

Units/Conversions

While most irrigation equipment is rated in **US gallons per minute**, water meters read in **cubic meters (m³)**.

Here are some handy conversions:

$$1\text{m}^3 = 1000\text{Litres} = 264\text{US gallons} = 220\text{ imperial gallons}$$

$$1\text{acre} = 43560\text{sq feet} = 4046.9\text{ sq meters} = 0.4047\text{ha}$$

12.36 US gallons per minute per hectare of allocation equals:

- 5 US gallons per minute per acre of allocation
- 0.78 liters per second per hectare of allocation
- 46.8 liters per minute per hectare of allocation
- 2807 liters per hour per hectare of allocation



Wise Stewardship

We all share our water supply so limiting use to your allocation is critical. Efficient water use keeps water in our reservoirs so we can make it through the dry years without needing higher restrictions.

Visit www.rdno.ca/agconnect to see your monthly meter readings and track your farm water use.

Customers exceeding their allocation will be charged additional fees based on the volume of water used over their allocation.



Looking for advice on efficient irrigation and saving water?

Visit: www.rdno.ca/agconnect

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Agricultural Irrigation & Allocation

For customers of the
Greater Vernon Water Utility



Agricultural Water Allocation

An allocation is the maximum amount of water you can use on your property. GVW has allocated 5500 cubic meters of water per hectare [m^3/ha] per year to farm customers. The allocation is quoted as an area (ha). For example, if you had 5.91ha of allocation, multiply this number by 5500 to get the maximum volume of water you can use in a year for agricultural purposes.

$$5.91ha \times 5500 m^3/ha = 32505 m^3$$

Allocation may be purchased by farm status customers at a price of \$6000 per hectare through an application process. The water allocation is attached to the property and is sold with the land.

Annual Irrigation Volume

The maximum is 5500 cubic meters of water per hectare of allocation [m^3/ha] per year. This is equivalent to:

- 0.55 meters of water depth
- 21.7 inches of water depth
- 1.80 acre-feet of water per acre
- 490,000 US gallons per acre

Metering and Cross Connection Prevention

Checking your water use at your meter is also a good time to check out your backflow preventer. Most irrigation customers are required to have a certified device installed as per Interior Health regulations to protect drinking water quality. GVW offers a free assessment service to advise on the type of device you need. Devices should be checked annually. Please contact GVW for details on the annual testing requirements or visit www.rdno.ca/cc.

Calculating Your Flow Rate

Your meter will read cubic meters (m^3). To determine your flow rate simply record the number on your meter. Then record the number your meter reads after one minute. Subtract the first reading from the second. This is your flow rate in cubic meters per minute.

Example:

Original reading = 90702.62 m^3
After one minute = 90702.90 m^3

$$\begin{aligned} 90702.90m^3 - 90702.62m^3 \\ = 0.28m^3 \div 1.0min \\ = 0.28 m^3/min \end{aligned}$$

Maximum Water Flow Rate

Under the historic Vernon Irrigation District Bylaw No.305, the water flow rate was set at **5 US gallons per minute** per acre of allocation and the water distribution system design is based on this flow rate. This rate is equivalent to **0.0468 cubic meters per minute per hectare** of allocation [$m^3/min/ha$]. This is the maximum instantaneous peak flow allowed. This means customers may not, for instance, choose to irrigate for only half the day at double this flow rate.

Determining Your Maximum Flow Rate

Say you have 5.91 hectares [14.6 acres] of allocation. Multiply the area of allocation times the maximum flow rate of 0.0468 $m^3/min/ha$. The multiplication results in a maximum flow rate of 0.28 cubic meters per minute.

Example 1 - 5.91ha (14.6 acres):

$$0.0468 \frac{m^3}{min} \times 5.91 \text{ hectares} = 0.28 \frac{m^3}{min}$$

Example 2 - 0.82 ha (2 acres):

$$0.0468 \frac{m^3}{min} \times 0.82 \text{ hectares} = 0.0384 \frac{m^3}{min}$$

Calculate flow rate and annual volume below:

Property Size: _____ hectares

Property Allocation: _____ hectares

Flow Allocation: _____ m^3/min

Annual Volume Allocation: _____ m^3

*** During drought periods the allowable allocation may be reduced as per the GVW Water Use Restrictions Bylaw

