April 27, 2017 Catamount Room
1pm National Life, Davis 2

In Attendance: Liz Royer, Ellen Parr Doering, Marjie Gale, Darlene Autrey, Michael Smith, Linda Boccuzzo, Jon Kim, Kasey Kathan, Scott Stewart
Guests: Ernie Christianson, Brian Redmond, Emily Boedecker

Drone Surveys to Interpret Winooski River Fault Zone – Jon Kim
Jon briefly presented on work completed in collaboration with UVM and Green Mountain College on combining field mapping with drone survey to identify lineament orientation and faulting along a 100 x 200 m outcrop along the Winooski River. Some of the take-home messages were:

- Drones were flown at 2 elevations, 85 ft. and 135 ft. The higher elevation produced the best imagery for this work, especially when compared with high resolution (6-inch interval contouring) Lidar data.
- Work identified both macro- and micro-scale lineament features.
- Generally, a consistent pattern of faulting is consistent over the full length of the Champlain Valley
- This work provides valuable context for groundwater consideration and VGS is working on connecting the dots.

Introduction to the DEC Commissioner – Emily Boedecker

- After brief introductions, general discuss surrounded activities of the GWCC in the coming year (promotion of the Groundwater Management Strategy and associated implementation plans, expansion of VGS work and implementation of GWPRS changes).
- Commissioner Boedecker discussed general support of increasing awareness and acknowledgement of managing groundwater as a public trust as we move into the future and the technical work that the department is doing to support this management.

S.103: An Act relating to the regulation of toxic substances and hazardous materials – Ernie Christianson

- Mandatory testing of groundwater supplies was added to the bill, initially as a requirement through the potable supply rules
- Following testimony, it became apparent that given staffing, there was not a reasonable way to manage this type of testing through current infrastructure. The identified legislative goals were to provide information to homeowner and provide access to data for decision making.
- New proposal was put forward to keep the testing requirements under the Potable water supply permitting program, but instead of results coming to DEC, results go to the Department of Health (similar to Act 63 which puts the distribution of information from water testing in the hands of VDH)
- Proposed testing would be for what is currently within the potable rules with some expansion (Mn, Pb, Gross Alpha)
- Bill has been voted out of Natural Resources Committee, but may have difficulty being finalized (largely due other components of the toxicity bill)

S.10: An Act relating to liability for the contamination of potable water supplies – General Discussion

> Sec. 8. 10 V.S.A. § 1394(a) is amended to read:
>
> (a) The ~~state~~ State adopts, for purposes of classifying its groundwater, the following classes and definitions thereof:
>
> * * *
>
> (4) Class IV. Not suitable as a source of potable water but suitable for some agricultural, industrial and commercial use, provided that the Secretary may authorize, subject to conditions, use as a source of potable water supply or other use under a reclassification order issued for the aquifer.

- Language has been added to proposed S.10 (in box above) regarding the drilling of a potable water supply within areas that have been reclassified to Class IV groundwater.
- Important to note that under the proposed GWPRS Class IV reclassification will be occurring in conjunction with a corrective action plan, which can include institutional control providing restrictions on whether the underlying aquifer is accessible and if drilling can safely occur. These institutional controls would provide additional protection beyond the proposed S.10 language
- General consensus that it would be good to get some clarification on the current language and correct language as needed.

H.211: An act relating to the water resources and water supplies of the State – General Discussion

- Not likely to move forward, general support for cyanobacteria monitoring, but no funding, similar with banning land application

Upcoming Planning Meetings – Liz Royer
June 6 Lyndonville
June 7 Manchester

- Two workshops are planned with the tentative title of 'Future of Vermont's Drinking Water: How today's planning decisions can keep our water sources safe and clean'
- Focus will be on drought, geology, hazard mitigation, and a panel discussion (town managers, public works depts. etc.)
- Inclusion of the ANR internal planners (Act 250 etc.) was suggested
- Liz will share more info as it is available

Town Planning Database – Liz Royer

- 255 municipalities, reviewed 249 plans
- 95% approved plans, with mention of groundwater; however, many say: 'there are no public water supplies in town' so there is misconception about what a public water supply means
- 189 (76%) have zoning bylaws addressing groundwater
- 59 (24%) mention source protection
- An excel database is available –not 100% accurate, but better than nothing may be enough to answer the 'give us a priority list' questions from the RPC's

Updates

IRule

- General comments were 'exposure scenarios too conservative'. Health Dept. has suggested additive risk consideration at high exposure scenarios, which would result in more conservative standards. From a regulatory standpoint, sites deal with hazardous materials, and materials are defined by single standards, not additive standards. Conversation is to-be-continued….

GWPRS

- Convening group (ACCD, Health, Ag etc.) to discuss the rule prior to moving to ICAR to avoid complications at that point

USGS Grant

- Submitted – but it's a stretch. The grant has a water use focus, but the request was for well location updates, with the argument that this would relate to water use determinations due to the lack of metered systems in the state

Opportunity!

Want to dry run Jon's NGWA field trip? – He's offered to do a free trip, either before or after the October conference, if there's enough interest. Below is the conference description of the field trip:

The City of Burlington lies in the Champlain Valley Belt (CVB), consisting of Cambrian-Ordovician, weakly metamorphosed, carbonate, and clastic sedimentary rocks that were deposited on the continental margin of an ancient continent called Laurentia. The CVB is bounded to the east by the Green Mountain Belt (GMB) and to the west by the Adirondack Massif. In west-central Vermont, the CVB and westernmost GMB are informally subdivided into three east-dipping thrust slices, which, from east to west, are: (1) the hanging wall of the Hinesburg Thrust, (2) the hanging wall of the Champlain Thrust, and (3) the Parautochthon. These thrust slices were juxtaposed during the Ordovician Taconian Orogeny and later modified by Acadian (Devonian) folding and Mesozoic extension. Stops for this 2017 field trip include:

- **Mt. Philo State Park —** Overview of the Champlain Valley and adjacent belts
- **Shelburne boat access —** Brittle structures (wrench faults and fractures) associated with the hanging wall of the Champlain Thrust (Monkton Formation sandstones)
- **Shelburne Farms —** Imbricate thrusts in black limestones in the foot wall of the Champlain Thrust
- **"The Oven" in Ferrisburgh —** Asymmetric anticline that folds sandstones and dolostones of the Monkton Formation
- **Hinesburg Thrust at Mechanicsville —** Groundwater quality (radionuclides) and quantity issues associated with this ductile fault
- **En Echelon Fault Zone on the Winooski River —** The geometry and kinematics of this fault zone in a sliver of the Clarendon Springs Formation were determined using drone surveys; correlation of this fault zone with others along-strike
- **Colchester/Milton —** The mineralogical source and distribution of elevated radionuclide levels in groundwater from Clarendon Springs Formation dolostones