



February 24, 2012

Mr. Dan Wolford, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220

RE: Agenda Item G.6 Salmon Essential Fish Habitat Scoping

Dear Chairman Wolford and Council Members:

Oceana is writing to request that important Pacific salmon prey species be designated as essential fish habitat (“EFH”) under the Pacific Coast Salmon Fishery Management Plan. During this scoping period, **please indicate that the Council will identify salmon prey as EFH and consider the potential adverse effects of fishing on those prey species.** As noted in the EFH scoping document, “[r]emoval of prey organisms through a directed fishery, bycatch in another fishery, or reduction in juveniles as a result of a fishery on adults of a prey species, has the potential to adversely affect EFH for Pacific Coast salmon.”¹

As you are aware, Essential Fish Habitat (EFH) means those waters and substrate necessary to fish for spawning, breeding, *feeding*, or growth to maturity.² Prey species are addressed as a component of the Magnuson Stevens Act (MSA) provision to minimize adverse impacts to Essential Fish Habitat³ and the 2002 EFH Final Rule recognizes that prey can be a vital component of EFH for managed species.⁴ The EFH Final Rule states that “adverse effects may include . . . loss of, or injury to . . . prey species and their habitat. . .”⁵ This EFH Final rule explains in detail that loss of prey is a critical concern and that management plans should pay special attention to both the predator-prey relationship and the location of prey species’ habitat.⁶ In the final rule, NMFS further reinforces this by including harvest limits on the take of prey species as one of the methods that managers can employ to meet the MSA requirements to minimize the adverse effects of fishing on EFH.⁷

Pacific salmon prey species are an associated biological community that constitute ‘feeding’ habitat and are ‘necessary’ to support a sustainable salmon fishery and the species’ contribution to a healthy ecosystem. As such, salmon prey species should be designated EFH for Pacific salmon managed under the Salmon Fishery Management Plan (FMP), including chinook (*Oncorhynchus tshawytscha*), coho (*O. kisutch*), and Puget Sound pink (*O. gorbuscha*). Amendment 14 to the Pacific Coast Salmon FMP recognizes that “adequate prey species and forage base” are important elements of marine EFH for chinook, coho, and Puget Sound pink salmon.⁸ The final rule that codifies Amendment 14, however,

¹ Pacific Coast Salmon Plan Amendment 17 Scoping Document, at 17.

² 67 Fed Reg. 2343, 2375 (January 17, 2002), emphasis added.

³ 16 U.S.C. 1853 § 303(a)(7).

⁴ Id, at 2347 and 2378.

⁵ 50 C.F.R. § 600.810(a).

⁶ 50 C.F.R. § 600.815(a)(7).

⁷ 50 C.F.R. § 600.815(2)(C)(iii).

⁸ PFMC. 2000. Amendment 14 to the Pacific Coast Salmon Plan, at A-24, A-25 and A-42.

does not specify or designate prey in general, or any specific prey species, as EFH for Pacific Coast Salmon.⁹

Importantly, designating prey species as EFH for Pacific salmon would give the National Marine Fisheries Service (NMFS) additional authority to take management actions to minimize adverse effects to prey species, initiate consultation for non-fishing impacts, and provide EFH conservation recommendations to appropriate state fishery management agencies. In order to do this, prey species must be designated as EFH.

Salmon prey species including Pacific herring (*Clupea pallasii*), northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), juvenile midwater rockfish (*Sebastes spp.*), and krill (Euphausiacea) play a fundamental role as forage in the California Current marine ecosystem. A study from 1957 reported that juvenile shortbelly rockfish were an important prey for chinook salmon along the central California coast in late spring and summer, accounting for more than 60% of their prey identified to the species level.¹⁰ More recently, juvenile rockfishes and northern anchovy were identified as the two most important prey items for chinook salmon in the San Francisco Bay region.¹¹ Northern anchovy, Pacific sardine and krill are managed under the Coastal Pelagic Species FMP and Pacific herring was recently included in the plan as an Ecosystem Component species through Amendment 13 to the CPS FMP. Rockfish including shortbelly rockfish are managed under the Groundfish FMP. Pacific salmon species also prey on other important forage species such as Pacific sand lance, smelts (e.g. eulachon), squid, and small invertebrates.¹² A recent NOAA Technical Memorandum assessed the diet composition of chinook salmon (see table 1 below).¹³ As small planktivores, krill, and juvenile rockfish make up the top 90%, by weight, of the diet of chinook salmon, these species clearly constitute key prey items for Pacific salmon species, and we ask that you designate these species as EFH. In addition to this list, we ask that the PFMC evaluate other key salmon prey species such as Pacific sand lance, eulachon, and others documented in the referenced literature.

For federally managed prey species, including those in the PFMC FMPs (e.g. Pacific herring, northern anchovy, Pacific sardine, and juvenile rockfish), we ask that you evaluate management actions to mitigate adverse effects from the reduction in availability of these major salmon prey species caused by fishing. While the PFMC has undertaken positive steps to protect krill and shortbelly rockfish, coastwide overfishing has occurred on Pacific sardine¹⁴ and the annual catch level process and the harvest control rule fails to consider the competitive interactions with salmon. We strongly disagree with the unsupported assumption made in the scoping document that the importance of these fish as prey for salmon are already accounted for in existing FMPs. What is more, there is increasing fishing pressure on northern anchovy, which have not had recent stock assessments or a specified threshold for determining when the northern population is overfished.¹⁵ Another example of a federally managed species to

⁹ 73 Fed Reg. 60987 (October 15, 2008).

¹⁰ Merkel, T.J. 1957. Food habits of the king salmon, *Oncorhynchus tshawytscha* (Walbaum), in the vicinity of San Francisco, California. Calif. Dept. Fish and Game 43: 249-270.

¹¹ Healey, M. C. 1991. Life history of chinook salmon. In C. Groot and L. Margolis, (eds.), Pacific salmon life histories, p. 311–393. Univ. British Columbia Press, Vancouver, Canada, 564 p.

¹² Brodeur, R.D. 1990. A synthesis of the food habits and feeding ecology of salmonids in marine waters of the North Pacific. (INPFC Doc.) FRI-UW-9016. Fish. Res. Inst., Univ. Washington, Seattle. 38 pp.

¹³ Dufault, A.M., K. Marshall, and I.C. Kaplan. 2009. A synthesis of diets and trophic overlap of marine species in the California Current. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-103, 81 p.

¹⁴ PFMC 2010. Assessment of the Pacific sardine in 2010 for use in management in 2011. Agenda Item I.2.b. November 2010.

¹⁵ In November 2011 the PFMC voted to set catch levels for the northern subpopulation of northern anchovy five times higher than recent landings, without any consideration of ecological impacts and without all legally required Status Determination Criteria.

consider is Pacific eulachon, which were listed as threatened under the Endangered Species Act in March 2010. Climate change and bycatch in the trawl pink shrimp fishery have been identified as the greatest impediments to the recovery of this threatened forage species.¹⁶

We hope you will support this recommendation to amend the Pacific Coast Salmon FMP to designate Pacific herring, northern anchovy, Pacific sardine, juvenile rockfish, krill, and other key prey documented in the referenced studies as EFH, and consider appropriate management measures to mitigate adverse impacts to salmon prey availability by Council-managed fisheries, as required by law. Given the importance of adequate and abundant prey to salmon species, we expect that this designation will ultimately help better manage and protect Pacific salmon species, their essential habitat, and the long-term health and biodiversity of the California Current marine ecosystem.

Sincerely,



Ben Enticknap
Pacific Project Manager

| Prey | Percent |
|-----------------------------|---------|
| Small planktivores | 0.4840 |
| Large zooplankton | 0.2603 |
| Juv. midwater rockfish | 0.0704 |
| Juv. deep small rockfish | 0.0584 |
| Cephalopods | 0.0534 |
| Juv. megazoobenthos | 0.0262 |
| Juv. deep large rockfish | 0.0214 |
| Juv. shallow large rockfish | 0.0107 |
| Juv. shallow small rockfish | 0.0083 |
| Deep vertical migrators | 0.0025 |
| Pacific hake | 0.0020 |
| Misc. nearshore fish | 0.0008 |
| Small flatfish | 0.0006 |
| Benthic herbivorous grazers | 0.0003 |
| Deposit feeders | 0.0002 |
| Gelatinous zooplankton | 0.0002 |
| Shallow macrozoobenthos | 0.0001 |
| Shrimp | 0.0001 |

Table 1. Diet composition by weight for chinook salmon. Small planktivores are Pacific herring, Pacific sardine and northern anchovy. Large zooplankton are predominately krill (Euphasiids).¹⁷

¹⁶ Eulachon Biological Review Team. Status Review Update for Eulachon in Washington, Oregon and California. 20 Jan 2010.

¹⁷ supra note 12, at 70.