Yukon River King Salmon Stock Status and Summer Chum Salmon Fishery

AYK Board of Fisheries Meeting
January 2016
Fairbanks, Alaska

Presented by:
Dr. Stephanie Schmidt
Outline

1. Yukon River salmon management overview

2. King salmon stock status
   a) Historical run sizes
   b) Harvest and escapement trends

3. Summer chum salmon fishery

4. Recent management tools and actions

5. 2016 Cycle Proposals
   a) Summer chum salmon management plan
   b) Selective gear to target summer chum salmon
   c) General subsistence gear
   d) Fishing opportunity in District 5
   e) New commercial fishing areas and species
King salmon stocks

Summer chum salmon stocks

Canada

Tanana

Koyukuk

Middle US

Upper US

Lower US

Tanana

Middle US

Koyukuk

Lower US
1. Outlook derived from a combination of population models
1. Outlook derived from a combination of population models

2. Preseason management planning meetings
   • Involves the public to develop strategies to respond to low run sizes
Preseason run size outlook and management planning

1. Outlook derived from a combination of population models

2. Preseason management planning meetings
   • Involves the public to develop strategies to respond to low run sizes

3. Initial management based on preseason outlook and plan
1. Outlook derived from a combination of population models

2. Preseason management planning meetings
   • Involves the public to develop strategies to respond to low run sizes

3. Initial management based on preseason outlook and plan

4. Management adjusted inseason based on run assessment indicators
King salmon run sizes on the Yukon River

![Bar chart showing estimated number of king salmon by year from 1987 to 2015. Dashed line represents 1989-1999 average, solid line represents 2010-2014 average.]
Yukon River king salmon harvests - Alaska
Yukon River king salmon harvests - Alaska

- Last directed commercial fishing

<table>
<thead>
<tr>
<th>Year</th>
<th>Personal use</th>
<th>Sport</th>
<th>Commercial</th>
<th>Subsistence</th>
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Yukon River king salmon harvests - Alaska

No directed subsistence fishing
Yukon River king salmon harvests - Alaska

ANS = 45,500 to 66,704
### Yukon River king salmon escapement trends

<table>
<thead>
<tr>
<th></th>
<th>Goal</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<tr>
<td><strong>Chena R. (tower)</strong></td>
<td>2,800-5,700</td>
<td>2,220</td>
<td>1,859</td>
<td>7,192</td>
<td>4,067</td>
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<tr>
<td><strong>Salcha R. (tower)</strong></td>
<td>3,300-6,500</td>
<td>7,200</td>
<td>7,165</td>
<td>5,465</td>
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<td>4,558</td>
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<tr>
<td><strong>E.F. Andreafsky (weir)</strong></td>
<td>2,100-4,900</td>
<td>5,213</td>
<td>2,517</td>
<td>1,998</td>
<td>5,949</td>
<td>5,474</td>
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<tr>
<td><strong>W.F. Andreafsky (aerial)</strong></td>
<td>640-1,600</td>
<td>1,173</td>
<td>227</td>
<td>1,090</td>
<td>1,695</td>
<td>1,356</td>
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<tr>
<td><strong>Anvik R. (aerial)</strong></td>
<td>1,100-1,700</td>
<td>642</td>
<td>722</td>
<td>940</td>
<td>1,584</td>
<td>2,809</td>
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<tr>
<td><strong>Nulato R. (aerial)</strong></td>
<td>940-1,900</td>
<td>1,401</td>
<td>1,374</td>
<td>1,118</td>
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<td>1,505</td>
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<tr>
<td><strong>Canada border (sonar)</strong></td>
<td>45,500-55,000</td>
<td>46,307</td>
<td>32,656</td>
<td>28,669</td>
<td>63,331</td>
<td>82,615</td>
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</table>

**Goal met**

**Goal exceeded**
Yukon River king salmon harvest and escapement summary

- Low yields of king salmon persisted from 2011-2013

- Yield and run sizes have improved in 2014 and 2015, with a surplus of king salmon that could have been available for harvest

- Escapement goals generally met in the Alaska portion of the drainage from 2011-2015

- Data from juvenile surveys in the Bering Sea indicate improved productivity and are forecasting better returns

Continue as a “Stock of Yield Concern”
Yukon River summer chum salmon fishery

![Graph showing the number of summer chum salmon (millions) from 1995 to 2014. The graph includes data on harvest, escapement, and a drainagewide threshold.](image-url)
Recent management tools/actions

How to balance conservation of king salmon with overlapping abundant summer chum salmon run?
Recent management tools/actions

• Selective gear to harvest summer chum salmon and release king salmon:
  • Dip nets
  • Beach seines
  • Live-release fish wheels
Recent management tools/actions

- Selective gear to harvest summer chum salmon and release king salmon
Recent management tools/actions

- Selective gear to harvest summer chum salmon and release king salmon

Avg. start date: June 27
Recent management tools/actions

- Selective gear to harvest summer chum salmon and release king salmon

![Graph showing the number of summer chum salmon harvested from 2008 to 2015.]

- Avg. start date: June 27
- Avg. start date: June 12
Recent management tools/actions

- Time and area management: “surgical” openings
  - Pulse closures (1st pulse by regulation)
  - Short 6” or smaller mesh size gillnet openings in between king salmon pulses

Abundant summer chum salmon in between king salmon pulses
2016 Yukon Area proposals before the board
2016 proposals: Summer chum salmon management plan

• **Proposal 107**: Close the Yukon River summer chum salmon commercial fishery to protect king salmon

• **Proposals 108 and 109**: Modify the Yukon River Summer Chum Salmon Management Plan triggers
2016 proposals: Selective gear

- **Proposal 117**: Prohibit the use of beach seines
- **Proposals 118 and 123**: Further define beach seine specifications
- **Proposal 119**: Require live-release of king salmon from subsistence beach seines
2016 proposals: Selective gear

- **Proposal 126**: Add purse seine gear as a selective gear type allowed in the summer chum salmon commercial fishery
2016 proposals: General subsistence gear

- **Proposal 112:** Allow all gear used in Yukon Area commercial fisheries to be allowed in Yukon Area subsistence fisheries

- **Proposal 116:** Require fish wheels with live boxes to be manned at all times during times of salmon conservation and specified salmon released immediately
2016 proposals: District 5 fishing opportunity

- **Proposal 114**: Require subsistence salmon fishing permits in Yukon Area District 5 and set permit limits for king salmon during times of king salmon conservation

- **Proposal 115**: Allow king salmon less than 25 inches to be retained from fish-friendly fish wheels in subsistence fisheries
2016 proposals: New commercial fishing areas and species

- **Proposal 125:** Establish gillnet commercial fishery for pink salmon in Districts 1-3
- **Proposals 127 and 128:** Expand the commercial fishing area along the coast/mouth of the Yukon River
Acknowledgements

Yukon Delta Fisheries Development Association

U.S. Fish and Wildlife Service

Yukon River Panel

Yukon River Drainage Fisheries Association

Bering Sea Fishermen’s Association

Tanana Chiefs Conference

Association of Village Council Presidents

National Oceanic and Atmospheric Administration

Department of Fisheries and Oceans