

Fig 1. Histograms of the prioritization index (PI) scores for barrier culverts within the Washington Federal Injunction Case Area. Five jurisdictions have developed linear PI scores for fish passage barriers, Chehalis Basin, Cold Water Connection Campaign (CWCC), Thurston County, King County, and Bellingham. Data was downloaded for each PI jurisdiction and filtered to isolate barrier culverts with PI scores, excluding natural barriers, dams, fishways, and other barrier types. The mean, median, sample size, and range of PI scores was calculated for each jurisdiction. The mean and median are displayed as a solid and dashed vertical line respectively. The histograms are ordered by sample size (n). The range is represented by the scale of the x axis. The y axis displays frequency of PI scores, and the scale of the y axis is determined by the maximum individual score frequency for each jurisdiction. Shapiro Wilk tests were run for each jurisdiction, and Bellingham was the only normal distribution  $p=0.19$ , likely due to the small sample size.

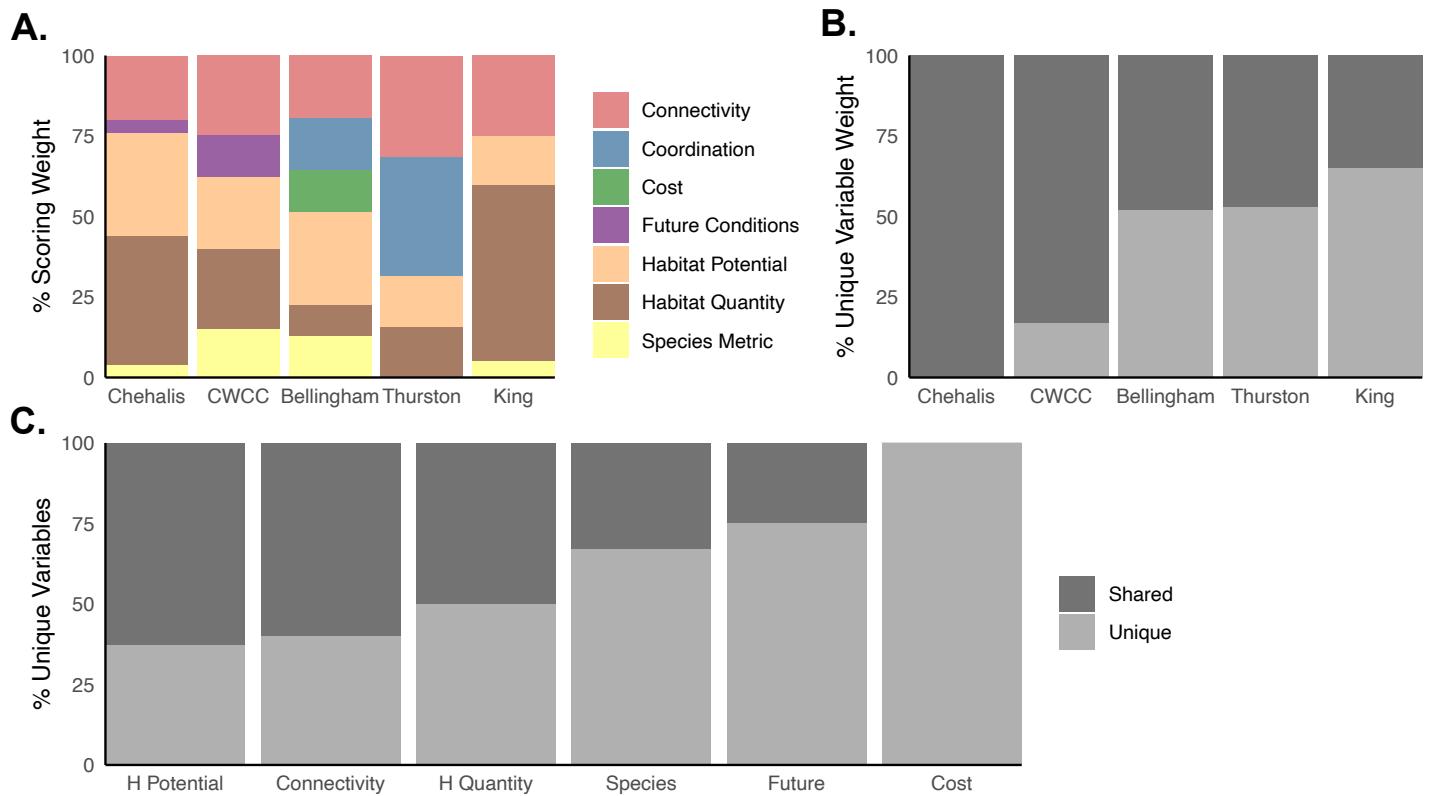


Fig 2. Stacked bar graphs comparing fish passage barrier prioritization index (PI) scoring attributes across jurisdictions within the Washington State Injunction case area. A. Individual variables within each PI equation were qualitatively sorted into seven groups, connectivity, coordination, cost, future conditions, habitat potential, habitat quantity, and species metric. The percent weight of each category in the overall PI score was plotted for each jurisdiction. B. A qualitative comparison between variable attributes was conducted. Individual variables that were shared by at least one other jurisdiction were labeled "shared," and variables that were not shared by any other jurisdictions were labeled "unique." Scoring weight for unique vs shared variables was plotted for each jurisdiction to measure the distinctiveness of each PI method. C. The ratio of the number of shared vs unique variables was plotted for each category.

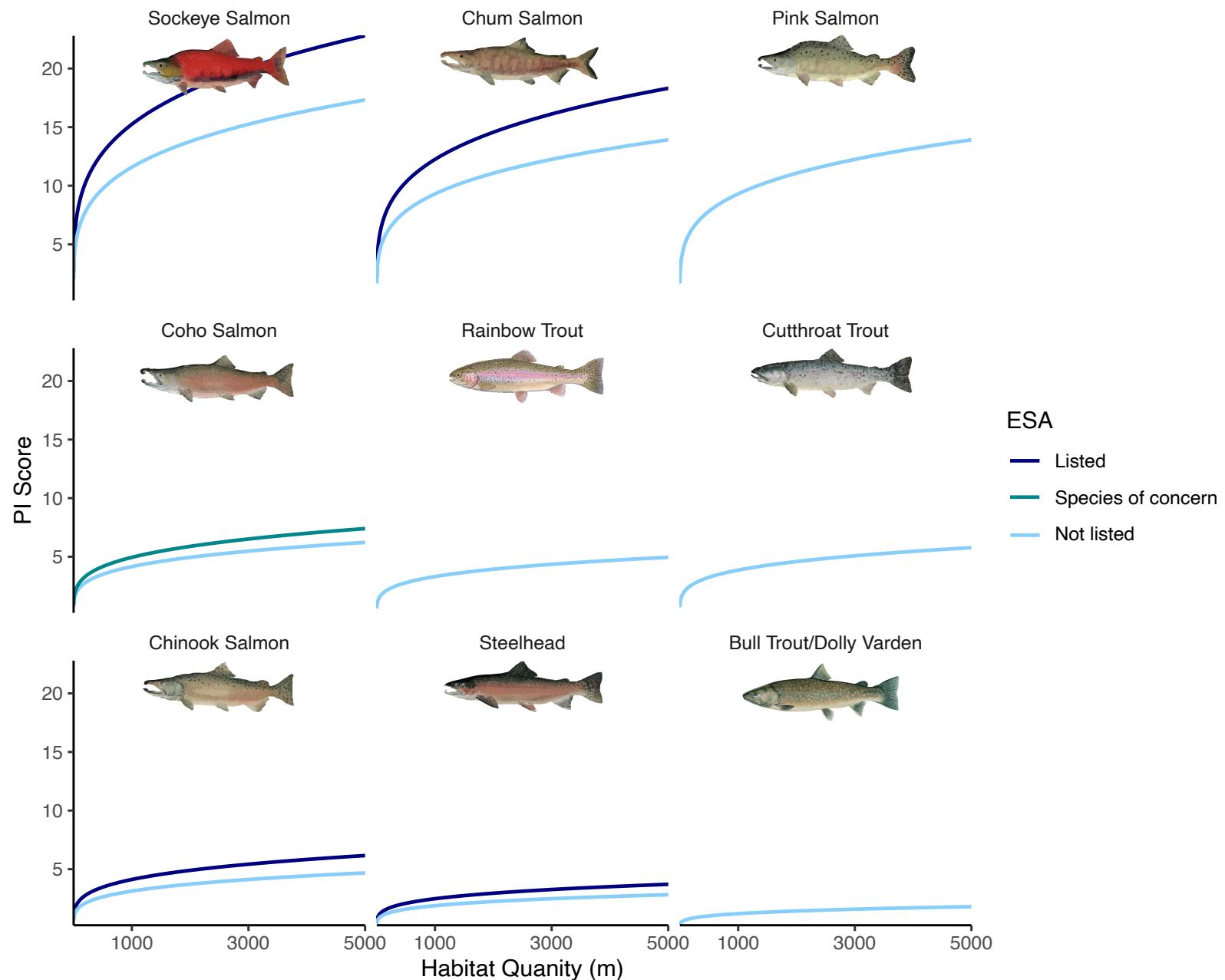


Fig 3. Models of Washington Department of Fish and Wildlife (WDFW) quadratic root PI equation. WDFW's PI is calculated for nine species of salmonids, sockeye, chum, pink, coho, rainbow, cutthroat, Chinook, steelhead, and bull trout/dolly varden. These individual PI scores are summed together for the total barrier PI score. Species with ESA listed runs within the case area were modeled separately for ESA status. The PI score for each species is plotted against habitat quantity metric to compare functional form of PI scores. Species were organized from PI highest to lowest to demonstrate overall prioritization weight by species.

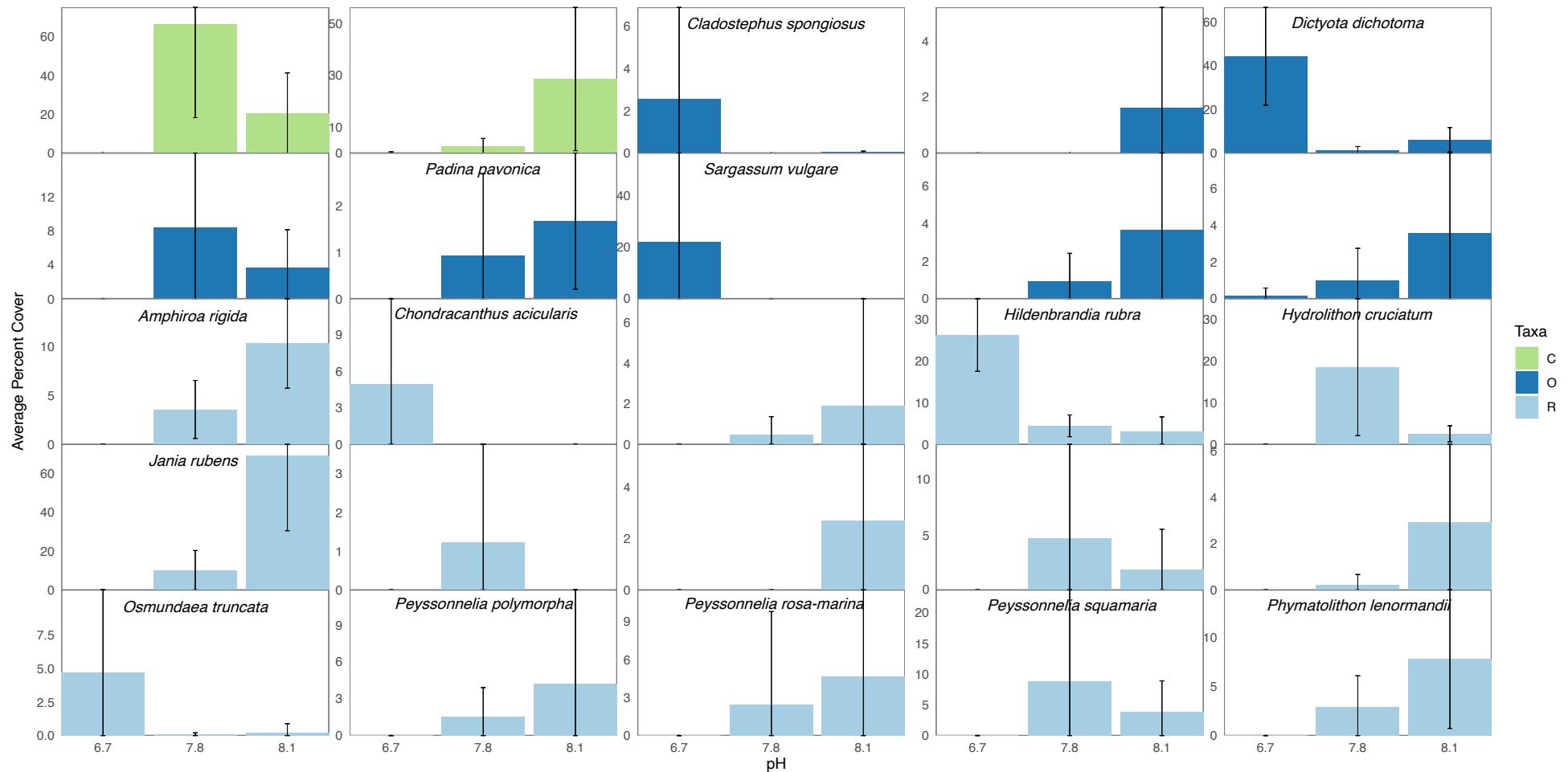


Fig 4. Average percent cover of different algae species across a pH gradient. Species were grouped by taxa Chlorophyta (C), Rhodophyta (R), and Ochrophyta (O). Subsamples at each site were grouped by pH, site 1 (pH = 8.1), site 2 (pH=7.8), site 3 (pH=6.7). The average and standard deviation for all species samples at each site were calculated and plotted. Notable species that were mentioned in the paper have a displayed Latin name for identification. The y axis is different for each species in order to better show presence or absence under certain pH conditions.