Abstract

A measure of the size of impact from the dispersal of a pollutant into a receiving water is the size of the mixing zone that is needed to dilute the pollutant to below harmful levels. This measure has been applied to treated municipal and industrial effluent discharges for over 30 years. The measure is indirectly considered in defining oil spill dispersant zones whenever the limits of dispersant approval zones are based on distance from shore and/or water depth. Comparing mixing zones, distance from shore, and water depth criteria between oil dispersant use zones and effluent discharges indicates that the criteria for oil spill dispersion are more stringent than for wastewater. This is despite the fact that oil spills are uncommon, singular, accidental events while effluent discharges are long term, planned events. Applying lessons learned from the effluent discharge experience could increase the flexibility and usefulness of oil dispersants.