



NOAA's National Marine
Fisheries Service



California Department
of Fish and Game



U.S. Fish and
Wildlife Service

MEMORANDUM

MAY 25 2009

TO: NMFS Area Office Supervisors – Arcata, Santa Rosa, Sacramento, &
Long Beach
DFG Regional Supervisors – Regions 1, 2, 3, 4 and 5
FWS Project Leaders – Arcata FWO, Red Bluff FWO, Stockton FWO, Ventura
FWO, Carlsbad FWO, California-Nevada FHC, Coleman NFH

FROM: Rod McInnis, Regional Administrator, NMFS Southwest Region
Don Koch, Director, California DFG
Ren Lohofener, Regional Director, US FWS, Region 8

SUBJECT: Interagency Fish Rescue Strategy

On February 17, 2009, representatives from our three agencies, researchers from University of California at Davis and Humboldt State Universities, and staff from the Department of Water Resources (DWR) and Bureau of Reclamation (BOR) met via teleconference to address important questions involving potential rescue of salmon and steelhead throughout the State of California for 2009. According to the DWR and BOR, 2009 is shaping up to be another dry water year – the third year in row. Carry-over storage of water in Shasta Reservoir, Oroville Reservoir, and other impoundments is well below normal due to below average precipitation in 2007 and 2008. Long-range forecasts have led DWR and BOR to initiate serious planning for another critically dry year in 2009, and perhaps beyond. On Friday February 27, 2009, the Governor of California declared a statewide drought emergency.

Even during normal water years, fish rescue operations are not uncommon. With the bleak water year predictions, the agencies and researchers determined it was prudent to develop technically sound strategies on how to approach the fish rescue situation this year and make sure our three agencies were approaching the possible challenge in a coordinated and consistent manner. Attached is our interagency strategy to address fish rescues for 2009. Because we are stepping up our coordination and adding more structure to our rescue approaches, we would also like to apply the strategy in 2010. We intend to evaluate the results of applying the strategy this season and during 2010 and determine whether and how best to extend it. If you have any questions, I encourage you to contact Russ Strach (NMFS) at 916-930-3621, John Engbring (FWS) 916-414-6474, or Neil Manji (DFG) 916-445-3181.

Attachment

cc: Dr Josh Israel – UC Davis
Dr Walt Duffy – Humboldt State University
Lester Snow – DWR
Don Glaser - BOR

2009 and 2010
Interagency Fish Rescue Strategy
National Marine Fisheries Service, Southwest Region
CA Department of Fish and Game
US Fish and Wildlife Service, Region 8

Key Rescue Objectives

1. To ameliorate short-term, survival bottlenecks (water temperature, flow, etc) and boost chances for survival of distressed salmonids.
2. In view of longer-term recovery efforts, perpetuate species at the greatest risk of extinction.
3. To learn more about the effectiveness of various rescue approaches catalogue areas within the hydrological system most prone to stranding episodes during dry years, and use this information as an indicator for development of Habitat Conservation Plans and/or collaboration with agencies to prevent future fish strandings.
4. To educate the public and be responsive to high priority stakeholder inquiries.

Key Points of Agreement

1. California Department of Fish and Game (DFG) will serve as the lead fishery agency for all fish rescue actions. In that capacity, DFG will make the final decision about whether to pursue a rescue effort in accordance with the Key Rescue Objectives and Principles listed below, in coordination with NOAA's National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service (FWS).
2. DFG will form ad hoc teams (as needed) in 2009 and 2010, to conduct fish rescues. The teams will be comprised of staff from DFG, NMFS, FWS, DWR and BOR, as well as appropriate partners and cooperating entities.
3. The fishery agencies generally consider fish rescue efforts a last resort because of:
 - (a) long-term survival benefits of such activities is unclear;
 - (b) fish rescues can mask important underlying land and water development problems that might be causing or contributing to the stranding of fish (in some cases, resource managers may know causes of stranding or even expect it in some years, dependent upon year type and anthropomorphic activities/water management);
 - (c) drought conditions, some degree of periodically disconnected habitats and stranding, are natural events and likely important to natural selection processes;
 - (d) unknown consequences of introducing rescued fish to planted areas; and
 - (e) some folks may view fish rescues as a conservation measure that allows continuation of activities which impact fish.

4. The practice of fish rescues is relatively unstudied, so research designs and monitoring should be developed to better inform future management decisions.
5. Few requests to rescue fish are initiated by agency staff. Most rescues are requested by stakeholder groups and members of the public. The fishery agencies have not clearly established their fish rescue strategy and objectives, so stakeholders have not always received consistent agency feedback for actions taken or not taken by the agencies.
6. Below under Permits and Authorizations, we identify the various entities with Endangered Species Act (ESA) take authorizations for salmon and steelhead rescues. The fishery agencies can now more readily direct interested stakeholder groups to one or more entities on that list to address fish rescues.
7. The fishery agencies will develop a State-wide map of known areas prone to fish stranding during years of drought or recurring water management operations. This would be a start in developing a standardized program that would include these areas for monitoring during dry years.

Key Rescue Principles Discussed

The following items were raised by the participants as issues to consider in developing a Statewide Fish Rescue Plan.

1. Fish rescue activities will prioritize those species at greatest risk of extinction. For example, endangered salmon would be rescued over those that are threatened, and threatened species would be rescued before those that are not listed under the ESA. Within a species, independent populations would be rescued before dependent populations because of their importance to the persistence of the overall species.
2. Sacramento River winter-run Chinook salmon, central California coastal coho salmon (CCC coho), and southern California steelhead are all listed as endangered and would, therefore, receive the greatest priority for rescue efforts.
3. Adult salmon will generally be rescued over juveniles because there is often high juvenile mortality in the freshwater environment; however, some juveniles may be at critically low levels and rescue efforts would be prioritized equally with adults. Agency staff raised particular concern about the status of central California coast coho salmon, particularly coho south of San Francisco, and in some cases endangered southern California steelhead. Because of their very low abundances, the rescue of juveniles for these two species might also be necessary.
4. All rescued fish will be relocated to the nearest suitable upstream or downstream habitat within the same stream or river to the maximum extent possible. The agencies will also consider Hazard Analysis and Critical Control Point Plans (HACCP) for relocations (hold until conditions improve, place back into native stream). Recolonizing desirable habitats should be accompanied by effectiveness monitoring and management plans to gauge success.

5. If suitable habitat within the same stream or river is unavailable or is fully occupied, DFG will make a determination in consultation with the partner agencies about whether to relocate the rescued fish to suitable habitat in a nearby stream or river or relocate the rescued fish to a recovery facility, if available, for rearing or propagation. Development of an HACCP should be considered if fish are being relocated to a facility.
6. Captive rearing should be accompanied with adaptive management plans and related studies. Relocated fish will generally be introduced within the same footprint of their current distribution.
7. Translocation of rescued fish can create new ecological and demographic issues such as exposure of translocated fish to new diseases, introduction of diseases to resident species, and competition with resident fish of the same or different species. Fish relocated to other tributaries/basins may stray as adults, affecting recruitment of individual populations; and genetic issues, e.g., straying may lead to introgression with native populations (homogeneity, e.g. Central Valley fall-run Chinook salmon) or other runs (hybridization). Translocation above hatchery operations will generally be avoided due to concerns about the introduction of new diseases. These concerns can be offset when considered in light of the risk of extinction to any specific natural dependent or independent population and the availability of appropriate upstream refugia in historic habitat or identified critical habitat. Consideration will be made for hatcheries that are certified "disease free" in critical habitat.

Documentation

1. The three fishery agencies will develop a standard form to assess consistency with the key objectives and principles outlined in this strategy. At a minimum the standard form would document the fish rescue objective, estimated number of fish to be rescued, criteria for decision, type of rescue operation, HACCP analysis, desired outcome, and how the outcome would be monitored and evaluated. Completed forms would be shared with agency staff, stakeholder groups, and interested members of the public.
2. Instead of pursuing annual and somewhat ad hoc approaches to address fish rescue challenges, agency staff recommended a more comprehensive planning approach and suggested development of a Fish Rescue Strategic Plan for California. Because fish rescue activities are recurring and could worsen as a result of successive dry years, and increased pressure on water and land development, a more complete multi-year Fish Rescue Strategic Plan¹ is needed.

Permits and Authorizations

NMFS has already issued ESA permitting authorizations to several entities to address take of listed salmon/steelhead triggered by stranding.

¹ A Fish Rescue Strategic Plan would not be specific to years. It would specify what water-year types would trigger implementing Strategic Plan actions and identify other triggers. It would be updated on some regular cycle to keep it current, define what kind of actions would be initiated and by whom when defined events or triggers occur. Standard protocol could also be included for locations, species and periods where stranding situations can be expected to occur (Spring-run on Butte Creek, late May-June; Deer Creek below Stanford Vina Dam late May-June, etc)The flow chart provided with the 2009 Plan could be broadened to identify other key decision points.

Below is a summary of those authorizations:

- Under section 4(d) of the ESA, DFG has statewide authority to salvage or rescue any salmon or steelhead listed as a threatened species under the ESA.
- There are also a few section 10(a)(1)(A) permits that currently authorize fish rescue/relocation of endangered CCC coho salmon. DFG's section 10(a)(1)(a) permit (1067M3) authorizes rescue of juvenile CCC coho salmon throughout the ESU.
- The National Park Service has a section 10(a)(1)(a) permit (#1046) that authorizes rescue of juvenile CCC coho salmon, CCC steelhead, and CC Chinook salmon in specific watersheds in Marin, San Mateo, and Contra Costa Counties.
- The Salmon Protection and Watershed Network (SPAWN) also has a section 10(a)(1)(a) permit (#1162M3) that authorizes rescue of juvenile CCC coho salmon and CCC steelhead within the San Geronimo Creek watershed, tributary to Lagunitas Creek, Marin County.

When salmon or steelhead listed as endangered need to be rescued and an ESA take authorizing mechanism is not available, NMFS Office of Law Enforcement (OLE) will rely on NMFS managers in 2009 and 2010 to determine on a case-by-case basis whether OLE should get involved.

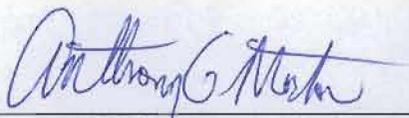
Other Considerations

1. Additional, but limited hatchery capacity exists throughout the state. Livingstone Stone National Fish Hatchery (NFH) could accommodate up to 250 more adult winter-run Chinook and some spring-run Chinook salmon, if necessary. However, there may not be sufficient capacity for egg incubation or juvenile rearing. The following should be considered when deciding whether or not to relocate adults to Livingston Stone NFH or other hatchery facilities:

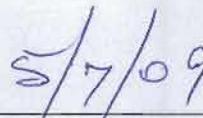
- (a) If habitat conditions become suitable and the fish have not been treated with restricted chemicals, then consider returning adults to the environment to spawn.
- (b) If necessary, spawn rescued adults at the hatchery to avoid loss of gametes.
- (c) If there is suitable incubation space at the facility, then incubate eggs on-site, otherwise attempt in-stream incubation at suitable locations.
- (d) If there is suitable rearing space available at the facility, then rear fry/juveniles on-site, otherwise release fry/juveniles at a suitable habitat location.

2. In some cases the agencies might need to consider translocation of fish above major reservoirs. These cases would be considered experimental and additional tagging and related monitoring and studies would need to be implemented. Landowner assurances might also be needed if ESA/CESA-listed species were introduced outside their current range and translocation considerations identified above would need to be considered. NMFS and DFG will collaborate to determine what form of tailor-fit assurance may be appropriate based on site-specific circumstances.

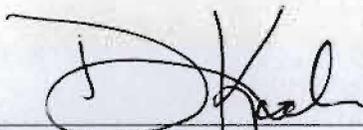
- 3. Not all stranded adult fish may be suitable for relocation. In cases where fish have visible signs of disease, avoid relocation and exposure to healthy populations.
- 4. A communication plan should be developed for geographic points of contact.
- 5. If drought conditions persist beyond 2009, the agencies recognize the likelihood that additional interventions and conservation facilities might be needed in 2010, and perhaps beyond.



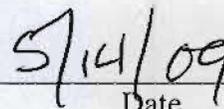
for Rodney McInnis, Regional Administrator
Southwest Region
National Marine Fisheries Service



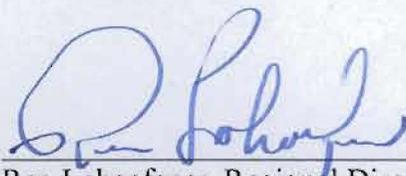
Date



Donald Koch, Director
California Department of Fish and Game



Date



Ren Lohofener, Regional Director
U.S. Department Fish and Wildlife Service
California-Nevada Region 8



Date