

Edl, Michele

From: Conrad, Vic [Vic.Conrad@simplot.com]
Sent: Thursday, November 04, 2010 11:29 AM
To: Edl, Michele
Cc: John Sterling (
Subject: Emailing: ETIdaho 2009 -- Evapotranspiration and Net Irrigation Requirements for Idaho.htm

Michele,

To use a football analogy, we appear to be just inside the five yard line -- so we are definitely in the "red zone". It is third down and 2 and we can still make a first down before the goal line to make it goal to go. The question is whether to pass for the back of the end zone with short, quick crossing pattern; or pull the left guard to kick-out the defensive end on the right side, send our fullback behind the guard as a decoy -- then switch directions and pitch to our speedy half back to try and round the left corner (we need the defensive left end to over-pursue for this work).

Using the Caldwell station instead of the Boise station as you are requiring, I think the aesthetic storage volume "J", would be as follows:

The surface area of the pond to be 1.37 -- 1.4 acres -- but would prefer to be safe as round up to 1.5 acres. With an average depth of 2 feet the maximum volume that could be stored is 3 acre feet (1.5 acre surface area x 2 feet deep = 3 acre feet). Using the information below, it appears 753 mm/ are consumed annually. 1mm = 0.0032808 feet; consequently there are 2.47 feet consumed annually (753 mm x .0032808 feet/mm = 2.47 feet). With 1.5 acres of surface area, the consumption would be 3.71 acre feet (1.5 acres x 2.47 feet = 3.71 acre feet).

The total volume for the aesthetic use would be 6.71 acre feet (3 acre feet for the storage volume + 3.71 acre feet consumed = 6.71 acre feet).

Is this acceptable? J = 6.71 af?

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison at kimberly dot uidaho dot edu Copyright 2010, University of Idaho.

Caldwell (NWS --101380)

Statistics based on thirty

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - shallow systems (ponds, streams)															
Precipitation Deficit (Click here for a graph)															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b	Annual
Mean	mm/day												mm		
Monthly ^c	0.83	0.18	1.22	2.51	3.74	4.22	5.01	4.27	3.06	1.89	-0.12	0.78	753	0	753

Edl, Michele

From: Conrad, Vic [Vic.Conrad@simplot.com]
Sent: Tuesday, November 02, 2010 1:09 PM
To: Edl, Michele
Cc: John Sterling (
Subject: Emailing: ETIdaho 2009 -- Evapotranspiration and Net Irrigation Requirements for Idaho.htm

Michele,

I think this is the data set you pointed me to, but please feel free to correct me if I still am using the wrong one. Using this data set the aesthetic storage volume "J", would be as follows:

We calculate the surface area of the pond to be 1.37 – 1.4 acres – but would prefer to be safe as round up to 1.5 acres. With an average depth of 2 feet the maximum volume that could be stored is 3 acre feet (1.5 acre surface area x 2 feet deep = 3 acre feet). Using the information below, it appears 639 mm/ are consumed annually. 1mm = 0.0393700787 inches; consequently there are 25.16 inches consumed annually for each acre of surface area (639 mm x .0393700787 inches/mm = 25.16 inches). With 1.5 acres of surface area, the consumption would be inches (1.5 acres x 25.16 inches = 37.74 inches). This would amount to 3.15 acre feet (37.74 inches ÷ 12 inches/ft = 3.15 feet).

The total volume for the aesthetic use would be 6.15 acre feet (3 acre feet for the storage volume + 3.15 acre feet consumed = 6.15 acre feet).

Is this acceptable? J = 6.15 af?

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison at kimberly dot uidaho dot edu Copyright 2010, University of Idaho.

Boise WSFO Airport (NWS --101022)

Statistics based on thirty

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - shallow systems (ponds, streams)															
Precipitation Deficit (Click here for a graph)															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b	Annual
Mean	mm/day												mm		
Monthly ^c	0.70	0.05	0.78	2.04	2.66	4.11	4.76	4.09	2.71	1.65	-0.43	0.84	639	0	639

Edl, Michele

From: Conrad, Vic [Vic.Conrad@simplot.com]
Sent: Tuesday, October 26, 2010 1:16 PM
To: Edl, Michele
Cc: John Sterling (
Subject: Emailing: ETIdaho 2009 -- Evapotranspiration and Net Irrigation Requirements for Idaho.htm

Michele,

We calculate the surface area of the pond to be 1.37 – 1.4 acres – but would prefer to be safe as round up to 1.5 acres. With an average depth of 2 feet the maximum volume that could be stored is 3 acre feet (1.5 acre surface area x 2 feet deep = 3 acre feet). Using the information below, it appears 954 mm/ surface acre are consumed annually. 1mm = 0.0393700787 inches; consequently there are 37.56 inches consumed annually for each acre of surface area (954 mm x .0393700787 inches/mm = 37.56 inches). With 1.5 acres of surface area, the consumption would be 56.34 inches (1.5 acres x 37.56 inches = 56.34 inches). This would amount to 4.70 acre feet (56.34 inches ÷ 12 inches/ft = 4.70 feet).

The total volume for the aesthetic use would be 7.69 acre feet (3 acre feet for the storage volume + 4.69 acre feet consumed = 7.69 acre feet).

Does this sound acceptable to you?

Question. For the amended transfer application – what is the IDWR's symbol for "Aesthetic Storage" use?

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison at kimberly dot uidaho dot edu Copyright 2010, University of Idaho.

Boise WSFO Airport (NWS --101022) Statistics based on thirty

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - shallow systems (ponds, streams)															
Actual Evapotranspiration (Click here for a graph)															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b	Annual
Mean	mm/day												mm		
Monthly ^c	0.42	0.99	1.99	3.12	3.90	4.71	5.02	4.33	3.30	2.24	0.84	0.40	954	0	954
15-Day Moving Average ^d	0.41	0.96	2.00	3.12	3.92	4.71	5.05	4.30	3.23	2.26	0.83	0.39			
7-Day Moving Average ^e	0.41	0.98	1.99	3.10	3.90	4.71	5.04	4.33	3.26	2.25	0.83	0.40			
3-Day Moving	0.42	0.99	1.99	3.11	3.90	4.71	5.02	4.34	3.29	2.24	0.84	0.40			

Edl, Michele

From: Conrad, Vic [Vic.Conrad@simplot.com]
Sent: Monday, October 25, 2010 2:57 PM
To: Edl, Michele
Subject: RE: Sterling transfer update

Got it. Thanks this is helpful.

From: Edl, Michele [mailto:Michele.Edl@idwr.idaho.gov]
Sent: Monday, October 25, 2010 2:41 PM
To: Conrad, Vic
Subject: RE: Sterling transfer update

We need to see a volume request that includes the total of pond volume and the annual consumptive loss. We break that total volume apart in conditions.

For an example see condition 5 on Permit 73-12146
http://www.idwr.idaho.gov/apps/ExtSearch/DocslImages/d4iy01_.pdf

From: Conrad, Vic [mailto:Vic.Conrad@simplot.com]
Sent: Monday, October 25, 2010 1:02 PM
To: Edl, Michele
Subject: RE: Sterling transfer update

Amazing – I was just working on this when your email showed-up. Yes, the transfer is moving forward. I am refining the surface area of the pond. We have the depth (2ft) and your website to calculate the consumptive use.

Question: Do you want me to add the CU for the evaporative loss to the storage volume to arrive at a total for the aesthetic storage? Or does the CU become a feature of the aesthetic storage use – not the storage volume.

In other words, if the surface area of the pond is 1.5 acres and it is 2 feet deep; this would mean the volume for the aesthetic storage would be 3 acre feet (1.5 acres x 2 ft. deep = 3 acre feet storage). If the CU is 3 acre feet per acre of surface area per year; the CU would be 4.5 acre feet (3 acft cu/acre/year x 1.5 acre surface area).

Would the aesthetic storage volume be the sum of the storage volume plus the CU (3 acft + 4.5 acft = 7.5 acft)? or only the 3 acre feet storage volume?

From: Edl, Michele [mailto:Michele.Edl@idwr.idaho.gov]
Sent: Monday, October 25, 2010 12:12 PM
To: Conrad, Vic
Subject: Sterling transfer update

Hello

I haven't heard from either you or Mr. Sterling recently. Is the transfer still moving forward?

Michele Edl

Edl, Michele

From: Edl, Michele
Sent: Wednesday, September 22, 2010 11:33 AM
To: 'Conrad, Vic'
Subject: RE: Amended Transfer for Water Right 63-10029

Thank you for asking and thank you for keeping this one moving. The IDWR uses ET from this source:

<http://www.kimberly.uidaho.edu/ETIdaho/>

The Treasure Valley has more than one station on the list, so pick the one closest to the Sterling property. For this pond the ET estimated for "Open water-shallow systems (ponds, streams)" should serve you best.

If you have not worked through this method before, let me know.

I am juggling several projects. We may need to make an appointment for an after-hours conversation.

From: Conrad, Vic [<mailto:Vic.Conrad@simplot.com>]
Sent: Monday, September 20, 2010 5:13 PM
To: Edl, Michele
Cc: John Sterling (
Subject: RE: Amended Transfer for Water Right 63-10029

Michele,

John and I have determined that the pond is 2 ft. deep on average across the entire area. I am in the process of calculating the surface area of the pond. I assume you will want some rate of consumption for the evaporative loss during the summer season to be a component of the storage volume. Do you have an IDWR standard that you would prefer using for this evaporative loss on a per/acre surface area?