Southern Southeast Regional

Aquaculture Association

or

S.S.R.A.A.

Pronounced “Sarah”
What is SSRAA?

- SSRAA is a private, not-for-profit, corporation

Operating Revenue comes from:
- Cost recovery harvests
- State and federal contracts, grants and donations
- 3% enhancement assessment on ex-vessel commercial sales of salmon
SSRAA’s Mission Statement:

“...to enhance and rehabilitate salmon production in the region to the optimum social and economic benefit of the user groups.”
Enhancement “Ranching” Operations

- SSRAA releases smolt to the open ocean as soon as they are ready.

- SSRAA’s goal is to have 75% of returning adults intercepted by common property fisheries.

- Adult fish returning to the hatcheries are used for brood stock and cost recovery.
Average SSRAA Salmon Production by Species, 2001-2007
(Based on Number of Fish)

- Sockeye: <1%
- Chinook: 1%
- Coho: 16%
- Chum: 83%
SSRAA’s Port Sampling Program

Verifies the enhancement contribution to common property fisheries through:

1. Retrieving tags from fin-clipped fish

2. Otolith extraction
Adipose Fin Clipping Fry
Is it a hatchery fish?

Adipose Fin
Installing Coded Wire Tags

In Chinook Fry
Missing Adipose Fin
While *low* tag ratios give good data. *High* tag ratios tend not to give good data.

- SSRAA releases about *140 million* chum salmon and even tagging them at a 1 to 1000 ratio means tagging 140,000 fry/smolt
  - Very expensive and time consuming to tag that many fish

- Fortunately there is another fairly new method that allows for marking 100% of the fish and is providing excellent data for determining enhancement contributions.
Otolith Marking has provided SSRAA with a new and better tool.

- By varying incubation water by 4 degrees Celsius after the egg has “eyed”, a band or ring is formed on the embryo’s newly developed ear bone. By precisely timing these periods of water temperature change a distinctive/readable mark is placed on each developing egg sharing the same incubation water.
This incubator has about 250,000 eggs.
A pair of ear bones (otoliths) lie at the base of a fish's brain.
Thermal mark:
Base = 3
Accessory = 2n

Hatch Code: 3,2nH
Brood year: 2002
Release: Kendrick Bay
SSRAA’s Contribution

• the port samplers take random samples of chum otoliths from district gillnet and seine fish deliveries.

• Since 100% of SSRAA’s chum are otolith marked, whatever % of the sample have a SSRAA mark is the % of SSRAA chum salmon in that fishery during that fishing period.
Harvest and Ex-Vessel Value of SSRAA Salmon as a Percentage of Southern Southeast Commercial Salmon Harvest, 2001-2007
Ex-vessel Value of SSRAA Salmon

1990-2000 Total: $58 Million
Total Ex-Vessel Value of SSRAA
Salmon Harvest, 2001-2007

2007: $9.5 million
2000 Grand Total Regional Economic Impacts from SSRAA Salmon Production

- $28,000,000 total output
- $6,000,000 labor income
- 250 jobs
SSRAA Impact Summary, 2007

<table>
<thead>
<tr>
<th>Direct and Indirect Impacts Generated by…</th>
<th>Annual Equiv. Jobs</th>
<th>Associated Payroll</th>
<th>Total Econ. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial harvest of SSRAA salmon by SE Alaska fishermen</td>
<td>110</td>
<td>$3.6 million</td>
<td>$7.8 million</td>
</tr>
<tr>
<td>Seafood processing of all SSRAA salmon (excluding ex-vessel value)</td>
<td>215</td>
<td>$4.9 million</td>
<td>$30.4 million</td>
</tr>
<tr>
<td>Non-resident sport harvest of SSRAA salmon</td>
<td>45</td>
<td>$1.0 million</td>
<td>$3.2 million</td>
</tr>
<tr>
<td>SSRAA operations</td>
<td>50</td>
<td>$1.9 million</td>
<td>$5.0 million</td>
</tr>
<tr>
<td>All SSRAA activity</td>
<td>420</td>
<td>$11.5 million</td>
<td>$46.4 million</td>
</tr>
<tr>
<td>All SSRAA activity in Ketchikan</td>
<td>220</td>
<td>$6.0 million</td>
<td>$25.9 million</td>
</tr>
</tbody>
</table>
### Geographic Distribution of SSRAA Ex-Vessel Value, 2007

<table>
<thead>
<tr>
<th>Permit Holder Residence</th>
<th>Ex-Vessel Value</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrangell-Petersburg</td>
<td>$2,646,000</td>
<td>28%</td>
</tr>
<tr>
<td>Ketchikan Gateway</td>
<td>$1,534,000</td>
<td>16%</td>
</tr>
<tr>
<td>POW-Outer Ketchikan</td>
<td>$1,389,000</td>
<td>15%</td>
</tr>
<tr>
<td>Sitka</td>
<td>$205,000</td>
<td>2%</td>
</tr>
<tr>
<td>Juneau</td>
<td>$74,000</td>
<td>1%</td>
</tr>
<tr>
<td>Kenai Peninsula</td>
<td>$48,000</td>
<td>1%</td>
</tr>
<tr>
<td>Anchorage</td>
<td>$44,000</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Other Alaska</td>
<td>$77,000</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total Alaska</strong></td>
<td><strong>$6,016,000</strong></td>
<td><strong>64%</strong></td>
</tr>
<tr>
<td>Outside Alaska</td>
<td>$3,454,000</td>
<td>36%</td>
</tr>
</tbody>
</table>
SSRAA’s Contribution to Local Sport Fish Harvest

In 2006, SSRAA fish accounted for…

- 27% of the Ketchikan-area chinook and coho sport harvest
- 24% of the Petersburg-area chinook sport harvest
- 19% of the Wrangell-area chinook sport harvest
**SSRAA Economic Impacts, 2007**

<table>
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<th>Ex-Vessel Value of SSRAA Salmon</th>
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<tbody>
<tr>
<td>Ex-vessel value of SSRAA salmon</td>
<td>$9.5 million</td>
</tr>
<tr>
<td>... harvested by Alaska residents</td>
<td>$6.0 million</td>
</tr>
<tr>
<td>... harvested by So. Southeast Alaska residents</td>
<td>$5.5 million</td>
</tr>
<tr>
<td>... harvested by Ketchikan residents</td>
<td>$1.5 million</td>
</tr>
<tr>
<td>SSRAA salmon as % of So. Southeast total harvest <em>value</em></td>
<td>31%</td>
</tr>
</tbody>
</table>
SSRAA’s proven economic and social contribution!