

## MAYNE ISLAND INTEGRATED WATER SYSTEMS SOCIETY

Earlier this fall, I was asked to assist with the completion of a very intensive compulsory water systems survey from Statistics Canada.

The in depth record reporting required made compliance very expensive for a small system, and led me to have a conversation with the Stats Can researcher, stressing the fact that they still were not going to get an accurate picture of Mayne Island's water structure and consumption levels. He asked that I provide a letter addressing those concerns .

The letter following is offered here for the information of Islanders, and so that you will know that MIWSS is not only workshops, and fall fairs.

Mary Cooper, Chair, MIWSS

### RE: SURVEY OF DRINKING WATER PLANTS QUESTIONNAIRE :

**PLEASE NOTE:** The following comments are pursuant to a discussion with xxxx, and his request for additional information and comments, and are not within the scope of the Water District as such, but are comments on the water situation on Mayne Island, BC, and other areas in general.

This information comes from my capacity as Chair of the Mayne Island Integrated Water Systems Society, and experience as past chair and systems manager of xxxx water district. See [mayneisland.com/water](http://mayneisland.com/water) for island information on water.

### COMMENTS & DEDUCTIONS

Mayne Island is only 50% served by organized water systems in the form of improvement districts, strata holdings and societies. The balance is served by private wells and there are several areas where these private wells serve more than 1 residence or a strata (making them an illegally operated water system). This information would not be available to you, and sufficient voluntary responses to questionnaires for that group to frame an adequate picture for your purposes would be doubtful. This is not an uncommon situation on the islands or rural communities.

Mayne Island is 100% groundwater supplied.

Galiano Island is 100% groundwater supplied.

Saturna Island has 1 small dug reservoir for an improvement district service only (CRD), a large portion of groundwater supplied wells, and a fairly substantial number of homes are solely supplied by rainwater collection due to salt water intrusion.

North Pender Island has a couple of small lake reservoirs (1 supplies the Magic Lake Estates CRD system), balance is private wells and 2 small improvement districts

South Pender Island is 100% groundwater with quantity problems.

While Mayne Island is only 5 x 5 miles, the northwest corner has high arsenic content and no problematic salinity problems, southwest high iron and manganese, southeast, higher than desired salinity, no arsenic and low but somewhat problematic iron and manganese. The central north coastline along Active Pass has a serious problem with salt water intrusion.

MI Integrated Water Systems Society started a well mapping program in 2006, where we located 13 private wells by GPS and tested, at no cost, for salinity, iron, hardness and hydrogen sulfide ( another problem that is spottily generic across the island). We also had several water systems participating. It was our intention to test 2x a year, expanding to include static levels, and other information as we felt important to the future of water security on Mayne.

We have had to table the project due to the lack of a volunteer chair for the project and the financial inability to hire a student or staff to continue. We are a 100% volunteer non profit society. We are participating in university studies from SFU, Queens, UVIC and work closely with our Ministry of Environment where possible in an attempt to somewhat compensate.

At our annual water workshops (attendance 140 well owners and systems staff and educators), we have been reliably informed by island well drillers that they are drilling approximately 20 to 40 feet deeper than 20 years

ago. This is indicative of generally reducing aquifer levels. Our workshop agendas cover all aspects of potable water production from local to international, wells to rainwater. As well, we facilitate courses for small water systems operators to help them maintain their qualifications as economically as possible, while being available to assist individual well owners with problems and maintenance.

It is agreed that quantity and quality are closely linked, for as you reduce quantity, you are generally densifying content affecting quality, sometimes negatively as in the case of any island surrounded by salt water. One improvement district well is in use every year until approximately half way through the summer drought period when the arsenic content increases. It is doubtful that this well will be recorded in your survey since it is a well in partial use and not a consistent producer. Our drought periods last from 4 to 5 months.

MIIWSS decided that the most economical and best plan for the future of water and treatment on the islandS (we have membership on all of the Southern Gulf Islands and beyond), was to attack the problem at the cheapest end, water conservation. We initiated a dual flush toilet replacement program with a budget of max \$430,000 for 4 islands. We applied through the Federal Gas Tax refund program, and had support from all levels of local governments (Islands Trust and CRD), our MP Gary Lunn and our MLA. We qualified as an NGO. We lobbied for 2 years----- to no avail. We wasted valuable time and more valuable money.

On the reverse side, treatment, we have had 2 water systems forced to turn their system property over to the CRD because of high treatment costs for 1, and infrastructure needs for both. We currently have a 3rd system going through the process of ceding their system to the CRD because of extremely high infrastructure costs for septic system replacements for approximately 1/4 of their stakeholders. The balance of owners are on private septs. The system stakeholders can cope with the costs of water system upgrades and maintenance, but the septic system costs will be in the millions for about 65 homes.

Water systems cannot access infrastructure funding except through the CRD (in our jurisdiction). This is in spite of the fact that they are licensed (permitted) purveyors with the regional health authority, EOCP ( prov. govt contractor for qualified operator registry +), audited, inspected, and overseen by the province through various ministries depending on their status.

What is not recognized, by ANY government body, is that small water systems do provide economical (1/3 of CRD costs) potable water at the local level, practicing conservation with bylaws and rebates, because it is absolutely necessary, because it is their home and because they care. Plus, being local, they are on site to enforce!

The higher levels of government (CRD etc) are remote, offer no or few conservation plans or incentives unless the stakeholder has paid for them up front (which amounts to no incentive) and maintenance and staff are supplied by ferry out of Victoria with no local "attachments", a very expensive and remote management system.

When we conserve water, we are also offering better maintenance for our septic systems. In the main, our islands, as do all rural areas, rely on septic systems. In general, the septic systems are many years old, and the knowledge about how to cohabitate with a septic by the homeowner is minimal. (Something we are working on now)

It is being proven that there is an interface between septic systems and the aquifers and surface water. These studies state that there is great cause for concern!

### **3 things become obvious out of the above:**

1) to function efficiently, safely and locally, now and in the future, small water systems need the availability of financial support from governments without being forced to cede their property.

2) reliable and consistent grants in aid must be made available to qualified NGOs with proper planning to assist with education and conservation projects. Money is spent by the billions in urban areas, and very little is considered for infrastructure or education for rural unorganized areas. Taxes are collected equally!

3) While this survey is a commendable effort, it, in itself, will not paint an accurate picture of our island, and this can surely be extrapolated to other rural communities.

**4) GOVERNMENTS MUST REALIZE IT IS CHEAPER TO CONSERVE ON THE FRONT END THAN TO TREAT ON THE BACK END AND BACK THAT UP.**

Respectfully submitted for your consideration,

Mary E. Cooper, Chair,  
Mayne Island Integrated Water Systems Society  
[mayneisland.com/water](http://mayneisland.com/water)  
[water@gulfislands.com](mailto:water@gulfislands.com)