**Given Values**

Bed load concentration = C (tons/day)

Water discharge rate = Q (cubic feet per second)

B = width of river channel(m)

H = depth of river channel(m)

Specific gravity of sediment = p kg/m3

**Unit Conversion**

Tons/day = 1000kg / day

= 0.01049 kg/second

1 cubic feet = Q \*0.0283 cubic meter

**Algorithm**

Volume of water = 0.0283 m3

Speed of water = Q\*0.0283/(B\*H) m/s

Volume of sediment in 1 second = C\* 0.01049/p m3

Let speed of sediment be K times speed of water.

Speed of sediment = C\*(0.01049/p)/(B\*L) = K\*Q\*0.0283/(B\*H) m/s -------Find L

Volume of sediment in 1meter long channel = L\*1\*B m3

(H-L) is the safe limit of draught of the ship.