

SEWER AUTHORITY MID-COASTSIDE  
Recycled Water Committee Meeting  
AGENDA

6:00 PM, Monday, May 26, 2009

SAM Administration Building, 1000 N. Cabrillo Highway, Half Moon Bay, CA 94019

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*(Please note: The times listed on this agenda are approximate)*

1. **CALL TO ORDER / ROLL CALL** ..... (6:00)  
.....
  
2. **PUBLIC COMMENT / ORAL COMMUNICATION** ..... (6:05)  
....  
*Persons wishing to address a matter not on the Agenda may be heard at this time*
  
3. **CLOSED SESSION** ..... (none)  
.....
  
4. **CONSENT AGENDA** ..... (6:10)  
.....  
    A. [Approve Minutes - April 27, 2009 Recycled Water Committee Meeting](#)
  
5. **OLD BUSINESS** ..... (6:15)  
.....  
    A. [Receive and File Recycled Water Articles](#)  
    B. [Receive Report and Possibly Take Action On Draft Delegation Agreement](#)  
    C. [Receive Summary Of and Discuss Alternatives For Recycled Water Project – Phase 2](#)
  
6. **NEW BUSINESS** ..... (none)  
.....
  
7. **TOPICS FOR FUTURE COMMITTEE CONSIDERATION** ..... (6:50)  
.....
  
8. **PUBLIC COMMENT / ORAL COMMUNICATION** ..... (6:55)  
.....
  
9. **ADJOURNMENT** ..... (7:00)  
.....

*NEXT: Recycled Water Committee Meeting - 6:00 p.m., Monday, June 22, 2009, SAM Administration Building unless otherwise scheduled.*

## SEWER AUTHORITY MID-COASTSIDE BOARD MEETING NOTES & GUIDELINES

In the case of an emergency, items may be added to the Agenda by a majority vote of the Board of Directors. An emergency is defined as a work stoppage; a crippling disaster; or other activity, which severely imperils public health, safety, or both. Also, items that arise after the posting of the Agenda may be added by a two-thirds vote of the Board of Directors.

All matters listed under the Consent Calendar will be voted upon by one motion. There will be no separate discussion of these items, unless a Board Director, staff member, or member of the public requests that a particular item(s) be removed from the Consent Calendar, in which case the item will be considered separately by the Board. Consent Agenda Items are expected to be routine and non-controversial. Recommended action will be taken at the beginning of the meeting with or without discussion.

Any writing that is a public record and relates to an agenda item for an open session of a regular meeting that is distributed to the Board less than 72 hours prior to the meeting, is available for public inspection, during normal business hours, at the District office, the address of which is set forth above.

Board meetings are accessible to people with disabilities. Upon request, this agenda will be made available in appropriate alternative formats to persons with a disability. Request for a disability-related modification or an accommodation in order to participate in the public meeting should be made to Jeannette L. Tracy at (650) 726-0124 2 (two) days in advance of the meeting.

Copies of individual agenda items may be obtained at the Sewer Authority Mid-Coastside Administration Building, located at 1000 North Cabrillo Highway, Half Moon Bay, California after 9 a.m. by contacting Jeannette L. Tracy, Supervisor of Administrative Services at (650) 726-0124, ext. 130 on the Friday preceding the Board meeting.

Materials presented to the Board as part of testimony that is to be made part of the record must be left with the Recording Secretary prior to the meeting start time. These include photographs, slides, charts, diagrams, etc. Anyone intending to make a presentation using slides, overheads, computer graphics, or other media should coordinate with Jeannette L. Tracy, Supervisor of Administrative Services at 650-726-0124 ext. 130 two (2) days in advance of the meeting.

Some Board members may attend a meeting by teleconference. At any time during the regular session, the Board may adjourn to a closed session to consider litigation, personnel matters, or to deliberate on a decision to be reached based on evidence introduced in a hearing. [Government Code section 11126(a), (d) and (q)]

Meetings of the Sewer Authority Mid-Coastside (SAM) Board normally are held on the fourth Monday of each month in the SAM Administration Building located at 1000 North Cabrillo Highway, Half Moon Bay, California 94109. They are scheduled to begin at 7:00 p.m. Meetings held at other locations will be noticed to the public at SAM's regular posting place, located outside the SAM Administration Building at 1000 North Cabrillo Highway, in Half Moon Bay, CA.

At the Public Comment/Oral Communication section of each agenda, persons may speak on matters within the Board's jurisdiction that are not specific agenda items. Specific agenda items may be addressed by the public following discussion by the Board. The Board welcomes comments at the meeting. Comments should be kept to three (3) minutes max time.

<i>Title</i>	<i>Name</i>	<i>Representing</i>
Chair		
Vice Chair	Marina Fraser	City of Half Moon Bay
Interim Treasurer / Secretary	Ric Lohman	Granada Sanitary District
Director	John Muller	City of Half Moon Bay
Director	Scott Boyd	Montara Water and Sanitary District
Director	Jim Harvey	Montara Water and Sanitary District
Director	Leonard Woren	Granada Sanitary District
Alternate Director	Paul Perkovic Kathryn Slater-Carter	Montara Water and Sanitary District
Alternate Director	Matthew Clark	Granada Sanitary District
Alternate Director	Naomi Patridge	City of Half Moon Bay
General Counsel	James L. Copeland	Sidley Austin, LLP
Manager	John F. Foley III	Sewer Authority Mid-Coastside
Supv. of Admin Svcs.	Jeannette L. Tracy	Sewer Authority Mid-Coastside
Technical Svcs. Supv.	Tony Pullin	Sewer Authority Mid-Coastside

SEWER AUTHORITY MID-COASTSIDE  
Staff Report

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**Subject / Title**

Review and Approve Minutes of the April 27, 2009 SAM Recycled Water Committee Meeting

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**Staff Recommendation:**

Review and Approve Minutes of the April 27, 2009 SAM Recycled Water Committee Meeting

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**Fiscal Impact:**

None.

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**Discussion/Report:**

Attached please find the Minutes of the April 27, 2009 SAM Recycled Water Committee meeting for your review and approval.

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**MINUTES**  
**SAM RECYCLED WATER COMMITTEE (RWC) MEETING**  
**April 27, 2009**

**1. CALL TO ORDER:** The meeting was called to order at 6:00 p.m. at the SAM Administration Building, located at 1000 N. Cabrillo Highway, Half Moon Bay, CA.

**ROLL CALL:** Present: Fraser, Boyd, Lohman  
Absent: None  
Alternate Present: None

**PRESENT:** Manager Foley, Tech. Svcs. Supv. Pullin, General Counsel Copeland, Recording Secretary Turbay.

**2. PUBLIC COMMENT/ ORAL COMMUNICATION - None**

**3. CLOSED SESSION – None**

**4. CONSENT AGENDA**

**4A. Approve Minutes – March 23, 2009 RWC Meeting**

Alternate Director Boyd moved and Director Fraser seconded the motion to approve the Minutes for the March 23, 2009 RWC meeting.

Boyd/Fraser/2 Ayes/0 Noes/1 Abstain. The motion passed.

**5. OLD BUSINESS**

**5A. Review and Possibly Take Action on Memo from General Counsel on Water Recycling Act of 1991**

Manager Foley presented the staff report to review and possibly take action on the memo from General Counsel regarding the Water Recycling Act of 1991. In response to direction from the Board at its last meeting, General Counsel Copeland reported to the Committee on the obligations to SAM as a result of its receipt of the letter dated March 23, 2009, from Bruce Russell, CEO of Kenmark Construction. General Counsel Copeland stated that, although there are ongoing issues for the Board to consider, the letter does not require SAM to take any action at this time.

A discussion ensued. Manager Foley recommended that the Committee recommend to the Board that it receive and file the letter from Kenmark.

**5B. Review and Possibly Recommend Taking Action on Discussion Draft Agreement Concerning Delegation of Responsibility to Provide Recycled Water**

Manager Foley discussed the language for the delegation agreement that was drafted by General Counsel Copeland, per direction of the Board at its last meeting, also in response to the Kenmark letter. General Counsel Copeland reviewed the draft delegation agreement. A discussion ensued. Director Boyd suggested that item F and item 5 (Limitation to Volume), be pulled, re-word item 6 (Monitoring) and item 7 (Reporting) which are both attached to item 5, and have the SAM Manager discuss the delegation agreement draft with CCWD Manager, David Dickson.

Director Lohman directed staff to add an item to the next Committee agenda allowing the discussion of ideas for Phase II of the Recycled Water project.

**5C. Review and Possibly Take Action on Letter From CCWD to SAM**

Manager Foley provided the Committee with a letter dated April 9, 2009, from CCWD General Manager Dave Dickson, assuring SAM that the CCWD Board has not discussed litigation against SAM.

**5D. Discuss Recycled Water Topics and Possibly Recommend Future Action**

Manager Foley reported to the Committee on his meeting with Tony Pullin, Tanya Yurovsky of SRT Consultants, and Michael Williams and Ted Peterson of Kenmark Construction, Inc. Mr. Williams and Mr. Peterson conveyed their desire to learn more about SAM's Recycled Water project and their concerns about pipe capacity and peak demands. The design of the recycled water facility was also discussed.

Manager Foley informed the committee of a CA Senate Bill 565 regarding ocean dischargers and recycled water programs. This bill hopes to insure that 50% of wastewater, that is now discharged into the ocean, is recycled by 2030.

Tanya Yurovsky of SRT Consultants reviewed the applications that have been submitted for grants pertaining to the recycled water project. She informed the Committee that she has submitted another recycled water project application to the Bay Area Council.

**6. NEW BUSINESS - None**

**7. TOPICS FOR FUTURE COMMITTEE CONSIDERATION - None**

**8. PUBLIC COMMENT / ORAL COMMUNICATION - None**

**9. ADJOURNMENT**

The meeting was adjourned at 6:49 p.m., to the next SAM RWC meeting scheduled for May 26, 2009, at 6 p.m., in the SAM Administration Building, located at 1000 North Cabrillo Highway, Half Moon Bay, CA.

Respectfully submitted,

John F. Foley III  
Manager

SEWER AUTHORITY MID-COASTSIDE  
Staff Report

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**Subject / Title**

Receive and File Recycled Water Articles

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**Staff Recommendation:**

Receive and File Recycled Water Articles

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**Fiscal Impact:**

None

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**Discussion/Report:**



May 21, 2009

## On Golf Courses, Sensors Help Save Water

By LARRY DORMAN

In seven years of overseeing every root and blade of grass on the grounds at the Merion Golf Club in Ardmore, Pa., Matt Shaffer has built a reputation on innovation and conservation. An early advocate of course playability over aesthetics, he long lived by the maxim “the drier, the better.”

But when a stifling heat wave threatened the club’s greens before the 2005 United States Amateur Championship — a record 17th U.S.G.A. championship at [Merion](#) — Shaffer turned to his old boss, Paul R. Latshaw Sr., for advice. Latshaw told him there was one way he could continue to cut down water use while keeping his turf dry and as fast as a microwave: sensors.

Wireless sensors were little more than a rumor in those days, but Shaffer trusted Latshaw, followed the advice and installed a product called RZ Wireless before the championship. The technology helped him enjoy four years of successful water conservation. Although doubtful he could improve on what he had, Shaffer decided last month to upgrade his system with a promise of even greater savings.

“I am probably known as one of the best waterers,” Shaffer, the club’s director of golf operations, said in a recent interview. “And I thought, man, I don’t know why I’m getting these sensors because I know I’m dry.”

He added: “Well, what I thought was dry isn’t even my baseline. These sensors are just so much more sensitive, so much better, so much more complete. I am now hooked. I’m a sensor addict.”

This is a green addiction with the potential to spread, with more than 20 states affected by some form of drought and water restrictions a daily reality in cities across the nation.

At least three companies are competing in the market for subterranean wireless sensors, which monitor moisture, temperature and salinity in the soil and feed the data to a software network accessed remotely on a laptop, a handheld device or a desktop computer. The system could be used far beyond the golf course — on other athletic fields, in agriculture, in both home and commercial landscaping, and in parks.

The leader in the clubhouse so far is a system called [UgMo](#), a network of wireless sensors that mine subsurface data and link to a software package developed by Advanced Sensor Technology of King of Prussia, Pa., the original manufacturers of the RZ system. The company announced its updated system in February and made it available in early April, installing it at golf meccas like Merion, Desert Mountain outside Scottsdale, Ariz.; and Card Sound Golf Club on Key Largo, Fla.

Early adopters say they will cut an average of 10 percent of their typical water use, amounting to millions of gallons of water each year. At that rate, the system would pay for itself within the first year, depending on the volume of water a course uses.

“We were a very efficient operation to start with,” said Shawn Emerson, the superintendent at Desert Mountain Golf Club, a complex of six courses with 500 acres of turf in the desert Southwest. “With these sensors, we only water when the soil tells us it needs to be watered.”

He said the club would save a total of more than 100 million gallons of effluent water, or an average of between 18 million and 20 million gallons per course for the year. That would mean roughly \$130,000 in savings based on current prices.

Advanced Sensor’s competitors include [the industry giant Toro](#), of Bloomington, Minn.; and [Environmental Sensors, Inc.](#), based in Victoria, British Columbia. Each has introduced wireless systems designed for golf courses within the past four months.

The competition has, predictably, spawned litigation. Advanced Sensor filed a patent infringement lawsuit against Toro in January 2008. The case, which involves the movement of a former Advanced Sensor wireless system designer to Toro, is scheduled for trial July 30 in federal court in Philadelphia, barring a settlement.

Walter Norley, the founder and chief executive of Advanced Sensor, said his company was well positioned to grow and had begun making inroads in the sports turf market. He pointed to his company’s recent installation of the UgMo system at the Home Depot Center in Carson, Calif., a complex of athletic fields that is home to the [Los Angeles Galaxy](#) and Chivas USA of [Major League Soccer](#). He also mentioned legislation pending in Florida — which last week declared a drought emergency — that would mandate water conservation measures by irrigators that could provide his company with a large number of customers.

“The reality is that the water situation itself is very significant,” Norley said. “There is usage legislation in a number of states, and when it comes to mandates, the golf world will be the lowest-hanging fruit of all the irrigation applications. If decisions are to be based on

who gets water, crops for food or someone's green, green, green fairways, it's pretty obvious who will get the water."

Golf accounts for 0.5 percent of annual water usage in the United States, according to a study released this year by the Golf Course Superintendents Association of America. Golf courses are all but weaned from municipal fresh-water systems, with 86 percent now using some other source, liked recycled effluent water, surface water or water treated by reverse osmosis. Significantly, 70 percent of superintendents surveyed said they were keeping their turf drier.

But fewer than 100 of the estimated 15,700 golf courses in the United States have sensors installed. The introduction of relatively cheap and highly accurate systems could change that.

For slightly more than \$11,000, a golf course could install an UgMo subsurface system that would include 18 wireless sensors, 3 routers and gateways, software and help from an agronomy support staff.

Norley said his company would have 48 completed installations by the end of June, with 14,000 sensors back-ordered for installation in sports fields and golf courses by the end of the year. Toro, with the bulk of its 2008 revenue of \$1.9 billion generated by turf and landscape maintenance equipment and irrigation systems, is just getting started. Environmental Sensors announced its entry into the wireless sensor and software market for golf earlier this month.

In the Florida Keys, the Card Sound Golf Club installed wireless sensors in April. The club uses recycled water from reverse osmosis to irrigate the grounds. It has a high salt content, meaning that the club superintendent, Sean Anderson, must regularly have his greens flushed with fresh water.

Before the installation, Anderson said, the job required 150,000 gallons, took an hour and had to be done every two weeks.

"We have actually cut in half the amount of water we were using," he said. "To me, it sort of shows that the sky is the limit with this technology."

May 21, 2009

NATIONAL BRIEFING | SCIENCE

## Astronauts' Urine-to-Water Test Successful

By [KENNETH CHANG](#)

The three crew members of the International Space Station raised plastic pouches in a toast of their first taste of urine that had been recycled into drinkable water. “The taste is great,” said Michael R. Barratt, a flight engineer. A recycling system, installed last fall, purifies the urine. Recycling is crucial, especially with the station crew expanding to six people this month, because of the cost of transporting water from Earth. At the station’s mission control room in Houston, people cheered and drank similarly recycled water. A distillation unit in the system initially proved balky, and a replacement was brought up and installed in March. After the system passed tests, the station’s two astronauts and one cosmonaut finally took a sip.



## Dr. Peter Gleick

*President, Pacific Institute*  
[Read Bi](#)

### How MUCH water do we use?

My last post, describing my water bill and my personal water use stimulated a lot of discussion and debate, but also raised some new questions about how much water we actually use. There is a lot of confusion about this, so as a way to clarify some of these issues (I hope), here is today's water number:

**Water Number:** On average, Americans use around 180 gallons per person per day. This includes the water we use in our homes (see below), AND our share of water used in our local commercial, industrial, and institutional uses as well (i.e., things like local restaurants, schools, offices, and industry supplied by municipal water agencies).

Like every other water number, there are caveats:

First, we don't measure water use particularly well. These data come from the [US Geological Survey](#), which does the best, comprehensive, national survey of water use every five years (these are from the most recent survey from 2000 -- we're still waiting for the 2005 numbers, but they won't be very different).

Second, there are enormous regional and individual variations, so don't get upset with me if you use less (or more) -- these are just a national average, but they give you a sense of where we are.

Third, these numbers do **not** include water used to grow the food we eat, or to cool the power plants that generate the electricity we use, or industrial water provided directly by companies, or our share of water for mining or aquaculture or livestock. This leads to today's Water Number 2.

**Water Number 2:** If you take all of the water used by humans for everything in the United States, and divide it by the total population of the United States, our total water use is a very large 1,430 gallons per person per day, but most of this water goes to irrigated agriculture and to cool power plants -- not your personal direct use.



Brad Calkins, Dreamstime.com

## Efficient toilets are increasingly common and save a lot of water.

If we take Water Number 1 and separate out the water we use in our own homes, it comes to around 120 gallons per person per day, for both indoor and outdoor residential water use. In California, residential water use is somewhat higher -- around 135 gallons per person per day according to the [California Department of Water Resources](#). This is because we like our lawns, but live in a hot climate; water use per person tends to be lower in cooler, coastal cities and higher in the Central Valley and southern areas where temperatures are higher and landscapes are larger.

Finally, a comment about conservation and efficiency: in our homes, businesses, industry, and agriculture, there is vast potential to do all of the things we want with less water (our definition of 'efficiency,' as opposed to one in which we reduce water use by letting lawns die or taking shorter showers). For example, most indoor water use goes to flushing toilets. If you can use a 1.1 gallons per flush (high-efficiency toilet (HET)) rather than a 6 or 3.5 gallon per flush toilet, you save vast amounts of water (and money), without changing what you do. And for those of you worried about poorly performing efficient toilets (always a drag), doing a little research before you buy can ensure you get a great model. There is superb information available on the [best performing efficient toilets here](#). My HET is the best toilet I've ever owned. [I bought one rated 1000 on the MaP test and got a \$150 rebate from my water utility.]

More information about [improving urban water efficiency can be found here](#). More information on [improving agricultural water efficiency can be found here](#).

Posted By: [Peter Gleick \(Email\)](#) | May 19 2009 at 03:40 PM

Listed Under: [California Water](#), [Water Use](#)

(11)

[mitchq233](#)

5/19/2009 4:37:16 PM



This is twenty year old guilt mongering, and not well done. I give up on Peter. He has nothing to say to advance the dialogue on the issue of water use. Another city lightweight.

Recommend: [\(9\)\(9\)\[Report Abuse\]](#)  
[alyxandr](#)

5/19/2009 4:53:07 PM



70% of water use is agricultural (i.e. growing rice in California, instead of importing it from our erstwhile allies in the Philippines and Malaysia), and 15% is industrial (i.e. manufacturing cheap plastic crap no one needs). Basic human needs like drinking and washing are the very last things we need to be concerned about. "Taking shorter showers" is the solution to nothing except the self-esteem issues of the progressive left.

Recommend: [\(14\)\(5\)\[Report Abuse\]](#)  
[mitchg233](#)

5/19/2009 4:56:52 PM



Thank you alyxandr. I still don't know if Peter thinks I am to be guilty about eating rice. Not that I give a flying Philly.....

Recommend: [\(2\)\(3\)\[Report Abuse\]](#)  
[bashofan](#)

5/19/2009 5:17:35 PM

I live on a ranch in eastern CoCoCo, and last summer our well, our sole source of water, ran dry. Trust me: that got my attention. Turns out you can't just log on to DryWellBGone.com and PayPal up a few thousand gallons. Fortunately I chased down one of my neighbors who has both a far deeper well and a water truck he uses in his construction business, and he saved my sorry behind. Since then, the wifey and I have been MUCH more frugal about water use. We installed rainbarrels to capture runoff that we use to water our vegetable garden, and we catch tub water in buckets before it turns warm enough for our morning showers--if we're taking showers, that is. (We learned that we don't have to shower every day to stay employed, married, etc.) Except for underwear and socks we wear all of our clothes multiple times before washing them. Landscaping, except for the veggies, is on its own; either it grows roots deep enough to get what's already in the ground, or it dies. The result of all this is that, so far, our water storage tank that the well pumps into is holding at "full," although it's anybody's guess as to how we'll be faring in a couple months at the height of summer. Next year I hope to add more rainwater capturing devices (e.g. a cistern) if I can afford them. 'Til then it's conserve, conserve, conserve, and pass the deoderant.

Recommend: [\(10\)\(2\)\[Report Abuse\]](#)  
[VinceFoster](#)

5/19/2009 6:18:51 PM



Peter, what is your "final solution" to deal with these pesky humans?

Recommend: [\(6\)\(5\)\[Report Abuse\]](#)

[vegart](#)

5/19/2009 8:08:35 PM

Save water and end suffering. Go vegan.

Recommend: [\(3\)\(4\)\[Report Abuse\]](#)  
[courtjester](#)

5/19/2009 8:26:08 PM



If you have a real interest in water and its uses, ignore the pacific institute and its gaggle of no-nothings. Read a book on ground water hydrology, geomophology, and related titles in civil and mechanical engineering. The Pacific institute is made up of dweebs with law and polisci degrees.

Recommend: [\(3\)\(6\)\[Report Abuse\]](#)  
[cinelli](#)

5/19/2009 10:42:45 PM

When I read the first Peter Post I about choked on his being proud of his family's low (?) water consumption. His family uses WAY more water per person per day than my household of 5 adults. Does this mean kids are the water problem? Or something else? I realize me, compared to the whole industrial-gov't -public water use profile of which i am a part, makes "me" miniscule. But still...Peter being PROUD of his family's profile compared to other American profiles leaves me wondering Which Mirror Does He Look In? Hence, the rest of what he has to say... well, I take it with a grain of salt, so to speak.

Recommend: [\(1\)\(3\)\[Report Abuse\]](#)  
[davidzet](#)

5/20/2009 7:07:35 AM

Don't forget "virtual water" (<http://aguanomics.com/2008/03/virtual-water.html>) is embedded in the products we import from other countries (Canada, Mexico, China...).

Recommend: [\(0\)\(0\)\[Report Abuse\]](#)  
[aarrigoni](#)

5/20/2009 7:57:52 AM

Water, quite obviously, is a highly controversial



entity, it is vital for sustaining all life. It often invokes, literally and figuratively, intense conflict if not all out war, and when a persons resource becomes threatened it is a natural response to attempt to remove that threat. This goes for everyone, urbanite, farmer, environmentalist, scientist, businessmen, etc. Unfortunately, this also means that resolving said conflicts becomes extremely difficult because we all like to be right and on the winning side, thus it's very easy to ignore the other sides position, interest, or stake in water. However, what it really comes down to is we all want to live and thrive, and we want the same for our children. For that to happen we need food, we need sanitation, we need industries, and we need the natural environment because although on the surface the connections may not be obvious, every one of these things is highly dependent and connected on the other. We all need food to eat, so we need the agriculture, we need industry and power, and we need healthy streams, oceans, and forests because without them we have none of the foundational building blocks for all of the above. For instance, we wipe out the natural functionality of the streams and oceans, we wipe out the fish. This means no more fishery industry, which means a whole bunch of fishermen out of jobs, cannery and packaging companies out, distrusters also out of jobs etc. etc. Destroying one single fish type may seem meaningless, except it's not, it's connected to a whole lot more. Same thing with agriculture, it feeds the human population, we need it and without it our society will collapse. However, if any one of these things is not done efficiently then we run the very really risk of wiping ourselves out, and quite frankly I happen to like living. We, all of use, need to think hard about living as efficiently and as close to sustainable as we can because there are a lot of us and if we are not adaptable to changes in our resources or environment then we go extinct, that's a basic principle of ecology.

Recommend: [\(4\)\(2\)\[Report Abuse\]](#)  
[petergleick](#)



5/20/2009 7:58:19 AM

Alyxandr: I talk extensively about the water for agriculture in previous posts and how it dominates total water use here in the US and globally, and I'm

quite opposed to arguing for people to take shorter showers (except my son) -- that is deprivation, not efficiency.

Mitch: of course you shouldn't feel guilty about eating rice. You should feel guilty about making rude and unhelpful comments on the posts.

Bashofan: you've had an experience most of us don't have -- the true importance of water. To paraphrase Benjamin Franklin, we learn the worth of water when the well runs dry. Thank you for your insights.

Courtjester: if you are going to make personal attacks, use your real name and get your facts straight. Institute staff tend to have science degrees. Actually, if you're going to make personal attacks, rather than relevant comments, go to someone else's blog.

Davidzet: yes, there is additional water represented in imports, but to keep the balance/accounting straight, we'd have to account for (and deduct) the water we export in goods as well. And given our large grain export accounts, the US is a net exporter of virtual water I believe.

Recommend: [\(3\)\(1\)\[Report Abuse\]](#)

## Senate Committee Bill Authorizes \$38.5 Billion for Water Infrastructure

The Senate Environment and Public Works Committee approved legislation May 14 that would authorize \$38.5 billion over five years for state clean water and drinking water revolving funds and other programs to repair infrastructure and improve water quality. The **Water Infrastructure Financing Act (S. 1005)** was approved by a 17-2 vote. It includes \$20 billion for the clean water revolving fund, which has not been reauthorized since 1987, and \$14.7 billion for the drinking water state revolving fund, which has not been reauthorized since 1996. The legislation would authorize \$1.85 billion over five years in grants to address combined sewer overflows and \$60 million annually over five years to states and municipalities to reduce lead in drinking water. In addition, the bill includes \$45 million over five years for EPA's WaterSense program, a voluntary water conservation program similar to the agency's Energy Star program. It also would authorize \$250 million for watershed improvements and \$50 million for a nationwide grant program to address agriculture-related water quality issues. The legislation includes incentives for green infrastructure projects and to help low-income communities. A research and incentive program would promote water conservation, efficiency, and recycling.

The committee passed by voice vote an amendment offered by Sen. George Voinovich (R-Ohio) that would require EPA within six months of the bill's enactment to update its 1997 combined sewer overflow guidance. The guidance is used to develop and determine the financial capability of communities to implement a clean water infrastructure program. Under this provision, EPA would have to conduct public outreach and consult with states in drafting the guidance. Another amendment, sponsored by Sen. Kirsten Gillibrand (D-N.Y.), would require a study on the presence of pharmaceuticals and personal care products in waters of the U.S. and an evaluation of their risks. EPA would enter into an agreement with the National Academy of Sciences to carry out the study, which would include potential effects of pharmaceuticals and personal care products in water on human health and aquatic wildlife. The committee also approved by voice vote an amendment offered by Sen. Ben Cardin (D-Md.), which would apply the prevailing wage requirements of the Davis-Bacon Act to infrastructure projects funded through the bill. The act requires that local prevailing wages be paid on projects receiving federal funds. These amendments are expected to be debated when the bill reaches the Senate floor. To view **S. 1005**, visit: <http://thomas.loc.gov/cgi-bin/query/z?c111:S.1005>.

# Leisure Village recycled water project completed

By Michelle Knight [knight@theacorn.com](mailto:knight@theacorn.com)

The 10-year, \$2.5-million project to outfit Leisure Village in Camarillo with a recycled water pipeline is complete.

"It means (residents are) going to have green grass in the future," said Robert Scheaffer, Leisure Village general manager.

Purple pipes jutting out of the ground and purple fire hydrants here and there are the only visible signs that the 415-acre retirement community is using recycled water to keep its 200 acres of greenbelt and 18-hole golf course green. The community began using recycled water through 15,000 feet of underground pipes last month.

The network connects to Camrosa Water District's reclamation facility.

The joint venture with Camrosa, Calleguas Municipal Water District and Metropolitan Water District of Southern California is expected to save 180 million gallons of potable drinking water a year, Scheaffer said.

The retirement community depended entirely on potable water for its needs before the project. Using recycled water for irrigation has reduced the village's dependency on more expensive potable water by 70 percent, he said.

Potable or drinking water costs \$1.75 per hundred cubic feet, compared with 60 cents per hundred cubic feet for nonpotable or recycled water.

In a drought, landscaping often suffers. Leisure Village residents have said they want to keep the community green, and using recycled water will help ensure that, Scheaffer said.

"Twenty-five percent of the property value here is the landscaping," he said.

The water project benefits other Camrosa customers and Ventura County as a whole by freeing up more of the limited potable water for those who don't have access to nonpotable water, Camrosa General Manager Frank Royer said.

"I think that this is a step forward for building self-reliance," Royer said. "It shows what a partnership can do."

Leisure Village residents will see a "considerable" savings on their water bills in about seven years, Scheaffer said. The savings meanwhile will be used to pay for retrofitting the community to use recycled water. Scheaffer said he didn't know how much residents would save.

Recycled water is high-grade water that's safe for pets and vegetation but doesn't meet the same standards for taste and clarity as potable water, Scheaffer said.

# Home graywater systems topic of workshop

Redwood Times

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The Humboldt Bay Center for Sustainable Living (HBCSL) and the Redwood Coast Energy Authority (RCEA) presents "How To Build A Graywater System And Use Household Laundry Water to Irrigate Edible Landscapes," starting at 6:45 p.m. on Wednesday, May 6, at the Redwood Coast Energy Resource Center, 517 5th Street, in Eureka (between F and G).

The workshop is presented by Eli Asarian, a local environmental consultant who focuses on water quality, river restoration, geographic information systems, and database management.

The presentation will include how to build a safe, low-maintenance, low-cost graywater system to reuse household wash-water to irrigate edible landscapes.

Asarian will discuss proper sources of graywater, crops suitable for irrigation, system designs, costs, benefits, health/safety issues, site constraints, maintenance, building codes, and water conservation.

This workshop will focus on simple easy-to-install systems suitable for do-it-yourselfers and professionals alike.

This program is provided by the RCEA and the Center for Sustainable Living, the educational arm of the HBCSL. HBCSL is a non-profit organization whose mission is to explore and demonstrate, through experiential living, a wide range of sustainable and ecologically sound technologies and ways of life. Its principal project is the development of the Humboldt Bay Eco-Hostel. More information on this project may be found at [www.eco-hostel.org](http://www.eco-hostel.org). This program is free to the public.

## Study: Reclaimed Water Quality Similar to Other Waters

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A new WaterReuse Foundation water quality study found that reclaimed/recycled water, surface water, and groundwater were more similar than dissimilar when tested for the presence of 244 representative constituents, of which 89 were not found in any samples. When detected, most constituents were in the parts per billion and parts per trillion ranges.

DEET (a bug repellent) and caffeine were found in all water types and in virtually all samples. Triclosan (in anti-bacterial soap & toothpaste) was found in all water types, but detected in slightly higher levels in reclaimed water versus surface water or groundwater. Very few hormones/steroids were detected in samples, and when detected, were at very low levels. Halocetic acids (a disinfection by-product) were found in all types of samples, even groundwater. The largest difference between reclaimed water and the other waters appears to be that reclaimed water has been disinfected and thus has disinfection by-products (due to chlorine use).

The project was published by the WaterReuse Foundation with funding from the Southwest Florida Water Management District, the Bureau of Reclamation, and partnering utilities in Florida and California. The project was managed by CH2M HILL (engineering/research consultants) and involved researchers from U.S. Geological Survey, University of Miami, and Florida International University.

The complete results can be found in the report titled *A Reconnaissance-Level Quantitative Comparison of Reclaimed Water, Surface Water, and Groundwater*, which is available from the Foundation. Copies of the report may be ordered online at [www.watereuse.org/foundation/publications](http://www.watereuse.org/foundation/publications).