

What is the Yellow Point Aquifer?

In the Yellow Point area, water is stored underground in cracks and fractures in bedrock. This underground storage is the Yellow Point aquifer. The unique bedrock, known as the 'Nanaimo Group', is made of compacted mud and sandstone. A rock core sample (below), shows that the small cracks in this rock can not hold a lot of water. The Geological Survey of Canada wants to learn more about this rock and contributed funds to the well drilling to obtain this rock core.



Rock Core from the Yellow Point Aquifer Observation Well

The Drinking Water and Watershed Protection program works to protect the Region's water resources by collecting new information on ground and surface water, using this information to inform land use decisions, and empowering communities to protect the environment. The DWWP is taking the following actions in Area A:

Cassidy-South Wellington Groundwater Quality Survey:

In spring 2011, the RDN tested 48 volunteer wells for over 40 parameters to learn about groundwater quality and the impacts of human activities. The Ministry of Forests, Lands, and Natural Resources Operations (MFLNRO) analyzed the results and presented them at a public meeting in fall of 2011. The presentation is available on the RDN website and a report will be released early 2012.

Yellow Point Monitoring Well:

The RDN drilled a well at Holden Corso and Lofthouse Roads in order to monitor groundwater levels in the Yellow Point Aquifer. The MFLNRO installed automatic monitoring equipment and information on water levels will be uploaded to the MFLNRO groundwater website every 3-4 months.

Private Well Monitoring:

The RDN has invited the residents of several homes in Yellow Point to participate in a well monitoring program. If you have an unused well that you would like to donate to the program, contact us at 250-390-6560.

Community Watershed Monitoring:

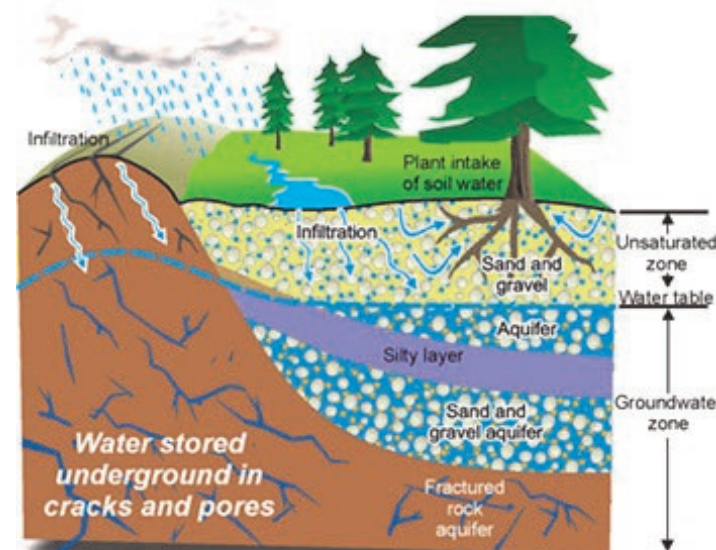
Local community groups and the Ministry of Environment (MOE) are working with the RDN to monitor water quality in local rivers. The RDN purchased high quality monitoring equipment and the MOE trained groups on sampling procedures. The Nanaimo Area Land Trust (NALT) is monitoring two sites on the Nanaimo River.

Water Budget Project:

The RDN is starting a project to identify how much water is in local streams, lakes, and aquifers, how much water is used, and where water is being taken or used in a way that may not be sustainable.

Rural Water Quality Stewardship:

The RDN wants to help rural property owners protect rural drinking water sources. More information on this new program will be available in early 2012 at www.teamwatersmart.ca.



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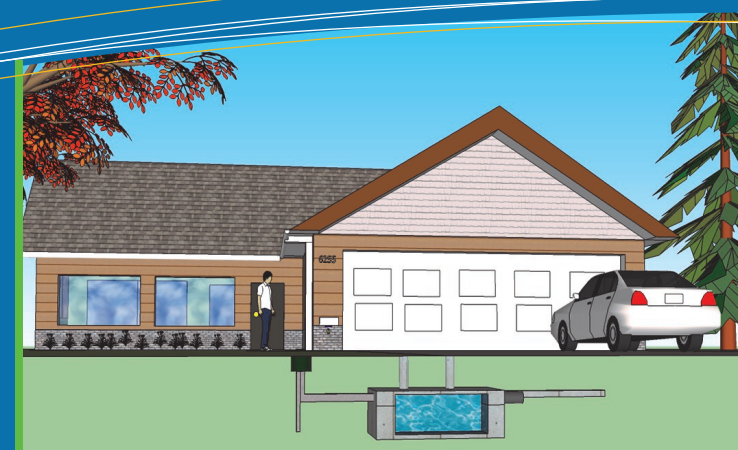
What's the Difference?

The **Yellow Point aquifer** is a **bedrock aquifer**, represented on the left in the diagram above. The **Yellow Point aquifer** is less vulnerable to contamination, but has **low productivity**, meaning it has a limited ability to store and produce water. When water is removed from this aquifer it can take a long time to re-fill or 'recharge'.

The **Cassidy aquifer** is a **sand and gravel aquifer**, similar to the aquifer on the right (above). The **Cassidy aquifer** is **highly productive** (has more water) but **highly vulnerable** to contamination because it is very easy for both water and contaminants to get into the ground through the sand and gravel.

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Requirements for proving water stay the same.

Part 4 of "Regional District of Nanaimo Land Use and Subdivision Bylaw No. 500, 1987" specifies that where a parcel is proposed to be created which is less than 5.0 ha in area and is not to be serviced by a community water system, an applicant must prove to the satisfaction of the Approving Officer, that a minimum year round potable water supply of 3.5 m³ (3,500 litres) per day can be provided for each parcel being created.

Rainwater Harvesting Guide

The RDN is developing a Rainwater Harvesting Best Practices Guide to ensure that residents build safe and effective rainwater harvesting systems. The RDN expects that the Guide will be available in early 2012.

Introducing the New Yellow Point Aquifer Protection Development Permit Area

After a three-year intensive Official Community Plan (OCP) review process that involved a comprehensive public participation component, a new OCP for Electoral Area 'A' was adopted on July 26th, 2011. Electoral Area 'A' is located south of the City of Nanaimo and includes the unincorporated communities of Cedar, South Wellington, Cassidy, and Yellow Point.

In response to strong community concern over declining water levels in the Yellow Point Aquifer and the potential impact of new development, the new OCP includes a new Development Permit Area (DPA) titled "Yellow Point Aquifer Protection Development Permit Area". This DPA applies to all lands located above the Yellow Point Aquifer as shown on the map included on page 3 of this publication.

A DPA is a planning tool used by Local Governments to trigger a thorough review of development proposals including subdivision, construction, and land alteration to ensure that each proposal satisfies the community's objectives specified as DPA Guidelines in the OCP.

The new Yellow Point Aquifer Protection DPA has been designated pursuant to Section 919 of the *Local Government Act* for the purpose of:

- i. protecting the natural environment, its ecosystems, and biological diversity, and,
- ii. establishing objectives to promote water conservation.

As a result of the new DPA, unless otherwise exempt, no subdivision or development activities may occur within the DPA without first obtaining a Development Permit from the RDN.

A summary of how the DPA applies and what activities can occur within the DPA without a permit is provided on page 2 of this publication.

For further information please visit www.rdn.bc.ca and navigate to section 12 of the Electoral Area 'A' OCP or call the RDN Planning Department at (250) 390-6510.

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Yellow Point Aquifer Protection DPA Continued

The DPA includes guidelines that apply to subdivision of land and construction of a dwelling unit. The following provides a summary of the DPA Guidelines. Please refer to the Electoral Area 'A' OCP for more detailed information.

Guidelines applicable to subdivision

Where a property is proposed to be subdivided and more than three parcels are being created, a Hydrogeological assessment is required which includes:

- an assessment of the characteristics of the aquifer at its most stressed time of the year including two cross sections which define the groundwater body and determine where the water comes from;
- the results and professional interpretation of a minimum 72 hour pumping test;
- an assessment of seasonal water table fluctuations and the ability of the aquifer to provide a sustainable water supply without impacting adjacent rural properties or agricultural activities; and,
- identification of key recharge locations on the site.

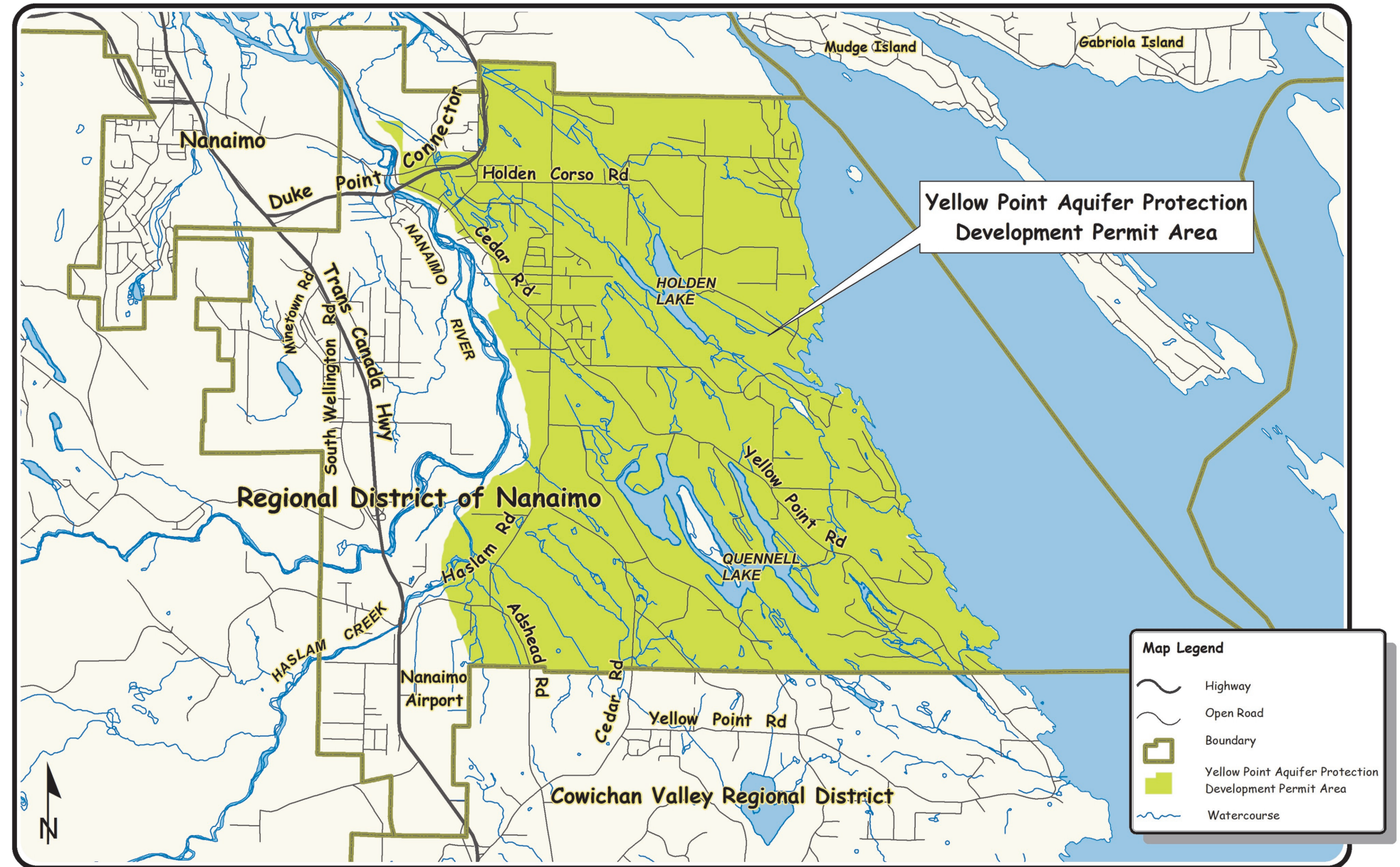
Guidelines applicable to the construction of a new dwelling unit

The Yellow Point Aquifer DPA requires that all new dwelling units within the DPA have rainwater harvesting equipment installed as a means of water conservation. The rainwater harvesting equipment is external to the dwelling unit and is intended for outside use. However, the system must be designed to accommodate possible future inside use as well.

The following is a summary of the DPA guidelines applicable to the construction of a new dwelling unit within the Yellow Point Aquifer Protection DPA.

- Dwelling units must be sited and designed to maximize opportunities for rainwater catchment from all roof surfaces.
- The use of impervious surfaces (other than roofs) shall be discouraged.
- All new dwelling units must include an external rainwater harvesting system which includes the following:
 - external equipment for collecting and distributing rainwater from the dwelling unit roof;
 - a storage tank(s) with a minimum storage capacity of 18,000 litres which is designed for rainwater collection and is rated for potable use;
 - a pumping system;
 - an overflow handling system; and,
 - the ability for future connection to the dwelling unit.

For more detailed information on the requirements outlined in the Yellow Point Aquifer Protection DPA please refer to the Electoral Area 'A' Official Community Plan .



Activities that may occur without a Yellow Point Aquifer Protection Development Permit.

- Subdivision of land which results in three or fewer lots and the parcel proposed to be subdivided has not been subdivided within the last five years.
- Land Alteration.
- Construction of a dwelling unit or subdivision where the subject land is serviced by a community water system
- Construction of a dwelling which is not connected to a groundwater source and is entirely serviced by stored and treated rainwater.
- Maintenance and structural alterations which do not result in additional living space (i.e. carport, accessory buildings).
- With respect to an existing dwelling unit, additions of up to 70m² of living space.

Please note other DPA Guidelines may apply (e.g. Fish Habitat Protection, Farm Land Protection, etc.)