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The Association

Wyoming Association of Rural Water Systems is a non-profit association that provides on-site, one-on-one technical assistance and training to small municipalities under 10,000 population and all water and wastewater systems throughout the state. Equal Opportunity Provider.

Cover Photo – Buffalo Basin, Photo by Michelle Christopher



WARWS' Mission:

*To provide the assistance necessary to meet the needs of our membership and to ensure the protection of Wyoming's water
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Governmental Budgeting and the Business of Government

July 1st begins a new fiscal year for Wyoming governmental entities. The current legislature is making long term planning more complex and confusing to many municipalities or special taxing districts.

At it's root, I think a lot of the confusion surrounding governmental budgeting is a general lack of understanding of governmental operations, separation of funds, intergovernmental transfers and revenue streams by the entities and the legislature. Governments in Wyoming are encouraged to follow governmental accounting principles, but due to size and expertise, many smaller entities do not adhere to the principle and do to other state statutes revolving around reporting requirements, unless some issue arises, they do not always report accurately, their operating revenues and expenses.

Governmental accounting is based on "fund accounting" by grouping operations into definitional operating "funds". Typically, these are General Fund, Enterprise Funds and other funds such as Debt Service.

General Funds house the bulk of many governmental entities revenues and expenses and account for entity administration, police, fire and sometimes zoning/building permitting. In many small communities, the clerk/treasurers' duties are varied and should be accounted for over various funds to get an accurate picture of the true cost of services.

Enterprise Funds in governmental accounting are typically the water/wastewater/solid waste funds. To accurately determine user rates, each of these activities should be accounted for separately. The same clerk/treasurers' activities should be allocated based on their time to these activities. How much of the clerk/treasurer time is spent on utility billing, utility accounting or other items that the rates should cover. We recommend having the clerk/treasurer track their time for a week or so at least 2-3 months a year to determine the percentage of time they spend on the various fund activity. Using that data, the cost of the clerk can then be adequately allocated to the various funds. Wyoming State Statute 15-7-407 is used by most entities as the basis for determining their user fees, but sometimes all the costs are not allocated appropriately.

WARWSDOKU

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		2	6	3			4	
8				1				
	4	9	3					
1		3			5		6	

The objective is to fill in the empty squares so each row, each column, and each 3x3 block contains the numbers 1-9 with no repeats.

15-7-407. Consumer Rates. Depreciation.

(a) The board shall fix the rates for water, sanitary sewer services and electric service furnished to customers, and any revision thereof is subject to the local governing body's review, modification and approval. The rates shall secure an income sufficient to:

(i) Pay the interest charges and principal payments on all bonds issued to pay the purchase price, construction cost, extensions and enlargements of the respective systems as they are due;

(ii) Pay all salaries and wages of the officers and employees;

(iii) Cover the cost of all materials and supplies used in the operation of the plants;

(iv) Cover all miscellaneous expenses;

(v) Cover all usual extensions and enlargements, together with a reasonable allowance for emergency and unforeseen expenses; and

(vi) Provide and maintain a depreciation fund for each

department.

(b) The board shall account for the depreciation of the water plant and of the sanitary sewer system, including sewage disposal plant or plants, using rates of depreciation approved by the board and the local governing body. The depreciation fund shall be used only to pay for replacements and additions to the waterworks, sanitary sewer systems and sewage disposal plants. Replacements and additions shall be capitalized and the capital value added to the value of the systems to establish the value of the plants for depreciation purposes.

When looking at these issues and budgeting, some readers of government budgets will look at the total and say, gee, they have plenty, they just need to spend it where they need to.

Well, we have state statutes that do not allow for a comingling of revenue and spending where needed as specific revenue streams can be used for specific purposes and are appropriately categorized into “funds” and the specific purpose for that “fund”. Comingling funds generally causes bad policy and sometimes gets a governmental entity in financial trouble.

Some budget readers will see the “reserves” or savings and say; they can live on their savings as a justification for budget cuts in revenue streams. Unfortunately, most utilities do not have enough in savings. The American Society of Civil Engineers estimates that Wyoming water/wastewater utilities need approximately \$5.75 Billion in infrastructure spending to bring those assets back to square 1. Federal infrastructure funding will see steep declines in the next couple years which will exacerbate the budgeting issues. State statute requires utilities to have reserves and to designate those reserves for infrastructure repairs, replacement or betterment, the funds are not to be used for “operations” unless the reserves are determined to be “in excess of replacement needs”.

Hopefully, those in the decision making process will come to fully understand the business of government.

We get quite a few requests for assistance with budgets and rates from across the state. While many entities are getting better at separating expenses to understand the true cost of the delivery of services, not all do. We assist the remaining entities in understanding the reason for separation and its effect on the overall operations of the entity. Special Districts are generally easier to assess as they exist for a special purpose, typically utility operations within a fee for service fund in our world. We assist any of

the 26 categories of Special Districts in Wyoming but we do concentrate on those that deal with utility services generally.


With massive funding cuts coming from the federal government and knowing that a significant amount of services in Wyoming are paid for with pass through funds from the federal government, budgeting and remaining a “low tax state” may further complicate the business of government.

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A Note From

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The Value of Emergency Response Training

Being a water or wastewater operator carries a level of responsibility and commitment that many other professions don't require. With that responsibility comes the need for ongoing training. As a fairly new Circuit Rider, I was hopeful that training opportunities would be available to help me succeed in this role. While I bring experience in several areas, I'm the first to admit—I don't know everything. That's why I was grateful for the opportunity to attend the 2025 NRW Emergency Response Training this past May in Lonoke, Arkansas.

I didn't know exactly what to expect when I signed up, and I was even more surprised when I arrived at the training site. The Arkansas Rural Water Association facility was impressive, to say the least. It included a well-equipped office and classroom building, a massive shop filled with emergency response equipment (set up outside for the week), and an entire acreage featuring a full-scale distribution system—with piping, valves, meter pits, hydrants, and built-in leaks for hands-on leak detection training.

At the event, I had the chance to shake hands with some incredible leaders in the industry, including Phillip Combs, NRW President; Kent Watson, Chair of the NRW Emergency Response Committee; and Chris Harris, CEO of the Arkansas Rural Water Association.

The training focused heavily on emergency response. After opening remarks from President Combs, we heard from a panel of executive directors from various states who shared stories and insights from past emergency situations:

- Arkansas - Chris Harris emphasized the importance of effective communication between all responding parties.
- Alicia Keeter of Florida highlighted the need for strong communication and thorough documentation.
- Lara Zent of Texas spoke about setting priorities when managing crisis situations.
- Pat Credeur of Louisiana stressed the value of building cross-state relationships before a disaster hits.
- Scott Young from Kentucky underlined the importance of having a current GIS and asset inventory.
- Tim Neumann of Michigan shared an experience where operators, overwhelmed by the situation,

seemed frozen—underscoring the importance of preparation.

- Jim Seago of Oklahoma reiterated how critical it is to build strong relationships with systems and neighboring states ahead of time.
- Juanita Reyher-Colon from Hawaii shared the unique logistical challenges of providing emergency support across five separate islands.
- Mike Ritchie from Virginia encouraged everyone to show up, help however they can, and not hesitate to ask about a system's Emergency Response Plan.

And the training wasn't just presentations—we got our hands dirty. After a great lunch provided by Louisiana Rural Water staff, the afternoon was packed with hands-on demonstrations. We covered generator setup, trash pump operation, VFDs, RAFA units, thermal imaging for leak detection, ground-penetrating radar, remote satellite services, first aid, ultrasonic meters, correlators, vac truck operations, and even an electrical lineman trailer demo.

The week also included more good food and plenty of opportunities to network and build connections. All in all, the training was well worth the time and travel. I'll end with a quote shared by Juanita Reyher-Colon in her native Hawaiian language—though I didn't catch the exact words, the English translation stuck with me: “No problem is too great if we all work together.”

As Wyoming Rural Water staff, we're here to support you. Please don't hesitate to call—we're always ready to help.



Figure 1 Arkansas Rural Water Office



Figure 2 Lineman Electric demo



Figure 3 ARWA Equipment

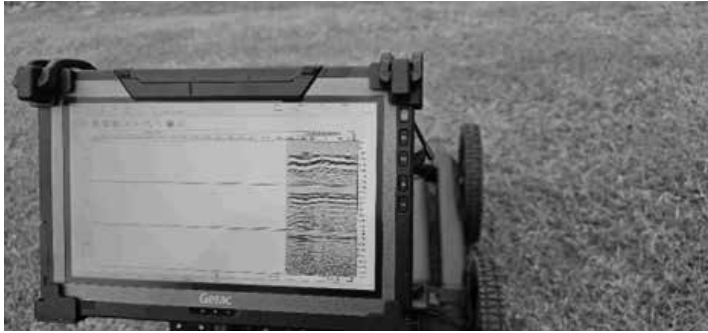


Figure 5 GPR demo



Figure 4 ARWA Vac truck demo



Figure 6 Thermal imaging leak detection

DID YOU KNOW?

Quality On Tap! was created by NRWA in 1996 as the first practical, hands-on guide to better public relations for water utilities. Today, the QOT logo can be found around rural America on water towers and utility vehicles, spreading awareness to turn on the tap.

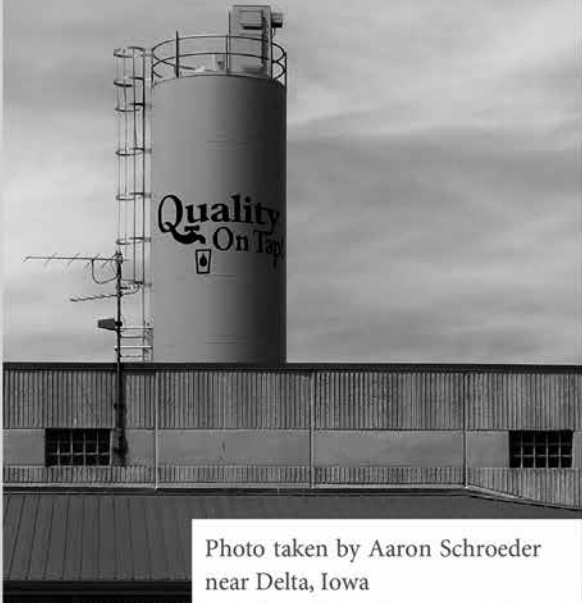


Photo taken by Aaron Schroeder near Delta, Iowa

Emergency Response Plan and Contaminant Detection

Remember way back in 2018, when AWIA was new, and systems over 3,301 had to update their Risk and Resiliency Assessment (RRA) and Emergency Response Plan (ERP) accordingly? Part of any good Emergency Response Plan is keeping that plan updated. It's also an AWIA requirement. AWIA requires that systems update their RRA and ERP every 5 years. This is a bare minimum requirement. Systems of any size from seasonal campgrounds to Cheyenne should review their ERP annually to make sure that all contact information is correct, and that the system hasn't made any major changes that need to be addressed. (Did you change water sources? Type of disinfection? Add a new subdivision or tank? You need to add this to your RRA and ERP!)

Systems with populations between 3,300-49,999 must re-certify your RRA by June 30, 2026 and your ERP by December 31, 2026. You can use Risk and Resiliency resources found at <https://www.epa.gov/waterresilience/awia-section-2013#RRA>, and Emergency Response Plan resources found at <https://www.epa.gov/waterresilience/awia-section-2013#ERP>. Certification instructions can be found at <https://www.epa.gov/waterresilience/how-certify-your-risk-and-resilience-assessment-or-emergency-response-plan>. DO NOT send EPA a copy of the RRA or ERP. Keep this information confidential and secure. If a credentialed EPA representative asks to see the documents during a Sanitary Survey, fine. But they don't get to take the documents from the building or make copies. If your system is below 3,301 in population, you can still do the RRA and ERP. Same thing goes for wastewater or collection only systems, you just don't have to certify to the EPA that you did it.

One of the critical aspects of an RRA or ERP is contaminant detection. Knowing how contaminants can enter your system is the first step to preventing them. This is part of the Risk and Resiliency Assessment. Once you define the risk, you can start coming up with steps to remove the risk (lock hatches), mitigate the risk (motion alerts around critical facilities or spill prevention) and make the system resilient should the risk happen (have alternate treatment techniques available).

Another aspect of contaminant detection is knowing what type of contaminants may enter your system. Surface water systems are more likely to have fecal contamination than

groundwater systems. Groundwater systems are more likely to notice contaminants that come from geological materials. A source water assessment that looks at the recharge area of a water source will give information about other potential contaminants such as fuel spills from highways or gas stations, landfill leaching, or pesticides from agricultural fields. Once you identify the types of contaminants that are most likely to occur in your system, you can begin devising a contaminant detection strategy.

But wait! You're a tiny water system with an annual budget that has fewer zeroes than the national debt! Oh wait, that's all systems – let me try again: you're a tiny water system with a population less than the elevation of your community! How are you supposed to be able to determine any and all contaminants that could potentially enter your water system?

First, include the contact information of EPA Region 8, county emergency management coordinator, laboratory, and WARWS (shameless plug, but hey, we're here to help!) When something indicates that your system has been contaminated, these folks can help you figure out where to sample, what to sample and where the sample needs to go for analysis.

Second, determine what indicators you will routinely monitor to ensure that contamination isn't occurring. These can

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be simple water quality tests like pH and chlorine, or monitoring pressure in the distribution system. Tracking customer complaints is another way to monitor water quality and potential contamination.

For all systems, coliforms are an indicator of potential contamination. In surface water systems, treatment processes may have failed or been overwhelmed. In groundwater systems, the presence of coliform in the source may indicate damage to the infrastructure (well) or a change in the aquifer. If coliforms are present in the distribution system, this may indicate water age, inadequate disinfection levels, system maintenance and repair, as well as leaks, backflow or vandalism. Regardless, the presence of coliforms indicates that something is going on, and you need to start looking for it.

Most systems only monitor for coliform monthly in the distribution system. Unfortunately, the potential for contamination is 24/7/365. Some water quality parameters can be monitored daily by using grab samples or can be monitored continuously. These include pH, chlorine and pressure. Chemical contaminants can change the pH of water. Chlorine has one job: reacting with anything in its path. If there's something in the water, chlorine will find it, react with it, and its residual will vanish faster than your paycheck. Using either of these parameters as an indicator of contamination requires tracking trends. Monitor at the same place, time, etc, (or set up a streaming monitor with data logger) to see what's normal. If the pH in your water averages between 7.7 and 7.9, a sudden jump to 9.0 is cause for alarm. If the pH in your water is always 9, then a 9.2 isn't a huge deal.

EPA requires systems to maintain a minimum of 20 psi within the distribution system. This ensures the integrity of the distribution system and prevents backflow situations. Monitoring and tracking distribution pressure can allow you to locate leaks, track water usage patterns and depending on the system, identify water theft. If there's a repeated drop in pressure that is otherwise unexplained, check the remote fire hydrants for usage indicators. Someone may be taking water from the hydrants without your knowledge or permission. Your ERP should contain a plan for low pressure events, including sampling protocols with alternate lab information, notification processes and a return to normal protocol.

Finally, utilize your customers as a way of tracking water quality and potential contamination. Tracking customer complaints may help locate a problem, as well as indicate if it's routine (water age that could be solved by flushing or infrastructure upgrades). Things to note when taking a complaint from a customer include, when did the problem start, how long has the problem persisted, is it throughout the house or in one faucet only, is it one house or widespread? Take water quality samples like chlorine residual and pH to compare to your ongoing monitoring. This information will

help you determine if it's an acute contamination issue or a long-term infrastructure issue. Or if the house just has crummy plumbing.

Beyond compliance with the AWIA requirements, having an up-to-date Emergency Response Plan that includes contaminant detection is simply part of being a sustainable system. This information helps you operate your system efficiently. It helps you protect your community against contamination events and gives you tools to justify infrastructure upgrades. If you have questions about complying with the AWIA requirements, want help updating your existing ERP, or maybe your system has never had an ERP and it's a Significant Deficiency on your Sanitary Survey, please contact any of the WARWS staff. We would love to help!



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Numbers

They are everywhere. They surround us at home and at work. Let's take stock of some of those work numbers that we need. If you don't have them, this is a great time to get them and put them on a sheet in a plastic sleeve so that you have them at your fingertips. I hate having to look for things and not being able to put my hands on what I am needing. Having these numbers readily available will make your work life much easier.

Public Water System Number – Every public water system in the country is issued a PWS number by EPA when it is activated. PWS numbers began with the implementation of the Safe Drinking Water Act. In Wyoming numbers start with WY56....They are 7 digits long. You need this number for your system anytime that communication with EPA is necessary.

Operator ID Number - This number is often confused with the PWS number. The PWS identifies systems. The Operator ID number identifies you as an operator. It belongs only to you. It is issued by WY DEQ's Certification Officer (Kim Parker). I did ask who the first operator in Wyoming was that was issued an ID. Unfortunately there was no data base in existence back then, but there are at least three active operators in Wyoming that are with active certificates that were issued in the mid-70's.

Well Permit Number – Did you know that all water in Wyoming belongs to the state? Beneficial use of any underground water or performing any work in connection with construction has to file an application for a permit. Once the permit is approved, the well will have a number and the well can be drilled. Once the well is drilled, then a statement of completion should be submitted along with a form for appropriation so that the water rights are adjudicated. Your system needs to use this number when it submits its yearly production numbers to the State Engineer's Office.

Production Number – Your system needs to be logging how much water the well is actually producing each year. It is also a very important number to know in figuring water loss or trouble shooting your system. Document, document, document! Graphs are a wonderful way to visually share water usage with decision makers and customers. Customers never believe that they use as much water as they do. Decision makers never believe how much water is being subsi-

dized in parks, cemeteries and ball fields.


Water Loss Amount - Production numbers can then be compared to water sold. The clerk should have this number if meters are being used within the system. The difference between the amount of water produced minus the amount of water sold minus any water used in other ways such as flushing or a fire event is the systems water loss. 6% water loss is a really tight system. Anything over 10% it is probably time to start looking for leaks.

Number of Taps – This seems like it would be an easy number to have, but many systems have complications. Lots of systems have different number of active taps than they have taps. Keep track of both.

Source Water temperature – This is really handy piece of information to have on hand if your well system ever comes under scrutiny as being ground water under the direct influence of surface water. If your source water stays a stable temperature, then the chances of it being under the direct influence is zero to none. The system needs consistent documentation of the source water temperature and it can't be done on the fly. Take the time to do it now.

WARWS Phone Number and Email – This might be the most important number in the whole article. Our office number is (307) 436-8636. My cell phone number is 307-262-3943. You can email the office at warws@warws.com and we will get your questions to the right place. My direct e-mail is kweinsaft@warws.com I can help you with all those pesky numbers.

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PFAS, the Gift That Keeps on Giving

The emerging contaminate that will be impacting our operators for what could be decades to come. For most of us, seeing that the average age of an operator is about 57 here in Wyoming, we will see just the start of this mess. Come next year may be the start of the testing in our lagoons for PFAS, and from there it may just be anyone's guess what the future will look like.

In my last article, I went over what the future of PFAS may look like on the water side of our world as operators. As I research more on the problem, I find myself just running into my questions than finding any concrete answers. One main opinion out there is that PFAS may be linked to some health issues, and somehow, we need to clean up the mess. If the system you run is a Lagoon system, I am not finding much information on a plausible solution as of 2025. Not to even bring up a cost affective way to address this problem in the short term, let alone any long-term answer. Once again, I will bring up that my opinions are just that, my opinions, as a blanket disclaimer.

As more information comes out, I see more and more on how the multiple chemicals in the PFAS family are linked to our food supply. The more I see these articles, the more I think of the wastewater side of our jobs. Lagoons have been around since the Roman Empire and do a fantastic job at treating wastewater to reintroduce it back into our environment as clean/safe water.

Now, lagoons may have become nothing more than a toxic catch all for the 4,000+ PFAS chemicals in our world, as of today. After all, lead has been proven to be detrimental to our health, and the MCL is 15 PPB and no safe level even exists. PFAS has a MCL of 4 PPT, so just do the math, because I have a hard time wrapping my brain around the whole thing.

Add in the a common sense thought that if PFAS is found in our food supply, where did it come from? Some studies I have come across point to the water cycle itself. Yep, it is literally raining down PFAS on all of us. How we are cleaning that up is a mystery, to say the least. Heck, most people can't even tell what the weather will be like a few days from now.

Getting back to lagoons, in a rainstorm where does some of the water end up? Between I&I, and the sheer size of some lagoons, that alone will be a never-ending source of PFAS. I remember testing for Covid in our wastewater. Is PFAS

going to be next? After all, PFAS has been found worldwide and has been found in almost every person on the planet. Does one think it may be in in all the critters also? Studies have shown it is the seafood industry, fish in our lakes, etc. Future research may show it just compiles in our bodies and stays there. However, what goes in comes out at some point, as the old saying goes.

One way or the other, the new contaminate called PFAS may be here to stay, and as operators we will be on the front lines cleaning up the mess. The water side may be a simple fix, RO units and some other best new practices may be the answer. Who the heck is going to pay for this is a whole other matter. I am not even sure the planet has that much money, let alone the human will to do it. After all I sure do enjoy staying nice and warm/dry in a fall rainstorm up in our beautiful Wyoming mountains.

As far as our lagoons go, your thoughts on the matter may be as good as anyone one else's. Over time, the sludge in your lagoon may just be the catch all for all the chemicals, now add in PFAS into that. There is a lot of talk of ending land application for sludge in eastern states, so what wild idea will be next on cleaning lagoons out as they start showing their age? Is triple incineration the future? Only time will tell. Yep, we may have created a sleeping monster since the 60's, and now the bill is coming due!



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Operator's Corner

Water Questions by Michelle Christopher:

1. Most backflow incidents that cause health problems involve _____.
 - a. Kidney problems
 - b. Liver problems
 - c. Gastrointestinal problems
 - d. Nerve tissue damage
2. What is the purpose of abandoning a well when it is no longer useful?
 - a. To conserve the aquifer
 - b. To prevent groundwater contamination
 - c. To prevent a physical hazard
 - d. All of the above
3. In the presence-absence (P-A) test, the presence of total coliforms is indicated by the ____ P-A medium turning ____ and the formation of ____ in the medium.
 - a. Purple, pink, gas
 - b. Brown, pink, shiny pink colonies
 - c. Purple, yellow, gas
 - d. Brown, yellow, shiny yellow colonies
4. Who is ultimately responsible for ensuring that employees are trained and advised of relevant situations?
 - a. The employee
 - b. The supervisor of that employee
 - c. The employee's union
 - d. The operational manager
5. A reservoir holds 61.8 ac-ft. If a community holds 3 shares, and the shares this year are 10 ac-ft, how many Million gallons of water can the community water plant expect to use from the reservoir?
 - a. 20.15 MG
 - b. 9.78 MG
 - c. 6.72 MG
 - d. 2.01 MG





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1. 1 share = 10 ac-ft, 3 shares x 10 ac-ft = 30 ac-ft
2. 1 ac-ft = 326,000 gal, 30 ac-ft x 326,000 gal/ac-ft = 9,780,000 gallons
3. Divide 9,780,000/1,000,000 = 9.78 MG

Answers
Water

A Note From Randy Rumpler

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307-921-2844

Big Wonderful Wyoming

As of June 16, 2025, it will mark one year that I have been a Circuit Rider for Wyoming Rural Water. I will say it has been a learning experience with some of their rules and regulations that I had to learn. It is a lot of travel around the state of Wyoming, places I have never heard of or knew existed. Places I knew about but never went to see or explore.

Right now, it is a great time with the state so green and flowers blooming. Some of the places I can name are Hartville, Ft. Laramie, Superior, Granger, Lyman, MountainView, Yoder, and LaGrange. I never knew about the rich history of Superior as an old coal mining town. Hartville with the first steakhouse in the state and copper mining. Yoder with the mining of sand slurry, Granger with the history of coal mining. Ft. Laramie with the history of the Fort and Oregon Trail and trail ruts, which I still have not stopped to see. Lyman and Mountain View with its beautiful scenery and being so close to the Gorge. LaGrange with the wonderful Christian school and the layout of the town.


Traveling Highway 30 between Rock River and Medicine Bow is an old stone house, I think used to be a gift shop for dinosaur bones. There are two historical signs there, where I stopped and made a sandwich. Reading the sign one was for the late 1800's about a huge dinosaur dig sight of several dinosaurs found and removed, this is called the Como Bluff dig sight. The second sign was about the great train robbery which took place at this sight. The great train robbery took place by the Wild Bunch, if any of you saw the movie, they used too much dynamite on the safe, and money was flying throughout the air. There is alot of great history in the state of Wyoming, you just need to stop and read the signs, which I have not always done, but need too. When visiting a town I usually ask what the history is.

I have to say I have met a lot of great operators that seem to enjoy visiting and spending time with the Circuit Riders. Most are very friendly and will spend time with us, a couple of others that will not spend any time or say they are too busy. Which I understand, by being a one-person department doing everything in town. You all like it when we stop and help you with an issue you might be having.

The second week of June I will be traveling to Afton and Star Valley area. I spent some time here with my dad as a

state veterinarian, testing cattle for Bangs (Brucellosis) on the ranches around this area and Jackson. Brucellosis causes the cattle to abort their calves and affects their reproductive system. Just a little history of Brucellosis. I don't remember much about the Afton area, other than the scenery.

I am looking forward to seeing everyone on my travels.



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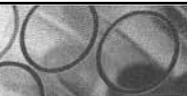
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Carl Brown, President
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The great philosopher Yoda surely must have said, “Wary, you should be, improve yourself, you must.”

The day before this writing, the director of a rural water association told me about a small town in that state that “went with” an on-line rate calculation tool. In other words, that company made a do-it-yourself water rates calculator. (It could be any other do-it-yourself thing, of course, but I am a rate analyst, so he brought this one to me.) The director asked me if I had heard of that company and what I thought of it. Obviously, the director was concerned about that town, and others that might follow in its footsteps. He does not want utilities to be lead astray.

Well, yes, I had heard of that outfit, but I knew little about it. So, I “googled” it. I bet that town did the same.

Knowing when do-it-yourself is best

The “frontier” mantra. Survival of the fittest. Individualism. Do-it-yourself. These are all aspects of a way of thinking and getting things done. It works well much of the time, but not all the time. Knowing when do-it-yourself is best, or is not, separates the great do-it-yourselfers from the wannabes.

Wow, that website was slick! It had lots of excellent photographs and graphics. It had well-written pieces about how that firm’s service can help utilities find the “right rates,” make sure those rates are “affordable and fair,” and make the utility “sustainable.” Using other lofty words, it assured utilities that all will go well if they use its tools. And of course, it is quick and easy, anybody could use it. The website did not mention cost, but surely that is affordable, too.

This is where you should be doubting me, a utility rate analyst, weighing in on how a competitor markets its service. When seeking help, take Yoda’s advice. Your first goal should be to protect yourself. Don’t get taken advantage of. Your second goal should be to get help to improve yourself or improve the situation of your utility. Goal 1 keeps you from going backwards. Goal 2 moves you forward. The only thing Yoda did not mention – he is a creature of few words – is you can achieve both goals almost every time. Almost. I must admit, I go cynically doubtful when I see slick marketing to solve a complex problem with a do-it-yourself tool. Why? We in the United States are do-it-yourselfers. Thus, we are suckers for the do-it-yourself marketing angle.

(Maybe this is just a human trait.) I fear that this marketing ploy can lead do-it-yourselfers astray.

Do-it-yourself is not the best solution for every problem. Sure, you can mess up on your own time when you are the only person who could get hurt. But do not get risky with the water you serve people. They want you to move them forward, but they really, really don’t want you to take them backwards.

When you come up against a problem that calls for special expertise, if you don’t have it, go find it. There is a “Catch-22.” If you are not an expert at something, you probably are not an expert at finding that expert, either. That is OK. Do this.

Go to someone or an organization that you trust, that has dealt with lots of experts, wannabe experts and charlatans. Ask them, “Who is an expert at rate analysis? Or water system design. Or pump maintenance. Or compliance. Or sampling.” Or whatever it is you need. The Association is a good first-call for just about any issue. In fact, your best service provider may be the Association itself. The collective staff of the Association has probably run into most of your problems hundreds, if not thousands of times. I bet they can help you solve your problem. If not, they can point you in the right direction.

Follow Yoda’s advice – call them to protect yourself and move yourself and your utility forward.

There is another layer to this do-it-yourself, expertise thing. As an organization insider, it can be hard to clearly view its situation, its needs, its strengths and weaknesses. What will your board or council think about your solution? What other solutions did you examine? Why did you reject them? What about the ratepayers? As an insider, you know a lot. But you do not know everything. It is the “forest for the trees” problem. The view from your angle may hide some issues from you.

I offer the “broken” rates problem as Exhibit A: Most utilities feel they are fully capable of solving all their problems, including their rates problems. But if they are so good at rates, why did they let the rates become a problem?

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How to find experts, and how not to

Oh, sure, prepare an RFQ for engineering and similar highly technical, risky, very expensive services.

But do NOT prepare an RFP or RFQ for rate analysis, a rate "study," or similar services that should be cheap and quick. That is overkill and may not serve you best. Instead, just ask the Association who is a rate analyst (or other service provider), then call who they tell you about.

Learn more on this subject from the "Rate Setting Best Practices Guide" at <https://gettinggreatrates.com/RSBPGuide>.

There you have it, go the do-it-yourself way when that works best. Otherwise, call the Association when you need more help to improve yourself and your utility. Make Yoda proud.

Carl Brown is President of GettingGreatRates.com, which specializes in water, sewer, and other utility rate analysis. The firm serves as the RATES Program rate analyst for the Arizona, Colorado, Kansas, Nevada, New Mexico, North Dakota, Virginia, and Wyoming rural water associations. Contact: (573) 619-3411; Carl1@gettinggreatrates.com

Finally, let's look into the future of problem solving. "AI," artificial intelligence, wants you to believe it will solve every problem. Thus, any operator, public works director, mayor, you could query AI, "Here is my problem. How do I fix it?" Oh sure, AI will give you a checklist of steps to solve the problem. And if you want it, AI will give you ever more detailed "guidance" on each step. Maybe that will be OK for many or even most of your problems. Sometimes it will not. You and AI could screw up your rates, and sure, the utility may recover from that OK. Or maybe not. But if you build the wrong \$10 million treatment plant, the wrong water transportation line or make a myriad of other big mistakes, you will cost your ratepayers dearly. That might even cost you!

Quick fixes are great for easy, low risk problems. When the problem gets difficult and it has lots of "soft" issues (people issues) to consider, you need an expert.

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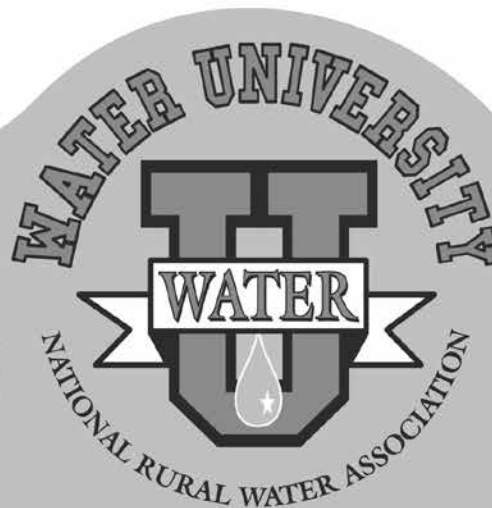


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Scrawny Girl's Biscuits and Gravy

by Michelle Christopher

Part of growing up is learning to like things that you've previously considered inedible. Some things, like organ meats, will never be edible (don't come at me with your great uncle's famed recipe for tripe and liver. Ain't happening.) With time and modifications, biscuits and gravy have become edible. Believe me, as someone who refuses to put gravy on anything, making the dish for my husband was an unbelievable act of selflessness. Until that fateful day when I was making macaroni and cheese from scratch, and I realized that cheese sauce is nothing more than cheese gravy. Oy. Consider my mind blown. On a whim, I also decided to replace part of the sausage with bacon and add pickled jalapenos as a final touch. It did not disappoint. So, now biscuits and gravy have

worked their way into our regular weekend breakfast menu. We've even taken it backpacking and were nearly shanked by our hiking partners until we promised to share!

The Biscuits (this makes 4 large biscuits – adjust recipe as needed)

- 1 cup flour (this could be white, whole wheat, oat... or a mix of all 3)
- 1 ½ teaspoons baking powder
- 1/8 teaspoon salt
- 4 tablespoons butter – if I'm at home, I use the solid version and grate it in. If I'm backpacking, I use the squeeze butter and add enough to make a stiff dough.
- 1/3 cup milk (If I'm being honest, I haven't used milk or measured in years. I just pour in enough sourdough discard and water until I get the consistency I'm looking for.)

At home: Preheat oven to 450. Mix dry ingredients and add butter. Mix together coarsely. Add liquid, stirring just enough to mix evenly. If you're going fancy and cutting them out, the dough will be stiffer than if you're just doing drop biscuits. Bake at 450 for about 15 minutes or until they're golden.

Backpacking: Mix dry ingredients in a ziplock. Bring enough squeeze butter to make dough. It's probably more like a cup since it's doing double duty as fat and liquid. I package mine in a reusable squeeze container. Remember to bring a large piece of aluminum foil, about 18"x12". In the morning, start your fire early, because you're going to need adequate coals to cook on without flames. Mix dry ingredients with the squeeze butter until you get a stiff dough. Packing biscuits are generally drier than kitchen biscuits because it makes the baking easier. Spread the dough on the foil and fold the foil around the dough, sealing the edges. Leave a bit of room in the foil package for expansion. We put our packing grate over the coals and place the foil on the grate, raking in more coals as needed. Bake for 5-10 minutes on one side, flip and bake for 5-10 minutes on the other side.

The Gravy: again, this feeds 2-ish people. Adjust amounts as necessary

- 1/4 -1/2 lb of breakfast sausage
- 2 strips bacon (I cut it into tiny pieces before cooking)
- 1 tablespoonish flour
- Cajun seasoning (I have no idea. Eyeball it)
- 1 ½ cup milk
- 2 oz grated cheddar cheese
- Pickled jalapenos (measure with your heart)

At home: brown sausage and bacon pieces. Remove grease, leaving a bit in the pan. Again, I eyeball it. You need enough grease to soak up the flour and mix with the milk. It's going to depend on the fat content of the sausage and bacon. Add flour, mixing with the grease. Let it cook a bit

before adding the milk. Once you add the milk, you'll need to stir almost constantly so it doesn't stick. Reduce heat and cook until the mixture begins to thicken. Add the grated cheese, continuing to stir until the cheese is melted through the mixture. Remove from heat and add seasoning and jalapenos. If you've timed everything correctly, the biscuits will be ready to remove from the oven and you can devour it.

Backpacking: At home, brown sausage and bacon pieces. Remove some of the grease. This time, turn off the heat and add the flour and seasoning. When the mixture is cool, add ½ c powdered milk and put the mixture in a ziplock. On trail, put the mixture in a pot and add 1- 1/3 cup water. Mix well and cook until it thickens. Add the cheese, constantly stirring to melt and add jalapenos at the end, if you're using them. Enjoy!

2	7	5	1	6	8	4	9	3
3	1	4	5	9	2	6	7	8
9	6	8	7	4	3	2	5	1
4	3	1	8	7	9	5	2	6
7	8	6	2	5	4	3	1	9
5	9	2	6	3	1	8	4	7
8	5	7	4	1	6	9	3	2
6	4	9	3	2	7	1	8	5
1	2	3	9	8	5	7	6	4



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Our Western Heritage

by Kathy Weinsaft

Pow Wows, Rodeos and Music

It must be summer in Wyoming! I admit it, these are a few of my favorite things about summer in Wyoming and I look forward to them all winter.

The Casper College Indigenous Student Alliance sponsors the first pow wow of my season in early May. It is the smallest of the pow wows I attend, but it is a great warm up. One of the things I like best about it is the amount of education about culture and the inclusiveness of everyone. Seeing a six-year-old dance with his 82-year-old great grandfather still brings tears to my eyes.

From the smallest to the largest pow wow in Wyoming, we can travel to Ft. Washakie for the Eastern Shoshone Indian Days. This is a vibrant celebration that pays tribute to the culture of the Eastern Shoshone. It is a grand intertribal celebration drawing tribes in from across the region. Skilled artisans display their creations. There is always beadwork, and leatherwork to drool over. Be sure to listen to all the story telling sessions. There is so much to learn. This pow wow usually takes place in the 3rd week of June. There are wonderful pow wows and celebrations throughout the summer all over the state.

The same is true for rodeos. For pure rodeoing skill and evil stock, the LeDoux Days competition is second to none. Located in Kaycee Wyoming, many of the competitors are also competing in the College National Rodeo Finals held in Casper the same weekend. The bareback riding is always some of the best across the country. It takes place in June as part of LeDoux Days. I will admit to being a little prejudiced, but the Sheridan WYO Rodeo is an event not to be missed. I lived in Sheridan for a decade and experienced my first western rodeo there 30 years ago. If you have the time, take a couple of days off and attend the Boot Kick Off, the concert at the WYO, the Parade and the pancake breakfast, as well as the rodeo.

How can you talk rodeo without talking about the daddy of 'em all, Cheyenne Frontier Days. This rodeo has been kicking up dust since 1897. It is a rodeo, music festival and state fair all wrapped up in one tight bundle. Always held during the last week of July, it is hot in more ways than one. The fact is the best of the rodeo circuit are always here because point wise it is almost impossible to get to the National Rodeo Finals in Vegas without coming through Cheyenne.

Two of the three rodeos mentioned above have incredible music attached to them. This year's LeDoux days is particularly poignant. It is the last. After 15 incredible years celebrating the spirit of Chris, the ride is end-

ing. This year's concert features his son, Ned along with Sawyer Brown. Need you even ask if I plan on attending? Frontier Days has some great concerts this year as well. They include Brooks and Dunn and Travis Trit along with some other big names. The last concert I attended there was to see Garth Brooks and Ned LeDoux and I wouldn't trade that experience for anything. It is a great venue to make memories.

If you are into bluegrass and anywhere close to Buffalo on a Thursday evening, check out the bluegrass, western and folk music jam fest. The event started in 2006 and has grown into a hugely popular event. It showcases local talent, as well as hosts some pretty famous folk that might just be passing through. The best thing yet is there is no cover charge.

If you have a little more time, venture up the mountain to Ten Sleep. NoWoodstock is undoubtedly my favorite music festival of summer. It is a three-day music palooza in early August. Jalan Crossland, a hometown boy made good, is always a featured player but there is an incredible lineup. There are vendors of cool stuff and food available in the park. People are always Wyoming friendly, and I don't think I have ever attended when I haven't made a new friend.

We are blessed to live in this beautiful and unique state. Whether it is a pow wow, rodeo, music happening, or all three, get out there and enjoy every minute of it.

It is, after all, part of our Western Heritage



From the Smoker

By Randy Rumpler

Fantastic Smoke Fish Formula: Mix brine in a glass or ceramic container. **DO NOT MIX OR STORE THE SOLUTION IN WOOD OR ALUMINUM CONTAINERS!!**

1-In 2 quarts of water dissolve:

1 cup of non-iodized salt

½ cup brown sugar

2-Add the following spices to taste. Most commercial recipes call for ¼ cup of each, but I use the freely.

Liquid smoke (be careful)

Garlic powder

Onion powder

Coarse ground pepper

Worcestershire sauce

Tabasco sauce (be careful)

3-Place fillets into brine. Chunks seem to work better than full fillets. Thick fillets should be brined for about 4 hours, thin ones a little less. The longer the brining process the saltier the finished product.

4-Remove from the brine and rinse in clear water. Pat dry, sprinkle with garlic powder (lightly) and coarse ground pepper.

5-Rack and allow pellicle to form, about one hour.

6-Place into smoker and dry to desired texture, (around 150 to 200 degrees). Use not less than 3 pans of wood to smoke, (depending on your size of pan). If the process exceeds 6 hours, I use a pan of wood every 2 hours. Rotate racks and turn fillets over occasionally. There you have it. Enjoy!!



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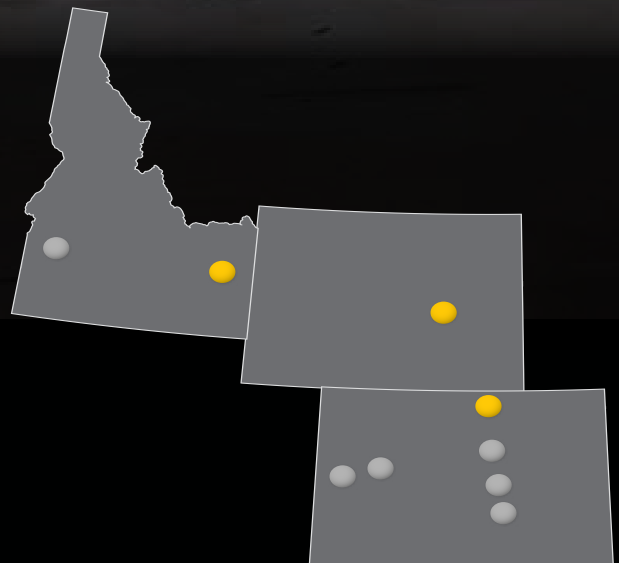
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