Preliminary Results
WRLCM RocOn
COS and PA Analysis

30 March 2019
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RocOn with Newman

Using equations from Newman (2003) to incorporate the following effects on smolt survival:

- Smolt Size
- Log flow at Hood
- Exports
- DCC Gate Position
- Sacramento Indicator
# Abundance and CRR Metrics

## Abundance

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
<th>95% Interval</th>
<th>Probability Average Abundance in PA &gt; Average Abundance in COS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean difference in abundance (PA-COS)/COS *100%</td>
<td>-3.05%</td>
<td>(-8.07%, 0.137%)</td>
<td>0.03</td>
</tr>
</tbody>
</table>

## Cohort replacement rate

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
<th>95% Interval</th>
<th>Probability that CRR in PA &gt; CRR in COS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean magnitude of percent difference (PA-COS)/COS *100%</td>
<td>0.549%</td>
<td>(0.099%, 1.00%)</td>
<td>0.993</td>
</tr>
</tbody>
</table>
Annual Percent difference in abundance (PA – COS)/COS x 100%
Annual Percent difference in CRR
100\% \frac{(PA - COS)}{COS}
Freshwater productivity
Survival rates by stage
Egg to fry survival

Egg Survival for Spawning in Apr

Egg Survival for Spawning in May

Egg Survival for Spawning in Jun

Egg Survival for Spawning in Jul

Egg Survival for Spawning in Aug
Upper River smolt survival

Upper River Smolt Survival (origin to Chipps) in Jan

Upper River Smolt Survival (origin to Chipps) in Feb

Upper River Smolt Survival (origin to Chipps) in Mar

Upper River Smolt Survival (origin to Chipps) in Apr

Upper River Smolt Survival (origin to Chipps) in May
Lower River smolt survival

Lower River Smolt Survival (origin to Chipps) in Jan

Lower River Smolt Survival (origin to Chipps) in Feb

Lower River Smolt Survival (origin to Chipps) in Mar

Lower River Smolt Survival (origin to Chipps) in Apr

Lower River Smolt Survival (origin to Chipps) in May
Delta smolt survival