NMFS BiOp on FEMA’s National Flood Insurance Program (NFIP)

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Federal agencies are required to consult with USFWS and NMFS re impacts to their actions on listed species; duty to avoid jeopardy and adverse modification of critical habitat.
Lawsuit: NWF v. FEMA
Species Covered:
Chinook, steelhead, chum, sockeye, killer whales
Critical habitat for all except steelhead
Jeopardy Analysis

+ Program Effects
+ Status of Species and Critical Habitat
+ Baseline Conditions
+ Cumulative Effects

= Jeopardy or No Jeopardy to the species
= Adverse Modification or No AM of CH
Program Description

- Mapping
- Minimum Criteria
- Community Rating System
- Levees
- Development
The Federal Emergency Management Agency (FEMA) has released preliminary floodplain maps that could limit development and require flood insurance for billions of dollars' worth of residential and commercial property in the Puget Sound region. One of the most affected areas is the Green River Valley in Renton, Kent and Auburn.

### Key
- **New Floodplains**
- **Existing Floodplains**
- **City Borders**

*Source: King County*
Minimum Floodplain Management Criteria
Community Rating System

Provides reduced insurance premiums to communities exceeding minimum criteria

Gives points for flood protection/reduction activities

Some activities benefit listed species/CH, some have detrimental effects
Development
NFIP Program Effects

ESA Effects not considered/analyzed
Floodplain models/maps inaccurate, outdated
Allows fill, levees, and development
All confine channels, levee mgt removes riparian vegetation, armors banks
Stormwater increases stream flood flows, decreases water quality
Effects to Critical Habitat

Decreased: flood storage and conveyance, water quality, recharge to gw, riparian vegetation, soil fertility, habitat

Increased: flood velocities, elevations, flows, volumes, erosion, water temp

No program protection of habitat elements, e.g., floodplain, CMZ, riparian vegetation, river banks, off-channel and in-stream habitat, etc.
Salmon and steelhead use floodplain and channel habitat for rearing, foraging, refuge, migration, and spawning.

Salmon using floodplains have higher growth and survival rates; salmon using channels expend more energy.

Channels confined by levees and floodplain fill displace salmon, reduce productivity and survival.
Status and Baseline

Species:
Salmon and steelhead: threatened, high risk
killer whale: endangered & depleted

Critical Habitat:
Salmon and steelhead - channelization, freshwater and estuarine floodplain habitat loss/access
killer whale - decreased prey
Cumulative Effects

Land use change:
- Channel/floodplain function,
- flood storage, channel capacity
- Stormwater runoff

Climate change:
- Flooding frequency/severity,
- water temperature
- Spawning flows
Jeopardy Analysis for Salmon & Critical Habitat

Effects of the Action + Baseline & Status
+ Cumulative Effects

= survival (individual scale)
= productivity & abundance (pop)
= spatial structure & diversity (ESU)
= Jeopardy to the species
= conservation value of CH (3 scales)
= Adverse Modification of CH
Jeopardy for SRKW & CH

Effects of the Action + Baseline & Status + Cumulative Effects + Jeopardy to salmon

- Prey base of SRKW
- Survival
  = Jeopardy to SRKW
- Jeopardy to salmon prey
- Conservation value of CH
  = Adverse modification of SRKW CH
Reasonable and Prudent Alternative (RPA) Elements

1. Notification
2. Mapping
3. Minimum Floodplain Mgt Criteria
4. Community Rating System
5. Levees and Development
6. Mitigation
7. Monitoring and Adaptive Management
Relay consultation outcome

Current NFIP = J and AM, take

Temporary moratorium

ESA coverage for adopting revised minimum criteria
RPA 2 - Mapping (by 3/22/09)

Issue map changes when effects avoided/mitigated
Mapping prioritized based on salmon
Floodplain modeling uses on the ground data, unsteady state, and 2-D models
Map modeling considers future conditions, cumulative effects
Communities identify flood risk behind levees using future conditions, cumulative effects
RPA 3 - Minimum Criteria
(9/22/10 – 9/22/11)

No development in the Riparian Buffer Zone (RBZ)*, OR

Demonstrate that no adverse effects to habitat will occur.

*RBZ = greater of the FEMA floodway, Channel Migration Zone + 50 feet, and the stream buffer depending on stream type

Prohibit development in the remainder of the 100-year floodplain, OR

Mitigate for all habitat, flood storage and development effects
RPA 3 - Minimum Criteria

All floodplain development uses LID for stormwater.
Greater than 10% expansion of existing buildings must mitigate for all habitat, flood storage, and development.
RPA 3 - Minimum Criteria

Interim actions:
Communities track/report floodplain permits issued, NMFS review.
FEMA mitigates for all unmitigated activities

Long-term actions:
All mitigation reported, if not effective, FEMA mitigates
Increase and award points for actions beneficial for salmon, e.g., open space preservation, moving pre-firm out of floodplain, LID, increasing riparian function, levee setbacks, active buyout program

Reduce points for levees, closing conveyance channels, etc.

Encourage communities to have levee certified by professional engineer rather than the COE
• FEMA recognizes COE certified levees only no adverse effects
• FEMA revises policy so that levee owners still get emergency funding w/o COE certification

• FEMA only recognizes levees with natural floodplain function

• FEMA funds floodplain acquisition, other actions that benefit habitat
RPA 6 & 7 Mitigation and Monitoring

Mitigation for NFIP actions that degrade habitat and for failed mitigation

Report progress on meeting timelines, alternate actions may be identified
QUESTIONS?