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West Coast Region Science Needs & Legal Mandates

**West Coast Protected Fish Species
Science Program Review**

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NMFS West Coast Region (WCR)



- Combination of former Northwest and Southwest (California) Regions
- Core Mandates: Sustainable Fisheries Management and Conservation of Protected Resources
- For Protected Resources
 - 1990s – Focus on ESA listings
 - 2000s – Focus on recovery planning and permitting/consulting on proposed actions
 - Today – Transitioning to Recovery Plan implementation and continued permitting/consulting on proposed actions



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Key Endangered Species Act (ESA) Mandates – Section 4

We conserve and recover marine resources by:

- Listing species under the ESA
- Developing and implementing **recovery plans** for listed species
- Designating **critical habitat**
- Promulgating **protective regulations** for threatened species, and authorizing specific exempted activities



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Key ESA Mandates – Section 7

We consult on any federal actions that may affect a listed species

- to ensure that the action won't **jeopardize** the continued existence of the species
- and to ensure that it won't **adversely modify** critical habitat

We produce **biological opinions** that are

- decision documents for proposed actions with adverse effects.



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Key ESA Mandates – Section 10

- We cooperate with non-federal partners to develop **conservation plans** (e.g., HCPs) for the long-term conservation of species;
- We authorize research to learn more about protected species (**research permits**);
- We authorize activities to enhance the propagation or survival of the species (**enhancement permits**);
- We reintroduce at-risk species into their historical range to foster long-term recovery.



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Examples of Other Mandates Affecting Protected Fish Species

- NEPA (National Environmental Policy Act)
 - Mostly for NMFS' own actions, including issuing some ESA permits and authorizations
- MSA (Magnuson-Stevens Fishery Conservation and Management Act)
 - By-catch of protected species
 - Essential Fish Habitat (EFH) protection
- Federal Power Act
 - Fish passage at dams
- Marine Mammal Protection Act
 - Pinniped predation on at-risk salmon populations
 - Salmon prey availability for Southern Resident Killer Whales



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Over-Arching Science Need – Best Available Information

- ESA requires NMFS to use “the best available scientific and commercial data” in our decisions.
- Strong body of case law and litigation pressure reinforces need for best emerging science.
- We rely on Science Centers to help us by conducting relevant research and providing us with needed information.



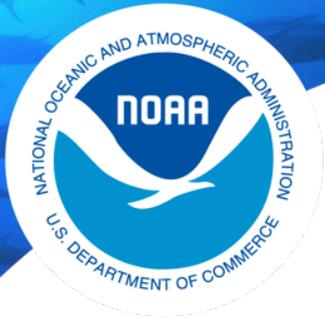
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Examples of Science Needs – Status of Species & Critical Habitat

*Important for listing and delisting decisions; tracking progress towards recovery ;
and evaluating proposed activities in the context of current status.*

- Status of non-salmonids (green sturgeon, eulachon, PS rockfish)
 - Much less information than for salmonids
- Hatchery influence on status of salmonid populations and species
- Monitoring programs for salmonid habitat
 - Extrapolating site-specific research and monitoring to entire populations and species
- Modeling/Risk Assessments for salmonids:
 - Consistency of output (e.g., measures of extinction risk and viability)
 - Estimating population-level impacts of pinniped predation
 - Assessing climate change impacts



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Examples of Science Needs – Recovery Planning & Implementation

- Science input to develop/complete recovery plans for non-salmonid fish species and remaining salmonids
 - Includes science input on taxonomic units, measurable delisting goals, links between threats and demographics, needed research to reduce threats and assess responses, needed monitoring programs, etc.
- Implementing completed salmonid recovery plans:
 - Research on critical uncertainties linking threats and threat reduction to biological responses
 - Monitoring (particularly habitat; *see Status slide*)
 - Continue to assist with strategic management/implementation planning



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Evaluating Proposed Human Activities (1)

- National perspective of NMFS ESA consultations:
 - WCR produces ~60% of all formal consultations (biological opinions)
 - 30-40% of all informal consultations (letters of concurrence)
- Great majority of WCR biological opinions evaluate human activities that modify marine, aquatic, and riparian **HABITAT**
 - E.g., transportation, water quality, structural repairs, utilities, forestry, grazing, habitat restoration
- But numbers don't tell the whole story...



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Evaluating Proposed Human Activities (2)

- Some consultations are much more complex and require much more effort than others
 - These “Big Biops” analyze actions in all “H’s”
 - Harvest: e.g., Ocean, Puget Sound, and Columbia River salmon fisheries
 - Hydro: e.g., California Central Valley Project; Columbia River hydropower system; FERC project re-licensing
 - Hatcheries: e.g., large-scale mitigation hatchery consultations in the Northwest and California
 - Habitat:
 - e.g., “Programmatics” on large collections of similar actions, such as Corps permits, transportation, and restoration actions
 - e.g., FEMA flood insurance program; EPA toxics regulations; major land management activities (Western Oregon forestry)



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Examples of Science Needs – Evaluating Proposed Human Activities

- Research on human activities and biological responses of listed species and critical habitat. For example:
 - Biological effects of actions such as water withdrawals, sound production, toxics, hatchery releases, various types of habitat modifications
 - Responses such as changes in individual fish behavior, injury/mortality
 - Responses such as changes in population characteristics (VSP factors)
 - Responses such as changes in conservation value of critical habitat
- Best management practices to reduce adverse effects
- Research related to evaluating mitigation activities
- Large-scale assessment frameworks (e.g., life-cycle modeling) for actions with big effects or for “adding up” many small effects
- Considering climate change for actions with longer-term effects



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Summary

- Regulatory mandates (particularly ESA) cover a wide range of subjects with a wide range of needed scientific information
 - We need to develop recovery plans for non-salmonids and a few remaining salmonids
 - We are in the recovery implementation phase for most salmonid species
 - We are continuously evaluating proposed activities that may further adversely affect listed species and critical habitat
- We have had a very good working relation with the Centers to help meet our needs for scientific information
- We look forward to continued collaboration to meet the current challenges