Focal Fish Species

In order to support the long-term sustainability of the region's fishery resources, we collected a wide variety of fish distribution data for prioritization, from wide-ranging northwest flagship species to those found in a single watershed. This diversity of fish species was consciously selected in order to ensure that resulting prioritization schemes would address the needs of both widespread and locally endemic species.

Our initial list of potential fish included all salmon and steelhead species. Additional fish species were selected from state and federal listings of endangered, threatened, and candidate species (USFWS Washington Fish and Wildlife Office 2010; USFWS Idaho Fish and Wildlife Office 2010; Goodson et al. 2005; Idaho Governor's Office of Species Conservation; Desert Fish Habitat Partnership), as well as from the input of the BLM. From the extensive list of fish species originally considered, several were not included in the final tool because of incomplete distribution data, including kokanee, Klamath Lake lamprey, and several species of chub. A total of 33 locally-endemic and 11 widespread fish species (Table 1) comprise the final list of 44 focal fishes.

For each focal fish species, watersheds were given a value reflecting its relative importance to that species. While spatial stream habitat distribution and value data is available for salmon, steelhead, and many trout, fewer datasets are available for many other species. When assessing a wide variety of species, 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, we grouped disparate fish species data into three data types, listed here in order of increasing complexity: presence/absence, stream habitat density, and intrinsic potential (the units of analysis used for each fish can be seen in Table 1 and **Error! Reference source not found.**). These data types are described below. It is important to note that these values are only compared within, and not across, species [1].

For many priority species, accurate and detailed distribution data was limited to presence or absence at the sub-basin level, or didn't exist at all. For these species, the BLM identified presence at the 5th-field watershed level for the entire focal area (U.S. BLM 2012). Where linear stream habitat data were available, we determined watershed habitat density for steelhead, Chinook, coho, and pink salmon (StreamNet 2010). Current habitat in accessible streams was selected and used to calculate the density of stream length to watershed area.

Where data were available on the west side of Oregon, we included measures of the intrinsic potential (IP) of streams to provide high quality habitat for Chinook, coho, and steelhead. IP measures stream attributes that remain constant over time in order to identify areas more likely to support high quality habitat (Burnett et al. 2007). Stream IP value data were provided by the Coastal Landscape Analysis and Modeling (CLAMS) group (Miller et al.) and Kelly Christiansen of the USDA Forest Service (ESI 2008). To summarize IP value to the watershed level, we multiplied the length of each stream reach by its IP value, and took the mean of this value for all stream reaches within each watershed. Each watershed's IP score, therefore, is a relative, unitless value that should only be analyzed relative to other watersheds.

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[1] For more information on how these data are used in the prioritization tool, see the documentation at http://aquatics-blm.labs.ecotrust.org/news/about/.

Table 1: Focal fish species.

	Group	Name	units
Locally Endemic	Chub	Alvord chub	presence/absence
		Borax Lake chub	
		Catlow Tui chub	
		Goose Lake tui chub	
		Hutton tui chub	
		Oregon lakes tui chub	
		Sheldon tui chub	
		Summer Basin tui chub	
		Umpqua chub	
		Warner Basin tui chub	
	Dace	Foskett speckled dace	
		Leopard dace	
		Millacoma dace	
		Umatilla dace	
	Lamprey	Goose Lake lamprey	
		Miller Lake lamprey	
		Pacific lamprey	
		River lamprey	
	Other	Lahontan redside shiner	
		Pacific eulachon	
		Pit roach	
		Pygmy whitefish	
		Sturgeon, green	
	Sculpin	Margined sculpin	
		Pit sculpin	
		Slender sculpin	
	Sucker	Jenny Creek sucker	
		Lost River sucker	
		Modoc sucker	
		Mountain sucker	
		Shortnose sucker	
		Tahoe sucker	
		Warner sucker	
Widespread	Salmon and Steelhead	Chinook	Watershed stream density
			Watershed intrinsic potential
		Coho	Watershed stream density
			Watershed intrinsic potential
		Pink	Watershed stream density
		Chum	presence/absence
		Sockeye	presence/absence
		Steelhead	Watershed stream density
			Watershed intrinsic potential
	Trout	Bull	presence/absence
		Coastal Cutthroat	
		Lahontan cutthroat	
		Redband	
		Westslope cutthroat	

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