

Informational needs for assessing critical habitat

Jordan Rosenfeld

Aquatic Ecosystem Science, B.C. Ministry of Water Land and Air Protection, 2204 Main Mall,
Vancouver, BC V6T 1Z4, < Jordan.rosenfeld@gems4.gov.bc.ca >, Ph: 604-222-6762

Adequately managing species at risk requires correct identification of habitat requirements. In particular the identification of critical habitat is both a legal and practical requirement for Recovery Planning. Clearly defining critical habitat is a requirement for both habitat restoration and protection, particularly when habitat protection involves significant lost economic opportunity and generates pressure from developers and politicians to scientifically justify management decisions. However, there is a great deal of ambiguity surrounding what constitutes critical habitat, what information needs to be collected to define critical habitat, and the level of research/documentation that is necessary or appropriate for any given species and situation. Critical habitat can be assessed at a variety of resolutions ranging from anecdotal “individuals occur here, therefore the habitat must be important” to careful documentation of the fitness consequences of using different habitats (in terms of individual growth and survival) and habitat-explicit populations models. The appropriate level of resolution will depend on the immediacy of threats to a species, the resilience of habitat and level of risk to disturbance, and a species distributional/life history characteristics. Depending on these circumstances, critical habitat may range from the entire distribution of a narrow endemic to a subset of identifiable habitats within the broader range of a rare but widely distributed species. Approaches for identifying critical habitat will be illustrated with hypothetical examples for different species and scenarios, in an attempt to generalize the appropriate level of resolution and certainty for defining critical habitat of species at risk under different conditions.