Review of the 2002 Withdrawal of Southwestern Washington/Columbia River DPS of Coastal Cutthroat Trout

Robin Bown, Doug Young, and Rollie White
US Fish and Wildlife Service, Portland, OR
Review of 2002 CCT Withdrawal Decision
Endangered Species Act Overview

Keystone Federal law designed to prevent the extinction of species

- “safety net” for species
- tool of “last resort”, not general management tool for declining species
- protections apply only to species meeting the “high standards”
Endangered species are defined as “any species which is in danger of extinction throughout all or a significant portion of its range.”

- Imminent risk
- Complete extinction
- Forward looking
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Endangered Species Act Overview

A Threatened species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”
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USFWS Process

- Early 2000, FWS chartered review team

- Accumulated, analyzed and reviewed all existing and new information

- Information, conditions, and threats driving the 1999 Proposal to list had changed
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Decision Process Summary

- reached the unanimous recommendation that the species no longer met the definition of a threatened species

- Four categories of new or re-analyzed information
  - population numbers
  - population trend
  - life history plasticity
  - changes in regulations and protections
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Decision Process Summary

* DPS has includes all life history strategies
  resident
  freshwater migrants
  anadromous migrants
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Population Analysis

FWS team reviewed cutthroat population numbers and trends based on Status Review data and new information from traps and surveys

- Very few long-term data sets available
- Little trap efficiency or effort data for CCT
- Limited to evaluating indices
- All trap data from within the “anadromous zone”
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Population Size

- Lack of efficiency information limited estimates

- Proposal - extremely low population size of anadromous cutthroat based on trap counts in Columbia River, consistently below 10 fish annually

- Withdrawal - Raw population numbers at 5 of 9 traps from 50 to 1400 anadromous cutthroat annually
  - 1 of the 4 remaining known to miss many cutthroat.
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**Population Size**

- **Proposal** - very low anadromous cutthroat populations in the Sandy and Hood Rivers in Oregon -- indicative of near extinctions of anadromous cutthroat runs

- **Withdrawal** - Still low numbers in the areas measured by these traps (< 6% of DPS), resident populations considered healthy
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Resident Population Size

Proposal – no specific information on residents, thought to be well distributed

Withdrawal - WDFW survey of SW WA (75% of DPS) - population densities within and above anadromous “zone” comparable to/exceeding those in areas considered healthy and not likely to become endangered
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Population Trend Analysis

- Used regression similar to Status Review
- Calculated p and r² values – used with trap operation data to weight information in the decision process
- Limited ourselves to relatively long data sets due to high variability

2 “trends” – different time periods from the same trap – actual trend intermediate to these
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Population Trend

Proposal – Trends in anadromous adults and outmigrating smolts in the SW Washington portion are all declining.

<table>
<thead>
<tr>
<th>Location</th>
<th>age</th>
<th>Status Review</th>
<th>Withdrawal</th>
<th>Stats. Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoquiam R</td>
<td>Ad</td>
<td>-5%/yr</td>
<td>+2.3%/yr</td>
<td>Poor fit</td>
</tr>
<tr>
<td>Bingham Cr</td>
<td>Ad</td>
<td>NR</td>
<td>+8%/yr</td>
<td>Fair fit</td>
</tr>
<tr>
<td>Grays Harbor</td>
<td>Ad</td>
<td>NR</td>
<td>+4 to 5%/yr</td>
<td>Corroborative</td>
</tr>
<tr>
<td>Stevens Cr</td>
<td>Juv</td>
<td>-15%/yr</td>
<td>-15%/yr</td>
<td>Good fit</td>
</tr>
<tr>
<td>Bingham Cr</td>
<td>Juv</td>
<td>No clear trend</td>
<td>No clear trend</td>
<td>Poor fit</td>
</tr>
<tr>
<td>Chehalis R</td>
<td>Juv</td>
<td>NR</td>
<td>+8.7%/yr</td>
<td>Fair fit</td>
</tr>
</tbody>
</table>
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**Population Trend**

- Proposal – Returns of anadromous cutthroat trout in almost all lower Columbia River streams declined markedly over the last 10-15 years.

<table>
<thead>
<tr>
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<th>age</th>
<th>SR</th>
<th>Withdrawal</th>
<th>Stats. Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elochoman</td>
<td>Ad</td>
<td>-10.9%/yr</td>
<td>NA</td>
<td>Data gap prevents analysis</td>
</tr>
<tr>
<td>NF Toutle</td>
<td>Ad</td>
<td>+29.2%/yr</td>
<td>NA</td>
<td>Inconsistent operation</td>
</tr>
<tr>
<td>Kalama R</td>
<td>Ad</td>
<td>-11.2%/yr</td>
<td>-10.3%/yr</td>
<td>Good fit. Above anad zone</td>
</tr>
<tr>
<td></td>
<td>Juv</td>
<td>-15.9%</td>
<td>NA</td>
<td>Data gap prevents analysis</td>
</tr>
<tr>
<td>Cowlitz R.</td>
<td>Juv</td>
<td>NA</td>
<td>inconclusive</td>
<td>Poor fit</td>
</tr>
</tbody>
</table>
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Population Trend

- Trends in recreational catch of cutthroat in Columbia River declining
- However, the data appears to mirror change in regulations and without effort data, cannot adjust for this bias
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Population Conclusion

- Anadromous portions of DPS likely lower than historic levels
  - may still be declining in some areas

- Resident portions of the DPS, especially SW WA, are well distributed and apparently in reasonable numbers. No trend data available
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Life History Potential

Proposal - Well distributed fresh-water forms in relatively high abundance, if they can produce anadromous progeny, could mitigate risk to anadromous forms.

- Issue: to what degree can non-anadromous CCT produce anadromous progeny?

Proposal – limited information on whether the anadromous form represents a relatively discrete component or a “choice” depending on conditions and availability of resources
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Life History Potential – new information

Withdrawal

- Some new limited data that resident or long-term residualized fish can produce downstream migrants
- Genetic data showing more similarity between life history strategies within drainages than between drainages
- the irregular age of outmigration, and various lengths of stay in freshwater following return
- evidence of similar plasticity in other trout species
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Changes in Regulatory Mechanisms

**Significant regulatory changes**
- 2 large HCPs (over 800,000 acres)
- Washington revised Forest Practices Regs reduce future threats on over 30% of the DPS through:
  - Reduced timber harvest in/around riparian areas
  - Restrictions on road construction, use, maintenance
  - Increased riparian buffer widths, reduced level of activities within buffers
  - Increased portion of stream network requiring buffers
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Changes in Regulatory Mechanisms

- Regulatory Mechanisms
  - Northwest Forest Plan continues to improve aquatic habitat on 27 percent of the DPS

- at least 57 percent of the DPS’s range now under management/regulations that
  - reduce the rate of future habitat impacts
  - provide for long-term improvement of coastal cutthroat trout habitat
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5-Factor Analysis

Factor 1 - the present or threatened destruction, modification, or curtailment of its habitat or range
– habitat and watershed conditions significantly impacted over the last 100 years.

– Despite altered environments, cutthroat remain extant throughout historic habitat in the DPS
  • no significant “holes” in fish distribution
  • fish were reasonably abundant in many areas
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5-Factor Analysis

**Factor 2** - overutilization for commercial, recreational, scientific, or educational purposes
- angling or commercial use of cutthroat trout not a significant threat in the DPS under current regulations

**Factor 3** - disease or predation
- no evidence of significant loss of wild cutthroat trout to parasites, disease, or predation
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5-Factor Analysis

Factor 4 - inadequacy of existing regulatory mechanisms
- Improved regulatory mechanisms in SW WA should reduce rates of future habitat impacts

Factor 5 - other natural or manmade factors
- Some low levels of hybridization, may be natural, not a significant threat (localized)
- Widespread distribution reduces the potential for losses from catastrophic events
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Listing Conclusion

Based on the new information and re-analyses relative to

- population size and trend
- life history plasticity
- new conservation efforts/regulatory mechanisms

“Decision” team reached unanimous recommendation that the Southwestern Washington/Columbia River DPS did not meet the definition of a threatened species

- Not likely to become an endangered species (in danger of extinction) in the foreseeable future
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Cautionary Note

A decision that the DPS does not qualify for listing under the ESA does not mean that there have been no effect on the species/habitat, or that the species is not in need of thoughtful management.

Identified the need for continuing/increased conservation efforts, improved monitoring efforts, and raised some research questions evaluations.
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Research and Monitoring Needs

Examples of potential research

- relationship and interaction between different life history strategies

- begin collecting cutthroat-specific population data
  - Start long-term trend monitoring