



# Agenda

DATE 4/2/13 TIME 12:56 pm  
PREPARED BY Laurie Trevizo  
REVIEWED BY [Signature]

**SANTA FE WATER CONSERVATION COMMITTEE MEETING**  
**CITY HALL - 200 LINCOLN AVE.**  
**CITY COUNCILORS' CONFERENCE ROOM**  
**TUESDAY, APRIL 9, 2013**  
**4:00 PM TO 6:00 PM**

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF CONSENT AGENDA
5. APPROVAL OF MINUTES MARCH 12, 2013 WATER CONSERVATION COMMITTEE MEETING
6. CONSENT AGENDA
  - A. DROUGHT, MONSOON AND WATER RESOURCE MANAGEMENT UPDATE (Rick Carpenter)
  - B. WATER CONSERVATION MARKETING UPDATE (Laurie Trevizo)
  - C. WORKING DRAFT OF RESOLUTION 2013-\_\_ A RESOLUTION IN SUPPORT OF A WATER CONSERVATION CAMPAIGN FOCUSING ON VOLUNTARY OUTDOOR IRRIGATION (Councilor Ives)

**DISCUSSION ITEMS:**

7. REVIEW OF PARLIMENTARY PROCEDURE (ROBERT'S RULES OF ORDER) (Councilor Ives, 10 minutes)
8. CONSIDERATION OF PAPERLESS PACKETS (Councilor Ives, 10 minutes)
9. CONSIDERATION OF EXTENDING WATER CONSERVATION COMMITTEE MEETING TIMES (Councilor Ives, 10 minutes)

**INFORMATIONAL ITEMS:**

10. GROUP REPORTS FROM WATER CONSERVATION COMMITTEE INITATIVES INCLUDING IDENTIFYING OBJECTIVES AND GOALS OF INITATIVES (Councilor Ives, 60 minutes)

**MATTERS FROM STAFF:**

11. ANNUAL WATER REPORT (Alan Hook, 10 minutes)
12. 2012 REPORT ON GALLONS PER CAPITA PER DAY (Alan Hook/ Laurie Trevizo, 10 minutes)

**MATTERS FROM COMMITTEE:**

**ITEMS FOR NEXT AGENDA – TUESDAY, MAY 14, 2013:**

CAPTIONS: APRIL 23, 2013  
PACKET MATERIAL: APRIL 25, 2013

**ADJOURN.**

Persons with disabilities in need of accommodations, contact the City Clerk's office at 955-6520, five (5) working days prior to meeting date.

**MINUTES OF THE  
CITY OF SANTA FE  
WATER CONSERVATION COMMITTEE**

**Tuesday, March 12, 2013**

**4:00 p.m. to 6:00 p.m.**

**1. CALL TO ORDER.**

A meeting of the Water Conservation Committee was called to order by Councilor Peter N. Ives, Chair, at approximately 4:00 p.m., on March 12, 2013, in the City Councilor's Conference Room, City Hall, 200 Lincoln Avenue, Santa Fe, New Mexico.

**2. ROLL CALL**

Roll call indicated the presence of a quorum as follows:

**MEMBERS PRESENT**

Councilor Peter N. Ives, Chair  
Melissa McDonald, Vice-Chair  
Lise Knouse  
Tim Michael  
Grace Perez  
Giselle Piburn  
Doug Pushard  
Lisa Randall  
Karyn Schmitt  
Stephen K. Wiman  
[Vacancy]

**OTHERS ATTENDING**

Rick Carpenter, Water Resources and Conservation Manager  
Laurie Trevizo, Water Conservation Manager  
Caryn Grosse, Water Conservation Specialist  
Melessia Helberg, Stenographer

There was a quorum of the membership in attendance.

### **3. APPROVAL OF AMENDED AGENDA**

**MOTION:** Lise Knouse moved, seconded by Tim Michael, to approve the amended agenda as presented.

**VOTE:** The motion was approved unanimously on a voice vote.

### **4. APPROVAL OF THE MINUTES: FEBRUARY 12, 2013, WATER CONSERVATION COMMITTEE MEETING**

**MOTION:** Tim Michael moved, seconded by Lisa Randall, to approve the minutes of the meeting of February 12, 2012, as presented.

### **DISCUSSION ITEMS:**

#### **5. VOLUNTARY RESTRICTIONS IN WATER CONSUMPTION DURING DROUGHT (STEPHEN WIMAN)**

A copy of *Voluntary Reductions in Water Consumption During Drought*, with attachments, submitted for the record by Stephen Wiman and Doug Pushard, is incorporated herewith to these minutes as Exhibit "1."

Mr. Wiman thanked Mr. Carpenter and Ms. Trevizo for getting this on the agenda, noting he thought it should be on this agenda because of the timing.

Chair Ives said he will be talking about deadlines for submitting items for the agenda later in the meeting.

Mr. Wiman noted part of this Committee's duties and responsibilities are "...advising City government on water conservation activities," and "Propose changes in code, practice and policy that will promote further water conservation.." He said they are not proposing to change the Code. He said he would like to have Committee feedback and approval of the proposal.

Mr. Wiman reviewed the information in Exhibit "1."

*The Committee asked questions and commented as follows:*

- Ms. Knouse thinks the by the numbers works well, and this is a good plan.
- Ms. Randall thinks we would want to approve this, and we would want to be pro-active to get something out there in a timely fashion.

- Mr. Michael asked Mr. Wiman what he would like this Committee to do – approval to proceed with preparing a proposal, or approval to work on this, or approve that a proposal be made to the Governing Body for voluntary restrictions.
- Mr. Wiman said would like to hear the City's perspectives on this. He said there are some conflicts of why "you would or wouldn't want to conserve water." He would like a vote of the Committee as to whether we should move forward with this. He said is timely, noting it has to go through City committees to go before the City Council. He believes it is something the City could and should promote.
- Ms. McDonald said it is a fine idea, but she wants to be sure it doesn't conflict with the different stages the City has. She said she wants to see what it looks like before it goes to City Committees and then the Council. She likes the concept, and likes a voluntary program. However, she would want to see the actual output.
- Mr. Pushard said, for clarification, Mr. Wiman talked about two actions. The first is a vote of the Committee to proceed with a voluntary program and start with a working group to create the materials for approval at the next meeting. He asked, if we are just doing a marketing program, do we have to go anywhere else.
- Chair Ives said it is advisable, as a participatory process, moving forward based on our discussion today, he would ask our Legislative liaison in the City Attorney's office, to draft a Resolution promoting voluntary water conservation using a particular type of program. He said this could be ready for the next meeting for a vote. He said it would have to go to the Public Utilities Committee and Finance, noting there is fiscal impact because there is an existing contract in place for advertising. He would like to hear from Ms. Trevizo at some point about new things are inserted into that contract, and if that is an easy/difficult process.
- Ms. McDonald said the potential conflict is in messaging. She said for the longest time we've been floating the idea of watering with the curve, and she is unsure that the numbers fit in the curve. She wants to be sure what we are proposing is not going against what we've been promoting, or if we are conscious that we're going to change that. She said it is the same concept, but "is it the right amount of water, and is it going to be a confusing method."
- Ms. Knouse said a lot of times voluntary programs end up become mandatory programs, and she doesn't want that to happen. She doesn't want the government enforcing it. She said there are people in the community who are cooperative and want the water supply to last, and we need to focus on that and have the appropriate language so people aren't cited for watering an extra day a week or something.

- Chair Ives said the obvious advantage of this is that it is very easy to state and easy to remember – it's March so it's one week for one month, then April-May for two weeks for two months Easy, then June-August three weeks for three months, then September-October two weeks for two months, and then once a week in November. He said there is an ease in the messaging, which probably is the reason Albuquerque has had a great deal of success with it.
- Mr. Michael said there is no definition right now whether or not it is watering by the numbers, which is an example. He said Mr. Pushard suggested the working group would start preparing the materials.
- Ms. McDonald said Albuquerque is different from Santa Fe, and watering twice a week isn't necessary in April. It is easier in terms of messaging, but it may not achieve ultimately what you are suggesting. She is okay with going with the idea and keeping it consistent in the media if that is what the Committee wants to do.
- Ms. Schmitt said over the past two years the temperatures have been much higher, and asked if this has been adjusted this in consideration of the higher temperatures we are experiencing. She said people will start cheating if they see their gardens going into decline. She likes the different numbers, noting it is easier to remember.
- Ms. McDonald said she isn't familiar with this program and she doesn't know.
- Chair Ives said it certainly something which could be followed-up with Albuquerque and determine those kinds of specifics.

**MOTION:** Tim Michael moved, seconded by Grace Perez, that the Committee recommend preparation of a Resolution promoting voluntary water conservation and requesting marketing efforts to promote voluntary water conservation using one or more different plans, including water by the numbers, 1-2-3-2-1.

**DISCUSSION:** Ms. Perez said it seems the discussion is getting into a lot of details about the Albuquerque model. She said if the motion is stated that this is one of things we will look at, so we're not reinventing the wheel, then people working with it can come up with something that really works for Santa Fe.

**FRIENDLY AMENDMENT:** Ms. Perez said she thinks the first action is approval that this Committee agrees on the concept and start working on it, with the idea of using what we know already, for example what Albuquerque is doing, as a model to look into and to see how we can adapt it to the City. **THE AMENDMENT WAS FRIENDLY TO THE MAKER AND THEIR WERE NO OBJECTIONS BY THE OTHER MEMBERS OF THE COMMITTEE.**

**FRIENDLY AMENDMENT:** Mr. Pushard would like to amend the motion to add that the Committee willingly will assist the City in developing the program. **THE AMENDMENT WAS FRIENDLY TO THE MAKER AND SECOND, AND THEIR WERE NO OBJECTIONS BY THE OTHER MEMBERS OF THE COMMITTEE.**

**FRIENDLY AMENDMENT:** Ms. Schmitt would like to amend the motion to state that approval by the entire Water Conservation Committee is required before it goes forward to the City. **THE AMENDMENT WAS FRIENDLY TO THE MAKER AND THEIR WERE NO OBJECTIONS BY THE OTHER MEMBERS OF THE COMMITTEE.**

**VOTE:** The motion, as amended, was approved unanimously on a voice vote.

Chair Ives said he will work with Ms. Trevizo as this moves forward.

Mr. Wiman said we don't want to get caught up on the Albuquerque program, and we can customize something that is more suited to Santa Fe. However, he doesn't want to move forward without knowing the level of approval once he leaves here, commenting he doesn't understand the procedure for City committees.

Chair Ives said if this Committee wants something to take effect with the force of policy it has to go through the City Council, because the Council is the policy-making entity. He said there are certain powers within the various departments in terms of the conduct of its business, but it minimally would have to go to the head of Public Utilities, Brian Snyder, for his approval, before it would be adopted for any kind of increased vetting in terms of marketing.

#### **INFORMATIONAL ITEMS:**

##### **6. GROUP REPORTS FROM WATER CONSERVATION COMMITTEE INITIATIVES, INCLUDING IDENTIFYING OBJECTIVES, GOALS AND PRIORITIZATION OF INITIATIVES. (COUNCILOR IVES)**

A Memorandum dated March 2, 2013, to the Water Conservation Committee, from Councilor Peter Ives, Chair, Water Conservation Committee, regarding the Group Reports from Water Conservation Committee Initiatives, including identifying objectives, goals and prioritization of initiatives, is incorporated herewith to these minutes as Exhibit "2."

Chair Ives said we can rank all of the items on the matrix.

Mr. Michael asked if some of these items should some drop off the list, but he doesn't want to lengthen the process.

Chair Ives said that's what we're trying to do by giving priority to certain items, which is saying we won't be focusing on the other ones. He said the general consensus of this group is that 4 to 5 of these items is all we have the capacity to do, given the staffing.

Mr. Pushard said importance is one criteria and willingness to work on an item is another, which is important. He wants people to work where they are passionate.

Chair Ives agreed, saying that passion will be expressed through priority.

Ms. McDonald said it might be convenient if each Committee come up with a shorter description, a more concise way to list the report.

Chair Ives said we will do that as soon as we prioritize the items.

The Committee then ranked their top 5 items by priority. Chair Ives noted the only heavily populated item which doesn't make the top 5 is Item 3, which is evaluation of the potential use and/or storage of stormwater in water conservation strategies.

Ms. McDonald said Item #3 could fall under Item #5 as well, noting she would approach it as an educational item, although it could be a regulatory item.

Mr. Pushard said all of these are related, and if successful, all will affect #5. He noted Ms. McDonald is interested in the Parks as a user of water. He said if nobody is going to sign up to work on it "it doesn't matter where we park it."

Chair Ives agreed.

Ms. McDonald said it makes sense for her to be working on the Parks, mainly because she recently was appointed to the POSAC [Parks and Open Space Advisory Commission].

Chair Ives asked the members how many of the 5 items they would feel comfortable/willing to work on – two, one.

Mr. Pushard clarified that non-Committee persons can serve on the working groups, and Chair Ives said this is correct.

Ms. McDonald clarified that the people who speak for the group would have to be a member of this Committee.

The priorities established by the Committee are as follows:

1. *Update of Santa Fe Water Conservation and Drought Management Plan.*
- 2 & 8. *Water conservation education/outreach program. Item #8 was incorporated into this item, because it now becomes an education program – Evaluation and report on the propriety of the City's water use regulations during drought conditions.*
4. *Evaluation and drafting of changed or new ordinances to promote water conservation in irrigation and outdoor watering.*

5. *Reestablishing the trend of net annual reductions in per capita water usage.*
6. *Proper regulation of water use and waste avoidance by large water users, such as the State of New Mexico, City of Santa Fe and other persons.*

The Board then signed up to work on the priority items as follows:

1. ***Update of Santa Fe Water Conservation and Drought Management Plan.*** Doug Pushard, Grace Perez, Lisa Randall and Chair Ives, as well as Bill Roth, non-Committee.
- 2 & 8. ***Water conservation education/outreach program. Item #8 was incorporated into this item, because it now becomes an education program – Evaluation and report on the propriety of the City's water use regulations during drought conditions.*** Stephen Wiman, Lise Knouse, Tim Michael, Giselle Piburn and Grace Perez, as well as Louise Pape, non-Committee.
4. ***Evaluation and drafting of changed or new ordinances to promote water conservation in irrigation and outdoor watering.*** Doug Pushard and Chair Ives, as well as Bill Roth, non-Committee.
5. ***Reestablishing the trend of net annual reductions in per capita water usage.*** Melissa McDonald and Karyn Schmitt;
6. ***Proper regulation of water use and waste avoidance by large water users, such as the State of New Mexico, City of Santa Fe and other persons.*** Melissa McDonald and Tim Michael.

Chair Ives said, although he is listed to work on Item #1, he will make himself available for any Committee working on any topic.

Chair Ives asked each member of the Working Group to have met once or twice by the time of the next meeting meet, and have developed 1 or more strategic goals, objectives and tasks in more and more specific delineation. Chair Ives said it is helpful if any of the groups are looking at particular documents to inform the process, to list the documents, so that others wanting to join can educate themselves on what the group is doing. He would like to include timelines where possible, and look to have a well populated and full listing by the next meeting.

Mr. Michael asked if staff could summarize the working groups and email those to the Committee.

Chair Ives said it will be summarized and emailed to the Committee in 2-3 days.

Ms. Randall asked the status of the appointment of Bill Roth to this Committee.



Chair Ives said we are waiting to get that on the agenda.

Mr. Pushard asked people in attendance to volunteer on any working group they would like.

**Esha Chiocchio, Climate Solutions Coordinator, Santa Fe Watershed Association**, said she has been assigned to develop a climate adaptation plan for the River. She said these working groups might tie into the development of the plan, and she would be interested in staying in touch with the working groups.

Mr. Pushard asked if City staff needs to be on every working group. He said there will be good participation on Items #1 and #2, but is unsure about the others. He asked if we need to assign a name to #1 and #2.

Ms. Trevizo said staff is on only Item #1. She is hoping for fresh and innovative conservation programs from Item #2, which are implementable. She said she might add a fiscal impact to the chart for the next meeting – how much time for City staff, for example. She said if we go through the Resolution process staff would be required to include a fiscal impact.

Chair Ives noted the FY 2013-14 budget is anticipated to be fairly flat in looking at revenues in the Finance Committee, noting we aren't likely "to be hiring oodles of new staff across the City," and asked the working groups to be aware of the limitation of staff and use existing staff prudently.

## **MATTERS FROM STAFF**

### **7. DROUGHT, MONSOON AND WATER RESOURCE MANAGEMENT UPDATE. (RICK CARPENTER)**

Rick Carpenter reviewed his Memorandum of February 25, 2013, which is in the Committee packet. He said even though we have good snowpack, the runoff is very very low, and they think it's soaking into the dry soil, rather than running off. He will be in Albuquerque for a briefing from the Bureau of Reclamation with regard to what they expect from the San Juan/Chama runoff.

Chair Ives noted the reservoir is listed at 30.4% , which indicates there is no flow from the reservoirs, so we are using primarily the Rio Grande and then Buckman.

Mr. Carpenter said we have used the Buckman wells about half and half with the BDD, which isn't a resource management issue, so much as it is a water temperature issue because we had frozen meters.

Ms. Randal asked what is the acronym MGD.

Mr. Carpenter said it stands for Million Gallons per Day, noting 1 acre foot of water is about 325,800 gallons.

## **8. WATER CONSERVATION PROGRAM FACT SHEET. (LAURIE TREVIZO)**

A copy of *The City of Santa Fe's Water Conservation Journey* is incorporated herewith to these minutes as Exhibit "3."

Ms. Trevizo presented information from Exhibit "3."

*The Committee commented and asked questions as follows:*

- Ms. Schmitt said two years ago the City adopted an Ordinance to remove the fines for homeowners looking at their meters themselves, and asked if that is included.

Ms. Trevizo said they dealt mainly with conservation and those things which reduced the demand. She said they also realized that a lot of the history has been lost through this process and in the Annual Water Report, they have taken this and made a chronology out of it, so that will help.

- Mr. Wiman asked if the numbers on page 2 are City numbers or GPCD calculations.

Ms. Trevizo said because it starts in 1995, those have to be City calculations because the OSE GPCD calculator wasn't started until about 2009 with the beta testing, and we didn't start implementing until 2010 when the San Juan/Chama permit came on board. Responding to a question from Mr. Wiman, Ms. Trevizo said there are two 2012 numbers, the City and the OSE. She said the City number is 109 and the OSE GPCD is 106.

- Chair Ives reiterated they would welcome thoughts about how this can be improved.
- Mr. Pushard said later in the Report there is "demand hardening," and you might want to add a small paragraph on ongoing research which is done, and Ms. Trevizo said that can be put under "Where we're Headed."
- Mr. Pushard said it also needs to include the formation of this Committee which is unique among cities.

## **9. INFORMATIONAL UPDATE ON WATER CONSERVATION OFFICE UPCOMING SPRING 2013 EVENTS. (LAURIE TREVIZO)**

Ms. Trevizo reviewed her Memorandum of February 22, 2013, with attachment, which is in the Committee packet. Please see this Memo for specifics of this presentation

Mr. Pushard asked Ms. Trevizo if she needs assistance on the KWEL program.

Ms. Trevizo said it is covered, noting they are refining the syllabus, but he can look at that for a place to "plug in." She said they are trying to be quick and concise because they need to get all of the landscapers out by 3:00 p.m., so they can do their work, which will be hard.

Mr. Pushard asked when testing is going to be done, or if they are going to proctor testing.

Ms. Trevizo said Lonnie is going to proctor the test for him, noting she wants to take it as well.

Mr. Pushard said he can help proctor if she would like, and Ms. Trevizo said that is a really good idea because they do need help.

Chair Ives asked the Board members to try to attend the Childrens Water Fiesta on April 16-17 at the Convention Center, commenting the kids have a fabulous time.

#### **10. UPDATE ON DEMAND ELASTICITY STUDY. (LAURIE TREVIZO)**

Ms. Trevizo said the comments are due ASAP, and she will compile the comments and send to Jim Friar before Friday.

Chair Ives said it is fascinating reading in terms of history and where we hope to go, as well as how some impacts have been registered in Santa Fe. He urged everyone to look at it and see what lessons can be learned from the study..

Mr. Pushard said then the next step is to provide him the information on Friday, and Ms. Trevizo said yes. Mr. Pushard asked what is the next step.

Ms. Trevizo said the comments will be entered and the report then would be finalized.

Mr. Pushard said he read the report and is confused, and said multiple cities are being done and this is our submission. He asked when he will provide a draft of his report.

Ms. Trevizo said she can ask him. She said she understood he wanted a final before May, for sure, so she believes it will be a quick turnaround.

#### **MATTERS FROM THE COMMITTEE**

#### **11. WATER CONSERVATION COMMITTEE DISCUSSION REGARDING AUTOMATIC METER READING DEVICES. (COUNCILOR IVES)**

Chair Ives said he was hoping to have a device here.

Ms. Schmitt said she brought the two which were issued to her through the Committee.

Ms. McDonald reported on the meeting with Brian Snyder, noting they talked about the status of the billing system. She said the City has selected to work with a person from the College, but she doesn't have the name. This person will work with the college over the next 6-9 months to take all requirements

the City included in the RFP and come back with a proposal for review and approval, and then they will proceed. She said we are looking at 2-3 years before the City gets a new billing system. She said Mr. Snyder said the Committee's concern about the ability to do a home based water budget likely will be included. He said it would be easy to change the billing system, and streamline the process. She said it seems to be on track.

She said Mr. Snyder said he will be coming back to this Committee to show us what comes from this scope of work, and the Committee would have the opportunity to give feedback at that point.

Ms. Schmitt said they specifically asked Mr. Snyder if it would incorporate an on-line component where the customer could call up and get a daily water use record which was specific, without having to go through an employee at the water company. She said Mr. Snyder said that definitely is on their list to include.

Ms. McDonald said they wanted to be sure the Firefly or other device will work for the meter reading system. She said the City's pilot project with the Orion and the Badger is coming to an end, noting Ms. Schmitt will be demonstrating the Orion.

Ms. McDonald said there was a discussion of the Firefly and devices which will work with whatever meter reading system the City chooses. She believes the Committee will want to consider the idea of having an internet based device where meter readers don't even go out. She said the internet would send the reading to the Water Division, which will reduce the carbon footprint by not having 7 trucks on the road every day reading the meters. She said Mr. Ortega will be presenting meter reading options, noting she wants people to think about the idea of an internet-based system. She sees the potential for this Committee to get involved, because there are issues associated with people being concerned about having wi-fi type stuff, but it would be a huge benefit to the City – in cutting our carbon footprint and allowing staff to be able to do more interesting work than just driving their trucks around.

Ms. McDonald said it sounds as if we will have something in 2 years, perhaps a year if we're lucky. She wants the citizens to be able to read the meters without having to open the meter can. She said the idea is to get something which really will work for the people, and she supports the City in different ways to make it the best product we can get.

Ms. Schmitt apologized that they didn't get the name of the contracted company, which will be evaluating what is available for a medium sized City. She said when the City got the Firefly, this committee saw a presentation by the people who were installing it. She said they came and gave a really great overview and it looked great. However, it hasn't panned out the way we had hoped.

Ms. Schmitt showed the Committee a Kopy Kap, and said each member of the Committee was issued a Kopy Kap hand-held device, which also can be put on the wall, but has to be close to the meter can. She said the idea was to push a button to get a current reading of the water use at that point. She said we realized that the Kopy Kap had a serious battery issue, and the battery had to be put in and taken out every time. She said it would read all of the meters around and you almost had to stand over your own meter, and it still would read the one across the street. She said she spent a lot of time with it,

commenting it looks sort of antique now. She said it worked, but you had to be creative.

Ms. Schmitt showed the Committee an Orion which is used by Las Campanas, noting this Orion belongs to a client and she reads their meter. She said this device is programmed specifically to your meter, noted it is a little more complicated. It has a much longer distance. She said you get a meter reading and then you have to do the math depending on meter size. She said the City really doesn't like its customers to look in the water can. She said Mr. Snyder is looking at the Orion, the Badger and others, to come up with a recommendation. She said the Orion is "pretty decent," noting Las Campanas can give you water use readings every 3 minutes, to look for a leak, for example.

Ms. Schmitt said we are excited about being able to get real time information on what is happening in your house in terms of water use. She said they were disappointed, however, that the timeframe for this to happen won't be soon. She said, "We really feel like this is a big piece, we've felt that for years, and it hasn't actually materialized. Unfortunately, as soon as you get these, they start to be obsolete." She said, "It isn't anywhere we would love it to be, but it is still a very valuable tool."

Ms. McDonald said there may need to be some outreach in the software selection phase, and believes this would be a valuable place for this Committee to put some of our energy. She said when people know how much water they are using, they realize that it is a lot of water. She said she and Ms. Schmitt are interested in seeing that we consider how they might influence that process.

Mr. Pushard said there are independent websites which allow customers to download bills from the water and energy company and create water budgets, such as [www.myenergy.com](http://www.myenergy.com). He asked if this was discussed with Mr. Snyder.

Ms. McDonald said it did come up, but a third party will be part of the scope of work being developed. However, her sense is that they want to do as much of this in-house as possible.

Mr. Pushard said the internet and the availability of tools is going to change a lot faster by independent companies than our own City IT staff.

Ms. McDonald said Mr. Snyder is aware of it, and this Committee can bring this up when he comes back to this Committee with the report. She said all options are on the table, and he did mention that as something to be considered.

Mr. Pushard said the City doing something good, but allowing it to be open to third parties will allow us to "compare and dice things."

Ms. Randall asked if they spoke about commercial users or just residential only.

Ms. McDonald said they talked about commercial users, institutional and the parks, but nothing specific, noting it was more in terms of metering. She said at the April POSAC meeting they will be looking at how this will impact the parks. She said if you can see what you're using any minute of the day, anybody can benefit from that, whatever the classification of the user.

Chair Ives said the ability to detect unusual usage during a particular period will be built into the utility system.

Ms. Schmitt said she understands they are incorporating alarms so it alerts the user to start looking for a leak.

Mr. McDonald said this can be voluntary as well.

Ms. Pape said there are a lot of people who are concerned about the issue of EMFs, but there are different approaches. She said to overcome resistance to EMFs, for example, they can send messages hourly or daily rather than continuously. She said it is totally unnecessary to send continuously for a bill and it is ridiculous. She said if the City opted not to transmit continuously it would help a lot with the whole EMF issue.

Ms. Schmitt said there should be an option to transmit continuously or not.

Ms. Pape said it has to be a City policy, because of the issue of one neighbor's choice versus another's and the impact on the neighbor.

Ms. McDonald said often the meter is pretty far from the house, on the street.

Ms. Pape said her meter is right in the middle of her house.

Ms. McDonald thinks that is a private meter at the Commons, with one master meter, and that wouldn't be at the private meters it would be at the master meter. She said Park Plaza invested in a meter in each individual unit, and that would be a more complex problem.

Chair Ives said he appreciates the update and report and for bringing in the devices for a demonstration.

## **12. WATER CONSERVATION COMMITTEE RULES AND PROCEDURES DISCUSSION. (COUNCILOR IVES)**

Chair Ives reviewed Resolution No. 2008-40, which amended No. 2002-25 regarding membership to expand the membership.

Chair Ives said everyone should have a copy of the Rules and Procedures for City Committees, noting the members should familiarize themselves with the Rules and Procedures.

Chair Ives said he would like members to summarize the discussion in their work group in a 1-2 page report which can be read in advance of the meeting, which will allow us to use our time more efficiently. He suggested the Committee consider a consent agenda for perfunctory items which can be approved without discussion.

Chair Ives said some people were talking about having longer Committee meetings. He said there is a vague recollection at the City that these meetings are limited to 2 hours, although he can find nothing in writing to this effect. He said everybody has a separate day job, and 4:00 to 6:00 p.m. seems to work out very nicely. His hope is by delegating more of the work to work groups between Committee meetings will allow us to do everything we need to do within two hours.

Ms. Trevizo reviewed the Committee timelines, which also is contained in the Chair's March 1, 2013, Memorandum. She noted there is discussion about going paperless, noting it takes a great deal of time to assemble packet materials, make copies and get those mailed out. She said all of this has to be folded into hers and Ms. Grosse's other duties and responsibilities.

Mr. Pushard asked Ms. Trevizo if she can give the date for packets for the next meeting at the previous meeting.

Chair Ives suggested we do items for next agenda, with a note that packet materials are due not later than a specific date, and post that date on the agenda.

Ms. Trevizo said the enabling Resolution establishes this as a City Committee and we have to have City business on the agenda as well.

Chair Ives said it is all subject to the Open Meetings Act and that's what goes into the Notice, naming the agenda items, and the need to include materials in advance.

Mr. Michael said if there is a notice of deadline to submit packet materials on future agenda notices, we need to clear on what needs to be submitted, and whether or not the agenda item is a voting item.

Chair Ives said we package materials in a timely fashion, so they are part of the Open Meetings process. He will work with Mr. Trevizo to be clear on any distinctions in that regard.

Ms. Randall expressed support for going paperless, and bring a laptop, projector and screen so participating members can view items on the screen rather than create waste paper and use staff time unnecessarily.

Chair Ives said the challenge with this idea that we will need someone to operate the equipment.

Ms. McDonald said we should put this on the next agenda for a vote.

Chair Ives said he would support that, as long as people have the capacity to receive packets via email.

Chair Ives said he has spoken with the City Clerk and he would like to see all materials posted to the website throughout the City by Friday at 9:00 a.m., prior to the week when the meeting is scheduled. He said we still have to make copies available in the Clerk's Office.

Ms. Schmitt requested that her Committee packet be sent to her electronically.

Chair Ives said we can do a linked agenda, so that when you get your agenda it has a link to each of the document agenda items behind it.

Mr. Pushard said he appreciates the Chair moving through Items 4-6. He said if we have to go over 10-15 minutes because of an item, we should consider that versus stopping right at 6:00 p.m.

Mr. Pushard said our agenda versus what is in the City Code agenda is different. He said work to be done has always been at the end of Agenda, with new business at the top of the agenda. He asked if we can change our agenda so we have the working time more in line with the City's agenda.

Chair Ives said we're not that much off, because informational items and matters from staff are reports on various items. He will look at it to see what he can do.

Ms. McDonald said during the 10 years she's served on this Committee they have always been able to get the work done in 2 hours. She said we have to look at ourselves, how much we're talking, how much we're getting done and look at the working groups. She has served on other Committees and they never exceeded two hours, although occasionally a meeting will exceed 2 hours. She said longer meetings would impact her excitement about this Committee if it were to be longer.

#### **ITEMS FOR NEXT AGENDA – TUESDAY, APRIL 12, 2013**

1. Discuss holding a longer meeting.
2. Gallons per capita. Ms. Trevizo said yes, as a 5 minute presentation under matters from staff.
3. Discussion of the work on voluntary restrictions.
4. Mr. Wiman wants someone from the City to come and discuss the contradiction in conserving water versus the way it is. What is done with conserved water, and issues surrounding treated effluent.

Chair Ives asked Mr. Wiman to pull this together and submit to him as a potential agenda item and they'll figure out how to caption it.

Ms. Schmitt and Ms. Randall thanked Mr. Pushard and Mr. Wiman for bringing in the voluntary option.



**13. ADJOURN**

There being no further business to come before the Committee, and the Committee, having completed its agenda, adjourned the meeting at approximately 6:15 p.m.

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**Peter N. Ives, Chair**

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**Melessia Helberg, Stenographer**

# MEMORANDUM

**TO:** City of Santa Fe Public Utilities Committee  
City of Santa Fe Water Conservation Committee  
BDD Board

**FROM:** Rick Carpenter, Water Resources and Conservation Manager *RC*

**VIA:** Brian Snyder, Public Utilities Department and Water Division Director *BKS*

**DATE:** March 21, 2013

**SUBJECT:** Update on Drought, Monsoon, and Water Resource Management

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## CURRENT PUC UPDATE

As the Committee is aware, our region is still suffering through a severe drought. Our region has gone through two consecutive years of record drought and heat. The possible prospects of a third consecutive year of severe drought and heat would present significant challenges to all water purveyors and irrigators, and the City's Water Division takes this situation very seriously.

The National Oceanographic and Atmospheric Administration (NOAA) recently updated its monthly report on its El Nino/Southern Oscillation (ENSO) Diagnostic. This report indicates that current model predictions more strongly favor El Nino conditions to be neutral to weak (dry) through the Spring of 2013. Above average temperatures are also expected.

However, the City of Santa Fe has invested in a robust and diverse portfolio of four distinct water supply sources: Buckman well field, City well field, Canyon Road Water Treatment Plant on the Upper Santa Fe River, and the Buckman Direct Diversion on the Rio Grande. The City also has several years-worth of San Juan-Chama Project water stored in reservoirs, in case deliveries from the federal Bureau of Reclamation of San Juan-Chama Project water are curtailed. The City has also been "resting" the Buckman well field since early 2010. Therefore, City decision-makers and resource managers have a variety of policy options available in order to meet water supply demands during times of drought.

### Local Conditions

	Reservoir Level	Santa Fe Snow Gage	Reservoir Inflow
February 25, 2013	31.7%	37 inches	1.1 MGD
5-Year Average This Date (2008 – 2012)	54.75%	44.48 inches	3.22 MGD

## Rio Grande Basin

Surface flows in the Rio Grande and its tributaries have been well below normal, storage levels in regional reservoirs are very low currently, and the federal BoR recently stated that if there is no “meaningful moisture” received this winter/spring then this would mark the lowest water levels ever in New Mexico reservoirs prior to entering into a new irrigation season. With large moisture deficits deeply entrenched across the region, and with less than one month of the wet season included in this forecast period, meaningful improvement seems unlikely.

The City of Santa Fe has rights to a total of up to 5,040 acre-feet per year in Nichols and McClure Reservoirs. However, these reservoirs are tributary to the Rio Grande and so they are subject to the interstate Rio Grande Compact. Article VII of the Compact is particularly important for Santa Fe’s water supply portfolio when the Article is in effect (but it is not always in effect).

Article VII of the Rio Grande Compact is currently in effect (and will likely not change for the foreseeable future). Article VII prohibits the storage of water in reservoirs that are tributary to the Rio Grande and that were constructed after 1929 whenever there is less than 400,000 acre-feet of usable water in “project storage,” except for 1,061 acre-feet of storage capacity in McClure Reservoir (because it and Two Mile Reservoir were constructed prior to 1929). In the event that New Mexico is in debit status under the Compact and debit water is stored in Nichols and McClure Reservoirs, then that debit water is subject to priority call by Texas. Santa Fe has in the past been able to address this issue by either exchanging a like amount of San Juan-Chama water or by using “relinquishment” credits for a like amount of water. A relinquishment pool of water rights was established by the NM Interstate Stream Commission for use in addressing constraints related to the Compact. While “exchange credits” and “relinquishment credits” will remain available to Santa Fe for several years to come (i.e., approximately 5 to 10 years), these sources are somewhat limited and/or finite so they might not be available in the future.

## San Juan Basin

According to the NRCS’ Feb 1, 2013 Basin Outlook Report, “streamflow forecasts for the San Juan River Basin range from 78 percent of the 30 year avg. (1981-2010) for the Rio Blanco at the Blanco Diversion to 71 percent of 30 year avg. (1981-2010) for the Navajo Reservoir Inflow.” Year-to-date precipitation is still well below normal though, at 75 percent, down from last year’s 94 percent. Snow pack is at 70% of normal. The San Juan-Chama Project delivery forecast was recently updated by BoR (March 18<sup>th</sup>). BoR is now projecting a full allocation of San Juan-Chama Project water to San Juan-Chama contractors for this year (up from a previous forecast of only 80%); however, conditions could significantly worsen for San Juan Chama Project deliveries next year if the drought persists due to a lack of carry-over storage in Heron Reservoir.

## **PAST PUC UPDATES**

For the past 18 months, the Water Division has provided the PUC a monthly memo as part of the consent agenda. These memos, collectively and individually, provide a comprehensive background of the status of drought, winter precipitation, and summer monsoonal precipitation. Committee members are encouraged to reference these past memos for context related to current monthly updates.



# City of Santa Fe, New Mexico

# memo

**Date:** April 4, 2012

**To:** Public Utilities Committee

**From:** Laurie Trevizo, Water Conservation Manager *LT*

**Via:** Rick Carpenter, Water Resources and Conservation Manager  
Brian Snyder, Public Utilities Department and Water Division Director *BS*

**RE:** Update Water Conservation Marketing Outreach

**Background:**

The purpose of the outreach plan is to provide proactive and coordinated strategies for on-going community appreciation, continued involvement and greater participation in water conservation programs. The plan includes integrated communications to promote actions that achieve long-term reductions in water use and proactively inform the public about lower water use in response to drought or other supply reductions for different stakeholder groups, agencies, partners and customers.

**Water Conservation Marketing Status:**

All news releases are submitted to more than 25 print and broadcast media outlets and list serves with specific targeting to appropriate beat reporters and editors and broadcast/social media community calendar announcements. Follow-up calls are made when appropriate. Background materials are provided to media as appropriate.

**Media Releases Submitted and Earned Media Coverage**

**Drought Awareness: February 2013**

- News Release "How the City Manages"
- 250 Radio Ads on 6 Hutton Stations
- SantaFe.com social media ad
- Full page ad in Santa Fe Reporter "Green Living" Issue
- Ad in GreenFire Times "Building a Sustainable Economy" Issue

**Coverage:**

Interview with Rick Carpenter on KSFR, Greenline Blog by Staci Matlock

**Santa Fe Homebuilders Show: March 9-10, 2013**

Hosted a booth in partnership with Environmental Services Division

**Fix-A-Leak Week: March 18-22, 2013**

- Localized News Release to print and broadcast
- Primetime News Ads (KOAT)

- SantaFe.com
- Movie theaters
- You Tube Video Ad
- Partner's News Release (NM OSE)

**Coverage:**

Home Town News, Round the Roundhouse, Television (KOAT), Radio (KSVE)

**Qualified Water Efficient Landscaper Training: March 18-22, 2013**

- 18 landscape professionals attended including City Parks staff and State of NM General Services Staff
- Weeklong training on efficient landscaping in Santa Fe
- All participants passed the certification exam and will obtain a professional certificate offered by the EPA's WaterSense program

**National Coverage: March 20, 2013**

- Article in Saint Paul Pioneer, Saint Paul, MN
- "Santa Fe Shows the Nation How to Save Water"
- Newspaper printed article and Social Media article via twincities.com and hispanicbusinesses.com

**Green Lodging Initiative:**

- Partnership with Santa Fe Watershed Association providing rebate information to lodging facilities

**Mayors Challenge- Campaign April 1-30, 2013**

- Announcement News Release
- SantaFe.com calendar
- Greenfire Times calendar
- 250 radio ads for 6 Hutton stations
- Santa Fe.com Events Calendar

**Coverage:** National Blogs and Regional Water Association Newsletters

**Poster Contest Announcements:**

- January News Announcement: Call for Entries
- March News Announcement: Contest Winners

**Gallons Per Capita Per Day:**

- News Announcement

**Upcoming Topics:**

**Children's Water Fiesta: April 16-17, 2013**

- Photo Op News Alert to Local Media Outlets

**May 2013:**

**Drought Survival kit and peak demands: "Knowing When to Water"**

**Website tools and useful information: Under Construction**

**Banners and signage at ballparks**

**Newspaper Insert collateral materials**

**On-going Tips and Reminders**

**Social Media research FaceBook and Twitter for drought response updates**

## at Two Exposes Youth n Careers

Dist. 2 Public Information

's District Two Technical Support Division  
expose some local students to the various



Louis Matta, District Two Design Engineer (top right)  
with Webelos Cub Scout Pack 25,  
on Sunday, February 10.

Save  
Water  
Santa Fe

Water Use Tips  
from the City of Santa Fe  
Water Conservation Program



## The Bad Flapper Returns for Fix a Leak Week

The City of Santa Fe is urging you to join the hunt for the "Bad Flapper," the symbolic villain of water-wasting household leaks, as part of the city's promotion of national Fix a Leak Week, March 18-24, 2013.

Bad toilet flappers are one of the prime culprits for household leaks. Fixing a toilet flapper leak can save up to 1,000 gallons of water a month and lower your monthly water bill. Overall, leaks can account for more than 10,000 gallons of water in the home every year—enough water to wash nearly a year's worth of laundry.

The number one cause of a leaky toilet is a faulty flapper. Over time, this inexpensive rubber part decays or gets covered with mineral deposits. Replacing the flapper is an easy, inexpensive do-it-yourself project that pays for itself in no time.

The amount of water leaked from U.S. homes could exceed more than 1 trillion gallons per year. That's equivalent to the annual water use of Los Angeles, Chicago, and Miami combined. Ten percent of homes have leaks that waste 90 gallons or more per day. Common types of leaks found in the home include leaking toilet flappers, dripping faucets, and other leaking valves. All are easily correctable.

Fixing easily-corrected household water leaks can save homeowners and businesses more than 10 percent on their water bills. In most cases, fixture replacement parts don't require a major investment and can be installed by do-it-yourselfers.

Like our Roaring '20s silent movie villain, the Bad Flapper, toilet leaks are often silent. To check for a toilet leak, place a drop of food coloring in the toilet tank. If the color shows up in the bowl within 15 minutes without flushing, your toilet has a leak.

The Santa Fe Water Conservation Office staff is distributing brochures and information on "how to" videos through Fix a Leak Week. Brochures on how to replace a toilet flapper and fix other leaks are available through the Water Division office at 801 West San Mateo during Fix a Leak Week. Water Conservation staff can be reached year-round at (505) 955-4225 to answer customer questions on how to fix leaks.

Fix a Leak Week is celebrated in March of each year as a time to remind Americans to check their household fixtures and irrigation systems for leaks. Fix a Leak Week is a project of the U.S. Environmental Protection Agency's WaterSense program in partnership with the New Mexico Office of State Engineer. For more information on identifying and repairing household leaks or to learn more about WaterSense-labeled products, visit [www.epa.gov/watersense/our\\_water/fix\\_a\\_leak.html](http://www.epa.gov/watersense/our_water/fix_a_leak.html) and the Fix a Leak page of the Office of the State Engineer at [www.fixaleaknm.org](http://www.fixaleaknm.org).

**Video**  
...So little time

Fe for over **32** years  
**HERE FOR YOU!!**  
Every Day of the Year ~  
er Ave. 473-0600





## Metropolitan Court receives Clean

By Janet Blair, Metro Court Public Outreach & Communications

For the fourth consecutive year, the Bernalillo County Metropolitan Court has passed its regular external audit with no findings and a clean bill of health on financial responsibilities. This is an unprecedented accomplishment. The annual audit, conducted by Moss-Adams LLP, has turned up no exceptions in the court's financial records. Few other state agencies have had such excellent audit results over the course of four consecutive years.

"Clearly, the Bernalillo County Metropolitan Court has been keeping track of taxpayer funds in a very responsible manner. Our Finance and Human Resources Divisions have achieved this record number of clean audits because of their hard work and dedication to integrity in the management of our resources," said Bernalillo County Metropolitan Court Executive Officer Deborah Williamson.

"It was extraordinary when we got a clean audit report last year for the third time. A fourth year with no findings is phenomenal, especially for an organization our size," said

Williamson. Metropolitan Court handles 3500 to 5000 cases a year.

"We are extremely proud that our financial controls and our team's management practices continue to produce these excellent results. It



Finance Team: From left to right, Lily Rojas, Candy Gallagos, Rachael Monarch, Anna Chastan, Derek Dominguez, Regina Jackson, Jonathan Ash and Denise Torres.



HR Team: From left to right, Sandra Sanchez, Jessica Placencia, Patricia Elliot (seated), Patrick Cassidy, LaDonna Flew and Patsy Silva.

that Court employees are working very hard as guardians of the taxpayers' dollars," said Metropolitan Court Chief Judge Julie N. Altweis. "Our Judges and Court staff are also proud of Metro Court's proven integrity and we are all very

## Attorney's Law Enforcement Awards

Explaining 'Unquiet Mind'... Police and one officer... awards at the Tenth... 'Unquiet Mind'... Police and one officer... awards at the Tenth... 'Unquiet Mind'... Police and one officer... awards at the Tenth...

The Court paid over 3000 jurors for their service, handled almost 2000 payment vouchers for services, and processed over 20,000 cash and surety bail bonds totaling over 70 million dollars. The clean audit found no issues with processing and reporting all financial transactions in the state's busiest Court.



# WANTED: "BAD" FLAPPER

DESCRIPTION: Cracked, Grimy, Usually Noisy but Sometimes Silent!

CRIME: Wasting Water

## REWARD:

Saving Water, Saving Money!

Replace a worn-out flapper and save money on your water bill.

**FIX LEAKS ♦ SAVE WATER ♦ SAVE MONEY**

**Fix a Leak Week: March 18-24, 2013**

For information on fixing leaks, water-use rules, the incentive program for homeowners and businesses that save water, water-saving tips, and all about water conservation in Santa Fe, visit [www.santafenm.gov/waterconservation](http://www.santafenm.gov/waterconservation).



City of Santa Fe  
Water Conservation Office  
505.955.4225



# Santa Fe, N.M., shows the nation how to conserve water

By Bob Shaw

[bshaw@pioneerpress.com](mailto:bshaw@pioneerpress.com)

Posted: 03/18/2013 12:01:00 AM CDT

Updated: 03/18/2013 10:58:45 PM CDT



1 of 10

Nate Downey and Melissa McDonald prune an apple tree in their Santa Fe, N.M., back yard on Friday, March 15, 2013. The couple are water conservation experts, and Downey says the annual spring pruning of the vertical-growing shoots, which won't produce fruit, optimizes the amount of water the tree consumes by offering it only to the horizontal, fruit-bearing branches. (Special to the Pioneer Press: Mark Holm)



## Saving water

Conservation tips from officials of Santa Fe, N.M., the nation's leading water-saving city:

- Install appliances, such as washing machines and dishwashers, with water-saving technologies.
- Install low-flow toilets. No-flush urinals are also available.
- Use low-flow showerheads. When showering, get wet. Then soap and shampoo with the water off. Then rinse. Cut baths to a minimum.
- Trim water use in the yard. Minimize the size of your lawn and irrigated areas. Avoid over-watering lawns and plants.
- Capture rainwater in rain barrels and cisterns for re-use.
- Eliminate "fugitive water" running into gutters from washing cars or watering lawns.



PIONEER PRESS

Melissa McDonald is living the dry life.

She washes her car annually, bathes weekly, flushes occasionally and saves every last drop of water when she washes vegetables for dinner.

And for a once-a-year treat, she lets her kids have a water-balloon war.

"It's just a way of life," said McDonald, an expert water-saver. "I am not suffering."

McDonald consumes one-fourth as much water as an average American. Her city -- Santa Fe, N.M. -- is the nation's champion at conserving water.

In that way, New Mexico's capital city could be Minnesota's future.

Minnesota's aquifers are being drawn down. To preserve them, one Metropolitan Council scenario suggests some suburbs should consider giving up their aquifer water for more plentiful river water. Another model would have new water users consuming less than half the water that current customers now do.

How do we do that? Ask Santa Fe.

In a desert climate that receives a third of the precipitation that Minnesota does, one could assume homeowners would use far more water.

Wrong. Santa Fe uses 21 percent less per person than the Twin Cities.

Santa Fe's water-saving crusade was launched after a severe drought in 1996. From 1995 to 2011, the city slashed its consumption by 38 percent to 105 gallons per capita per day.

They did it by making water conservation central to every aspect of life, becoming a model that other cities look to.

In Santa Fe, the newspaper annually prints the names of the heaviest users of water, which has the effect of a public shaming.

"We have a big transparency effort," said Laurie Trevizo, the city's water conservation specialist.

Swimming pools must be covered when not in use. Cleaning almost anything outdoors with water is prohibited. Long-term hotel guests may have their sheets washed no more than every fourth night.

"We think of how water follows you around," Trevizo said. That means being aware of every drop used in workplaces, restaurants, parks, homes

**Water was once taken for granted as a resource in Minnesota. Not anymore.**

**Sunday:** For a land of 10,000 lakes, Minnesota's most important water lies beneath. And many believe unchecked usage fueled by growth has [compromised its supply](#) to millions of users.

**Monday:** Marshall is venturing 23 miles to find water; Worthington's reservoir nearly ran dry; Fairmont has banned watering lawns. [Are these rural struggles a harbinger](#) for the Twin Cities?

**Tuesday:** Solutions to the water woes won't be easy or cheap. Shutting off the pumps and relying on the [Mississippi River](#) is one option. Another? Be more like [Santa Fe](#).

**Web extra:** Minnesota, particularly the central part of the state, has been experiencing an irrigation boom. This is [one farmer's story](#).

and parks.

"Our land-use code is somewhat water-centric," said Trevizo.

Buyers of new homes must offset their future water use -- by paying for low-flow toilets across the city. Since the program began, the owners of new homes have paid for 40,000 such toilets.

The city subsidizes water-saving appliances for residents -- with a \$480 rebate for a low-water clothes washer and \$504 for low-flow toilets.

It will pay \$630 for a waterless urinal, which has a layer of oil floating atop the water to seal off smells.

The most effective tactic has been the simplest -- raising water rates.

The 9,000 gallons used in a month by a typical American family of four would cost \$121 in Santa Fe. That's more than 10 times what is charged in many Minnesota cities. Woodbury, for example, charges \$9 a month for the same amount of water.

"You will find ways to save water when rates are that high," said Trevizo.

The higher cost meant the color of the city changed from green to brown.

Many golf courses have become "target courses," in which all the areas except the tees and greens are a sun-baked tan.

In Santa Fe, a new home may have only 20 percent of its landscaped area covered with a lawn.

McDonald and her husband, Nate Downey, have no lawn. Instead they have a patch of plastic, similar to AstroTurf, around one of their trees. Real grass in that climate requires about 76 gallons annually for a single square foot.

Santa Fe discovered another advantage of saving water -- reduction of sprawl. Large Minnesota-style lawns depend on inexpensive water. When it isn't cheap, the size of lawns and yards tends to shrink.

It's common in the Southwest to build homes on one-eighth of an acre -- about half the size of lots in a typical Minnesota suburb. Having more people on less land cuts the cost of city services and transportation, said Drew Beckwith, the water policy manager of the water conservation group Western Resource Advocates.

"The more dense the houses, the less water they use," he said.

In their home, McDonald and Downey pinch every pint.

The family has a 10,000-gallon cistern to collect rainwater, which they use to water outdoor plants. The plants also get the "grey water" from showers, baths and the laundry room, flowing from separate pipes into a tank outside.

The result is a home that an aquifer would love.

In summer months, the family uses plenty of water on the family landscaping business. But in winter, they use about 23 gallons per day per person, compared with about 90 gallons for the national average.

"Pretty soon everyone in the country is going to have to think about this stuff," McDonald said.

Bob Shaw can be reached at 651-228-5433. Follow him at [twitter.com/BshawPP](https://twitter.com/BshawPP).





## For Immediate Release

**Contact: Laurie Trevizo**  
**505.955.4223**  
**505.231.5260**  
**lltrevizo@santafenm.gov**

### **What To Do When You Find a "Bad Flapper"** **Fix a Leak Week** **March 12-18, 2013**

*Editors: Images of the Bad Flapper are attached.*

**SANTA FE, March 13, 2013**—The City of Santa Fe Water Conservation Office is asking city residents to help hunt for the "Bad Flapper," the symbolic villain of water-wasting household leaks, as part of the city's promotion of national Fix a Leak Week, March 18-24, 2013.

"Bad toilet flappers are one of the prime culprits for household leaks. Fixing a toilet flapper leak can save up to 1,000 gallons of water a month and lower your monthly water bill. Overall, leaks can account for more than 10,000 gallons of water in the home every year—enough water to wash nearly a year's worth of laundry," said Laurie Trevizo, City of Santa Fe water conservation manager.

Ten percent of homes have leaks that waste 90 gallons or more per day. Common types of leaks found in the home include leaking toilet flappers, dripping faucets, and other leaking valves.

Fixing easily corrected household water leaks can save homeowners and businesses more than 10 percent on their water bills. In most cases, fixture replacement parts don't require a major investment and can be installed by do-it-yourselfers. Water Conservation staff can be reached year-round at (505) 955-4225 to answer customer questions on how to fix leaks.

#### **The Facts on Leaks**

- A leaky faucet that drips at the rate of one drip per second can waste more than 3,000 gallons per year.
- A showerhead leaking at 10 drips per minute wastes more than 500 gallons per year. That's enough water to wash 60 loads of dishes in your dishwasher.
- Most leaky showerheads can be fixed by ensuring a tight connection using pipe tape and a wrench.

#### **Toilets:**

- If your toilet is running constantly, you could be wasting 200 gallons of water or more every day.
- If your toilet is leaking, the cause is most often an old, faulty toilet flapper. Over time, this inexpensive rubber part decays, or minerals build up on it. It's usually best to replace the whole rubber flapper—a relatively easy, inexpensive do-it-yourself project that pays for itself in no time.
- If a family of four replaces its older, inefficient toilets with new WaterSense labeled ones, it could save more than 16,000 gallons per year. Retrofitting the house could save the family approximately \$2,000 in water and wastewater bills over the lifetime of the toilets.

**Outdoors:**

- An irrigation system should be checked each spring before use to make sure it was not damaged by frost or freezing.
- Check your garden hose for leaks at its connection to the spigot. If it leaks while you run your hose, replace the nylon or rubber hose washer and ensure a tight connection to the spigot using pipe tape and a wrench.

###

*Fix a Leak Week is celebrated in March of each year as a time to remind Americans to check their household fixtures and irrigation systems for leaks. Fix a Leak Week is a project of the U.S. Environmental Protection Agency's WaterSense program in partnership with the New Mexico Office of State Engineer. For more information on identifying and repairing household leaks or to learn more about WaterSense-labeled products, visit [http://www.epa.gov/watersense/our\\_water/fix\\_a\\_leak.html](http://www.epa.gov/watersense/our_water/fix_a_leak.html) and the Fix a Leak page of the Office of the State Engineer website at [www.fixaleaknm.org](http://www.fixaleaknm.org)*

# Thank You, Santa Fe

It was a year for the  
record books.

The National Weather  
Service recently  
confirmed the 24

months between August 2010 and 2012 were the hottest and driest in  
New Mexico's history. But you took the challenge and kept Santa Fe  
water use down.

## Keep It Up

Average daily use per person was 107  
gallons, way below the national  
average of 150 gallons and among

the best in the West. The City of Santa Fe's Water Utility's total water  
production for 2011 remained under 10,000 acre feet per year.

Your efforts will pay off, not just for the future — but for you, right now.  
Not only will you save money on your water bill but the City has rebates  
and incentives that reward  
you for rainwater harvesting  
systems and high-efficiency  
toilets and clothes washers.

## Keep It Down

For information on the rebate program, water-  
saving tips, water-use rules, and all about water  
conservation in Santa Fe, visit  
[www.santafenm.gov/waterconservation](http://www.santafenm.gov/waterconservation).



*Santa Fe Reporter  
"Living Green" 1/4/12*

City of Santa Fe  
Water Conservation Office  
505.955.4225



# Water Conservation Calculator App:

The image shows a computer screen with two windows. The top window is titled 'Water Conservation Calculator' and is a web-based application. It has a blue header and a white content area. The content area includes a 'Welcome Aurora Water Customer' message, a list of steps to use the calculator, and a 'Please be sure to save your progress frequently as the calculator will time out after 15 minutes of inactivity' warning. The bottom window is a web browser showing the 'City of Santa Fe Water Conservation' page. It features a banner image of a mountain landscape, social media links, a 'U.S. Drought Monitor' map for New Mexico, and contact information for the City of Santa Fe Water Division.

**Water Conservation Calculator**

Welcome Aurora Water Customer,

Understanding where and how much water use is the first step in beginning to conserve.

The National Water Use Calculator provides an analysis of your current water use and conservation potential, providing you with a baseline to help you set your conservation goals. It is recommended that you review the calculator before using it to determine what data you need to collect. This will be the largest part of the process. The Calculator requires basic information about your property including:

1. Contractor Year
2. Number of family members
3. Water systems used (e.g., shower, toilet, etc.)
4. Average daily water use (e.g., gallons)

Once this information is entered, the calculator will provide a baseline water use and a target water use. Based on your baseline, your Water Conservation Plan will be provided. As you complete these steps you will be able to view and change your plan, as the following spreadsheet is your water use assessment plan. Finally, the Water Use Calculator will produce a Target Water Use based on your plan, national environmental factors, and regional water conservation.

Please be sure to save your progress frequently as the calculator will time out after 15 minutes of inactivity.

**City of Santa Fe Water Conservation**

Don't let the snow fool you! The National Weather Service U.S. Drought Monitor map shows Santa Fe is in a severe to extreme drought and conditions are not predicted to improve anytime soon.

While our water-use statistics are among the best in the Southwest and the United States, we must continue to conserve water and reduce demand.

As recent years have taught us, we cannot be complacent about our water supply. Drought or no drought, winter or summer, we cannot afford to relax our ongoing water conservation efforts.

The City of Santa Fe is asking you to continue to save water and take advantage of rebates and incentives to help you lower your monthly water bill. For information on the rebate programs and ways to conserve water, visit [www.santafewater.com/waterconservation](http://www.santafewater.com/waterconservation).

**U.S. Drought Monitor**  
New Mexico  
February 18, 2013

801 West San Alvaro Road  
View Map of Location  
605-825-4229  
605-825-4222  
Main Website  
City of Santa Fe | Sante Fe Water Division

Government | Underrepresented, Nonprofit, Environment and Wildlife

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CITY OF SANTA FE, NEW MEXICO

RESOLUTION NO. \_\_\_\_\_

INTRODUCED BY:

Drafted by WCC Working Group (Stephen, Doug, Tim and Grace)

**A RESOLUTION**

**IN SUPPORT OF "A WATER CONSERVATION CAMPAIGN FOCUSING ON  
VOLUNTARY OUTDOOR IRRIGATION ".**

**WHEREAS**, the City of Santa Fe aspires to become the water conservation capital of the nation; and

**WHEREAS**, the City of Santa Fe has invested in a robust and diverse portfolio of water sources and the City has many options available to meet the water supply needs of its residents; and

**WHEREAS**, the City of Santa Fe, the region of Northern New Mexico and the State of New Mexico continue to explore ways to manage residential consumption of water and power and to inspire its residents to care for our natural resources; and

**WHEREAS**, the City has an Emergency Water Regulation Ordinance, 25-5 SFCC 1987 that imposes major water restrictions to reduce demand that could cause economic hardship; and

**WHEREAS**, the summer irrigation season has the highest water use and the biggest demand on our precious and limited water resources; and

1           **WHEREAS**, as it has been reported to the City of Santa Fe Public Utilities Committee, the  
2 National Oceanographic and Atmospheric Administration (NOAA) has updated their forecast model  
3 to predict a dry spring and above average temperatures; and

4           **WHEREAS**, as it has been reported to the City of Santa Fe Public Utilities Committee, the  
5 City of Santa Fe's reservoir levels are at near record lows, therefore, peak irrigation demand will  
6 require increased pumping of aquifers in the City and Buckman well fields; and

7           **WHEREAS**, surrounding communities are adopting either voluntary or mandatory water  
8 restrictions; and

9           **WHEREAS**, with the encouragement of the Mayor and City Council, residents and  
10 businesses are encouraged to voluntarily reduce their water consumption; and

11           **WHEREAS**, from May 10, to October 31, 2013, the City of Santa Fe wishes to inspire its  
12 residents and its neighboring communities to conserve water.

13           **NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE**  
14 **CITY OF SANTA FE** that:

15           SECTION 1.   The City of Santa Fe agrees and supports a "Voluntary Outdoor Irrigation  
16 Water Conservation Campaign" for Santa Fe residents and said campaign will be administered the  
17 City of Santa Fe's Water Conservation Department.;

18           SECTION 2.   That the program is to be implemented from May 10, 2013 to October 31,  
19 2013, through a series of communication and outreach strategies, either new or existing, to encourage  
20 Santa Fe residents and businesses to conserve water.

21           SECTION 3.   This resolution shall be effective immediately.

22           PASSED, APPROVED, and ADOPTED this \_\_\_\_ day of \_\_\_\_\_, 2013.

23  
24 \_\_\_\_\_  
25 DAVID COSS, MAYOR

1 ATTEST:

2  
3 \_\_\_\_\_  
4 YOLANDA Y. VIGIL, CITY CLERK

5 APPROVED AS TO FORM:

6  
7 \_\_\_\_\_  
8 GENO ZAMORA, CITY ATTORNEY

## **Parliamentary Basics: Rules That Govern an Organization**

An organization is typically governed by several different types of rules. These rules form a hierarchy, with higher-ranking classes of rules superseding those of a lower rank.

Common classes of rules, listed from highest- to lowest-ranking, include:

- Federal, state, and local laws
- Articles of Incorporation
- Bylaws
- Special rules of order
- Standing rules
- Parliamentary authority
- Custom

Consult *Robert's Rules of Order Newly Revised* for more information on each of these types of rules.

## **Parliamentary Basics: Presiding**

Two essential components of effectively presiding over a meeting are preparing and following an agenda, and handling motions fairly and consistently. This is handled by the Chair of the committee.

## **Sample Meeting Agenda**

(Excerpted from the NAP publication, *The Chair's Guide: Order of Business*)

- Call to Order
- Opening Ceremonies (optional)
- Roll Call (if customary)
- Reading and Approval of Minutes
- Reports of Officers, Boards, and Standing Committees
- Reports of Special Committees (announced only if such committees are prepared or instructed to report)
- Special Orders (announced only if there are special orders)
- Unfinished Business and General Orders
- New Business
- Announcements
- Program (if a program or a speaker is planned for the meeting)
- Adjourn

## **Parliamentary Basics: Discussion and Debate**

Discussion, or debate in parliamentary terms, is how an assembly decides whether a proposed course of action should be followed. Disagreement is healthy, and helps the organization make the best decision if discussion is approached fairly and consistently:

- Before speaking in debate, members must obtain the floor as described in Parliamentary Basics - Presiding.
- The person who makes a motion may speak on it first, if he expresses the desire to do so.
- All remarks are addressed to the chair, not to other members.
- Debate is confined to the merits of the motion currently under consideration.
- Debate can only be closed by order of the assembly (2/3 vote), or by the chair if no one seeks the floor for further debate.

## **Parliamentary Basics: Motions**

There are several *classes* of motions you may encounter in meetings, listed below. The most commonly used motions belong to the *thirteen ranking motions*. To review the procedure for handling a motion, see [Parliamentary Basics - Presiding](#).

### Classes of Motions

There are several classes of motions you may encounter in meetings:

The **main motion** is the basis of all parliamentary procedure. All business to be considered by an assembly is introduced by a main motion. This type of motion may only be considered if no other business is pending.

**Subsidiary motions** are those that may be applied to another motion for the purpose of modifying it, delaying action on it, or disposing of it.

**Privileged motions** are motions that are unrelated to the current motion, but are of such urgency or importance that they are considered immediately. These motions are related to members, the organization, and meeting procedure rather than the item of business being considered.

### **Thirteen ranking motions**

The main motion, subsidiary motions, and privileged motions all have rank relative to one another. The table below illustrates the motions' rank and basic characteristics.

**Thirteen Ranking Motions**

Name of Motion	Is it in order when another has the floor?	Does it require a second?	Is it debatable?	Is it amendable?	What vote is required for adoption?	May it be reconsidered?	
Fix the Time to Which to Adjourn*	No	Yes	No	Yes	M	Yes	PRIVILEGED
Adjourn**	No	Yes	No	No	M	No	
Recess*	No	Yes	No	Yes	M	No	
Raise a Question of Privilege	Yes	No	No	No	(1)	No	
Call for the Orders of the Day	Yes	No	No	No	(2)	No	
Lay on the Table	No	Yes	No	No	M	No	SUBSIDIARY
Previous Question	No	Yes	No	No	2/3	Yes	
Limit or Extend Limits of Debate	No	Yes	No	Yes	2/3	(3)	
Postpone to a Certain Time (Definitely)	No	Yes	Yes	Yes	M(4)	Yes	
Commit (Refer to a Committee)	No	Yes	Yes	Yes	M	(5)	
Amend	No	Yes	(6)	Yes	M	Yes	
Postpone Indefinitely	No	Yes	Yes	No	M	(7)	
Main Motion	No	Yes	Yes	Yes	M	Yes	

Based on *Robert's Rules of Order Newly Revised* (RONR)

\* A main motion if made when no business pending

\*\* Check RONR for specific rules

(1) Chair grants

(2) No vote: demand

(3) Yes, the unexecuted part may be reconsidered

(4) 2/3 vote required if made a special order

(5) Yes, if the committee has not started work

(6) Yes, if applied to a debatable motion

(7) Only an affirmative vote may be reconsidered

## Procedure for Handling a Main Motion:

### **Obtaining and Assigning the Floor**

1. A member rises when no one else has the floor and addresses the chair: "Mr./Madam President," "Mr./Madam Chairman," or by other proper title. (In a large assembly, the member gives his name and identification.)

The member remains standing and awaits recognition by the chair.

2. The chair recognizes the member by announcing his name or title, or, in a small assembly, by nodding to him.

### **How the Motion is Brought Before the Assembly**

1. The member makes the motion: "I move that (or 'to')..." and resumes his seat.

2. Another member, without rising, seconds the motion: "I second the motion," or "I second it" or even just "second."

3. The chair states the motion: "It is moved and seconded that .... Are you ready for the question?"

### **Consideration of the Motion**

1. Members debate the motion. (See [Parliamentary Basics - Discussion](#)).

2. The chair puts the motion to a vote.

The chair asks: "Are you ready for the question?" If no one rises to claim the floor, the chair proceeds to take the vote.

The chair says: "The question is on the adoption of the motion that... As many as are in favor, say 'Aye'. (Pause for response.) Those opposed, say 'No'. (Pause for response.)

3. The chair announces the result of the vote.

"The ayes have it, the motion is adopted, and .... (indicating the effect of the vote)," or

"The noes have it, and the motion is lost."

Packet material to be associated with the agenda caption under DISCUSSION Items

Caption: **PROPOSAL TO EXTEND THE WCC MEETINGS TO THREE HOURS**

(Tim Michael) (15 minutes)

The subject of extending WCC meetings to three hours was discussed under New Business (Item 12) at the February 12, 2013 meeting and was briefly mentioned under New Business at the March 12 meeting.

Past WCC meetings have left little time, either because of a full agenda or because of extended discussions, for MATTERS FROM COMMITTEE, such as Summary of Water Conservation Committee Initiatives or of New (Committee) Business. Often, there was insufficient time remaining in the 2-hour meeting period to allow for proper discussion of MATTERS FROM COMMITTEE or to do real work on saving water. MATTERS FROM COMMITTEE items have been deferred for several months.

We are fortunate to live in a beautiful location with few environmental threats such as hurricanes, tornadoes, mudslides or flooding. However, one very real threat is the threat of water shortages. Water shortages can erode the economic health of the city and degrade the quality of life of its citizens. For this reason, the WCC should spend more time on issues relating to the conservation of water to ensure the long-term water supply.

In many committees, meetings last until "there is no further business," at which time the meeting is adjourned. This may be before or after the allotted time, at the discretion of the Chair. The proposal is to extend the meeting time to three hours, and to reiterate that the meeting can be adjourned earlier at the discretion of the Chair.

Proposed motion for Committee Action:

***Change the time for Water Conservation Committee meetings to 4:00 PM to 7:00 PM. Meetings can be adjourned earlier by the Chair.***

#	Issue	Strategic Goal	Objectives	Tasks	Working Group Members	Reference Material	Fiscal Impact	Notes
1.	Update Santa Fe Water Conservation and Drought Management Plan		Assist in the 2015 Water Conservation Plan and create strategic framework and implement schedule	Read 2010 Plan and record suggested updates next meeting	Doug Pushard Grace Perez Lisa Randall Bill Roth Councilor Ives			Draft timeline created. Goal: Jan 2015
2.	Water Conservation Education/Outreach Program  Including marketing ideas for voluntary water use				Giselle Piburn Stephen Wiman Tim Michael Grace Perez Lise Knouse			
3.	Evaluate/draft ordinances to promote outdoor water conservation				Doug Pushard Bill Roth Councilor Ives			<i>Request from Doug Pushard to City Parks clarify Land Use Code 14-8.4 in E (4)</i>
4.	Reestablish Trend of Net Annual Reductions in Per Capita Water Usage				Karyn Schmitt Melissa McDonald			
5.	Proper Regulation of Water Usage and Waste Avoidance by Large Water Users				Tim Michael Melissa McDonald			Melissa will focus on Parks



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3.	Evaluate/draft ordinances to promote outdoor water conservation				Doug Pushard Bill Roth Councilor Ives <u>Tim Michael</u>			<i>Request from Doug Pushard to City Parks clarify Land Use Code 14-8.4 in E (4)</i>
4.	Reestablish Trend of Net Annual Reductions in Per Capita Water Usage				Karyn Schmitt Melissa McDonald			
5.	Proper Regulation of Water Usage and Waste Avoidance by Large Water Users	<u>Contribute to annual reductions in water use</u>	<u>Optimize water use by large water users</u>	<u>1. Identify water large water users</u> <u>2. Estimate their contribution to total demand</u>	Tim Michael Melissa McDonald	<u>Water Use in Santa Fe, Borchert et al. July 2009</u>	<u>Unknown</u>	Melissa will focus on Parks

				<u>3. Identify ways to optimize water consumption</u> <u>4. Engage them in the discussion</u>				
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## It's Easy as 1-2-3

Save water and save money this irrigation season by following these simple 3 steps.

Step 1 – No watering between 10AM and 6PM.

Add more text here

Step 2 – Only Water 3 days a week

Add more text here

Step 3 – Water Once on the Weekend and Twice During the Week

Add more text here

Summer watering accounts for over 40% of our water use. Save water this season during the hottest months will save you on your water bill and help the city reduce overall water usage.

Save water is easy as 1-2-3.

**DATE:** March 22, 2013

**TO:** Public Utilities Committee

**VIA:** Rick Carpenter, Water Resources and Conservation Section Manager  
Brian K. Snyder, Public Utilities Department and Water Division Director

**FROM:** Alan G. Hook, Water Resources Analyst

**RE:** The 2012 gallons per capita per day of 106 utilizing the NM Office of the State Engineer methodology.

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**Introduction:** In 2011 and 2012, Santa Fe and other parts of New Mexico experienced the hottest summer on record and two years of persistent drought conditions, which resulted in higher customer peak daily demands. Despite these challenges, the 2012 City of Santa Fe Water Division's (City) water production for the service area customers remained under 10,000<sup>1</sup> acre-feet (af), due to water conservation efforts practiced by the community. Another measurement of water conservation success is the use of the gallons per capita per day (gpcd) calculation. Staff has completed the annual gpcd report of 2012 data, using the New Mexico Office of the State Engineer (OSE) methodology referenced below and submitted the report to the OSE on March 4, 2013. The new gpcd calculation for 2012 data resulted in 106 gallons per capita per day. As part of the City's Permit SP 4842 Condition No. 10 for the Buckman Direct Diversion Project, the City must annually submit an annual gpcd calculation to the NM OSE by April 15<sup>th</sup>. Though this region of New Mexico has experienced climatic and seasonal challenges, the calculated gpcd of 106 is a result of progressive on-going water conservation efforts by the City's water customers. In comparison to other western cities, the City's gpcd is one of the lowest and continues to remain low.

**New Mexico Office of the State Engineer GPCD Calculator Methodology:**

To better regulate municipal water use, the NM Office of the State Engineer (OSE) began to condition municipal water-rights permits with the gpcd measurement and began a program to standardize the gpcd methodology (Vogel, et al. 2009, Southwest Hydrology, see attachment 1). On March 16, 2009, the OSE released the standardized gpcd methodology using the OSE gpcd calculator, 2.04 Beta Version. 2010 was the first year the OSE tool was required.

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<sup>1</sup> The City of Santa Fe's production for water utility customers was 9,777 af with an additional 181af of potable water production exported to our whole sale customer, for a total production of 9,958 af in 2012.

### **Results of the 2012 NM OSE GPCD Calculator:**

The NM OSE gpcd for 2012 is 106 gallons per capita per day for the City of Santa Fe. In comparison, the NM OSE gpcd for 2011 was 107 gallons per capita per day.

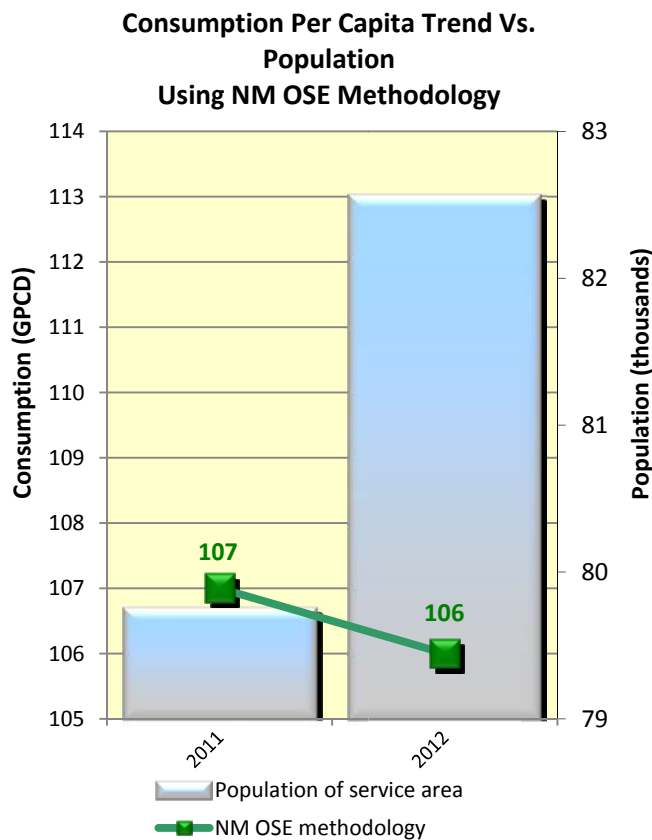


Figure 1. NM OSE gallons per capita per day in comparison to the population of the City's water division customers.

The City has achieved lower consumption through public outreach and ordinances that require customers to comply with water conservation requirements and utilize incentives. The breakdown by sector of the 106 gallons per capita per day can be seen in Figure 2 below with the largest sector being single family residences at 56% of the total water usage.

The City's single-family residential customer uses approximately 59 gallons per day or 1,806 gallons per month. Several residential water conservation outreach tips to reduce water usage during these drought conditions are as follows:

- Average household leaks waste 11,000 gallons of water, equal to 270 + loads of laundry.
- High-efficiency washing machines use less than 27 gallons per load compared to 50 gallons used by traditional models. Wash laundry using only full loads. Small laundry loads use twice as much water per pound of laundry compared to full loads. On average, each person does 3 loads of laundry per week.
- Turning off the tap while brushing your teeth or shaving can save more than 200 gallons per month. A family of four would save 1600 gallons per month.

**In conclusion:**

“We want to thank all our customers who have used water wisely over the past 15 years, making more water available in times of drought,” said Laurie Trevizo, City water conservation program manager. “And we want to urge them to continue to conserve.”

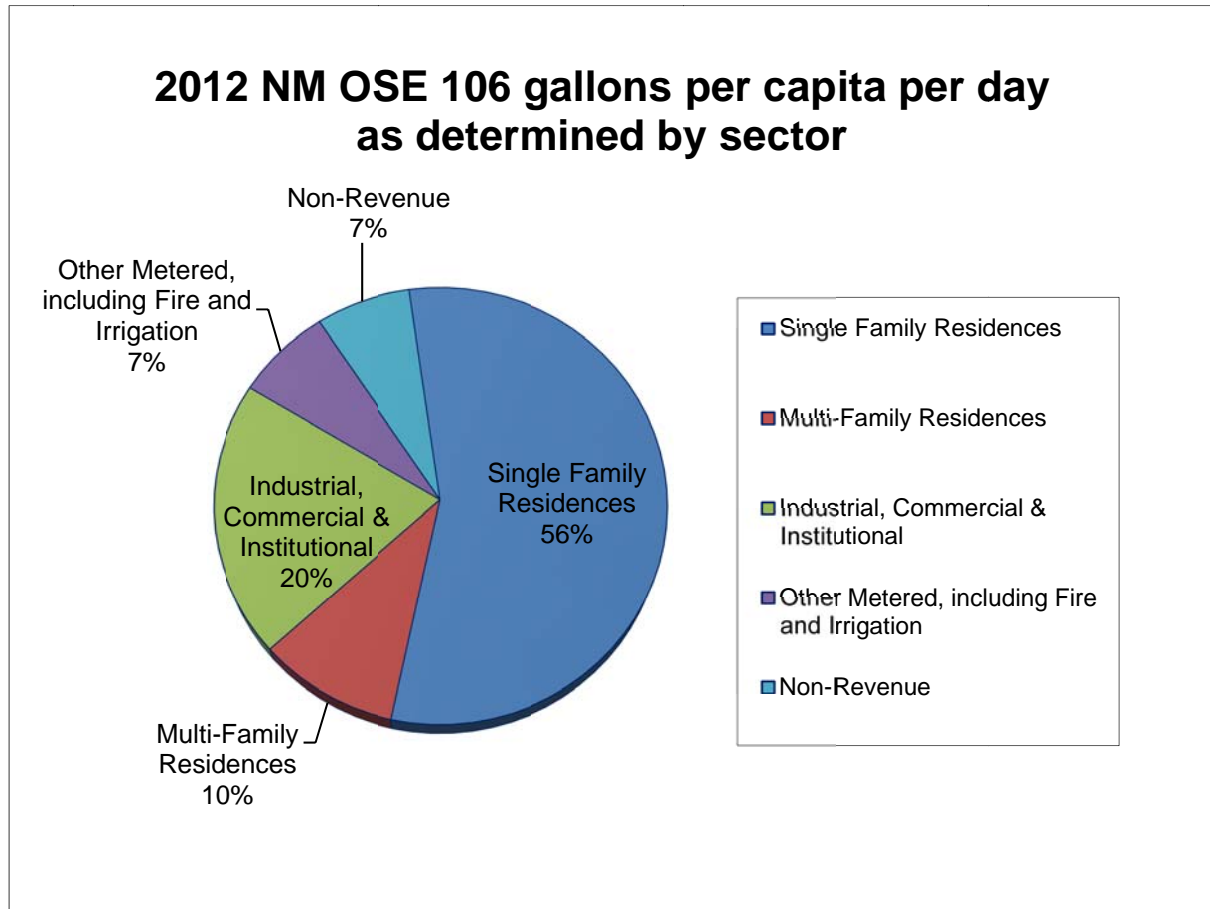


Figure 2. The NM OSE’s 106 gallons per capita per day for the City of Santa Fe Water Division’s service area in 2012 as determined by sector with the associated percentages (i.e. –single family residences, 56%).

**Attachments:**

1. Vogel and Longworth, *Apples to Apples: A Standardization Measure for Municipal Water*, Southwest Hydrology. November/ December 2009.

CC: Laurie Trevizo, Water Conservation Program Manager



Photo: drip lines at Tucson Botanical Gardens

## Apples to Apples: A Standardized Measure for Municipal Water

*Cheri Vogel and John Longworth –  
New Mexico Office of the State Engineer*

In the mid 1980s water conservation became a standard by which the New Mexico state engineer evaluated water-rights transfers. In 1997, the state engineer required all water-rights permits to state that the permit “shall not be exercised ... in a manner that is contrary to the conservation of water within the state...”. Evaluating whether an applicant is utilizing water in a manner consistent with conservation principles is difficult; ever-evolving conservation technologies and practices add to the challenge.

The most widely recognized metric for water use is gallons per capita

per day (GPCD). Should a continued reduction of GPCD over time equate to a measurement of conservation? The answer is complicated. Numerous aspects affect a drinking-water supplier’s GPCD, such as demographics, climate, economics, and availability of supply. These can change over time to influence GPCD, but the calculation of GPCD itself must remain constant if valid use comparisons are to be made. Yet staffing changes, public-image pressures, and other influences have caused drinking-water suppliers to modify their GPCD calculations, further complicating the evaluation of conservation efforts.

### Need for Standardization

The New Mexico Office of the State Engineer (NMOSE) is charged with administering the state’s water resources. It has statutory responsibility over the supervision, measurement, appropriation, and distribution of all surface water and groundwater in the state. As in most southwestern states, municipal use is the principal area of increasing demand. Therefore, to better regulate municipal water use, the agency began to condition municipal water-rights permits with a target GPCD. And, aware of the many ways GPCD calculations can vary, it began a program to standardize them.

### Apples and Oranges

NMOSE first looked at how other states determine GPCD. When the study began in 2007, Florida, Texas, Kansas, and Arizona all were using some form of standard GPCD calculation, for which the primary variables are gallons of water and population. Three of the states researched used total gallons diverted from surface or groundwater prior to treatment or storage, while one used gallons billed to customers. Other states not included in the original research subsequently reported including reuse, raw (diverted water that may have been stored), or diverted water. Two of the original states allowed systems to define their own populations, one used a seasonally adjusted population, while the fourth used the number of living units times a person-per-household average from the U.S. Census Bureau. These may seem like subtle variations but they make a significant difference in the calculation.

Looking within New Mexico, NMOSE found similar variations. Approaches used to estimate population, the most difficult variable to isolate, varied widely. The Census Bureau’s population is most commonly used for cities or counties, however political boundaries do not always coincide with water suppliers’ service boundaries. Some water providers incorporated miscellaneous populations such as tourists, undocumented workers, and estimated incoming commuter population based on commercial space. Some population figures were reduced based on estimates of homes within the service area having privately owned domestic wells, and connections assumed to be second homes. Other systems used a form of housing units multiplied by persons-per-household, where the latter figures were undocumented, “educated” guesses. These different approaches underscored the need for standardization.

### NMOSE Methodology

NMOSE’s goal for a GPCD method focuses on tracking individual water delivery systems rather than comparing GPCD numbers between systems. This requires detailed information that allows each system to be analyzed separately. Therefore, the agency’s method provides subcategories of GPCD and requires a standard calculation of populations served. The subcategories include: system total, single-family residential, multi-family residential, CII (commercial, industrial, and institutional), other (as defined by the system), reuse, and non-revenue. The system total calculation is based on the total water diverted; all other categories use billed water except non-revenue, which uses the difference between diverted and billed. The population is calculated as the number of housing units multiplied by the Census Bureau’s average persons-per-household for occupied homes within the system’s service area. These details allow systems heavily influenced by a large industrial base to be distinguished from those that are primarily residential or that have spikes in commercial use during tourist season.

To assist with the actual calculation, NMOSE developed the GPCD Calculator, a freely downloadable Excel spreadsheet that organizes data entry and automatically calculates each subcategory’s GPCD.

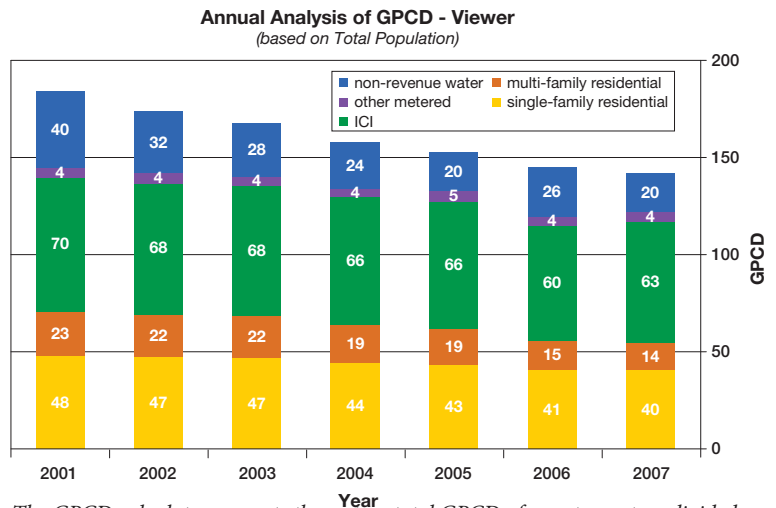


## Lessons Learned

NMOSE pilot-tested the new methodology and calculator with six New Mexico drinking-water systems ranging in size from 116 to 120,000 connections. The tests, as well as comments collected from national water-conservation specialists, allowed the agency to fine-tune the approach.

The review process provided valuable insight into the development of standardized water-use calculations. While no two methods for calculating GPCD are exactly alike, standardization is possible; however NMOSE had to be clear about how the data would be used in order to ease concerns over its regulatory use and each system's public image. Keeping the calculations simple was also key; too many options led to complications and confusion. Defining populations is difficult even with a standard methodology;

billing cycles that often do not correlate to calendar months, and bills include adjustments for customer credits or fees. Additionally, when software is updated or water systems are sold, older data may be lost. Finally, internal politics can make it difficult for billing departments to work with engineers, planners, or conservation staff. These problems can be addressed, but require commitment from senior management.



The GPCD calculator presents the system total GPCD of a water system divided into sector uses. Note that each sector population is divided by the entire population here; actual sector GPCDs are calculated elsewhere in the program.

**The calculation of GPCD itself must remain constant if valid use comparisons are to be made.**

variations in how connections are defined and multi-family units are counted further confound the issue. Finally, transition time is needed during which utilities may submit their existing GPCD methodology along with the new version.

NMOSE found that the biggest obstacle to fully implementing the new calculator is that drinking-water systems configure their data for customer billing, not water-use accounting. Billing software uses

methods for tracking water efficiency, including GPCD, in order to establish an accepted repertoire of water-use-efficiency metrics that can be used to uniformly compare use and savings across utilities. The results will be published in the *Journal of AWWA*.

New Mexico's standard methodology was released as a beta version on March 16, 2009. It is now the standard method used for all water-rights permits required to submit a GPCD, and a standard component of water-conservation and water-management plans submitted to NMOSE. It provides the agency with a defensible method for evaluating water use in New Mexico's water-supply systems. ■

NMOSE's GPCD methodology and calculator are available at [www.ose.state.nm.us/wucp\\_gcpd.html](http://www.ose.state.nm.us/wucp_gcpd.html). Contact Cheri Vogel at [cheri.vogel@state.nm.us](mailto:cheri.vogel@state.nm.us).

## What's Next?

Since starting the project, NMOSE has been contacted by several state and regional authorities interested in standardizing their GPCD methods. These entities report pressure from elected officials, city managers, and even customers to track their systems' water use. In response, the American Water Works Association (AWWA) and the Alliance for Water Efficiency have teamed up to research and test



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- Water quality evaluation and management
- Local, basin, and regional flow investigation and modeling
- Aquifer recharge, storage, and recovery modeling and design
- Advanced geophysical logging and interpretation



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