Tri-Basin Irrigator

Volume 21, Issue 7 **August 7, 2025**

Program Information

EQIP: **Sign-up now for 2026 funds.**

CSP: **Sign-up now for 2026 funds.**

NSWCP: **Get your irrigation applications in by August 31st for first chance at the irrigation funds. Flow meters and non-irrigation applications are approved monthly.**

ENERGY EFFICIENCY GRANT: **Applications for 2026 funds will start being taken on October 1, 2025. Contact Jolene at Rural Development at the Kearney USDA Service Center at 308-455-9840 or at *jolene.jones@usda.gov*.**

Calendar of Events

Aug 12 and 15: Green Cover Summer Field Day near Bladen. Goto *https://greencover.com/event/green-cover-summer-field-day-3/*

Aug 20: TBNRD Board Meeting

Aug 22-Sept 1: Nebraska State Fair
Goto *https://www.statefair.org/*

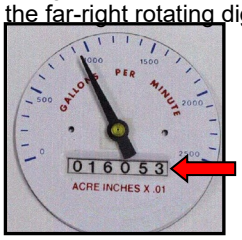
Sept 2: CNPPID Board of Directors Meeting

Sept 9-11: Husker Harvest Days
Goto *https://www.huskerharvestdays.com/en/home.html*

Flow Meter Accuracy

I get calls from producers wondering if their flow meters are reading accurately. An example of this is, my pivot is set up for 800 gpm, yet the needle on my flow meter says 500 gpm. The majority of the flow meters across the Tri-Basin NRD are McCrometers, so these are the ones I will be focusing on. The same concept may apply on other brands.

The needle on the readout display is a guide. Sometimes the needle bounces around, the unit display is too broad for accuracy, or it can simply be out of sync. To determine actual flow rate, one needs to time the odometer. When timing, I look straight into the odometer and start the timer when the top of the far-right rotating digit (fastest) hits the bar across the top. See photo. Do the same when recording the ending reading. Having the same eye angle, and reading the same location will provide a more accurate reading.



Depending upon the odometer units, the far-right digit can move faster or slower. The slower it moves, the more critical it is for consistent eye angle, and a very defined start / stop point.

Time the odometer for at least 10 minutes. For a slower rotating odometer, a longer time will help in accuracy.

Attached to this newsletter is a 2-page sheet. The first page shows different flow meter faces and units. The second page shows how to convert the varying units to gallons. Towards the bottom, it shows how to calculate the timed gallons to gallons per minute.

In closing, the needle is a guide. The odometer is the official and most accurate record.

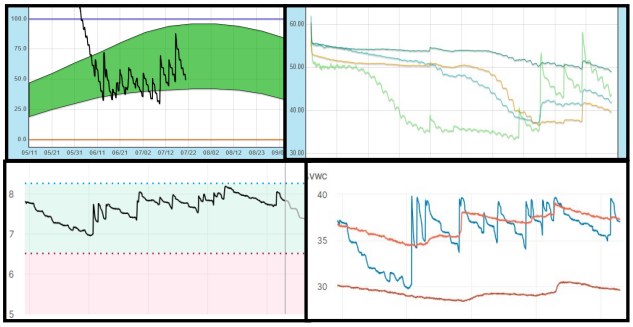
Curtis's Column

CSP and EQIP Reminders!!!

Submit your pesticide, nutrient, irrigation, and any other records your contract requires by September 1st. This gives us time to review your records, gather missing information from you, complete contract modifications if needed, etc. so we can have them certified by September 30th. Having this done ensures your payment not to be held up come October when payments open up.

For those with irrigation sensors, now is the time to be taking screen shots or printing your 2 charts, a summary chart and an individual sensor chart.

There is more hassle and time involved if you don't do this prior to the sensor being removed from the field for harvest. Here are examples of summary and individual charts.



Also, don't forget to submit your flow meter readings and rainfall.

Ultrasonic Flow Meter Measurements Are Available!!!

The ultrasonic flow meter can be used to determine how much water your well is pumping, how much water is going into your irrigation system, how much water you are losing from leaky gates and gaskets, how much water you are applying to your field, or it can be used as a check against your permanently installed flow meter.

If you are wondering about your permanently installed flow meter and why it's not showing the gallons per minute you think it should, read the article on the left side of this page titled "Flow Meter Accuracy". Time the odometer on your flow meter to see if that helps your situation.

If you wish to request an ultrasonic flow meter measurement, you can contact Curtis Scheele, NRCS, at 308-995-6121, Ext. 3 OR Pat Nott, TBNRD, at 308-995-6688 to schedule an appointment.

CNPPID Notes

Irrigation Technology

Central Nebraska Public Power & Irrigation District employs 15 Irrigation Service Specialists (ISS) to convey and deliver irrigation water to Centrals irrigation customers in Gosper, Phelps, and Kearney counties. These ISSs work 7 days a week from April to September and are in contact with Centrals customers daily to serve irrigation water to them on their scheduled delivery days.

Today's irrigation technology such as pivots, subsurface drip, soil moisture sensors, etc. has made on-farm irrigation incredibly efficient, convenient, and less labor intense than traditional gated pipe, ditch and siphon tubes required. This technology has made great improvements for producers, from the ability to remotely control their irrigation systems to turn on and off to receiving soil moisture and ET data, etc. all from the convenience of their phones.

The efficiency gain of today's irrigation systems has made the conveyance and deliveries of surface water more difficult to efficiently manage. Centrals ISSs operate around 350 miles of open canals within the irrigated area of Gosper, Phelps, and Kearney counties, which only about 25% of these canals are automated/remote controlled. The remaining 75% of the canals are manually operated or "dark canals" (no automation/remote control).

Central has been searching for ways to keep up with the new irrigation technology. One way is to install automation/remote control on more of Central's canals. This would allow water to automatically be moved with variable rate systems or when mechanical issues arise, making conveyance and delivery of surface water more efficient and closer to on-demand, all while providing water savings and more convenient/dependable service to their customers.

Visit www.cnppid.com or follow @CNPPID on Facebook, Instagram and Twitter for updates throughout the year.

Tri-Basin NRD News

Irrigation Season Reminders

Chemigation: Staff at the Tri-Basin are busy wrapping up chemigation inspections. New permit inspections must be conducted prior to use. But routine inspections, due this year, must be completed by the end of this irrigation season. If your system is due for a routine inspection, we have tried to contact you to schedule. Please call us to schedule your inspections.

Water Samples: Annual crop reports need water samples from your irrigation wells. The time to take them is now while you are irrigating. These samples are for your 2026 reports.

NRD staff are also taking samples from irrigation wells for our Water Quality testing program.

Irrigation Meters: Periodically check your irrigation flowmeters to make sure they are working correctly. If you do not think your meter is working correctly, our staff or Curtis Scheele at NRCS office can check flow rates using an ultrasonic flowmeter.

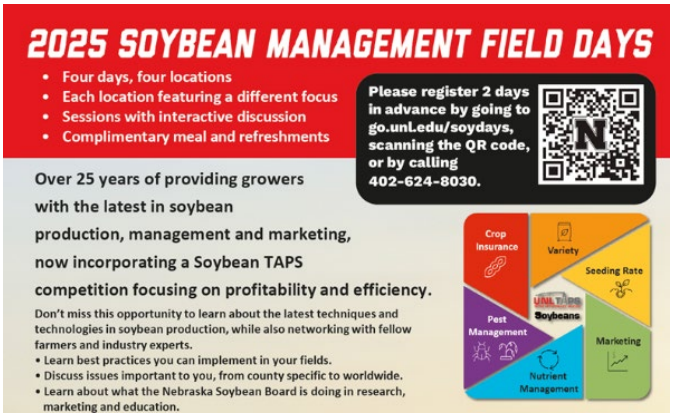
If you have a meter repaired during the irrigation season, please contact the NRD and note the meter reading before removing. Doing so will make it easier to reconcile any movement of the propeller while the meter is repaired. If you have questions about reinstalling your flowmeter or about your meter readings, contact our office at 308-995-6688.

Nebraska Extension Extras

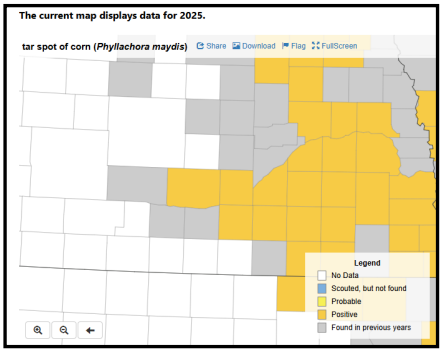
Soybean Management Field Days

Topics will vary by location and the first three days are twilight tours from 6-8 p.m. There is no charge but registration is requested two days in advance at: https://enreec.unl.edu/soydays/.

- **Tuesday, August 12th** – Ravenna, NE – Lonnie and Scott Bohn farm – Google Map: https://go.unl.edu/smfd1
  6:00 pm to 8:00 pm (5:30 pm – Registration)
  Topics: *Soybean TAPS competition, soybean diseases, and soybean market update*
- **Wednesday, August 13th** – Concord, NE – UNL Haskell Ag Lab – Google Map: https://go.unl.edu/smfd2
  6:00 pm to 8:00 pm (5:30 pm – Registration)
  Topics: *Soybean TAPS competition, white mold, and soybean market update*
- **Thursday, August 14th** – Weeping Water, NE – Rick Meyer farm – Google Map: https://go.unl.edu/smfd3
  6:00 pm to 8:00 pm (5:30 pm – Registration)
  Topics: *Soybean TAPS competition and soybean gall midge research plots*
- **Friday, August 15th** – Mead, NE – UNL Eastern Nebraska Research, Extension & Education Center – Google Map: https://go.unl.edu/smfd4
  10:30 am to 2:00 pm (10:00 am – Registration)
  Topics: *Soybean TAPS competition, plot tour, and soybean market update*



Tar Spot of Corn Map



For updates, goto https://cropprotectionnetwork.org/maps/tar-spot-of-corn.

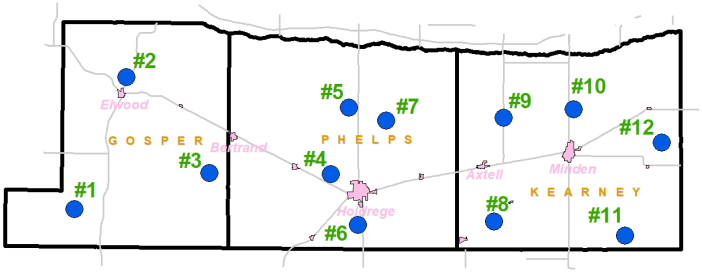
By Curtis Scheele: Water Mgt. Specialist, NRCS, Holdrege, NE

NAWMN Crop ET Information

Additional Information and other ET resources can be found at websites listed under "Crop ET Information" below.

Inches of Crop Water Use (ET) = Reference ET x Kc

	July 21 – July 27		July 28 – Aug 3	
Site	Reference ET	Rain	Reference ET	Rain
1	1.60	0.32	1.40	0.86
2	1.40	0.70	1.20	1.40
3	1.60	0.20	1.30	0.85
4	1.50	0.36	1.20	0.93
5	1.70	0.37	1.20	1.13
6	1.60	0.25	1.20	0.70
7	1.50	0.26	1.30	1.38
8	1.30	0.09	0.90	1.45
9	1.40	0.05	1.20	1.12
10	1.40	0.15	1.10	1.12
11	1.50	0.25	1.20	1.45
12	1.30	0.24	1.30	1.17



2025 Map of TBAWMN Sites across the Tri-Basin NRD.

Crop Coefficients (Kc)

Corn Stage	Kc	Soybeans Stage	Kc
2 leaf	0.10	Cotyledon (VC)	0.10
4 leaf	0.18	1st Node (V1)	0.20
6 leaf	0.35	2nd Node (V2)	0.40
8 leaf	0.51	3rd Node (V3)	0.60
10 leaf	0.69	Beg. Bloom (R1)	0.90
12 leaf	0.88	Full Bloom (R2)	1.00
14 leaf	1.01	Beg. Pod (R3)	1.10
16 leaf	1.10	Full Pod (R4)	1.10
Silk – Beg. Dent	1.10	Beg. Seed (R5)	1.10
¼ Milk Line	1.04	Full Seed (R6)	1.10
Full Dent (½ Milk)	0.98	Yellow Leaf (R6.5)	1.00
¾ Milk Line	0.79	Beg. Mat. (R7)	0.90
Black Layer	0.60	Full Mat. (R8)	0.20
Full Maturity	0.10	Mature	0.10

Crop Stage Information

Corn (V16-16 Leaf to R4-Dough stage): Though not as severe as R1-Silking, stress at R2 through R4 can still have a profound effect on yield. As the kernels mature, the potential yield loss becomes less.

Avg. daily water use from July 28 – Aug 3 was 0.17"-0.22".

Soybeans (R2-Full Bloom to R4-Full Pod): Environmental stress from R3-Beginning Pod through R6-Full Seed will reduce yield more than any other time. R4-Full Pod is the most crucial period.

Avg. daily water use from July 28 – Aug 3 was 0.16"-0.22".

July 28-Aug 3 (12 of 12 TBAWMN sites reporting): Avg. weekly rainfall was 1.13 (range 0.70 to 1.45). Avg. weekly ET for corn was 1.37 and for soybeans was 1.21.

Crop ET Information

TBAWMN Sites: https://www.tribasinnrd.org/tbawmn

CropWatch: https://cropwatch.unl.edu/gdd-etdata

Texting: Sasha Hahn at TBNRD: 308-995-6688

CORN STAGE		DESCRIPTION
R3	Milk	The kernels display a yellow color on the outside. Inner fluid is milky white. Silks are brown and dry or becoming dry.
R4	Dough	Most kernels contain semi-solid, pasty material.
R4.7	Beg Dent	Kernels at the base of the ear are beginning to dent.

SOYBEAN STAGE		DESCRIPTION
R4	Full Pod	At least one pod of 3/4" length is present at one of the four uppermost main stem nodes that have fully developed leaves.
R5	Beg Seed	At least one pod containing small seeds is present at one of the four uppermost main stem nodes that have fully developed leaves. You can hold a pod up to the bright sky to see the small developing seeds in the pod cavities.
R6	Full Seed	At least one pod whose cavities are completely filled with green seeds is present at one of the four uppermost main stem nodes that have fully developed leaves.

Lake and River Levels

CNPPID Reservoir Elevation and Capacity as well as Platte River Flow data listed below and other locations can be found on CNPPID's website at *http://cnppid.com/wp-content/uploads/2016/06/lakeRiverData.html*.

	August 7, 2025, 8:00 AM	1 Year Ago
El. & Cap. – Lake McConaughy	3226.1 ft - 45.9%	3231.9 ft - NA%
Inflows to Lake McConaughy	934 cfs	407 cfs
Flows on the North Platte at North Platte	467 cfs	601 cfs
Flows on the South Platte at North Platte	363 cfs	108 cfs
Flows on the Platte at Kearney	141 cfs	61 cfs

Flame of Peace at Hiroshima's Peace Memorial Park

80 years ago – August 6, 1945

Websites of Interest

NRCS Nebraska	*www.ne.nrcs.usda.gov*
Farm Service Agency	*www.fsa.usda.gov*
TBNRD Home Page	*www.tribasinnrd.org/*
Central Irrigation District	*www.cnppid.com/*
UNL Cropwatch	*cropwatch.unl.edu*
UNL Extension	*extensionpubs.unl.edu/*
Drought Monitor	*https://droughtmonitor.unl.edu/nadm/Home.aspx*
No-till On The Plains	*www.notill.org*
Soil Health:	*www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/*
NE State Irrig Assoc	www.nebraskastateirrigationassociation.org/

Rainfall

Rainfall amounts listed below and other locations come from NeRAIN which can be found at website *https://nednr.nebraska.gov/NeRain/Maps/maps*.

Location:	July 24 – Aug 6	May 1 – Aug 6
Elwood 1.81 mi. NW:	1.87	13.12
Loomis 0.2 mi. SW:	0.95	15.58
Holdrege 1.7 mi. W:	0.75	9.67
Minden 7.2 mi. W:	1.26	10.76
Minden 5.8 mi. E:	1.10	15.73

Average Rain for May-July in Holdrege = 11.32 Inches

**** If you wish to receive this newsletter via e-mail, or have any questions, comments or ideas, feel free to contact Curtis Scheele at the NRCS office in Holdrege or you can email him at curtis.scheele@usda.gov. ****

USDA - Natural Resources Conservation Service

1609 Burlington Street
PO Box 798
Holdrege, NE 68949-0798
308-995-6121, Ext. 3

309 Smith Street
PO Box 41
Elwood, NE 68937-0041
308-785-3307, Ext. 3

1005 South Brown Street
Minden, NE 68959-2601
308-832-1895, Ext. 3

Central Nebraska Public Power & Irrigation District

415 Lincoln Street
PO Box 740
Holdrege, NE 68949
308-995-8601

Tri-Basin Natural Resources District

1723 Burlington Street
Holdrege, NE 68949
308-995-6688

Nebraska Extension

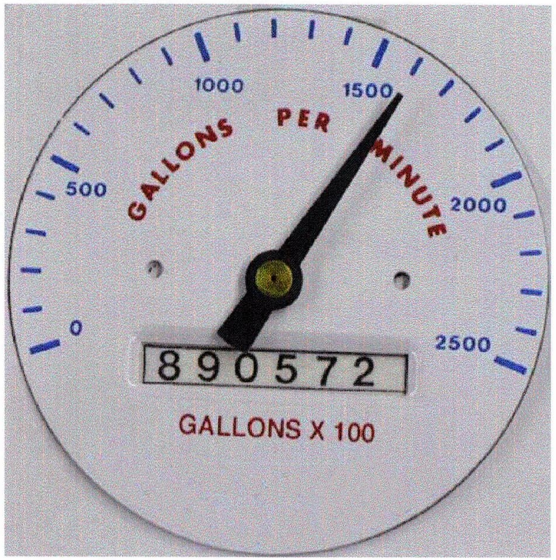
1308 2nd Street
Holdrege, NE 68949

308-995-4222

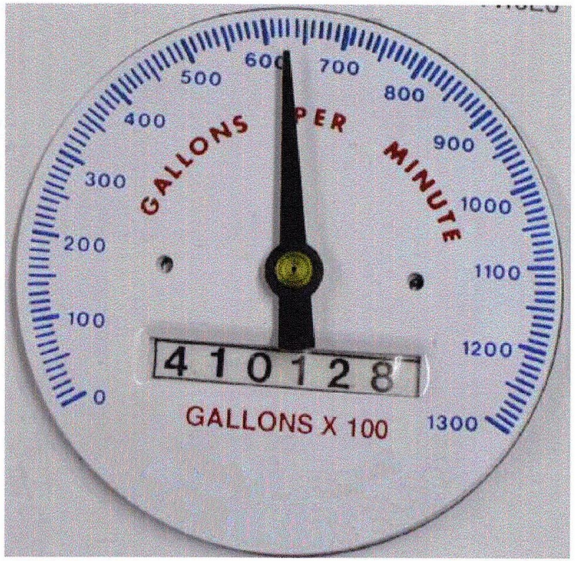
PO Box 146
Elwood, NE 68937

308-785-2390

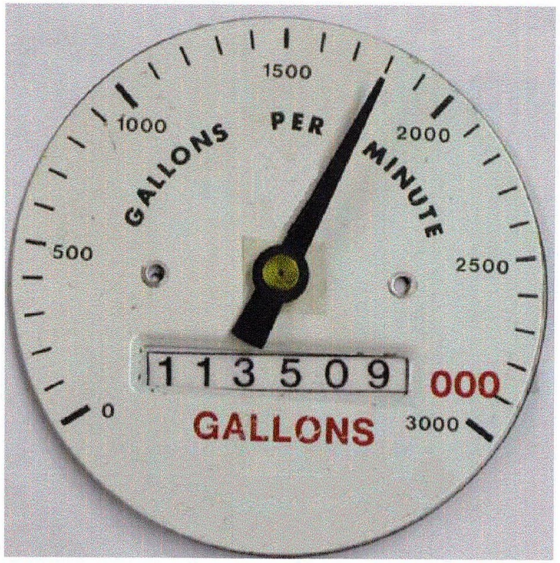
424 North Colorado
PO Box 31
Minden, NE 68959
308-832-0645



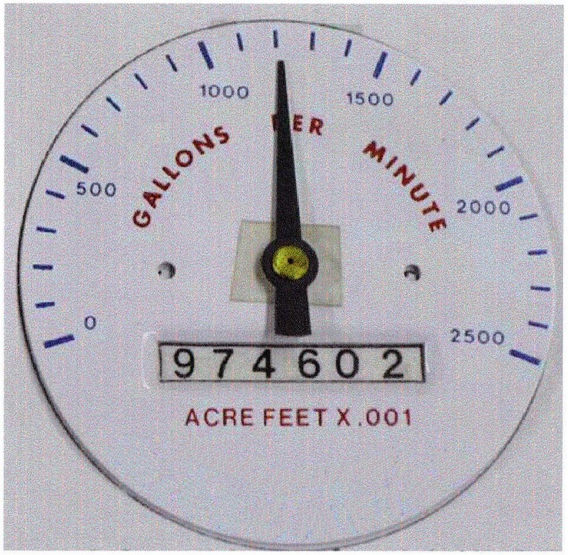
8" Dial Face with Gallon Totalizer x 100
Add 2 zeros to the 6-digit dial face reading.
Total Gallons = 89,057,200



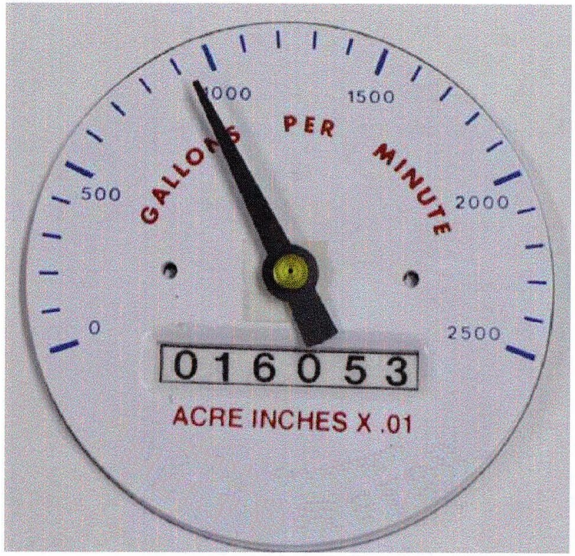
6" Dial Face with Gallon Totalizer x 100
Add 2 zeros to the 6-digit dial face reading.
Total Gallons = 41,012,800



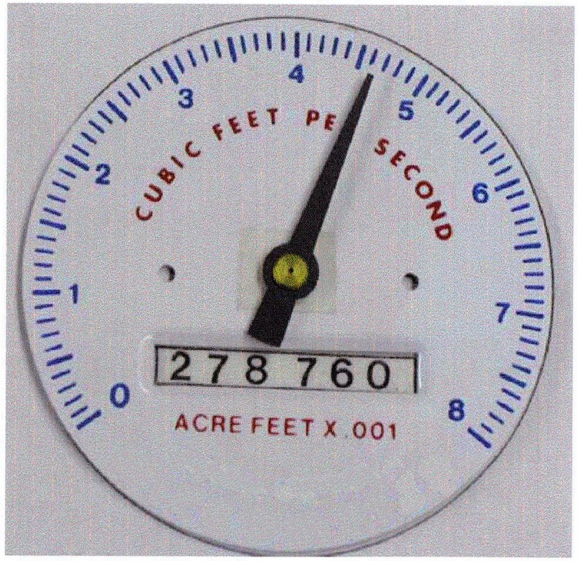
10" Dial Face with 3 fixed zeros.
Include these zeros in your reading.
Total Gallons = 113,509,000



8" Dial Face with Acre Feet Totalizer x .001 and GPM Flow Rate Indicator. Place a Decimal Point 3 places to the left. Acre Feet = 974.602



8" Dial Face with Acre Inches Totalizer x .01 and GPM Flow Rate Indicator. Place a Decimal Point 2 places to the left.
Acre Inches = 160.53



Dial Face with Cubic Feet Per Second flow rate and Acre Feet Totalizer. Place a Decimal Point 3 places to the left. Acre Feet = 278.760

WATER EQUIVALENTS TABLE

1 acre-foot of water……..325,851 gallons (12" of water over 1 acre)
1 acre-inch of water……..27,154 gallons (1" of water over 1 acre)
800 gallons per minute ……3.54 acre-feet or 42.42 acre inches per day
450 gallons per minute = 1 cubic foot per second = 2 acre feet per day = 24 acre inches per day

WATER CALCULATIONS

…. To convert gallons totalizer readings to acre-feet

divide gallons used by 325,851

Example:…….present meter reading	89,057,200	gallons
subtract previous reading	48,563,000	gallons
gallons used =	40,494,200	gallons
acre-feet used = gallons used ÷ 325,851 =	124.27	acre feet

….To convert gallons totalizer readings to acre-inches

divide gallons used by 27,154

Example:…….present meter reading	41,012,800	gallons
subtract previous reading	31,444,300	gallons
gallons used =	9,568,500	gallons
acre-inches used = gallons used ÷ 27,154	532.38	acre-inches

….To convert acre-feet totalizer readings to gallons

multiply acre-feet used by 325,851

Example:…….present meter reading	278.760	acre-feet
subtract previous reading	267.334	acre-feet
acre-feet used =	11.426	acre-feet
gallons used = acre-feet used x 325.851 =	3,723,173.53	gallons

….To convert acre-inch totalizer reading to gallons

multiply acre-inches used by 27,154

Example:…….present meter reading	160.530	acre-inches
subtract previous reading	99.560	acre-inches
acre-feet used =	60.970	acre-inches
gallons used = acre-inches used x 27,154	1,655,579.38	gallons

….To check accuracy of the flow rate indicator:

Record the time it takes for several complete revolutions of the far right odometer wheel. Divide the gallons recorded by the time in seconds and then multiply by 60 to get Gallons Per Minute. Your calculations should give you the same rate as the meter needle shows.

….To make calculations if your register rolls over:

Subract end of previous year reading from 1000 acre feet and add amount currently showing on meter. Example: End of 1992-920.328 AC FT & End of 1993-138.491 AC FT
1000 – 920.328 = 79.672 AC FT + 138-491 AC FT = 218.163 ACRE FEET used 1993

calcs.wrl