CENTRAL AND SOUTH DELTA WATER AGENCY'S
GUIDELINES FOR FILLING OUT SUPPLEMENTAL
STATEMENTS OF WATER DIVERSION AND USE
(MAY 2013)

If you filed an "initial" "Statement of Water Diversion and Use" for each of your "Points of Diversion" ("POD," i.e., your siphons, pipes, floodgates, etc.) a few years ago, then it is now time for you to file your once-every-three-years "*Supplemental* Statement of Water Diversion and Use" for each of those PODs. If you are required to file such Supplemental Reports, then the State Water Resources Control Board (SWRCB) should have sent you a letter for each of your PODs which contains a "User ID" and a "Password" that you must use to log into the SWRCB's website and prepare the reports for each of those PODs. As the SWRCB's letter explains, these reports must be prepared via a computer; paper reports will not be accepted.

I. Gather Information on Your Water Diversion and Use.

In order to fill out these reports, the first thing you must do is gather basic information on your water diversion and use for years 2010, 2011 and 2012. Attached hereto as Attachment "A" is a list of "Recommended Steps for Reporting." Steps 1 through 7 specify the types of information you will need to gather.

II. Use the Excel Spreadsheets to Calculate Your Monthly Water Diversion and Use.

Filling out Section 4c of the reports requires that you provide monthly amounts of water that you "used" and "directly diverted" for each of your PODs and for each of the reporting years (2010, 2011 & 2012).

Unless you have a measuring device on your POD, you should estimate the amounts "used" as well as the amounts "directly diverted" by using evapotranspiration estimates based on the crops or other vegetation on your land.

> (**Note:** if you have a POD that is used for a domestic or other use not suitable to evapotranspiration estimates, then you can click on the little red question marks within the online report for guidance on how to estimate usage and direct diversions for those uses).

To assist you with making "usage" and "direct diversion" estimates we have created a Microsoft Excel spreadsheet where you can enter the number of acres of the type of crop(s) that water was delivered to from each POD for each year and the spreadsheet will automatically generate estimates of both the amounts "used" and amounts "directly diverted."

We have provided a "User Friendly Version" of the Excel spreadsheet as well as a "Detailed Version." We recommend that you use the User Friendly Version as it cuts out some of the clutter and provides additional step-by-step instructions.

(**Note:** The Detailed Version shows the underlying calculations and data for the various consumptive use estimates, e.g., it shows the raw "inches of water" per acre calculations which are ultimately converted to "acre feet of water" per acre. If that information is helpful to you, then by all means explore or use the Detailed Version. With the Detailed Version you can also make adjustments to the default evapotranspiration estimates to the extent you believe such adjustments are warranted. The password to unlock the spreadsheets for editing is "cdwa".)

Regardless of which version you use, once you fill out a few forms, you will be able to skip over all of the clutter in both versions and quickly zero in on what is important.

(**Note**: For those that are interested, an explanation of the underlying data and methodology that went into the calculations in the spreadsheets is attached hereto as Attachment "E.")

A. Instructions for Using the Excel Spreadsheets.

The spreadsheets can be downloaded at www.sjwater.org There is a "User Friendly" and a "Detailed" spreadsheet for each zone, i.e., for Zone 12 and Zone 14. We recommend that water users within the Central and South Delta use the Zone 12 spreadsheets, and that water users within the North and West Delta use the Zone 14 spreadsheets.

Once you have selected the proper spreadsheet for your particular zone, follow these steps:

Step 1—Enter the Acreage and Crop Types.

The first thing you must do is type in the number of acres of each type of crop that received water from the particular POD during the particular year at issue.

(Note re Multiple PODs: if you had more than one POD deliver water to the same field or parcel, then, for purposes of these reports, and for simplicity, it is recommended that you divide the total acreage of that field or parcel evenly among those PODs. For example, if the POD that you are preparing the report for is one of two PODs that provided water to a 100 acre field of corn in 2010, then enter 50 acres of corn for that POD in the spreadsheet for 2010 (then, when you fill out the 2010 report for the other POD, do the same and enter 50 acres of corn in that POD's spreadsheet). At the very end of the online report, in the "Additional Comments" section (i.e., section "11a"), you can and should explain to the SWRCB that this is what you did. Attachment "C" to these instructions includes sample language to that effect for insertion into section 11a of the report.)

Step 2—Calculate the Amounts "Used."

After you enter the amount of acres for each crop type, the spreadsheets automatically calculate the monthly amounts "used" so all you need to do is take those numbers and insert them into the second column in section 4c of the reports entitled "Amounts used."

Step 3—Calculating the Amounts "Directly Diverted."

To calculate the "Amounts Directly Diverted" we recommend that you add two additional components to the amounts "used": (1) add an additional 25%, 40% or 60% as you deem appropriate on top of the amounts "used" to account for any additional water that is directly diverted but not ultimately consumed by the crops or evaporated; and (2) add extra water diverted for any winter or other field flooding.

For field flooding, a row has been included on the spreadsheets where you can enter additional amounts to account for any such flooding and the spreadsheets will automatically include those amounts in your ultimate amounts that are "directly diverted." It is suggested that you add .5 acre ft. per acre for each flooded acre for each month that the land is flooded (e.g., if you flooded 100 acres in January, then you would enter 50 acre feet of water in the spreadsheet column for January flooding).

(**Note:** The spreadsheets have been locked so that the data embedded therein is not inadvertently altered or deleted. However, if you want to modify the spreadsheets' data or layout, the "unlock" password is "cdwa".)

III. Determining What User ID Goes with Which POD.

If you have more than one POD, then, before you can begin filling out the online reports, you must first determine which "User ID" and "Password" apply to which one of your PODs. The notices from the SWRCB did not include maps showing the locations of your PODs; however, such maps are available on the SWRCB's website. Instructions on how to access those maps are attached hereto as Attachment "B".

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IV. Filling out the Online Reports—A Complete Walkthrough of the Entire Report.

Once you know what User ID goes with which of your PODs, you can then proceed to fill out the online reports. As indicated in the SWRCB's letters, you need to go to this website: www.waterboards.ca.gov/rms then you need to enter your User ID and Password. You'll see that you need to file three (3) reports for each of your PODs (one for 2010, 2011 and 2012). The below walks you through, and provides recommendations, for each of the sections of the online report.

Attached hereto as Attachment "D" is a copy of a fully filled out **Sample Online Report** which you can use as a guide. That sample report incorporates our various recommendations that are discussed in the following walkthrough.

Intro Page (summary information): this is more or less self-explanatory.

Part 1 of 7:

1. **"Water is Diverted and Used Under (select all that apply)":** We recommend you select the following three boxes:
   Riparian claim;
   Pre-1914 claim; and
   Other (explain)

   In the "Other (explain)" box insert "overlying and statutory rights."

   If you believe you might also have a "contract right" of some sort, e.g., a right to receive water from an irrigation company or any other person or entity, then also insert "contract right" in the "Other (explain)" box.

2. **"Year of First Use":** You have to put in a number. The recommendation has been "1800s"; however, the form will not accept the "s." You can use "1800" or the year that you think is more accurate (note: if you claim a pre-1914 right, then the year must be prior to 1914).

3. **"Maximum Rate of Diversion for Each Month (If Available)":** This section is OPTIONAL, so unless you happen to have such information, we recommend that you skip this section.

Part 2 of 7:

4. **"Amount of Water Diverted and Used":** For irrigation, we recommend the following (note: if it is for domestic use or some other use, click on the little red question marks on the form for more guidance):

   4a. For the unit, choose "**acre feet**."

4b. For section 4b, we recommend that you do NOT check this box.

4c. Unless you have a physical flow measuring device on your POD, we recommend that you estimate the "Amount directly diverted . . ." and "Amount used" by using consumptive use estimates.

NOTE: As discussed above, we have prepared a Microsoft Excel spreadsheet that you can use to generate estimates of the amounts "directly diverted" and "used" to insert into the form. Once you have generated those estimates, enter them here, making sure to enter them into the appropriate column.

Part 3 of 7:

5. "Water Diversion Measurement": While this section states that it is "only required for reporting years 2012 and later," it may be easier to handle all of the years in a similar fashion and keep this reporting process as uniform as possible from year to year. Thus, we recommend that you fill this section out for all three years.

For year 2012 (and 2010 and 2011 if you choose), we recommend that you do the following:

5a. "Measurement": Unless you have a physical flow measuring device on your POD, we recommend that you click the second "box" (actually a "circle") that states: "**Direct measurement using a device listed in Section 1 is 'not locally cost effective'** . . . ."

If you click this second "box" (circle), then skip down to "Section 2."

Section 2:

5f. For section 5f, for typical irrigation, we recommend that you select "**Other**" and then "cut and paste" with your computer or type in the sample insertion we have provided into the explanation box. (See Attachment "C" which contains that insertion language; as with all sample insertions, modify the language as necessary to fit your situation.)

5g. For section 5g, if you followed our guidance set forth herein for estimating the amounts of water "used" and "directly diverted," then you should select the box that says "**Crop duty estimates/consumptive use estimates**." Then in the explanation

box you should enter the sample insertion we have provided. (See Attachment "C" which contains that insertion language.)

Part 4 of 7:

6. "Purpose of Use": If your purpose of use was irrigation, then type the number of acres that were irrigated.

NOTE re Multiple PODs: please see the "note" set forth in the above "Instructions for Using the Excel Spreadsheets" for guidance on how to quantify the acreage between PODs when more than one POD delivered water to the same field or parcel.

7. "Changes in Method of Diversion": If there were any such changes, report them in this section.

Part 5 of 7:

8. "Conservation of Water":

8a. We recommend that you select "Yes" and insert an appropriate description of those conservation measures. See Attachment "C" for sample language.

8b. Unless you have a method to quantify the amounts of water that are conserved, we recommend that you skip section 8b, and rely on the sample language in Attachment "C" that is inserted into 8a which indicates that you do indeed claim a credit for such conservation, but that you presently lack the means to precisely quantify that amount.

9. "Water Quality and Wastewater Reclamation": Unless this happens to apply to you, you should check "No."

10. "Conjunctive Use of Surface Water and Groundwater":

10a. This question appears to be directed to the extraction of groundwater from a well. Accordingly, we recommend that you select "No" unless you are extracting water from a well onto your lands and also applying surface water to those lands, in which case you should answer "Yes."

10b. If you answered "Yes," then either claim credit by entering a particular amount or enter "0" if you are not claiming any credit (you have to include some type of a number if you answer "Yes").

Note: the last question about having "data to support" is optional, so you can answer it or skip it.

Part 6 of 7:

11. "Additional Comments and Attachments": If you followed our guidance set forth herein for estimating the amounts of water "used" and "directly diverted," then we recommend that you include the sample insertion language for this section that we have provided in Attachment "C" with whatever modifications you deem appropriate.

Part 7 of 7: This is self-explanatory.

IV. Sample Insertion Language for the "Explanation" Boxes in the Online Reports.

As noted above, Attachment "C" contains sample language for insertion in various sections of the report. A copy of that attachment is separately provided (at www.sjwater.org) in Microsoft Word format so you can easily "cut and paste" the language into the online reports. (Note: you should also be able to "cut and paste" directly from this "pdf" file, however, if you do, the line spacing will typically become distorted after pasting and will need to be manually adjusted to look normal [which is fairly easy to do].) Revise the language as necessary to fit your situation.

(**Note:** you'll notice that at the very end of the report you have the option to "Attach a File" to the report. If you will be filing a large number of reports, then in lieu of cutting and pasting [or re-typing] various insertions into the reports, you could consider typing the words "See attached file" into the form and then prepare an attachment which contains the insertion language of your choice and simply attach [i.e., upload] that attachment to the report when you get to the end of the report. This is something to consider if you are tasked with filing numerous reports. It may or may not be a time saver.)

Enclosures:

Attachment "A"—Recommend Steps for Reporting.

Attachment "B"—Instructions for Determining What User ID Goes With Which POD

Attachment "C"—Sample Insertion Language for the Reports

Attachment "D"—Fully Filled out Sample Online Report

Attachment "E"—Explanation of the Underlying Data and Methodology in the Spreadsheets

Attachment "A"

RECOMMENDED STEPS FOR REPORTING

Start here by gathering information which will assist you in doing the calculations and entering the information on the SWRCB forms.

1. Gather copies of Notices from SWRCB showing User ID and Password for each diversion (SO_ _ _ _)

2. Prepare maps showing crop and acreage for each year and each point of diversion used to irrigate each field:

   One map for 2010
   One map for 2011
   One map for 2012

3. Multiple Diversions to serve a single field

   If more than one diversion is used to irrigate a field, show arrows to the fields irrigated from each of the multiple diversions.

4. If field flooding (ie: winter flooding, leaching, weed control, etc.)

   Mark down the acreage and months of field flooding for each year.

5. Conservation Measures

   Good water management? Good farming practices? Concrete ditches? Pipelines? Drip irrigation? Sprinklers? Low-energy sprinklers? Cover crops? Mulch? Recycle excess water to Delta Pool.

6. Pick a ratio for diversion vs. consumptive use:

   1.25 x use
   1.40 x use
   1.60 x use

   If fields are irrigated, the amount diverted is typically greater than the amount used.

7. Uses other than agriculture

   Housing - number of people?
   Livestock - number?

8. Now go to the calculation Excel sheets and Related Documents and Attachments posted at www.sjwater.org. You can download the documents as needed.

   If you enter the acreage of the crops irrigated as instructed, the Excel sheets will produce the calculated monthly acre ft. of usage "directly diverted" and "used" which you will need for entry on the SWRCB reporting form. There are Excel sheets for Zone 12 (Central and South Delta) for 2010, 2011, and 2012 and for Zone 14 (North and West Delta) for 2010, 2011, and 2012. All of these are posted.

   There are also two versions of Excel sheets:"User-Friendly Versions" and "Detailed Versions". The "Detailed Versions" show the ETo, ETc and other numbers used in the calculations. These can be adjusted by the user. Entries on the "Detailed Versions" must be on the highlighted rows. The "User-Friendly Versions" produce the same results, but simply block out all the numbers used in the calculations to avoid confusion. Keep copies of your worksheets in your file.

9. Correlate your Point of Diversion (POD) number (i.e., the "User ID") for each worksheet with the location of the POD for which you are reporting.

   Instructions posted at www.sjwater.org will guide you to the SWRCB maps which will show the location for each POD.

10. Proceed to the SWRCB website. www.waterboards.ca.gov/rms

    Note: You can also Google "SWRCB", go to State Water Resources Control Board, click on Division of Water Rights
    Click on Water Use Reports
    Click on eWRIMS Online Reporting
    Click on Report Login Screen (enter ID and Password from SWRCB notice)

11. Start entries on SWRCB form.
    (each point of diversion will require a form for 2010, 2011 and 2012)

You are encouraged to do as much of this reporting as you can on your own. The staff of the agencies will be able to assist, but due to the time it takes to make the entries onto the SWRCB reporting forms the assistance must be limited. Even with assistance Steps 1 through 7 must be done by the water user.

Attachment "B"

INSTRUCTIONS FOR DETERMINING WHAT USER ID GOES WITH WHICH POD

If you have more than one POD, then you must first figure out which "User ID" and "Password" apply to which one of your PODs. Here is how you can do that:

1. Go to this website: http://www.swrcb.ca.gov/waterrights/water_issues/programs/ewrims/

2. On that website, click on "eWRIMS Database System" (the link is listed under the heading "eWRIMS General Records")

3. Then click on "Water Right Search."

4. In the box for "Application ID" you can type in one of your "User IDs", i.e., the number that starts with an "S" and looks like "S019123," then click on the "Search" button at the bottom.

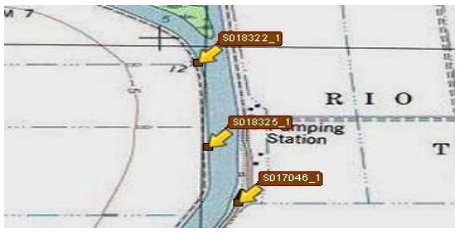
   (a) Then you can click on the "Map It" link to take you to a map which will show you where the particular POD is located that is associated with that particular Application ID or User ID.

   (b) Here you can see all the nearby PODs and also identify the particular Application ID or User ID associated with any of your other PODs.

5. **(Optional) Advanced Tip:** Once you are looking at the map, you can click on the button circled below at the top of the map interface:

   (a) After you click on that button, you will be able to draw a square with your mouse around any POD or group of PODs you are interested in.

   (b) After you draw that square, then all of the PODs within that square will now have a yellow arrow next to them, which looks like this:



(c) You can then click on those yellow arrows and see the various information associated with those PODs, i.e., the name of the primary owners, etc. This can be helpful to get the lay of the land and help identify your various PODs.

6. **WARNING:** in our experience the SWRCB's website frequently becomes non-responsive. For example, there are times when this advanced tip, and other interactions with the mapping interface, including merely launching the mapping interface from the "Map It" link discussed above, simply do not work and either hang or produce an "application error." In those situations, retracing our steps sometimes cures the problem, as does waiting and trying again later. Rebooting our computers also tends to cure the problem. Hopefully this is something on our end and your own interactions with the website will prove to be less troublesome.

Attachment "C"

SAMPLE INSERTION LANGUAGE
FOR SUPPLEMENTAL WATER DIVERSION AND USE REPORTS

(Modify the insertions as necessary to fit your situation)

Section 5f (suggested insertion):

The cost of acquisition, installation, maintenance (including vandalism and theft deterrence and remediation), collection and compilation of data from measuring devices is not locally cost-effective because the value of the local benefits of installing and maintaining meters is not greater than the value of the local cost of implementing that measure. There are no apparent grants available to otherwise cover costs of water meters and related actions. Moreover, the unique hydrogeological characteristics of the Delta (e.g., tides, seepage, interconnected channels, etc.) indicate that meters are not the best available technology in this region. Any water diverted in the Delta which is not consumed or evaporated is recycled to the Delta Pool for reuse. As further support for the conclusion that measuring devices are not locally cost-effective reference is made to the documentation on file with the SWRCB attesting to the lack of such cost-effectiveness submitted in connection with the SWRCB's July 21, 2011 "Water Measurement Workshop" and the SWRCB's follow-up solicitation of comments (due November 18, 2011) re the same.

Section 5g (suggested insertion, select one of the following):

For Central and South Delta, Zone 12, insert the following:

Used ITRC REPORT 03-001 ETc Table for Irrigation Scheduling and Design, Zone 12 for Surface Irrigation, Typical year adjusted for the reporting year using CIMIS monthly ETo for Manteca. For crops not covered by the ITRC report ETc was determined using ratios to alfalfa from Table A-5, DWR Bulletin 168, October 1978.

For North or West Delta, Zone 14, insert the following:

Used ITRC REPORT 03-001 ETc Table for Irrigation Scheduling and Design, Zone 14 for Surface Irrigation, Typical year adjusted for the reporting year using CIMIS monthly ETo for Lodi West. For crops not covered by the ITRC report ETc was determined using ratios to alfalfa from Table A-5, DWR Bulletin 168, October 1978.

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Section 8a (suggested insertion) (Note: modify the first sentence as appropriate):

Good water management and farming practices, lined ditches, pipelines, drip irrigation, sprinkler irrigation, low energy spray irrigation, cover crops, mulching, laser leveling. Any diverted water which is not consumed or evaporated is recycled to the Delta Pool. Credit is claimed for these water conservation efforts under section 1011 of the Water Code. A specific amount conserved is not reported due to the lack of a present method to precisely quantify that amount.

Section 11a (suggested insertions):

The amount diverted is a multiple of the reported use amount, plus a factor to account for field flooding (if any). The multiple is to account for additional water that is diverted but not consumed or evaporated.

(Note: add the following insertion to the above insertion if you had multiple PODs deliver water to the same field or parcel):

The point of diversion that is the subject of this report is one of _____ (*insert number)* points of diversion that provided water to an approximate _____ acre field/parcel. For purposes of these reports, the amount of acreage irrigated, water used and water diverted associated with each of those points of diversion has been evenly split along them.

(End of Sample Insertion Language)

Attachment “D”

A FULLY FILLED OUT SAMPLE ONLINE REPORT

Central & South Delta Water Agency's
Fully Filled Out Sample Online Report

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

eWRIMS
Report Management System

SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE FOR 2012

Water Right ID	Primary Owner
[redacted]	[redacted]

Summary Information

Below is a summary of the information pertaining to this Statement.

OWNER(S) OF RECORD
[redacted]

PRIMARY OWNER	ADDRESS	PHONE
[redacted]	[redacted]	[redacted]

AGENT	ADDRESS	PHONE
[redacted]	[redacted]	[redacted]

NAME OF SOURCE OF WATER	POD PARCEL NO.	COUNTY LOCATION
Mokelumne River		San Joaquin

NAME OF DIVERSION WORKS	DIVERSION WITHIN

DEADLINE
This statement is due by July 1, 2013.

Is the primary owner information shown above correct? (•) **Yes** ( ) **No**
Is the agent information shown above correct? (•) **Yes** ( ) **No**

If the owner or agent information shown above is wrong or missing, click here to correct. Otherwise, please use the continue button to begin completing the online Supplemental Statement of Water Diversion and Use.

Please allow up to four weeks for owner, address, or agent changes to be reflected on the Summary Information shown above.

Back Continue

Save Without Submitting

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

eWRIMS
Report Management System

SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE FOR 2012

Water Right ID [redacted] **Primary Owner** [redacted]

Please answer all the questions. When finished, click "Continue" to go to the next page.

Part 1 of 7

PLEASE READ GENERAL INFORMATION

1. WATER IS DIVERTED AND USED UNDER (select all that apply) ?

- [x] Riparian claim
- [x] Pre-1914 claim
- [ ] Pueblo
- [ ] Court Decree No.:
- [x] Other (explain): overlying & statutory rights (& contract right if applicab

Also add "contract right" if applicable.

2. YEAR OF FIRST USE

If this field is blank, please enter the first year water was diverted from the point of diversion.

1800

3. MAXIMUM RATE OF DIVERSION FOR EACH MONTH (IF AVAILABLE)

If the rate of diversion data is not available, you may skip this portion of the report by clicking the "Continue" button below.

3a. The rate of diversion of water for each month entered in the table below is shown in units of: ?

- ( ) Gallons per minute (gpm)
- ( ) Gallons per day (gpd)
- ( ) Cubic feet per second (cfs)

3b. Enter numerals only. For months where no water was diverted, enter 0 (zero). ?

January	
February	
March	
April	
May	
June	

July	
August	
September	
October	
November	
December	

Back Continue

Save Without Submitting

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

eWRIMS
Report Management System

SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE FOR 2012

Water Right ID [redacted] **Primary Owner** [redacted]

Part 2 of 7

4. AMOUNT OF WATER DIVERTED AND USED

Note: Please report only the amounts diverted and used **under this supplemental statement only**. Do not report water diverted under other water rights, groundwater, or water supplied or purchased from others.

4a. Choose the unit:

○ Gallons ◉ Acre-feet (AF) ?

4b. ☐ Check this box if the amount of water used is the same as the amount diverted. Do not check this box if your use of water is non-consumptive or if you have no use of water. If no use, enter 0 (zero). ?

4c. Enter numerals only (no commas or letters). If no water was diverted or used, enter 0 (zero).

	Amount directly diverted and/or collected to storage	Amount used ?
January	74.66	15.41
February	13.74	8.58
March	15.2	9.5
April	16.6	10.38
May	35.2	22.0
June	98.82	61.76
July	107.31	67.07
August	77.38	48.36
September	6.3	3.94
October	7.79	4.87
November	11.32	7.08
December	13.05	8.16
Total	477.37	267.11

4d. If the total water diverted or used above is 0, please provide an explanation. Pre-1914 claim holders may lose their rights for

non-continuous use.

(Note: Input is limited to 4000 characters.)

Back Continue

Save Without Submitting

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

eWRIMS
Report Management System

SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE FOR 2012

Water Right ID [redacted] **Primary Owner** [redacted]

Part 3 of 7

5. WATER DIVERSION MEASUREMENT

This section is only required for reporting years 2012 and later.

5a. Measurement

- ○ Water directly diverted and/or diverted to storage was measured. **Please answer the questions in Section 1.**
- ◉ Direct measurement using a device listed in Section 1 is "not locally cost effective" for water directly diverted and/or diverted to storage. **Please answer the questions in Section 2.**

Section 1

5b. Indicate the types of measuring devices used (check all that apply):

- ☐ Acoustic Meter
- ☐ Pressure transducer and storage capacity curve
- ☐ Propeller Meter
- ☐ Sluice/Slide Gate
- ☐ Staff gage and floodable acreage
- ☐ Staff gage and storage capacity curve
- ☐ Weir
- ☐ Other

5c. Indicate any additional technology used (check all that apply and explain below):

- ☐ Data Logger
- ☐ Flow Totalizer
- ☐ Telemetry
- ☐ Other

5d. Indicate who installed your measuring device(s) (check all that apply):

- [ ] Hydrographer
- [ ] Licensed Civil or Agricultural Engineer
- [ ] Representative using United States Geological Survey (USGS) techniques
- [ ] Representative using manufacturer's recommendations
- [ ] Representative who is American Water Works Association (AWWA)-certified
- [ ] Other/Unknown

5e. List the make, model number, and last calibration date of your measuring device(s), if available:

Section 2

5f. Indicate why you concluded that direct measurement using a device listed in Section 1 is "not locally cost effective" (check all that apply):

- [ ] Diversion is small or minimal in size
- [ ] Diversions are infrequent
- [ ] No power at diversion point
- [x] Other

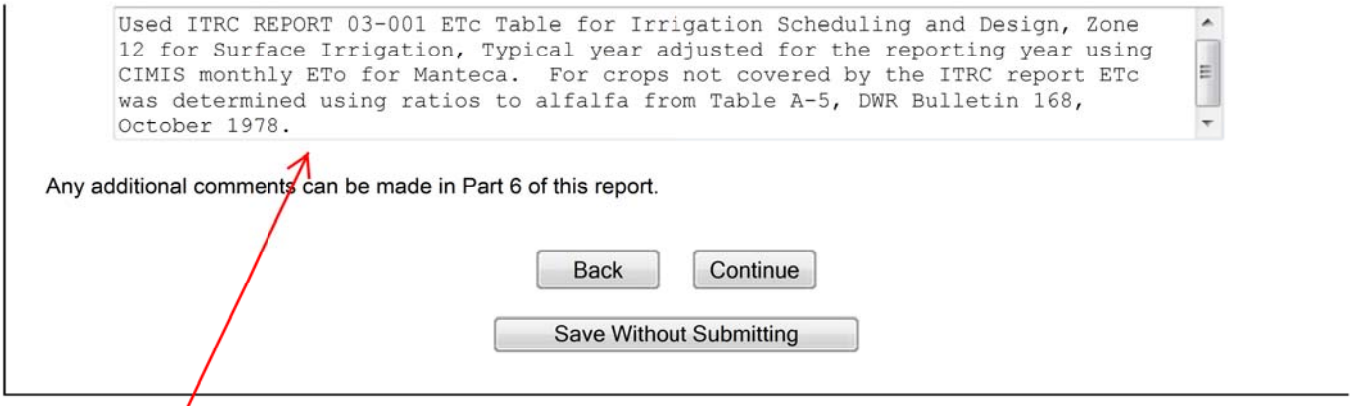
Explain your checked items below and demonstrate why use of devices and technologies listed in Section 1 are "not locally cost effective":

[NOTE TO VIEWER OF THIS SAMPLE REPORT: THE ENTIRE INSERTION DOES NOT SHOW UP IN THIS VIEW] The cost of acquisition, installation, maintenance (including vandalism and theft deterrence and remediation), collection and compilation of data from measuring devices is not locally cost-effective because the value of the local benefits of installing and maintaining meters is not greater than

5g. Indicate method(s) used as an alternative to direct measurement in order to complete this report (check all that apply):

- [ ] Bucket and stopwatch
- [x] Crop duty estimates/consumptive use estimates
- [ ] Electricity records dedicated to the pump
- [ ] Engine fuel use or hour meter records
- [ ] Float and stopwatch
- [ ] Modeled/estimated flows
- [ ] Other water duty estimates other than for crops
- [ ] Pipe/trajectory method
- [ ] Power generation estimates
- [ ] Remote satellite imaging
- [ ] Total facility electricity records minus estimated non-pump electricity
- [ ] Other

Explain your checked items below:



Note: the above is the insertion for Central & South Delta, Zone 12. The insertion for North & West Delta, Zone 14 is slightly different and is the following:

"Used ITRC REPORT 03-001 ETc Table for Irrigation Scheduling and Design, Zone 14 for Surface Irrigation, Typical year adjusted for the reporting year using CIMIS monthly ETo for Lodi West. For crops not covered by the ITRC report ETc was determined using ratios to alfalfa from Table A-5, DWR Bulletin 168, October 1978."

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

eWRIMS
Report Management System

SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE FOR 2012

Water Right ID [redacted] **Primary Owner** [redacted]

Part 4 of 7

6. PURPOSE OF USE
(Note: If water was not used, please specify "N/A" under Other.)

Irrigation (Specify number of acres irrigated)

100

Stockwatering (Specify number and type of animals)

Domestic (Specify number of persons served, lawn/garden area, etc.)

Other (specify)

7. CHANGES IN METHOD OF DIVERSION

Describe any changes in your project since your previous statement was filed. (New pump, enlarged diversion dam, location of diversion, etc.)

(Note: Input is limited to 4000 characters.)

Back Continue

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CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

eWRIMS
Report Management System

SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE FOR 2012

Water Right ID [redacted] **Primary Owner** [redacted]

Part 5 of 7

Please answer only those questions below which are applicable to your project.

8. CONSERVATION OF WATER

a. Are you now employing water conservation efforts?

(•) Yes ( ) No

If YES, please describe any water conservation efforts you have initiated. (Note: Input is limited to 4000 characters.)

[NOTE TO VIEWER OF THIS SAMPLE REPORT: THE ENTIRE INSERTION DOES NOT SHOW UP IN THIS VIEW] Good water management and farming practices, lined ditches, pipelines, drip irrigation, sprinkler irrigation, low energy spray irrigation, cover crops, mulching, laser leveling. Any diverted water which is not consumed or evaporated is recycled to the Delta Pool. Credit is claimed for

b. If you are claiming credit for water conservation under section 1011 of the Water Code for your claimed pre-1914 appropriative right, please show the amount of water conserved in acre-feet:

Acre-Feet

I have data to support the above surface water use reductions due to conservation efforts.

( ) Yes ( ) No

9. WATER QUALITY AND WASTEWATER RECLAMATION

a. Are you now or have you been using reclaimed water from a wastewater treatment facility, desalination facility, or water polluted by waste to a degree which unreasonably affects such water for other beneficial causes?

( ) Yes (•) No

b. If you are claiming credit due to the substitution of reclaimed water, desalinated water or polluted water in lieu of a claimed pre-1914 appropriative right under section 1010 of the Water Code, please show amounts of reduced diversions and amounts of substitute water supply used:

Amount of reduced diversion:

State the type of substitute water supply:

Amount of substitute water supply used:

I have data to support the above surface water use reductions due to the use of a substitute water supply.

Yes No

10. CONJUNCTIVE USE OF SURFACE WATER AND GROUNDWATER

a. Are you now using groundwater in lieu of surface water?

Yes No

b. If you are claiming credit due to the substitution of groundwater for a claimed pre-1914 appropriative right under section 1011.5 of the Water Code, please show the amounts of groundwater used:

I have data to support the above surface water use reductions due to the use of groundwater.

Yes No

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CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

eWRIMS
Report Management System

SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE FOR 2012

Water Right ID [redacted] **Primary Owner** [redacted]

Part 6 of 7

11. ADDITIONAL COMMENTS AND ATTACHMENTS

11a. Please add additional comments.

The amount diverted is a multiple of the reported use amount, plus a factor to account for field flooding (if any). The multiple is to account for additional water that is diverted but not consumed or evaporated.

Also add the following insertion if applicable:
"The point of diversion that is the subject of this report is one of _____ (*insert number)* points of diversion that provided water to an approximate _____ acre field/parcel. For purposes of these reports, the amount of acreage irrigated, water used and water diverted associated with each of those points of diversion has been evenly split along them."

(Note: Input is limited to 4000 characters.)

Attach a File

Maximum file size: 75 MB
Preferred file formats: Microsoft Office Excel, Microsoft Office Word, JPEG, PDF or CSV

File Name Browse...

Description

Upload Attachment

Attached Files

Select	File Name	Description	Size
No Attachments			

Delete Selected Attachments

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CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

eWRIMS
Report Management System

SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE FOR 2012

Water Right ID [redacted] **Primary Owner** [redacted]

Part 7 of 7

Please provide the contact information of the person completing this form:

Fields marked with * are required.

First Name*	John
Last Name*	Smith
Phone Number	
Email	
Relation to the water right	Owner

I understand that it may be necessary to document the water savings claimed in Part 5, if credit under Water Code sections 1010 and 1011 is sought in the future.

I declare under penalty of perjury that the information in this report is true to the best of my knowledge and belief:

☑ I read the above and agree.*

You will be able to print a copy of this report after you Submit or Save Without Submitting.

Back Submit

Save Without Submitting

Central & South Delta Water Agency's
Fully Filled Out Sample Online Report

[DRAFT VERSION]

SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE FOR 2012

Primary Owner: [redacted]
Statement Number: [redacted]

1. Water is used under	Riparian Claim Pre-1914 Claim Other: overlying & statutory rights (& contract right if applicable)
2. Year of first use	1800

3-4. Maximum Rate of Diversion for each Month and Amount of Water Diverted and Used

Month	Rate of diversion	Amount directly diverted or collected to storage (Acre-Feet)	Amount beneficially used (Acre-Feet)
January		74.66	15.41
February		13.74	8.58
March		15.2	9.5
April		16.6	10.38
May		35.2	22
June		98.82	61.76
July		107.31	67.07
August		77.38	48.36
September		6.3	3.94
October		7.79	4.87
November		11.32	7.08
December		13.05	8.16
Total		477.37	267.11
Comments			

5. Water Diversion Measurement

a.	Measurement	Direct measurement using a device listed in Section 1 is "not locally cost effective" for water directly diverted and/or diverted to storage
b.	Types of measuring devices used	
c.	Additional technology used	
	Description of additional technology used	
d.	Who installed your measuring device(s)	
e.	Make, model number, and last calibration date of your measuring device(s)	
	Why direct	

	measurement using a device listed in Section 1 is "not locally cost effective"	Other
f.	Explanation of why use of devices and technologies listed in Section 1 are "not locally cost effective"	The cost of acquisition, installation, maintenance (including vandalism and theft deterrence and remediation), collection and compilation of data from measuring devices is not locally cost-effective because the value of the local benefits of installing and maintaining meters is not greater than the value of the local cost of implementing that measure. There are no apparent grants available to otherwise cover costs of water meters and related actions. Moreover, the unique hydrogeological characteristics of the Delta (e.g., tides, seepage, interconnected channels, etc.) indicate that meters are not the best available technology in this region. Any water diverted in the Delta which is not consumed or evaporated is recycled to the Delta Pool for reuse. As further support for the conclusion that measuring devices are not locally cost-effective reference is made to the documentation on file with the SWRCB attesting to the lack of such cost-effectiveness submitted in connection with the SWRCB's July 21, 2011 "Water Measurement Workshop" and the SWRCB's follow-up solicitation of comments (due November 18, 2011) re the same.
g.	Method(s) used as an alternative to direct measurement	Crop duty estimates/consumptive use estimates
g.	Explanation of method(s) used as an alternative to direct measurement	Used ITRC REPORT 03-001 ETc Table for Irrigation Scheduling and Design, Zone 12 for Surface Irrigation, Typical year adjusted for the reporting year using CIMIS monthly ETo for Manteca. For crops not covered by the ITRC report ETc was determined using ratios to alfalfa from Table A-5, DWR Bulletin 168, October 1978.

Note: this is the insertion for Central & South Delta, Zone 12. The insertion for North & West Delta, Zone 14 is slightly different.

6. Purpose of Use	
Irrigation	100 Acres

7. Changes in Method of Diversion

8. Conservation of Water		
a.	Are you now employing water conservation efforts?	Yes
a.	Describe any water conservation efforts you have initiated	Good water management and farming practices, lined ditches, pipelines, drip irrigation, sprinkler irrigation, low energy spray irrigation, cover crops, mulching, laser leveling. Any diverted water which is not consumed or evaporated is recycled to the Delta Pool. Credit is claimed for these water conservation efforts under section 1011 of the Water Code. A specific amount conserved is not reported due to the lack of a present method to precisely quantify that amount.
b.	Amount of water conserved	Acre-Feet
b.	I have data to support the above surface water use reductions due to conservation efforts.	

9. Water Quality and Wastewater Reclamation	

a.	Are you now or have you been using reclaimed water from a wastewater treatment facility, desalination facility, or water polluted by waste to a degree which unreasonably affects such water for other beneficial causes?	No
b.	Amount of reduced diversion	
	Type of substitute water supply	
	Amount of substitute water supply used	
	I have data to support the above surface water use reductions due to the use of a substitute water supply	

10. Conjuctive Use of Surface Water and Groundwater		
a.	Are you now using groundwater in lieu of surface water?	No
b.	Amount of groundwater used	
	I have data to support the above surface water use reductions due to the use of groundwater.	

11a. Additional Remarks
The amount diverted is a multiple of the reported use amount, plus a factor to account for field flooding (if any). The multiple is to account for additional water that is diverted but not consumed or evaporated.

Attachments		
File Name	**Description**	**Size**
No Attachments		

Contact Information of the Person Submitting the Form	
First Name	John
Last Name	Smith
Relation to Water Right	Owner
I read the above and agree	Yes

Also add the following insertion to "11a. Additional Remarks" if applicable:
"The point of diversion that is the subject of this report is one of _____ (*insert number)* points of diversion that provided water to an approximate _____ acre field/parcel. For purposes of these reports, the amount of acreage irrigated, water used and water diverted associated with each of those points of diversion has been evenly split along them."

Attachment "E"

EXPLANATION OF THE UNDERLYING DATA AND METHODOLOGY IN THE SPREADSHEETS

The spreadsheets start with the data from the California Crop and Soil Evapotranspiration ITRC Report 03-001 January 2003 prepared by the Irrigation Training and Research Center, Cal Poly website www.itrc.org. The data divides the state into zones.

Zone 12 and Zone 14 were picked as representative of the Delta. Zone 12 for the Central and Southern Delta and Zone 14 for the Northern and Western Delta. The ETc tables for Irrigation Scheduling and Design, surface irrigation for the typical year were picked as the baselines for each of Zone 12 and Zone 14.

The actual measured CIMIS ETo for calendar years 2010, 2011 and 2012 were then used to adjust the Zone 12 and Zone 14 IRTC tables to create new ETc tables for the calendar years 2010, 2011 and 2012. The CIMIS ETo data for Manteca was used for the Zone 12 adjustment and the CIMIS ETo data for Lodi West was used for the Zone 14 adjustment.

Additional ETc data was added for double cropping, native vegetation, riparian vegetation and water surface and other crops, using ratios from Table A-5 1976-77 Estimated Crop ET Values for the Delta Service Area from the Sacramento Valley Water Use Survey 1977, DWR Bulletin 168 – October 1978. Alfalfa was used as the base.

If you want to access the baseline data that went into the spreadsheets you can go to this website: www.itrc.org and select the following:

"Online Databases" (top bar);
"Evapotranspiration Data";
"Monthly ETc used for Irrigation Scheduling and Design";
Scroll down and select "Typical" under "Surface Irrigation";
Click on Zone 12 or Zone 14.

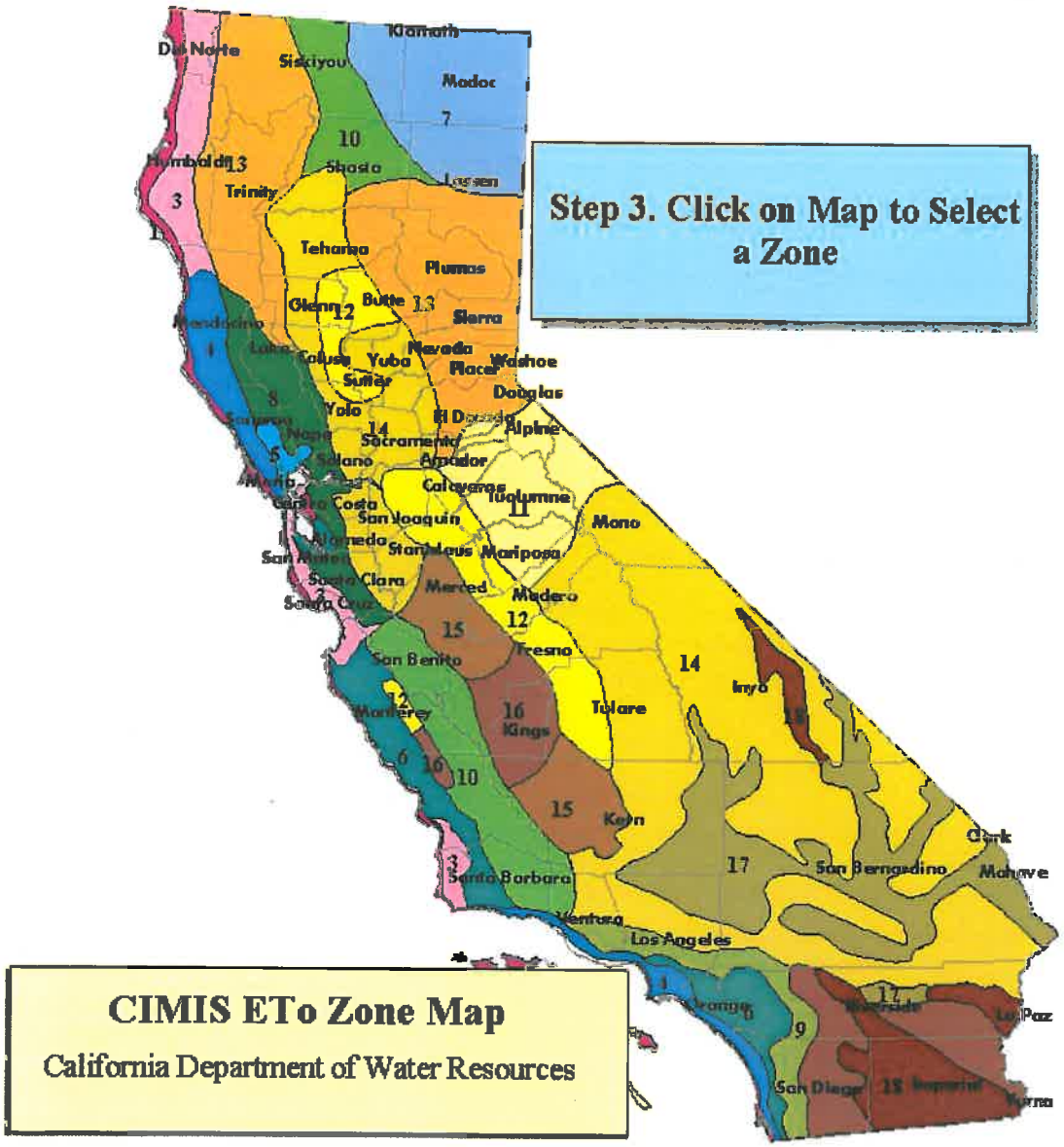
Those Excel tables for Zone 12 and Zone 14 are the basis for the computations in the spreadsheets.

The yearly data for the Manteca station for Zone 12 and for the Lodi West station for Zone 14, can be viewed by going to this website: http://wwwcimis.water.ca.gov/cimis/data.jsp You must register with the site before you can access the monthly data. Once you are registered, you can Login by clicking on "monthly" located under "Registered User" on the left side bar.

Pick the measuring station - #70 Manteca and the period for which you desire information. For 2010 it would be January 2010 ending December 2010. You can do the same for 2011 and 2012. #166 is Lodi West.

The monthly ETo, as well as other data for each month of the year at that measuring station, will be displayed in a table. The ETo for the specific year (2010, 2011 and 2012) was used to adjust the ITRC Typical Year ETc.

The following pages contain copies of the above-referenced documents.


Step 3. Click on Map to Select a Zone
CIMIS ETo Zone Map
California Department of Water Resources
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Lassen
Tehama
Plumas
Glenn
Butte
Sierra
Mendocino
Lake
Colusa
Yuba
Nevada
Placer
Washoe
Sutter
Douglas
Yolo
El Dorado
Alpine
Napa
Sacramento
Solano
Amador
Marin
Calaveras
Tuolumne
Contra Costa
San Joaquin
Mono
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
Fresno
San Benito
Inyo
Tulare
Monterey
Kings
Kern
Clark
San Bernardino
Mohave
Santa Barbara
Ventura
Los Angeles
Orange
Riverside
La Paz
San Diego
Imperial
Yuma

ETc Table for Irrigation Scheduling and Design
Zone 12 Monthly Evapotranspiration
Surface Irrigation Typical Year
IRRIGATION TRAINING AND RESEARCH CENTER, California Polytechnic State University, San Luis Obispo
Table does not include adjustments for bare spots and reduced vigor

	1997 (Typical Year) January inches	February inches	March inches	April inches	May inches	June inches	July inches		August inches	September inches	October inches	November inches	December inches	Annual inches
Precipitation	6.81	0.27	1.34	0.22	0.21	0.2	0.13	Precipitation	0.34	0.07	0.64	4.15	2.12	16.5
Grass Reference ETo	0.73	2.12	4.01	5.56	7.32	7.58	7.98	Grass Reference ETo	6.76	5.39	3.47	1.05	0.99	52.96
Apple, Pear, Cherry, Plum and Prune	0.84	0.92	1.56	2.37	6.29	7.08	7.65	Apple, Pear, Cherry, Plum and Prune	6.47	4.85	2.25	0.45	0.95	41.68
Apples, Plums, Cherries etc w/covercrop	0.84	2.37	4.09	4.72	7.6	8.94	9.22	Apples, Plums, Cherries etc w/covercrop	7.64	5.97	3.44	0.85	1.19	56.88
Peach, Nectarine and Apricots	0.84	0.92	1.58	2.17	6.11	7.08	7.54	Peach, Nectarine and Apricots	6.45	4.76	2.37	0.46	0.95	41.21
Immature Peaches, Nectarines, etc	0.84	0.92	1.34	1.19	3.84	4.28	4.65	Immature Peaches, Nectarines, etc	4.1	2.86	1.67	0.46	0.95	27.11
Almonds	0.84	0.98	1.82	2.97	6.51	6.81	7.21	Almonds	6.29	4.71	2.95	0.54	0.95	42.59
Almonds w/covercrop	0.84	2.13	3.51	4.68	7.52	8.16	8.33	Almonds w/covercrop	7.24	5.37	3.42	0.79	1.17	53.17
Immature Almonds	0.84	0.96	1.56	2.02	4.68	5.11	5.1	Immature Almonds	4.69	3.33	2.41	0.49	0.95	32.14
Walnuts	0.83	0.92	1.71	1.78	5.76	8.48	8.72	Walnuts	7.36	5.24	2.87	0.57	0.95	45.18
Pistachio	0.84	0.92	1.11	1.14	2.62	6	8.27	Pistachio	7.09	5.34	2.73	0.53	0.95	37.53
Pistachio w/ covercrop	0.84	2.14	3.46	3.7	5.53	7.5	9.11	Pistachio w/ covercrop	7.79	6.05	3.51	0.99	1.17	51.79
Immature Pistachio	0.84	0.92	1.11	0.69	1.54	3.95	5.75	Immature Pistachio	4.95	3.71	2.02	0.52	0.95	26.94
Misc. Deciduous	0.84	0.92	1.56	2.28	5.94	6.84	7.27	Misc. Deciduous	6.28	4.56	2.39	0.45	0.95	40.29
Grain and Grain Hay	0.87	2.25	4.42	6.13	3.86	0.22	0.15	Grain and Grain Hay	0.34	0.07	0.63	0.49	1.03	20.46
Rice	0.86	0.91	1.11	0.75	7.13	9.19	9.74	Rice	8.22	2.53	0.63	0.49	0.95	42.49
Cotton	0.86	0.91	1.1	1	1.71	4.68	8.44	Cotton	7.4	5.19	1.63	0.49	0.95	34.37
Safflower and Sunflower	0.86	1.17	2.34	5.21	8.41	7.19	0.94	Safflower and Sunflower	0.34	0.07	0.63	0.49	0.95	28.61
Corn and Grain Sorghum	0.86	0.91	2.15	1.39	2.57	6.97	8.13	Corn and Grain Sorghum	5.51	0.49	0.63	0.49	0.95	31.04
Misc. field crops	0.86	0.91	2.15	1.39	2.55	7.12	7.74	Misc. field crops	2.92	0.07	0.63	0.49	0.95	27.77
Alfalfa Hay and Clover	0.86	2.25	4.23	5.16	6.68	7.02	7.19	Alfalfa Hay and Clover	5.97	4.91	2.15	0.87	1.17	48.46
Pasture and Misc. Grasses	0.86	1.43	2.84	4.61	7.25	7.53	7.87	Pasture and Misc. Grasses	6.67	5.33	3.07	0.8	0.95	49.2
Small Vegetables	0.87	1.55	3.92	5.95	1.91	0.21	0.15	Small Vegetables	1.44	1.54	1.59	0.76	1.15	21.04
Tomatoes and Peppers	0.86	0.91	1.66	0.78	3.77	8.1	7.01	Tomatoes and Peppers	0.91	0.07	0.63	0.49	0.95	26.14
Potatoes, Sugar beets, Turnip etc..	0.86	1.21	2.74	5.88	8.15	8.45	7.7	Potatoes, Sugar beets, Turnip etc..	0.44	0.07	0.63	0.49	0.95	37.57
Melons, Squash, and Cucumbers	0.86	0.91	1.1	0.22	1	1.48	5.06	Melons, Squash, and Cucumbers	5.61	1.58	0.63	0.49	0.95	19.89
Onions and Garlic	0.87	2.08	3.83	5	5.46	1.15	0.18	Onions and Garlic	0.34	0.07	0.63	1.03	1.03	21.67
Strawberries	0.86	0.91	2.15	1.39	2.55	7.12	7.74	Strawberries	2.92	0.07	0.63	0.49	0.95	27.77
Flowers, Nursery and Christmas Tree	0.84	0.92	1.56	2.28	5.94	6.84	7.27	Flowers, Nursery and Christmas Tree	6.28	4.56	2.39	0.45	0.95	40.29
Citrus (no ground cover)	0.84	2.22	3.73	4.24	5.23	5.36	5.62	Citrus (no ground cover)	4.98	3.69	2.87	0.85	1.18	40.8
Immature Citrus	0.85	1.56	2.38	2.52	3.39	3.24	3.36	Immature Citrus	3.28	2.4	1.82	0.67	1.09	26.55
Avocado	0.84	0.92	1.56	2.28	5.94	6.84	7.27	Avocado	6.28	4.56	2.39	0.45	0.95	40.29
Misc Subtropical	0.84	0.92	1.56	2.28	5.94	6.84	7.27	Misc Subtropical	6.28	4.56	2.39	0.45	0.95	40.29
Grape Vines with 80% canopy	0.84	0.92	1.27	1.14	3.52	5.9	6.38	Grape Vines with 80% canopy	4.91	3.12	0.63	0.46	0.95	30.05
Grape Vines with cover crop (80% canopy)	0.85	1.96	3.1	3.08	5.38	6.88	7.15	Grape Vines with cover crop (80% canopy)	5.8	3.6	2.35	0.74	1.15	42.04
Immature Grapes Vines with 50% canopy	0.85	0.91	1.21	0.82	2.42	4.3	4.46	Immature Grapes Vines with 50% canopy	3.73	1.87	0.63	0.47	0.95	22.63
Idle	0.87	0.9	1.11	0.22	0.22	0.21	0.15	Idle	0.34	0.07	0.63	0.5	0.96	6.18

ETc Table for Irrigation Scheduling and Design
Zone 14 Monthly Evapotranspiration
Surface Irrigation Typical Year
IRRIGATION TRAINING AND RESEARCH CENTER, California Polytechnic State University, San Luis Obispo
Table does not include adjustments for bare spots and reduced vigor

1997 (Typical Year)

	January inches	February inches	March inches	April inches	May inches	June inches	July inches		August inches	September inches	October inches	November inches	December inches	Annual inches
Precipitation	8.22	0.28	0.81	0.3	0.44	0.35	0.09	Precipitation	0.31	0.31	0.82	4.92	2.74	19.59
Grass Reference ETo	0.73	2.36	4.13	5.82	7.62	8	8.36	Grass Reference ETo	7.11	5.82	3.86	1.25	1.14	56.22
Apple, Pear, Cherry, Plum and Prune	0.86	0.92	1.22	2.58	6.85	7.83	8.18	Apple, Pear, Cherry, Plum and Prune	6.94	5.45	2.96	0.6	1.06	45.45
Apples, Plums, Cherries etc w/covercrop	0.88	2.56	3.87	4.91	8.21	9.5	9.78	Apples, Plums, Cherries etc w/covercrop	8.29	6.66	4.1	1.09	1.42	61.27
Peach, Nectarine and Apricots	0.86	0.92	1.24	2.37	6.68	7.93	7.99	Peach, Nectarine and Apricots	7	5.47	2.74	0.61	1.06	44.86
Immature Peaches, Nectarines, etc	0.86	0.93	1	1.34	4.24	5.04	5.11	Immature Peaches, Nectarines, etc	4.55	3.41	1.88	0.61	1.06	30.03
Almonds	0.86	0.92	1.45	3.16	7.03	7.72	7.72	Almonds	6.63	5.21	2.85	0.6	1.06	45.19
Almonds w/covercrop	0.88	2.26	3.31	4.84	8.06	8.9	9.03	Almonds w/covercrop	7.75	5.96	3.53	1.01	1.37	56.91
Immature Almonds	0.86	0.93	1.2	2.29	5.23	5.7	5.82	Immature Almonds	5.09	3.79	2.06	0.61	1.06	34.62
Walnuts	0.86	0.92	1.38	1.94	6.3	9.13	9.35	Walnuts	8.05	5.98	3.22	0.71	1.06	48.91
Pistachio	0.86	0.92	0.76	1.27	2.97	6.53	8.93	Pistachio	7.49	5.89	3.2	0.66	1.06	40.52
Pistachio w/ covercrop	0.88	2.26	3.13	3.99	5.9	8.22	9.65	Pistachio w/ covercrop	8.28	6.76	4.14	1.15	1.37	55.75
Immature Pistachio	0.86	0.93	0.76	0.79	1.87	4.43	6.19	Immature Pistachio	5.31	4.22	2.43	0.66	1.06	29.49
Misc. Deciduous	0.86	0.92	1.22	2.49	6.54	7.49	7.77	Misc. Deciduous	6.76	5.34	2.66	0.6	1.06	43.71
Grain and Grain Hay	0.88	2.52	4.55	6.43	4.14	0.38	0.1	Grain and Grain Hay	0.33	0.31	0.81	0.64	1.15	22.24
Rice	0.86	0.92	0.76	0.89	7.49	9.76	10.35	Rice	8.76	3.23	0.81	0.64	1.06	45.52
Cotton	0.86	0.92	0.76	1.09	1.98	5.19	8.91	Cotton	7.77	5.95	2.26	0.64	1.05	37.38
Safflower and Sunflower	0.88	1.22	2.17	5.52	8.8	8.21	1.28	Safflower and Sunflower	0.33	0.31	0.81	0.64	1.06	31.21
Corn and Grain Sorghum	0.86	0.92	1.75	1.6	2.84	7.55	8.66	Corn and Grain Sorghum	6.18	0.83	0.81	0.64	1.05	33.7
Misc. field crops	0.86	0.92	1.75	1.6	2.87	7.63	8.26	Misc. field crops	3	0.31	0.81	0.64	1.05	29.71
Alfalfa Hay and Clover	0.88	2.5	4.29	5.23	6.99	7.52	7.51	Alfalfa Hay and Clover	6.29	5.37	2.44	1.07	1.35	51.44
Pasture and Misc. Grasses	0.86	1.54	2.69	4.89	7.59	8.09	8.36	Pasture and Misc. Grasses	7.25	5.75	3.28	0.92	1.06	52.27
Small Vegetables	0.88	1.65	4.09	6.28	2.29	0.36	0.1	Small Vegetables	1.45	1.91	1.75	1	1.33	23.07
Tomatoes and Peppers	0.86	0.92	1.5	1.11	4.05	8.73	7.24	Tomatoes and Peppers	0.8	0.31	0.81	0.64	1.05	28.03
Potatoes, Sugar beets, Turnip etc..	0.86	1.27	2.69	6.19	8.55	8.89	7.75	Potatoes, Sugar beets, Turnip etc..	0.4	0.31	0.81	0.64	1.05	39.41
Melons, Squash, and Cucumbers	0.86	0.92	0.76	0.31	1.23	1.66	5.33	Melons, Squash, and Cucumbers	5.98	1.92	0.81	0.64	1.05	21.47
Onions and Garlic	0.88	2.3	3.78	5.33	5.29	1	0.11	Onions and Garlic	0.33	0.31	0.81	1.25	1.15	22.52
Strawberries	0.86	0.92	1.75	1.6	2.87	7.63	8.26	Strawberries	3	0.31	0.81	0.64	1.05	29.71
Flowers, Nursery and Christmas Tree	0.86	0.92	1.22	2.49	6.54	7.49	7.77	Flowers, Nursery and Christmas Tree	6.76	5.34	2.66	0.6	1.06	43.71
Citrus (no ground cover)	0.88	2.36	3.56	4.55	5.81	6.09	6.08	Citrus (no ground cover)	5.33	4.33	3.46	1.12	1.4	44.98
Immature Citrus	0.88	1.6	2.23	2.83	3.61	3.9	3.73	Immature Citrus	3.51	2.78	2.54	0.88	1.24	29.73
Avocado	0.86	0.92	1.22	2.49	6.54	7.49	7.77	Avocado	6.76	5.34	2.66	0.6	1.06	43.71
Misc Subtropical	0.86	0.92	1.22	2.49	6.54	7.49	7.77	Misc Subtropical	6.76	5.34	2.66	0.6	1.06	43.71
Grape Vines with 80% canopy	0.86	0.93	0.94	1.28	3.83	6.58	6.78	Grape Vines with 80% canopy	5.38	3.27	0.83	0.61	1.06	32.34
Grape Vines with cover crop (80% canopy)	0.88	2.04	2.92	3.2	5.89	7.49	7.53	Grape Vines with cover crop (80% canopy)	6.28	4.06	2.41	0.8	1.33	44.82
Immature Grapes Vines with 50% canopy	0.86	0.93	0.88	0.94	2.89	4.9	4.74	Immature Grapes Vines with 50% canopy	4.13	2.25	0.83	0.61	1.05	25.01
Idle	0.86	0.92	0.76	0.31	0.44	0.36	0.1	Idle	0.33	0.31	0.81	0.65	1.05	6.9

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Jan 2010	0.73	3.30	121	10.5	54.5	41.4	47.8	98	80	93	45.7	4.4 K	49.6
Feb 2010	1.36 K	2.81 K	222 K	11.7 K	61.0	43.8	51.9 K	98 K	71 K	88	48.6	4.1 K	51.8 K
Mar 2010	3.48	1.72	400	10.4	65.8	41.0	52.8	97	51	77	45.4	4.5	52.3
Apr 2010	4.04	2.20	461	11.0	66.5 K	43.7	54.6	96	52	75	46.8	5.1	55.5
May 2010	6.31	0.29	589	11.0 K	74.1 K	47.2	60.3	93	37	62 K	46.6 K	6.1 K	62.1 K
Jun 2010	7.82	0.00	695	14.8 K	84.5	55.2 K	69.5	90	37	60 K	54.7 K	5.7 K	70.5
Jul 2010	7.79	0.00	692	15.8	86.4 K	54.9	69.4	93	41	64	56.7	5.4 K	72.7
Aug 2010	6.73 K	0.00	660 K	15.8 K	84.6 K	51.9 K	67.3	97	43	69 K	56.9 K	4.1 K	70.8
Sep 2010	4.76 K	0.00	531 K	15.4 K	85.4 K	50.8 K	67.9	95	39	67 K	56.1 K	1.9 K	68.8
Oct 2010	3.11 K	1.19	334	13.8	75.2 K	48.1 K	61.5	97	50	75	53.0	3.4 K	64.3
Nov 2010	1.73	2.42 K	251 K	10.7 K	62.8 K	37.9 K	49.8	99	60	85 K	45.4 K	3.2 K	54.9 K
Dec 2010	0.69	5.56 K	123	11.5 K	56.5	42.6 K	49.7	99	80	93 K	47.7 K	3.9 K	51.8
Totals/Avgs	48.55	19.49	423	12.7	71.4	46.5	58.5	96	54	76	50.3	4.3	60.4

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Jan 2011	0.74	1.20	139	9.7	53.8 K	37.8	44.9	100	80	95	43.4	2.9 K	47.9
Feb 2011	2.02	2.75	289	8.6	59.9 K	35.1	46.7	97	54	79	40.2	4.5 K	47.1
Mar 2011	2.49 K	4.04 K	316	11.7 K	62.8 K	43.1 K	52.7	99	64	85 K	48.4 K	4.9 K	50.9 K
Apr 2011	4.94	0.10	540 K	11.1 K	69.2	45.0 K	56.7	95	45	69 K	46.5 K	5.0 K	58.1
May 2011	6.03	0.86 K	615	11.2	72.8 K	45.6	59.2	95	42	66	47.4	4.8	61.4 K
Jun 2011	6.69 K	0.21 K	662	15.1	81.2 K	51.8 K	66.8	96	45	68	55.5	4.2	68.9 K
Jul 2011	7.64 K	0.00	721	17.2 K	86.2 K	55.0	70.2	96	45	69 K	59.2 K	4.2	71.7
Aug 2011	6.73	0.00	650	16.9	87.3	52.3	68.9	98	43	70	58.6	3.5	68.6
Sep 2011	5.15	0.00	500	16.4 K	88.8 K	53.0	69.6	96	39	67 K	57.8 K	3.4 K	69.0
Oct 2011	3.05	0.21 K	343	14.5 K	76.8	47.1 K	60.6	99	50	79 K	54.0 K	3.0 K	63.4
Nov 2011	1.53	0.61	204	10.1	60.8 K	38.2	49.1	99	64	86	44.5	3.4 K	53.4
Dec 2011	1.37	0.16	190	7.1	58.1	29.2	41.6	97	53	80	35.3	2.8 K	45.3
Totals/Avgs	48.38	10.14	431	12.5	71.5	44.4	57.2	97	52	76	49.2	3.9	58.8

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Jan 2012	1.48	1.99	198	8.5	60.4	32.8 K	45.1	98	55	81	39.6	3.5 K	45.1 K
Feb 2012	2.21	1.02	281	9.2	62.6	37.5	49.5	97	50	76	41.9	4.1 K	48.6
Mar 2012	2.82 K	3.12	350 K	10.4 K	63.1 K	41.2 K	52.0	96	55	77 K	44.8 K	4.4 K	52.2
Apr 2012	4.88	1.79	549	12.7 K	71.6	45.9 K	58.1	98	50	75 K	49.7 K	4.3	56.3 K
May 2012	7.29	0.02	692	12.3	80.7	48.6	64.5	94	35	60	49.8	4.8 K	64.1
Jun 2012	7.85	0.04	743 K	13.8 K	83.9 K	52.0	68.3	91	36	59 K	52.9 K	5.3 K	67.6 K
Jul 2012	7.69	0.06	731 K	16.5	87.7 K	53.2	70.1	96	40	66	58.0	4.0	68.7
Aug 2012	6.99	0.00	637	15.9	90.1	53.9	71.0	93	36	62	57.0	3.8	69.6
Sep 2012	5.21	0.00	512	14.3	87.7	50.2	67.7	95	33	62	54.1	3.3	67.4
Oct 2012	3.07 K	0.70 K	346 K	13.9 K	76.7 K	48.9 K	62.0 K	96 K	49 K	73 K	53.0 K	3.3 K	64.4 K
Nov 2012	0.66	4.35 K	232 K	11.1 K	66.2	42.2 K	52.6 K	95 K	55 K	80	46.8	3.1 K	57.5 K
Dec 2012	-M	4.55 K	158 K	9.1 K	55.1	37.7 K	46.3	94 K	65 K	83 K	41.4 K	4.3 K	49.3 K
Totals/Avgs	50.15	17.64	452	12.3	73.8	45.3	58.9	95	46	71	49.1	4.0	59.2

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Jan 2010	0.73	4.09 K	114	10.3	54.6	41.6	48.0	96	77	90	45.1	4.7 K	47.4
Feb 2010	1.36	1.48	203	11.5	61.3	44.1	52.4	96	68	85	48.1	4.4	49.4
Mar 2010	3.32	1.65 K	360	10.0	65.7	40.8	53.3	95	48	72	44.3	4.7	50.9
Apr 2010	3.63	2.50	403	10.6	66.5	43.3	54.7	94 K	51 K	73	45.9	4.8	53.4 K
May 2010	5.67	0.56	516	11.0 K	73.4	47.6 K	60.5	88	40	61 K	46.7 K	5.9 K	58.2 K
Jun 2010	7.41	0.00	636 K	14.4 K	84.2	55.7 K	70.2	85	39	57 K	54.0 K	6.2 K	64.9 K
Jul 2010	7.95	0.00	696	15.9	88.7	56.1 K	71.9	88	39	60	57.0	4.8	68.4 K
Aug 2010	6.86	0.00	614	15.6	86.7 K	54.2	69.6	91	40	63	56.4	4.7 K	67.8 K
Sep 2010	5.30	0.00	494	14.9	85.9 K	53.2	69.0	91	38	62	55.2	4.2 K	64.9 K
Oct 2010	3.07	2.24	319	13.7	75.7 K	51.3 K	62.6	92	48	71	52.8	3.8 K	61.7
Nov 2010	1.74	2.21	232	10.2	63.2 K	39.9 K	50.6	95	55	79	44.2	3.6	53.7 K
Dec 2010	0.79	3.75	125	11.2	57.2	43.4 K	50.3	97	75	89	47.1	4.5 K	49.6
Totals/Avgs	47.83	18.48	393	12.4	71.9	47.6	59.4	92	52	72	49.7	4.7	57.5

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Jan 2011	0.70	0.83	131	9.6	53.1 K	39.5	45.2	97	80	93	43.2	3.5	46.5
Feb 2011	2.08	2.30 K	289	8.3	60.6 K	35.4	47.6	93	50	73	39.2	4.7 K	46.0
Mar 2011	2.86	3.67	331	11.1	63.8 K	43.5	53.5	95	57	79	47.0	5.5 K	49.1 K
Apr 2011	4.99	0.64	519	10.8	69.0	45.2 K	56.9	90	46	67	45.8	6.0 K	54.6 K
May 2011	6.13	0.72	580	10.9	72.4 K	47.0	59.5	88	42	63	46.7	6.4 K	57.4 K
Jun 2011	6.88	1.17	625	14.6	81.9 K	54.5 K	68.0	88	44	63	54.6	5.7 K	62.5 K
Jul 2011	7.85	0.00	676	16.7	87.9 K	57.4	72.3	89	42	62	58.4	5.4 K	67.2 K
Aug 2011	6.97	0.00	606	16.3	89.0	55.7	71.7	91	39	62	57.8	4.4 K	67.6 K
Sep 2011	5.13	0.00	468	16.4	88.8 K	55.3	71.1	91	39	63	57.9	3.9 K	66.0 K
Oct 2011	3.14 K	0.82	337	14.1 K	77.0	49.1 K	61.9	95	47	73 K	53.2 K	3.3	60.7
Nov 2011	1.70	0.64	213	9.8	61.4	40.1	50.3	95	59	80	43.8	3.9 K	53.2
Dec 2011	1.41 K	0.22	196	6.8	58.1	30.6	42.3	93	49	74	34.1	2.9 K	45.9
Totals/Avgs	49.84	11.01	414	12.1	71.9	46.1	58.4	92	49	71	48.5	4.6	56.4

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Jan 2012	1.57	1.12	208	8.2	60.0	33.3 K	45.4	96	53	78	38.8	3.8 K	44.2
Feb 2012	2.40	1.11	302	8.8	63.3	38.2	50.6	92	46	70	40.8	4.6	46.7
Mar 2012	2.97	2.04	338	9.9 K	63.9 K	41.0	52.7	93	50	71 K	43.4 K	4.8 K	49.1 K
Apr 2012	4.98	2.11	526	12.2 K	71.5	46.7 K	58.9	94	48	70 K	49.1 K	5.2	55.3 K
May 2012	7.52	0.08	655	12.0	80.4	50.5	65.3	87	35	57	49.2	6.4 K	61.0
Jun 2012	8.06 K	0.07	692	13.4	84.5 K	54.8	69.7	82	35	54	52.1	6.8 K	66.1 K
Jul 2012	7.90	0.00	679	15.9	88.8 K	56.2 K	72.7	88	38	59	57.0	5.0 K	69.2 K
Aug 2012	7.12	0.00	598	15.9	91.2 K	57.1 K	73.6	88	34	56	56.9	4.3 K	70.1 K
Sep 2012	5.20	0.01	482	14.5	87.6	53.3	69.5	90	34	59	54.5	3.7	65.1 K
Oct 2012	3.22 K	0.30 L	338 L	13.4 L	76.9 L	49.8 L	62.6 L	93 L	45 L	69 L	52.1 L	3.6 L	57.8 L
Nov 2012	1.82	1.98 K	239	11.3	66.6 K	41.8 K	53.2	99	55	80	47.1	3.5 K	54.8 K
Dec 2012	1.02	3.81	147	9.5 K	55.3	38.2 K	46.7	97	66	85 K	42.3 K	4.7 K	52.0
Totals/Avgs	53.78	12.63	434	12.1	74.2	46.7	60.1	92	45	67	48.6	4.7	57.6

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TABLE A-5
1976-77 Estimated Crop Et Values
Delta Service Area
(in inches)

Land Use Category	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Total Oct.76-Sep.77	Oct.77	Total Nov.77-Oct.77
Sacramento-San Joaquin Delta															
Irrigated Pasture	3.2	1.5	1.0	0.7	1.5	3.6	5.4	4.8	6.9	7.7	6.4	4.7	47.4	3.4	47.6
Alfalfa	3.2	1.5	1.0	0.7	1.5	3.2	4.9	4.4	6.5	7.5	6.5	4.9	45.8	3.4	46.0
Deciduous Orchard (Fruits & Nuts)	2.6	1.5	1.0	0.7	1.5	2.7	3.8	4.0	6.1	7.4	6.1	4.3	41.7	2.6	41.7
Tomatoes	2.4	1.5	1.0	0.7	1.5	1.9	2.2	2.6	4.0	8.2	6.0	2.3	34.3	1.9	33.8
Sugar Beets	2.4	1.5	1.0	0.7	1.5	1.9	2.2	3.7	7.6	8.3	6.4	4.4	41.6	2.4	41.6
Grain Sorghum (Milo)	2.4	1.5	1.0	0.7	1.5	1.9	2.2	2.0	5.9	7.3	4.3	2.5	33.2	1.9	32.7
Field Corn	2.4	1.5	1.0	0.7	1.5	1.9	2.2	2.3	5.7	6.9	5.1	2.6	33.8	1.9	33.3
Dry Beans	2.4	1.5	1.0	0.7	1.5	1.9	2.2	1.7	5.7	6.2	2.7	2.5	30.0	1.9	29.5
Safflower	2.4	1.5	1.0	0.7	1.5	1.9	2.5	4.8	8.7	7.7	4.4	2.5	39.6	1.9	39.1
Asparagus	2.4	1.5	1.0	0.7	1.5	1.9	2,2	1.0	3.5	7.7	6.4	4.7	34.5	2.4	34.5
Potatoes	2.4	1.5	1.0	0.7	1.5	1.9	2.2	1.7	4.3	7.4	5.5	2.8	32.9	1.9	32.4
Irrigated Grain	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	1.8	1.0	1.0	1.6	26.1	1.6	24.7
Vineyard	2.4	1.5	1.0	0.7	1.5	1.9	2.2	2.8	5.3	6.5	5.3	3.4	34.5	2.4	34.5
Rice	3.2	1.5	1.0	0.7	1.5	1.9	2.8	5.6	8.8	9.8	8.1	5.5	50.4	3.4	50.6
Sudan	2.4	1.5	1.0	0.7	2.0	4.3	5.7	4.8	6.9	7.7	4.9	4.7	46.6	2.4	46.6
Misc. Truck	2.4	1.5	1.0	0.7	1.5	1.9	3.2	4.6	6.7	7.4	5.2	3.7	39.8	1.9	39.3
Misc. Field	2.4	1.5	1.0	0.7	1.5	1.9	2.2	2.4	6.1	7.4	5.0	1.9	34.0	1.9	33.5
Double Cropped with Grain															
Sugar Beets	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	1.8	4.2	5.2	5.8	37.7	3.4	38.7
Field Corn	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	1.8	4.3	6.3	6.1	39.2	2.7	39.5
Grain Sorghum (Milo)	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	1.8	2.7	6.1	5.2	36.5	1.9	36.0
Sudan	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	3.6	7.7	4.9	4.7	41.6	1.9	41.1
Dry Beans	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	3.1	7.6	3.5	1.5	36.4	1.9	35.9
Tomatoes	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	2.3	6.6	6.0	5.2	40.8	1.9	40.3
Lettuce	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	4.1	7.4	5.3	4.9	42.4	2.4	42.4
Misc. Truck	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	2.3	6.6	6.0	5.2	40.8	2.4	40.8
Misc. Field	2.4	1.5	1.0	0.7	2.0	4.3	5.7	3.1	4.1	7.4	5.3	4.9	42.4	3.4	43.4
Fallow Lands 1/	2.4	1.5	1.0	0.7	1.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	14.0	1.0	12.6
Native Vegetation 2/	2.4	1.5	1.0	0.7	1.4	3.7	3.8	2.1	2.3	2.6	2.3	2.0	25.8	1.6	25.0
Riparian Veg. & Water Surface	4.6	2.4	1.4	0.8	1.9	4.5	7.4	6.6	9.7	11.8	9.7	7.0	67.8	4.3	67.5
Urban	1.6	0.8	0.6	0.7	1.0	1.0	1.9	2.4	2.4	2.5	2.4	1.9	19.2	1.6	19.2

1/ Applies also to nonirrigated grain.
2/ Applies also to nonirrigated orchards and vineyards

Metric conversion: inches times 25.4 equals millimetres.