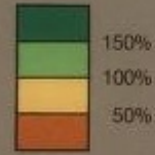


Percent of Average Precipitation and Snowpack

Oct 1, 1975 - Sep 30, 1976

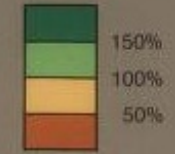
Precipitation in Percent of Average



Percent of Average Precipitation and Snowpack

Oct 1, 1976 - Sep 30, 1977

Precipitation in Percent of Average



CALIFORNIA DATA COLLABORATIVE EARLY PROGRESS AND FUTURE ROADMAP

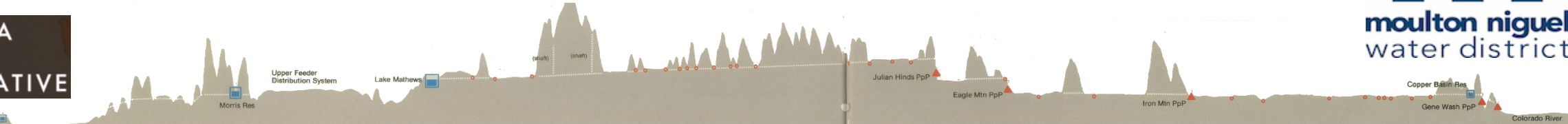
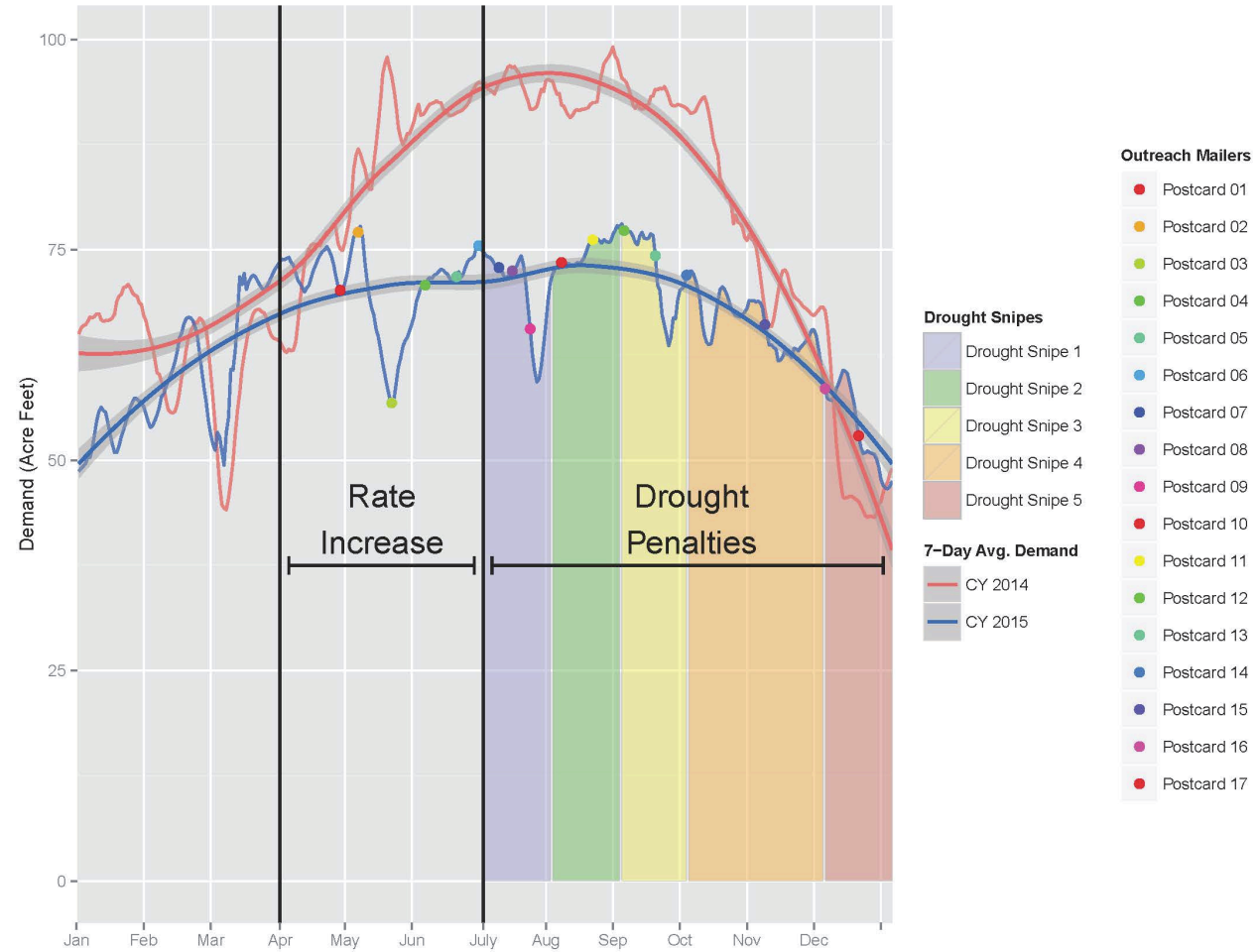
Snowpack in Percent of Average
April 1, 1976 and April 1, 1977

Watershed	1976	1977
1. Trinity	58%	35%
2. Upper Sacramento	46%	25%
3. Feather	26%	21%
4. Yuba	42%	31%
5. Truckee	41%	27%
6. American	32%	27%
7. Tahoe	36%	29%
8. Cosumnes	20%	26%
9. Carson	47%	31%
10. Mokelumne	31%	22%
11. Stanislaus	28%	21%
12. Walker	26%	23%
13. Tuolumne	34%	23%
21. Kern	25%	19%

Patrick Atwater, Project Manager CaDC

The two maps show deviations from average precipitation and snowpack, illustrating the pattern of drought.

MNWD'S LEADERSHIP IN DATA DRIVEN DEMAND MANAGEMENT



BROADENING MNWD'S PIONEERING MODEL OF DATA-DRIVEN DEMAND MANAGEMENT STATEWIDE



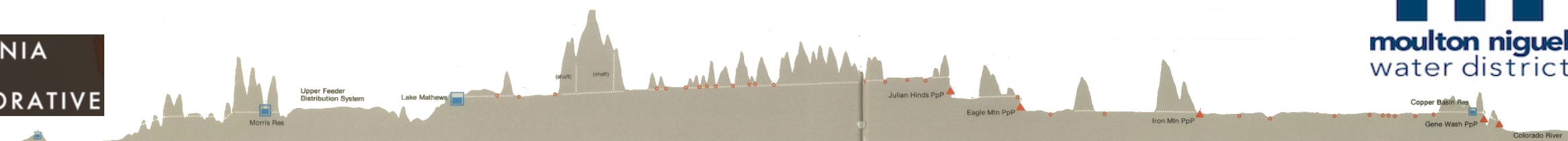
CALIFORNIA DATA COLLABORATIVE



Featured as part of March Water Summit



CALIFORNIA DATA COLLABORATIVE

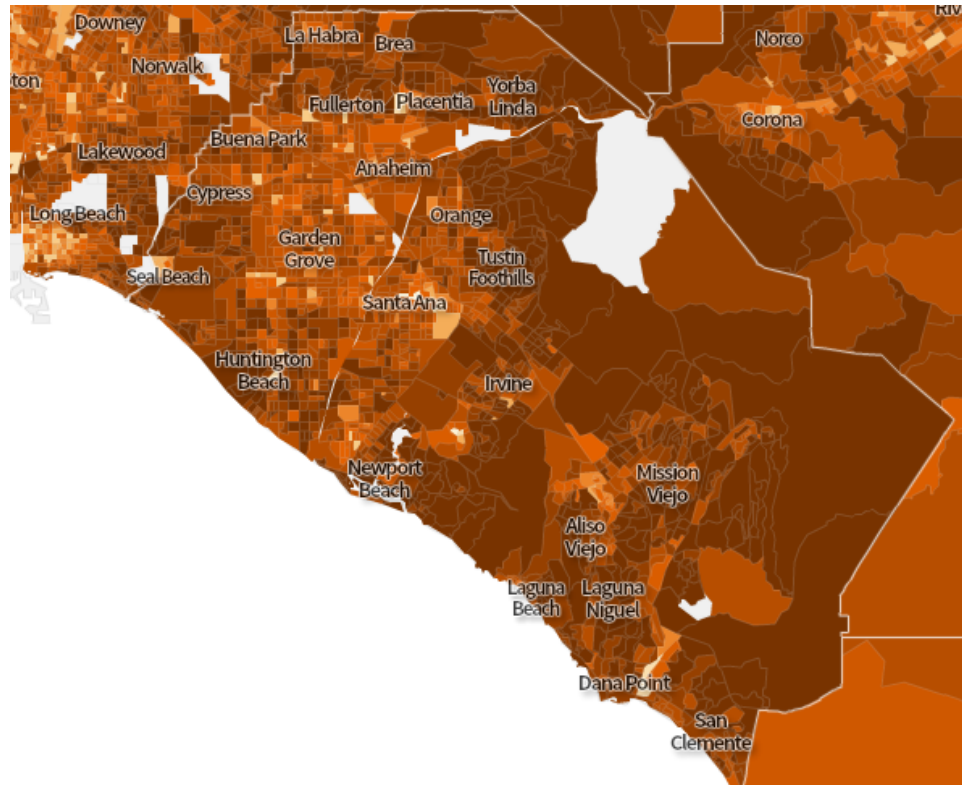


WHAT DATA WE'VE INTEGRATED

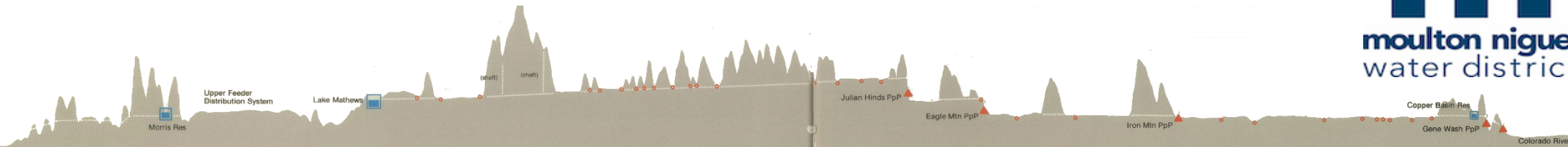
Actual customer water use



Integrated with key context



CALIFORNIA
DATA
COLLABORATIVE



PROVIDING MEANINGFUL MEASUREMENTS OF MANY, MANY WATER EFFICIENCY ACTIONS

Menu of water efficiency actions



Landscape Conversion



Leak Detection



Shifting attitudes

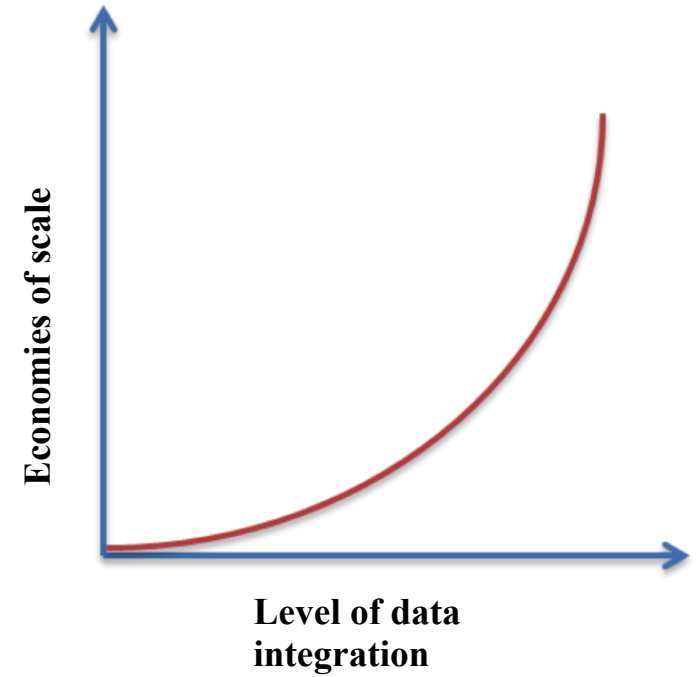


Educational Workshops

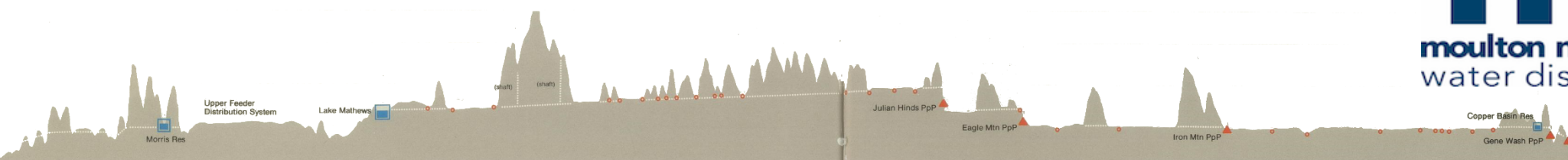


Impact of rate changes

Need better, faster, cheaper analytics

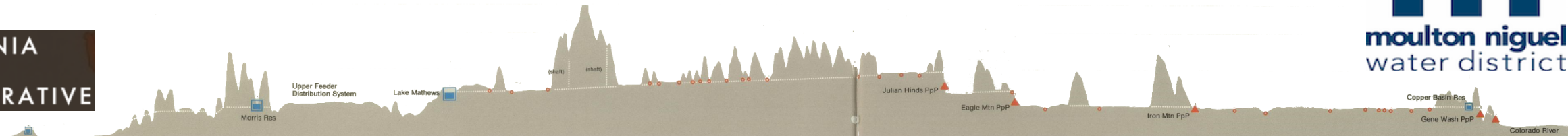


CALIFORNIA DATA COLLABORATIVE



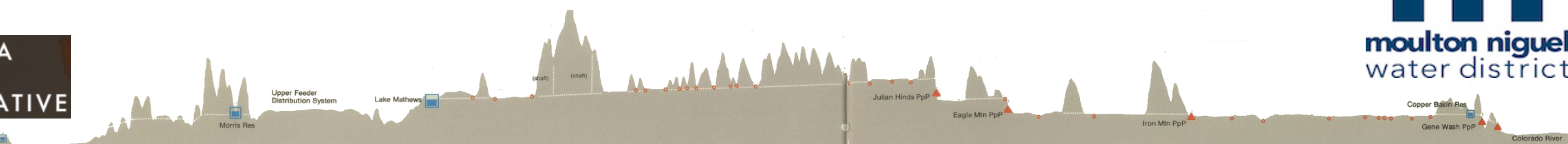
PROJECT TOOLS AND ANALYTICS STATUS PART 1

	Planning	Development	Peer Review	Production
Benchmarking water efficiency statewide				
Turf rebate program evaluation				
Landscape area change detection				
Rate modeling and statistics				

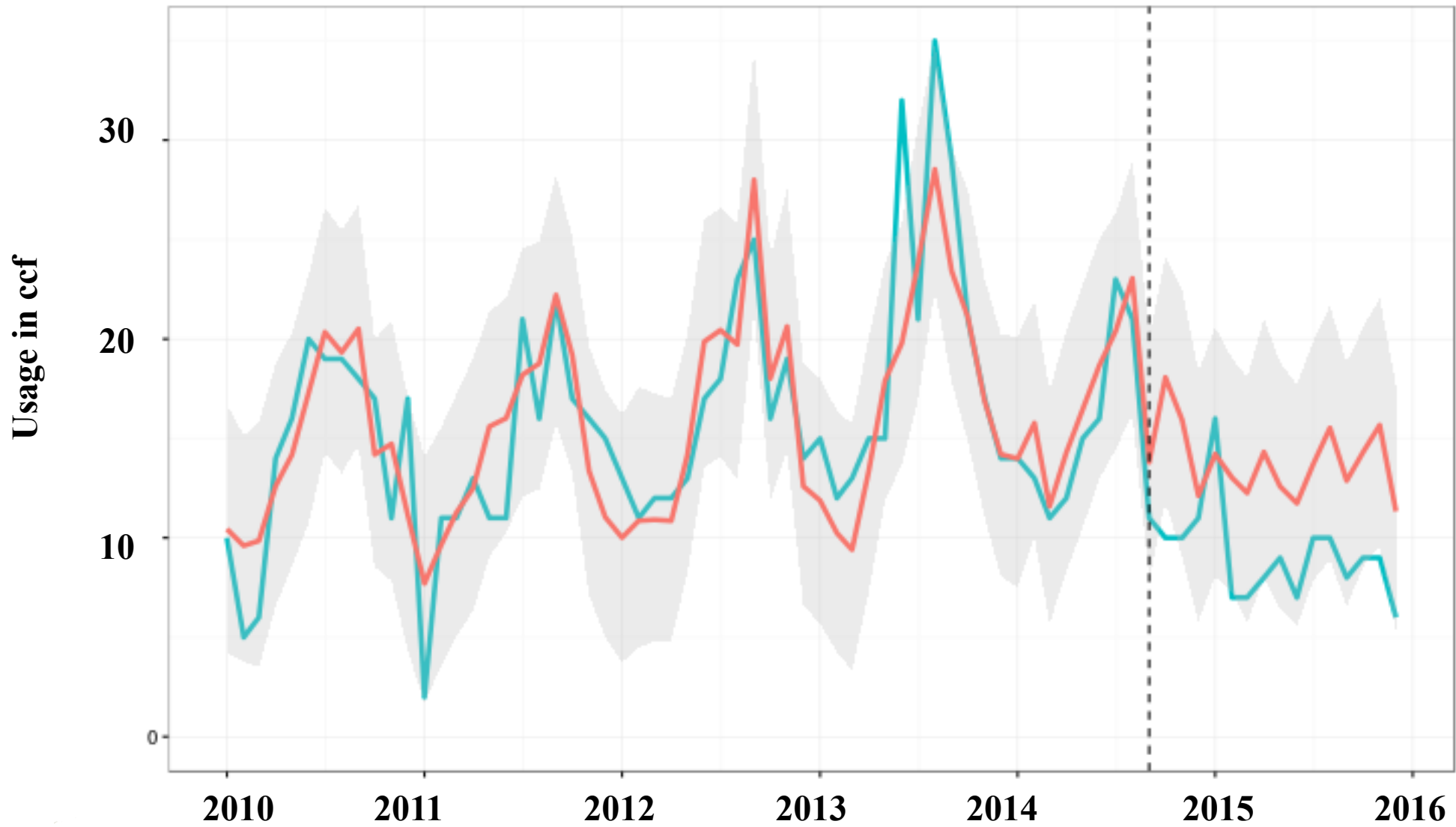


PROJECT TOOLS AND ANALYTICS STATUS PART 2

	Planning	Development	Peer Review	Production
Conservation marketing effectiveness				
Short term demand forecasting				
Water-energy nexus and system optimization				
Global marketplace of water efficiency measurements				



HOW MUCH WATER HAVE TURF REBATES SAVED?



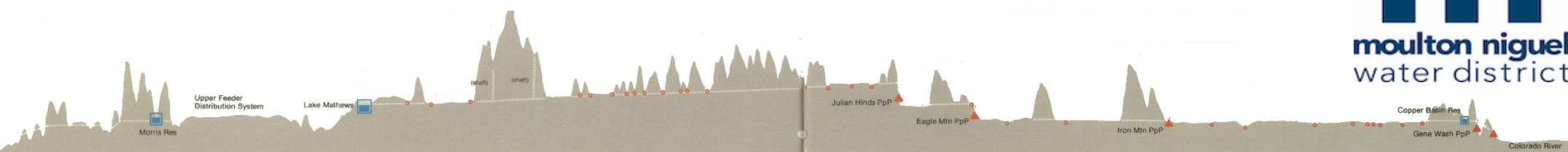
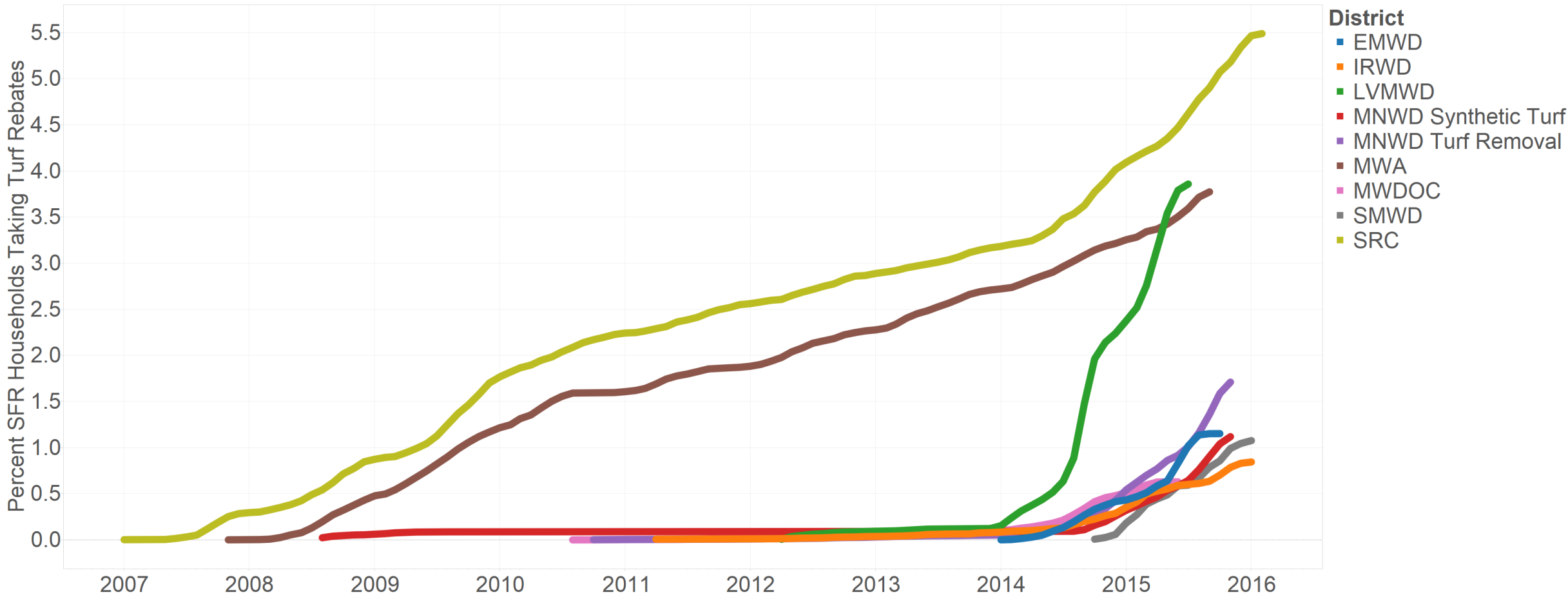
Blue – actual water usage
Red – expected water usage



CALIFORNIA DATA COLLABORATIVE



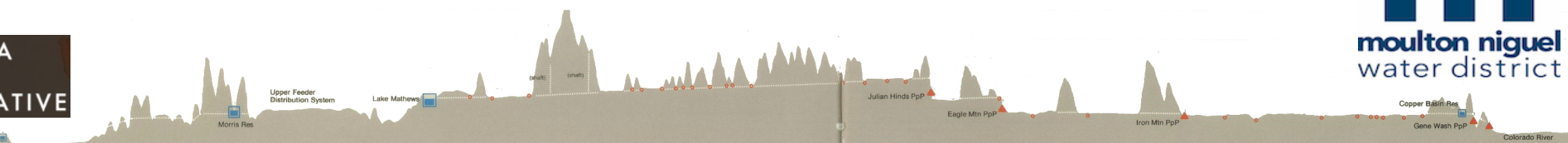
WHAT DROVE PARTICIPATION IN TURF REBATES?



REMOTE SENSING TO IMPROVE IRRIGABLE AREA USING FREELY AVAILABLE AERIAL IMAGERY FROM NAIP



Courtesy of Andrew Marx, Professor CGU



INTEGRATED WATER EFFICIENCY RESEARCH AND EVALUATION PROGRAM

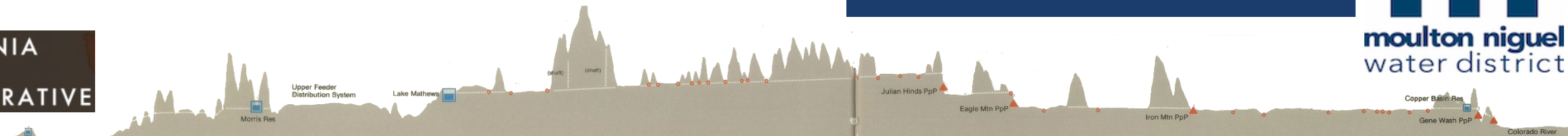
Current



Pipeline



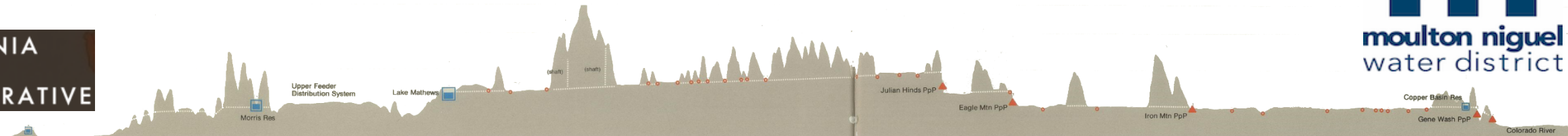
CALIFORNIA DATA COLLABORATIVE



BRINGING TOGETHER SMART MINDS FROM AROUND THE WORLD!



CALIFORNIA DATA COLLABORATIVE



A TEAM OF TALENTED WATER AND DATA NERDS TO MAKE THE DREAM A REALITY!



Patrick Atwater
Project Manager



Christopher Tull
Civic Data Scientist



Graham Henke
Data Systems Engineer



David Marulli
Front End Data Scientist



Varun Adibhatla
Head of Rapid Prototyping



Eric Schmitt
Consulting Statistician



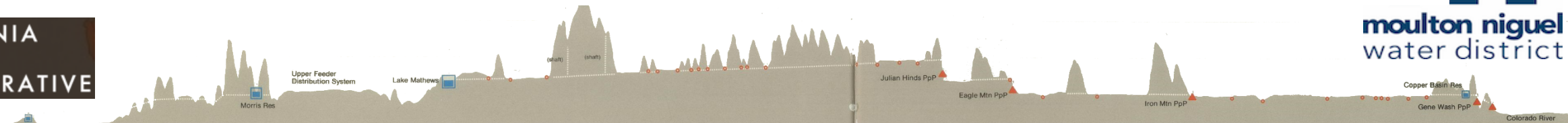
Wendy Greene
Public Affairs Intern




Brianna Pagan
Urban Water Efficiency
Research Fellow



Tony Castallego
System Architecture
Research Fellow





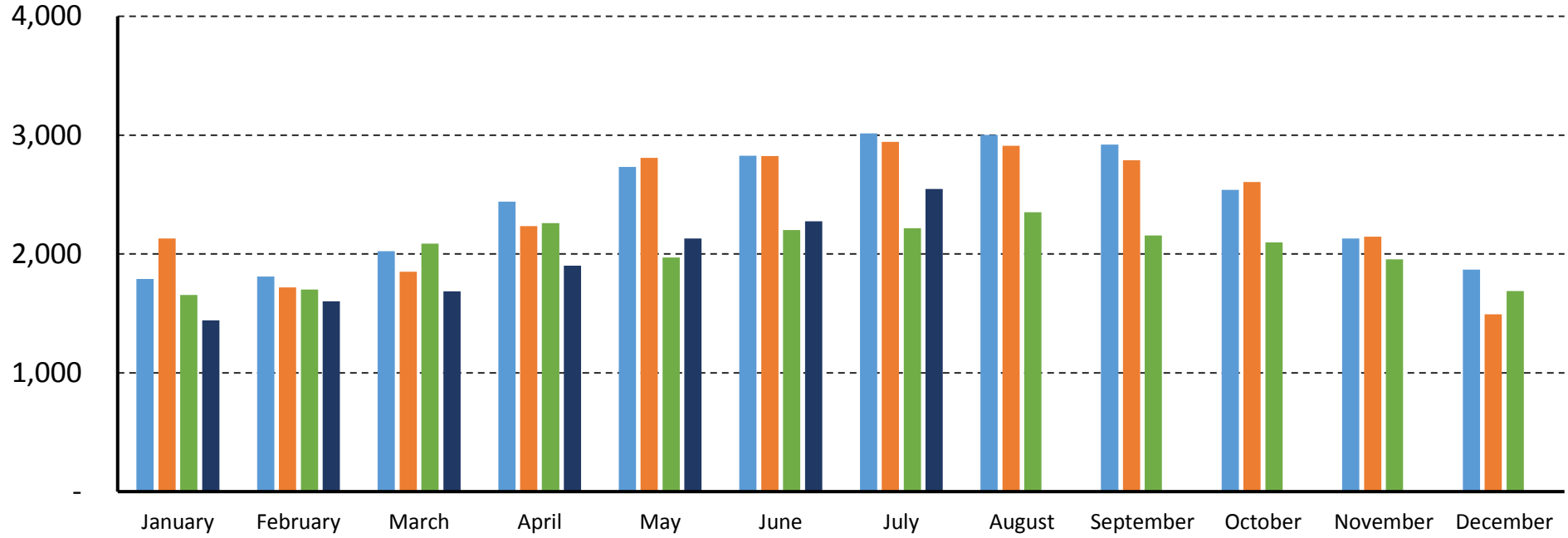
*“The people of California have not lost their pioneering spirit
or their capacity to meet life’s challenges.”*

– Jerry Brown

Contact: Patrick@argolabs.org

AF

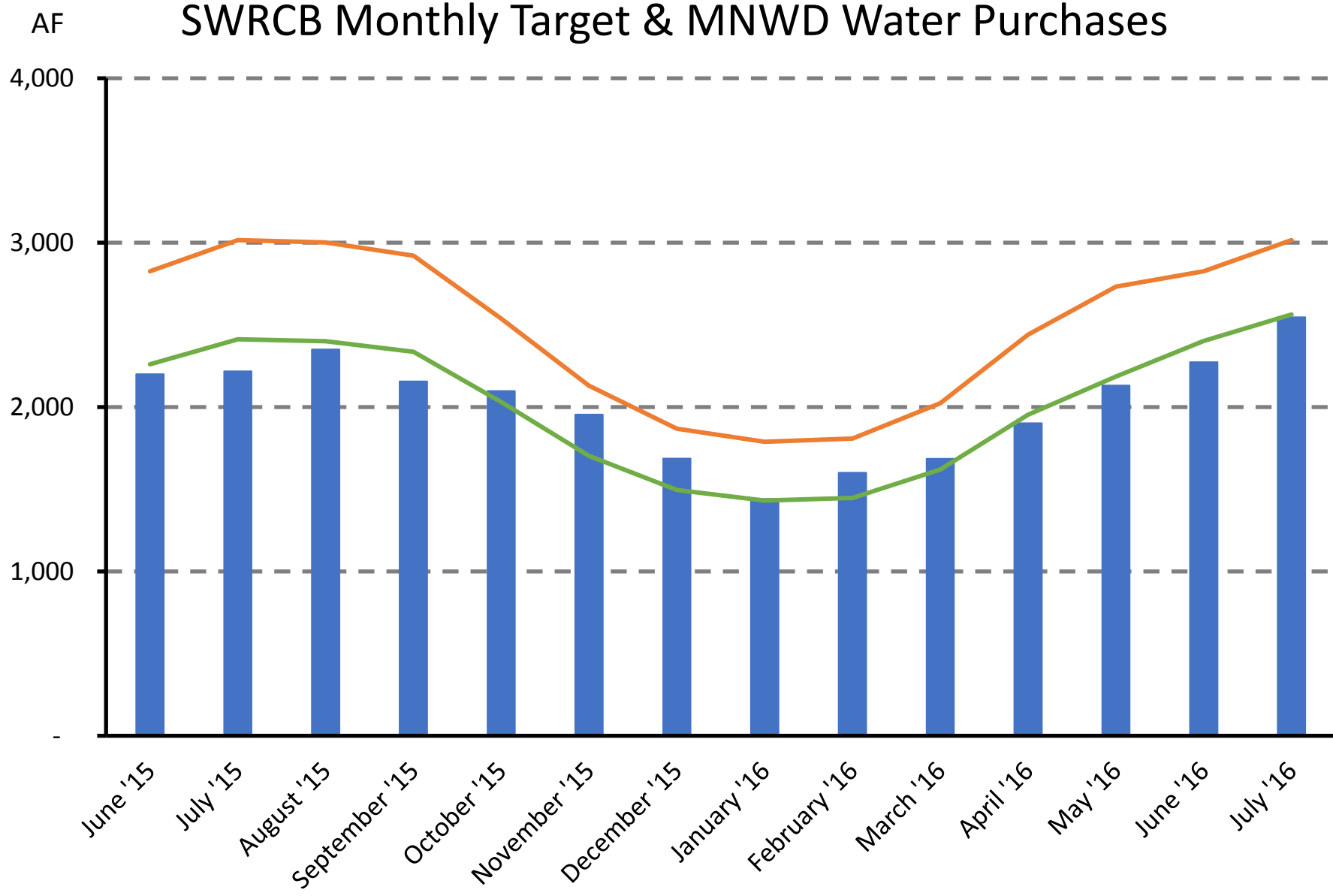
Historical Monthly MNWD Water Purchases & Evapotranspiration



Year	ET (Inches)												
2013	2.54	2.88	4.08	4.79	5.99	6.07	5.81	6.53	5.26	3.92	2.52	2.49	
2014	2.82	2.64	4.09	5.54	6.39	6.45	6.54	6.23	5.21	3.94	3.16	1.91	
2015	2.52	3.02	4.96	5.31	4.48	5.75	5.69	6.27	5	3.88	3.24	2.35	
2016	1.87	3.82	3.98	5.16	4.63	5.77	6.77						

August 17, 2016

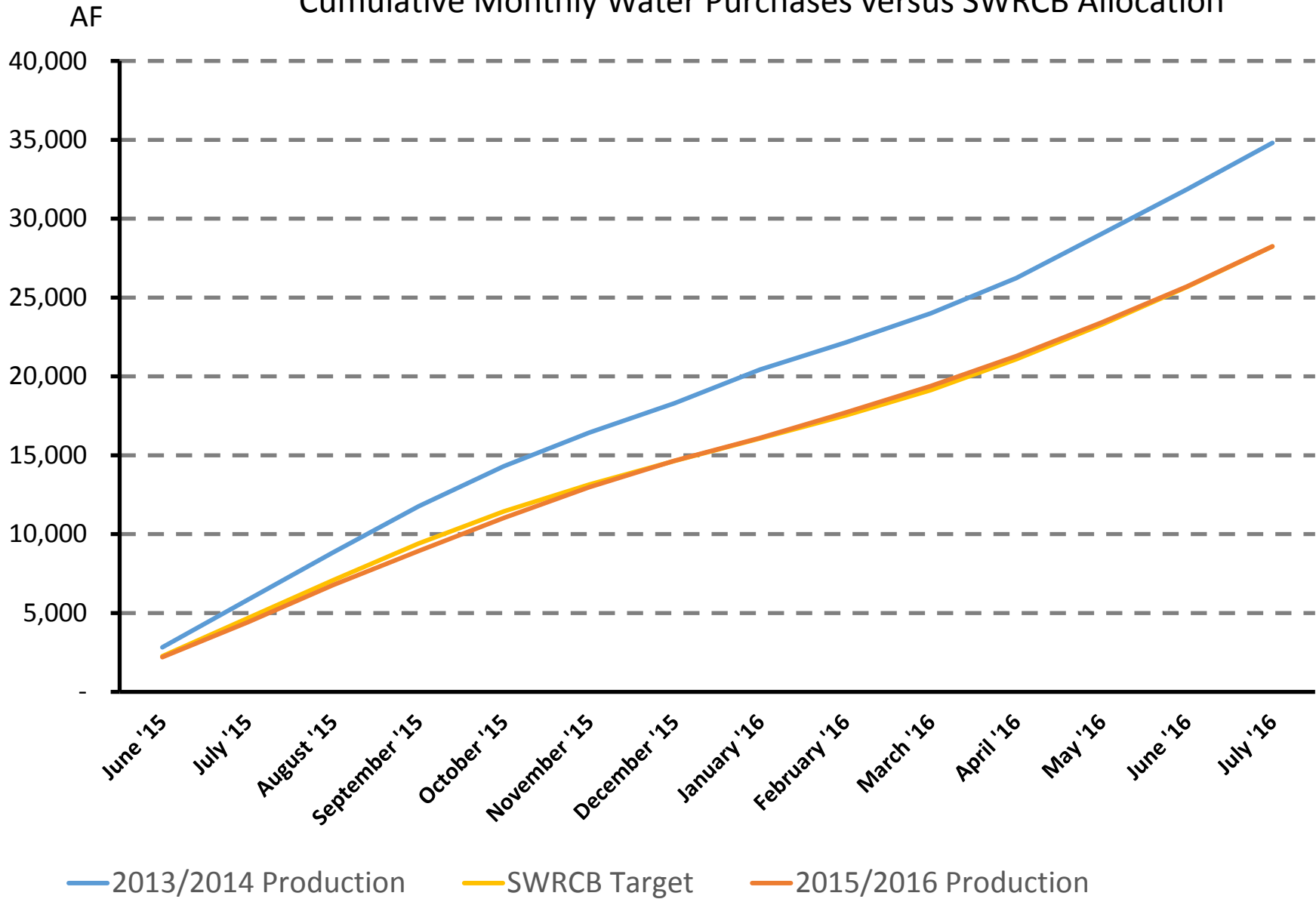
SWRCB Monthly Target & MNWD Water Purchases



■ 2015/2016 Production — 2013 Production — SWRCB Target

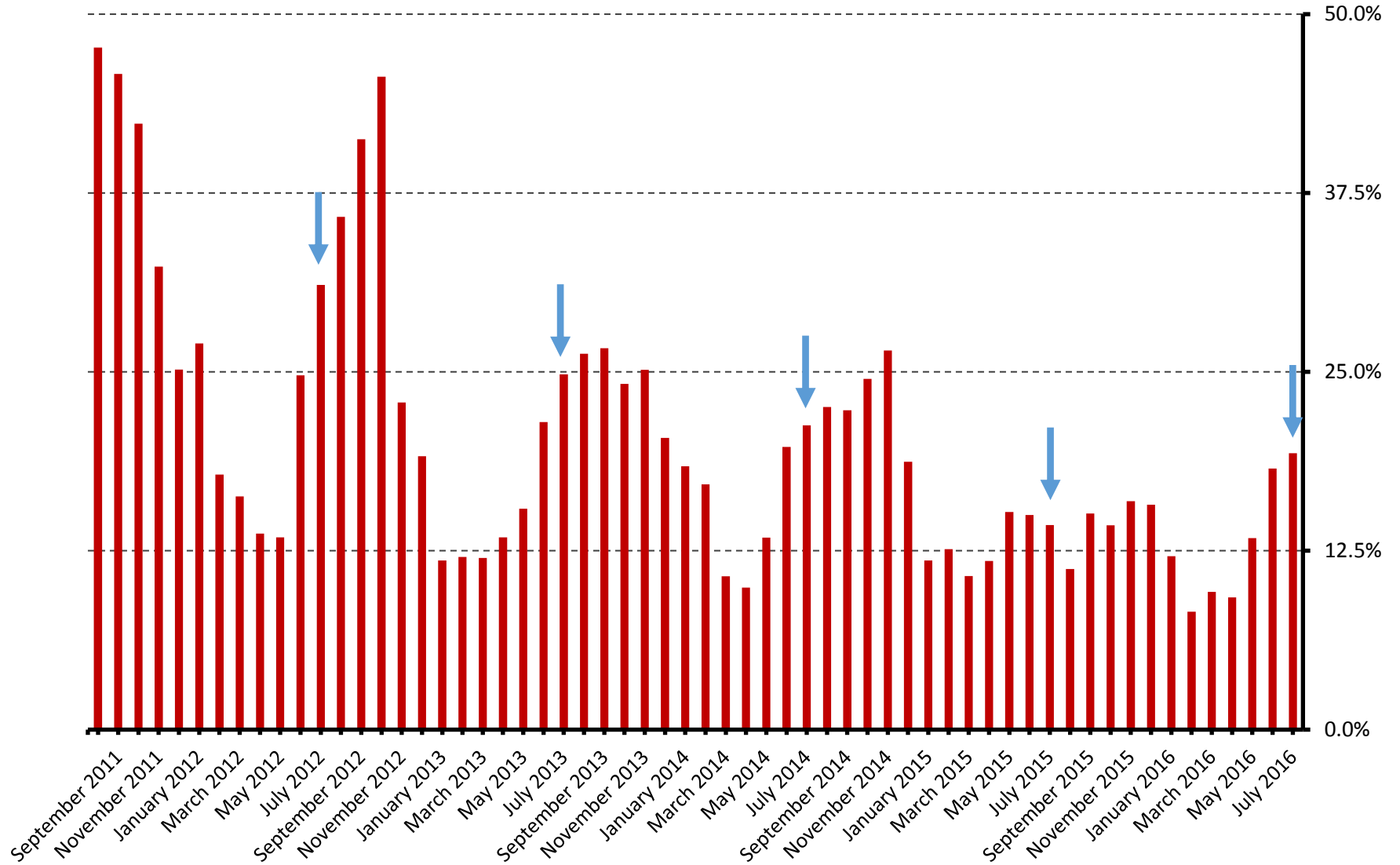
August 17, 2016

Cumulative Monthly Water Purchases versus SWRCB Allocation



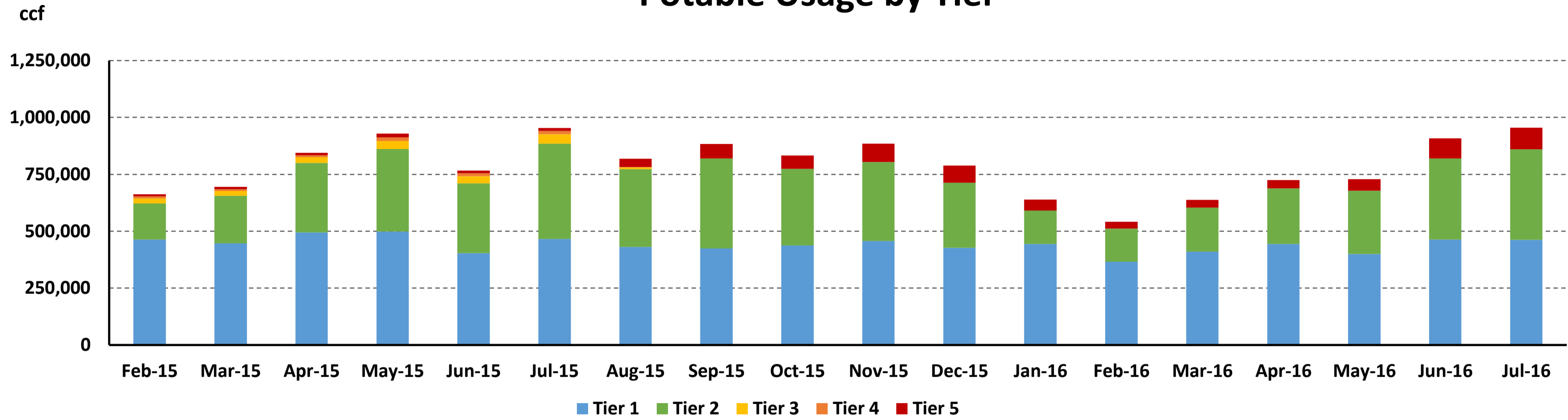
August 17, 2016

Single Family Residential Accounts Above Tier 2



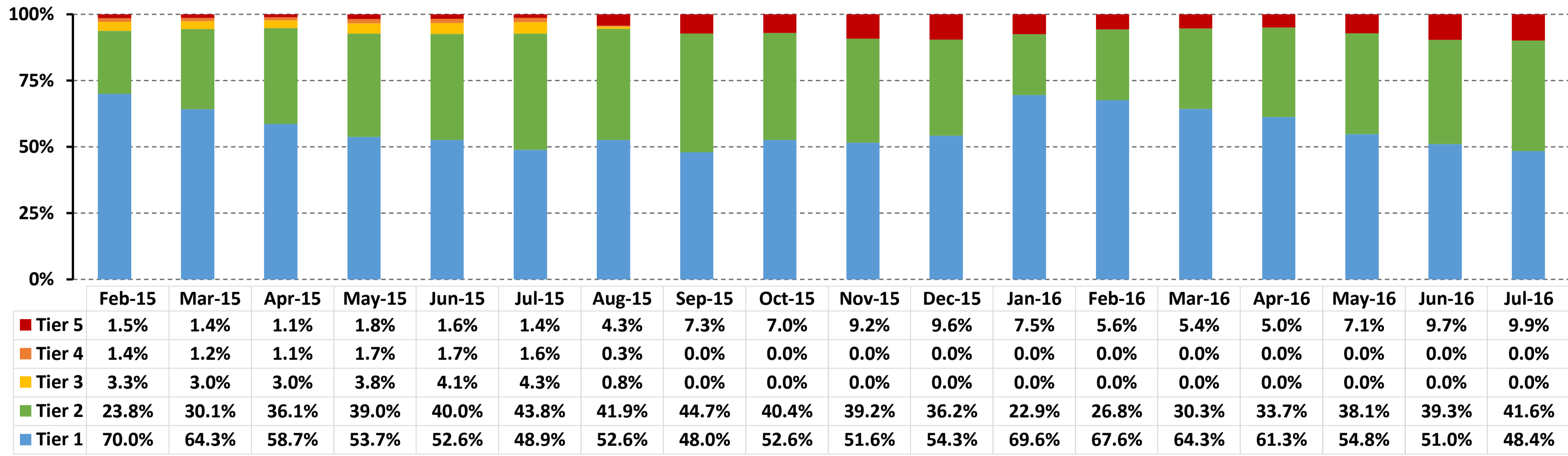
August 17, 2016

Potable Usage by Tier



AF in Tier 3, 4, 5	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16
	94	89	101	154	131	159	102	148	134	187	173	110	70	78	83	119	202	218

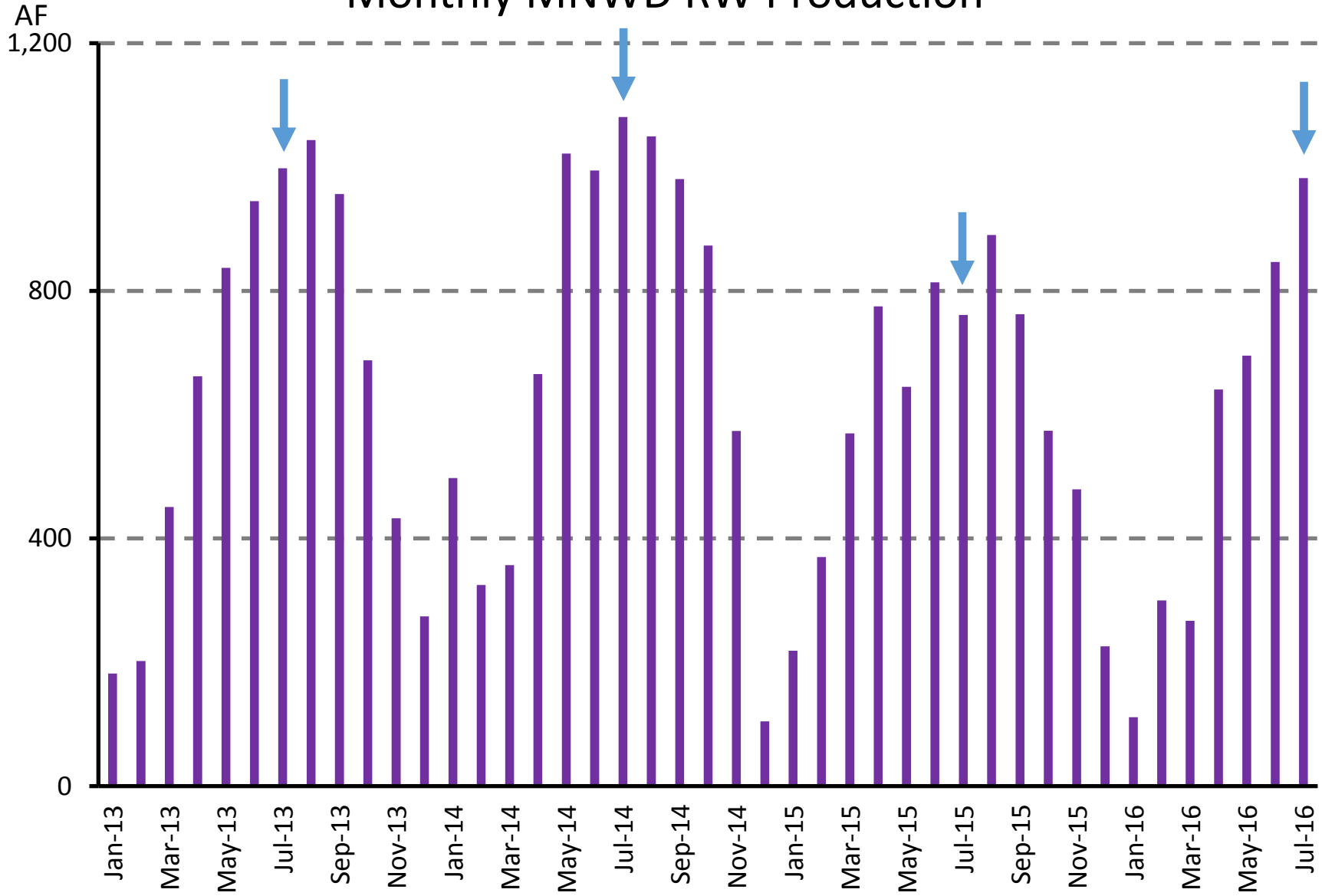
Percent Potable Usage by Tier



Legend: Tier 1 (blue), Tier 2 (green), Tier 3 (yellow), Tier 4 (orange), Tier 5 (red)

August 17, 2016

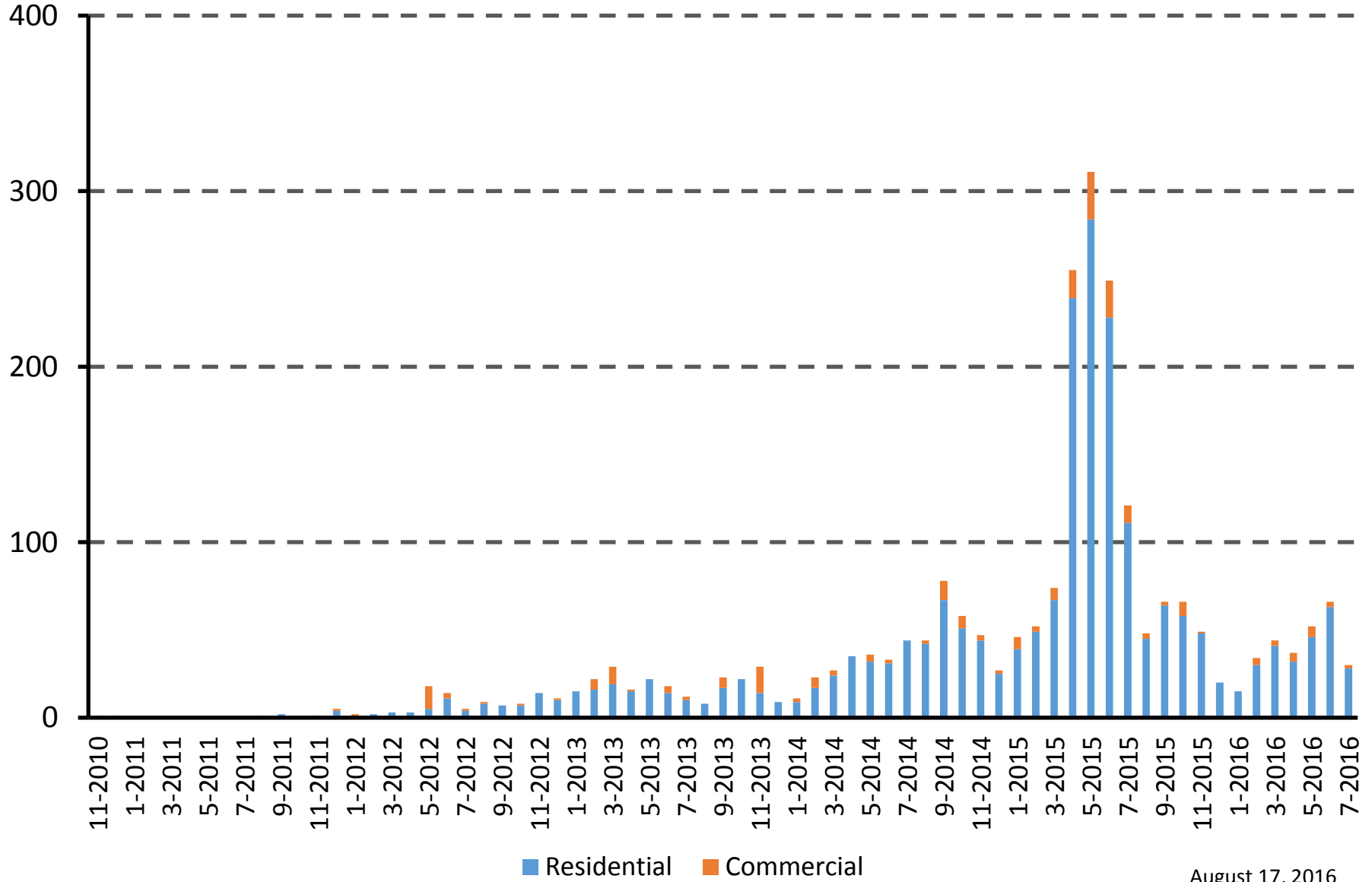
Monthly MNWD RW Production



August 17, 2016

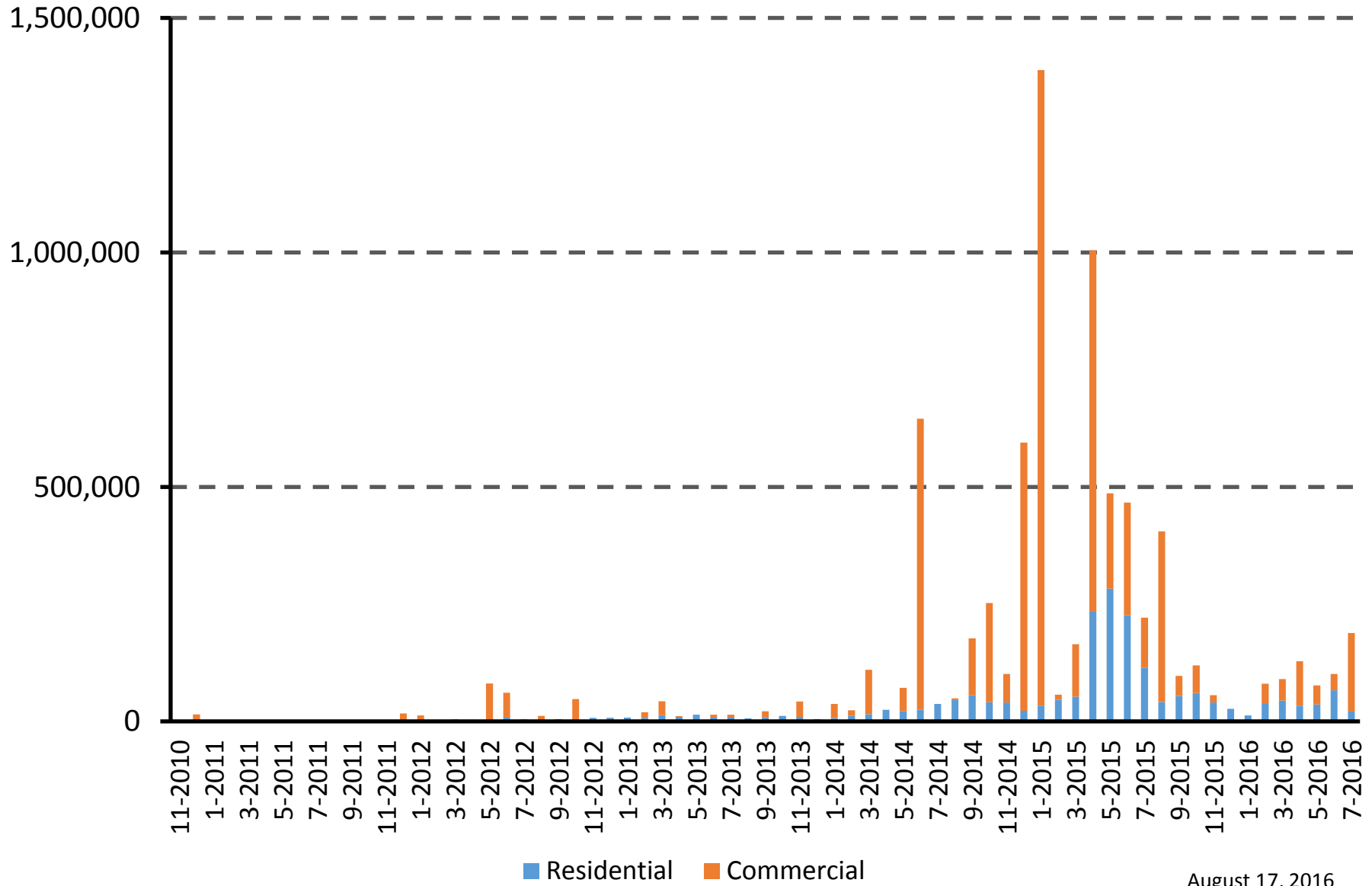
Total Turf Removal Applications by Month

Applications



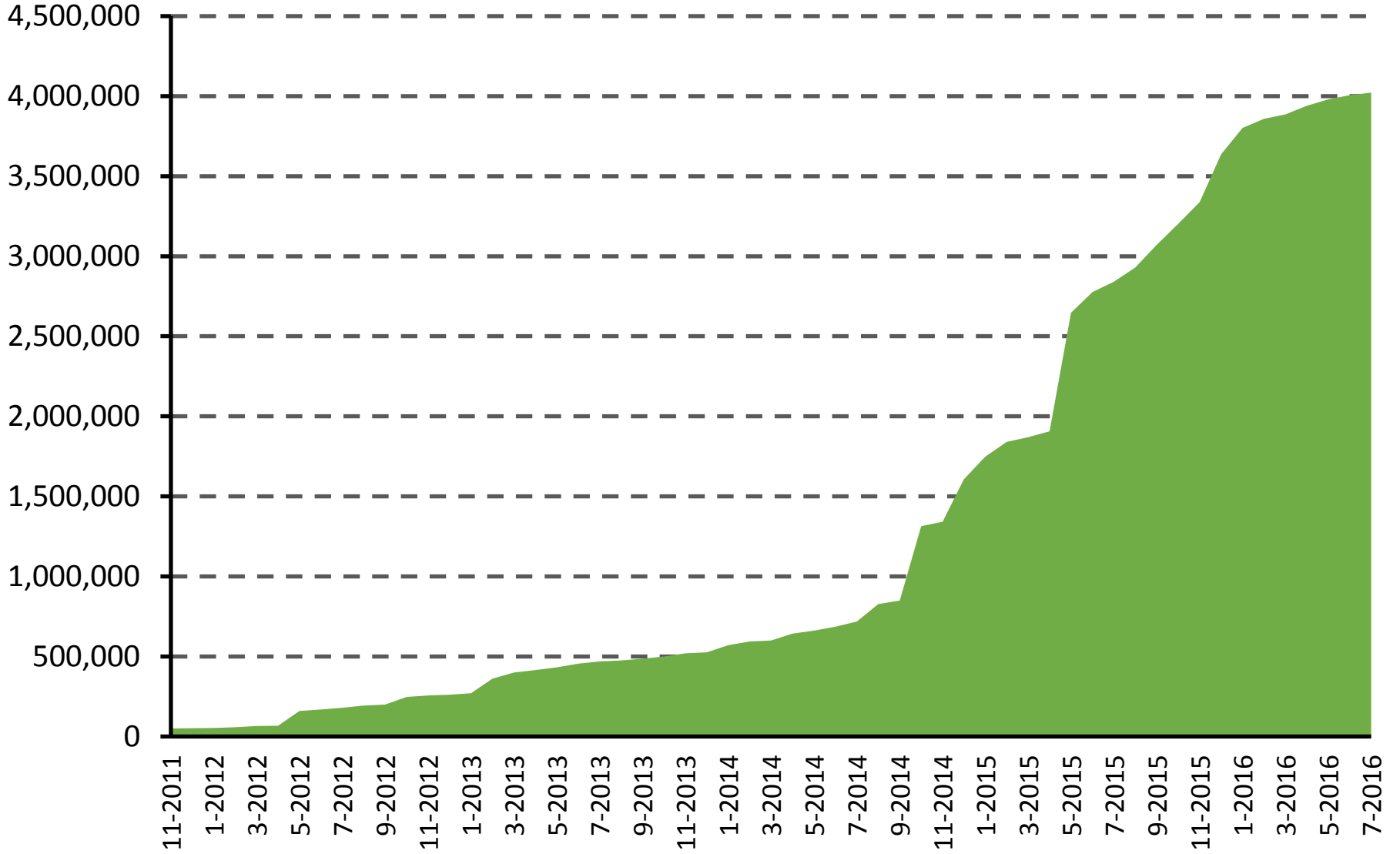
August 17, 2016

Square Feet Total Turf Removal Application Size by Month



Square Feet

Total Turf Removed



August 17, 2016



Moulton Niguel Water District
Outreach Ad-Hoc Meeting
August 16, 2016

Outreach Deliverables: Print Advertising

Orange County Register

Sunday Edition: May 15th

OC Register Community Papers

Saddleback Valley News Mission Viejo/Laguna Hills: May 6th

Aliso Viejo News / Laguna Niguel News: May 12th



The poster features a large, stylized yellow flower graphic in the background. At the top, the Moulton Niguel Water District logo (a blue 'M') is displayed above the text 'moulton niguel water district'. Below this, it says 'PRESENTS THE' followed by 'live smart' in large white letters and 'COMMUNITY EVENT' in smaller white letters. The event date and time are 'Saturday, May 14, 2016 | 10am-2pm'. The location is 'LAGUNA HILLS COMMUNITY CENTER, 2555 Alicia Parkway, Laguna Hills, CA 92653'. A tagline reads 'Enjoy events and activities with family and friends, while learning ways to save energy and water.' A list of activities includes 'FREE PRIZES FOOD MUSIC GIVEAWAYS GAMES FAMILY FUN KIDS CRAFTS SAVE ENERGY AND WATER SAVE MONEY REBATES INFORMATION RESOURCES'. The bottom section is titled 'sponsors' and lists logos for genius, intelligent, smart, Fluidmaster, rachio, WaterSmart, and LEE & RO, Inc. To the right, under 'interactive activities sponsored by:', logos for CR&A, The Ecology Center, and Whole Foods are shown. A blue footer bar contains the contact information: 'Contact outreach@mwd.com for more information'.

Outreach Deliverables: Print Advertising

OC Register Community Papers

Saddleback Valley News Mission Viejo/Laguna Hills: July 28th

Aliso Viejo News / Laguna Niguel News: July 29th



GET SMART!
Not all irrigation systems are alike.



With water-efficient smart irrigation timers, you can save up to **20-25 gallons of water per day.**

Smart Irrigation timers use information about your plants, soil, and weather conditions to give your landscape the right amount of water year-round and help conserve as much water possible. The environment and your wallet will thank you!

Rebates are available on a range of outdoor water saving devices, including smart timers, high efficiency sprinkler nozzles, and drip irrigation systems. To learn more about our residential and commercial rebates, smart irrigation timers, and water saving tips, visit mnwd.com/yourmnwd.



moulton niguel water district
mnwd.com



WATER SAVING TIPS

-  Place organic mulch around plants to help them retain moisture
-  Switch to water-efficient sprinkler nozzles to save water and prevent damage caused by overwatering
-  Install water-efficient drip irrigation systems to water plant roots more efficiently
-  Upgrade to "smart" weather-based irrigation controllers, which automatically adjust based on weather

Outreach Deliverables: Bill Inserts & E-Newsletters

July 2016



Drought or No Drought?

The latest action by the State Water Resources Control Board (SWRCB) had the headlines flying. After nearly a year of emergency regulations that mandated strict cutbacks, it's no wonder that we are quick to hope that there's relief from this unprecedented drought condition. The hope was further fueled in Southern California as Metropolitan Water District of Southern California (MWD), wholesale water provider to approximately 19 million people, rescinded its Allocation Plan that required 15 percent reduction. But the fact is – the drought is not over.

In order to reconcile some of the concerns that we're hearing, it's helpful to understand the context. Last June, as dry conditions worsened and some communities were running out of water, the Governor directed the SWRCB to mandate emergency regulations because the voluntary call to reduce water use in 2014 was met with little response. The regulations would stay in effect for 9 months. Water providers were given reduction targets ranging from 4 to 36 percent, requiring them to achieve these targets within the 9 months or face a daily fine of up to \$10,000. In the history of California, this was the first time the SWRCB responded with this level of enforcement. Despite the heavy load, the people of California took to the regulations with enthusiasm, and the State achieved the Governor's goal of reducing urban water use. Then in January, due to persistent drought conditions, the emergency regulations were extended until October 2016.

During this time, we were anxiously awaiting El Niño, but in Southern California, aside from a handful of good storms, much of the precipitation bypassed us and showered the northern part of the State. At the urging of water providers who felt that their local conditions had improved from the rainfall and those who felt that their original reduction targets were problematic, the SWRCB reconsidered the regulations and modified them. The last set of modifications, set to take place this summer, will likely result in numerous agencies in Southern California seeing their targets reduced.

As of last month, the Governor issued an Executive Order directing the SWRCB and the Department of Water Resources to develop a long-term framework, requiring permanent actions to achieve water efficiency. If there was any question as to whether or not California should be concerned about prolonged dry conditions and if efficiency will be a requirement going forward, the long-term framework is a clear answer that we are living in a new reality where water efficiency has to be a part of our daily lives and ongoing awareness. New supply projects are critical to the overall reliability of the State, but every drop of water, regardless of its source, needs to be used efficiently.

And if none of the above matters, there's one thing to remember: *it's not about using less; it's about wasting less.* Whether it's emergency regulations, long term framework, local ordinance or state legislation, what we're trying to do is eliminate water waste. We all know that water is a precious, limited, and scarce resource. Despite what the news says or what actions are mandated, we should all do the right thing. So, let's continue to do our part and take good care of the one natural resource that we all need for life.

BOARD OF DIRECTORS | Duane D. Cave DIRECTOR | Scott Colton VICE PRESIDENT | Richard Fiore DIRECTOR | Donald Frolich PRESIDENT | Gary R. Kurtz DIRECTOR | Larry Lizotte DIRECTOR | Brian S. Probskiy VICE PRESIDENT

27500 La Paz Rd | Laguna Niguel, CA 92677 | 949.831.2500 | mnwd.com

activities & updates

Friday, July 22, 2016
Aliso Viejo National Night Out

Get to know your local police force at Aliso Viejo's National Night Out. From 5-8pm at Aliso Viejo's Grand Park on City Lights Drive, this community safety event includes family friendly activities and refreshments as well as educational demonstrations courtesy of Aliso Viejo's finest!



District Receives Financial Reporting Award

Certificate of Achievement for Excellence in Financial Reporting for the District's Annual Financial Report ending June 30, 2015. This is the fourth year in a row the District has received this award!

FOLLOW US ONLINE!



A Day of Conservation and Education at the Second Annual Live Smart Event

The District held its Second Annual Live Smart Event on May 14 from 10am-2pm at the Laguna Hills Community Center. Over 700 people attended the event with vendors and businesses on hand to help educate the community on how to save energy, water, and money! Kids enjoyed hands-on learning activities from Home Depot, Inside the Outdoors, Whole Foods, and Flowmaster while parents chatted with experts from a range of organizations, including SDG&E, Ecology Center, the OC Used Oil Program, and many more. Attendees also learned ways to be more involved in their communities from our local Chambers of Commerce.

IT'S BETTER ON TAP!

Our 2015 water quality and consumer confidence report is available electronically online at mnwd.com/CCR



WHAT ELSE CAN I DO?



Use a commercial or self-service car wash, rather than washing at home



Keep your pool covered to prevent evaporation



Place organic mulch around plants to help them retain moisture



Switch to water-efficient sprinkler nozzles to save water and prevent damage caused by overwatering



Install water-efficient drip irrigation systems to water plant roots more efficiently



Upgrade to "smart" weather-based irrigation controllers, which automatically adjust based on weather

For more information, visit www.mnwd.com/yourmnwd

Moulton Niguel Water District (MNWD) provides drinking water, recycled water, and wastewater service to approximately 170,000 customers in South Orange County. Have questions? Call us at 949.831.2500 or email us at outreach@mnwd.com.

Outreach Deliverables: Bill Inserts & E-Newsletters

August 2016



moulton niguel water district
MONTHLY NEWSLETTER
AUGUST 2016

Why STAGE 2?

The American Southwest is approaching nearly two full decades of dry conditions. Experts are saying a diminished Sierra Snowpack and long dry periods are likely the new normal. Recognizing the large-scale water supply challenges in the state and the need for long-term conservation, Governor Brown issued an Executive Order on May 8, 2016, calling on state and local agencies to adopt lasting and effective water standards. As a result, MNWD will remain in Stage 2 of its Water Shortage Contingency Plan, which requires all customers to use water efficiently.

Conserving water has always been a priority for the District, as it reduces our dependence on imported water and increases our ability to handle long-term droughts and short-term emergencies. Water use efficiency has proven to be the most cost-effective way to achieve reliability and increase water availability.

Today, we have the largest number of District customers living within their individual water budgets. As a result, approximately 95 percent of all the water used in our service area is being used efficiently. Stage 2 specifically targets inefficient users, while those customers who use water efficiently will see no change in their water bills. The District has focused on penalizing wasteful usage because water use efficiency is not about using less, but wasting less. In an effort to help customers avoid paying penalties, the District offers a variety of rebates, home survey programs, and landscape workshops to help customers stay within their budget.

REBATES

The District is currently offering rebates for both indoor and outdoor water saving devices and low water use landscapes. Applications can be found online at <https://www.mnwd.com/rebates>. You may be redirected to Metropolitan Water District's website or OC Watersmart, as the District is partnering with these agencies in this process.

See reverse side for how to take advantage of these rebates!

REBATE PROGRAMS

INDOOR	OUTDOOR
\$285 per washer	High efficiency clothes washers 🏠 max: 1
\$235 per timer	Smart timers or soil moisture sensors 🔌 max: 2
\$175 per kit	Drip irrigation 🔌 max: 3
\$35 per barrel	Rain barrels 🔌 max: 2
\$40 per toilet	Premium high efficiency toilets 🏠 max: 1
\$6 per nozzle	Rotating nozzles 🔌 max: 25
\$2 per sq. foot	Turf removal 🔌 max: 3,000

BOARD OF DIRECTORS

Duane D. Cave DIRECTOR	Scott Colton VICE PRESIDENT	Richard Fiore DIRECTOR	Donald Frolich PRESIDENT	Gary R. Kurtz DIRECTOR	Larry Lizotte DIRECTOR	Brian S. Proboisky VICE PRESIDENT
---------------------------	--------------------------------	---------------------------	-----------------------------	---------------------------	---------------------------	--------------------------------------

27500 La Paz Rd | Laguna Niguel, CA 92677 | 949. 831. 2500 | mnwd.com

WONDERING HOW TO GET A REBATE?

Follow these easy steps and you'll be ready to go!

Step One: Go to <https://www.mnwd.com/rebates> and click on either Residential or Commercial rebates.

Tip: Before you start the online rebate process for devices, make sure you have the following:

- Address
- Account number (Found on your water bill)
- Receipt from purchase of device (A digital copy will be needed for some rebates)

Since public funds are being used to make these rebate programs available, it is necessary to make certain information about program participation available to the public, if requested. Once you are at the site, you'll be asked if you agree to the information below being disclosed. Please confirm your acceptance of public disclosure requirements.

Step Two: Input contact information.
Step Three: Select the device(s) you wish to receive a rebate for.
Step Four: Enter device information.
Step Five: Review the survey and Terms and Conditions.
Step Six: YOU'RE FINISHED!

INTERESTED IN TURF REMOVAL?

If you are applying for a turf rebate, the process is a bit different. Here are some helpful sites to get you started on your new landscape.

For the Do-It-Yourself types:
http://cnps.org/cnps/grownative/getstarted/starting_a_garden.php

For those who are looking for some help:
<http://www.rightscapenow.com/landscape-resources/local-landscapers>

To start the turf rebate process, go to <https://www.mnwd.com/rebates> and click on either Residential or Commercial rebates. Scroll down to the turf removal section and click Apply!

Are you just removing turf or are you removing turf AND installing synthetic turf? Click on the option that best fits your project.

When submitting your turf rebate application, you will need the following:

- Your current water bill
- 3-5 photos of the project area
- A simple site plan (may be hand-drawn)
- A valid email address

Once you've submitted the application, the District will contact you to schedule a pre-inspection and get you started on your project. Please do not remove any turf until a pre-inspection is complete. For a list of eligible projects and more details on the process, please visit the site below:
https://mnwdoc.dropletportal.com/program/participation_process/

For any questions, our conservation department is here to help at (949) 448-4025.

GO PAPERLESS!

Our convenient eBilling allows you to receive your bill electronically and pay for your water and sewer services online. To sign up for our eBill service, visit: <http://www.mnwd.com/e-bill/>.

FOLLOW US ONLINE!

f t y in

For more information, visit www.mnwd.com/yourmnwd

Moulton Niguel Water District (MNWD) provides drinking water, recycled water, and wastewater service to approximately 170,000 customers in South Orange County. Have questions? Call us at 949.831.2500 or email us at outreach@mnwd.com.

Outreach Results: Social Media – Facebook

TOP POSTS:

Moulton Niguel Water District
Published by Michelle Torr [?] · June 27 at 8:30am · 🌐

The Colorado River System generates \$1.4 trillion in economic benefits each year for the seven Colorado River Basin states that rely on it for water, including California!



3,521 people reached

[View Results](#)

👍❤️👤 Lilian Lopez, Renee Belkin and 216 others · 8 Comments · 42 Shares

👍 Like 💬 Comment ➦ Share

Moulton Niguel Water District
Published by Michelle Torr [?] · July 31 at 9:00am · 🌐

The Bush Monkey Flower is a very popular landscaping option for any garden! These drought tolerant flowers occur in a variety of different shades from white to red, but most notably they will appear with a light orange. They are the perfect complement to a California friendly home.



2,542 people reached

[View Results](#)

👍❤️👤 152 1 Comment · 16 Shares

👍 Like 💬 Comment ➦ Share

Moulton Niguel Water District
Published by Michelle Torr [?] · July 19 at 9:00am · 🌐

The Aliso Viejo National Night Out will be held this Friday the 22nd from 5-8pm at Aliso Viejo's Grand Park on City Lights Drive. This educational, community safety event allows guests to get to know the local police force while enjoying family friendly activities and refreshments!



2,202 people reached


[View Results](#)

👍❤️👤 130 5 Comments · 15 Shares

👍 Like 💬 Comment ➦ Share

Outreach Results: Social Media – Twitter

TOP POSTS:

 Moulton Niguel WD @YourMNWD · Jun 8
Happy #WorldOceansDay! Today we join in celebrating one of the world's most stunning and largest #naturalresources.




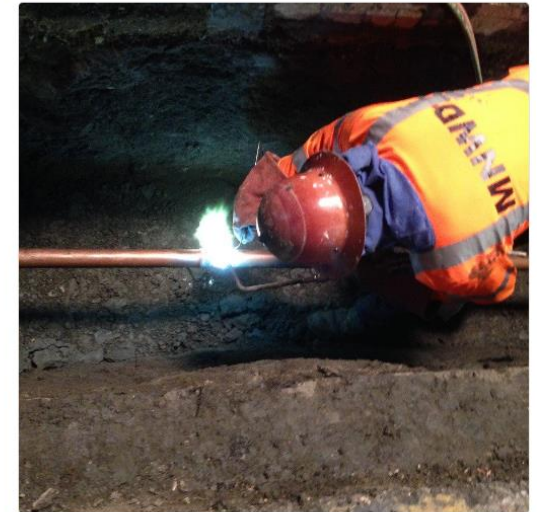
← ↻ 1 ❤️ 3 ⋮

 Moulton Niguel WD @YourMNWD · Jul 11
For the fourth year in a row #MNWD receives the Certificate of Achievement for Excellence in Financial Reporting!



← ↻ 2 ❤️ 1 ⋮

 Moulton Niguel WD @YourMNWD · Jul 8
#MNWD staff newly completed a recycled water conversion that will save 2.5 million gallons of drinking water a year!



← ↻ 2 ❤️ 2 ⋮



Questions & Feedback