

Dilution Calculations for Fecal coliform (MPN/100mL)

Secondary treated sewage estimate 1,000,000 MPN
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Carpinteria loss disinfection information
281,250 gallons

Approved shellfish standard 14 MPN

Step 1

Calculate load

Effluent Concentration x Flow = Load

Flow	281,250 gallons
convert flow to ft ³	37,600.27 ft ³
Load	3.76E+10 FC/7.5 hours

Step 2

Calculate volume needed to dilute to 14 MPN

Effluent Load/Target Concentration = Volume for Dilution

Volume	2.69E+09 ft ³
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Step 3

Calculate surface area

dilution volume/ depth = surface area

Depth approx 25 feet	
Surface Area	1.07E+08 ft ²

Step 4

Calculate radius of impact

Square root ((2 x Area)/ Pi)= Radius

Radius	8,270 ft	
Convert to miles	<table border="1"><tr><td>1.57 miles</td></tr></table> Zone of Impact	1.57 miles
1.57 miles		