Focal Species

We collected a wide variety of animal species distribution and habitat data for this tool, from wide-ranging northwest flagship species to those found in only a handful of watersheds. This diversity of species was consciously selected in order to ensure that resulting prioritization schemes would address the needs of species across the entire NPLCC geographic area.

For each species, watersheds were given a value reflecting its relative importance to that species. While detailed habitat data, such as Sitka black-tailed deer habitat suitability, is available for some animals, few comprehensive datasets are available for most. When assessing a wide variety of species, as in this project, this variability of data on their distribution and status, and the scale at which that information is available, can complicate analytical approaches. Given this difficulty, this tool relies on different value data for each species. These data types are described below, and in Table **3**. It is important to note that these values are only compared within, and not across, species[1].

Birds

Limited detailed habitat data exists for many bird species across the NPLCC region. Although many datasets exist, the habitat they identified was too general to be of use (Avian Knowledge Network (AVK) 2011a; Avian Knowledge Network (AVK) 2011b; Ridgely et al. and BirdLife International 2011; U.S. Fish and Wildlife Service, Pacific Region 2004; Regional Ecosystem Office (REO) 1993). In order to represent critical bird species across the entire focal area, we used historic climate niche data to calculate habitat density by watershed for marbled murrelet and northern spotted owl (Geos Institute and Leuphana University Lueneburg 2012).

Fish

Although fish habitat has been identified and mapped to a greater degree than either birds or mammals, past efforts to map fish habitat across the NPLCC region have been limited in geographic scope, often due to funding sources or administrative boundaries. The widest-ranging data we used for salmon, however, does cover the entire NPLCC region and provides abundance data for each salmon species, by watershed (Wild Salmon Center 2008). These values represent the total number of wild salmon return to a spawning area within the watershed. For non-salmonids, we analyzed linear habitat data to calculate each watershed's species-specific habitat density. For bull trout, we used data compiled by Streamnet (2010) for the U.S. portion of the greater Columbia River Basin. For Dolly Varden, Eulachon, and lamprey, we relied on linear habitat data in Alaska (Alaska Department of Fish and Game 2012).

Mammals

Many readily available spatial data on mammal habitat identify the geographic distribution, rather than presence or occupied habitat, of species. Most broadly, we relied on historical observations of mammals on southeast Alaska islands (MacDonald and Cook 2007). Using an existing spatial dataset of Alaska state boundaries (Alaska Department of Natural Resources, Land Records Information Section 1998), we identified islands where occurrences of American marten, Canada lynx, cougar, moose, wolf, and wolverine had been documented. For these species, only simple presence or absence was identified by watershed. For Dall's sheep and mountain goat, we felt that existing distribution data was detailed

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[1] For more information on how these data are used in the prioritization tool, see the documentation at nplcc.apps.ecotrust.org/news/about/.

enough to rely on, and calculated the density of distribution area within each watershed (International Union for Conservation of Nature and Natural Resources (IUCN) 2010).

As part of the Tongass National Forest Land Management Plan conducted in 1997, habitat suitability models were developed for Sitka black-tailed deer and black and brown bears (Schoen et al. 1997; USDA Forest Service, Tongass National Forest. 1997). From each, we calculated the average winter (for deer) and general (for bear) habitat suitability value for each watershed. Suitability thresholds for each species can be seen below in Tables Table **1** and Table **2**.

Table 1. Bear habitat suitability thresholds.

Value	Ranking of summer habitat suitability
40 – 100	Highest
10 – 40	High
2 – 10	Moderate
0 – 2	Lower
0	Not suitable

Table 2. Deer habitat suitability thresholds

Value	Ranking of winter habitat suitability
50 – 100	Highest
26 – 50	High
16 – 25	Moderate
1 – 15	Lower
0	Not suitable

Table 3. Focal species

Group	Metric	Species	Geographic Coverage
Birds	Climate niche habitat density	Marbled murrelet	NPLCC
		Northern spotted owl	
Fish	Linear habitat density	Bull trout	Greater Columbia River Basin, US
		Dolly varden	Alaska
		Eulachon	
		Lamprey	
	Total number of wild salmon return to a spawning area within the watershed	Salmon, Chinook	NPLCC
		Salmon, chum	
		Salmon, coho	
		Salmon, pink	
		Salmon, sockeye	
		Salmon, steelhead	
Mammals	average summer habitat suitability value	Black and brown bear	Alaska and BC
	average winter habitat suitability value	Sitka black-tailed deer	Southeast Alaska
	Presence on southeast Alaska islands	American Marten	
		Canada lynx	
		Cougar	
		Moose	
		Wolf	
		Wolverine	
	Habitat density	Dall's sheep	NPLCC
		Mountain Goat	

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