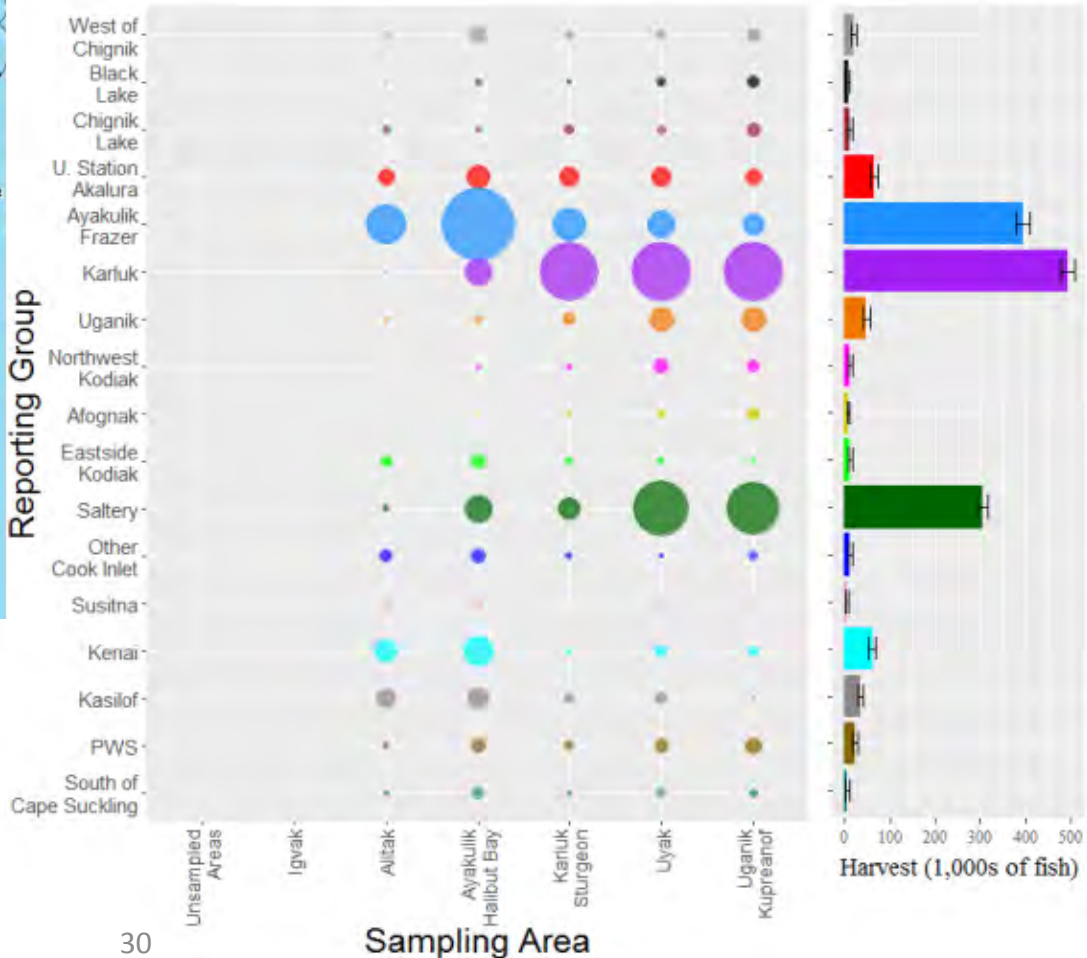
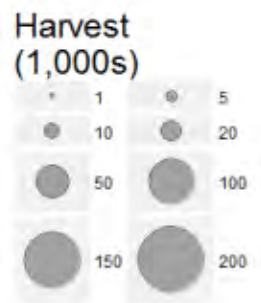
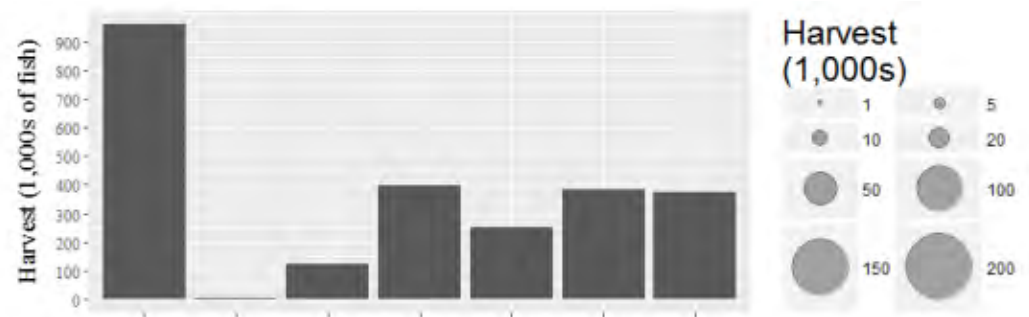
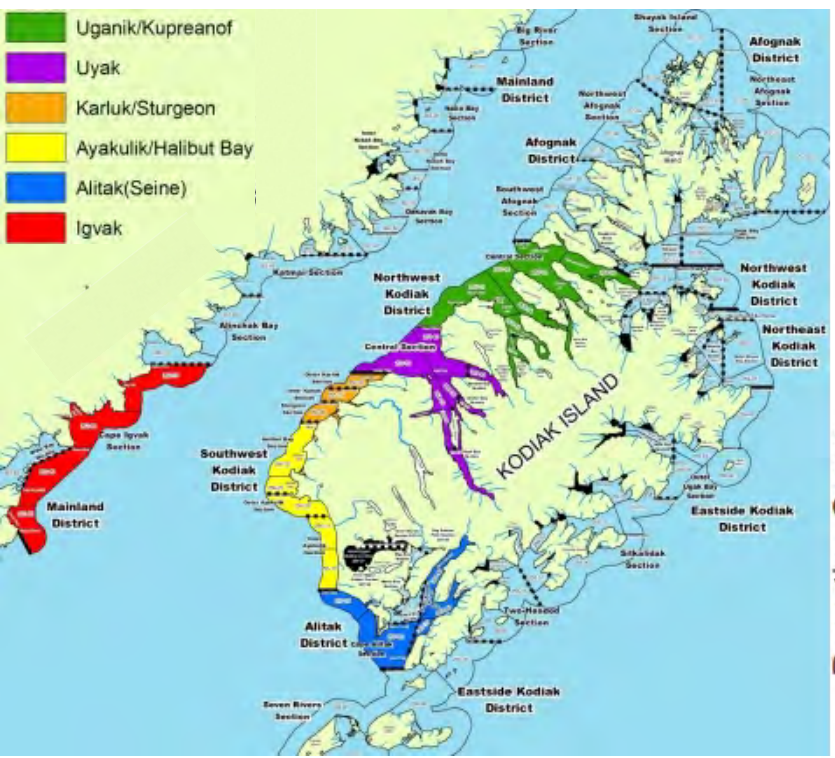
# 2016 Late Stratum



# 2016 Post Sampling

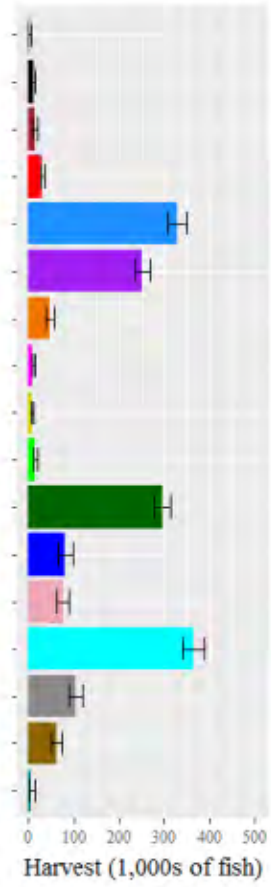
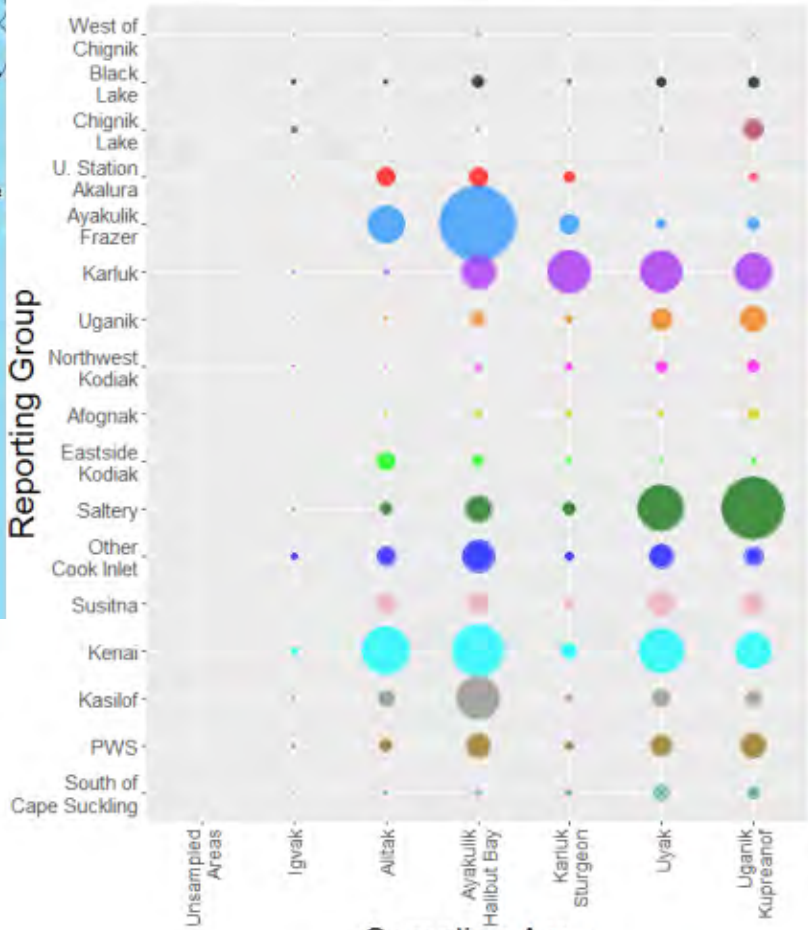
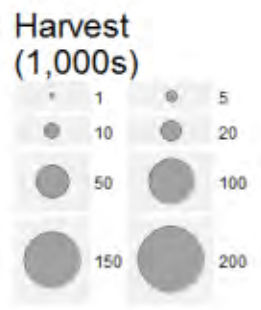
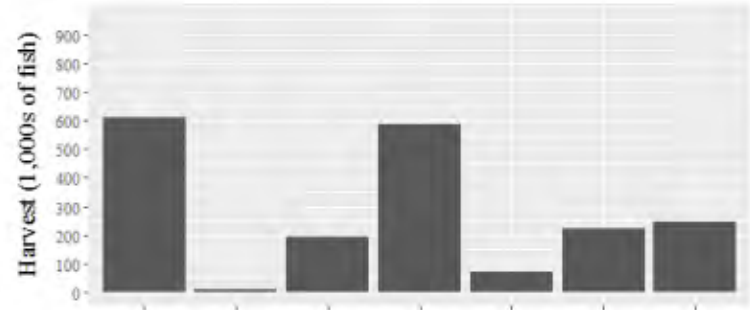
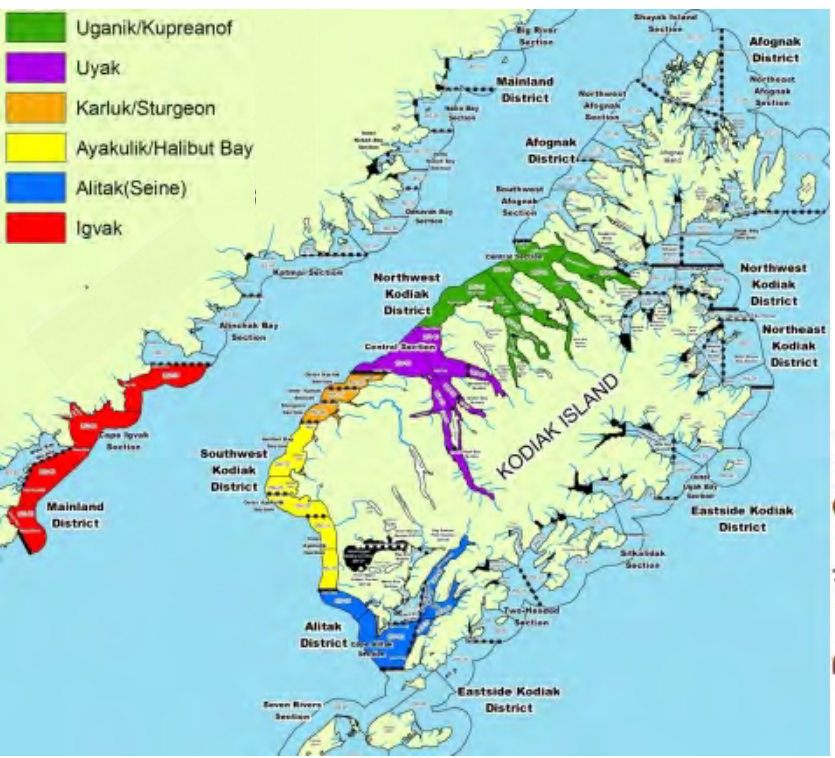


# 2014 Annual

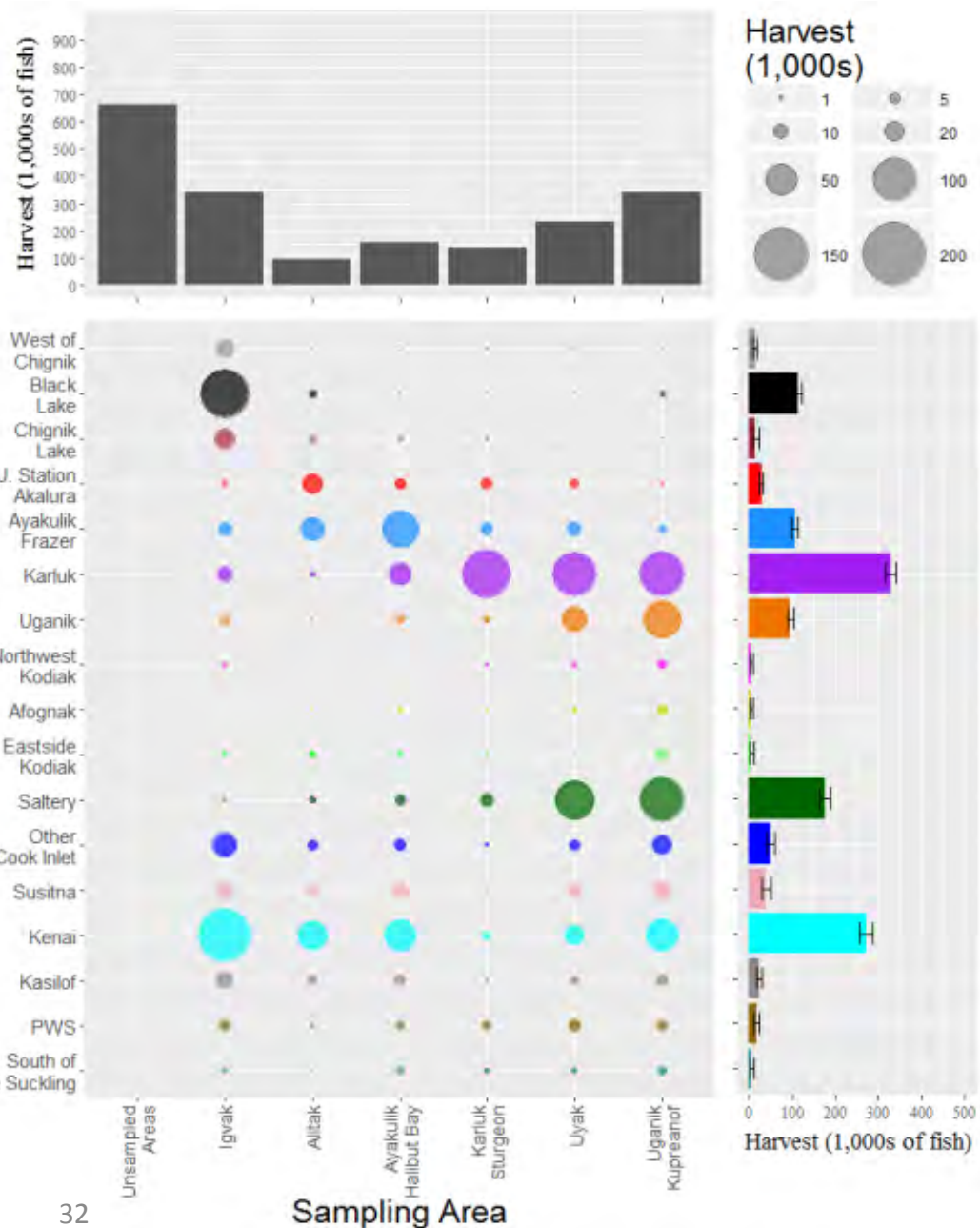
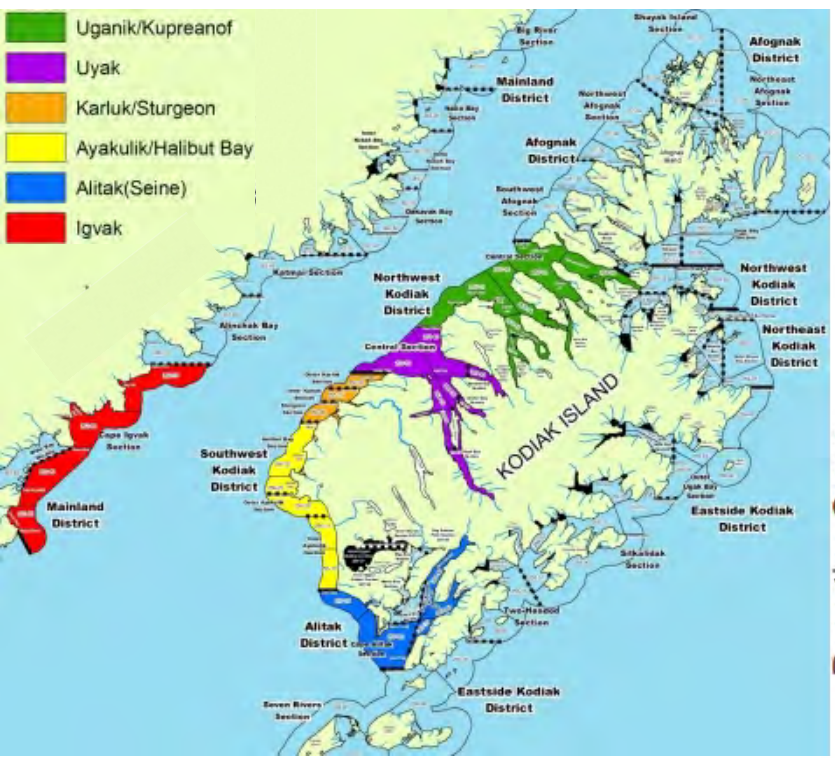




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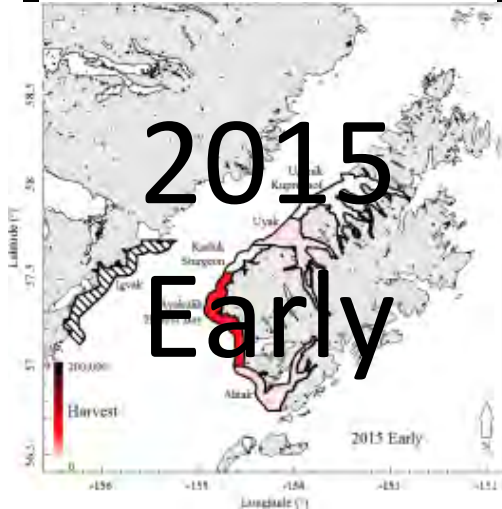
# 2016 Annual



2014  
Early

2014  
Middle

2014  
Late



2015  
Middle

2015  
Late

2016  
Early

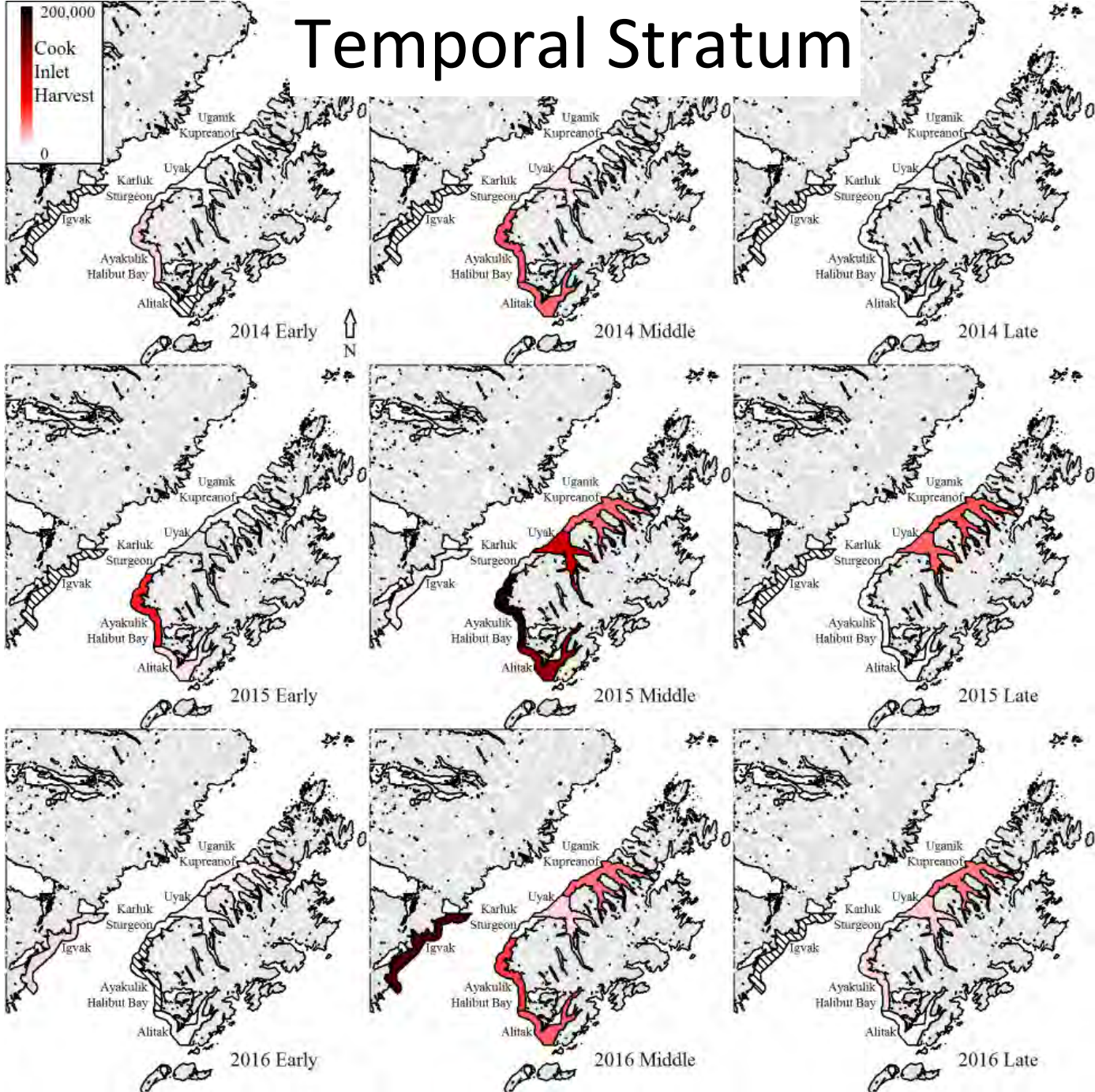
2016  
Middle

2016  
Late



# Temporal Stratum

Year



# Interpreting Results

- First information of genetic stock composition of the harvest
- Inferences outside the study years, areas, or temporal periods
  - Production regime
  - Ocean conditions
  - Prosecution of fisheries
    - Pink salmon



# Questions?

