The three most common methods to calculate how much water is in your pond are volume estimates, a water meter, and a salt /salinity meter.

Estimating Volume Method

Estimating water volume will only yield an accurate result if your pond is a perfect geometric shape (e.g., square, circle, or rectangle) and has flat sides and flat bottoms. This involves a simple calculation to determine the volume in cubic feet. You need to then multiply by 7.48 to convert feet to gallons.

For rectangular or square ponds, the formula is:

> `Length(ft) x Width(ft) x Depth(ft) X 7.48`
> `= Gallons of Water in the Pond`

For example, a 20 x 15 x 5 pond would have 1,500 cubic feet. Multiplied by 7.8, this rectangular pond's estimated water volume is 11,220 gallons.

For circular ponds, the formula is:

> `(3.14 x Radius x Radius) x Depth) X 7.48`
> `= Gallons of Water in the Pond`

For example, a pond that is 20 feet in diameter and 5 feet deep would be calculated as 3.14 x 10 x 10 x 5 = 1,570 feet x 7.8 = 12,246 gallons.

Water Meter Method

This is an ideal option for new ponds under construction, as it can only be done when the pond is empty.

Fill the pond and subtract the ending number on the meter from the beginning number. If the meter reads cubic feet (like most city meters), you will need to multiply that number by 7.48 to convert to gallons.

Ensure that you have a high-quality water meter and that your pond set up contains everything it will have once the fish are in it – finished plumbing, filtration, and water features. These all contribute to the total water volume in your pond.

Salt Method

The most accurate way to calculate water volume in established ponds is to use dissolved salt measurements. This entails measuring the water's salinity, adding salt, and measuring again. The difference between pre and post-measurements and the amount of salt added will indicate the total water volume in the pond.

You can use the formula:

$$\frac{\text{Pounds of Salt X 120}}{\text{Salinity Change}}$$
$$= \text{Gallons of Water in the Pond}$$

The first step is to approximate the volume of your pond using the estimating volume method (cubic feet X 7.48). Divide that number by three to calculate an adjusted estimate.

For example, if your estimate was 1,500 gallons, use the number 500.

Record a baseline measurement of the pond's salinity using a salinity test kit, which you can purchase at a pond or garden store or online. Then add one pound of salt for every 100 gallons of estimated pond volume. Multiply the number of pounds added by 120. Divide that number by your adjusted salinity measure (after allowing 24 hours for the salt to dissolve) to get the number of gallons in your pond.