Media Highlights for *Water Reuse: Potential for Expanding the Nation's Water Supply Through Reuse of Municipal Wastewater*

Released: Jan. 10, 2012

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Highlights

USA TODAY

Report: Drinking wastewater preferable to wasting it

Council touts it as potable after treatment

By Wendy Koch
USA TODAY

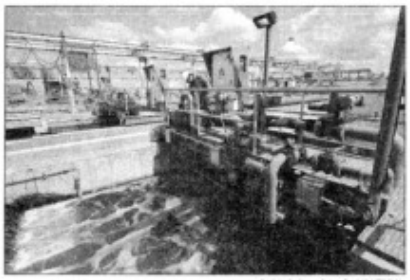
Drinking wastewater? The idea may sound distasteful, but new federally funded research says more Americans are doing so — whether they know it or not — and this reuse will be increasingly necessary as the U.S. population expands.

Treated wastewater poses no greater health risks than existing water supplies and, in some cases, may be even safer to drink, according to a report released Tuesday by the National Research Council, a science advisory group chartered by Congress. "We believe water reuse is a viable option" to deal with growing water scarcity, especially in coastal areas, says Jörg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report.

"This can be done reliably without putting the public at risk," he says, citing technological advances. He says it's a waste not to reuse the nation's wastewater, because almost all of it is treated before discharge. This water includes storm runoff as well as used water from homes, businesses and factories.

Of the 32 billion gallons of wastewater discharged every day in the USA, the report says 12 billion — equal to 6% of total U.S. water use — is sent to an ocean or estuary and is thus a lost resource.

Many communities reuse wastewater for irrigation and industrial purposes. Some — notably Cloudcroft, N.M., and California's Orange County — have treatment facilities to reuse it as drinking water.



By Mark Greenberg for USA TODAY

Wastewater treatment: Mechanic Phillip Castro does a routine inspection of the systems at a plant in San Antonio.

In many places, the report says, the public does not realize it is drinking water that was treated after being discharged as wastewater somewhere upstream. For example, wastewater discharged into the Trinity River from Dallas/Fort Worth flows south into Lake Livingston, the source for Houston's drinking water.

Despite the growing importance of this "de facto reuse," the report says there has been no systemic analysis of its extent nationwide since a 1980 study by the Environmental Protection Agency.

"There's always someone downstream," says Alan Roberson of the American Water Works Association, a non-profit group dedicated to clean water. He says wastewater reuse is common, so the council's report is important but not surprising.

Roberson says he expects this recycling will continue to increase, especially for irrigation and industrial needs.

He says it will take longer to establish potable uses because of public skittishness about drinking wastewater, however treated.

"We have to do something" to address water scarcity, says Olga Naidenko, a senior scientist at the non-profit Environmental Working Group. She says less than 10% of potable water is used for drinking, cooking, showering or dishwashing.

"We flush it down the toilet, literally," she says. Technologies exist to safely treat the water, she says, although some are expensive.

The report says water reuse projects tend to cost more than most water conservation options but less than seawater desalination and other supply alternatives. It calls on the EPA, a co-sponsor of the report, to develop rules that set safe national standards.

Los Angeles Times | ARTICLE COLLECTIONS

Report backs greater use of recycled wastewater

Study finds no difference in risk between highly treated sewage and current drinking water supplies, retreating from an earlier report that called usage 'an option of last resort.'

January 11, 2012|By Bettina Boxall, Los Angeles Times

Opponents malign it as "toilet to tap." But a new National Research Council report says that reclaimed water can contribute a growing portion of the nation's drinking water supplies and be as safe as conventional sources.

The assessment is especially relevant to Southern California, which has been a pioneer in recharging local aquifers with treated wastewater but still sends most of its runoff and treated water to the Pacific Ocean. A decade ago, public outcry and electoral politics thwarted a Los Angeles plan to partially replenish San Fernando Valley groundwater with recycled supplies.

Not to worry, concluded the scientific panel that wrote the report: "We can really say that there is no difference from the risk standpoint," said Jorg Drewes, a water reuse expert who was on the panel. "You can have a supply that is as safe as the current drinking water supplies."

In that vein, the 349-page report, released Tuesday, backs away from a 1998 research council recommendation that reclaimed water be used in drinking supplies only as "an option of last resort."

"We have more operation experience on potable reuse projects in the country and we have a much better understanding of the risk," said Drewes, a civil and environmental engineering professor at the Colorado School of Mines.

The report noted that many conventional sources already contain some treated wastewater, and called that "de facto reuse."

All of Las Vegas' treated sewage drains into Lake Mead, the nation's largest reservoir and a water source for Southern California and much of the Southwest. Water managers joke that if you flush a lot when you go to Vegas, it will mean more supplies for the Southland.

The panel compared data on tap water drawn from a conventional source that contained 5% wastewater with supplies taken from aquifers partially recharged with treated sewage.

It looked at levels of pathogens and 24 chemical contaminants, including hormones and pharmaceuticals, and concluded that the water from recharged aquifers posed no greater health risks, and in the case of pathogens, could be lesser.

The pressures of growing population, migration to arid parts of the U.S. and climate change are making reclaimed supplies more attractive.

"Wastewater is a drought-proof supply. People are always generating wastewater," Drewes said. "That can be a very viable option, the committee felt, compared to imported water and other options."

He added that reclaimed water is cheaper than desalinated seawater. And on the coast, there are no downstream users who can assert rights to the flow, which would otherwise be dumped in the ocean.

Los Angeles has not given up on the idea of using highly treated effluent from the Donald C. Tillman Water Reclamation Plant in Van Nuys to replenish the aquifer in the northeast Valley. The Department of Water and Power is trying to build support for the project with community meetings and is developing a master plan for recycled water use in the city.

In a statement, DWP Senior Assistant General Manager James McDaniel said his agency was encouraged by the report, "which once again underscores the importance of using recycled water to augment existing water resources."

bettina.boxall@latimes.com

The San Diego Union-Tribune

http://www.utsandiego.com/news/2012/jan/10/study-water-recycling-key-us-future/

Study: Water recycling key to U.S. future

Treating municipal wastewater and reusing it for drinking water, irrigation and other applications could significantly increase the nation's water security, particularly in coastal areas such as San Diego that are facing water shortages, according to a report released Tuesday by the the National Research Council.

It said reusing purified sewage, also known as reclaimed or recycled water, to boost drinking water supplies has significant potential for helping meet future needs. And it cited new analyses suggesting that the possible health risks of exposure to chemical contaminants and disease-causing microbes from reuse do not exceed -- and in some cases may be significantly lower than -- the risks of existing water supplies.

"Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said a statement by R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies in Pasadena. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies."

The study comes as San Diego city officials are polishing their own report on the topic and assessing a demonstration project for water purification technology. For more than a decade, city residents and elected officials have debated the idea. While it was politically unpopular for years, recent public opinion polls suggest residents increasingly accept the technology.

"I ... think it will help move the dialogue on advanced treated recycled water use in the region along," said Ann Tartre, executive director of the Equinox Center think tank in Encinitas. "The study, published by a world class group of scientists at the (National Research Council), corroborates Equinox Center's findings that recycling water could significantly increase our region's access to an available local water supply, and that advanced treated water processes are safe."

San Diego County imports almost all of its water from the Colorado River and the Sacramento-San Joaquin River Delta, leaving the region vulnerable to shortages.

Tuesday's report highlighted local efforts. "Comparative cost data considering O&M costs and annualized capital costs for San Diego's water supply alternatives show that nonpotable reclaimed water is comparable to the cost of seawater desalination, largely due to the high cost of the distribution system," said the report. "Estimated potable reuse costs are lower than nonpotable reuse and desalination but substantially larger than conservation and the current costs of imported water.

"However, the cost of importing water is anticipated to rise faster than the other supplies, such that by 2030, the cost of potable reuse is anticipated to be comparable to imported water," it said.

To read the report, go to http://books.nap.edu/catalog.php?record_id=13303.

Associated Press

Report backs more use of reclaimed water

Wednesday, January 11, 2012

(01-11) 11:42 PST Los Angeles, CA (AP) --

A new report says the use of treated sewage water could safely increase the nation's drinking supplies.

The National Research Council released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage.

The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage.

The report concludes that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

SCIENTIFIC AMERICAN™

http://www.scientificamerican.com/podcast/episode.cfm?id=gee-whiz-why-not-recycle-urine-for-12-01-16

Gee Whiz, Why Not Recycle Urine for Drinking Water?

The U.S. can no longer afford to ignore sewage as a source of drinking water, scientists argue. David Biello reports.

| Monday, January 16, 2012 |

Americans produce 32 billion gallons of sewage every day. And we need to start drinking it. After treating it, of course. So argues a report from the U.S. National Research Council. Why drink reprocessed pee? Because freshwater supplies are getting squeezed.

The reports' scientists, utility officials and engineers note that new technologies are making it affordable to clean up and reclaim such water. And it's not just for drinking—reclaimed water can also be used for irrigation or industry.

The best news? The possible health risks "do not exceed and, in some cases may be significantly lower than, the risks of existing water supplies."

Many of us are already drinking such recycled water. After all, if you're downriver from another municipality odds are your drinking water has already been through their treatment plants—and every other city's upriver from you.

Of course, there are other things we should be recovering from our wastewater, such as the vital nutrient phosphorus that may soon become scarce. But in a world that's having trouble providing enough water for everybody, recycling makes sense. If we can just overcome the blehhh factor.

—David Biello

[*The above text is a transcript of this podcast.*]

Greenwire

Wastewater no more risky than other drinking sources -- report

Paul Quinlan, E&E reporter

Published: Wednesday, January 11, 2012

Drinking properly treated wastewater is no more risky than consuming water from other sources and could be essential to preventing supply shortages, as the climate warms and the population swells, according to a national scientific panel.

Those were the key conclusions of a report issued by the independent, federally funded National Research Council. The panel of 14 scientists and experts was asked to determine whether the stomach-churning but increasingly common practice of reusing municipal wastewater could be a viable supplement to the nation's water supply.

"The clear answer is yes," said Jörg Drewes, associate professor of environmental science and engineering at the Colorado School of Mines and a member of the committee that authored the report. "We believe water use is definitely a viable option, both for nonpotable and potable application."

The report amounts to a major endorsement of what is a controversial practice and is expected to become fodder for industry groups and utilities that are pushing for more widespread reuse of municipally treated sewage and runoff.

Reusing wastewater discharged into the ocean, the report highlights, could provide the equivalent of 6 percent of the estimated total U.S. water use or 27 percent of public supply.

"There has been an evolution in our thinking," said Charles Haas, professor of environmental engineering at Drexel University and a member of both the current National Research Council committee and the last one to issue a report on the subject, in 1998.

Most notably, the research council went further than to simply endorse the wastewater reuse, noting instead that the health risks of drinking treated wastewater are no higher -- and may actually be lower -- than consuming water from other sources.

That is because of what the committee's report calls "de facto reuse": scenarios in which a drinking water system draws from a source, such as a river or stream, in which a large fraction originated from the discharge of a community upstream.

The report notes that "although there is a great degree of uncertainty ... the risk from potable reuse does not appear to be any higher, and may be orders of magnitude lower, than currently experienced in at least some current (and approved) drinking water treatment systems."

Although careful to advocate for robust and redundant treatment systems, the researchers sought to dispel concerns about the host of difficult-to-detect contaminants in wastewater and what in some cases are poorly understood health consequences.

For example, the report notes that "the occurrence of a contaminant at a detectable level does not necessarily pose a significant risk."

The report also notes that requirements now in place for public health safeguards in many potable reuse systems across the United States -- such as requirements for blending non-reuse with recycled wastewater and building in natural filtration systems, such as artificial wetlands -- will become less significant and could soon be eliminated as rapidly developing filtration technologies become even more advanced and effective.

In fact, one of the largest barriers to expanding wastewater reuse could be winning over the public -- or more specifically, utility ratepayers -- and the politicians who must make decisions to invest in the seemingly risky and distasteful technologies.

Although widespread public support exists for reusing water to irrigate parks, golf courses and even cropland, similar support is almost nonexistent when it comes to flowing the stuff through household taps.

Reuse for irrigation purposes "simply makes sense to people and they like the concept," Drewes said. "If you ask them to drink it, that's a different story."

Ben Grumbles, U.S. EPA water chief under the George W. Bush administration who now heads the Clean Water America Alliance, a nonprofit that advocates for sustainable water policy and includes members from both industry and the environmental community, touted the report for shedding some light on what he called "one of the biggest opportunities for all of us in water."

"Our water future depends on the reuse movement," Grumbles said.

Mail Online

http://www.dailymail.co.uk/news/article-2085351/Toilet-tap-Panel-recommends-Americans-drink-waste-water-combat-future-shortages.html

Toilet on tap: Panel recommends Americans drink more waste water to combat future shortages

- **'Wastewater is a drought-proof supply and a very viable option compared to imported water and other options'**

By Daniel Bates

Last updated at 8:03 PM on 11th January 2012

Next time you pour a glass of water from the tap try not to think about this - you might be about to drink what you once flushed away.

Rising numbers of Americans are consuming wastewater, or 'toilet on tap', without even realising it, according to an official report.

Even though it once contained human waste, food scraps and bath scum, the National Research Council claims that it could actually be better for you than fresh water.

It also says says that only wastewater that has been treated gets back into circulation, although the last industry-wide study was done was back in 1980.

Waste not, want not: Water flushed down the toilet, or emptied from sinks, bathtubs, washing machines and dishwashers heads to a treatment plant where materials like oils, soaps and chemicals is filtered out

According to the U.S. Geological Survey, wastewater is nothing more than 'used water'.

It includes substances such as oils, soaps and chemicals and comes from sinks, bathtubs, toilets, washing machines and dishwashers.

Businesses and industries also contribute their share of used water that must be cleaned.

Wastewater is sent to a treatment plant where large material is filtered out before it is oxygenated to make it safe for human consumption.

The NRC looked at water drawn from a normal source that had five per cent wastewater and compared it to a sample which had been completely treated.

By examining 24 different potential contaminants and a number of pathogens, they found no difference in risk between the two.

In fact, when it came to the pathogens, the fully wastewater sample had fewer.

The announcement from the NRC is a change from its stance in 1998 when a paper said that reclaimed water should only be used for drinking as 'an option of last resort'.

Jörg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report said that wastewater was now a 'viable option'

He said: 'This can be done reliably without putting the public at risk.

'We can really say that there is no difference from the risk standpoint. You can have a supply that is as safe as the current drinking water supplies.

'Wastewater is a drought-proof supply. People are always generating wastewater.

'That can be a very viable option, the committee felt, compared to imported water and other options.'

Water scarcity is growing problem in the U.S. especially in arid states like California and Arizona.

Contributing to the problem is the amount we waste - less than 10 per cent of drinkable water is used for cooking, drinking, showering or washing dishes.

Olga Naidenko, a senior scientist at the non-profit Environmental Working Group, said: 'We flush it down the toilet, literally...we have to do something'.

In the instances where wastewater has been put back into the system, voters have sometimes reacted badly and rejected it.

Water reuse projects also tend to be more expensive than most water conservation options, although they are cheaper than seawater desalination.

In Arizona a case is currently ongoing in the Federal Court over the use of reclaimed water to make snow at a ski resort.

Until it is resolved the U.S Forest Service in Flagstaff has put up a sign telling people not to eat the snow, even though it is considered safe for skiing.

UPI.com
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Report: Wastewater can be drinking source

Published: Jan. 11, 2012 at 1:15 PM

WASHINGTON, Jan. 11 (UPI) -- More Americans are drinking recycled wastewater, whether they're aware of it or not, and more will have to do so as the U.S. population expands, research says.

A report by the National Research Council said treated wastewater poses no greater health risks than existing water supplies and in some instances may be even safer to drink, USA Today reported Wednesday.

Jorg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report, said it's a waste not to reuse the nation's wastewater since almost all of it is treated before discharge.

"We believe water reuse is a viable option" to combat growing water scarcity, he said, citing advanced in wastewater treatment technologies.

"This can be done reliably without putting the public at risk."

The report said 12 billions gallons of the 32 billion gallons of wastewater discharged every day in the United States goes into an ocean or estuary and thus is a permanently lost resource.

BNA Daily Environmental Report

Study Finds Existing Water Regulations Insufficient for Reused Wastewater

By Amena H. Saiyid

A National Research Council report released Jan. 10 said there are no specific regulations under the Clean Water Act and Safe Drinking Water Act to address the use of reclaimed water, which in most cases is treated wastewater, for potable drinking water purposes.

The report, Water Reuse: Potential for Expanding the Nation's Water Supply Through Reuse of Municipal Wastewater, said there are no federal regulations specific to water reuse though there are many regulations that have a bearing on water reuse operations.

For instance, the report said, EPA regulates direct wastewater discharges to surface waters through its permitting process and to wastewater treatment facilities through the pretreatment program.

These discharges have a direct impact on the quality of reclaimed water that is used directly as potable water or through de facto uses. De facto uses refer to the use of treated municipal wastewater that is discharged upstream of downstream drinking water plants and is not recorded as reused water.

Moreover, the report of the study said, drinking water regulations also need to be revised or adjusted because they affect the quality of the reclaimed water that is used for potable purposes.

Minimum Risk-Based Standards Urged

The study recommended that EPA establish at a minimum federal risk-based standards under the Clean Water Act to regulate non-potable uses of treated municipal wastewater, municipal wastewater effluent, or reclaimed water. These minimum standards would establish a baseline for the many state regulations governing the use of reclaimed water and offer some uniformity, the report said.

The study was conducted by NRC's Committee on Assessment of Water Reuse as an Approach for Meeting Future Water Supply Needs. It was sponsored by the Environmental Protection Agency, the Bureau of Reclamation, the National Science Foundation, the National Water Research Institute, the Centers for Disease Control and Prevention, and many other state and regional agencies.

According to the report, EPA needs to update its inventory of chemicals that are regulated under the Clean Water Act's national pretreatment program. That is because NRC found there are many communities where municipal wastewater treatment plant discharges are a significant source of drinking water supplies.

“The list of 129 priority pollutants presently regulated by the National Pretreatment Program has not been updated since its development more than three decades ago, even though the nation's inventory of manufactured chemicals has expanded considerably since then, as has our understanding of their significance,” the report said.

The NRC also noted that the Unregulated Contaminant Monitoring Program established under the Safe Drinking Water Act monitors unregulated contaminants in drinking water, but it said the program would benefit by including unregulated contaminants from wastewater as well. In fact, the report said a federal monitoring program for unregulated contaminants in wastewater mirroring the existing UCMR program would be “highly beneficial” in characterizing the occurrence of emerging contaminants in reuse and de facto applications.

Technologies Can Remove Contaminants

The NRC acknowledged that municipal wastewater contains a wide range of biological and chemical compounds, some of which could be harmful to public health and ecosystems, but said these can be overcome through a combination of robust monitoring and treatment technologies that employ both engineered and natural processes.

Based on the intended end-use, the NRC said, the water reuse manager can tailor a wastewater reclamation program by employing appropriate technologies.

The NRC found that the risk of contamination from potable reused water was much lower than that from existing water supplies.

At the same time, the NRC report said that less than 1 percent of U.S. water use comes from reused water, but that figure does not incorporate the de facto use of treated wastewater. This is despite the fact that numerous avenues exist for water reuse, such as irrigation and industrial uses, among others.

NRC said 32 billion gallons of municipal wastewater effluent in total are discharged daily across the nation. Of that total, approximately 12 billion gallons of municipal wastewater effluent are discharged daily to an ocean or estuary. "Reusing these coastal discharges would directly augment available water resources," NRC said in its report.

Coastal discharges equal 6 percent of estimated total U.S. water use or 27 percent of public supply, the report said.

However, NRC cautioned that water reuse alone cannot address all of the nation's water supply challenges and the potential contributions of water reuse will vary by region.

For More Information

The report, Water Reuse: Potential for Expanding the Nation's Water Supply Through Reuse of Municipal Wastewater, is available at http://dels.nas.edu/Report/water-reuse/13303.

NBC SOUTHERN CALIFORNIA
LOS ANGELES • ORANGE • SAN BERNARDINO • RIVERSIDE • VENTURA

Reusing Treated Wastewater Not So Bad: Report

The Los Angeles Department of Water and Power was among several agencies that sponsored the report.

By Ashley Gordon

| Wednesday, Jan 11, 2012 | Updated 5:19 PM PST

The idea of drinking wastewater of any kind may leave some with a bad taste in their mouth, but a report released Tuesday by the National Research Council says the health risks involved in such a practice are no higher than they are in existing water supplies.

Of course, the report adds that wastewater would be treated for chemical and microbial contaminants before consideration as drinking water or for use in other industries.

"Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the study.

Among several California agencies that sponsored the report was the Los Angeles Department of Water and Power, a department that has faced concerns for future water supply in an arid area with a growing population.

The utility caught flack by critics in the past for what was termed a "toilet-to-tap" plan that may have had Angelenos sipping purified recycled water. Now, as the department reconsiders its rate structure, the idea it has tread lightly in reintroducing may once again be on the table.

A general manager at the DWP told the LA Times that it was encouraged by the report, "which once again underscores the importance of using recycled water to augment existing water resources."

About 12 billion gallons of municipal wastewater is discharged to an ocean or estuary daily, amounting to 6 percent of the total U.S. water supply, according to the 363-page report.

It was noted that some communities have already implemented inexpensive water reuse projects.

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http://voiceofoc.org/healthy_communities/health_blog/article_a1d944ec-3d33-11e1-b175-0019bb2963f4.html

Report: Follow Orange County's Example in Water Conservation

Posted: Thursday, January 12, 2012 7:38 am

A new report from the National Resource Council asserts that national water supplies, particularly along coastal areas, "could significantly increase" with expanded use of purified sewage water.

Often jokingly called "toilet-to-tap," the technology has been employed on a large scale through the Orange County Water District and the Orange County Sanitation District since 2008, and an expansion of that project is scheduled this year.

The Orange County districts have won international recognition for their use of technology at the same time some other areas, including sections of Los Angeles County, have balked at adding purified wastewater to their drinking supplies.

Orange County's water and sanitation districts helped sponsor the National Resource Council study, along with others, including the U.S. Environmental Protection Agency, U.S. Bureau of Reclamation, National Science Foundation, National Water Research Institute, Centers for Disease Control and Prevention and the Water Research Foundation. Research for the report, however, was conducted by scientists independent of the sponsoring agencies, the resource council said.

The National Research Council is part of the National Academy of Sciences.

"With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages," stated a news release.

The report said researchers "emphasized" the importance of carefully monitoring all procedures in the purification process to make sure the reclaimed water was of high quality.

It noted the process is less expensive than seawater desalination but more costly than conservation.

The Orange County Water District is planning a $142.7-million expansion of its groundwater replenishment system. The expansion will create an additional 30 million gallons per day of water for north and central Orange County.

When completed in 2014, the total system will produce enough water to serve 850,000 people for a year, according to the water district. **— TRACY WOOD**

Greenbang
The Smart Technology Network

http://www.greenbang.com/toilet-water-you-could-be-drinking-it_21180.html

Toilet water? You could be drinking it

Published Wednesday, 11th January 2012

It's hard to know whether to take this as good news or bad news: the US National Research Council (NRC) says we might soon worry less about water shortages thanks to technology advances that would let us turn municipal wastewater — ie, the stuff you flush and otherwise send down your household drain — back into nice, clean drinking water.

Even if your response is, "Hey, that's great," it's hard not to also feel that this is a bit like eating the seed corn or burning the furniture for fuel. Really, is our water situation so desperate that we're ready to start drinking toilet water?

Apparently, yes.

While we're all for efficiency, even if you eliminate the "ick" factor, this potential solution raises a lot of questions. How much energy would go into this process, and would that create an overall plus or minus on the sustainability scale? What happens to all the stuff left over after treatment — how do we manage that? And could this mess up nature's water cycle even more than we have already?

The exhaustive (363 pages) NRC study acknowledges plenty of uncertainties that need to be addressed before wastewater-to-drinking water goes mainstream: potential impacts on health, greenhouse gas emissions, cost, unintended consequences, security, legal considerations and much more.

Then again, as journalist Charles Fishman, author of "The Big Thirst," has pointed out, all the water we've ever drunk has been around in one form or another for the past 4.5 billion years. At least some of it, he notes, was probably Tyrannosaurus Rex pee.

WaterWorld

Municipal wastewater reuse could boost future drinking water supplies, report says

WASHINGTON, DC, Jan. 11, 2012 -- A new report from the National Research Council says that, with recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages.

It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies.

"Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, Pasadena, Calif. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies."

The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects -- such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants -- that are well-established and generally accepted. Potable water reuse projects account for only a small fraction of the volume of water currently being reused. However, many drinking water treatment plants draw water from a source that contains wastewater discharged by a community located upstream; this practice is not officially acknowledged as potable reuse.

The report outlines wastewater treatment technologies for mitigating chemical and microbial contaminants, including both engineered and natural treatment systems. These processes can be used to tailor wastewater reclamation plants to meet the quality requirements of intended reuse applications. The concentrations of chemicals and microbial contaminants in reuse projects designed to augment drinking water supplies can be comparable to or lower than those commonly present in many drinking water supplies. The committee emphasized the need for process reliability and careful monitoring to ensure that all reclaimed water meets the appropriate quality objectives for its use.

Costs of water reuse for potable and non-potable applications vary widely because they depend on site-specific factors, the committee said. Water reuse projects tend to be more expensive than most water conservation options and less expensive than seawater desalination and other new supply alternatives. Although the costs of reclaimed water are often higher than current water sources, the report urges water authorities to consider other costs and benefits in addition to monetary expenditures when assessing reuse projects. For example, water reuse systems used in conjunction with a water conservation program could be effective in reducing seasonal peak demands on the drinking water system. Depending on the specific designs and pumping requirements, reuse projects could also have a larger or smaller carbon footprint than existing supply alternatives or reduce water flows to downstream users and ecosystems.

Water reuse regulations differ by state and are not based on risk-assessment methods, the report says. Adjustments to the federal regulatory framework could help ensure a high level of public health protection, provide a consistent minimum level of protection across the nation, and increase public confidence in potable and non-potable water reuse. The report notes that existing legislative tools could be applied to improve the quality of water for reuse, including updating the National Pretreatment Program's list of priority pollutants to include a wider inventory of known toxic substances. Also, it lists 14 areas of research to help guide the country on how to apply water reuse appropriately. Such research would require improved coordination among federal and nongovernmental organizations.

The study was sponsored by the U.S. Environmental Protection Agency, U.S. Bureau of Reclamation, National Science Foundation, National Water Research Institute, Centers for Disease Control and Prevention, Water Research Foundation, Orange County Water District, Orange County Sanitation District, Los Angeles Department of Water and Power, Irvine Ranch Water District, West Basin Water District, Inland Empire Utilities Agency, Metropolitan Water District of Southern California, Los Angeles County Sanitation Districts, and Monterey Regional Water Pollution Control Agency.

The National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council make up the National Academies. They are independent, nonprofit institutions that provide science, technology, and health policy advice under an 1863 congressional charter. Panel members, who serve pro bono as volunteers, are chosen by the Academies for each study based on their expertise and experience and must satisfy the Academies' conflict-of-interest standards. The resulting consensus reports undergo external peer review before completion. For more information, visit http://national-academies.org/studycommitteprocess.pdf.

Pre-publication copies of Water Reuse: Potential for Expanding the Nation's Water Supply Through Reuse of Municipal Wastewater are available from the National Academies Press; tel. 202-334-3313 or 1-800-624-6242 or on the Internet at http://www.nap.edu.

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http://io9.com/5876614/yup-its-time-to-start-drinking-urine

Yup, it's time to start drinking urine

That's the recommendation from a new report by the US National Research Council, who say reclaimed waste water is needed as a necessary substitute for the dwindling supply of freshwater. What's more, reprocessed urine might actually be *cleaner* than freshwater.

As we consider the "Kevin Costner in *Waterworld*" school of water management, let's look at how we got here. According to committee chair R. Rhodes Trussell, the treatment process is now advanced enough that processed wastewater can become a significant part of our clean water supply. Although this processing is likely to be more expensive than water conservation efforts, it *is* a generally cheaper alternative to desalinization and other methods for generating new water supplies.

And, like it or not, reprocessed waste water has already been an unofficial part of many water supplies. After all, many treatment plants get their waters from the same rivers that cities upstream use to dump out their waste water. Though that doesn't *technically* count as reuse, that's what it really is. This proposal just calls for cities to start recycling their own water supply, rather than shift it along to the poor jerks downriver.

The committee also found that the amount of chemicals and microbes found in the reclaimed waste water was generally comparable to or lower than that found in our current freshwater supplies. I think that's meant to make me feel better about the prospect of drinking cleaned up pee, but really that's just got me worried about the freshwater.

In any event, leaving aside the whole "this is kinda disgusting" aspects of the proposal, it's as sensible a way as any to deal with coming water shortages. Of course, if this entire proposal is just a way for scientists to freak out the public and get them to conserve water for fear of having to drink urine...well, I think they've sorely underestimated how committed we are to wastefulness, honestly.

Original report via National Academies. Image by dundanim, via Shutterstock.

http://www.redorbit.com/news/science/1112455377/you-may-be-drinking-wastewater-without-knowing-it/

You May Be Drinking Wastewater Without Knowing It

January 13, 2012

According to a report by the National Research Council (NRC), more Americans are drinking recycled wastewater, whether they are aware of it or not.

The report said that treated wastewater poses no greater health risks than existing water supplies and in some instances may be even safer to drink.

Jorg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report, said it is a waste not to reuse the nation's wastewater since almost all of it is treated before discharge.

He said this method can be done without putting the public at risk, and can help combat growing water scarcity as the U.S. population begins to grow.

According to the NRC report, 12 billion gallons of the 32 billion gallons of wastewater discharged every day in the U.S. goes into an ocean or estuary, becoming permanently lost.

Some communities reuse the water for irrigation and industrial purposes, while others may actually use it for drinking water.

The report said the public does not realize that it is drinking water that was treated after being discharged as wastewater somewhere upstream.

"For example, wastewater discharged into the Trinity River from Dallas/Fort Worth flows south into Lake Livingston, the source for Houston's drinking water," USA Today reported.

The report said there has been no systemic analysis of its extent nationwide since a 1980 study by the Environmental Protection Agency (EPA).

It said water reuse projects tend to cost more than most water conservation options, but less than seawater desalination and other supply alternatives.

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On the Net:

- National Research Council (NRC)
- Colorado School of Mines

Print, Internet and TV Clips

Outlet: 13 News
Publication Date: 01/15/2012
Media Type: Online Broadcast Version
Article URL: http://www.wrex.com/Global/story.asp?S=14880382&clienttype=printable
Title: This Hour: Latest Wisconsin news, sports, business and entertainment

Full Text:
TREATING WASTEWATER

Study focuses on reusing municipal wastewater

MADISON, Wis. (AP) - A new study may increase the use of treated wastewater to supplement local drinking water supplies.

A **National Research Council** committee has taken a closer look at reusing municipal wastewater. Committee member Dr. Henry Anderson of the University of Wisconsin-Madison School of Medicine and Public Health says the study concluded that wastewater treatment is improving.

Anderson says more wastewater plants force water through a fine rubbery membrane that doesn't let organisms and large chemical compounds through. In some drier parts of the country, treated wastewater is sometimes used on farm fields and golf courses.

Wisconsin Public Radio reports the **National Research Council** says changing federal law could help ensure a high level of health safety for the public.

Outlet: 2 News
Publication Date: 01/11/2012
Media Type: Online Broadcast Version
Article URL: http://www.ktvn.com/story/16498777/report-backs-more-use-of-reclaimed-water
Title: Report backs more use of reclaimed water

Full Text:
LOS ANGELES (AP) - A new report says the use of treated sewage water could safely increase the nation's drinking supplies.

The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6% of daily U.S. water usage.

The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage.

The report concludes that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: ABC 9 WAOW.COM

Publication Date: 01/14/2012

Media Type: Online Broadcast Version

Article URL: http://c.moreover.com/click/here.pl?z5751225088&z=1250249090

Title: Study focuses on reusing municipal wastewater

Full Text:

MADISON, Wis. (AP) - A new study may increase the use of treated wastewater to supplement local drinking water supplies. A **National Research Council** committee has taken a closer look at reusing municipal wastewater. Committee member Dr. Henry Anderson of the University of Wisconsin-Madison School of Medicine and Public Health says the study concluded that wastewater treatment is improving. Anderson says more wastewater plants force water through a fine rubbery membrane that doesn t let organisms and large chemical compounds through. In some drier parts of the country, treated wastewater is sometimes used on farm fields and golf courses. Wisconsin Public Radio (http://bit.ly/AI0B81) reports the **National Research Council** says changing federal law could help ensure a high level of health safety for the public. Information from: Wisconsin Public Radio, http://www.wpr.org

Outlet: ABC 9 WAOW.COM
Publication Date: 01/15/2012
Media Type: Online Broadcast Version
Article URL: http://waow.com/Global/story.asp?S=14880382
Title: This Hour: Latest Wisconsin news, sports, business and entertainment

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Outlet: ABC7.COM
Publication Date: 01/11/2012
Media Type: Online Broadcast Version
Article URL: http://abclocal.go.com/kabc/story?section=news/national_world&id=8499500
Title: Report supports more use of reclaimed water

Full Text:
LOS ANGELES (KABC) --The use of treated sewage water could safely increase America's drinking supplies, says a new report.

The **National Research Council** released a new report Tuesday that says an additional 12 billion gallons of American wastewater could be safely reclaimed on a daily basis.

That's enough to provide water to 6 percent of the U.S. each day.

The study reviewed the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that of existing supplies that already have a small amount of treated sewage.

The research concluded that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: Alfred Woody Wang's Kewl Blog
Publication Date: 01/13/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=9921b7bb72c2685c132643550469593532 9cc4ae6468e&co=f0000000000432s-1158206718
Title: Toilet on tap: Panel recommends Americans drink more waste water to combat future shortages

Full Text:
Wastewater is a drought-proof supply and a very viable option compared to imported water and other options' Next time you pour a glass of water from the tap try not to think about this - you might be about to drink what you once flushed away. Rising numbers of Americans are consuming wastewater, or 'toilet on tap', without even realizing it, according to an official report. Even though it once contained human waste, food scraps and bath scum, the **National Research Council** claims that it could actually be better for you than fresh water. It also says that only wastewater that has been treated gets back into circulation, although the last industry-wide study was done was back in 1980. Waste not, want not: Water flushed down the toilet, or emptied from sinks, bathtubs, washing machines and dishwashers heads to a treatment plant where materials like oils, soaps and chemicals is filtered out According to the U.S. Geological Survey, wastewater is nothing more than 'used water'. It includes substances such as oils, soaps and chemicals and comes from sinks, bathtubs, toilets, washing machines and dishwashers. Businesses and industries also contribute their share of used water that must be cleaned. Wastewater is sent to a treatment plant where large material is filtered out before it is oxygenated to make it safe for human consumption. The NRC looked at water drawn from a normal source that had five per cent wastewater and compared it to a sample which had been completely treated. 'You can have a supply that is as safe as the current drinking water supplies. It's a drought-proof supply.' - Professor Jörg DrewesBy examining 24 different potential contaminants and a number of pathogens, they found no difference in risk between the two. In fact, when it came to the pathogens, the fully wastewater sample had fewer. The announcement from the NRC is a change from its stance in 1998 when a paper said that reclaimed water should only be used for drinking as 'an option of last resort'. Jörg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report said that wastewater was now a 'viable option' He said: 'This can be done reliably without putting the public at risk. 'We can really say that there is no difference from the risk standpoint. You can have a supply that is as safe as the current drinking water supplies. 'Wastewater is a drought-proof supply. People are always generating wastewater. 'That can be a very viable option, the committee felt, compared to imported water and other options.' Water scarcity is growing problem in the U.S. especially in arid states like California and Arizona. Contributing to the problem is the amount we waste - less than 10 per cent of drinkable water is used for cooking, drinking, showering or washing dishes. Olga Naidenko, a senior scientist at the non-profit Environmental Working Group, said: 'We flush it down the toilet, literally...we have to do something'. In the instances where

wastewater has been put back into the system, voters have sometimes reacted badly and rejected it. Water reuse projects also tend to be more expensive than most water conservation options, although they are cheaper than seawater desalination. In Arizona a case is currently ongoing in the Federal Court over the use of reclaimed water to make snow at a ski resort. Until it is resolved the U.S Forest Service in Flagstaff has put up a sign telling people not to eat the snow, even though it is considered safe for skiing.
Read more: http://www.dailymail.co.uk/news/article-2085351/Toilet-tap-Panel-recommends-Americans-drink-waste-water-combat-future-shortages.html#ixzz1jJXPhrIh

Outlet: American Scientist
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://www.americanscientist.org/science/pub/report-backs-greater-use-of-recycled-wastewater
Title: Report Backs Greater Use of Recycled Wastewater

Full Text:
SCIENCE IN THE NEWS DAILY

Opponents malign it as "toilet to tap." But a new **National Research Council** report says that reclaimed water can contribute a growing portion of the nation's drinking water supplies and be as safe as conventional sources.

The assessment is especially relevant to Southern California, which has been a pioneer in recharging local aquifers with treated wastewater but still sends most of its runoff and treated water to the Pacific Ocean. A decade ago, public outcry and electoral politics thwarted a Los Angeles plan to partially replenish San Fernando Valley groundwater with recycled supplies.

Not to worry, concluded the scientific panel that wrote the report: "We can really say that there is no difference from the risk standpoint," said Jorg Drewes, a water reuse expert who was on the panel. "You can have a supply that is as safe as the current drinking water supplies."

Outlet: Anchorage Daily News Online
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://www.adn.com/2012/01/11/2258369/report-backs-more-use-of-reclaimed.html
Title: Report backs more use of reclaimed water: AP Alaska | Alaska news at adn.com

Full Text:
LOS ANGELES - The U.S. can safely increase its drinking water supply by reusing some of the 12 billion gallons of wastewater that pours down sewers and into the ocean each day, a panel of experts concludes in a new report.

The health risks from using reclaimed wastewater in aquifers is the same or even lower than from using existing drinking water supplies that already contain a small percentage of treated sewage, according to the report released Tuesday by the **National Research Council**.

Derided by critics as "toilet to tap" water, treated wastewater could play a growing role in expanding drinking supplies in areas with surging populations, especially in the parched Southwest.

Many cities already use some treated wastewater in drinking supplies. Las Vegas, for example, sends treated sewage into Lake Mead, which supplies Southern California and other regions.

"Of the 32 billion gallons of municipal wastewater discharged nationwide each day, approximately 12 billion gallons are discharged to an ocean or estuary - an amount equivalent to 6 percent of total water use in the United States," a report summary said.

A committee of experts assembled by the research council looked at the risk of exposure to disease-causing microbes and to 24 chemical contaminants, including pharmaceuticals and hormones.

"Although there is a great degree of uncertainty, the committee's analysis suggests the risk from potable reuse does not appear to be any higher and may be orders of magnitude lower, than currently experienced in at least some current (and approved) drinking water treatment systems," the report stated.

The cost of using treated wastewater for drinking generally tend to be more expensive than expanding water supplies through conservation measures but cheaper than desalinating seawater, the study said.

"Wastewater is a drought-proof supply. People are always generating wastewater," Jorg Drewes, a water reuse expert who was on the committee, told the Los Angeles Times (http://lat.ms/y6992K). "That can be a very viable option, the committee felt, compared to imported water and other options."

The report is encouraging and "underscores the importance of using recycled water to augment existing water resources," Los Angeles Department of Water and Power Assistant General Manager James McDaniel said.

Despite previous opposition, the DWP is trying to build support for a plan to use treated sewage to replenish a groundwater aquifer in the northeastern San Fernando Valley and also is developing a master plan to using recycled water in the city, the Times reported.

The study was sponsored by several federal agencies, and various water and sanitation districts in Southern California and Monterey.

Outlet: Associated Press
Publication Date: 01/11/2012
Media Type: News Web Sites
Article URL: http://hosted.ap.org/dynamic/stories/C/CA_RECLAIMED_WATER_WAOL-?SITE=AP&SECTION=HOME&TEMPLATE=DEFAULT
Title: Report backs more use of reclaimed water

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Outlet: Bellingham Herald
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.bellinghamherald.com/2012/01/11/v-print/2346011/report-backs-more-use-of-reclaimed.html
Title: Report backs more use of reclaimed water

Full Text:
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Outlet: Bio-Medicine
Publication Date: 01/10/2012
Media Type: News Web Sites
Article URL: http://www.bio-medicine.org/biology-news-1/Reuse-of-municipal-wastewater-has-potential-to-augment-future-drinking-water-supplies-23244-1/
Title: Reuse of municipal wastewater has potential to augment future drinking water supplies

Full Text:
WASHINGTON - With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies.

"Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, Pasadena, Calif. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies."

The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects -- such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants -- that are well-established and generally accepted. Potable water reuse projects account for only a small fraction of the volume of water currently being reused. However, many drinking water treatment plants draw water from a source that contains wastewater discharged by a community located upstream; this practice is not official

Outlet: Bright Surf
Publication Date: 01/12/2012
Media Type: News Web Sites
Article URL: http://c.moreover.com/click/here.pl?z5734852311&z=1250249091
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WASHINGTON - With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation s total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies. "Wastewater reuse is poised to become a legitimate part of the nation s water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, Pasadena, Calif. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies." The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects -- such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants -- that are well-established and generally accepted. Potable water reuse projects account for only a small fraction of the volume of water currently being reused. However, many drinking water treatment plants draw water from a source that contains wastewater discharged by a community located upstream; this practice is not officially acknowledged as potable reuse. The report outlines wastewater treatment technologies for mitigating chemical and microbial contaminants, including both engineered and natural treatment systems. These processes can be used to tailor wastewater reclamation plants to meet the quality requirements of intended reuse applications. The concentrations of chemicals and microbial contaminants in reuse projects designed to augment drinking water supplies can be comparable to or lower than those commonly present in many drinking water supplies. The committee emphasized the need for process reliability and careful monitoring to ensure that all reclaimed water meets the appropriate quality objectives for its use. Costs of water reuse for potable and non-potable applications vary widely because they depend on site-specific factors, the committee said. Water reuse projects tend to be more expensive than most water conservation options and less expensive than seawater desalination and other new supply alternatives. Although the costs of reclaimed water are often higher than current water sources, the report urges water authorities to consider other costs and benefits

in addition to monetary expenditures when assessing reuse projects. For example, water reuse systems used in conjunction with a water conservation program could be effective in reducing seasonal peak demands on the drinking water system. Depending on the specific designs and pumping requirements, reuse projects could also have a larger or smaller carbon footprint than existing supply alternatives or reduce water flows to downstream users and ecosystems. Water reuse regulations differ by state and are not based on risk-assessment methods, the report says. Adjustments to the federal regulatory framework could help ensure a high level of public health protection, provide a consistent minimum level of protection across the nation, and increase public confidence in potable and non-potable water reuse. The report notes that existing legislative tools could be applied to improve the quality of water for reuse, including updating the National Pretreatment Program s list of priority pollutants to include a wider inventory of known toxic substances. Also, it lists 14 areas of research to help guide the country on how to apply water reuse appropriately. Such research would require improved coordination among federal and nongovernmental organizations. National Academy of Sciences Related Wastewater Current Events and Wastewater News Articles Wastewater Current Events and Wastewater News RSS Alberta s oilsands have water challenges. Oilsands development uses a vast amount of water and even though it s recycled multiple times, the recycling concentrates the toxins and metals leftover from extracting and upgrading the bitumen, resulting in tailings ponds that are both a lightening rod for controversy and a significant risk to the environment. Water discharged into lakes and rivers from municipal sewage treatment plants may contain significant concentrations of the genes that make bacteria antibiotic-resistant. Calcinor GROUP, Neiker-Tecnalia and Gaiker-IK4, develop a system for reuse, with health guarantees, sludge from wastewater. A new report by Duke University researchers offers several health and environmental measures for North Carolina lawmakers to consider as they debate legalizing horizontal drilling and hydraulic fracturing for natural gas. A new University of Minnesota study reveals that the release of treated municipal wastewater - even wastewater treated by the highest-quality treatment technology - can have a significant effect on the quantities of antibiotic-resistant bacteria, often referred to as "superbacteria," in surface waters. Chicago area residents have wondered for years about the health risks of using the Chicago River for recreation. According to a University of Illinois at Chicago study, canoeing, kayaking, rowing, boating and fishing on the Chicago River pose the same risk of gastrointestinal illness as performing these same activities on other local waters -- a risk that turns out to be higher than that intended for swimmers at Lake Michigan beaches. Scientists are reporting that household washing machines seem to be a major source of so-called "microplastic" pollution - bits of polyester and acrylic smaller than the head of a pin - that they now have detected on ocean shorelines worldwide. By looking to Mother Nature for solutions, researchers have identified a promising new binder material for lithium-ion battery electrodes that not only could boost energy storage, but also eliminate the use of toxic compounds now used to manufacture the components. A research team from Rollins College in Florida and the University of Georgia has identified human sewage as the source of the coral-killing pathogen that causes white pox disease of Caribbean elkhorn coral. Public awareness about the role and interaction of microbes is essential for promoting human and environmental health, say scientists presenting research at the Ecological Society of America s (ESA) 96th Annual Meeting from August 7-12, 2011. More Wastewater Current Events and Wastewater News Articles

Outlet: Carbon-Based
Publication Date: 01/14/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=a7e624ae30a998af1326564081256e46ab78ca34d4161&co=f000000000432s-1158206718
Title: Reuse of municipal wastewater has potential to augment future drinking water supplies

Full Text:
Terra Daily via SPX: With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies. "Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, Pasadena, Calif. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies." The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects - such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants - that are well-established and generally accepted.... A wastewater treatment plant, shot by Fanghong, Wikimedia Commons, under the Creative Commons Attribution-Share Alike 3.0 Unported license

Outlet: CBS News Channel 5
Publication Date: 01/12/2012
Media Type: Online Broadcast Version
Article URL: http://www.kgwn.tv/story/16498788/report-backs-more-use-of-reclaimed-water
Title: Report backs more use of reclaimed water

Full Text:
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The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage.

The report concludes that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: CHANNEL3000
Publication Date: 01/14/2012
Media Type: Online Broadcast Version
Article URL: http://channel3000.com/goinggreen/30214425/detail.html
Title: Study Focuses On Reusing Municipal Wastewater - Going Green Wisconsin News Story - WISC Madison

Full Text:
MADISON, Wis. -- A new study may increase the use of treated wastewater to supplement local drinking water supplies.

A **National Research Council** committee has taken a closer look at reusing municipal wastewater. Committee member Dr. Henry Anderson of the University of Wisconsin-Madison School of Medicine and Public Health said the study concluded that wastewater treatment is improving.

Anderson said more wastewater plants force water through a fine rubbery membrane that doesn't let organisms and large chemical compounds through. In some drier parts of the country, treated wastewater is sometimes used on farm fields and golf courses.

Wisconsin Public Radio reported the **National Research Council** says changing federal law could help ensure a high level of health safety for the public.

To find out more on this, visit Channel 3000's Search page.

Outlet: CW KFRE 59
Publication Date: 01/12/2012
Media Type: Online Broadcast Version
Article URL: http://www.kmph.com/Global/story.asp?S=14879103
Title: This Hour: Latest Southern California news, sports, business and entertainment

Full Text:

LOS ANGELES (AP) - A new study of the Los Angeles Unified School District has found that good teachers are the key to accelerating academic achievement by Hispanic and black students, but they often get stuck with the worst instructors.

School advocacy nonprofit Education Trust-West on Thursday released the study that tracked 1 million Los Angeles Unified students and 17,000 teachers over three years.

The study showed that while top teachers can boost below-grade students to academic proficiency levels, the neediest students often don't get the best teachers.

Top teachers tend to be concentrated in affluent areas, while the worst teachers tend to languish in low performing schools.

The study recommended the district offer incentives to attract and retain top teachers to schools in high poverty areas and implement a new teacher evaluation system.

Outlet: Daily News
Publication Date: 01/11/2012
Media Type: Daily Newspaper
DMA: Los Angeles, CA
Title: RECYCLING URGED FOR FUTURE: STUDY DON'T WASTE WASTEWATER

Full Text:
Reusing treated wastewater - a process rejected a decade ago as "toilet to tap" in Los Angeles - could help meet future water needs across the country, and in some cases may be safer than existing drinking supplies, according to a study released Tuesday.

The **National Research Council** examined challenges and benefits of reusing wastewater as water supplies dwindle and population increases.

Some 12 billion gallons of wastewater are discharged into oceans and estuaries each day, the report calculated. If that water was purified and reused, it could make up 6 percent of the nation's water supply.

"That's significant," said R. Rhodes Trussell, chairman of the committee that wrote the report, which was sponsored in part by the Los Angeles Department of Water and Power.

"It could have an important impact for the nation's water resources."

Pollutant analysis and treatment technology have improved and more research has been done on potential health effects since the council last examined water reuse in 1998. In the new report, an analysis found reused water can be as safe or safer than existing drinking water supplies with regard to contamination from chemicals and microbial agents.

"We have a lot more confidence now than we once did," said Trussell, who is president of a water-focused environmental engineering company in Pasadena.

Jim McDaniel, DWP's head of water systems, said the utility was encouraged by the report.

"Developing local water supplies such as recycled water is necessary because imported water continues to be more restricted due to environmental mitigation, legal rulings, and periods of dry weather and low snowpack," McDaniel said in an email.

The need for more local water was highlighted last summer during a DWP public outreach campaign over a planned rate-hike request. For now, a number of DWP water recycling projects are on hold while the utility awaits the appointment of a ratepayer advocate by the City Council.

DWP's goal is to boost water recycling so that it accounts for 8 percent of the city's water supply by 2035, and it intends to release plans this spring to realize that goal, McDaniel said.

A decade ago, the department's plans to purify wastewater from Donald C. Tillman Reclamation Plant in Van Nuys and reintroduce it to the water supply through spreading grounds in Sun Valley were killed after a public outcry. Critics dubbed the plan "toilet to tap."

In the last few years, DWP has been cautious in reintroducing the concept of "advanced water treatment."

Wastewater currently treated at the Tillman plant is used to irrigate nearby golf courses and a Japanese garden on site, and to fill Lake Balboa. Most of the treated water, however, flows into the Los Angeles River.

"We have the possibility today to make pristine distilled water from mountain water or from raw sewage," said John Mays, a city environmental engineer who oversees construction at the plant. "It's just being wasted."

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Outlet: Daily Reporter
Publication Date: 01/14/2012
Media Type: Online Print Version
Article URL: http://www.greenfieldreporter.com/view/story/38a3d82cf0554a6db8a3b143086f8045/WI--Treating-Wastewater/
Title: Study by UW-Madison professor, others focuses on using treated wastewater

Full Text:
MADISON, Wis. — A new study may increase the use of treated wastewater to supplement local drinking water supplies.

A **National Research Council** committee has taken a closer look at reusing municipal wastewater. Committee member Dr. Henry Anderson of the University of Wisconsin-Madison School of Medicine and Public Health says the study concluded that wastewater treatment is improving.

Anderson says more wastewater plants force water through a fine rubbery membrane that doesn't let organisms and large chemical compounds through. In some drier parts of the country, treated wastewater is sometimes used on farm fields and golf courses.

Wisconsin Public Radio (http://bit.ly/Al0B81) reports the **National Research Council** says changing federal law could help ensure a high level of health safety for the public.

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Information from: Wisconsin Public Radio, http://www.wpr.org

Outlet: Daily Times
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://www.daily-times.com/farmington-news/ci_19720608
Title: Report backs more use of reclaimed water

Full Text:
LOS ANGELES -- The U.S. can safely increase its drinking water supply by reusing some of the 12 billion gallons of wastewater that pours down sewers and into the ocean each day, a panel of experts concludes in a new report.

The health risks from using reclaimed wastewater in aquifers is the same or even lower than from using existing drinking water supplies that already contain a small percentage of treated sewage, according to the report released Tuesday by the **National Research Council**.

Derided by critics as "toilet to tap" water, treated wastewater could play a growing role in expanding drinking supplies in areas with surging populations, especially in the parched Southwest.

Many cities already use some treated wastewater in drinking supplies. Las Vegas, for example, sends treated sewage into Lake Mead, which supplies Southern California and other regions.

"Of the 32 billion gallons of municipal wastewater discharged nationwide each day, approximately 12 billion gallons are discharged to an ocean or estuary - an amount equivalent to 6 percent of total water use in the United States," a report summary said.

A committee of experts assembled by the research council looked at the risk of exposure to disease-causing microbes and to 24 chemical contaminants, including pharmaceuticals and hormones.

"Although there is a great degree of uncertainty, the committee's analysis suggests the risk from potable reuse does not appear to be any higher and may be orders of magnitude lower, than currently experienced in at least some current (and approved) drinking water treatment systems," the report stated.

The cost of using treated wastewater for drinking generally tend to be more expensive than expanding water supplies through conservation measures but cheaper than desalinating seawater, the study said.

"Wastewater is a drought-proof supply. People are always generating wastewater," Jorg Drewes, a water reuse expert who was on the committee, told the Los Angeles Times (http://lat.ms/y6992K). "That can be a very viable option, the committee felt, compared to imported water and other options."

The report is encouraging and "underscores the importance of using recycled water to augment existing water resources," Los Angeles Department of Water and Power Assistant General Manager James McDaniel said.

Despite previous opposition, the DWP is trying to build support for a plan to use treated sewage to replenish a groundwater aquifer in the northeastern San Fernando Valley and also is developing a master plan to using recycled water in the city, the Times reported.

The study was sponsored by several federal agencies, and various water and sanitation districts in Southern California and Monterey.

Outlet: Daily World News
Publication Date: 01/14/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=84da4f1a49b9be001326546125558a5a70258d78e4ace&co=f000000000432s-1158206718
Title: You May Be Drinking Wastewater Without Knowing It

Full Text:
According to a report by the **National Research Council** (NRC), more Americans are drinking recycled wastewater, whether they are aware of it or not. The report said that treated wastewater poses no greater health risks than existing water supplies and in some instances may be even safer to drink. Jorg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report, said it is a waste not to reuse the nation's wastewater since almost all of it is treated before discharge. He said this method can be done without putting the public at risk, and can help combat growing water scarcity as the U.S. population begins to grow. According to the NRC report, 12 billion gallons of the 32 billion gallons of wastewater discharged every day in the U.S. goes into an ocean or estuary, becoming permanently lost. Some communities reuse the water for irrigation and industrial purposes, while others may actually use it for drinking water. The report said the public does not realize that it is drinking water that was treated after being discharged as wastewater somewhere upstream. "For example, wastewater discharged into the Trinity River from Dallas/Fort Worth flows south into Lake Livingston, the source for Houston's drinking water," USA Today reported. The report said there has been no systemic analysis of its extent nationwide since a 1980 study by the Environmental Protection Agency (EPA). It said water reuse projects tend to cost more than most water conservation options, but less than seawater desalination and other supply alternatives.

Outlet: DailyBreeze.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.dailybreeze.com/latestnews/ci_19714150
Title: Study: 'Toilet to tap' could help meet water needs

Full Text:
By Melissa Pamer Staff Writer

Posted: 01/10/2012 07:14:14 PM PST

Reusing treated wastewater - a process rejected a decade ago as "toilet to tap" in Los Angeles - could help meet future water needs across the country, and in some cases may be safer than existing drinking supplies, according to a study released Tuesday.

The **National Research Council** examined challenges and benefits of reusing wastewater as water supplies dwindle and population increases.

Some 12 billion gallons of wastewater are discharged into oceans and estuaries each day, the report calculated. If that water were purified and reused, it could make up 6 percent of the nation's water supply.

"That's significant," said R. Rhodes Trussell, chairman of the committee that wrote the report, which was sponsored in part by the Los Angeles Department of Water and Power.

"It could have an important impact for the nation's water resources."

Pollutant analysis and treatment technology have improved, and more research has been done on potential health effects, since the council last examined water reuse in 1998. In the new report, an analysis found reused water can be as safe or safer than existing drinking water supplies with regard to contamination from chemicals and microbial agents.

"We have a lot more confidence now than we once did," said Trussell, president of a water-focused environmental engineering company in Pasadena.

Jim McDaniel, DWP's head of water systems, said the utility was encouraged by the report.

"Developing local water supplies such as recycled water is necessary because imported water continues to be more restricted due to environmental mitigation, legal rulings, and periods of dry weather and low snowpack," McDaniel said in an email.

The need for more local water supply was highlighted last summer during a DWP public outreach campaign over a planned rate-hike request. For now, a number of DWP water recycling projects are on hold while the utility awaits the appointment of a ratepayer advocate by the City Council.

DWP's goal is to boost water recycling so that it accounts for 8 percent of the city's water supply by 2035, and it intends to release plans this spring to realize that goal, McDaniel said.

A decade ago, the department's plans to purify wastewater and reintroduce it to the water supply were killed after a public outcry. Critics dubbed the plan "toilet to tap."

In the past few years, DWP has been cautious in reintroducing the concept of "advanced water treatment."

"We have the possibility today to make pristine distilled water from mountain water or from raw sewage," said John Mays, a city environmental engineer who oversees construction at the plant. "It's just being wasted."

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To see the study, go to

Outlet: DailyNews.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.dailynews.com/politics/ci_19715392
Title: Study: Don't waste wastewater

Full Text:
Posted: 01/10/2012 01:57:45 PM PST

Reusing treated wastewater - a process rejected a decade ago as "toilet to tap" in Los Angeles - could help meet future water needs across the country, and in some cases may be safer than existing drinking supplies, according to a study released Tuesday.

The **National Research Council** examined challenges and benefits of reusing wastewater as water supplies dwindle and population increases.

Some 12 billion gallons of wastewater are discharged into oceans and estuaries each day, the report calculated. If that water was purified and reused, it could make up 6 percent of the nation's water supply.

"That's significant," said R. Rhodes Trussell, chairman of the committee that wrote the report, which was sponsored in part by the Los Angeles Department of Water and Power.

"It could have an important impact for the nation's water resources."

Pollutant analysis and treatment technology have improved and more research has been done on potential health effects since the council last examined water reuse in 1998. In the new report, an analysis found reused water can be as safe or safer than existing drinking water supplies with regard to contamination from chemicals and microbial agents.

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The need for more local water was highlighted last summer during a DWP public outreach campaign over a planned rate-hike request. For now, a number of DWP water recycling projects are on hold while the utility awaits the appointment of a ratepayer advocate by the City Council.

DWP's goal is to boost water recycling so that it accounts for 8 percent of the city's water supply by 2035, and it intends to release plans this spring to realize that goal, McDaniel said.

A decade ago, the department's plans to purify wastewater from Donald C. Tillman Reclamation Plant in Van Nuys and reintroduce it to the water supply through spreading grounds in Sun Valley were killed after a public outcry. Critics dubbed the plan "toilet to tap."

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Outlet: DailyNews.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.dailynews.com/politics/ci_19713429
Title: Study: Treated wastewater can be safer than existing water supplies

Full Text:
Posted: 01/10/2012 01:57:45 PM PST

Reusing treated wastewater - a process rejected a decade ago as "toilet to tap" in Los Angeles - could help meet future water needs across the country, and in some cases may be safer than existing drinking supplies, according to a study released Tuesday.

The **National Research Council** examined challenges and benefits of reusing wastewater as water supplies dwindle and population increases.

Some 12 billion gallons of wastewater are discharged into oceans and estuaries each day, the report calculated. If that water was purified and reused, it could make up 6 percent of the nation's water supply.

"That's significant," said R. Rhodes Trussell, chairman of the committee that wrote the report, which was sponsored in part by the LADWP.

"It could have an important impact for the nation's water resources."

Population growth - especially in Southern California, where water resources are scarce - has increased demand for water. That, coupled with the threat of global climate change, makes reuse a prime alternative, the authors say.

Pollutant analysis and treatment technology have improved in recent years, and reused water can be as safe or safer than existing drinking water supplies, the report said.

"We have a lot more confidence now than we once did," said Trussell, who is president of a water-focused environmental engineering company in Pasadena.

The report comes as DWP projects are on hold while the utility

awaits the fate of a requested water-rate increase, now in the hands of the City Council.

The utility's goal is to increase its water recycling more than tenfold by 2035, and it wants to release plans this spring to realize that goal, according to a DWP primer on the issue. The utility did not comment by deadline on the status of water recycling projects.

A decade ago, the department's plans to purify wastewater from Donald C. Tillman Reclamation Plant in Van Nuys and reintroduce it to the water supply through spreading grounds in Sun Valley were killed after a public outcry. Critics dubbed the plan "toilet to tap."

In the last few years, the utility has been cautious in reintroducing the concept of "advanced water treatment."

The **National Research Council** report said that as more data becomes available on the safety of wastewater reuse, public debate is "evolving and maturing."

Standardized federal regulations for water reuse - instead of the existing patchwork of state rules - would protect public health and could boost confidence in the safety of the practice, the report states.

The 363-page report was sponsored by the Los Angeles Department of Water and Power and several other regional water and sanitation districts. The **National Research Council** is part of the National Academies of Science, a scholarly society created by Congress.

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Outlet: Desert Sun
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5736120976&z=1250249090
Title: Report backs more use of reclaimed water

Full Text:
LOS ANGELES (WTW) — A new report says the use of treated sewage water could safely increase the nation s drinking supplies. The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage. The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage. The report concludes that the health risks are comparable or even lower. The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: Dprogram.net
Publication Date: 01/16/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=8cbbcfa1e8417e0b1326724191018b3d78e8b721b433b&co=f000000000432s-1158206718
Title: Officials Say 'Toilet on Tap' Wastewater Same Quality as Tap Water – Mike Barrett

Full Text:
Are you drinking wastewater without even knowing it? (NaturalSociety) – Do you think it might be possible that you're drinking wastewater (also known as 'toilet on tap') and don't even know it? It just so happens that many Americans are, whether they know it or not. But new federally funded research brought to you by the **National Research Council** says that wastewater is completely safe, if not safer than existing water supplies. What does this say about the current state of your tap water? Drink More Wastewater, NRC Says The NRC compared a sample of water taken from a normal source which had 5 percent wastewater and a sample which had been completely treated. Around 24 different contaminants were measured for in both samples, including pathogens. What the NRC found was that there was no different in risk between the two samples, and that the wastewater sample had fewer pathogens . Interestingly enough the NRC's stance on consuming wastewater has completely changed from a little more than 1 decade ago, where they said that treated wastewater should only be consumed as a last resort. The driving force behind the goal of the study is of course saving the water supply. As we continue to pollute our waters, less fresh water is becoming available for us to drink. More rivers, lakes, and underground aquifers are drying up as the years pass. As bodies of water around the world continue to dry up, we're seeing more drought conditions spread. There are dust storms in places which have never experienced them until now. As time goes by, the amount of agricultural land shrinks, and deserts are growing. Coming up with strategies to combat the potential clean water shortage that could soon be coming is a necessary measure to take. The United States alone uses about 148 trillion gallons of fresh water each year, and 36 U.S. states are either facing water shortages right now or will soon be. Wastewater and Even 'Normal' Water is Not Safe for Your Health However consuming even treated wastewater should not be an option for those seeking optimal wellness. Even if the wastewater is as safe as normal drinking water, it is still not safe – and neither is normal drinking water . Water contains pharmaceuticals, birth control residues, sucralose , chlorine, and all types of harmful substances. In fact, the fluoride in the water is damaging your health and may even be lowering your IQ along with contributing to cancer. Unfortunately turning to bottled water is not such a viable option either, where you pay 2000x more than you normally would for mystery water . A solution to these problems? A water filter or reverse osmosis water filtration system. When filtering tap water, reverse osmosis is one preferred method in removing toxic substances such as fluoride and heavy metals. It does, however, also remove natural minerals and nutrients. Luckily a simple solution to this would be to add certain minerals to the water Use a mineral filter, himalayan sea salt, or even add

apple cider vinegar to restore the natural nutrients back into the water. This article first appeared on Natural Society , dedicated to unveiling the assault on our health. Related posts: Southampton officials vote against water fluoridation scheme Three-minute presentation given by local resident convinces several Rolla, Mo., officials to end water fluoridation Neti pot scare story proves that brain-eating amoeba lurk in public water supplies – Mike Adams

Outlet: e! Science News
Publication Date: 01/11/2012
Media Type: News Web Sites
Article URL:
http://esciencenews.com/sources/la.times.science/2012/01/11/report.backs.greater.use.recycled.wastewater
Title: Report backs greater use of recycled wastewater

Full Text:
Wednesday, January 11, 2012 - 02:02in Health & Medicine

Study finds no difference in risk between highly treated sewage and current drinking water supplies, retreating from an earlier report that called usage 'an option of last resort.' Opponents malign it as "toilet to tap." But a new **National Research Council** report says that reclaimed water can contribute a growing portion of the nation's drinking water supplies and be as safe as conventional sources.

Outlet: eNewsUSA
Publication Date: 01/10/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=ac3286c52f51c85b1326230724160l9f44faf4bfc4fff&co=f000000000432s-1158206718
Title: NAS Report Explores Municipal Wastewater As Drinking Water

Full Text:
Jan 10: **The National Academy** of **Sciences' National** Research Council has issued a report entitled, Water Reuse: Potential for Expanding the Nation's Water Supply Through Reuse of Municipal Wastewater. According to a release, with recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages.

The report also notes that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies. R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, ?xml:namespace prefix = st1 ns = "urn:schemas-microsoft-com:office:smarttags" /Pasadena, CA said, "Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes. Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies."?xml:namespace prefix = o ns = "urn:schemas-microsoft-com:office:office" / The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects -- such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants -- that are well-established and generally accepted. Potable water reuse projects account for only a small fraction of the volume of water currently being reused. However, many drinking water treatment plants draw water from a source that contains wastewater discharged by a community located upstream; this practice is not officially acknowledged as potable reuse. The report outlines wastewater treatment technologies for mitigating chemical and microbial contaminants, including both engineered and natural treatment systems. These processes can be used to tailor wastewater reclamation plants to meet the quality requirements of intended reuse applications. The concentrations of chemicals and microbial contaminants in reuse projects designed to augment drinking water supplies can be comparable to or lower than those commonly present in many drinking water supplies. The committee emphasized the need for process reliability and careful monitoring to ensure

that all reclaimed water meets the appropriate quality objectives for its use. The committee indicated that the costs of water reuse for potable and non-potable applications vary widely because they depend on site-specific factors. Water reuse projects tend to be more expensive than most water conservation options and less expensive than seawater desalination and other new supply alternatives. Although the costs of reclaimed water are often higher than current water sources, the report urges water authorities to consider other costs and benefits in addition to monetary expenditures when assessing reuse projects. For example, water reuse systems used in conjunction with a water conservation program could be effective in reducing seasonal peak demands on the drinking water system. Depending on the specific designs and pumping requirements, reuse projects could also have a larger or smaller carbon footprint than existing supply alternatives or reduce water flows to downstream users and ecosystems. The report indicates that water reuse regulations differ by state and are not based on risk-assessment methods. Adjustments to the Federal regulatory framework could help ensure a high level of public health protection, provide a consistent minimum level of protection across the nation, and increase public confidence in potable and non-potable water reuse. The report notes that existing legislative tools could be applied to improve the quality of water for reuse, including updating the National Pretreatment Program's list of priority pollutants to include a wider inventory of known toxic substances. Also, it lists 14 areas of research to help guide the country on how to apply water reuse appropriately. Such research would require improved coordination among federal and nongovernmental organizations. Access a release from NAS (click here). Access the complete 200-page report (click here). Access links to additional information on the report (click here). [#Water, #Drink] GET THE REST OF TODAY'S NEWS (click here)

Outlet: Environmental Protection
Publication Date: 01/11/2012
Media Type: News Web Sites
DMA: Dallas - Fort Worth, TX
Article URL: http://eponline.com/articles/2012/01/11/reuse-of-municipal-wastewater-has-potential-to-augment-future-drinking-water-supplies.aspx
Title: Reuse of Municipal Wastewater Has Potential to Augment Future Drinking Water Supplies

Full Text:
Jan 11, 2012

With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies.

"Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, Pasadena, Calif. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies."

The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects -- such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants -- that are well-established and generally accepted. Potable water reuse projects account for only a small fraction of the volume of water currently being reused. However, many drinking water treatment plants draw water from a source that contains wastewater discharged by a community located upstream; this practice is not officially acknowledged as potable reuse.

The report outlines wastewater treatment technologies for mitigating chemical and microbial contaminants, including both engineered and natural treatment systems. These processes can be used to tailor wastewater reclamation plants to meet the quality requirements of intended reuse applications. The concentrations of chemicals and microbial contaminants in reuse projects designed to augment drinking

water supplies can be comparable to or lower than those commonly present in many drinking water supplies. The committee emphasized the need for process reliability and careful monitoring to ensure that all reclaimed water meets the appropriate quality objectives for its use.

Costs of water reuse for potable and non-potable applications vary widely because they depend on site-specific factors, the committee said. Water reuse projects tend to be more expensive than most water conservation options and less expensive than seawater desalination and other new supply alternatives. Although the costs of reclaimed water are often higher than current water sources, the report urges water authorities to consider other costs and benefits in addition to monetary expenditures when assessing reuse projects. For example, water reuse systems used in conjunction with a water conservation program could be effective in reducing seasonal peak demands on the drinking water system. Depending on the specific designs and pumping requirements, reuse projects could also have a larger or smaller carbon footprint than existing supply alternatives or reduce water flows to downstream users and ecosystems.

Water reuse regulations differ by state and are not based on risk-assessment methods, the report says. Adjustments to the federal regulatory framework could help ensure a high level of public health protection, provide a consistent minimum level of protection across the nation, and increase public confidence in potable and non-potable water reuse. The report notes that existing legislative tools could be applied to improve the quality of water for reuse, including updating the National Pretreatment Program's list of priority pollutants to include a wider inventory of known toxic substances. Also, it lists 14 areas of research to help guide the country on how to apply water reuse appropriately. Such research would require improved coordination among federal and nongovernmental organizations.

Outlet: FOX 5
Publication Date: 01/11/2012
Media Type: Online Broadcast Version
Article URL: http://www.fox5vegas.com/story/16498777/report-backs-more-use-of-reclaimed-water
Title: Report backs more use of reclaimed water

Full Text:
Posted: Wednesday, January 11, 2012 2:49 PM

LOS ANGELES (AP) - A new report says the use of treated sewage water could safely increase the nation's drinking supplies.

The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6% of daily U.S. water usage.

The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage.

The report concludes that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: fox11online.com
Publication Date: 01/15/2012
Media Type: Online Broadcast Version
Article URL: http://c.moreover.com/click/here.pl?z5752377477&z=1250249092
Title: Study: reusing municipal wastewater

Full Text:
_ MADISON, Wis. (AP) - A new study may increase the use of treated wastewater to supplement local drinking water supplies. A **National Research Council** committee has taken a closer look at reusing municipal wastewater. Committee member Dr. Henry Anderson of the University of Wisconsin-Madison School of Medicine and Public Health says the study concluded that wastewater treatment is improving. Anderson says more wastewater plants force water through a fine rubbery membrane that doesn t let organisms and large chemical compounds through. In some drier parts of the country, treated wastewater is sometimes used on farm fields and golf courses. Wisconsin Public Radio reports the **National Research Council** says changing federal law could help ensure a high level of health safety for the public. Copyright Associated Press,

Outlet: Free Speech Zone
Publication Date: 01/12/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=9cc8944332f947801326408468050f29166feff1e42e5&co=f000000000432s-1158206718
Title: Toilet on tap: Panel recommends Americans drink more waste water to combat future shortages

Full Text:
Toilet on tap: Panel recommends Americans drink more waste water to combat future shortages Next time you pour a glass of water from the tap try not to think about this – you might be about to drink what you once flushed away. Rising numbers of Americans are consuming wastewater, or 'toilet on tap', without even realising it, according to an official report. Even though it once contained human waste, food scraps and bath scum, the **National Research Council** claims that it could actually be better for you than fresh water. It also says says that only wastewater that has been treated gets back into circulation, although the last industry-wide study was done was back in 1980. Waste not, want not: Water flushed down the toilet, or emptied from sinks, bathtubs, washing machines and dishwashers heads to a treatment plant where materials like oils, soaps and chemicals is filtered out According to the U.S. Geological Survey, wastewater is nothing more than 'used water'. It includes substances such as oils, soaps and chemicals and comes from sinks, bathtubs, toilets, washing machines and dishwashers. Businesses and industries also contribute their share of used water that must be cleaned. Wastewater is sent to a treatment plant where large material is filtered out before it is oxygenated to make it safe for human consumption. The NRC looked at water drawn from a normal source that had five per cent wastewater and compared it to a sample which had been completely treated. Read more: http://www.dailymail.co.uk/news/article-2085351/Toilet-tap-Panel-recommends-Americans-drink-waste-water-combat-future-shortages.html#ixzz1jGsNlPoA Advertisement Like this: Like Be the first to like this post.

Outlet: Freeman
Publication Date: 01/14/2012
Media Type: Online Print Version
Article URL: http://www.gmtoday.com/news/front/topstory13.asp
Title: Study focuses on reusing municipal wastewater

Full Text:
January 12, 2012

MADISON — A new study may increase the use of treated wastewater to supplement local drinking water supplies.

A **National Research Council** committee has taken a closer look at reusing municipal wastewater. Committee member Dr. Henry Anderson of the University of Wisconsin-Madison School of Medicine and Public Health says the study concluded that wastewater treatment is improving.

Anderson says more wastewater plants force water through a fine rubbery membrane that doesn't let organisms and large chemical compounds through. In some drier parts of the country, treated wastewater is sometimes used on farm fields and golf courses.

Wisconsin Public Radio

Outlet: FresnoBee.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.fresnobee.com/2012/01/11/2679167/report-backs-more-use-of-reclaimed.html
Title: Report backs more use of reclaimed water

Full Text:
LOS ANGELES A new report says the use of treated sewage water could safely increase the nation's drinking supplies. The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage. The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage. The report concludes that the health risks are comparable or even lower. The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: Gannett ContentOne
Publication Date: 01/10/2012
Media Type: News Service/Syndicate
DMA: Washington, DC
Title: Report: Wastewater preferable to wasting water

Full Text:
By Wendy Koch USA TODAY

Drinking wastewater? The idea may sound distasteful, but new federally funded research says more Americans are doing so -- whether they know or not -- and this reuse will be increasingly necessary as the U.S. population expands.

Treated wastewater poses no greater health risks than existing water supplies and, in some cases, may be even safer to drink, according to a report released Tuesday by the **National Research Council**, a science advisory group chartered by Congress. "We believe water reuse is a viable option" to deal with growing water scarcity, especially in coastal areas, says Jorg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report.

"This can be done reliably without putting the public at risk," he says, citing technological advances. He says it's a waste not to reuse the nation's wastewater, because almost all of it is treated before discharge. This water includes storm runoff as well as used water from homes, businesses and factories.

Of the 32 billion gallons of wastewater discharged every day in the USA, the report says 12 billion -- equal to 6(PERCENT) of total U.S. water use -- is sent to an ocean or estuary and is thus a lost resource.

Many communities reuse wastewater for irrigation and industrial purposes. Some, notably New Mexico's Cloudcroft and California's Orange County, have treatment facilities to reuse it as drinking water.

In many places, the report says, the public does not realize it's drinking water that was treated after being discharged as wastewater somewhere upstream. For example, wastewater discharged into the Trinity River from Dallas/Fort Worth flows south into Lake Livingston, the source for Houston's drinking water.

Despite the growing importance of this "de facto reuse," the report says there's been no systemic analysis of its extent nationwide since a 1980 study by the U.S. Environmental Protection Agency.

"There's always someone downstream," says Alan Roberson of the American Water Works Association, a non-profit group dedicated to clean water. He says wastewater reuse is common, so the council's report is important but not surprising.

Roberson expects this recycling will continue to increase, especially for irrigation and industrial needs.

He says it will take longer to establish potable uses because of public skittishness about drinking wastewater, however treated.

"We have to do something" to address water scarcity, says Olga Naidenko, a senior scientist at the non-profit Environmental Working Group. She says less than 10(PERCENT) of potable water is used for drinking, cooking, showering or dishwashing.

"We flush it down the toilet, literally," she says. Technologies exist to safely treat the water, she says, although some are expensive.

The report says water reuse projects tend to cost more than most water conservation options but less than seawater desalination and other supply alternatives. It calls on the EPA, a co-sponsor, to develop rules that set safe national standards.

Outlet: GazetteXtra
Publication Date: 01/14/2012
Media Type: Online Print Version
Article URL: http://www.gazettextra.com/weblogs/latest-news/2012/jan/14/study-focuses-reusing-municipal-wastewater/
Title: Study focuses on reusing municipal wastewater

Full Text:
MADISON, Wis. (AP) — A new study may increase the use of treated wastewater to supplement local drinking water supplies.

A **National Research Council** committee has taken a closer look at reusing municipal wastewater. Committee member Dr. Henry Anderson of the University of Wisconsin-Madison School of Medicine and Public Health says the study concluded that wastewater treatment is improving.

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reports the **National Research Council** says changing federal law could help ensure a high level of health safety for the public.

Outlet: Happy News
Publication Date: 01/14/2012
Media Type: News Web Sites
DMA: Austin, TX
Article URL: http://happynews.com/news/1102012/reuse-wastewater-improve-drinking-water-supply.htm
Title: Reuse of Wastewater May Improve Drinking Water Supply

Full Text:
JANUARY 10, 2012

With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies.

"Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, Pasadena, Calif. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies."

The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects -- such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants -- that are well-established and generally accepted. Potable water reuse projects account for only a small fraction of the volume of water currently being reused. However, many drinking water treatment plants draw water from a source that contains wastewater discharged by a community located upstream; this practice is not officially acknowledged as potable reuse.

The report outlines wastewater treatment technologies for mitigating chemical and microbial contaminants, including both engineered and natural treatment systems. These processes can be used to tailor wastewater reclamation plants to meet the quality requirements of intended reuse applications. The concentrations of chemicals and microbial contaminants in reuse projects designed to augment drinking water supplies can be comparable to or lower than those commonly present in many drinking water

supplies. The committee emphasized the need for process reliability and careful monitoring to ensure that all reclaimed water meets the appropriate quality objectives for its use.

Costs of water reuse for potable and non-potable applications vary widely because they depend on site-specific factors, the committee said. Water reuse projects tend to be more expensive than most water conservation options and less expensive than seawater desalination and other new supply alternatives. Although the costs of reclaimed water are often higher than current water sources, the report urges water authorities to consider other costs and benefits in addition to monetary expenditures when assessing reuse projects. For example, water reuse systems used in conjunction with a water conservation program could be effective in reducing seasonal peak demands on the drinking water system. Depending on the specific designs and pumping requirements, reuse projects could also have a larger or smaller carbon footprint than existing supply alternatives or reduce water flows to downstream users and ecosystems.

Water reuse regulations differ by state and are not based on risk-assessment methods, the report says. Adjustments to the federal regulatory framework could help ensure a high level of public health protection, provide a consistent minimum level of protection across the nation, and increase public confidence in potable and non-potable water reuse. The report notes that existing legislative tools could be applied to improve the quality of water for reuse, including updating the National Pretreatment Program's list of priority pollutants to include a wider inventory of known toxic substances. Also, it lists 14 areas of research to help guide the country on how to apply water reuse appropriately. Such research would require improved coordination among federal and nongovernmental organizations.

You may read the full report here: nationalacademies.org/onpinews

Outlet: Health News Med

Publication Date: 01/13/2012

Media Type: Blogs

Article URL:

http://ct.moreover.com/ct?haid=a7d2edaeae0cab0d1326460122993b3ec72539ec24a5e&co=f000000000432s-1158206718

Title: Medical News Today News Alert

Full Text:

Dear Subscriber, Welcome to today's Medical News Today News Alert containing today's medical news headlines for your chosen categories. You will only receive these alerts when new news is available for your chosen categories. To unsubscribe from our news alerts, or to alter any of your subscription details (name,e-mail address etc) please see http://www.medicalnewstoday.com/newsalerts.php?changemydetails=y . ----------

Future Drinking Water Supplies Could Be Augmented By Re-Use Of Municipal Wastewater http://mnt.to/a/443F With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. ---------- **

Outlet: Idaho Press-Tribune
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.idahopress.com/news/state/report-backs-more-use-of-reclaimed-water/article_de70463f-8fbe-54dc-b353-2b120d8c031b.html
Title: Report backs more use of reclaimed water

Full Text:
Wednesday, January 11, 2012 12:41 pm

LOS ANGELES (AP) — A new report says the use of treated sewage water could safely increase the nation's drinking supplies.

The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage.

The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage.

The report concludes that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: IdahoStatesman.com
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://www.idahostatesman.com/2012/01/11/1948833/report-backs-more-use-of-reclaimed.html
Title: Report backs more use of reclaimed water

Full Text:
- The Associated Press

Published: 01/11/12

LOS ANGELES — The U.S. can safely increase its drinking water supply by reusing some of the 12 billion gallons of wastewater that pours down sewers and into the ocean each day, a panel of experts concludes in a new report.

The health risks from using reclaimed wastewater in aquifers is the same or even lower than from using existing drinking water supplies that already contain a small percentage of treated sewage, according to the report released Tuesday by the **National Research Council**.

Derided by critics as "toilet to tap" water, treated wastewater could play a growing role in expanding drinking supplies in areas with surging populations, especially in the parched Southwest.

Many cities already use some treated wastewater in drinking supplies. Las Vegas, for example, sends treated sewage into Lake Mead, which supplies Southern California and other regions.

"Of the 32 billion gallons of municipal wastewater discharged nationwide each day, approximately 12 billion gallons are discharged to an ocean or estuary - an amount equivalent to 6 percent of total water use in the United States," a report summary said.

A committee of experts assembled by the research council looked at the risk of exposure to disease-causing microbes and to 24 chemical contaminants, including pharmaceuticals and hormones.

"Although there is a great degree of uncertainty, the committee's analysis suggests the risk from potable reuse does not appear to be any higher and may be orders of magnitude lower, than currently experienced in at least some current (and approved) drinking water treatment systems," the report stated.

The cost of using treated wastewater for drinking generally tend to be more expensive than expanding water supplies through conservation measures but cheaper than desalinating seawater, the study said.

"Wastewater is a drought-proof supply. People are always generating wastewater," Jorg Drewes, a water reuse expert who was on the committee, told the Los Angeles Times (http://lat.ms/y6992K). "That can be a very viable option, the committee felt, compared to imported water and other options."

The report is encouraging and "underscores the importance of using recycled water to augment existing water resources," Los Angeles Department of Water and Power Assistant General Manager James McDaniel said.

Despite previous opposition, the DWP is trying to build support for a plan to use treated sewage to replenish a groundwater aquifer in the northeastern San Fernando Valley and also is developing a master plan to using recycled water in the city, the Times reported.

The study was sponsored by several federal agencies, and various water and sanitation districts in Southern California and Monterey.

Outlet: Infinite Unknown
Publication Date: 01/13/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=9d86a7ccfb72c3771326470122158e31b634b8ce54ab5&co=f000000000432s-1158206718
Title: Rising Numbers Of Americans Drink Toilet Water … To Combat Future Shortages

Full Text:
- Toilet on tap: Panel recommends Americans drink more waste water to combat future shortages (Daily Mail, Jan. 11, 2012): Next time you pour a glass of water from the tap try not to think about this – you might be about to drink what you once flushed away. Rising numbers of Americans are consuming wastewater, or 'toilet on tap', without even realizing it, according to an official report. Even though it once contained human waste, food scraps and bath scum, the **National Research Council** claims that it could actually be better for you than fresh water. It also says that only wastewater that has been treated gets back into circulation, although the last industry-wide study was done was back in 1980. According to the U.S. Geological Survey, wastewater is nothing more than 'used water'. It includes substances such as oils, soaps and chemicals and comes from sinks, bathtubs, toilets, washing machines and dishwashers. Businesses and industries also contribute their share of used water that must be cleaned. Wastewater is sent to a treatment plant where large material is filtered out before it is oxygenated to make it safe for human consumption. The NRC looked at water drawn from a normal source that had five per cent wastewater and compared it to a sample which had been completely treated. By examining 24 different potential contaminants and a number of pathogens, they found no difference in risk between the two. In fact, when it came to the pathogens, the fully wastewater sample had fewer. The announcement from the NRC is a change from its stance in 1998 when a paper said that reclaimed water should only be used for drinking as 'an option of last resort'. Jörg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report said that wastewater was now a 'viable option' He said: 'This can be done reliably without putting the public at risk. 'We can really say that there is no difference from the risk standpoint. You can have a supply that is as safe as the current drinking water supplies. 'Wastewater is a drought-proof supply. People are always generating wastewater. 'That can be a very viable option, the committee felt, compared to imported water and other options.' Water scarcity is growing problem in the U.S. especially in arid states like California and Arizona. Contributing to the problem is the amount we waste – less than 10 per cent of drinkable water is used for cooking, drinking, showering or washing dishes. Olga Naidenko, a senior scientist at the non-profit Environmental Working Group, said: 'We flush it down the toilet, literally…we have to do something'. In the instances where wastewater has been put back into the system, voters have sometimes reacted badly and rejected it. Water reuse projects also tend to be more expensive than most water conservation options, although they are cheaper than seawater desalination. In Arizona a case is currently ongoing in the Federal Court over the use of

reclaimed water to make snow at a ski resort. Until it is resolved the U.S Forest Service in Flagstaff has put up a sign telling people not to eat the snow, even though it is considered safe for skiing. Tags: Global News, Health, Politics, Society, U.S., Water

Outlet: Infowars
Publication Date: 01/14/2012
Media Type: Online Broadcast Version
Article URL: http://www.infowars.com/officials-say-%e2%80%98toilet-on-tap%e2%80%99-wastewater-same-quality-as-tap-water/
Title: Officials Say 'Toilet on Tap' Wastewater Same Quality as Tap Water

Full Text:
Are you drinking wastewater without even knowing it?

Mike Barrett

Do you think it might be possible that you're drinking wastewater (also known as 'toilet on tap') and don't even know it? It just so happens that many Americans are, whether they know it or not. But new federally funded research brought to you by the **National Research Council** says that wastewater is completely safe, if not safer than existing water supplies. What does this say about the current state of your tap water?

Drink More Wastewater, NRC Says

The NRC compared a sample of water taken from a normal source which had 5 percent wastewater and a sample which had been completely treated. Around 24 different contaminants were measured for in both samples, including pathogens. What the NRC found was that there was no different in risk between the two samples, and that the wastewater sample had fewer pathogens. Interestingly enough the NRC's stance on consuming wastewater has completely changed from a little more than 1 decade ago, where they said that treated wastewater should only be consumed as a last resort.

The driving force behind the goal of the study is of course saving the water supply. As we continue to pollute our waters, less fresh water is becoming available for us to drink. More rivers, lakes, and underground aquifers are drying up as the years pass. As bodies of water around the world continue to dry up, we're seeing more drought conditions spread. There are dust storms in places which have never experienced them until now. As time goes by, the amount of agricultural land shrinks, and deserts are growing.

Coming up with strategies to combat the potential clean water shortage that could soon be coming is a necessary measure to take. The United States alone uses about 148 trillion gallons of fresh water each year, and 36 U.S. states are either facing water shortages right now or will soon be.

Wastewater and Even 'Normal' Water is Not Safe for Your Health

However consuming even treated wastewater should not be an option for those seeking optimal wellness. Even if the wastewater is as safe as normal drinking water, it is still not safe – and neither is normal drinking water. Water contains pharmaceuticals, birth control residues, sucralose, chlorine, and all types of harmful substances. In fact, the fluoride in the water is damaging your health and may even be lowering your IQ along with contributing to cancer. Unfortunately turning to bottled water is not such a viable option either, where you pay 2000x more than you normally would for mystery water.

A solution to these problems? A water filter or reverse osmosis water filtration system. When filtering tap water, reverse osmosis is one preferred method in removing toxic substances such as fluoride and heavy metals. It does, however, also remove natural minerals and nutrients. Luckily a simple solution to this would be to add certain minerals to the water Use a mineral filter, himalayan sea salt, or even add apple cider vinegar to restore the natural nutrients back into the water.

Outlet: InsideBayArea.com
Publication Date: 01/11/2012
Media Type: News Web Sites
DMA: San Francisco, CA
Article URL: http://c.moreover.com/click/here.pl?z5731402149&z=1250249091
Title: Study: Toilet to tap could help meet water needs

Full Text:
Reusing treated wastewater - a process rejected a decade ago as "toilet to tap" in Los Angeles - could help meet future water needs across the country, and in some cases may be safer than existing drinking supplies, according to a study released Tuesday. The **National Research Council** examined challenges and benefits of reusing wastewater as water supplies dwindle and population increases. Some 12 billion gallons of wastewater are discharged into oceans and estuaries each day, the report calculated. If that water were purified and reused, it could make up 6 percent of the nation s water supply. "That s significant," said R. Rhodes Trussell, chairman of the committee that wrote the report, which was sponsored in part by the Los Angeles Department of Water and Power. "It could have an important impact for the nation s water resources." Pollutant analysis and treatment technology have improved, and more research has been done on potential health effects, since the council last examined water reuse in 1998. In the new report, an analysis found reused water can be as safe or safer than existing drinking water supplies with regard to contamination from chemicals and microbial agents. "We have a lot more confidence now than we once did," said Trussell, president of a water-focused environmental engineering company in Pasadena. Jim McDaniel, DWP s head of water systems, said the utility was encouraged by the report. "Developing local water supplies such as recycled water is necessary because imported water continues to be more restricted due to environmental mitigation, legal rulings, and periods of dry weather and low snowpack," McDaniel said in an email. The need for more local water supply was highlighted last summer during a DWP public outreach campaign over a planned rate-hike request. For now, a number of DWP water recycling projects are on hold while the utility awaits the appointment of a ratepayer advocate by the City Council. DWP s goal is to boost water recycling so that it accounts for 8 percent of the city s water supply by 2035, and it intends to release plans this spring to realize that goal, McDaniel said. A decade ago, the department s plans to purify wastewater and reintroduce it to the water supply were killed after a public outcry. Critics dubbed the plan "toilet to tap." In the past few years, DWP has been cautious in reintroducing the concept of "advanced water treatment." "We have the possibility today to make pristine distilled water from mountain water or from raw sewage," said John Mays, a city environmental engineer who oversees construction at the plant. "It s just being wasted." Follow Melissa Pamer on Twitter at twitter.com/mpamer On the Web To see the study, go to www.nap.edu/catalog.php?record_id=13303

Outlet: io9
Publication Date: 01/17/2012
Media Type: Blogs
DMA: New York, NY
Article URL: http://c.moreover.com/click/here.pl?z5760460178&z=1250249092
Title: Yup, it s time to start drinking urine [Futurism]

Full Text:
That s the recommendation from a new report by the US National Research Council, who says reclaimed waste water is needed as a necessary substitute for the dwindling supply of freshwater. What s more, reprocessed urine might actually be cleaner than freshwater. As we consider the "Kevin Costner in Waterworld" school of water management, let s look at how we got here. According to committee chair R. Rhodes Trussell, the treatment process is now advanced enough that processed wastewater can become a significant part of our clean water supply. Although this processing is likely to be more expensive than water conservation efforts, it is a generally cheaper alternative to desalinization and other methods for generating new water supplies. And, like it or not, reprocessed waste water has already been an unofficial part of many water supplies. After all, many treatment plants get their waters from the same rivers that cities upstream use to dump out their waste water. Though that doesn t technically count as reuse, that s what it really is. This proposal just calls for cities to start recycling their own water supply, rather than shift it along to the poor jerks downriver. The committee also found that the amount of chemicals and microbes found in the reclaimed waste water was generally comparable to or lower than that found in our current freshwater supplies. I think that s meant to make me feel better about the prospect of drinking cleaned up pee, but really that s just got me worried about the freshwater. In any event, leaving aside the whole "this is kinda disgusting" aspects of the proposal, it s as sensible a way as any to deal with coming water shortages. Of course, if this entire proposal is just a way for scientists to freak out the public and get them to conserve water for fear of having to drink urine...well, I think they ve sorely underestimated how committed we are to wastefulness, honestly. Original report via **National Academies**. Image by dundanim, via Shutterstock.

Outlet: jfleck at inkstain
Publication Date: 01/17/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=a29986d971f7a6d01326778208351390c3913205e4cff&co=f000000000432s-1158206718
Title: The Jevons Paradox and greywater reuse

Full Text:
Hey lazyweb – anybody know if someone's looked rigorously at the question of greywater use in the context of a Jevons-like paradox? Putting together some notes for a talk this weekend to the Xeriscape Garden Club of Albuquerque (Sat. 10 a.m. at the Garden Center if you're in town), I've been thinking anew about the question of greywater use – running a second plumbing system from the sinks and other non-poopy waste producers in your house out to the garden. It seems obvious that this is a winner, because you're making use of the wastewater rather than just throwing it away. Except that in many settings, it's not thrown away, but rather returned via the sewage treatment plant for use by others. Here's the new **National Research Council** report on reuse : [E]xtensive reuse has the potential to affect the water supply of downstream users and ecosystems in water-limited settings. The NRC is talking about larger-scale reuse, but the principle is the same. If you're on the coast, and your sewage outfall goes directly into the ocean, greywater reuse seems like a no-brainer. But in desert communities like Albuquerque, it's a more complicated question. My sewage goes back into the Rio Grande, where it is used by others. A gallon I divert from my wastewater stream to water my garden is one less gallon we remove from the Rio Grande at the north end of town, and one less gallon we return at the south end of town. There may still be good reasons for doing this – energy, system losses, treatment costs, etc. But "saving" that gallon of water is not one of them. So here's the Jevons question. For those not familiar, in brief, the Jevons paradox is the notion that, as energy technology gets more efficient, rather than simply dropping our energy consumption, we at least in part do more of whatever it was we were doing with the energy. So as lighting got more efficient and therefore less expensive, one of the things we did was light up a lot more of our spaces. What if, by using greywater, I figure that since I'm using water that's kinda "free" in the context of both money and supply, I figure I can use more in the garden? Related posts: The Jevons Paradox and Christmas Lights Stuff I Wrote Elsewhere: The Jevons Paradox Greywater Related posts brought to you by Yet Another Related Posts Plugin .

Outlet: Kauai Garden Times
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://thegardenisland.com/news/state-and-regional/report-backs-more-use-of-reclaimed-water/article_451ce498-7ad8-5264-a560-d61dbbd451a7.html
Title: Report backs more use of reclaimed water

Full Text:
LOS ANGELES (AP) — The U.S. can safely increase its drinking water supply by reusing some of the 12 billion gallons of wastewater that pours down sewers and into the ocean each day, a panel of experts concludes in a new report.

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Many cities already use some treated wastewater in drinking supplies. Las Vegas, for example, sends treated sewage into Lake Mead, which supplies Southern California and other regions.

"Of the 32 billion gallons of municipal wastewater discharged nationwide each day, approximately 12 billion gallons are discharged to an ocean or estuary — an amount equivalent to 6 percent of total water use in the United States," a report summary said.

A committee of experts assembled by the research council looked at the risk of exposure to disease-causing microbes and to 24 chemical contaminants, including pharmaceuticals and hormones.

"Although there is a great degree of uncertainty, the committee's analysis suggests the risk from potable reuse does not appear to be any higher and may be orders of magnitude lower, than currently experienced in at least some current (and approved) drinking water treatment systems," the report stated.

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Despite previous opposition, the DWP is trying to build support for a plan to use treated sewage to replenish a groundwater aquifer in the northeastern San Fernando Valley and also is developing a master plan to using recycled water in the city, the Times reported.

The study was sponsored by several federal agencies, and various water and sanitation districts in Southern California and Monterey.

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Publication Date: 01/12/2012
Media Type: Online Broadcast Version
Article URL: http://c.moreover.com/click/here.pl?z5736465905&z=1250249090
Title: Report backs more use of reclaimed water

Full Text:
LOS ANGELES (AP) - A new report says the use of treated sewage water could safely increase the nation s drinking supplies. The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6% of daily U.S. water usage. The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage. The report concludes that the health risks are comparable or even lower. The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: KEYT-TV
Air Date: 01/12/2012
Media Type: Television Station Show
DMA: Santa Barbara, CA
Title: KEY News This Morning (2/4)
Broadcast Stream:
player?textId=2469268260&partnerToken=8a8083663490971901 34d222f2cf7f8d&timestamp=20120112134700

Full Text:
A new report shows the use of treated sewage water could safely increase the nations drinking supplies. Take vo . The **National Research Council** says 12- billion gallons of wastewater flow into coastal rivers and the ocean each day in the u-s. . Thats equal to 6-percent of daily u-s water usage. . The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage

Outlet: KGET.com
Publication Date: 01/12/2012
Media Type: Online Broadcast Version
Article URL: http://c.moreover.com/click/here.pl?z5736336472&z=1250249091
Title: Report backs more use of reclaimed water

Full Text:
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Outlet: KGUN 9
Publication Date: 01/12/2012
Media Type: Online Broadcast Version
Article URL: http://c.moreover.com/click/here.pl?z5736794162&z=1250249090
Title: Jan. 11, 2012 3:20 p.m.Report backs use of treated sewage water

Full Text:
LOS ANGELES (AP) - A new report says the use of treated sewage water could safely increase the nation s drinking supplies. The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage. The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage. The report concludes that the health risks are comparable or even lower. The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population. (

Outlet: KGUN 9

Publication Date: 01/12/2012

Media Type: Online Broadcast Version

Article URL: http://c.moreover.com/click/here.pl?z5738854549&z=1250249090

Title: Jan. 11, 2012Report backs use of treated sewage water

Full Text:

LOS ANGELES (AP) - A new report says the use of treated sewage water could safely increase the nation s drinking supplies. The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage. The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage. The report concludes that the health risks are comparable or even lower. The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population. 1 COMMENTS 0 0 Click thumb to rate 0 0 Please login to rate Better then to be used for gulf courses.

Outlet: KHQ Q6 HD
Publication Date: 01/12/2012
Media Type: Online Broadcast Version
Article URL: http://www.khq.com/story/16498774/report-backs-more-use-of-reclaimed-water?clienttype=printable
Title: Report backs more use of reclaimed water

Full Text:
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The report concludes that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: KOTA Territory News
Publication Date: 01/11/2012
Media Type: Online Broadcast Version
Article URL: http://www.kotatv.com/story/16498788/report-backs-more-use-of-reclaimed-water?clienttype=printable
Title: Report backs more use of reclaimed water

Full Text:
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The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: KPHO.com
Publication Date: 01/11/2012
Media Type: Online Broadcast Version
Article URL: http://kpho.com/story/16498972/report-backs-more-use-of-reclaimed-water
Title: Report backs more use of reclaimed water - CBS 5 - KPHO

Full Text:

LOS ANGELES (AP) -

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The report concludes that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: kpsplocal2.com
Publication Date: 01/12/2012
Media Type: Online Broadcast Version
Article URL: http://c.moreover.com/click/here.pl?z5737024758&z=1250249089
Title: Report backs more use of reclaimed water

Full Text:
LOS ANGELES (AP) ? A new report says the use of treated sewage water could safely increase the nation s drinking supplies.The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to six percent of daily U.S. water usage.The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage.The report concludes that the health risks are comparable or even lower.The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: KSWT NEWS 13

Publication Date: 01/12/2012

Media Type: Online Broadcast Version

Article URL: http://c.moreover.com/click/here.pl?z5735923871&z=1250249089

Title: Report backs more use of reclaimed water

Full Text:

Posted: Updated: Wednesday, January 11, 2012 2:49 PM EST LOS ANGELES (AP) - A new report says the use of treated sewage water could safely increase the nation s drinking supplies. The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6% of daily U.S. water usage. The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage. The report concludes that the health risks are comparable or even lower. The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: KSWT NEWS 13
Publication Date: 01/13/2012
Media Type: Online Broadcast Version
Article URL: http://www.kswt.com/Global/story.asp?S=14879103&clienttype=printable
Title: This Hour: Latest Southern California news, sports, business and entertainment

Full Text:

Posted: Thursday, June 9, 2011 8:35 PM ESTUpdated: Thursday, January 12, 2012 6:35 AM EST

Report backs more use of reclaimed water

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The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: kvoa.com: Tucson News
Publication Date: 01/12/2012
Media Type: Online Broadcast Version
Article URL: http://www.kvoa.com/news/report-backs-more-use-of-reclaimed-water/
Title: Report backs more use of reclaimed water | KVOA.com | Tucson, Arizona

Full Text:
Posted: Jan 11, 2012 3:33 PM

LOS ANGELES (AP) - A new report says the use of treated sewage water could safely increase the nation's drinking supplies.

The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage.

The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage.

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1/11/2012 12:44:55 PM (GMT -7:00)

Outlet: KVOA-TV
Air Date: 01/12/2012
Media Type: Television Station Show
DMA: Tucson, AZ
Title: Tucson Today at 5am (1/2)
Broadcast Stream:
player?textId=2469160896&partnerToken=8a8083653490967b0134d20c48f03502&timestamp=20120112122700

Full Text:
A new report by the **National Research Council** concludes treated sewage water can could safely be used as drinking water. The study finds the risk of contamination in reclaimed drinking water comparable to existing supplies that already have a small amount of treated sewage.

Outlet: KVOA-TV
Air Date: 01/12/2012
Media Type: Television Station Show
DMA: Tucson, AZ
Title: Tucson Today at 6am (1/2)
Broadcast Stream:
player?textId=2469241771&partnerToken=8a8083653490967b0134d242adc7376d&timestamp=20120112132700

Full Text:
A new report by the **National Research Council** concludes treated sewage water can could safely be used as drinking water. The study finds the risk of contamination in reclaimed drinking water comparable to existing supplies that already have a small amount of treated sewage.

Outlet: lacrossetribune.com
Publication Date: 01/14/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5751705076&z=1250249092
Title: Study focuses on reusing municipal wastewater

Full Text:
MADISON, Wis. (AP) - A new study may increase the use of treated wastewater to supplement local drinking water supplies. A **National Research Council** committee has taken a closer look at reusing municipal wastewater. Committee member Dr. Henry Anderson of the University of Wisconsin-Madison School of Medicine and Public Health says the study concluded that wastewater treatment is improving. Anderson says more wastewater plants force water through a fine rubbery membrane that doesn t let organisms and large chemical compounds through. In some drier parts of the country, treated wastewater is sometimes used on farm fields and golf courses. Wisconsin Public Radio reports the **National Research Council** says changing federal law could help ensure a high level of health safety for the public.

Outlet: LaramieBoomerang.com
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5736800538&z=1250249091
Title: Report backs more use of reclaimed water

Full Text:
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Outlet: Las Cruces Sun-News
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://www.lcsun-news.com/dona_ana_news/ci_19720608
Title: Report backs more use of reclaimed water

Full Text:
Posted: 01/11/2012 12:42:25 PM MST

LOS ANGELES—The U.S. can safely increase its drinking water supply by reusing some of the 12 billion gallons of wastewater that pours down sewers and into the ocean each day, a panel of experts concludes in a new report.

The health risks from using reclaimed wastewater in aquifers is the same or even lower than from using existing drinking water supplies that already contain a small percentage of treated sewage, according to the report released Tuesday by the **National Research Council**.

Derided by critics as "toilet to tap" water, treated wastewater could play a growing role in expanding drinking supplies in areas with surging populations, especially in the parched Southwest.

Many cities already use some treated wastewater in drinking supplies. Las Vegas, for example, sends treated sewage into Lake Mead, which supplies Southern California and other regions.

"Of the 32 billion gallons of municipal wastewater discharged nationwide each day, approximately 12 billion gallons are discharged to an ocean or estuary—an amount equivalent to 6 percent of total water use in the United States," a report summary said.

A committee of experts assembled by the research council looked at the risk of exposure to disease-causing microbes and to 24 chemical contaminants, including pharmaceuticals and hormones.

"Although there is a great degree of uncertainty, the committee's analysis suggests the risk from potable reuse does not appear to be

any higher and may be orders of magnitude lower, than currently experienced in at least some current (and approved) drinking water treatment systems," the report stated.

The cost of using treated wastewater for drinking generally tend to be more expensive than expanding water supplies through conservation measures but cheaper than desalinating seawater, the study said.

"Wastewater is a drought-proof supply. People are always generating wastewater," Jorg Drewes, a water reuse expert who was on the committee, told the Los Angeles Times (). "That can be a very viable option, the committee felt, compared to imported water and other options."

The report is encouraging and "underscores the importance of using recycled water to augment existing water resources," Los Angeles Department of Water and Power Assistant General Manager James McDaniel said.

Despite previous opposition, the DWP is trying to build support for a plan to use treated sewage to replenish a groundwater aquifer in the northeastern San Fernando Valley and also is developing a master plan to using recycled water in the city, the Times reported.

The study was sponsored by several federal agencies, and various water and sanitation districts in Southern California and Monterey.

Outlet: Las Vegas Sun
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5736100426&z=1250249090
Title: Report backs more use of reclaimed water

Full Text:
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Outlet: Life Abundantly
Publication Date: 01/13/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=b49740e97a15bc7913264794926589fbf4fe9354142af&co=f000000000432s-1158206718
Title: Are You Drinking Toilet Water?

Full Text:
The **National Research Council** says toilet water is better for you then fresh water. Are they right? Are you sure you aren't already drinking it? Maybe you better check. Toilet on tap: Panel recommends Americans drink more waste water to combat future shortages 'Wastewater is a drought-proof supply and a very viable option compared to imported water and other options' By DANIEL BATES Last updated at 8:03 PM on 11th January 2012 Next time you pour a glass of water from the tap try not to think about this - you might be about to drink what you once flushed away. Rising numbers of Americans are consuming wastewater, or 'toilet on tap', without even realising it, according to an official report. Even though it once contained human waste, food scraps and bath scum, the **National Research Council** claims that it could actually be better for you than fresh water. It also says says that only wastewater that has been treated gets back into circulation, although the last industry-wide study was done was back in 1980. Waste not, want not: Water flushed down the toilet, or emptied from sinks, bathtubs, washing machines and dishwashers heads to a treatment plant where materials like oils, soaps and chemicals is filtered out According to the U.S. Geological Survey, wastewater is nothing more than 'used water'. It includes substances such as oils, soaps and chemicals and comes from sinks, bathtubs, toilets, washing machines and dishwashers. Businesses and industries also contribute their share of used water that must be cleaned. Wastewater is sent to a treatment plant where large material is filtered out before it is oxygenated to make it safe for human consumption. The NRC looked at water drawn from a normal source that had five per cent wastewater and compared it to a sample which had been completely treated. 'You can have a supply that is as safe as the current drinking water supplies. It's a drought-proof supply.' - Professor Jörg Drewes By examining 24 different potential contaminants and a number of pathogens, they found no difference in risk between the two. In fact, when it came to the pathogens, the fully wastewater sample had fewer. The announcement from the NRC is a change from its stance in 1998 when a paper said that reclaimed water should only be used for drinking as 'an option of last resort'. Jörg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report said that wastewater was now a 'viable option' He said: 'This can be done reliably without putting the public at risk. 'We can really say that there is no difference from the risk standpoint. You can have a supply that is as safe as the current drinking water supplies. 'Wastewater is a drought-proof supply. People are always generating wastewater. 'That can be a very viable option, the committee felt, compared to imported water and other options.' Water scarcity is growing problem in the U.S. especially in arid states like California

and Arizona. Contributing to the problem is the amount we waste - less than 10 per cent of drinkable water is used for cooking, drinking, showering or washing dishes. Olga Naidenko, a senior scientist at the non-profit Environmental Working Group, said: 'We flush it down the toilet, literally...we have to do something'. In the instances where wastewater has been put back into the system, voters have sometimes reacted badly and rejected it. Water reuse projects also tend to be more expensive than most water conservation options, although they are cheaper than seawater desalination. In Arizona a case is currently ongoing in the Federal Court over the use of reclaimed water to make snow at a ski resort. Until it is resolved the U.S Forest Service in Flagstaff has put up a sign telling people not to eat the snow, even though it is considered safe for skiing. Share this article: Read more: http://www.dailymail.co.uk/news/article-2085351/Toilet-tap-Panel-recommends-Americans-drink-waste-water-combat-future-shortages.html#ixzz1jM8Xxj45

Outlet: Los Angeles Times
Publication Date: 01/11/2012
Media Type: Daily Newspaper
DMA: Los Angeles, CA
Title: Report backs reuse of water

Full Text:
Opponents malign it as "toilet to tap." But a new **National Research Council** report says that reclaimed water can contribute a growing portion of the nation's drinking water supplies and be as safe as conventional sources.

The assessment is especially relevant to Southern California, which has been a pioneer in recharging local aquifers with treated wastewater but still sends most of its runoff and treated water to the Pacific Ocean. A decade ago, public outcry and electoral politics thwarted a Los Angeles plan to partially replenish San Fernando Valley groundwater with recycled supplies.

Not to worry, concluded the scientific panel that wrote the report: "We can really say that there is no difference from the risk standpoint," said Jorg Drewes, a water reuse expert who was on the panel. "You can have a supply that is as safe as the current drinking water supplies."

In that vein, the 349-page report, released Tuesday, backs away from a 1998 research council recommendation that reclaimed water be used in drinking supplies only as "an option of last resort."

"We have more operation experience on potable reuse projects in the country and we have a much better understanding of the risk," said Drewes, a civil and environmental engineering professor at the Colorado School of Mines.

The report noted that many conventional sources already contain some treated wastewater, and called that "de facto reuse."

All of Las Vegas' treated sewage drains into Lake Mead, the nation's largest reservoir and a water source for Southern California and much of the Southwest. Water managers joke that if you flush a lot when you go to Vegas, it will mean more supplies for the Southland.

The panel compared data on tap water drawn from a conventional source that contained 5% wastewater with supplies taken from aquifers partially recharged with treated sewage.

It looked at levels of pathogens and 24 chemical contaminants, including hormones and pharmaceuticals, and concluded that the water from recharged aquifers posed no greater health risks, and in the case of pathogens, could be lesser.

The pressures of growing population, migration to arid parts of the U.S. and climate change are making reclaimed supplies more attractive.

"Wastewater is a drought-proof supply. People are always generating wastewater," Drewes said. "That can be a very viable option, the committee felt, compared to imported water and other options."

He added that reclaimed water is cheaper than desalinated seawater. And on the coast, there are no downstream users who can assert rights to the flow, which would otherwise be dumped in the ocean.

Los Angeles has not given up on the idea of using highly treated effluent from the Donald C. Tillman Water Reclamation Plant in Van Nuys to replenish the aquifer in the northeast Valley. The Department of Water and Power is trying to build support for the project with community meetings and is developing a master plan for recycled water use in the city.

In a statement, DWP Senior Assistant General Manager James McDaniel said his agency was encouraged by the report, "which once again underscores the importance of using recycled water to augment existing water resources."

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bettina.boxall@latimes.com

Outlet: Los Angeles Times
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.latimes.com/news/local/la-me-water-reuse-20120111,0,7264084.story
Title: Report backs greater use of recycled wastewater

Full Text:
Study finds no difference in risk between highly treated sewage and current drinking water supplies, retreating from an earlier report that called usage 'an option of last resort.'

January 11, 2012

Opponents malign it as "toilet to tap." But a new **National Research Council** report says that reclaimed water can contribute a growing portion of the nation's drinking water supplies and be as safe as conventional sources. The assessment is especially relevant to Southern California, which has been a pioneer in recharging local aquifers with treated wastewater but still sends most of its runoff and treated water to the Pacific Ocean. A decade ago, public outcry and electoral politics thwarted a Los Angeles plan to partially replenish San Fernando Valley groundwater with recycled supplies. Not to worry, concluded the scientific panel that wrote the report: "We can really say that there is no difference from the risk standpoint," said Jorg Drewes, a water reuse expert who was on the panel. "You can have a supply that is as safe as the current drinking water supplies." In that vein, the 349-page report, released Tuesday, backs away from a 1998 research council recommendation that reclaimed water be used in drinking supplies only as "an option of last resort." "We have more operation experience on potable reuse projects in the country and we have a much better understanding of the risk," said Drewes, a civil and environmental engineering professor at the Colorado School of Mines. The report noted that many conventional sources already contain some treated wastewater, and called that "de facto reuse." All of Las Vegas' treated sewage drains into Lake Mead, the nation's largest reservoir and a water source for Southern California and much of the Southwest. Water managers joke that if you flush a lot when you go to Vegas, it will mean more supplies for the Southland. The panel compared data on tap water drawn from a conventional source that contained 5% wastewater with supplies taken from aquifers partially recharged with treated sewage. It looked at levels of pathogens and 24 chemical contaminants, including hormones and pharmaceuticals, and concluded that the water from recharged aquifers posed no greater health risks, and in the case of pathogens, could be lesser. The pressures of growing population, migration to arid parts of the U.S. and climate change are making reclaimed supplies more attractive. "Wastewater is a drought-proof supply. People are always generating wastewater," Drewes said. "That can be a very viable option, the committee felt, compared to imported water and other options." He added that reclaimed water is cheaper than desalinated seawater. And on the coast, there are no downstream users who can assert rights to the flow, which would otherwise be dumped in the ocean. Los Angeles has not given up on the idea of using highly treated effluent from the Donald C. Tillman Water Reclamation

Plant in Van Nuys to replenish the aquifer in the northeast Valley. The Department of Water and Power is trying to build support for the project with community meetings and is developing a master plan for recycled water use in the city. In a statement, DWP Senior Assistant General Manager James McDaniel said his agency was encouraged by the report, "which once again underscores the importance of using recycled water to augment existing water resources." bettina.boxall@latimes.com

By Bettina Boxall, Los Angeles Times January 11, 2012 Opponents malign it as "toilet to tap." But a new National Research Council report says that reclaimed water can contribute a growing portion of the nation's drinking water supplies and be as safe as conventional sources. The assessment is especially relevant to Southern California, which has been a pioneer in recharging local aquifers with treated wastewater but still sends most of its runoff and treated water to the Pacific Ocean. A decade ago, public outcry and electoral politics thwarted a Los Angeles plan to partially replenish San Fernando Valley groundwater with recycled supplies. Not to worry, concluded the scientific panel that wrote the report: "We can really say that there is no difference from the risk standpoint," said Jorg Drewes, a water reuse expert who was on the panel. "You can have a supply that is as safe as the current drinking water supplies." In that vein, the 349-page report, released Tuesday, backs away from a 1998 research council recommendation that reclaimed water be used in drinking supplies only as "an option of last resort." "We have more operation experience on potable reuse projects in the country and we have a much better understanding of the risk," said Drewes, a civil and environmental engineering professor at the Colorado School of Mines. The report noted that many conventional sources already contain some treated wastewater, and called that "de facto reuse." All of Las Vegas' treated sewage drains into Lake Mead, the nation's largest reservoir and a water source for Southern California and much of the Southwest. Water managers joke that if you flush a lot when you go to Vegas, it will mean more supplies for the Southland. The panel compared data on tap water drawn from a conventional source that contained 5% wastewater with supplies taken from aquifers partially recharged with treated sewage. It looked at levels of pathogens and 24 chemical contaminants, including hormones and pharmaceuticals, and concluded that the water from recharged aquifers posed no greater health risks, and in the case of pathogens, could be lesser. The pressures of growing population, migration to arid parts of the U.S. and climate change are making reclaimed supplies more attractive. "Wastewater is a drought-proof supply. People are always generating wastewater," Drewes said. "That can be a very viable option, the committee felt, compared to imported water and other options." He added that reclaimed water is cheaper than desalinated seawater. And on the coast, there are no downstream users who can assert rights to the flow, which would otherwise be dumped in the ocean. Los Angeles has not given up on the idea of using highly treated effluent from the Donald C. Tillman Water Reclamation Plant in Van Nuys to replenish the aquifer in the northeast Valley. The Department of Water and Power is trying to build support for the project with community meetings and is developing a master plan for recycled water use in the city. In a statement, DWP Senior Assistant General Manager James McDaniel said his agency was encouraged by the report, "which once again underscores the importance of using recycled water to augment existing water resources." bettina.boxall@latimes.com

Outlet: manuka
Publication Date: 01/14/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=996e1769f3092444132656404574 9b1ecb03ca1534ee2&co=f000000000432s-1158206718
Title: Recycling Wastewater

Full Text:
As the population of our world continues to expand exponentially on a daily basis, and our consumer culture grows along with it, many people are beginning to realize: we are running out of resources, and fast! And it seems that the one resource we simply cannot live without is escaping us faster than we can react: WATER. The very substance that created us is being consumed and wasted at an enormous rate, and it won't be much longer until we won't have enough left. That is why The **National Research Council** has been exploring ways to conserve and reuse this vital part of our planet. Currently, we run all of our wastewater through a treatment plant, which cleans the water so that it is suitable to be pumped back in the ocean. This process uses lots of energy, and does nothing to help recycle the water. However, recent research has shown that this process of cleaning wastewater just might be the answer to our problem. By using only slightly more energy, treatment plants could fully purify our wastewater so that it can be recycled and reused as drinking water. And, it would be far less expensive than salt water desalination or importation. Now isn't that a concept! Looks like we are slowly moving our way up the stairway to sustainability. click on the photo to see the full report on wastewater recycling from the **National Research Council** Advertisement Like this: Like Be the first to like this post.

Outlet: MediLexicon
Publication Date: 01/12/2012
Media Type: News Web Sites
Article URL: http://c.moreover.com/click/here.pl?z5739806902&z=1250249090
Title: Future Drinking Water Supplies Could Be Augmented By Re-Use Of Municipal Wastewater

Full Text:
Main Category: Water - Air Quality / Agriculture Also Included In: Public Health With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation s total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies. "Wastewater reuse is poised to become a legitimate part of the nation s water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, Pasadena, Calif. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies." The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects - such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants - that are well-established and generally accepted. Potable water reuse projects account for only a small fraction of the volume of water currently being reused. However, many drinking water treatment plants draw water from a source that contains wastewater discharged by a community located upstream; this practice is not officially acknowledged as potable reuse. The report outlines wastewater treatment technologies for mitigating chemical and microbial contaminants, including both engineered and natural treatment systems. These processes can be used to tailor wastewater reclamation plants to meet the quality requirements of intended reuse applications. The concentrations of chemicals and microbial contaminants in reuse projects designed to augment drinking water supplies can be comparable to or lower than those commonly present in many drinking water supplies. The committee emphasized the need for process reliability and careful monitoring to ensure that all reclaimed water meets the appropriate quality objectives for its use. Costs of water reuse for potable and non-potable applications vary widely because they depend on site-specific factors, the committee said. Water reuse projects tend to be more expensive than most water conservation options and less expensive than seawater desalination and other new supply alternatives. Although the costs of reclaimed water are often higher than current water sources, the report urges water authorities to

consider other costs and benefits in addition to monetary expenditures when assessing reuse projects. For example, water reuse systems used in conjunction with a water conservation program could be effective in reducing seasonal peak demands on the drinking water system. Depending on the specific designs and pumping requirements, reuse projects could also have a larger or smaller carbon footprint than existing supply alternatives or reduce water flows to downstream users and ecosystems. Water reuse regulations differ by state and are not based on risk-assessment methods, the report says. Adjustments to the federal regulatory framework could help ensure a high level of public health protection, provide a consistent minimum level of protection across the nation, and increase public confidence in potable and non-potable water reuse. The report notes that existing legislative tools could be applied to improve the quality of water for reuse, including updating the National Pretreatment Program s list of priority pollutants to include a wider inventory of known toxic substances. Also, it lists 14 areas of research to help guide the country on how to apply water reuse appropriately. Such research would require improved coordination among federal and nongovernmental organizations. Original article posted on Medical News Today.

Outlet: Merced Sun-Star.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.mercedsunstar.com/2012/01/11/2186956/report-backs-more-use-of-reclaimed.html
Title: Report backs more use of reclaimed water

Full Text:
Wednesday, Jan. 11, 2012

LOS ANGELES -- A new report says the use of treated sewage water could safely increase the nation's drinking supplies.

The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage.

The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage.

The report concludes that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: MercuryNews.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.mercurynews.com/news/ci_19720608
Title: Report backs more use of reclaimed water

Full Text:
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Outlet: MercuryNews.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5731553063&z=1250249089
Title: Study: Don t waste wastewater

Full Text:
Reusing treated wastewater - a process rejected a decade ago as "toilet to tap" in Los Angeles - could help meet future water needs across the country, and in some cases may be safer than existing drinking supplies, according to a study released Tuesday. The **National Research Council** examined challenges and benefits of reusing wastewater as water supplies dwindle and population increases. Some 12 billion gallons of wastewater are discharged into oceans and estuaries each day, the report calculated. If that water was purified and reused, it could make up 6 percent of the nation s water supply. "That s significant," said R. Rhodes Trussell, chairman of the committee that wrote the report, which was sponsored in part by the Los Angeles Department of Water and Power. "It could have an important impact for the nation s water resources." Pollutant analysis and treatment technology have improved and more research has been done on potential health effects since the council last examined water reuse in 1998. In the new report, an analysis found reused water can be as safe or safer than existing drinking water supplies with regard to contamination from chemicals and microbial agents. "We have a lot more confidence now than we once did," said Trussell, who is president of a water-focused environmental engineering company in Pasadena. Jim McDaniel, DWP s head of water systems, said the utility was encouraged by the report. "Developing local water supplies such as recycled water is necessary because imported water continues to be more restricted due to environmental mitigation, legal rulings, and periods of dry weather and low snowpack," McDaniel said in an email. The need for more local water was highlighted last summer during a DWP public outreach campaign over a planned rate-hike request. For now, a number of DWP water recycling projects are on hold while the utility awaits the appointment of a ratepayer advocate by the City Council. DWP s goal is to boost water recycling so that it accounts for 8 percent of the city s water supply by 2035, and it intends to release plans this spring to realize that goal, McDaniel said. A decade ago, the department s plans to purify wastewater from Donald C. Tillman Reclamation Plant in Van Nuys and reintroduce it to the water supply through spreading grounds in Sun Valley were killed after a public outcry. Critics dubbed the plan "toilet to tap." In the last few years, DWP has been cautious in reintroducing the concept of "advanced water treatment." Wastewater currently treated at the Tillman plant is used to irrigate nearby golf courses and a Japanese garden on site, and to fill Lake Balboa. Most of the treated water, however, flows into the Los Angeles River. "We have the possibility today to make pristine distilled water from mountain water or from raw sewage," said John Mays, a city environmental engineer who oversees construction at the plant. "It s just being wasted." melissa.pamer@dailynews.com 818-713-3720 Follow Melissa Pamer on Twitter at twitter.com/mpamer

Outlet: MercuryNews.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5730174908&z=1250249090
Title: Study: Treated wastewater can be safer than existing water supplies

Full Text:
Reusing treated wastewater - a process rejected a decade ago as "toilet to tap" in Los Angeles - could help meet future water needs across the country, and in some cases may be safer than existing drinking supplies, according to a study released Tuesday. The National Research Council examined challenges and benefits of reusing wastewater as water supplies dwindle and population increases. Some 12 billion gallons of wastewater are discharged into oceans and estuaries each day, the report calculated. If that water was purified and reused, it could make up 6 percent of the nation s water supply. "That s significant," said R. Rhodes Trussell, chairman of the committee that wrote the report, which was sponsored in part by the LADWP. "It could have an important impact for the nation s water resources." Population growth - especially in Southern California, where water resources are scarce - has increased demand for water. That, coupled with the threat of global climate change, makes reuse a prime alternative, the authors say. Pollutant analysis and treatment technology have improved in recent years, and reused water can be as safe or safer than existing drinking water supplies, the report said. "We have a lot more confidence now than we once did," said Trussell, who is president of a water-focused environmental engineering company in Pasadena. The report comes as DWP projects are on hold while the utility awaits the fate of a requested water-rate increase, now in the hands of the City Council. The utility s goal is to increase its water recycling more than tenfold by 2035, and it wants to release plans this spring to realize that goal, according to a DWP primer on the issue. The utility did not comment by deadline on the status of water recycling projects. A decade ago, the department s plans to purify wastewater from Donald C. Tillman Reclamation Plant in Van Nuys and reintroduce it to the water supply through spreading grounds in Sun Valley were killed after a public outcry. Critics dubbed the plan "toilet to tap." In the last few years, the utility has been cautious in reintroducing the concept of "advanced water treatment." The National Research Council report said that as more data becomes available on the safety of wastewater reuse, public debate is "evolving and maturing." Standardized federal regulations for water reuse - instead of the existing patchwork of state rules - would protect public health and could boost confidence in the safety of the practice, the report states. The 363-page report was sponsored by the Los Angeles Department of Water and Power and several other regional water and sanitation districts. The National Research Council is part of the **National Academies** of Science, a scholarly society created by Congress. melissa.pamer@dailynews.com, 818-713-3720 Follow Melissa Pamer on Twitter at twitter.com/mpamer

Outlet: modbee.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.modbee.com/2012/01/11/2021263/report-backs-more-use-of-reclaimed.html
Title: Report backs more use of reclaimed water

Full Text:
LOS ANGELES -- The U.S. can safely increase its drinking water supply by reusing some of the 12 billion gallons of wastewater that pours down sewers and into the ocean each day, a panel of experts concludes in a new report.

The health risks from using reclaimed wastewater in aquifers is the same or even lower than from using existing drinking water supplies that already contain a small percentage of treated sewage, according to the report released Tuesday by the **National Research Council**.

Derided by critics as "toilet to tap" water, treated wastewater could play a growing role in expanding drinking supplies in areas with surging populations, especially in the parched Southwest.

Many cities already use some treated wastewater in drinking supplies. Las Vegas, for example, sends treated sewage into Lake Mead, which supplies Southern California and other regions.

"Of the 32 billion gallons of municipal wastewater discharged nationwide each day, approximately 12 billion gallons are discharged to an ocean or estuary - an amount equivalent to 6 percent of total water use in the United States," a report summary said.

A committee of experts assembled by the research council looked at the risk of exposure to disease-causing microbes and to 24 chemical contaminants, including pharmaceuticals and hormones.

"Although there is a great degree of uncertainty, the committee's analysis suggests the risk from potable reuse does not appear to be any higher and may be orders of magnitude lower, than currently experienced in at least some current (and approved) drinking water treatment systems," the report stated.

The cost of using treated wastewater for drinking generally tend to be more expensive than expanding water supplies through conservation measures but cheaper than desalinating seawater, the study said.

"Wastewater is a drought-proof supply. People are always generating wastewater," Jorg Drewes, a water reuse expert who was on the committee, told the Los Angeles Times (http://lat.ms/y6992K). "That can be a very viable option, the committee felt, compared to imported water and other options."

The report is encouraging and "underscores the importance of using recycled water to augment existing water resources," Los Angeles Department of Water and Power Assistant General Manager James McDaniel said.

Despite previous opposition, the DWP is trying to build support for a plan to use treated sewage to replenish a groundwater aquifer in the northeastern San Fernando Valley and also is developing a master plan to using recycled water in the city, the Times reported.

The study was sponsored by several federal agencies, and various water and sanitation districts in Southern California and Monterey.

Outlet: Monterey Herald.com
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5735910255&z=1250249089
Title: Report backs more use of reclaimed water

Full Text:
LOS ANGELESA new report says the use of treated sewage water could safely increase the nation s drinking supplies. The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage. The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage. The report concludes that the health risks are comparable or even lower. The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: Myhighplains.com
Publication Date: 01/12/2012
Media Type: Online Broadcast Version
Article URL: http://c.moreover.com/click/here.pl?z5735584593&z=1250249092
Title: Drinking Wastewater Becoming Necessary

Full Text:
The idea may be difficult to swallow, but federally funded research indicates more Americans are drinking wastewater and doing it safely. A report by the **National Research Council** says such reuse of water will become increasingly necessary as the U.S. population grows and water supplies dwindle. The report states that the health risks of treated wastewater are no greater than existing water supplies. It adds that in some cases, it may be safer to drink due to technological advances in treating it. Such water includes storm runoff as well as used water from homes, businesses and factories. Many communities reuse wastewater for irrigation and industrial purposes. Areas such as Cloudcroft, New Mexico and Orange County, California have treatment facilities to reuse it as drinking water. (

Outlet: MyNorthwest.com
Publication Date: 01/13/2012
Media Type: Online Broadcast Version
Article URL: http://mynorthwest.com/174/608498/Report-backs-more-use-of-reclaimed-water
Title: Report backs more use of reclaimed water - AP State News - MyNorthwest.com

Full Text:
Source: AP State News

Originally published: Jan 11, 2012 - 2:57 pm

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Outlet: Natural Health Home Remedies
Publication Date: 01/12/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=bdd4f2ec11541f671326401381827fa60a52ed4ee4b47&co=f000000000432s-1158206718
Title: Toilet To Tap Water

Full Text:
Next time you pour a glass of water from the tap try not to think about this - you might be about to drink what you once flushed away. Rising numbers of Americans are consuming wastewater, or 'toilet on tap', without even realising it, according to an official report. Even though it once contained human waste, food scraps and bath scum, the **National Research Council** claims that it could actually be better for you than fresh water. It also says says that only wastewater that has been treated gets back into circulation, although the last industry-wide study was done was back in 1980. According to the U.S. Geological Survey, wastewater is nothing more than 'used water'. It includes substances such as oils, soaps and chemicals and comes from sinks, bathtubs, toilets, washing machines and dishwashers. Businesses and industries also contribute their share of used water that must be cleaned. Wastewater is sent to a treatment plant where large material is filtered out before it is oxygenated to make it safe for human consumption. The NRC looked at water drawn from a normal source that had five per cent wastewater and compared it to a sample which had been completely treated. 'You can have a supply that is as safe as the current drinking water supplies. It's a drought-proof supply.' - Professor Jörg Drewes By examining 24 different potential contaminants and a number of pathogens, they found no difference in risk between the two. In fact, when it came to the pathogens, the fully wastewater sample had fewer. The announcement from the NRC is a change from its stance in 1998 when a paper said that reclaimed water should only be used for drinking as 'an option of last resort'. Jörg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report said that wastewater was now a 'viable option' He said: 'This can be done reliably without putting the public at risk. 'We can really say that there is no difference from the risk standpoint. You can have a supply that is as safe as the current drinking water supplies. 'Wastewater is a drought-proof supply. People are always generating wastewater. 'That can be a very viable option, the committee felt, compared to imported water and other options.' Water scarcity is growing problem in the U.S. especially in arid states like California and Arizona. Contributing to the problem is the amount we waste - less than 10 per cent of drinkable water is used for cooking, drinking, showering or washing dishes. Olga Naidenko, a senior scientist at the non-profit Environmental Working Group, said: 'We flush it down the toilet, literally...we have to do something'. In the instances where wastewater has been put back into the system, voters have sometimes reacted badly and rejected it. Water reuse projects also tend to be more expensive than most water conservation options, although they are cheaper than seawater desalination. In Arizona a case is currently ongoing in the Federal Court

over the use of reclaimed water to make snow at a ski resort. Until it is resolved the U.S Forest Service in Flagstaff has put up a sign telling people not to eat the snow, even though it is considered safe for skiing. NOTE: Drinking water should not be used for flushing toilets, there are ample means of composting without water. Most of California already drinks waste water, but has yet to catch on that allowing "gray water systems" would save water, plus allowing rain catchment systems. Yes, the waste water is treated, then chemicalized with potent toxins, rendering in harmful to touch or drink.

Outlet: NBC 15
Publication Date: 01/14/2012
Media Type: Online Broadcast Version
Article URL:
http://nbc15.com/news/headlines/Study_Focuses_On_Reusing_Municipal_Wastewater_137345118.html
Title: Study Focuses On Reusing Municipal Wastewater

Full Text:
MADISON, Wis. (AP) — A new study may increase the use of treated wastewater to supplement local drinking water supplies.

A **National Research Council** committee has taken a closer look at reusing municipal wastewater. Committee member Dr. Henry Anderson of the University of Wisconsin-Madison School of Medicine and Public Health says the study concluded that wastewater treatment is improving.

Anderson says more wastewater plants force water through a fine rubbery membrane that doesn't let organisms and large chemical compounds through. In some drier parts of the country, treated wastewater is sometimes used on farm fields and golf courses.

Wisconsin Public Radio (http://bit.ly/Al0B81) reports the **National Research Council** says changing federal law could help ensure a high level of health safety for the public.

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Information from: Wisconsin Public Radio, http://www.wpr.org

Outlet: nbc26.com
Publication Date: 01/14/2012
Media Type: Online Broadcast Version
Article URL: http://www.nbc26.com/news/covering-wisconsin/137349478.html
Title: Study focuses on reusing municipal wastewater

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Outlet: NewsWest9.com
Publication Date: 01/12/2012
Media Type: Online Broadcast Version
Article URL: http://www.newswest9.com/Global/story.asp?S=14880370
Title: This Hour: Latest New Mexico news, sports, business and entertainment

Full Text:

RECLAIMED WATER

Report backs more use of reclaimed water

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Outlet: NWOTruth

Publication Date: 01/12/2012

Media Type: Blogs

Article URL:

http://ct.moreover.com/ct?haid=a3306c36d2634eb713263976806208a7c43fcb15b43ec&co=f000000000432s-1158206718

Title: Toilet on tap: Panel recommends Americans drink more waste water to combat future shortages

Full Text:

Even though it once contained human waste, food scraps and bath scum, the **National Research Council** claims that it could actually be better for you than fresh water. Read the full story...

Outlet: Omss War
Publication Date: 01/12/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=8d78856f366f365713263976115046529 4f8468bf4b56&co=f000000000432s-1158206718
Title: Seed Daily Express - Jan 12, 2012

Full Text:

January 12, 2012 Reuse of municipal wastewater has potential to augment future drinking water supplies Washington DC (SPX) Jan 12, 2012 - With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**.

It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies.

"Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, Pasadena, Calif. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies."

The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects - such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants - that are well-established and generally accepted.

Potable water reuse projects account for only a small fraction of the volume of water currently being reused. However, many drinking water treatment plants draw water from a source that contains wastewater discharged by a community located upstream; this practice is not officially acknowledged as potable reuse.

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Costs of water reuse for potable and non-potable applications vary widely because they depend on site-specific factors, the committee said. Water reuse projects tend to be more expensive than most water conservation options and less expensive than seawater desalination and other new supply alternatives.

Although the costs of reclaimed water are often higher than current water sources, the report urges water authorities to consider other costs and benefits in addition to monetary expenditures when assessing reuse projects.

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The report notes that existing legislative tools could be applied to improve the quality of water for reuse, including updating the National Pretreatment Program's list of priority pollutants to include a wider inventory of known toxic substances.

Also, it lists 14 areas of research to help guide the country on how to apply water reuse appropriately. Such research would require improved coordination among federal and nongovernmental organizations.

Outlet: pasadenastarnews.com
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5736047818&z=1250249090
Title: Study: Don t waste wastewater

Full Text:
Los Angeles Department of Public Works Environmental Engineer John Mays at the Tillman Water Reclamation Plant in Van Nuys. (Hans Gutknecht / Staff Photographer) Los Angeles Department of Public Works Environmental Engineer John Mays at the Tillman Water Reclamation Plant in Van Nuys. (Hans Gutknecht / Staff Photographer) Reusing treated wastewater - a process rejected a decade ago as "toilet to tap" in Los Angeles - could help meet future water needs across the country, and in some cases may be safer than existing drinking supplies, according to a study released Tuesday. The **National Research Council** examined challenges and benefits of reusing wastewater as water supplies dwindle and population increases. Some 12 billion gallons of wastewater are discharged into oceans and estuaries each day, the report calculated. If that water was purified and reused, it could make up 6 percent of the nation s water supply. "That s significant," said R. Rhodes Trussell, chairman of the committee that wrote the report, which was sponsored in part by the Los Angeles Department of Water and Power. "It could have an important impact for the nation s water resources." Pollutant analysis and treatment technology have improved and more research has been done on potential health effects since the council last examined water reuse in 1998. In the new report, an analysis found reused water can be as safe or safer than existing drinking water supplies with regard to contamination from chemicals and microbial agents. "We have a lot more confidence now than we once did," said Trussell, who is president of a water-focused environmental engineering company in Pasadena. Jim McDaniel, DWP s head of water systems, said the utility was encouraged by the report. "Developing local water supplies such as recycled water is necessary because imported water continues to be more restricted due to environmental mitigation, legal rulings, and periods of dry weather and low snowpack," McDaniel said in an email. The need for more local water was highlighted last summer during a DWP public outreach campaign over a planned rate-hike request. For now, a number of DWP water recycling projects are on hold while the utility awaits the appointment of a ratepayer advocate by the City Council. DWP s goal is to boost water recycling so that it accounts for 8 percent of the city s water supply by 2035, and it intends to release plans this spring to realize that goal, McDaniel said. A decade ago, the department s plans to purify wastewater from Donald C. Tillman Reclamation Plant in Van Nuys and reintroduce it to the water supply through spreading grounds in Sun Valley were killed after a public outcry. Critics dubbed the plan "toilet to tap." In the last few years, DWP has been cautious in reintroducing the concept of "advanced water treatment." Wastewater currently treated at the Tillman plant is used to irrigate nearby golf courses and a Japanese garden on site, and to fill Lake Balboa. Most of the treated water, however, flows into the Los Angeles River. "We have the possibility today to make pristine distilled water from mountain water or

from raw sewage," said John Mays, a city environmental engineer who oversees construction at the plant. "It s just being wasted." melissa.pamer@dailynews.com 818-713-3720 Follow Melissa Pamer on Twitter at twitter.com/mpamer

Outlet: Peninsula Clarion
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5736674940&z=1250249090
Title: Report backs more use of reclaimed water

Full Text:
LOS ANGELES — The U.S. can safely increase its drinking water supply by reusing some of the 12 billion gallons of wastewater that pours down sewers and into the ocean each day, a panel of experts concludes in a new report. The health risks from using reclaimed wastewater in aquifers is the same or even lower than from using existing drinking water supplies that already contain a small percentage of treated sewage, according to the report released Tuesday by the **National Research Council**. Derided by critics as "toilet to tap" water, treated wastewater could play a growing role in expanding drinking supplies in areas with surging populations, especially in the parched Southwest. Many cities already use some treated wastewater in drinking supplies. Las Vegas, for example, sends treated sewage into Lake Mead, which supplies Southern California and other regions. "Of the 32 billion gallons of municipal wastewater discharged nationwide each day, approximately 12 billion gallons are discharged to an ocean or estuary — an amount equivalent to 6 percent of total water use in the United States," a report summary said. A committee of experts assembled by the research council looked at the risk of exposure to disease-causing microbes and to 24 chemical contaminants, including pharmaceuticals and hormones. "Although there is a great degree of uncertainty, the committee s analysis suggests the risk from potable reuse does not appear to be any higher and may be orders of magnitude lower, than currently experienced in at least some current (and approved) drinking water treatment systems," the report stated. The cost of using treated wastewater for drinking generally tend to be more expensive than expanding water supplies through conservation measures but cheaper than desalinating seawater, the study said. "Wastewater is a drought-proof supply. People are always generating wastewater," Jorg Drewes, a water reuse expert who was on the committee, told the Los Angeles Times ( ). "That can be a very viable option, the committee felt, compared to imported water and other options." The report is encouraging and "underscores the importance of using recycled water to augment existing water resources," Los Angeles Department of Water and Power Assistant General Manager James McDaniel said. Despite previous opposition, the DWP is trying to build support for a plan to use treated sewage to replenish a groundwater aquifer in the northeastern San Fernando Valley and also is developing a master plan to using recycled water in the city, the Times reported. The study was sponsored by several federal agencies, and various water and sanitation districts in Southern California and Monterey.

Outlet: PhysOrg.com
Publication Date: 01/11/2012
Media Type: News Web Sites
Article URL: http://physorg.com/news/2012-01-reuse-municipal-wastewater-potential-augment.html
Title: Reuse of municipal wastewater has potential to augment future drinking water supplies

Full Text:
January 10, 2012

With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies.

Outlet: Pollution

Publication Date: 01/16/2012

Media Type: Blogs

Article URL:

http://ct.moreover.com/ct?haid=a8891f50f7203fa01326748086423148ef1a4ac1f4cfe&co=f000000000432s-1158206718

Title: Future Drinking Water Supplies Could Be Augmented By Re-Use Of Municipal Wastewater

Full Text:

With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**… Source: Future Drinking Water Supplies Could Be Augmented By Re-Use Of Municipal Wastewater

Outlet: Pollution articles

Publication Date: 01/13/2012

Media Type: Blogs

Article URL:

http://ct.moreover.com/ct?haid=8eff4ff5d0ec69fb13264530080595f2dfaef43124cfc&co=f000000000432s-1158206718

Title: Wastewater reuse can increase global water resources

Full Text:

The safety of future water supply is one of key global issues in the modern world. One of the best ways how to increase the global and nation's water resources in order to satisfy ever-growing needs of rapidly growing human population is to reuse municipal wastewater. The recent technological advances have come to a point where the possible negative health effects of „exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies.“ At least this is what the latest study by the **National Research Council** has to say about it. The wastewater treatment processes have advanced significantly and wastewater reuse will sooner or later become extremely important factor in enabling adequate nation's water supply. The wastewater reuse doesn't have to be necessarily used for drinking purposes but also for irrigation and industry. Some communities in United States already use different wastewater reuse projects such as irrigation of golf courses and parks and reused wastewater also often provides industrial cooling water in areas close to wastewater reclamation plants. The costs of technologies used to treat wastewater vary significantly and are mostly dependent on different on-site factors. When compared with seawater desalination and most commonly used water conservation methods wastewater reuse projects come in the middle- they are usually less expensive compared to seawater desalination and more expensive compared to most water conservation methods. The costs will however mean very little in years to come if wastewater reuse becomes one of the most used options to ensure adequate water supply because water is the most precious resource on our planet, and something we can't live without. We have already reached the point where our society must start to use water with care because without water there's no life, and the last thing that should be left into the legacy of our children and grandchildren are global water shortages.

Outlet: Post Chronicle
Publication Date: 01/12/2012
Media Type: News Web Sites
DMA: New York, NY
Article URL: http://c.moreover.com/click/here.pl?z5737237541&z=1250249089
Title: Wastewater Can Be Drinking Source

Full Text:
More Americans are drinking recycled wastewater, whether they re aware of it or not, and more will have to do so as the U.S. population expands, research says. A report by the **National Research Council** said treated wastewater poses no greater health risks than existing water supplies and in some instances may be even safer to drink, USA Today reported Wednesday. Jorg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report, said it s a waste not to reuse the nation s wastewater since almost all of it is treated before discharge. "We believe water reuse is a viable option" to combat growing water scarcity, he said, citing advanced in wastewater treatment technologies. "This can be done reliably without putting the public at risk." The report said 12 billions gallons of the 32 billion gallons of wastewater discharged every day in the United States goes into an ocean or estuary and thus is a permanently lost resource. (c) UPI

Outlet: PR in LA
Publication Date: 01/11/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=96f5093ec4dbb67013263149906693801 77a095aa42b6&co=f000000000432s-1158206718
Title: Treated water ready for prime time?

Full Text:
Is recycled water past its "image problem"? California and other parts of the world are coming to grips with a reality about water: Fresh supplies are available through recycling. As parts of the United States deal with drought and billions of people around the world deal with access to fresh water, recycling is quickly becoming a critical solution. Two major reports out this week should do wonders to put aside fears when taking water from sewage treatment plants and scrubbing it clean enough it to a point that we can drink it. As covered in the Los Angeles Times, a **National Research Council** report said reclaimed water is as safe as conventional sources and greater use should be encouraged. Meanwhile, engineers at Brown University reported on a new process that can remove heavy metals from water. For now, various rules and regulations generally prohibit agencies from directly sending into our water pipes the very clean H2O that originated from a sewage treatment plant and was then scrubbed at a water recycling facility. Today, this treated water can only be used for irrigation, injected underground (where Mother Nature is presumed to have a better handle on "scrubbing" this water), used for industrial purposes (companies want this highly treated water because of its nearly mineral-free quality) or other "non-potable" uses. What's holding us back from sending this water into our households? Perhaps it is fear. "Toilet to tap" is still an obstacle some water agencies face. This phrase, coined by a (failed) candidate for public office in Los Angeles, is one of the biggest public relations challenges when it comes to broad acceptance of recycled water. As PR pros well know, a negative label can stick much better than a positive and is hard to unwind. Science tells us recycled water is safe. While new research and improved treatment technologies continues to help, PR pros have spent consider effort to erase perception and fear when it comes to reclaimed water. When I speak about this topic, I remind people that (a) we are all drinking dinosaur pee and (b) the astronauts in the International Space Station are recycling 97 percent of their urine and perspiration for drinking water. The first part is silly, I know. But the second is meant to demonstrate that the science and technology are "here" to safely and effectively drink recycled water. At a recent tour of the water recycling facility operated by the West Basin Municipal Water District (an update of a tour I took about 10 years ago), I drank recycled water. It tasted great. I'm still standing. The journey to my lips began a few miles away at the massive Hyperion wastewater treatment plant where this water receives its first rounds of cleansing. Once at the West Basin facility, the water is squeezed through filters and membranes, then treated with an ultraviolet process. This final stage kills bacteria and viruses, rendering the water actually cleaner than what is being sent to many U.S. households. The "UV" stage was added since my last tour

and is the "killer app" for recycled water. It takes away the last imagined fear for the public - viruses. Less complicated UV systems are being constructed for use in undeveloped areas of the world, where fresh water is a much bigger issue. In California, health officials will likely require more steps before agencies like West Basin can connect the "outflow" pipes from water recycling facilities to the pipes that send water to our homes. One likely step will be a 24/7, real-time monitoring (with online readouts) of this water as it is about to enter the drinking water system. And you wonder why our water bills are going up.

Outlet: Prisonplanet.com
Publication Date: 01/13/2012
Media Type: News Web Sites
Article URL: http://www.prisonplanet.com/officials-say-%e2%80%98toilet-on-tap%e2%80%99-wastewater-same-quality-as-regular-water-supply.html
Title: Officials Say 'Toilet on Tap' Wastewater Same Quality as Regular Water Supply

Full Text:
Friday, January 13, 2012

Do you think it might be possible that you're drinking wastewater (also known as 'toilet on tap') and don't even know it?

It just so happens that many Americans, whether they know it or not.

But new federally fundedbrought to you by the **National Research Council** says that wastewater is completely safe, if not safer than existing water supplies.

What does this say about the current state of your tap water?

The NRC compared a sample of water taken from a normal source which had 5 percent wastewater, and a sample which had been completely treated. Around 24 different contaminants were measured for in both samples, including pathogens.

What the NRC found was that there was no difference in risk between the two samples, and that the. Interestingly enough, the NRC's stance on consuming wastewater has completely changed from a little more than 1 decade ago, where they said that treated wastewater should only be consumed as a last resort.

The driving force behind the goal of the study is of course saving the water supply. As we continue to pollute our waters, less fresh water is becoming available for us to drink. More rivers, lakes, and underground aquifers are drying up as the years pass.

As bodies of water around the world continue to dry up, we're seeing more drought conditions spread. There are dust storms in places which have never experienced them until now. As time goes by, the amount of agricultural land shrinks, and deserts are growing.

Coming up with strategies to combat the potential clean water shortage that could soon be coming is a necessary measure to take. The United States alone uses aboutof fresh water each year, andare either facing water shortages right now or will soon be.

However, consuming even treated wastewater should not be an option for those seeking optimal wellness. Even if the wastewater is as safe as normal drinking water, it is still not safe – and. Water contains pharmaceuticals, birth control residues,, chlorine, and all types of harmful substances. In fact, the fluoride in the water is damaging your health and may even bealong with contributing to cancer. Unfortunately turning tois not such a viable option either, where you pay.

A solution to these problems? A water filter or reverse osmosis water filtration system. When filtering tap water, reverse osmosis is one preferred method in removing toxic substances such as fluoride and heavy metals. It does, however, also remove natural minerals and nutrients.

Luckily a simple solution to this would be to add certain minerals to the water. Use a mineral filter, himalayan sea salt, or even add apple cider vinegar to restore the natural nutrients back into the water.

Outlet: RedOrbit
Publication Date: 01/14/2012
Media Type: News Web Sites
DMA: Tyler - Longview, TX
Article URL: http://c.moreover.com/click/here.pl?z5749276429&z=1250249090
Title: You May Be Drinking Wastewater Without Knowing It

Full Text:
According to a report by the **National Research Council** (NRC), more Americans are drinking recycled wastewater, whether they are aware of it or not. The report said that treated wastewater poses no greater health risks than existing water supplies and in some instances may be even safer to drink. Jorg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report, said it is a waste not to reuse the nation's wastewater since almost all of it is treated before discharge. He said this method can be done without putting the public at risk, and can help combat growing water scarcity as the U.S. population begins to grow. According to the NRC report, 12 billion gallons of the 32 billion gallons of wastewater discharged every day in the U.S. goes into an ocean or estuary, becoming permanently lost. Some communities reuse the water for irrigation and industrial purposes, while others may actually use it for drinking water. The report said the public does not realize that it is drinking water that was treated after being discharged as wastewater somewhere upstream. "For example, wastewater discharged into the Trinity River from Dallas/Fort Worth flows south into Lake Livingston, the source for Houston's drinking water," USA Today reported. The report said there has been no systemic analysis of its extent nationwide since a 1980 study by the Environmental Protection Agency (EPA). It said water reuse projects tend to cost more than most water conservation options, but less than seawater desalination and other supply alternatives.

Outlet: Rose Law Group Blog
Publication Date: 01/12/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=b6b57bd40f48e1c313264079043751da7e001fca5469c&co=f000000000432s-1158206718
Title: Don't waste the wastewater

Full Text:
Report backs more use of reclaimed water (AP) — The U.S. can safely increase its drinking water supply by reusing some of the 12 billion gallons of wastewater that pours down sewers and into the ocean each day, a panel of experts concludes in a new report. The health risks from using reclaimed wastewater in aquifers is the same or even lower than from using existing drinking water supplies that already contain a small percentage of treated sewage, according to the report released Tuesday by the **National Research Council**. Derided by critics as "toilet to tap" water, treated wastewater could play a growing role in expanding drinking supplies in areas with surging populations, especially in the parched Southwest. Many cities already use some treated wastewater in drinking supplies. Las Vegas, for example, sends treated sewage into Lake Mead, which supplies Southern California and other regions. More: Report backs more use of reclaimed water (AP) — The U.S. can safely increase its drinking water supply by reusing some of the 12 billion gallons of wastewater that pours down sewers and into the ocean each day, a panel of experts concludes in a new report. The health risks from using reclaimed wastewater [...]

Outlet: Sacramento Bee
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://www.sacbee.com/2012/01/11/4180615/report-backs-more-use-of-reclaimed.html
Title: Report backs more use of reclaimed water

Full Text:
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LOS ANGELES --The U.S. can safely increase its drinking water supply by reusing some of the 12 billion gallons of wastewater that pours down sewers and into the ocean each day, a panel of experts concludes in a new report.

The health risks from using reclaimed wastewater in aquifers is the same or even lower than from using existing drinking water supplies that already contain a small percentage of treated sewage, according to the report released Tuesday by the **National Research Council**.

Derided by critics as "toilet to tap" water, treated wastewater could play a growing role in expanding drinking supplies in areas with surging populations, especially in the parched Southwest.

Many cities already use some treated wastewater in drinking supplies. Las Vegas, for example, sends treated sewage into Lake Mead, which supplies Southern California and other regions.

"Of the 32 billion gallons of municipal wastewater discharged nationwide each day, approximately 12 billion gallons are discharged to an ocean or estuary - an amount equivalent to 6 percent of total water use in the United States," a report summary said.

A committee of experts assembled by the research council looked at the risk of exposure to disease-causing microbes and to 24 chemical contaminants, including pharmaceuticals and hormones.

"Although there is a great degree of uncertainty, the committee's analysis suggests the risk from potable reuse does not appear to be any higher and may be orders of magnitude lower, than currently experienced in at least some current (and approved) drinking water treatment systems," the report stated.

The cost of using treated wastewater for drinking generally tend to be more expensive than expanding water supplies through conservation measures but cheaper than desalinating seawater, the study said.

"Wastewater is a drought-proof supply. People are always generating wastewater," Jorg Drewes, a water reuse expert who was on the committee, told the Los Angeles Times (http://lat.ms/y6992K). "That can be a very viable option, the committee felt, compared to imported water and other options."

The report is encouraging and "underscores the importance of using recycled water to augment existing water resources," Los Angeles Department of Water and Power Assistant General Manager James McDaniel said.

Despite previous opposition, the DWP is trying to build support for a plan to use treated sewage to replenish a groundwater aquifer in the northeastern San Fernando Valley and also is developing a master plan to using recycled water in the city, the Times reported.

The study was sponsored by several federal agencies, and various water and sanitation districts in Southern California and Monterey.

Outlet: SanLuisObispo.com
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5735840856&z=1250249089
Title: Report backs more use of reclaimed water

Full Text:
A new report says the use of treated sewage water could safely increase the nation s drinking supplies. The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage. The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage. The report concludes that the health risks are comparable or even lower. The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population. Share this story: About comments Reader comments on SanLuisObispo.com are the opinions of the writer, not The Tribune. If you see an objectionable comment, click the "report abuse" button below it. We will delete comments containing inappropriate links, obscenities, hate speech, and personal attacks. Flagrant or repeat violators will be banned. See more about comments here. What you should know about comments on SanLuisObispo.com SanLuisObispo.com is happy to provide a forum for reader interaction, discussion, feedback and reaction to our stories. However, we reserve the right to delete inappropriate comments or ban users who can t play nice. See our full terms of service here. Here are some rules of the road: Keep your comments civil. Don t insult one another or the subjects of our articles. If you think a comment violates our guidelines click the "report abuse" button. Responding to the comment will only encourage bad behavior. Don t use profanities, vulgarities or hate speech. This is a general interest news site. Sometimes, there are children present. Don t say anything in a way you wouldn t want your own child to hear. Do not attack other users; focus your comments on issues, not individuals. Stay on topic. Only post comments relevant to the article at hand. If you want to discuss an issue with a specific user, click on his profile name and leave him a public message. Do not copy and paste outside material into the comment box. Don t repeat the same comment over and over. We heard you the first time. Do not use the commenting system for advertising. That s spam and it isn t allowed. Don t use all capital letters. That s akin to yelling and not appreciated by the audience. You should also know that The Tribune does not screen comments before they are posted. You are more likely to see inappropriate comments before our staff does, so we ask that you click the "report abuse" button to submit those comments for moderator review. You also may notify us via email at webmaster@thetribunenews.com. Note the headline on which the comment is made and tell us the profile name of the user who made the comment. Remember, comment moderation is subjective. You may find some material objectionable that we won t and vice versa. If you submit a comment, the username of your account will appear along with it. Users cannot

remove their own comments once they have submitted them, but you may ask our staff to retract one of your comments by sending an email to webmaster@thetribunenews.com. Again, make sure you note the headline on which the comment is made and tell us your profile name.

Outlet: Sbsun.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5733566427&z=1250249090
Title: Study: Don t waste wastewater

Full Text:
Reusing treated wastewater - a process rejected a decade ago as "toilet to tap" in Los Angeles - could help meet future water needs across the country, and in some cases may be safer than existing drinking supplies, according to a study released Tuesday. The **National Research Council** examined challenges and benefits of reusing wastewater as water supplies dwindle and population increases. Some 12 billion gallons of wastewater are discharged into oceans and estuaries each day, the report calculated. If that water was purified and reused, it could make up 6 percent of the nation s water supply. "That s significant," said R. Rhodes Trussell, chairman of the committee that wrote the report, which was sponsored in part by the Los Angeles Department of Water and Power. "It could have an important impact for the nation s water resources." Pollutant analysis and treatment technology have improved and more research has been done on potential health effects since the council last examined water reuse in 1998. In the new report, an analysis found reused water can be as safe or safer than existing drinking water supplies with regard to contamination from chemicals and microbial agents. "We have a lot more confidence now than we once did," said Trussell, who is president of a water-focused environmental engineering company in Pasadena. Jim McDaniel, DWP s head of water systems, said the utility was encouraged by the report. "Developing local water supplies such as recycled water is necessary because imported water continues to be more restricted due to environmental mitigation, legal rulings, and periods of dry weather and low snowpack," McDaniel said in an email. The need for more local water was highlighted last summer during a DWP public outreach campaign over a planned rate-hike request. For now, a number of DWP water recycling projects are on hold while the utility awaits the appointment of a ratepayer advocate by the City Council. DWP s goal is to boost water recycling so that it accounts for 8 percent of the city s water supply by 2035, and it intends to release plans this spring to realize that goal, McDaniel said. A decade ago, the department s plans to purify wastewater from Donald C. Tillman Reclamation Plant in Van Nuys and reintroduce it to the water supply through spreading grounds in Sun Valley were killed after a public outcry. Critics dubbed the plan "toilet to tap." In the last few years, DWP has been cautious in reintroducing the concept of "advanced water treatment." Wastewater currently treated at the Tillman plant is used to irrigate nearby golf courses and a Japanese garden on site, and to fill Lake Balboa. Most of the treated water, however, flows into the Los Angeles River. "We have the possibility today to make pristine distilled water from mountain water or from raw sewage," said John Mays, a city environmental engineer who oversees construction at the plant. "It s just being wasted." melissa.pamer@dailynews.com 818-713-3720 Follow Melissa Pamer on Twitter at twitter.com/mpamer

Outlet: Science Blog
Publication Date: 01/10/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=9cde9568855df033132621709700782868a6a88c84591&co=f000000000432s-1158206718
Title: Reuse of municipal wastewater has potential to augment future drinking water supplies

Full Text:
Reuse of municipal wastewater has potential to augment future drinking water supplies With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies. "Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, Pasadena, Calif. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies." The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects — such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants — that are well-established and generally accepted. Potable water reuse projects account for only a small fraction of the volume of water currently being reused. However, many drinking water treatment plants draw water from a source that contains wastewater discharged by a community located upstream; this practice is not officially acknowledged as potable reuse. The report outlines wastewater treatment technologies for mitigating chemical and microbial contaminants, including both engineered and natural treatment systems. These processes can be used to tailor wastewater reclamation plants to meet the quality requirements of intended reuse applications. The concentrations of chemicals and microbial contaminants in reuse projects designed to augment drinking water supplies can be comparable to or lower than those commonly present in many drinking water supplies. The committee emphasized the need for process reliability and careful monitoring to ensure that all reclaimed water meets the appropriate quality objectives for its use. Costs of water reuse for potable and non-potable applications vary widely because they depend on site-specific factors, the committee said. Water reuse projects tend to be more expensive

than most water conservation options and less expensive than seawater desalination and other new supply alternatives. Although the costs of reclaimed water are often higher than current water sources, the report urges water authorities to consider other costs and benefits in addition to monetary expenditures when assessing reuse projects. For example, water reuse systems used in conjunction with a water conservation program could be effective in reducing seasonal peak demands on the drinking water system. Depending on the specific designs and pumping requirements, reuse projects could also have a larger or smaller carbon footprint than existing supply alternatives or reduce water flows to downstream users and ecosystems. Water reuse regulations differ by state and are not based on risk-assessment methods, the report says. Adjustments to the federal regulatory framework could help ensure a high level of public health protection, provide a consistent minimum level of protection across the nation, and increase public confidence in potable and non-potable water reuse. The report notes that existing legislative tools could be applied to improve the quality of water for reuse, including updating the National Pretreatment Program's list of priority pollutants to include a wider inventory of known toxic substances. Also, it lists 14 areas of research to help guide the country on how to apply water reuse appropriately. Such research would require improved coordination among federal and nongovernmental organizations. Print PDF Tags: Reclaimed water, wastewater, Water conservation, Water supply

Outlet: Science Letter
Publication Date: 01/20/2012
Media Type: Magazine
DMA: Atlanta, GA
Title: Researchers from Institute of Science Publish Findings in Science

Full Text:
Current study results from the report, "Control of postharvest diseases of fruit by heat and fungicides: efficacy, residue levels, and residue persistence. A review," have been published. According to the authors of a study from Sassari, Italy, "Extensive research has been done in recent years to reduce the heavy dependence on chemical fungicides to control postharvest diseases and disorders of horticultural crops. Alternative strategies were based on improved cultural practices, biological control, plant-defense promoters, and physical treatments such as UV illumination, radiofrequency treatment, heat therapy, and storage technologies."

"Among these, postharvest heat treatments such as hot water dips, short hot water rinsing and brushing, and hot air conditioning have reduced rot development and enhanced fruit resistance to chilling injury in sensitive cultivars while retaining fruit quality during cold storage and shelf life. Additive or synergistic increases in effectiveness were observed by integrating heat therapy with various chemical compounds, thus leading to significant reductions in the application of active ingredients to protect produce from decay," wrote M. Schirra and colleagues, Institute of Science (see also).

The researchers concluded: "This paper highlights the knowledge on this topic with emphasis on heat therapy effects and factors affecting the uptake, persistence, and performance of fungicide residues when they are applied in combination with hot water."

Schirra and colleagues published the results of their research in the Journal of Agricultural and Food Chemistry (Control of postharvest diseases of fruit by heat and fungicides: efficacy, residue levels, and residue persistence. A review. Journal of Agricultural and Food Chemistry, 2011;59(16):8531-42).

For additional information, contact M. Schirra, Institute of Sciences of Food Production, **National Research Council**, Regione Baldinca, 07040 Li Punti, Sassari, Italy.

Outlet: ScienceBlog.com
Publication Date: 01/10/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=99f07e75dd3a26a41326218830733dc8e47385cab46d7&co=f000000000432s-1158206718
Title: Reuse of municipal wastewater has potential to augment future drinking water supplies

Full Text:
Reuse of municipal wastewater has potential to augment future drinking water supplies With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies. "Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, Pasadena, Calif. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies." The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects — such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants — that are well-established and generally accepted. Potable water reuse projects account for only a small fraction of the volume of water currently being reused. However, many drinking water treatment plants draw water from a source that contains wastewater discharged by a community located upstream; this practice is not officially acknowledged as potable reuse. The report outlines wastewater treatment technologies for mitigating chemical and microbial contaminants, including both engineered and natural treatment systems. These processes can be used to tailor wastewater reclamation plants to meet the quality requirements of intended reuse applications. The concentrations of chemicals and microbial contaminants in reuse projects designed to augment drinking water supplies can be comparable to or lower than those commonly present in many drinking water supplies. The committee emphasized the need for process reliability and careful monitoring to ensure that all reclaimed water meets the appropriate quality objectives for its use. Costs of water reuse for potable and non-potable applications vary widely because they depend on site-specific factors, the committee said. Water reuse projects tend to be more expensive

than most water conservation options and less expensive than seawater desalination and other new supply alternatives. Although the costs of reclaimed water are often higher than current water sources, the report urges water authorities to consider other costs and benefits in addition to monetary expenditures when assessing reuse projects. For example, water reuse systems used in conjunction with a water conservation program could be effective in reducing seasonal peak demands on the drinking water system. Depending on the specific designs and pumping requirements, reuse projects could also have a larger or smaller carbon footprint than existing supply alternatives or reduce water flows to downstream users and ecosystems. Water reuse regulations differ by state and are not based on risk-assessment methods, the report says. Adjustments to the federal regulatory framework could help ensure a high level of public health protection, provide a consistent minimum level of protection across the nation, and increase public confidence in potable and non-potable water reuse. The report notes that existing legislative tools could be applied to improve the quality of water for reuse, including updating the National Pretreatment Program's list of priority pollutants to include a wider inventory of known toxic substances. Also, it lists 14 areas of research to help guide the country on how to apply water reuse appropriately. Such research would require improved coordination among federal and nongovernmental organizations. Print PDF Tags: Reclaimed water, wastewater, Water conservation, Water supply

Outlet: ScienceDaily
Publication Date: 01/11/2012
Media Type: News Web Sites
DMA: Washington, DC
Article URL: http://www.sciencedaily.com/releases/2012/01/120110140223.htm
Title: Reuse of Municipal Wastewater Has Potential to Augment Future Drinking Water Supplies

Full Text:
ScienceDaily (Jan. 10, 2012)

— With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**.It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs.

Outlet: Scientific American
Publication Date: 01/16/2012
Media Type: Online Print Version
Article URL: http://www.scientificamerican.com/podcast/episode.cfm?id=gee-whiz-why-not-recycle-urine-for-12-01-16
Title: Gee Whiz, Why Not Recycle Urine for Drinking Water?: Scientific American Podcast

Full Text:
The U.S. can no longer afford to ignore sewage as a source of drinking water, scientists argue. David Biello reports.

January 16, 2012 |

Americans produce 32 billion gallons of sewage every day. And we need to start drinking it. After treating it, of course. So argues a report from the U.S. **National Research Council**. Why drink reprocessed pee? Because freshwater supplies are getting squeezed.

The reports' scientists, utility officials and engineers note that new technologies are making it affordable to clean up and reclaim such water. And it's not just for drinking—reclaimed water can also be used for irrigation or industry.

The best news? The possible health risks "do not exceed and, in some cases may be significantly lower than, the risks of existing water supplies."

Many of us are already drinking such recycled water. After all, if you're downriver from another municipality odds are your drinking water has already been through their treatment plants—and every other city's upriver from you.

Of course, there are other things we should be recovering from our wastewater, such as the vital nutrient phosphorus that may soon become scarce. But in a world that's having trouble providing enough water for everybody, recycling makes sense. If we can just overcome the blehhh factor.

—David Biello

[The above text is a transcript of this podcast.]

Outlet: Sci-Tech Today
Publication Date: 01/13/2012
Media Type: News Web Sites
DMA: Los Angeles, CA
Article URL: http://www.sci-tech-today.com/news/Wastewater-Better-than-Wasting-H2O/story.xhtml?story_id=030001P2E2CO
Title: Report: Wastewater Preferable To Wasting Sater

Full Text:
January 12, 2012 9:15AM

According to a report by the **National Research Council**, treated wastewater poses no greater health risks than existing water supplies and, in some cases, may be even safer to drink. Many communities reuse wastewater for irrigation and industrial purposes. Some have treatment facilities to reuse it as drinking water.

Drinking wastewater? The idea may sound distasteful, but new federally funded research says more Americans are doing so -- whether they know it or not -- and this reuse will be increasingly necessary as the U.S. population expands.

Treated wastewater poses no greater health risks than existing water supplies and, in some cases, may be even safer to drink, according to a report released Tuesday by the **National Research Council**, a science advisory group chartered by Congress. "We believe water reuse is a viable option" to deal with growing water scarcity, especially in coastal areas, says Jrg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report.

"This can be done reliably without putting the public at risk," he says, citing technological advances. He says it's a waste not to reuse the nation's wastewater, because almost all of it is treated before discharge. This water includes storm runoff as well as used water from homes, businesses and factories.

Of the 32 billion gallons of wastewater discharged every day in the USA, the report says 12 billion -- equal to 6% of total U.S. water use -- is sent to an ocean or estuary and is thus a lost resource.

Many communities reuse wastewater for irrigation and industrial purposes. Some -- notably Cloudcroft, N.M., and California's Orange County -- have treatment facilities to reuse it as drinking water.

In many places, the report says, the public does not realize it is drinking water that was treated after being discharged as wastewater somewhere upstream. For example, wastewater discharged into the Trinity River from Dallas/Fort Worth flows south into Lake Livingston, the source for Houston's drinking water.

Despite the growing importance of this "de facto reuse," the report says there has been no systemic analysis of its extent nationwide since a 1980 study by the Environmental Protection Agency.

"There's always someone downstream," says Alan Roberson of the American Water Works Association, a non-profit group dedicated to clean water. He says wastewater reuse is common, so the council's report is important but not surprising.

Roberson says he expects this recycling will continue to increase, especially for irrigation and industrial needs.

He says it will take longer to establish potable uses because of public skittishness about drinking wastewater, however treated.

"We have to do something" to address water scarcity, says Olga Naidenko, a senior scientist at the non-profit Environmental Working Group. She says less than 10% of potable water is used for drinking, cooking, showering or dishwashing.

"We flush it down the toilet, literally," she says. Technologies exist to safely treat the water, she says, although some are expensive.

The report says water reuse projects tend to cost more than most water conservation options but less than seawater desalination and other supply alternatives. It calls on the EPA, a co-sponsor of the report, to develop rules that set safe national standards.

Outlet: Seattle Times

Publication Date: 01/12/2012

Media Type: Online Print Version

Article URL: http://c.moreover.com/click/here.pl?z5735843454&z=1250249090

Title: Report backs more use of reclaimed water

Full Text:

A new report says the use of treated sewage water could safely increase the nation s drinking supplies. The Associated Press Related Most Popular Comments LOS ANGELES — A new report says the use of treated sewage water could safely increase the nation s drinking supplies. The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage. The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage. The report concludes that the health risks are comparable or even lower. The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: SFExaminer.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.sfexaminer.com/news/california/2012/01/report-backs-more-use-reclaimed-water
Title: Report backs more use of reclaimed water

Full Text:
01/11/12 11:41 AM

A new report says the use of treated sewage water could safely increase the nation's drinking supplies.

The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage.

The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage.

The report concludes that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: SFGate
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2012/01/11/state/n114200S89.DTL&type=newsbayarea&type=printable
Title: Report backs more use of reclaimed water

Full Text:
Wednesday, January 11, 2012

(01-11) 11:42 PST Los Angeles, CA (AP) --

A new report says the use of treated sewage water could safely increase the nation's drinking supplies.

The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage.

The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage.

The report concludes that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: SLRF
Publication Date: 01/11/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=83b61a498bbaad64132632297283179a9fc2720164a73&co=f000000000432s-1158206718
Title: How to Save Venice: Make It Float

Full Text:
From: WIRED By Scott K. Johnson, Ars Technica Everyone knows that on a sinking ship, you want to pump water out. But what do you do with a sinking city? In this case, the plan might be to pump water in. The city of Venice has long been valued for its unique character. Built in a lagoon along the coast of Italy, the scenic city is crisscrossed with canals. Its waterlogged nature draws a steady stream of visitors, but also makes it vulnerable to costly flooding. The region sometimes experiences unusually high tides, locally referred to as “acqua alta.” The phenomenon is caused by winds that drive water to “pile up” on the north end of the long and narrow Adriatic Sea. When that coincides with a high tide, the City of Water gets even wetter, and the water level can rise by 1-2 meters. Two factors are exacerbating the flooding risk to the city: global sea level rise and subsidence. In short, the sea is rising and the city is sinking. Like other cities built on river deltas, the sediment beneath the city is compacting over time. In a natural setting, this compaction would be offset by the deposition of fresh sediment at the surface, but the rivers feeding the lagoon were diverted in the 1500s. As a result, the land surface is sinking, and the salt marshes are suffering for it. The pumping of shallow groundwater in the mid-1900s also contributed to the problem. Water in the pores between grains of sediment provides pressure that bears some of the load. When pore pressure decreases, or water is removed completely, grains can be packed together more tightly by collapsing the pore spaces. As sediment is compacted, the land surface drops. While the effect was small (less than 15cm), Venice doesn’t have much wiggle room. A remarkable system of inflatable gates that could close off the lagoon during dangerously high tides, dubbed the MOSE Project, has been in the works for a while now. Funding issues and environmental concerns have plagued the initiative, but it continues to move forward. Recently, another idea has been discussed. Just as withdrawing groundwater can cause subsidence, injecting water can reverse it. It’s not entirely a two-way street—much of the pore space lost during compaction can’t be recovered—but increased pore pressure can begin to unpack the sediment. Injection was used successfully in Long Beach, California in the late 1950s to halt subsidence caused by oil and gas extraction as well as groundwater usage. After the land surface dropped nearly 30 feet, injection stabilized the subsidence and a slight rebound in land surface elevation (a little over 30cm) was even seen in some spots. Early research indicated that a similar amount of uplift could be achieved in Venice, which could make a big difference for a city on the edge. The precision of those predictions was limited, however, by the lack of detailed knowledge about the layers of sediment beneath the city. A new paper, published in Water Resources Research, adds that information and uses it

to show that the idea really could work in Venice. Without boreholes around the city to provide observations of the stratigraphy, researchers have relied on data gathered by seismic surveys. Like the familiar sonar systems used by submarines, seismic surveys require a (much more powerful) signal to be generated so its return can be analyzed as it bounces off sediment in the subsurface. That's been difficult to pull off around Venice, though, as the lagoon is too shallow for large boats to be used. And, attempts to use potent air and water guns as seismic signal sources caused problems by kicking up large amounts of sediment. Back in the 1980s, though, oil and gas companies hadn't yet been banned from using explosives in settings like this. The Italian **National Research Council** acquired a large amount of old, raw seismic data from an Italian oil company, and the researchers were able to use it to construct a high-quality, three-dimensional model of the stratigraphy below Venice. This allowed them to confirm the presence of a continuous layer of impermeable clay below which injected water could increase pore pressure, rather than simply bubble up to the surface. It also allowed them to determine the thickness and extent of the various layers proposed to be used for the injection. The group simulated the effects of 12 injection wells in a ring around the city. The results showed that, after 10 years of continuous seawater injection (a total of almost 150 million cubic meters of water), the city could be lifted 25-30 centimeters. That would greatly cut down on the frequency with which the MOSE floodgate system would have to be activated each year. That, in turn, decreases operational and maintenance costs, and reduces the ecological impact of the system. In addition, the uplift around the city would benefit the slowly-drowning salt marshes in the lagoon. The study also shows that by varying the pumping rates at each of the 12 wells, a very uniform uplift can be maintained across the city. If some areas of the city rise faster than others, buildings could be damaged—a result that would be counterproductive to the entire enterprise. With careful management, the researchers say that the difference in uplift between two points 100 meters apart would be less than 1 millimeter. While it may initially sound far-fetched, this could become part of Venice's plan to mitigate flooding issues, which will only worsen in coming decades. Battling "acqua alta" would be much easier if the city had the high ground. Image: Daveybot/Flickr Source: Ars Technica Citation: "A new hydrogeologic model to predict anthropogenic uplift of Venice." By P. Teatini, N. Castelletto, M. Ferronato, G. Gambolati and L. Tosi. Water Resources Research, Vol. 47, W12507, Pg. 17, Dec. 7, 2011. DOI:10.1029/2011WR010900

Outlet: The EDGE
Publication Date: 01/11/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=ac5ba5a0dd77b0b9132624704177669132aa356784475&co=f000000000432s-1158206718
Title: PhysOrg Newsletter Tuesday, Jan 10

Full Text:
Reuse of municipal wastewater has potential to augment future drinking water supplies

With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies.

Outlet: thelyingchannel
Publication Date: 01/12/2012
Media Type: Blogs
Article URL:
http://ct.moreover.com/ct?haid=b893f95d30043d5b1326450566693a80bd58ba77140ce&co=f0000000000432s-1158206718
Title: And it has come down to this.....

Full Text:
American to drink toilet water to save fresh water for the wealthy. And I call Bullshit on how safe it is. I've been to a few park that uses "reclaimed" water and it still smells like shit. Source: Dailymail Toilet on tap: Panel recommends Americans drink more waste water to combat future shortages Next time you pour a glass of water from the tap try not to think about this - you might be about to drink what you once flushed away. Rising numbers of Americans are consuming wastewater, or 'toilet on tap', without even realising it, according to an official report. Even though it once contained human waste, food scraps and bath scum, the **National Research Council** claims that it could actually be better for you than fresh water. It also says says that only wastewater that has been treated gets back into circulation, although the last industry-wide study was done was back in 1980. According to the U.S. Geological Survey, wastewater is nothing more than 'used water'. It includes substances such as oils, soaps and chemicals and comes from sinks, bathtubs, toilets, washing machines and dishwashers. Businesses and industries also contribute their share of used water that must be cleaned. Wastewater is sent to a treatment plant where large material is filtered out before it is oxygenated to make it safe for human consumption. The NRC looked at water drawn from a normal source that had five per cent wastewater and compared it to a sample which had been completely treated. Related Posts...

Outlet: TheReporter.Com
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://www.thereporter.com/wirenews/ci_19726353
Title: Report backs more use of reclaimed water

Full Text:
Posted: 01/12/2012 01:00:22 AM PST

LOS ANGELES (AP) -- The U.S. can safely increase its drinking water supply by reusing some of the 12 billion gallons of wastewater that pours down sewers and into the ocean each day, a panel of experts concludes in a new report.

The health risks from using reclaimed wastewater in aquifers is the same or even lower than from using existing drinking water supplies that already contain a small percentage of treated sewage, according to the report released Tuesday by the **National Research Council**.

Derided by critics as "toilet to tap" water, treated wastewater could play a growing role in expanding drinking supplies in areas with surging populations, especially in the parched Southwest.

Many cities already use some treated wastewater in drinking supplies. Las Vegas, for example, sends treated sewage into Lake Mead, which supplies Southern California and other regions.

"Of the 32 billion gallons of municipal wastewater discharged nationwide each day, approximately 12 billion gallons are discharged to an ocean or estuary -- an amount equivalent to 6 percent of total water use in the United States," a report summary said.

A committee of experts assembled by the research council looked at the risk of exposure to disease-causing microbes and to 24 chemical contaminants, including pharmaceuticals and hormones.

"Although there is a great degree of uncertainty, the committee's analysis suggests the risk from potable reuse does not appear to be any higher and may

be orders of magnitude lower, than currently experienced in at least some current (and approved) drinking water treatment systems," the report stated.

The cost of using treated wastewater for drinking generally tend to be more expensive than expanding water supplies through conservation measures but cheaper than desalinating seawater, the study said.

"Wastewater is a drought-proof supply. People are always generating wastewater," Jorg Drewes, a water reuse expert who was on the committee, said. "That can be a very viable option, the committee felt, compared to imported water and other options."

The report is encouraging and "underscores the importance of using recycled water to augment existing water resources," Los Angeles Department of Water and Power Assistant General Manager James McDaniel said.

Despite previous opposition, the DWP is trying to build support for a plan to use treated sewage to replenish a groundwater aquifer in the northeastern San Fernando Valley and also is developing a master plan to using recycled water in the city.

Outlet: therepublic.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.therepublic.com/view/story/367d739c2125428d995c5b71c4fbb12e/CA--Reclaimed-Water/
Title: New report says greater use of treated sewage for drinking is safe way to expand supply

Full Text:
LOS ANGELES — A new report says the use of treated sewage water could safely increase the nation's drinking supplies.

The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage.

The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage.

The report concludes that the health risks are comparable or even lower.

The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: Treatment Plant Operator
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL:
http://www.tpomag.com/blog/2012/01/has_toilet_to_tap_water_reached_its_moment_in_the_sun
Title: Has “toilet to tap” water reached its moment in the sun?

Full Text:
By Ted J. Rulseh

January 10, 2012

Recent advances in technology and design mean treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase available water resources, especially in coastal areas facing water shortages, says a new report from the **National Research Council**.

“Water Reuse: Potential for Expanding the Nation's Water Supply through Reuse of Municipal Wastewater” adds that using reclaimed water to augment drinking water supplies has significant potential to help meet future needs. New analyses suggest that the health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies.

“Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies in Pasadena, Calif. “Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies.”

The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects that are well established and generally accepted.

Potable water reuse projects account for only a small fraction of the volume of water being reused, but many drinking water treatment plants draw water from a source that contains wastewater discharged by a community upstream. (This practice is not officially acknowledged as potable reuse.)

The report outlines wastewater treatment technologies for mitigating chemical and microbial contaminants, including engineered and natural treatment systems. These processes can be used to tailor wastewater reclamation plants to the quality needs of intended reuse applications.

The concentrations of chemicals and microbial contaminants in reuse projects can be comparable to or lower than those commonly present in many drinking water supplies. The committee emphasized the need for process reliability and careful monitoring to ensure that reclaimed water meets quality objectives for its use.

Costs of water reuse for potable and non-potable applications vary widely because they depend on site-specific factors, the committee said. Water reuse projects tend to be more expensive than most water conservation options and less expensive than seawater desalination and other supply alternatives.

Although reclaimed water often costs more than water from current sources, the report urges water authorities to consider costs and benefits beyond dollars when assessing reuse projects. For example, water reuse systems used with a water conservation program could reduce seasonal peak drinking water demands. Depending on specific designs and pumping requirements, reuse projects could have a smaller carbon footprint than existing supply alternatives or reduce water flows to downstream users and ecosystems.

Water reuse regulations differ by state and are not based on risk assessment, the report says. Adjustments to the federal regulatory framework could help ensure a high level of public health protection, provide a consistent minimum level of protection across the nation, and increase public confidence in potable and non-potable water reuse.

The report notes that existing legislative tools could be applied to improve the quality of water for reuse, including updating the National Pretreatment Programs list of priority pollutants to include a wider inventory of known toxic substances. It lists 14 areas of research to help guide appropriate applications of water reuse.

The study was sponsored by the U.S. EPA, the U.S. Bureau of Reclamation, the National Science Foundation, the National Water Research Institute, the Centers for Disease Control and Prevention, the Water Research Foundation, Orange County Water District, Orange County Sanitation District, the Los Angeles Department of Water and Power, Irvine Ranch Water District, West Basin Water District, Inland Empire Utilities Agency, Metropolitan Water District of Southern California, Los Angeles County Sanitation Districts, and Monterey Regional Water Pollution Control Agency.

Outlet: tricityherald.com
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://www.tri-cityherald.com/2012/01/11/v-print/1783135/report-backs-more-use-of-reclaimed.html
Title: Report backs more use of reclaimed water

Full Text:
LOS ANGELES A new report says the use of treated sewage water could safely increase the nation's drinking supplies. The **National Research Council** released a report Tuesday on the feasibility of reclaiming some 12 billion gallons of wastewater that flow into coastal rivers and the ocean each day in the U.S. That figure is equivalent to 6 percent of daily U.S. water usage. The study looked at the risk of exposure to microbes and 24 chemical contaminants in reclaimed drinking water compared to that from existing supplies that already contain a small amount of treated sewage. The report concludes that the health risks are comparable or even lower. The study was partly sponsored by Southern California water agencies, which are trying to safeguard tight water supplies for a growing population.

Outlet: TucsonCitizen.com
Publication Date: 01/11/2012
Media Type: News Web Sites
DMA: Tucson, AZ
Article URL: http://tucsoncitizen.com/usa-today-news/2012/01/10/report-wastewater-preferable-to-wasting-water/
Title: Report: Wastewater preferable to wasting water - News from USA Today

Full Text:
Drinking wastewater? The idea may sound distasteful, but new federally funded research says more Americans are doing so — whether they know or not — and this reuse will be increasingly necessary as the U.S. population expands.

Treated wastewater poses no greater health risks than existing water supplies and, in some cases, may be even safer to drink, according to a report released Tuesday by the **National Research Council**, a science advisory group chartered by Congress. “We believe water reuse is a viable option” to deal with growing water scarcity, especially in coastal areas, says Jörg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report.

“This can be done reliably without putting the public at risk,” he says, citing technological advances. He says it’s a waste not to reuse the nation’s wastewater, because almost all of it is treated before discharge. This water includes storm runoff as well as used water from homes, businesses and factories.

Of the 32 billion gallons of wastewater discharged every day in the USA, the report says 12 billion — equal to 6% of total U.S. water use — is sent to an ocean or estuary and is thus a lost resource.

Many communities reuse wastewater for irrigation and industrial purposes. Some, notably New Mexico’s Cloudcroft and California’s Orange County, have treatment facilities to reuse it as drinking water.

In many places, the report says, the public does not realize it’s drinking water that was treated after being discharged as wastewater somewhere upstream. For example, wastewater discharged into the Trinity River from Dallas/Fort Worth flows south into Lake Livingston, the source for Houston’s drinking water.

Despite the growing importance of this “de facto reuse,” the report says there’s been no systemic analysis of its extent nationwide since a 1980 study by the U.S. Environmental Protection Agency.

“There’s always someone downstream,” says Alan Roberson of the American Water Works Association, a non-profit group dedicated to clean water. He says wastewater reuse is common, so the council’s report is important but not surprising.

Roberson expects this recycling will continue to increase, especially for irrigation and industrial needs.

He says it will take longer to establish potable uses because of public skittishness about drinking wastewater, however treated.

“We have to do something” to address water scarcity, says Olga Naidenko, a senior scientist at the non-profit Environmental Working Group. She says less than 10% of potable water is used for drinking, cooking, showering or dishwashing.

“We flush it down the toilet, literally,” she says. Technologies exist to safely treat the water, she says, although some are expensive.

The report says water reuse projects tend to cost more than most water conservation options but less than seawater desalination and other supply alternatives. It calls on the EPA, a co-sponsor, to develop rules that set safe national standards.

Outlet: UPI Science News
Publication Date: 01/11/2012
Media Type: News Service/Syndicate
Title: Report: Wastewater can be drinking source

Full Text:
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A report by the **National Research Council** said treated wastewater poses no greater health risks than existing water supplies and in some instances may be even safer to drink, USA Today reported Wednesday.

Jorg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report, said it's a waste not to reuse the nation's wastewater since almost all of it is treated before discharge.

"We believe water reuse is a viable option" to combat growing water scarcity, he said, citing advanced in wastewater treatment technologies.

"This can be done reliably without putting the public at risk."

The report said 12 billions gallons of the 32 billion gallons of wastewater discharged every day in the United States goes into an ocean or estuary and thus is a permanently lost resource.

Outlet: UPI.com
Publication Date: 01/12/2012
Media Type: News Web Sites
Article URL: http://www.upi.com/Science_News/2012/01/11/Report-Wastewater-can-be-drinking-source/UPI-15091326305749/print/
Title: Report: Wastewater can be drinking source

Full Text:
Published: Jan. 11, 2012 at 1:15 PM

WASHINGTON, Jan. 11 (UPI) -- More Americans are drinking recycled wastewater, whether they're aware of it or not, and more will have to do so as the U.S. population expands, research says.

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Outlet: USA Today
Publication Date: 01/11/2012
Media Type: Daily Newspaper
DMA: Washington, DC
Title: Report: Drinking wastewater preferable to wasting it

Full Text:
Drinking wastewater? The idea may sound distasteful, but new federally funded research says more Americans are doing so -- whether they know it or not -- and this reuse will be increasingly necessary as the U.S. population expands.

Treated wastewater poses no greater health risks than existing water supplies and, in some cases, may be even safer to drink, according to a report released Tuesday by the **National Research Council**, a science advisory group chartered by Congress. "We believe water reuse is a viable option" to deal with growing water scarcity, especially in coastal areas, says Jrg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report.

"This can be done reliably without putting the public at risk," he says, citing technological advances. He says it's a waste not to reuse the nation's wastewater, because almost all of it is treated before discharge. This water includes storm runoff as well as used water from homes, businesses and factories.

Of the 32 billion gallons of wastewater discharged every day in the USA, the report says 12 billion -- equal to 6% of total U.S. water use -- is sent to an ocean or estuary and is thus a lost resource.

Many communities reuse wastewater for irrigation and industrial purposes. Some -- notably Cloudcroft, N.M., and California's Orange County -- have treatment facilities to reuse it as drinking water.

In many places, the report says, the public does not realize it is drinking water that was treated after being discharged as wastewater somewhere upstream. For example, wastewater discharged into the Trinity River from Dallas/Fort Worth flows south into Lake Livingston, the source for Houston's drinking water.

Despite the growing importance of this "de facto reuse," the report says there has been no systemic analysis of its extent nationwide since a 1980 study by the Environmental Protection Agency.

"There's always someone downstream," says Alan Roberson of the American Water Works Association, a non-profit group dedicated to clean water. He says wastewater reuse is common, so the council's report is important but not surprising.

Roberson says he expects this recycling will continue to increase, especially for irrigation and industrial needs.

He says it will take longer to establish potable uses because of public skittishness about drinking wastewater, however treated.

"We have to do something" to address water scarcity, says Olga Naidenko, a senior scientist at the non-profit Environmental Working Group. She says less than 10% of potable water is used for drinking, cooking, showering or dishwashing.

"We flush it down the toilet, literally," she says. Technologies exist to safely treat the water, she says, although some are expensive.

The report says water reuse projects tend to cost more than most water conservation options but less than seawater desalination and other supply alternatives. It calls on the EPA, a co-sponsor of the report, to develop rules that set safe national standards.

Outlet: Water Environment Federation
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://wef.org/about/StoryPage.aspx?story_id=167832595
Title: Industry News - Report: Drinking wastewater preferable to wasting it

Full Text:

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Outlet: Water Environment Federation
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5735772695&z=1250249092
Title: Report: Wastewater can be drinking source

Full Text:
Industry News - Source : United Press International Date : 2012-01-11 More Americans are drinking recycled wastewater, whether they re aware of it or not, and more will have to do so as the U.S. population expands, research says. A report by the **National Research Council** said treated wastewater poses no greater health risks than existing water supplies and in some instances may be even safer to drink, USA Today reported Wednesday. Jorg Drewes, an engineering professor at the Colorado School of Mines who contributed to the report, said it s a waste not to reuse the nation s wastewater since almost all of it is treated before discharge. "We believe water reuse is a viable option" to combat growing water scarcity, he said, citing advanced in wastewater treatment technologies. "This can be done reliably without putting the public at risk." The report said 12 billions gallons of the 32 billion gallons of wastewater discharged every day in the United States goes into an ocean or estuary and thus is a permanently lost resource. A service of YellowBrix, Inc.

Outlet: Water Environment Federation
Publication Date: 01/11/2012
Media Type: Online Print Version
Article URL: http://c.moreover.com/click/here.pl?z5731455087&z=1250249090
Title: Study: Treated wastewater can be safer than existing water supplies

Full Text:
Industry News - Source : Daily News Date : 2012-01-10 Jan. 10--REUSING TREATED WASTEWATER -- a process rejected a decade ago as "toilet to tap" in Los Angeles -- could help meet future water needs across the country, and in some cases may be safer than existing drinking supplies, according to a study released Tuesday. The **National Research Council** examined challenges and benefits of reusing wastewater as water supplies dwindle and population increases. Some 12 billion gallons of wastewater are discharged into oceans and estuaries each day, the report calculated. If that water was purified and reused, it could make up 6 percent of the nation s water supply. "That s significant," said R. Rhodes Trussell, chairman of the committee that wrote the report, which was sponsored in part by the LADWP. "It could have an important impact for the nation s water resources." Population growth -- especially in Southern California, where water resources are scarce -- has increased demand for water. That, coupled with the threat of global climate change, makes reuse a prime alternative, the authors say. Pollutant analysis and treatment technology have improved in recent years, and reused water can be as safe or safer than existing drinking water supplies, the report said. "We have a lot more confidence now than we once did," said Trussell, who is president of a water-focused environmental engineering company in Pasadena. The report comes as DWP projects are on hold while the utility awaits the fate of a requested water-rate increase, now in the hands of the City Council. The utility s goal is to increase its water recycling more than tenfold by 2035, and it wants to release plans this spring to realize that goal, according to a DWP primer on the issue. The utility did not comment by deadline on the status of water recycling projects. A decade ago, the department s plans to purify wastewater from Donald C. Tillman Reclamation Plant in Van Nuys and reintroduce it to the water supply through spreading grounds in Sun Valley were killed after a public outcry. Critics dubbed the plan "toilet to tap." In the last few years, the utility has been cautious in reintroducing the concept of "advanced water treatment." The **National Research Council** report said that as more data becomes available on the safety of wastewater reuse, public debate is "evolving and maturing." Standardized federal regulations for water reuse -- instead of the existing patchwork of state rules -- would protect public health and could boost confidence in the safety of the practice, the report states. The 363-page report was sponsored by the Los Angeles Department of Water and Power and several other regional water and sanitation districts. The **National Research Council** is part of the National Academies of Science, a scholarly society created by Congress. melissa.pamer@dailynews.com, 818-713-3720 Follow Melissa Pamer on Twitter at twitter.com/mpamer

Outlet: Water Online
Publication Date: 01/11/2012
Media Type: News Web Sites
DMA: Philadelphia, PA
Article URL: http://wateronline.com/article.mvc/Reuse-Of-Municipal-Wastewater-Has-Significant-0001
Title: Reuse Of Municipal Wastewater Has Significant Potential To Augment Future U.S. Drinking Water Supplies

Full Text:
January 11, 2012

With recent advances in technology and design, treating municipal wastewater and reusing it for drinking water, irrigation, industry, and other applications could significantly increase the nation's total available water resources, particularly in coastal areas facing water shortages, says a new report from the **National Research Council**. It adds that the reuse of treated wastewater, also known as reclaimed water, to augment drinking water supplies has significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies.

"Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies, Pasadena, Calif. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies."

The report examines a wide range of reuse applications, including potable water, non-potable urban and industrial uses, irrigation, groundwater recharge, and ecological enhancement. The committee found that many communities have already implemented water reuse projects - such as irrigating golf courses and parks or providing industrial cooling water in locations near wastewater reclamation plants - that are well-established and generally accepted. Potable water reuse projects account for only a small fraction of the volume of water currently being reused. However, many drinking water treatment plants draw water from a source that contains wastewater discharged by a community located upstream; this practice is not officially acknowledged as potable reuse.

The report outlines wastewater treatment technologies for mitigating chemical and microbial contaminants, including both engineered and natural treatment systems. These processes can be used to tailor wastewater reclamation plants to meet the quality requirements of intended reuse applications. The concentrations of chemicals and microbial contaminants in reuse projects designed to augment drinking

water supplies can be comparable to or lower than those commonly present in many drinking water supplies. The committee emphasized the need for process reliability and careful monitoring to ensure that all reclaimed water meets the appropriate quality objectives for its use.

Costs of water reuse for potable and non-potable applications vary widely because they depend on site-specific factors, the committee said. Water reuse projects tend to be more expensive than most water conservation options and less expensive than seawater desalination and other new supply alternatives. Although the costs of reclaimed water are often higher than current water sources, the report urges water authorities to consider other costs and benefits in addition to monetary expenditures when assessing reuse projects. For example, water reuse systems used in conjunction with a water conservation program could be effective in reducing seasonal peak demands on the drinking water system. Depending on the specific designs and pumping requirements, reuse projects could also have a larger or smaller carbon footprint than existing supply alternatives or reduce water flows to downstream users and ecosystems.

Water reuse regulations differ by state and are not based on risk-assessment methods, the report says. Adjustments to the federal regulatory framework could help ensure a high level of public health protection, provide a consistent minimum level of protection across the nation, and increase public confidence in potable and non-potable water reuse. The report notes that existing legislative tools could be applied to improve the quality of water for reuse, including updating the National Pretreatment Program's list of priority pollutants to include a wider inventory of known toxic substances. Also, it lists 14 areas of research to help guide the country on how to apply water reuse appropriately. Such research would require improved coordination among federal and nongovernmental organizations.

The study was sponsored by the U.S. Environmental Protection Agency, U.S. Bureau of Reclamation, National Science Foundation, National Water Research Institute, Centers for Disease Control and Prevention, Water Research Foundation, Orange County Water District, Orange County Sanitation District, Los Angeles Department of Water and Power, Irvine Ranch Water District, West Basin Water District, Inland Empire Utilities Agency, Metropolitan Water District of Southern California, Los Angeles County Sanitation Districts, and Monterey Regional Water Pollution Control Agency.

The National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and **National Research Council** make up the National Academies. They are independent, nonprofit institutions that provide science, technology, and health policy advice under an 1863 congressional charter. Panel members, who serve pro bono as volunteers, are chosen by the Academies for each study based on their expertise and experience and must satisfy the Academies' conflict-of-interest standards. The resulting consensus reports undergo external peer review before completion. For more information, visit http://national-academies.org/studycommitteprocess.pdf. A panel roster follows.

SOURCE: National Academy of Sciences

Outlet: Water Tech Online
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://www.watertechonline.com/drinking-water/article/study-says-reusing-treated-wastewater-could-help-meet-water-needs
Title: Study says reusing treated wastewater could help meet water needs

Full Text:
LOS ANGELES — A process that was deemed unacceptable a decade ago, reusing treated wastewater could help with meeting future water needs in Los Angeles, according to the Daily News.

A study that was recently released by the **National Research Council** examines the challenges and benefits of using this process as water supplies dry up and the population increases, stated the article.

“It could have an important impact for the nation's water resources,” said R. Rhodes Trussell, chairman of the committee.

To read the entire article, click here.

Outlet: WaterWorld
Publication Date: 01/12/2012
Media Type: Online Print Version
Article URL: http://www.waterworld.com/index/display/article-display/0112784222/articles/waterworld/wastewater/reuse-recyling/2012/01/Municipal-wastewater-reuse-could-augment-drinking-water-supplies.html
Title: Municipal wastewater reuse could boost future drinking water supplies, report says

Full Text:
WASHINGTON, DC, Jan. 11, 2012 -- A new report from the **National Research Council** says that, with recent advances in technology and design, treatingand reusing it for, irrigation, industry, and other applications could significantly increase the nation's total available, particularly in coastal areas facing water shortages.

It adds that the, also known as reclaimed water, tohas significant potential for helping meet future needs. Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may be significantly lower than, the risks of existing water supplies.

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Pre-publication copies of Water Reuse: Potential for Expanding the Nation's Water Supply Through Reuse of Municipal Wastewater are available from the National Academies Press; tel. 202-334-3313 or 1-800-624-6242 or on the Internet at http://www.nap.edu.

Outlet: WBAY

Publication Date: 01/15/2012

Media Type: Online Broadcast Version

Article URL: http://c.moreover.com/click/here.pl?z5752377814&z=1250249092

Title: Study focuses on reusing municipal wastewater

Full Text:

Posted: Updated: Saturday, January 14, 2012 5:10 AM EST MADISON, Wis. (AP) - A new study may increase the use of treated wastewater to supplement local drinking water supplies. A **National Research Council** committee has taken a closer look at reusing municipal wastewater. Committee member Dr. Henry Anderson of the University of Wisconsin-Madison School of Medicine and Public Health says the study concluded that wastewater treatment is improving. Anderson says more wastewater plants force water through a fine rubbery membrane that doesn t let organisms and large chemical compounds through. In some drier parts of the country, treated wastewater is sometimes used on farm fields and golf courses. Wisconsin Public Radio (http://bit.ly/Al0B81) reports the **National Research Council** says changing federal law could help ensure a high level of health safety for the public. Information from: Wisconsin Public Radio, http://www.wpr.org

Outlet: WBAY-TV
Air Date: 01/14/2012
Media Type: Television Station Show
DMA: Green Bay - Appleton, WI
Title: Action 2 News at 6:00
Broadcast Stream:
player?textId=2474014891&partnerToken=8a808366349097190134dec915cd55c7&timestamp=20120115000600

Full Text:
Treated wastewater in places like milwaukee is already sent into lake michigan and used later after going through drinking water filtration plants. But a committee of the **National Research Council** is taking a closer look at more direct reuse of the water. What they found is that wastewater treatment is actually improving. Right now its used on farm fields and golf courses. But the **council** is suggesting a change in federal law that could mean reclaimed water could be added to local drinking water supplies

Outlet: WKOW 27
Publication Date: 01/14/2012
Media Type: Online Broadcast Version
Article URL: http://www.wkow.com/story/16520044/study-focuses-on-reusing-municipal-wastewater?clienttype=printable
Title: Study focuses on reusing municipal wastewater

Full Text:
Posted: Saturday, January 14, 2012 6:42 AM EST

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Wisconsin Public Radio reports the **National Research Council** says changing federal law could help ensure a high level of health safety for the public.

Outlet: WQOW 18 NEWS
Publication Date: 01/15/2012
Media Type: Online Broadcast Version
Article URL: http://www.wqow.com/Global/story.asp?S=14880382
Title: This Hour: Latest Wisconsin news, sports, business and entertainment

Full Text:
TREATING WASTEWATER

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Outlet: WSAW.com
Publication Date: 01/14/2012
Media Type: Online Broadcast Version
Article URL:
http://www.wsaw.com/home/headlines/Study_Focuses_on_Reusing_Municipal_Wastewater__137346393.html
Title: Study Focuses on Reusing Municipal Wastewater

Full Text:
Posted: 10:51 AM Jan 14, 2012

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Associated Press

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Outlet: WXOW News 19
Publication Date: 01/14/2012
Media Type: Online Broadcast Version
Article URL: http://www.wxow.com/story/16519962/study-focuses-on-reusing-municipal-wastewater
Title: Study focuses on reusing municipal wastewater

Full Text:
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