Status Review for Southern California Steelhead

Oncorhynchus mykiss

Presentation to the California Fish and Game Commission
April 18 | Robin Shin
Fisheries Branch
Presentation Overview

• Listing Description
• Species Overview
• Information Received
• Abundance and Population Trends
• Threats
• Department Recommendation
• Management and Recovery Measures
Listing Description

• Southern California steelhead means all *O. mykiss*, including anadromous and resident life histories, below manmade and natural complete barriers to anadromy from and including the Santa Maria River to the U.S.-Mexico Border.

• Federal listing includes only naturally spawned anadromous adults

• Department determination that Southern California steelhead is a Distinct Population Segment (DPS) and hence a subspecies for CESA listing purposes.
Species Overview: Life History

• Exhibit an anadromous life-history
• Born and reared in freshwater and mature in saltwater before returning to their natal waters to reproduce
• Variation in the time and location spent at each life-history:
  • Anadromous (freshwater to saltwater migration)
  • Freshwater Resident (remain in freshwater)
  • Lagoon-anadromous (migration to and from brackish lagoons)
Species Overview: Habitat

- **Spawning**
  - Clean loose gravel
  - Adequate depth and velocity

- **Freshwater Residency**
  - Sufficient flow
  - Cool water temperatures
  - Cover habitat
  - Availability of prey items

- **Estuarine Rearing**
  - Sand berm formation
  - Low degradation
Species Overview: Range and Distribution

- Santa Maria River (San Luis Obispo and Santa Barbara counties) to the U.S.-Mexico Border

- Encompasses 5 biogeographic population groups of O. mykiss

- Less than half of 46 watersheds known to support historical populations are still occupied

Map by Janet Brewster, CDFW
Information Received

- During data solicitation period [April 2022 to January 2023]:
  - 17 comments from Tribes
  - 480 emails received
  - 12 submissions of information

- After Status Review delivered to Commission [January 2024]:
  - 39 references
  - Draft technical memo for southern California steelhead life cycle model and graphic user interface
## Abundance/Population Trends

### Anadromous Adults
- Critically low range-wide abundances
- Counts have not been greater than ten for any watershed examined
- Most streams have observed no adult returns in past 10 years

<table>
<thead>
<tr>
<th>Population</th>
<th>Years</th>
<th>Trend (%/year)</th>
<th>Minimum Abundance (12-year)</th>
<th>Maximum Abundance (12-year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Ynez River</td>
<td>1995-2021</td>
<td>-2.24</td>
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<td>9</td>
</tr>
<tr>
<td>Ventura River</td>
<td>2006-2021</td>
<td>-7.54</td>
<td>0</td>
<td>1</td>
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<td>Santa Clara River</td>
<td>1994-2018</td>
<td>-2.29</td>
<td>0</td>
<td>3</td>
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<tr>
<td>Topanga Creek</td>
<td>2001-2019</td>
<td>-1.7</td>
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<td>5</td>
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<tr>
<td>Malibu Creek</td>
<td>2004-2019</td>
<td>-1.41</td>
<td>0</td>
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</table>
Abundance/Population Trends

Resident *O.mykiss*

- Measurable declines in population trend and abundances for all populations examined.

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</tr>
</thead>
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<tr>
<td>Santa Ynez River</td>
<td>1995-2021</td>
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<td>2001-2019</td>
<td>-1.41</td>
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</table>
Major Threats

• Dams, Diversions, and Artificial Barriers
• Urbanization
• Estuarine Habitat Loss
• Invasive Species
• Wildfires
• Drought
• Climate change
Department Recommendation

The Department recommends that the Commission find the petitioned action to list Southern California steelhead as an endangered species to be warranted.
Management and Recovery Measures

- Implement comprehensive monitoring
- Remove manmade passage barriers and re-establish access to upper watersheds
- Habitat and streamflow restoration
Questions ◇ Thank You

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Summary

A. Santa Ynez River

B. Ventura River

C. Santa Clara River

A. Arroyo Sequit Creek

B. Topanga Creek

C. Malibu Creek