



**MINUTES OF THE REGULAR MEETING OF THE  
DRINKING WATER AND WATERSHED PROTECTION  
TECHNICAL ADVISORY COMMITTEE  
HELD ON WEDNESDAY, July 25, 2012 AT 12:30 PM  
IN THE RDN BOARDROOM**

**Present:**

Mike Donnelly, Chair .....	Manager, Water Services, RDN
Mike Squire .....	City of Parksville / Program Manager,AWS
Bill Sims .....	Manager, Water Resources, City of Nanaimo
Fred Spears .....	Director of Public Works, District of Lantzville
Chris Jackson .....	Islands Trust Regional Planning Manager
Gordon Buckingham .....	General Public Representative (North)
Pat Lapcevic .....	Min. of Forests, Lands & Natural Res.
Lynn Magee .....	Vancouver Island Health Authority
John Deniseger .....	Registered Professional Biologist Rep.
Al Magnan .....	Fisheries and Oceans Canada Representative
Leon Cake .....	Water Purveyors' Representative
Bob Wylie .....	Ministry of Transportation and Infrastructure
Domenico Iannidinardo .....	Forest Industry Representative
Faye Smith .....	Environment Community Representative
Ken Epps .....	Forest Industry Representative

**Also in Attendance:**

Darren David .....	Principal Hydrogeologist, Waterline Resources
Matt Skinner .....	GIS Technician, Waterline Resources
David Van Everdingen .....	Senior Hydrogeologist, Waterline Resources
Craig Sutherland.....	Senior Surface Water Engineer, Kerr Wood Leidal
Pam Newton .....	GIS Technician, RDN
John Finnie .....	GM, Regional and Community Utilities, RDN
Christina Metherall .....	DWWP Coordinator, RDN
Julie Pisani .....	Special Projects Assistant, RDN
Lauren Fegan .....	Special Projects Assistant, RDN
Brian Dempsey .....	Councillor, District of Lantzville

**Regrets:**

Bob Weir .....	Director of Engineering and Utilities, Town of QB
Oliver Brandes .....	Academic Community Representative
Alan Gilchrist .....	Academic Community Representative (VIU)
Maury Scott .....	Special Projects Assistant, RDN
Shelley Bayne .....	Hydrogeology Representative
Gilles Wendling .....	General Public Representative (South)

## **CALL TO ORDER**

M. Donnelly called the meeting to order at 12:34 pm.

## **DELEGATIONS**

## **MINUTES**

MOVED M. Squire, SECONDED B.Sims second that the minutes from the regular meeting of the Drinking Water and Watershed Protection Advisory Committee held February 14, 2012 be adopted. CARRIED

## **BUSINESS ARISING FROM MINUTES**

## **COMMUNICATIONS/CORRESPONDENCE**

## **REPORTS**

### **Municipal Updates (B. Sims, M. Squire)**

B. Sims announced that City of Nanaimo council has adopted an overall Strategic Plan – one of six key focuses is on water conservation and continued partnership with this committee and Team WaterSmart. B. Sims also elaborated that 2020 is the target for the City of Nanaimo to augment their water supply. Work with consultants has indicated potential for raising Jump Lake Dam for more storage and suggests that this is the economic and ecological choice. He also stated that the City will be starting the new treatment plant pipeline construction in the next 5 months, likely January or February.

M. Squire noted the occurrence of stakeholder meetings , including meetings with the provincial and federal governments, regarding the Aquifer Storage Recovery (ASR) project. The project continues to move ahead, with four test wells already drilled and two looking promising for the ASR well. M. Squire stated that there has been cooperation of neighbouring properties for monitoring wells. M. Squire stated that the pilot program for the Englishman River Treatment is finished and identified membrane treatment as the preferable choice so far. Water quality monitoring will continue on the Englishman River and finish in the fall.

M. Squire also gave an Operations update regarding the clay banks approximately 6.5 km upstream of the City's water intake. There has been no historical sloughing in the summer, however last week on Tuesday the 17<sup>th</sup>, there was a big erosion event that caused high turbidity alarms to go off and resulted in the shutting down of the river station, leaving only wells to supply Parksville's water.

M. Donnelly noted the City of Parksville's agreement with the RDN to supply the Nanoose Bay Peninsula water service area with water. During summer the contribution is 40% surface water. The result of the erosion event is that a Level 3 watering restriction has been implemented in the RDN (Nanoose) and Parksville. M. Donnelly stated that it will probably remain in effect until sometime in October as a preventative measure.

M. Donnelly also noted the Nanoose Bay Treatment Plant that was supposed to be commissioned next week has now been postponed until October 1<sup>st</sup> due to the water use restrictions. D. Iannidinardo asked if there has been any thought given to geotechnical bank stabilization. M. Donnelly noted that there may be the need for consultants to ascertain future risks. D. David suggested that groundwater is coming in and undermining the clay bank, and it is toppling over. He suggested the need to prevent

water from discharging on the slope. G. Buckingham enquired about media release for Nanoose residents. M. Donnelly stated that a news release for Area E is currently being prepared and will be out next week.

F. Smith mentioned that MVIHES has monitored this area on the Englishman River for many years, and is willing to share data results if interested. She suggested inviting an engineer to have a look at bank and also mentioned that the solution in Cowichan to a similar erosion event was very expensive, perhaps more than a million dollars.

### **Rainwater Harvesting (J.Frumento)**

J. Frumento introduced the upcoming release of the Residential Rainwater Harvesting Guidebook, developed by the Sustainability Department, with two local Rainwater Harvesting (RWH) consultants, including input from VIHA. It is anticipated to be released in Fall 2012 and is planned to be promoted via social media, advertising and at the Green Building Series in October. This guidebook is the first in a series of intended guidebooks that highlight Green Building Practices as a part of the Green Building Action Plan. The key features of this guidebook will include checklists, graphics and regional case studies to help residents design and install RWH systems in the RDN.

### **Water Budget Project Update – Gabriola (C.Metherall)**

C. Metherall gave a brief overview of the progress the consultants at SRK have made so far on the Gabriola water budget project. She noted that a preliminary 3D model has been developed, with updated information on the water table in relation to surface water and groundwater depth. C. Metherall mentioned that there is a need for monitoring in private wells on Gabriola to understand the impact of tides and that the study is seeking volunteers ASAP. Private well monitoring has also been suggested to better understand groundwater recharge; this would be a 2 -3 month study and would not be included in SRK's report but has been recommended as helpful for the long term.

C. Metherall also stated that over 600 well records have been transferred from a local well driller to the provincial WELLS database. This is an important step to help fill gaps in data and gain understanding of the aquifers on Gabriola Island. Currently, the study is also looking for information on surface water quantities as there has been little monitoring done on the island to date. C. Metherall noted that anecdotal information or volunteer monitoring results is welcome.

Additionally a residential water use survey has been issued by the RDN to Electoral Area B residents. This is in partnership with the Gabriola Groundwater Management Society (GGMS). C. Metherall stated that so far 350 surveys have been completed. She noted that residents have also been interested in sharing well levels and water quality tests. RDN staff contacted Agricultural, Institutional, and Commercial operations with similar questions regarding water use - excellent information received. There has also been survey feedback from residents on Mudge and Decourcy Islands.

### **Water Budget Project Updates – Vancouver Island (D. David, C. Sutherland)**

D. David, Principal Hydrogeologist of Waterline Resources, gave a powerpoint overview of the progress of the Water Budget Project so far. So far they have gathered data from over 9000 water wells including the Ministry of Environment database, observation well, private wells and community wells. Now they are synthesizing this data in order to map aquifers and develop a geological model. D. David presented a video that illustrated a 3D flyover of the Regional District of Nanaimo's surficial geology. The next steps are to :

- Gain understanding of the subsurface geology and include that in the 3D model
- Determine how water is flowing from one watershed to another in the aquifer (crossing surface water boundaries)
- Assess areas where potential groundwater stress is
- Look at well yields from driller logs
- Formulate a surface water budget equation, make groundwater/surface water linkage

D. David noted the overall observed trend of decreasing levels in several observation wells and private wells, and the French Creek has been determined to be groundwater fed.

C. Sutherland of Kerr Wood Leidal introduced a model that predicts stream flow at un-gauged locations, takes climate data from UBC Forestry Climate data set, then fed to monthly water balance model, incorporates all stages of water cycle, and describes how much precipitation goes to surface water run-off vs. groundwater recharge. The estimates average flows over large areas, possibility for climate change assessment. C. Sutherland reported that the model is reproducing the observed flows quite well. The next step will be to look at interaction between surface water and groundwater.

C. Sutherland noted that for water budget purposes, they will use the actual French Creek watershed boundary NOT the water region boundary that is indicated by the RDN.

M. Donnelly stated that the RDN water region boundary will be adjusted to better fit the actual watershed boundaries.

K. Epps noted that evapotranspiration is an important factor and that currently the amount of water used by vegetation may be a data gap.

D. David also mentioned that it not mandatory to submit water well logs to the MOE database and that this creates a data gap. He solicited ideas for getting this data and suggested encouraging private well owners to measure levels and submit to VIU website.

D. David stated that the aim is to have the Water Budget Project completed by the end of the year. After that, the next steps involve filling data gaps.

C. Metherall stated that she has received a list of key stress areas from D. David, correlated with well water service areas. She mentioned that she would be in contact with water suppliers to obtain information on water levels from their wells.

### **RGS Indicators (L.Bhopalsingh)**

L. Bhopalsingh provided a powerpoint overview of the Regional Growth Strategy (RGS) with regards to choosing indicators to monitor progress as well as setting progress targets. She noted that the RGS was created in response to concern about rapid growth and development in region and that it aims to establish a more sustainable pattern of population growth and development. Current selected water indicators are: groundwater levels, surface water quality, and water consumption. L. Bhopalsingh put forward to the committee to think about what other measures should be reported on and to think about specific levels of performance with the targets.

Indicators should relate to things that RDN has influence or control over with their policies. L. Bhopalsingh noted the need to commit to a set of indicators; have a practical number to report to the Board; be regular, meaningful and clear when reporting; and make the indicators accessible to everyone.

F. Smith suggested monitoring of impervious surfaces in watersheds as an indicator.

C. Metherall mentioned that that would require yearly airphotos and that the RDN doesn't have yearly photos, maybe every few years.

L. Bhopalsingh stated that over time, as access to data and data improves, indicators can be updated.

P. Lapcevic noted that annual reporting may be too short of a period of time for monitoring water levels in observation wells.

L. Bhopalsingh suggested that the indicators could be presented as trends with qualifiers, and also mentioned the potential for bi-yearly or monthly updates for different indicators.

J. Deniseger noted that eventually in 3-5 years the Community Watershed Monitoring Network data will start to show trends. With regards to groundwater indicators, he noted the need to manage expectations. Very little data is collected on a yearly basis. The frequency is more like 3-5 years. Should think more along the lines of a periodic snapshot that shows trends.

C. Jackson suggested the use of water storage, including RWH systems, could be an indicators that could be tracked through Building Services Department.

M. Donnelly suggested that the water budget will identify stressed areas to guide our DWWP program and narrow our focus. Therefore it may be premature to shoot for a target before the water budget. This could be a basis for a future discussion during the Fall meeting of this committee.

#### **Community Watershed Monitoring Network Update (C. Metherall)**

The monitoring network now includes 10 different stewardship groups to monitor water quality across RDN. This year Harbour City River Stewards have joined the program. The monitoring sites were chosen by the RDN and MOE based on feedback from City of Nanaimo staff, representatives from VIU, and based on where there was historical monitoring information. Monitoring begins this August 14<sup>th</sup> until mid-September for low flow period, and will start again in mid-October for the Fall Flush period. The monitoring will collect data on turbidity, dissolved oxygen, conductivity and temperature. The Cowichan Valley Regional District is looking to start a similar program. More information is available on the new webpage.

#### **Observation Well Updates (C. Metherall)**

C. Metherall stated that this initiative is in partnership with Geological Survey of Canada who have contributed \$50,000 for sonic coring in the creation of new observation wells. The sonic core will provide a continuous tube of material to get a good definition of what the aquifer materials are like in an area. C. Metherall stated that the initial invite to quote was met with proposals that were all well over budget. She stated that the problem may have been the quick turnaround timing and noted the re-releasing of the invite to quote with hopes of drilling between October and January. The RDN needs to spend money by the end of March 2013.

#### **Stewardship Activities Updates (J. Pisani)**

J. Pisani presented the latest stewardship activities including the new Rainwater Harvesting Incentive program; the Rural Water Quality Stewardship program development; the Water Purveyor Working Group meeting in June and the next one in the Fall; the 20+ Team WaterSmart community events; Toilet

Replacement Rebate Program; the Free Irrigation Audit program targeted at high water users and strata; and the 5 Kids Camp presentations scheduled this summer.

M. Donnelly added that the Drinking Water and Watershed Protection educational program is now a year-round effort and that the program is successful because of it.

#### **OTHER**

F. Smith mentioned the MVIHES Englishman river status report card that is in the works. It has been ten years since the recovery plan was initiated. She put forward to the committee if anyone can assist with providing any information or data it would be really helpful and to contact F. Smith directly

J. Finnie mentioned the recent Water Balance Model workshop that RDN Water Services and Planning staff attended that addressed concerns with impermeable surfaces and that there are currently no direct planning requirements in terms of numbers or criteria. J. Finnie noted the importance of recognizing that site run off does impact streams and that the goal should be to detain storm water on site if possible. He mentioned an upcoming tool to watch for called Water Balance Express.

#### **ADJOURNMENT**

The meeting was adjourned at 3:07 pm.