

U.S. rivers are becoming saltier

**By Sujay Kaushal, Gene E. Likens, Michael Pace and Ryan Utz,
The Conversation**

The United States has made enormous progress in reducing water pollution since the Clean Water Act was passed nearly 50 years ago. Rivers no longer catch fire when oil slicks on their surfaces ignite. And many harbors that once were fouled with sewage now draw swimmers and boaters.

But as Earth Day approaches, it is important to realize that new, more complex challenges are emerging. In a study published earlier this year, we found that a cocktail of chemicals from many human activities is making U.S. rivers saltier and more alkaline across the nation. Surprisingly, road salt in winter is not the only source: construction, agriculture, and many other activities also play roles across regions.

These changes pose serious threats to drinking water supplies, urban infrastructure and natural ecosystems. Salt pollution is not currently regulated at the federal level, and state and local controls are inconsistent.

Our research shows that when salts from different sources mix, they can have broader impacts than they would individually. It also shows the importance of supporting water quality monitoring nationwide, so that we can detect and address other pollution problems that have yet to be recognized.

Altered waters

Our group has been studying freshwater salinization for over 15 years. In 2005 we published a paper that demonstrated that levels of sodium chloride (common table salt) were rapidly

increasing in fresh waters across the northeastern United States.

Until that time, scientists thought that salinization was a serious problem mainly in arid regions where water evaporates rapidly, leaving salts behind. But we found that it was affecting major drinking water supplies, exceeding toxic levels for some aquatic organisms and persisting in the environment year-round, even in humid regions.

The main cause we found was the spread of paved surfaces, such as roads and parking lots. Communities in cold regions use de-icing salts to clear snow from roads during winter, and the more roads they build, the more treatment is needed. We found that a 1 percent increase in paved surfaces could boost salt concentrations in nearby water bodies to levels more than 10 times higher than pristine forested conditions.

In 2013, we published another study showing that rivers were becoming more alkaline across regions of the eastern United States. At that time acid rain – i.e., too much acid in rainwater, caused by air pollution – had been a well-known environmental issue for several decades. However, alkalization was not recognized in the same way, and its effects are still poorly understood now.

Alkalinization is the opposite of acidification: It occurs when water's pH value increases instead of falling. As water becomes more alkaline, certain chemicals dissolved in it can become toxic. For example, ammonium is a nutrient in freshwater ecosystems, but is converted to toxic ammonia gas in significant concentrations in waters with a high pH. Alkaline conditions also enhance release of phosphorus from sediments, which can trigger nuisance blooms of algae and bacteria.

We found that a process we called “human-accelerated weathering” was breaking down rock and releasing minerals into

rivers that were making them more alkaline. The process of weathering rocks and minerals that become exported to rivers is typically slow, but we showed that land development and decades of exposure to acid rain were speeding it. We also suggested that widespread use of geologic materials in fertilizers and concrete was a factor.

Identifying freshwater salinization syndrome

Our study on human-accelerated weathering showed that along with sodium chloride, other dissolved salts were increasing in fresh water across large regions of the eastern United States. This made us wonder whether there could be a link to our previous work on salinization in these regions.

We started to recognize that in theory, salt pollution and human-accelerated weathering could be sending increasing quantities of salts that were alkaline into rivers throughout the nation, and that this could increase their pH levels. We knew that ocean water, which is naturally salty, has a higher pH than fresh water because it has accumulated high levels of alkaline salts. After much analysis, we proposed that similar interconnected processes could influence salinity and pH in fresh water.

Many sources release alkaline salts into the environment, including weathering of impervious surfaces, fertilizer and lime use in agriculture, mine drainage, irrigation runoff and winter use of road salt. Initially, parts of these alkaline salts bind to soil. But when they come into contact with sodium – for example, excess road salt – chemical reactions occur that release the alkaline salts, which then wash into freshwater ecosystems.

We called this process freshwater salinization syndrome because it was producing multiple effects on salts, alkalinity and pH, which are fundamental chemical properties of water.

Different causes by region

Figuring out this process was a team project that required knowledge of limnology (the study of inland waters), geochemistry and geography. The causes vary from one location to another, but the outcomes can be similar.

For example, rivers are becoming more saline and alkaline in parts of North Carolina, Florida, Virginia and other states that use little or no road salt. This is likely due to human-accelerated weathering in locations underlain by limestone (which dissolves when it comes in contact with acid rainwater) and in urbanized areas with lots of concrete infrastructure, as well as urban salt pollution from sewage, water softeners or fertilizers.

Our research was supported by the U.S. National Science Foundation and drew on enormous quantities of monitoring data from ecosystems across the United States collected mainly by the U.S. Geological Survey. We analyzed long-term trends in the chemistry of rivers over five decades and compared these trends across different major river systems and regions.

We also analyzed trends in major estuaries, such as the Hudson River and the Chesapeake Bay, to investigate whether increasingly alkaline inputs from rivers could potentially influence the chemistry of coastal waters. Our results show that changes in salts can alter concentrations of pollutants such as excess phosphorus and nutrients that are bound up in sediments at these sites.

Managing salt pollution

Freshwater salinization syndrome is affecting drinking water supplies in many parts of the United States. In some cases it is altering the taste of water or threatening the health of people with hypertension.

There is growing concern that salts in fresh water can corrode water pipes and release toxic metals such as lead into drinking water. They also can trigger reactions that mobilize

other contaminants and pollutants from soils into rivers.

As other scientists have shown, mixtures of salts can be more toxic to aquatic life than just one salt alone. The Environmental Protection Agency does not currently regulate salts as primary contaminants in drinking water, and state and local regulation of salt releases over wide areas from activities such as road treatment are sparse and inconsistent.

We believe there is a serious need for federal regulations and regional plans to reduce salt pollution in fresh water. One strategy would be to reduce use of road salts by calibrating application and adjusting application rates based on temperature. In addition, not all salts are created equal: It may be more efficient to use certain salts as deicers at lower temperatures. Finally, organic de-icing solutions use less salt than conventional versions.

New forms of water pollution are constantly emerging, and it is important to identify how different human activities accelerate geological processes in nature. Fresh water accounts for only about 3 percent of the Earth's total water supply (the rest is in the oceans), and there will always be a need for better understanding and management of this precious resource.

Sujay Kaushal is an associate professor of geology at University of Maryland; Gene E. Likens is a distinguished research professor of ecology and evolutionary biology at University of Connecticut; Michael Pace is a professor of environmental sciences at University of Virginia; and Ryan Utz is an assistant professor of water resources at Chatham University.

Snippets about Lake Tahoe

- El Dorado County Board of Supervisors has a special meeting scheduled for April 20 at 9am in Placerville. The lone item: "Chief Administrative Office recommending the board receive information and provide direction regarding priorities for the fiscal year 2018-19 budget."
 - With this week's storm, Squaw Valley officially hit the 400-inch mark of cumulative snowfall during the 2017-18 winter season.
 - The Bicycle Advisory Committee of the South Lake Tahoe Recreation Facilities Joint Powers Authority will meet May 2, 9-11am in the Downstairs Airport Conference Room at Lake Tahoe Airport.
 - Matt Sampson, director of operations for Boys & Girls Clubs of Western Nevada in Carson City, will travel to Washington, D.C., April 18-19 to advocate for after school programming threatened by cuts in the proposed 2019 federal budget. Sampson last year was appointed to serve a two-year term as an after school ambassador by the Afterschool Alliance, a nonprofit public awareness and advocacy organization dedicated to increasing the availability of afterschool programs.
 - Douglas County library in Minden is hosting "The Lion King" (rated G) on May 5 at 2pm meeting room. The movie and popcorn are free.
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3-state online poker pool to debut in May

By Wayne Parry, AP

ATLANTIC CITY, N.J. – Internet poker players in three states will be able to face off against each other starting May 1, in a long-awaited expansion of online gambling.

Two poker brands of Caesars Interactive Entertainment, WSOP.com and 888Poker.com, plan to go live on that date in New Jersey, Nevada and Delaware, the company told The Associated Press on Monday.

It would be the first joint play arrangement linking the three states that currently offer internet gambling.

[Read the whole story](#)

Rick Antle – 1956-2018



Rick Antle

Rick Lester Antle, an icon of the produce industry and a legend in agriculture, has died after a brief battle with cancer. Rick passed away peacefully surrounded by those he loved and hand-in-hand with his wife, children and grandchildren on April 14, 2018. He was 61.

Rick was born on Dec. 15, 1956, in Salinas to Robert (Bob) and Sue Antle. His father, Bob Antle, precedes him in death. He is survived by his wife, Tonya Antle; mom Sue Antle; sons Brian (Amanda) Antle, Jeff Antle, Anthony Pavich; daughter Natalie (Eric) Drobn;, and grandchildren Cameron and Spencer Antle. He is also survived by his siblings and many nieces and nephews.

In 2001, Rick married his soulmate Tonya. They spent the last 17 years enjoying boating, traveling the world and their family. He adored his children and grandchildren and was proud of their many accomplishments.

Rick has owned a home in Tahoe since early 1970', and was a member of the Tahoe Yacht Club since early 2000s.

Rick was the embodiment of "larger than life" and his legacy will always live on. He had a big personality and an even bigger heart. He loved and absolutely mastered the art of adventure – on the mountain, the water, the air, and of course on the farm. Skiing, boating, flying and farming took up most of his life, but people always came first. Family, employees and friends regularly describe him as a fun-loving, work-hard-and-play-harder kind of guy. He was thoughtful, magnanimous and a respected mentor.

Through hard work, perseverance, and leadership, Rick is the epitome of a true industry icon. He followed in the Antle family tradition of leadership and innovation, and helped propel the produce industry forward for decades. He was a fearless captain, a true visionary, a selfless leader and a

revolutionary risk-taker.

In 1982, Rick and his father formed Tanimura & Antle with the Tanimura family. Together, it is a perfect partnership of the Antles' strong packing and shipping expertise with the Tanimuras' farming expertise. Rick has been president and principal of Tanimura & Antle since its inception in 1982 and chief executive officer since 2003. Prior to the formation of Tanimura & Antle, Rick was a vice president of Bud Antle Inc., which eventually became a division of Castle & Cooke Inc., known today as Dole Fresh Vegetables.

Rick was a great leader, teacher and friend to so many at Tanimura & Antle and in the produce industry at large. The success of Tanimura & Antle can be attributed to Rick's dedication and respect to the company's employees. His latest achievements include the development of a housing project that provides homes for 800 farmworker employees at Spreckels Crossing. Additionally, he recently spearheaded the transition to an Employee Stock Ownership Plan (ESOP), which gives employees the chance to be part owners. Rick was fond of introducing new technologies and systems into the industry and never lost sight of its essential elements – customers, growers and employees. He inherited this intense focus from his grandfather, Bud Antle, and father Bob Antle.

One of his proudest personal accomplishments was working alongside his sons, Brian and Jeff.

He constantly challenged his team to provide innovative solutions, even when the ideas were against conventional practice. He believed that creative solutions have made Tanimura & Antle the nation's premier independent produce grower, shipper, and distributor.

Rick served in many leadership positions within the Tanimura & Antle family of companies, the Antle family of companies, charities, and community organizations. Rick was formerly the

chairman of Monterey County Water Resources Agency. He also served on numerous boards including Pacific Ag Rentals, Iceberg Lettuce Research Board, United Fresh Produce Association Board, Earthbound Farm LLC, Ready Pac Produce Inc., Dulcinea Farms LLC, and the Cal Poly College of Agriculture Advisory Council.

Rick was the humble recipient of many industry awards and recognition. Among his numerous awards and achievements were: The United Fresh Produce Association 2016 Lifetime Achievement Award, The Packer 2005 Produce Man of the Year, and Cal Poly 1994 Department of Agriculture Distinguished Alumnus. He was also recognized by the Salinas Chamber of Commerce as its outstanding young farmer, and has served in many volunteer roles throughout his career.

A celebration of life will be held at the Tanimura & Antle headquarters on April 27 at 2pm. In lieu of customary remembrances, the family requests that donations be made directly to the **Rick & Tonya Antle Community Foundation Fund** to support Rick's favorite charities including the Salvation Army of Salinas, Calif., and Yuma, Ariz.

SLT recreational pot ordinance taking shape

By Kathryn Reed

An adult-use marijuana ordinance is expected to be before the South Lake Tahoe City Council next month, with development agreements and a decision about what to do with the existing medical facility still to be decided.

The electeds on April 17 agreed to allow the following licenses: two micro businesses, two retail, and two cultivations not to exceed 5,000-square-feet. Other agreed to rules include: no limits on testing facilities, delivery linked to a retail establishment, dual licenses from planning and public safety, development agreement model, full cost recovery for the application fee, and permits awarded based on merit with a local preference.

Specifics to the latter will be decided by the council via a resolution.

Sergio Rudin with the law firm of Burke, Williams and Sorensen was the city attorney of record for Tuesday's meeting. He said the ordinance should be ready by May 1.

Rudin stressed that it will be necessary to have the development agreement in place before the ordinance takes effect.

With a development agreement, the city will be able to collect a fee of sorts from the businesses. This is in lieu of a tax that could be assessed on the product. The voters will have to decide whether recreational marijuana will be taxed. The council has not decided to go forward with a tax measure, but has in the past said that is an eventual route to explore.

Rudin said it would be best to employ a consulting firm to gauge the appetite of the electorate about such a tax.

He also advised that the development agreements have parameters so they don't exist indefinitely, but also would sunset if a tax were implemented.

Legal and planning have worked out their differences regarding zoning. A micro business would be allowed in the industrial area, but no retail sales would be permissible. The Y area is another area of town where a micro business could open.

The advantage to a micro business is that one company can then do multiple things like grow the plants, create product like edibles, and then sell them.

While the state allows for 10,000-square-feet of cultivation for micro businesses, it is possible for the city to make that more restrictive. The council leaned toward 5,000 square feet.

What the council does not want is on-site consumption.

Council members Brooke Laine and Austin Sass have been appointed to a subcommittee to work with staff to formalize the development agreement criteria as well as figure what to do with Tahoe Wellness Cooperative.

TWC has been dispensing medicinal marijuana for about nine years in the middle of town. It operates as a micro business, and allows on-site consumption. Cody Bass, who owns TWC, multiple times at the meeting said the direction the council was going would make his business obsolete unless it could be grandfathered in.

TWC's future remains to be seen. It will be up to the city's subcommittee to make recommendations to the full council regarding TWC's future.

Opinion: Electric cars by Draconian decree

By Larry Weitzman

Electric cars seem to be all the rage, at least that would appear to be the case if your only source of news was mainstream media creating the hype. The only way EVs have a

chance in the “free marketplace” is by government decree, which becomes another government created oxymoron.

Most of Europe has done that by simply banning the internal combustion engine some 20 years into the future using insignificant global warming (another mainstream media hype) as the excuse. China is on the same course, allegedly banning internal combustion cars by 2040. Even in California, there is a move afoot and proposed legislation to remove conventional cars from our highways.



Larry Weitzman

It describes life in socialist/communist countries. The insanity just never ends, it continues to grow with no cure in sight. Orwell was a genius.

The real purpose for all these new restrictions on your freedoms is more control of you and your movement. It's similar to gun control. It's just another control and limitation on your life and freedom as criminals will never give up their guns. Autonomous cars are part of this Orwellian plan as well. Access to roads will be controlled by the government, just like the air traffic control system. You will have to obtain a time slot for freeway access. Your speed will be tightly controlled as will be your route of travel. Driving Highway 1, “fuhgeddaboudit.”

And EVs are part of this plan as EVs have the freedom curtailing issues of limited range and refueling. You will also be limited as to who and where you buy your “fuel.”

Two recent articles on EVs were published in the *Mountain Democrat*, one of a couple loving their EVs. That's great, they had the freedom to choose, but they were heavily and directly subsidized by federal, state and maybe even our county through either tax credits or direct payments of about \$10,000 per vehicle and continuing utility credits. One of their vehicles was bought used so some of those credits may not apply, but car pool lanes preference should be available. In case you're interested, used Tesla Model S cars are plentiful and can be bought for prices about half of new with reasonably low miles as the average Tesla S appears to be driven less than an average of 10,000 miles a year, many halve that number.

In the second article, published March 26, staff writer Laura McCutcheon interviewed and quoted Placerville resident Bruce Bila who laid out all of the direct subsidies received by EV buyers from federal and state tax credits amounting to about \$10,000 to rebates and reduced electrical rates received from PG&E. Bila even touched on the issue of reduced registration fees and the fact that EV owners don't pay road (gas) taxes which are collected for supposed road maintenance (about two-thirds of the new gas taxes go to the bullet train to nowhere and a few other pet projects) and get car pool lane access. Bila also remarked about people who acquire solar power also getting sweet deals (lower energy rates) being subsidized by other energy users. There is also a huge direct solar subsidy of a federal 30 percent tax credit paid for by you and me. Well done Mr. Bila.

Bila goes on to say that "the government has to step back and let the industry stand on its own two feet." Well said. The bottom line is the solar and EV industry can't, as it is too expensive when compared to the competition. Another huge indirect EV subsidy not mentioned in the story created by the feds, paid for by the consumer and given to the manufacturers of EVs are zero emission vehicle credits amounting to a theoretical value of about \$5,000 per credit. Tesla has sold

about a billion dollars of these credits to other car manufacturers so far, meaning that it raised the price of conventional cars by a cumulative total of a billion dollars.

In addition, Obama early in his presidency authorized \$2.4 billion in EV development with the goal of having 1 million EVs on the road by 2015. Well, that didn't happen as by 2016 only half a million were sold and the 1 million mark was moved to 2020. More money down a rat hole, never mind the half a billion-dollar Solyndra scandal and the demise of A123 battery company leaving the government holding the bag for over \$100 million. Through 2012, the federal government had wasted a billion dollars trying to force the impossible.

Within all these credits is an El Dorado County subsidy of an additional \$1,000 funded by California legislation AB2766, in a program described by our county public information officer, nee spin doctor, Carla Hass, called Drive Clean. Add that to the \$10,000 of direct federal and state incentives and the buried ZEV credits and you have about \$16,000 in incentives and subsidies paid for by taxpayers. Hass went on to say in the same article that "there's far more taxpayer money that has historically gone and currently goes into supporting gasoline powered cars as well. Estimates vary. They range from \$10 to \$55 billion each year. When the federal government came up with the EV tax credit they based the amount (\$7,500) on how much of a taxpayer subsidy they figured goes into supporting each gasoline powered car." And this statement is from a county official who works directly for the CAO. Please tell me what government program sends money to new gasoline car purchasers? Is she talking about the failed "cash for clunkers" program?

Hass promised me an explanation to her statement published in the *Mountain Democrat* as to what her sources were and the back up data for the statement which I finally received after a week. It was as expected, complete and utter malarkey. Here is a portion of what Hass sent me: "Oil Change International

estimates United States fossil fuel exploration and production subsidies at \$20.5 billion annually. Other credible estimates of annual United States fossil fuel subsidies range from \$10 billion to \$52 billion annually – yet none of these include costs borne by taxpayers related to the climate, local environmental, and health impacts of the fossil fuel industry. Fossil fuel subsidies in the United States also include massive military expenditures to acquire and defend fossil fuel interests around the globe.” Oil Change International is a far left wing “Red” group which claims to be green. And this county official, Carla Hass, who is paid \$150,000 a year was hired by our Board of Supervisors.

There is no basis in fact of the \$20 billion number and the \$10 billion to \$52 billion numbers (used by Hass) as they are made up numbers. As to our Navy and Coast Guard protecting the shipping lanes and maintaining freedom for all international commerce has been required throughout history, whether from U-boats, Somalian pirates, terrorists or penny-ante third world dictators or others who want to attack our freedom.

I also did an analysis of oil tax credits which include depletion allowances and those allowances and credits amount to about \$100 per new vehicle, not the \$11,000 per vehicle given to EV buyers in El Dorado County. We need to remember oil isn’t just for cars, it is the predominant substance of so many other products, especially tires which EVs still use.

My arguments against her hiring (or any spin doctor hiring) have been proven to be true. Carla Hass has become a government propagandist and we get to pay for it.

Larry Weitzman is a resident of Rescue.

SLT council to discuss allegations of wrongdoing

By Kathryn Reed

Even though the El Dorado County District Attorney's Office has initiated an investigation into allegations of illegal activities by the South Lake Tahoe City Council, the five local officials want an airing of grievances at the next council meeting.

Councilwoman Brooke Laine started the latest firestorm with her **opinion piece** published on *Lake Tahoe News* on April 14 where she alleges illegal conduct by herself and her colleagues.

Laine in her column mentions the Mary Egan contract. She wrote, "To this day, that contract has never been addressed, corrected, or publicly acknowledged."

At the end of the April 17 council meeting, acting City Manager Jeff Meston said the MRG bill needs to be paid and that he wants to discuss it at the next meeting. MRG or Municipal Resource Group, is Egan's company. Egan was brought in last fall at the request of then Mayor Austin Sass to assess the culture of the city. The contract was never discussed in open session.

However, *LTN* was told that **contract was paid** through the city's law firm Burke, Williams & Sorensen at the request of interim City Attorney Nira Doherty.

That contract is one of the examples Laine has of an alleged Brown Act violation.

Laine's column was followed two days later by Mayor Wendy David's **rebuttal**. David said she wanted the DA to investigate

Laine's accusations.

Laine on Tuesday said she had been contacted by the DA's office and said two investigators have been assigned to the case.

She said the entire council should have weighed in on the decision to go to the DA, that it should not have been initiated by the mayor.

Councilman Jason Collin said he wants to discuss Laine's accusations in public and to "do it swiftly so we can get back on track."

Sass read the following into the record during council comments:

"First, I wish I could share everything that happened in closed session with the public. Every vote, their preceding discussions and the information and personal comments shared to us. I believe that doing such would clear this entire matter up and truly show who had the city's best interests at heart and who impeded the process because of a lack of objectivity. Unfortunately, the California Brown Act legally prohibits that.

"At no time have I sat in a meeting or with council or had a conversation with Ms. Laine where she ever used the words corruption, personal gain, power struggle or many of the comments she stated in her opinion piece. She has never abstained from a vote, protested a vote, or raised the issue that a particular vote was illegal. Thus, without discussing specifics with council members, I hope Ms. Laine plans to share whatever evidence she has with the presiding and appropriate legal authority which I understand to be the district attorney. I hope the public is asking themselves the obvious question, 'What is she talking about, who is she talking about and why didn't she lodge an official confidential complaint like most

whistle blowers do so an unbiased investigation can occur?’

“Corruption is generally defined as a form of dishonesty undertaken by a person entrusted with a position of authority, often to acquire personal benefit. Corruption may include many activities including bribery and embezzlement. Strong words for our little town. I do not believe for one moment that Tom, Jason, Wendy and myself personally benefited from any council vote or knowingly participated in any criminal activity. I look forward to the DA’s investigation and sincerely hope that all matters discussed in closed session can legally become public through such process.”

The council agreed the issue needs to be discussed and not just left with the DA. To bring a topic back to the next meeting requires a four-fifths vote of the council, otherwise it would be at least two council meetings down the road. All five agreed the allegations should get a public airing at the May 1 meeting.

Tahoe man dies skiing at Alpine Meadows

By CBS-13

A skier has died at Alpine Meadows Ski Resort today.

Jeffrey R. Pearlstein, 33, of Kings Beach, was skiing on a steep run in the Keyhole area about 11am April 17 when he apparently lost control and crashed.

Read the whole story

The future of craft beer in Northern Nevada

By Mike Higdon, Reno Gazette-Journal

For almost a decade, beer geeks have asked, “Is Reno oversaturated with beer, yet?” and the answer has been a resounding “Maybe? Surely some breweries will close as the competition stiffens.”

Yet, no brewery has closed due to lack of business. More continue to open, expand their offerings and distribute out of state.

But while more than 28 local beer brands persist in the greater Reno-Tahoe area, they have not necessarily grown the craft beer-loving audience by a significant margin. Some brewers said they are all sharing the same few hundred or maybe thousand local beer geeks who have become a nomadic band of loyalists visiting their favorite spots.

Read the whole story

Mt. Rose in environmental phase of expansion

Comments are being taken on the draft environmental impact statement for a proposed expansion of the Mount Rose ski area.

Resort owners want to expand terrain across the highway, which would be accessed by a skiable bridge. New lifts would open this terrain up to skiers and riders.

The Humboldt-Toiyabe National Forest is the lead agency.

For more info, go **online**.