

Many coho salmon (*Oncorhynchus kisutch*) stocks are listed as threatened or endangered due to factors including pre-spawn mortality (PSM), where salmon die before spawning. Severe erosional downcutting and urban stormwater runoff from vehicles contribute to higher PSM rates. Locations like Swan Creek in Pierce County undergo both while also being a historic place where coho salmon spawn, creating the need to replenish this culturally important salmon population and monitor their PSM rates. To monitor PSM rates, a quarter mile section of Swan Creek was surveyed weekly for live and dead salmon each fall from 2017-2024. External quantitative traits were recorded while assessing whether female coho carcasses showed signs of PSM. In this study, the current PSM rate was found to be 17.4%, which is higher than most years. The average PSM rate (2017-2024) was 15.3%, which falls within the predicted mean PSM rate of 10%-40%. Recent streambank restoration efforts might have helped reduce PSM rates, but that alone may not be enough to drop PSM rates below 10%-40%. Green stormwater infrastructure (GSI) can manage and filter stormwater runoff, which carries pollutants and contaminants that harm coho salmon. Since GSI has been shown to improve stormwater quality, local construction is likely to accomplish this at Swan Creek. An improvement on coho salmon PSM is an overall improvement for species survivability, which increases their positive impact on the ecosystem as they are an important food source, and a nutrient source to the environment where they decompose, and an important cultural resource.