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Changing patterns in coastal cutthroat trout (*Oncorhynchus clarki clarki*) diet and prey in a gradient of deciduous canopies

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Abstract: We examined the influence of riparian vegetation patterns on coastal cutthroat trout *Oncorhynchus clarki clarki* diet and prey from the summer of 2001 through the spring of 2002. Benthic and drifting invertebrates, allochthonous prey, and fish diet were collected from deciduous, conifer, and mixed sections of three Oregon coastal watersheds. The nine sites were best characterized as a continuum of deciduous cover, and shrub cover and proportion of deciduous canopy were positively correlated ($r = 0.74$). Most sources of prey (benthic invertebrate biomass, allochthonous invertebrate inputs, aquatic and total invertebrate drift) and aquatic prey ingested by coastal cutthroat trout were greater where shrub cover was more abundant. Only aquatic drift, total invertebrate drift, and allochthonous invertebrates were positively correlated with deciduous vegetation. Compared with coniferous sites, allochthonous invertebrates under deciduous and mixed canopies were almost 30% more abundant. Stream discharge likely influenced seasonal fluxes of aquatic invertebrate biomass in the benthos and drift. Aquatic insects dominated gut contents during this study; however, terrestrial prey were most common in the diet during the summer and fall. In the Pacific northwest, systematic removal of deciduous riparian vegetation to promote conifers may have unintended consequences on food resources of coastal cutthroat trout and aquatic food web interactions.