

geographical and ecological distributions of a species. These regulations go on to emphasize that the agency shall focus on essential features within the specific areas considered for designation. These features “may include, but are not limited to, the following: spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, geological formation, vegetation type, tide, and specific soil types.”

The 20 ESUs under consideration comprise five species, each of which has unique life history characteristics and habitat requirements. However, these characteristics/requirements depend on a common set of physical and biological features that are essential to the conservation of each species. Information supporting the identification of essential features is contained in a robust body of scientific literature addressing salmonid life history and habitat characteristics (e.g., see Everest *et al.*, 1985; Bell, 1986; Groot and Margolis, 1991; FEMAT, 1993; Spence *et al.*, 1996). Also, NMFS is applying knowledge gained from over a decade's experience with thousands of ESA section 7 consultations on listed salmonids to identify these features. NMFS has developed a decision matrix (NMFS, 1996) that describes general parameters and characteristics of most of the essential features now under consideration in critical habitat designations. During the information-gathering phase, NMFS seeks input on the following characterization of essential features.

Essential features for the listed ESUs of salmon and steelhead include sites essential to support one or more life stages of a population necessary to the conservation of the ESU. These sites in turn contain generic features that contribute to their conservation value for the ESU. Specific types of sites and their generic features include:

(1) Freshwater spawning sites with sufficient water quantity and quality and adequate substrate to support spawning, incubation and larval development;

(2) Freshwater rearing sites with sufficient water quantity and floodplain connectivity to form and maintain physical habitat conditions and allow salmonid development and mobility; sufficient water quality to support growth and development; food and nutrient resources such as terrestrial and aquatic invertebrates, and forage fish; and natural cover such as shade, submerged and overhanging large wood, log jams, beaver dams, aquatic vegetation, large rocks and boulders, side channels and undercut banks;

(3) Freshwater migration corridors free of obstruction and excessive predation, with adequate water quantity to allow for juvenile and adult mobility; cover, shelter and holding areas for juveniles and adults; and adequate water quality to allow for survival;

(4) Estuarine areas that provide uncontaminated water and substrates; food and nutrient sources to support growth and development; and connected shallow water areas and wetlands to cover and shelter juveniles; and

(5) Marine areas with sufficient water quality to support salmonid growth, development, and mobility; food and nutrient resources such as marine invertebrates and forage fish; and nearshore marine habitats with adequate depth, cover, and marine vegetation to provide cover and shelter.

The conservation value of a site depends on (1) the importance of the populations associated with a site to the ESU conservation, and (2) the contribution of that site to the conservation of the population either through demonstrated or potential productivity of the area.

Special Management Considerations or Protection

Coupled with the identification of essential features, during the information-gathering phase NMFS seeks input on whether the above essential features may require special management considerations or protection. For example, numerous special management considerations relate to fish passage conditions, including methods and procedures aimed at maintaining sufficient water flows and preventing or minimizing impacts from manmade barriers such as dams and culverts. Similarly, essential natural cover elements such as shade and large wood involve a variety of land management considerations. NMFS will document the special management considerations and protection associated with the essential features and expects to relate these to the factors affecting the species and/or critical habitat during formal rulemaking (see “Schedule and Contents of Rulemaking”).

Areas outside the Geographical Area Occupied by the Species

Section 3(5)(A)(ii) of the ESA defines critical habitat to include specific areas outside the geographical area occupied by the species only if the Secretary determines them to be essential for the conservation of the species. Section 3(3) of the ESA defines conservation as “the use of all methods and procedures

which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary.” NMFS' ESA regulations at 424.12(e) state that the agency “shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.” NMFS would thus include areas outside the occupied geographical area only if areas within the occupied geographical area were not adequate to support conservation. In the previous designations of critical habitat (65 FR 7764, February 16, 2000), NMFS did not consider designations for areas outside the geographical areas occupied by the species. The agency is also seeking information on the adequacy of the currently occupied habitat to support conservation of the listed ESUs, and whether areas that are unoccupied might be “essential for conservation.”

Determining Conservation Value

Section 4(b)(2) of the ESA requires that the Secretary, before designating any particular area as critical habitat, weigh the benefit of excluding the area from designation against the benefit of including it in the designation. Accordingly, during the information-gathering phase, NMFS is seeking input on the benefit of designating areas as critical habitat. In particular, NMFS seeks information on the conservation value of potential critical habitat based on the quality and quantity of the essential feature(s) and on the difficulty of restoring the quality and quantity where those features have been limited or degraded. Federal agencies, states, tribes and others have already compiled a great deal of information on the historic and present importance of different areas to salmonid conservation. Some general types of information include stream habitat inventories, juvenile and spawning fish surveys, redd and dam counts, angler harvest records, and tagged fish recoveries. In some cases it may not be known whether an area was historically productive. Areas might also be considered to have a high potential if they possess characteristics of other highly productive areas.

NMFS will also gather analyses provided by the NMFS Technical Recovery Teams. These Teams have been formed for several recovery planning areas covering most of the presently listed ESUs. The Teams first identify the population structure of the ESU and provide guidance on what