

The Watershed News

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A Quarterly Publication for the Ossipee Watershed Published by the Green Mountain Conservation Group

18th Annual Meeting will feature Chris Schadler's presentation— **Becoming Wolf: Eastern Coyote in New England**

Green Mountain Conservation Group will be welcoming wildlife biologist and coyote specialist Chris Schadler to speak at the 18th annual meeting on Saturday February 27th at Hobbs Tavern and Brewing Company in Ossipee.

Ms. Schadler earned a M.S. at Antioch University Graduate School. Her thesis focused on the natural recovery of the Eastern Timber Wolf in Michigan. Beginning in the early 1990's, Chris taught Conservation Issues, Dendrology and Wolf Ecology at the University of New Hampshire, receiving many teaching excellence and student recognition awards. She continues to instruct and mentor adult degree candidates in the UNH System at Granite State College.

While wolf recovery was the focus of her early work, Chris' attention shifted to the eastern coyote when she moved to New England. She chose a farm with known coyote problems to raise sheep and experiment with non-lethal predator control. Using sound livestock management and common sense, she avoided predation for two decades. Chris has provided talks to livestock growers and the public for 30 years on coexisting with coyotes.

Chris is now the Representative for Project Coyote in NH and VT, and a member of the Northeast Wolf Coalition, and divides her time between teaching and working on her book "Becoming Wolf: The Eastern Coyote in New

England". Between presentations she can be found in northern New Hampshire researching coyote feeding



patterns and responding to the occasional wolf.

Project Coyote, is a North American coalition of wildlife scientists, educators, predator-friendly ranchers and community leaders, and promotes compassionate conservation and coexistence between people and wildlife. As a national non-profit organization based in Northern California, Project Coyote works to change negative attitudes toward coyotes, wolves and other native carnivores by replacing ignorance and fear with understanding, respect and appreciation. All of their work — through education, science, and advocacy — strives to create

fundamental and systemic changes in the ways wild carnivores are viewed and treated in North America.

The 18th Annual Meeting will be held on Saturday, February 27th at Hobbs Tavern and Brewing Company. (Snow date February 28) Join us at 4:30 for cash bar and to learn more about GMCG. Dinner will be a pastry wrapped chicken with veggie options and dessert. In keeping with GMCG tradition, the cost will be \$18 to celebrate our 18th Birthday. A brief business meeting and community awards will be followed by the

presentation from 6:30-7:30.

The annual meeting is the time to publically celebrate the past year's program successes, to honor staff, volunteers and board of directors, and to energize everyone in the Watershed for the year ahead. GMCG is growing in name recognition and reputation within the Watershed. Through research, education, advocacy and land conservation, GMCG continues to demonstrate a commitment to the protection of the Watershed's natural resources and encourages youth and adults to learn more and take positive action.

To reserve tickets for the 18th Annual Meeting please call GMCG at 603-539-1859 or purchase on line at gmcg.org

The Watershed News

The Watershed News is a quarterly publication of the Green Mountain Conservation Group, a non-profit, 501(c) 3, charitable organization established in 1997 and dedicated to the preservation of the natural resources in the Ossipee Watershed. The towns of Eaton, Effingham, Freedom, Madison, Ossipee, Sandwich and Tamworth make up the boundaries of the Ossipee Watershed. This watershed includes one of the largest and deepest stratified drift aquifers in New Hampshire. GMCG also partners across the Maine border into Parsonsfield and beyond. Water does not have any political boundaries.

GMCG's purpose is twofold:

1. To provide an organizational structure for a coalition of citizens and local officials interested in identifying sensitive areas within the Watershed in need of protection;
2. To offer public educational events about conservation issues and possible solutions regarding the preservation of unique natural resources.

Through research, education, advocacy and land conservation we strive to promote an awareness and appreciation of our watershed's natural resources and encourage a commitment to protect them.

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Executive Director, Blair Folts
Water Quality, Corey Lane
Education, Tyler Manville

A Message from the Executive Director

By Blair Folts

Friday night late. I walked out to the barn to get wood for the stove and was surprised to be greeted by the strong smell of fuel oil. Had I had a delivery? No, I had not and my neighbors have propane so I was not sure what I was smelling and concluded it must have been a spill on the state road.

Tuesday morning we received a few phone calls asking about the strong oil/gas smell along Route 153 in Center Effingham. Homeowners and drivers along Route 153 had noticed a very strong smell. A few calls and research later revealed that an abandoned home had been vandalized and the basement tank had been compromised. The unfortunate thing is that their basement contained a storm drain—directly into the South River.

Apparently the house had been broken into, the lines severed and the home heating oil in the 275 gallon tank had spilled into the basement where it then drained into the River. The Effingham Fire Department under the direction of Chief Randy Burbank did an excellent job finding this spill. They had been contacted by concerned citizens about a “strong odor” along the road and had spent several hours walking the river and tracing the smell and visible oil slick until they found the house and pipe.

Chief Burbank contacted NH DES and by dusk a team had arrived to install pads and booms to contain the spill. Any remaining fuel oil in the home was removed and the pipe to the river was plugged. They did respond well and as fast as they could.

However, what I learned personally was this reminder that accidents and vandalism can change everything in just a moment. In the past, I too thought why is there concern about folks that have sump pumps for draining spring-wet basements? I too have one and I too have a basement 275 gallon oil tank. Spring rains and snow melt are just “water” after all and how can this be a problem to pump out?

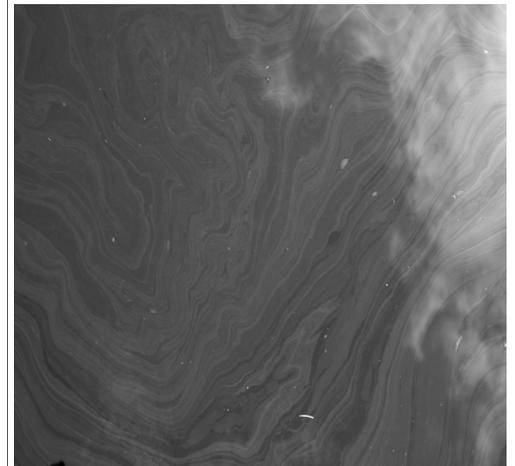
This incident showed me how crucial it is that homeowners be proactive about closing up any old floor drains particularly if the pipe leads directly into a water body. Back in the early days, people did not have hundreds of gallons of fuel stored in their basements. Pumps were designed to get water out not volatile organic compounds.

Today, our living circumstances are more

complicated. Many old homes have dirt floors, large oil tanks in the basements and no containment pads to capture a spill should these tanks be compromised. New Hampshire Department of Environmental Services recommends inspecting your basement oil tanks every three months. They also suggest that you contact your heating oil dealer, burner technician, plumbing and heating contractor, or give the DES Oil Remediation and Compliance Bureau a call at (603) 271-3899 if you have questions. For more information about residential heating oil tanks and the DES “Best Management Practices for the Installation and Upgrading of On-Premise-Use Heating Oil Tanks,” contact DES at: www.des.nh.gov and search for “on premise use heating oil tanks.”

One week later, we were still seeing the oil slick on the river and several weeks later you can still smell it in areas where the water washed out into the grasses. GMCG has been collecting samples weekly from five sites when ice conditions permit and is partnering with Smith College for sample analysis but, as everyone knows, the water is flowing strong now after rains and it will wash away and be “our downstream neighbor’s issue.”

But we all live downstream and it is our responsibility to help each other to protect our shared natural resources. In 2016 let's be proactive about resource conservation and let's make 2016 a year of more education about following Best Management Practices. I am looking forward to partnering with you all in the coming year. We all can make a difference. Happy New Year!



Oil coating the South River one week after the spill

Youth Water Literacy Programs Excel into 2016

Green Mountain Conservation Group (GMCG)'s Water Literacy Programs ended 2015 with a bang! Over 50 students from eight local school groups presented water quality research to the Ossipee Watershed community on December 3rd at Ossipee Town Hall. The data the students presented was discovered in the fall through the Volunteer Biological Assessment Program (VBAP) in which students collected macroinvertebrates and water quality information from 10 local rivers and streams. The student's research encompassed the entire Ossipee Watershed and beyond into the greater Saco Watershed. Research was done from the Cold River in Sandwich all the way to Moose Pond Brook in Fryeburg, Maine. This year was the most successful VBAP year yet with over 250 students participating. All rivers and streams sampled received "good" water quality results, too!

Heading into 2016, students from 5 local schools will participate in Trout in the Classroom; a program run



Students from eight local schools presenting their water quality research to the community

through NH Fish and Game and Trout Unlimited and facilitated in the Ossipee Watershed by GMCG. Schools participating with GMCG this school year include Sandwich Central School, Moultonborough Central School, Madison Elementary School, Freedom Elementary School, and The Community School in Tamworth. Through this

program, students raise trout in tanks from eggs to fry throughout the winter and then release them into local rivers and streams in the spring.

Students learn how to track water quality data in the tanks and learn about the Eastern Brook Trout's role in stream

ecosystems. Like many aquatic macroinvertebrates, brook trout can be used as an indicator of environmental quality because of their low tolerance to pollution.

By offering these programs, GMCG hopes to instill in students a sense of environmental stewardship and help promote natural resource awareness that will guide future generations of municipal officials. For more information on GMCG's Water Literacy Programs visit gmcg.org and like us on Facebook! To find out how you can volunteer or become involved in these programs, contact education@gmcg.org or call 603-539-1859!



Madison students released their trout into the Swift River.

Education Steering Committee is formed to create Youth Water Literacy Curriculum

Do you have a passion for environmental education and want to get involved in something that will help protect our rich water resources in the Ossipee Watershed? If so, join GMCG's Education Steering Committee! The first committee meeting will be held at GMCG's office in Effingham on Wednesday, January 13th at 4:00pm. This committee is being formed in partnership with local schools to help create a baseline curriculum that can be used in local schools to teach students about the Ossipee

Watershed, water resources and how to protect vital natural resources.

By tying together GMCG's existing hands-on water education programs with in-class activities and educational tools, GMCG hopes to be able to inspire students to be involved in protecting our water resources. To join the Education Steering Committee team, contact education@gmcg.org or call 603-539-1859.

GMCG's Water Quality Monitoring and the Ossipee Watershed Management Plan Phase 2

By Corey Lane

As New Hampshire dives into winter, GMCG's winter RIVERS water quality volunteers, Dave Downs and Rich Dandeneau continue to brave the elements and terrain to collect data from 10 sites each month November through April. These 10 sites are also monitored every other week along with 20 others with the help of GMCG's May through October volunteers.

Are you interested in being a RIVERS volunteer? GMCG annual water quality monitoring training will be held on April 16th at 10 am. Contact GMCG for more info.

Not to be forgotten are the volunteers who help monitor the deep water testing sites of Ossipee Lake and Bays through the Volunteer Lake Assessment Program (VLAP) once monthly from ice out (which is only a few short months away) through fall turnover. It truly can't be said enough as to how essential volunteers and local businesses are to the success of GMCG's water quality programs.



Winter water quality volunteer Rich Dandeneau

Without so many great volunteers who have helped create an extensive monitoring database (over 6,000 site visits to date), past and current water quality conditions of the watershed's lakes and rivers would be quite a mystery. FB Environmental has been analyzing the most recently collected data (past data has already been analyzed during phase 1) and incorporating it into Ossipee Watershed Management Plan (WMP), Phase 2 which is nearing the halfway point.

Join the Steering Committee to keep up to date with and add your input to the

WMP! The first Steering Committee meeting is scheduled for January 19th. Topics will include: progress report, water quality summary, shoreline survey results, watershed survey results and the land use model update. Residents are encouraged to share concerns and ideas.

For more info on volunteering for GMCG's water quality monitoring programs and/or the Ossipee Watershed Management Plan Contact Corey at clane@gmccg.org.



VLAP volunteers, Paul and Bonnie Elie with Green Mountain in the background.

Heron House Project Report: A learnable moment

While to a keen observer of the site, there has been little of note happening at the Heron House, GMCG's new office project has been progressing steadily in the planning and permitting phase. The Heron House site, watchfully guarding the waters of the Ossipee Watershed as they exit New Hampshire, will be a model and a resource for members and friends from surrounding towns to learn about sustainable best management practices.

In this phase of project planning GMCG has had the opportunity to learn of many elements of regulatory compliance that attend a property near to a waterway. For many years the organization has advocated for responsible land practices to protect our natural resources. This project has offered a chance to work through the process of compliance and stewardship of a piece of land we own, while respecting the shared interests of a community resource.



We are very excited to have the chance, in designing some aspects of the site plan, to collaborate with the University of

New Hampshire Stormwater Center, a research, testing, and educational facility that will be working with us on stormwater management and BMPs to protect river and wetlands. GMCG looks forward to exploring how this joint project

may lead to future opportunities to develop our common mission of water quality protection.

The Heron House project team is currently working on finalization of the building plan and will have more information on how members and friends may be involved this spring. Stay tuned! In the meantime, what should we do about teaching the beavers that they need permit, too?

What is the life cycle of a lake?



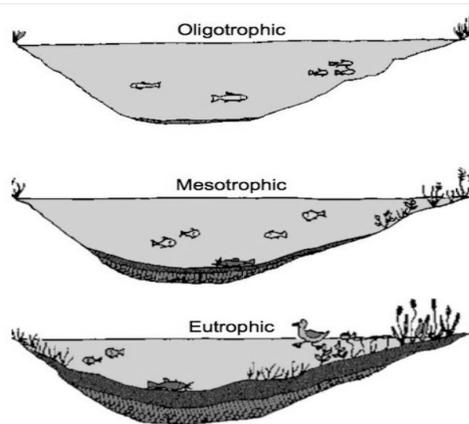
By Alex Moot

Most of the lakes in New Hampshire formed as the glaciers receded, carving out basins in the landscape. In these newly formed lakes, the edges and bottom were exposed rock, which doesn't erode very quickly, meaning there were not many nutrients available. As a lake ages, sediment from the watershed is washed in, filling in the bottom of the lake. This sediment is rich in nutrients, and therefore increases the fertility of the lake. More fertile lakes have more nutrients and more plants and algae.

A lake is usually classified by scientists as being in one of three classes: oligotrophic, mesotrophic or eutrophic:

- **Oligotrophic** lakes are pristine and ideal for swimming and trout fishing. Such lakes are characterized by high water clarity, low nutrient concentrations (phosphorus and nitrogen), minimal levels of aquatic plant growth (weeds), and low algae concentrations. In oligotrophic lakes, oxygen is found at high levels throughout the water column. In addition, low algal concentration allows deeper light penetration and less decomposition. When algae, zooplankton and fish die, they sink to the bottom and are decomposed by microbes and invertebrates. This decomposition process uses up oxygen. Since oligotrophic lakes are less fertile and have less algae and other organisms, there is less decomposition and the

oxygen doesn't get used up. The fish found in oligotrophic lakes like cold, high oxygenated water, such as rainbow trout. Chocorua Lake is an oligotrophic lake



Drawing from the Vermont Lay Monitoring Program Manual

- **Mesotrophic** lakes are commonly clear water lakes and ponds with beds of submerged aquatic plants, medium levels of nutrients, and increasing levels of algae and/or weeds. Mesotrophic lakes may have mostly clear water but can experience algal blooms in late summer. Mesotrophic lakes behave differently than oligotrophic lakes in that they stratify, meaning they separate into layers in the summer. The top layer of water becomes warm from the sun and contains algae. Since the by-product of photosynthesis is oxygen, oxygen concentration remains high at the surface of the lake. The bottom layer remains cooler and can become anoxic (oxygen depleted) in mid-summer. This change occurs because as all the algae and other organisms die and are decomposed at the

bottom of the lake, oxygen gets used up. Since this bottom layer of water does not mix with the top layer of water in the summer, oxygen cannot be replenished. The implications of anoxia are that no fish or other organisms can live where there is no oxygen; therefore, in late summer, fish move shallower where there is still oxygen available.

- **Eutrophic** lakes are shallow, green and have murky water and mucky, soft bottoms. They also have a lot of plants and/or algae. Such lakes are characterized by low water clarity, high levels of aquatic plant growth, high algae concentrations, high nutrient concentrations, and very low dissolved oxygen concentrations near the lake bottom. Eutrophic lakes are found where the soils are more fertile and where there is a lot of farmland.

It is important to remember that lake trophic state is not interchangeable with water quality. Water quality is subjective and depends on how you intend to use the water body. A lake that is good for duck hunting is not necessarily good for water skiing. In turn, a lake that is great for swimming may not be great for bass fishing.

Alex Moot is president of the Chocorua Lake Conservancy a local non-profit organization founded in 1968 dedicated to the conservation of Chocorua Lake. GMCG has partnered with CLC since 2000 on water quality research and education.

Conservation Conversations

Editor's Note: *Conversations is intended to provide a forum for the seven towns of the Ossipee Watershed to share news of their conservation and planning activities and an opportunity to find creative solutions to challenges.*

Eaton

The Eaton Conservation Commission spent much of its fall effort to bring the Foss Mountain information kiosks up to date to reflect the new trail alignment-- here a picture of ECC and GMCG



volunteer, Dick Brisbois as the kiosks were updated. Eaton Selectman Rick Young and volunteer Peter Klose spent half a day repairing rain washout damage to the new trail.

Heavy brush in the blueberry fields was cut by a crew from Horizon Forestry. We had two sessions of volunteers applying pelletized sulfur to clumps of little bluestem grass in November in an effort to lower the pH and allow the organic blueberries to compete more successfully with the grass and weeds (since there is no spraying). Other volunteers moved brush into the woods, off the blueberry fields.

The ECC is now managing all the blueberry field burning, cutting, rock popping, hole filling and mowing, either via volunteers or local contracts, to try to increase the annual harvest. The harvesting of the commercial organic blueberries will still be done by Ryan Bushnell of Brownfield, Maine. Non-commercial blueberry areas closer to the summit of Foss Mountain will remain open to the public.

With a new trail, kiosks, parking lot and management contract, the Foss blueberry fields and Foss Mountain summit will be in good shape for many years to come.

Sandwich

In 2013 the Town of Sandwich acquired 107-acre parcel as conservation land in East Sandwich, lying along Route 25, as a requirement for issuing a wetlands permit for construction of a racetrack in Tamworth. The Sandwich Conservation Commission (SCC) has been working to ensure protection of the wetlands and its upland buffer of this parcel, now known as the Meadow Brook Conservation Area (CA), as the Town considers future use of this land. This past summer the SCC hired a wetland scientist to delineate and mark wetland boundaries in the Meadow Brook CA. SCC members have installed permanent markers along the wetland boundaries. The Town road crew has removed debris from the property and installed a small parking lot off

Route 25 to make the area more accessible to the public. A sign, constructed by volunteers from donated materials, has also been installed.

The SCC is working with the Agricultural Commission and Forestry Committee to develop a long-term management plan for the Meadow Brook CA and will be seeking public input.

This summer the SCC authorized a donation of \$15,000 to the Lakes Region Conservation Trust (LRCT) for an \$115,000 project to acquire a 44-acre parcel on Great Rock Road to enlarge its Red Hill River Conservation Area. Conservation of this land ensures protection of the surrounding watershed and wildlife. The LRCT has constructed a new trail on the now-conserved property, named in honor of long-time SCC member Jocelyn Gutches.



Commission Members Fred Lavigne, Helen Gingras, and Shaw Smith

Effingham Conservation Commission Plans First Land Purchase

Effingham Conservation Commission (ECC) has an exciting opportunity to purchase 14.83 acres of land in Effingham. Located on Pine River Road, across the street from Ossipee Bait & Tackle Shop, this property has been for sale for some time. The sellers bought the property in the 1980's with the thought of



building a small vacation house, but this never happened. Last year the price was reduced on the property and with some negotiation, the selling price was further lowered to \$39,000. The current owners are excited to sell this special

property to ECC for conservation use. The Town assessment is \$48,800, which means this will be a "bargain sale" to the CC.

The lot has approximately 800 feet of road frontage and 1100 feet of waterfront on the Pine River. There is an access road to

the back of the property where the River is located. From here one can see a beautiful Pine River wetland estuary. The NH Wildlife Action Plan rates this property as 1.28-a very high value. This wetland has the potential for habitat of fish, amphibians, raccoon, fox, muskrat, mink, beaver, otter, deer, coyote as well as many species of birds. The rest of the lot is woodland with marginal wetlands and little commercial value. When ECC obtains this property, it will be open for public use. Plans include circular trails and a picnic table. The property will also be open for fishing, Nordic skiing and bird watching.

After signing the Purchase & Sale Agreement in October, ECC hired a grant writer to help with fundraising. ECC plans to donate their current use change tax funds toward the purchase. ECC asked GMCG to act as the fiscal agent because of their 501c3 status. It has been explained that because of this status, foundations are more willing to donate to such projects rather than to the not for profit status of a municipality.

If you would like to contribute to this project or would like to learn more, please contact Emelyn Albert, Chair, ECC. She can be reached at ealbert3@roadrunner.com. Inquiries welcome!

Save the Date! 2016 Winter Calendar

Wednesday January 13, 4:00pm - Education Steering Committee meeting to help create Water Literacy Curriculum. Throughout 2016, GMCG, in partnership with local teachers and community members will be creating a Water Literacy Curriculum that can be used in local schools. If you would like to be involved or kept up to date on this process, contact education@gmcg.org or call 603-539-1859.

Tuesday, January 19th 4:00pm Watershed Management Plan Phase 2– Ossipee Lake and the Lovell River Watershed Steering Committee Meeting at Indian Mound Golf Club in Ossipee for an update on progress to date, summary on the Ossipee Lake water quality report, summary of the shoreline survey results, Ossipee Watershed survey results, land use model update and the next steps. Interested in joining the committee or being kept up to date with progress? Contact Corey at 539-1859 or clane@gmcg.org

Saturday February 6, 10:30am-1:00pm Family Winter Animal Tracking with naturalist Barb Bald! Join GMCG and naturalist Barb Bald for a fun and educational winter animal tracking at GMCG’s office on Huntress Bridge Road in Effingham. Learn about NH wildlife and experience their natural habitat firsthand! Snowshoes are not required but may be helpful, and be sure to dress warm and comfortably for a hike through the woods. If you would like to participate, please RSVP to info@gmcg.org or 603-539-1859.

Saturday February 27 GMCG 18th ANNUAL MEETING (see page one for more information)

Saturday, April 16th 10:00am RIVERS Annual Water Quality Monitoring volunteer training– GMCG is always looking for water quality volunteers to assist with monitoring 30 RIVERS tributary sites around the Ossipee Watershed and 5 deep water testing sites on Ossipee Lake and Bays. This RIVERS training and refresher will teach you how to use the testing meters, sample collection procedures and other data collection protocols according to GMCG’s and Saco River Corridor Commission’s shared Quality Assurance Project Plan (QAPP). Contact Corey at 539-1859 or clane@gmcg.org if you would like to join the WQM team!

Don't forget—MARCH IS MEMBERSHIP RENEWAL MONTH!



***Your Membership Makes a Difference.
Every drop counts! Thank you!***

(Please make checks payable to Green Mountain Conservation Group Box 95, Effingham, NH 03882)

You may also renew your membership online at www.gmcg.org/we-need-your-help/

Vernal Pool __\$25 Stream __\$50 River __\$75 Pond __\$100 Bay __\$250 Lake __\$500 Aquifer __\$1000 Other __

NAME _____

ADDRESS _____

PHONE _____ **EMAIL** _____



Are you interested in being a GMCG Volunteer? YES

March is Membership Renewal Month, PLEASE RENEW YOUR MEMBERSHIP TODAY and encourage your family, friends and neighbors to join GMCG. GMCG is a non-profit 501 (C)3 tax-exempt organization funded by grants, memberships, and donations. **THANK YOU FOR YOUR CONTINUED SUPPORT!**



P.O. Box 95
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Effingham, NH 03882
(603) 539-1859
www.gmcg.org

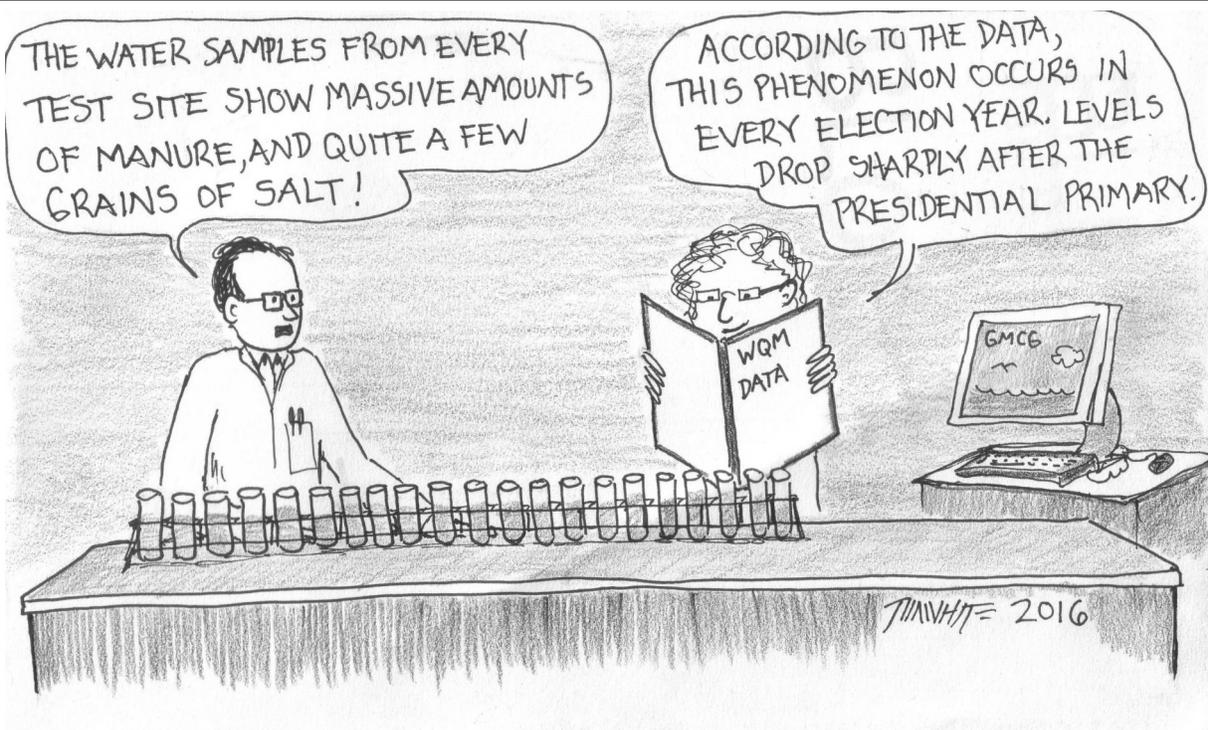
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The Watershed News

Coyotes!
Chris Schadler
GMCG's 18th
Annual Meeting
Saturday
February 27th
at Hobbs Tavern &
Brewing Company

Spring Newsletter
submissions due March 10

EVERY PERSON CAN MAKE A DIFFERENCE AND EACH PERSON SHOULD TRY.



Sign up for event updates with *Watershed Happenings* and stay in the flow! Sign-up at www.gmcg.org