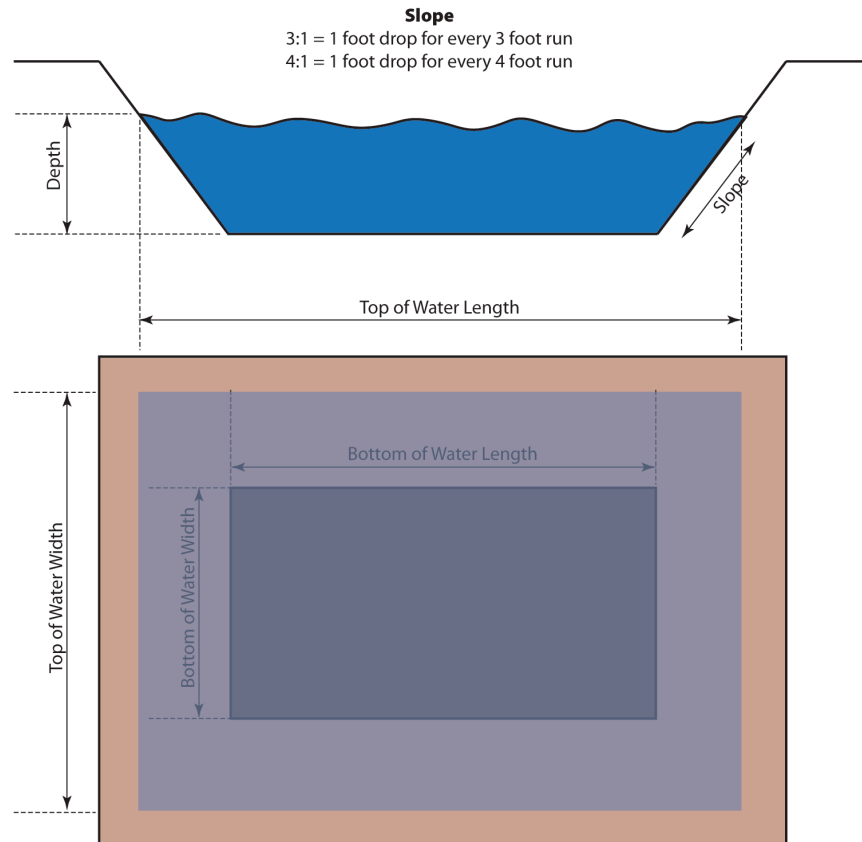


Determining Gallons in a Lagoon



- To determine total gallons of water in a lagoon you first need to find 4 measurements: (1) width of top of water, (2) length of top of water, (3) water depth, and (4) slope of bank.

- To determine the slope of the bank; you use two tape measures and determine how much of a run is required to make a one foot drop. Most banks are 3:1 or three feet run for every foot drop.

Accurate Total Gallons = Average Square feet of Lagoon x Water Depth x 7.5

Average Square Foot of Lagoon (AOWsf) = (TOWsf + BOWsf) / 2

Top of Water Square Feet (TOWsf.) = TOW . of length x TOW of width

Bottom of Water Square Foot (BOW sf.) = (TOW length – total run) x (TOW width – total run)

Key

TOW = Top of Water
BOW = Bottom of Water
AOW = Average of Water
sf = Square feet
ft = Feet

Total Run is determined from slope of bank. See example as follows:

Run of 3:1 slope = depth of water x 3 foot run for every foot drop x 2 banks

Run of 4:1 slope = depth of water x 4 foot run for every foot drop x 2 banks

Example:

Measurements = 300 length of top of water; 200 width of top of water; 15 water depth; 3:1 slope

Run = 3 x 15 x 2 = 90 feet

TOWsf = 300 x 200 = 60,000 sf

BOWsf = (300-90) x (200-90) = 210 x 110 = 23,100 sf

AOWsf = (TOWsf + BOWsf) / 2 = (60,000 + 23,100) / 2 = 83,100 / 2 = 41,500 sf

Gallons in Lagoon = 41,500 (AOW) x 15 (depth of lagoon) x 7.5 (gallons per ft) = 4,668,750 gallons