

Preliminary Investigation of Seasonal Changes in the Diel Habitat Use of Juvenile Salmonids Near Engineered and Natural Logjams in Western Washington Rivers

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We examined diel and seasonal shifts in distribution of juvenile salmonids near an engineered and a natural logjam in two western Washington Rivers. Juvenile salmonids appeared to be more nocturnally active in the spring (5 °C) than summer (14-15 °C), and young-of-the-year salmonids were more diurnally active than older salmonids during both the spring and summer. Diel habitat use varied for most species and age classes observed, with diel habitats separated by as much as 50 m. Young-of-the-year fish tended to be associated with the water's edge during both day and night during the spring, but were not associated with the water's edge during the summer. The one exception was 0+ trout, which emerge from the gravel later in the spring than other salmonids. All juvenile salmonids tended to move away from woody debris at night and seek shallow sloping banks. This movement occurred independent of current velocities. Therefore, this did not appear to be an energy conservation behavior suggested by other researchers. These results suggest that maintaining habitat diversity, both in the form of edge habitats and variable cover, is important for designing short-term restoration and/or mitigation projects.

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