

Estimating GPM from Pond Drop: run/rise method

Measure the pond surface at capacity, and measure the rise and run of the pond slope

1. Measure pond dimensions at capacity
Measure run and rise of slope
2. Turn off all other inflows and outflows to the pond.
3. Place a measuring pole in the pond as far out as possible. Record the starting level on the pole, measured in inches below maximum capacity.
4. Turn on pump, recording the exact starting time
5. At the end of the irrigation, turn off the pump, and record the exact ending time and the exact total vertical drop.

Pond length at capacity _____ Pond width at capacity _____

Run _____ Rise _____ run/rise = _____

_____ inches below full at start

_____ inches drop

_____ irrigation run time in minutes or hours

_____ run/rise x 2 = _____ = run/rise*2

_____ inches drop ÷ 2 = _____ = ½ drop

_____ inches below full + _____ ½ drop = _____ = depth@½drop

_____ run/rise*2 x _____ depth@½drop ÷ 12 in. per ft = _____ = side decrease

_____ length at capacity - _____ side decrease = _____ = new length

_____ width at capacity - _____ side decrease = _____ = new width

(_____ new length x _____ new width) ÷ 43560 = _____ = pond area at midpoint drop

_____ inches drop x _____ pond area at midpoint = _____ acre-inches applied

_____ acre inches ÷ _____ mins. or hrs. run time = _____ acre inches/min. or hr.

_____ acre inches/minute x 27154.29 = _____ gpm

or _____ acre inches/hour x 452.57 = _____ gpm