The Effects of Urban Runoff on Coho Salmon Populations in the Puyallup River Watershed: Swan Creek

With continued population growth in urban areas, salmon species along the coastal margins of the United States are being increasingly impacted by stormwater runoff. Urban stormwater has been linked to pre-spawn mortality events in Coho salmon (*Oncorhynchus kisutch*), killing them just hours after exposure. The phenomenon known as urban runoff mortality syndrome (URMS) has been shown to affect large portions of Coho populations in heavily developed watersheds (≥ 60% of entire run). This study is a continuation of research that started in 2017, focusing on the incidence of URMS in Swan Creek (Tacoma, WA), which is a tributary stream that feeds into the lower Puyallup River. Live salmon and carcasses were counted weekly from October 1 - December 15 and used for estimating annual spawner abundance from 2017 to 2021. Female Coho carcasses were examined for evidence of URMS (≥50% egg retention). Additionally, this research included community engagement efforts in collaboration with The Pierce Conservation District and Tacoma Public Schools. Middle school students were educated on the salmon life cycle, water quality, data collection methods, and human impact on ecosystem health. Little is known about the incidence of URMS in the Puyallup River watershed. There are very few concerted efforts to monitor URMS in the Puyallup River watershed. This research will support future projections for Coho populations and contribute to better understanding the implications of URMS in the Puyallup River watershed.