



# Background:

## Introduction – What is Planned?

The Englishman River Water Service (ERWS) is planning to expand the joint venture drinking water supply system with:

- A new surface water intake and water treatment plant along the Englishman River
- Water main upgrades and the installation of new water supply lines.

## What is the Arrowsmith Water Service and the Englishman River Water Service?

The Arrowsmith Water Service (AWS) is a joint venture that was formed to secure a bulk water supply from the Englishman River for the City of Parksville, the Regional District of Nanaimo and the Town of Qualicum Beach. The AWS water supply is intended to supplement existing supply sources owned and operated by the individual jurisdictions. The AWS is governed by appointed members from the City of Parksville and Town of Qualicum Beach councils and the board of the Regional District of Nanaimo.

The Town of Qualicum Beach will retain interest in the Arrowsmith Dam including the annual operations and maintenance but not in future capital works of the new water intake, treatment facility and aquifer storage and recovery wells. The Regional District of Nanaimo and the City of Parksville have formed the Englishman River Water Service (ERWS) joint venture as both need additional water intake capacity and improved surface water treatment and are therefore going forward with the proposed improvements.

In June 2011, the partners renewed a revised AWS joint venture agreement. The agreement now addresses governance and funding of the bulk water service without referencing participation in the next phase of capital infrastructure. This change addresses Qualicum Beach's interest in not wishing to cost share in the water intake, treatment plant and distribution infrastructure at this time.

Voting of the AWS management board follows a weighted vote system rather than a unanimous vote system to better reflect a governance model that is similar to a regional district governance structure.

## Arrowsmith Water Service joint venture agreement (percentages of interest)

|                              |  |
|------------------------------|--|
| City of Parksville           | 63.9%                                    |
| Regional District of Nanaimo | 22.4% (Nanoose 14.4%, French Creek 8.0%) |
| Town of Qualicum Beach       | 13.7%                                    |

The Englishman River Water Service joint venture agreement parallels and complements the Arrowsmith Water Service joint venture agreement; it has only the City of Parksville and the Regional District of Nanaimo as joint venture participants.

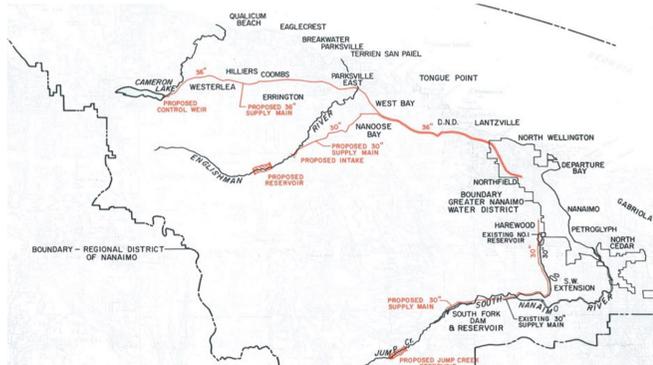
The ERWS joint venture agreement describes the infrastructure (intake and treatment plant) that will be cost shared by its two joint venture participants, and contains language that gives the option for the Town of Qualicum Beach to join the agreement in the future. While the Town of Qualicum Beach would not be a signatory to the Englishman River joint venture agreement, under the AWS Agreement the town would have the option to "buy in" to this infrastructure at a future date. The Town would have the right to do so due to the rights it possesses as a Joint Venture partner on the AWS water licence for the Englishman River and as joint owner of the Arrowsmith Lake dam and related infrastructure.

## Englishman River Water Service joint venture agreement (percentages of interest)

|                              |     |
|------------------------------|-----|
| City of Parksville           | 74% |
| Regional District of Nanaimo | 26% |

## Background / History

The first Regional Water Study commenced in 1972 and incorporated all the Regional District of Nanaimo's water supply needs ranging from Bowser to Cedar. Three sources of future surface water supply were identified, Cameron Lake, Englishman River and Jump Creek.



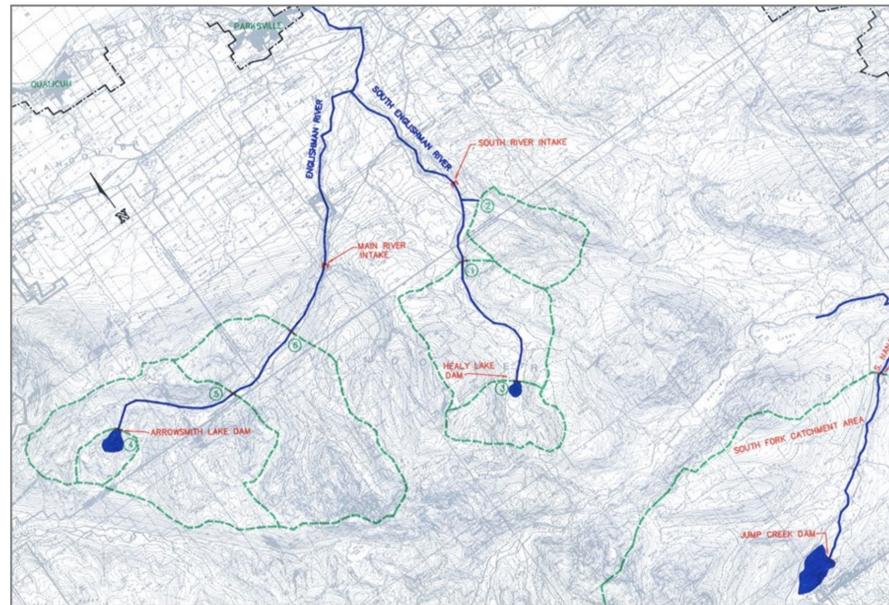
1972 Regional Water Study

## Arrowsmith Water Service Mission Statement:

*An environmentally sensitive use of water to improve fish habitat and domestic water supply.*

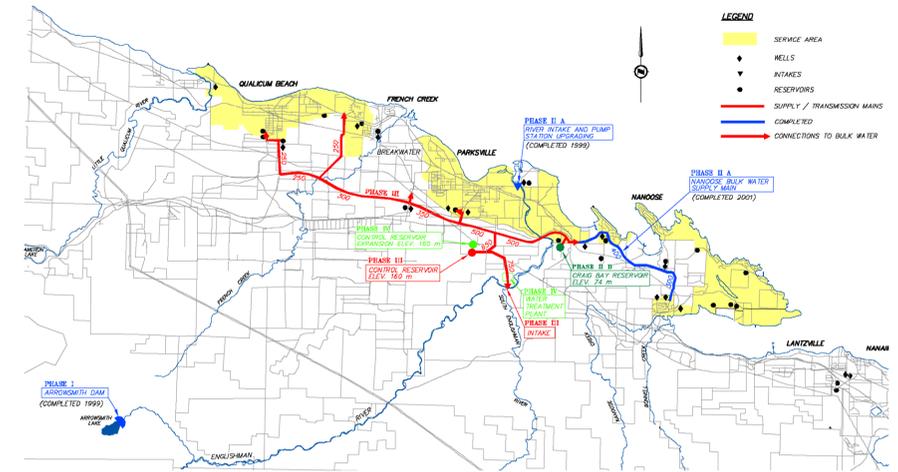
A comprehensive water supply study was completed in 1988. This was an integrated regional water study that focused on the Englishman River and Nanaimo River, South Fork - Jump Creek. At this time it was determined the Greater Nanaimo Water District (now the City of Nanaimo) would proceed on their own as it was determined to be more feasible to develop their own water supply system.

1988 Regional Water Study



- In 1990 a Referendum approved the borrowing of \$ 450,000 for pre-design of a regional water supply system to serve the area from Lantzville to Qualicum Beach with a focus on Englishman River and Bonell Creek
- Pre-design was conducted between 1991 to 1993
- Concluded that it was more feasible to have two separate water systems (Qualicum Beach, Parksville and Nanoose (RDN) to be served by the Englishman River and Lantzville to be served by Bonell Creek)
- A referendum held in 1995 to approve design and construction of a bulk water supply system under the auspices of the Regional District of Nanaimo was defeated.
- Cameron Lake was ruled out by the Province and the focus was put on the Englishman River for additional fisheries benefit
- The Arrowsmith Water Service was formed in July 1996, as a joint venture between the Regional District of Nanaimo, the City of Parksville and the Town of Qualicum Beach.
- The original capital plan, presented as part of the 1995 pre-design of the bulk water supply system, went to referendum in 1996 and was approved for the design and construction of the Arrowsmith Dam by all partners of the AWS joint venture. The original plan concentrated on an intake at the confluence of the Englishman and South Englishman River with the remainder of the treatment facility located on Block 602.
- The City of Parksville limited its referendum to the borrowing for the dam only, whereas the Regional District of Nanaimo referendum provided authority for borrowing its projected share of the entire bulk water supply system over a 25 year period to supply bulk water to its systems in French Creek and Nanoose. Qualicum Beach paid for its share of the dam from reserves and thus did not hold a referendum.
- The bulk water volume required for Breakwater bulk water residents (currently EPCOR – French Creek) was included in the RDN's allocation as it is part of the overall RDN bulk water service area.
- In 1996 a water licence application was submitted based on locating the proposed water intake at the confluence of the South Englishman River and the Englishman River (see Original 1996 Bulk Water Supply – below)

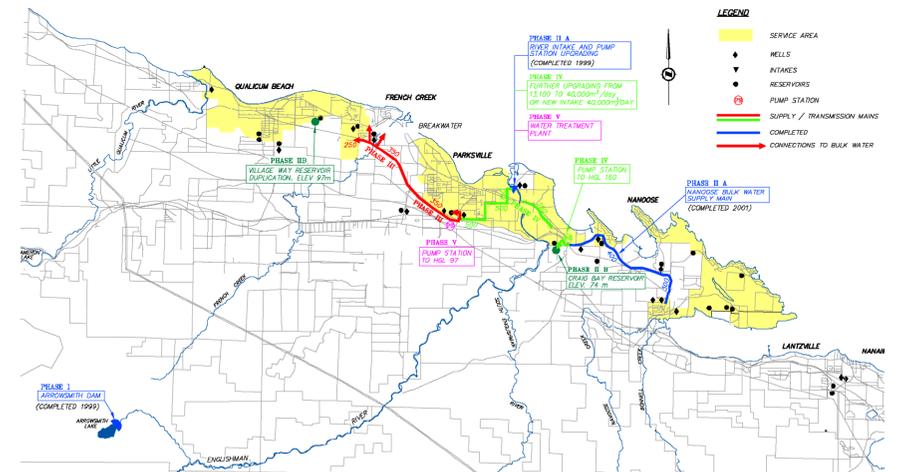
## Original 1996 Bulk Water Supply Option



A Conditional Water License was issued in March 1997 authorizing the construction of the Arrowsmith Dam, a maximum withdrawal of 47,954 m3/day of water from the Englishman River for the proposed bulk water system and the storage of 9,000,000 m3 of water at Arrowsmith Lake. The Conditional Water Licence and corresponding Provisional Operating Rule were issued based on the premise of utilizing the existing City of Parksville water intake in the interim until such time the future proposed water intake location was determined and constructed.

This option would allow water to be extracted below the South Englishman River and the Englishman River confluence and be pumped to a control reservoir located in the vicinity of Little Mountain to an elevation of 160m. With this option, the AWS bulk water service area would receive water through a gravity based system controlled from the reservoir on Little Mountain.

## 2005 - Downstream Intake Bulk Water Supply



Between 2000 and 2005, further progression of the AWS capital plan commenced focusing on the future intake location. The capital plan took into account a triple bottom line approach of weighing environmental, financial, risk and social factors and therefore further determined that the best location would be downstream of the originally proposed intake.

Although this option does not provide a gravity feed and control, it was determined that it represented the most attractive option as it presents cost savings over the option of incorporating an upstream intake and also provides substantial fisheries benefits for the Englishman River due to extending the low flow enhancement further downstream from summer releases at the Arrowsmith Dam. This benefit will become more significant as climate change could adversely affect the low flow regime of the river as time progresses. This option received conditional support from the AWS Management Committee in July of 2005 and the report was finalized in March 2008.

In 2009, the AWS retained Associated Engineering through a quality based selection process to further develop the capital plan based on the downstream option. The primary objectives of the study were two-fold.

- The first was to determine the site and development concept for a new water intake, water treatment plant (WTP) on the Englishman River.
- The second and equally important objective was to determine how the surface water and groundwater resources can be best managed.