Arrowsmith Water Service and Englishman River Water Service
Monthly Update - August 2025

Purpose

This document is intended to provide board members of the Arrowsmith Water Service and the Englishman River Water Service with an update on the status of the joint ventures. This document is also publicly accessible through the City of Parksville's website.

Background

Arrowsmith Water Service (AWS) was established as a joint venture between the Regional District of Nanaimo (RDN), the City of Parksville, and the Town of Qualicum Beach to develop a regional water supply system. In 1996, AWS applied for a water licence to construct the Arrowsmith Dam. A conditional licence was granted in March 1997, authorizing the Dam to store 9,000,000 m^3 of water for community supply and conservation.

When flow drops below 1.6 m^3/s in the Englishman River, at hydrometric gauge 08HB002 (see Figure 1, page 3) during the operating season, from June 1 to October 31, water from Arrowsmith Dam is released to augment baseflow in the river. A portion of the water in the river is withdrawn for Parksville's and the RDN's water needs.

In 2011, the Englishman River Water Service (ERWS) was established as a joint venture between Parksville and the RDN, and was formed to enable year-round water withdrawal from the Englishman River. Due to elevated turbidity during the rainy season, a two-stage treatment process was required to meet the Guidelines for Canadian Drinking Water Quality.

The Englishman River Water Treatment Plant (WTP) was constructed in 2019 and draws water from an intake upstream of Island Highway 19.

Arrowsmith Dam

Ultrafiltration Membranes at the water treatment plant

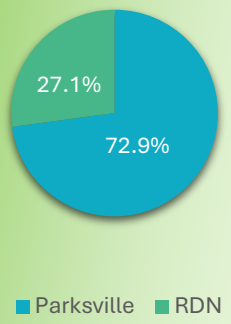
August 2025

ERWS WTP Production
221,740 m^3

RDN Share of ERWS
60,184 m^3

Parksville Share of ERWS
161,556 m^3

ERWS Consumption Percentages



Englishman River Water Service

- During the summer, one co-op student successfully completed a four-month work term at the water treatment plant. This placement provided operators with an opportunity to revisit safety practices and reinforced the importance of beginning a career with a strong foundation in safety awareness.
- Operators are actively preparing for the chemical tank replacement scheduled for the fall. As this work requires a full shutdown of the plant, detailed planning and flawless execution are essential. Coordination with vendors and internal teams is ongoing to ensure the process is conducted with a strong emphasis on safety and precision.
- Operators started cataloging Safe Work Procedures. This initiative involves reviewing, updating, and developing procedures to promote consistency and enhance safety across all operational processes.

Arrowsmith Water Service

- Weekly dam inspections are ongoing.
- On June 19, 2025, the City of Parksville received an Order from the Ministry of Water, Land and Resource Stewardship (WLRS), under the *Water Sustainability Act.* The Order authorized a reduction in flows at the Water Survey of Canada (WSC) hydrometric gauge 08HB002 (see Figure 1) to a minimum of 1.0m^3/s until October 31, 2025. This measure enables operators to conserve water at Arrowsmith Lake Dam, ensuring the minimum flow of 1.0 m^3/s is sustained throughout the release period (June 1 to October 31), in response to early drought conditions.
- A lake level projection tool for Arrowsmith Lake, developed by Kerr Wood Leidal, allows staff to input current conditions (lake level, maximum intake withdrawal at the WTP), and simulate various flow rates at gauge 08HB002. This helps determine how much water can be released while maintaining a flow of at least 1.0 m^3/s until October 31.
- The Order stipulates that Water Conservation Stage 3 must be enacted when flows fall below 1.6 m^3/s but remain at or above 1.2 m^3/s, and Stage 4 be enacted when flows drop below 1.2m^3/s. On August 1, the City transitioned to Water Conservation Stage 4 to maintain a flow of 1.0 m^3/s at gauge 08HB002.
- The current lake level remains below historical average (see Figure 2). Staff continue to conserve water to ensure sufficient reserves are available for release later in the season. Once the lake level drops below 810 m elevation, the dam's maximum release capacity becomes insufficient to maintain the minimum flow of 1.0 m^3/s at gauge 08HB002 during drought conditions.

Figure 1. English River Watershed.

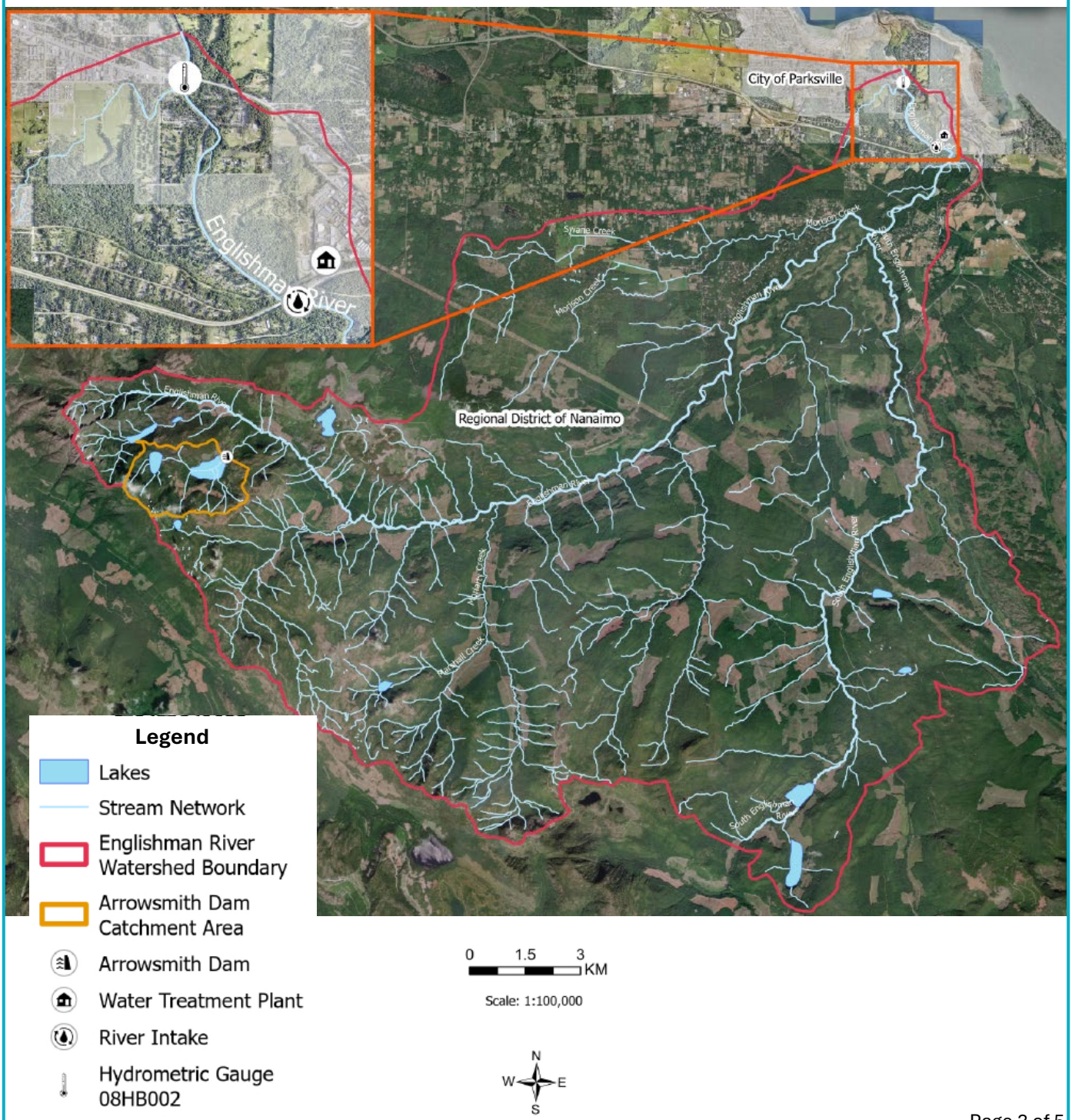


Figure 2. Arrowsmith Lake Level at the Dam.

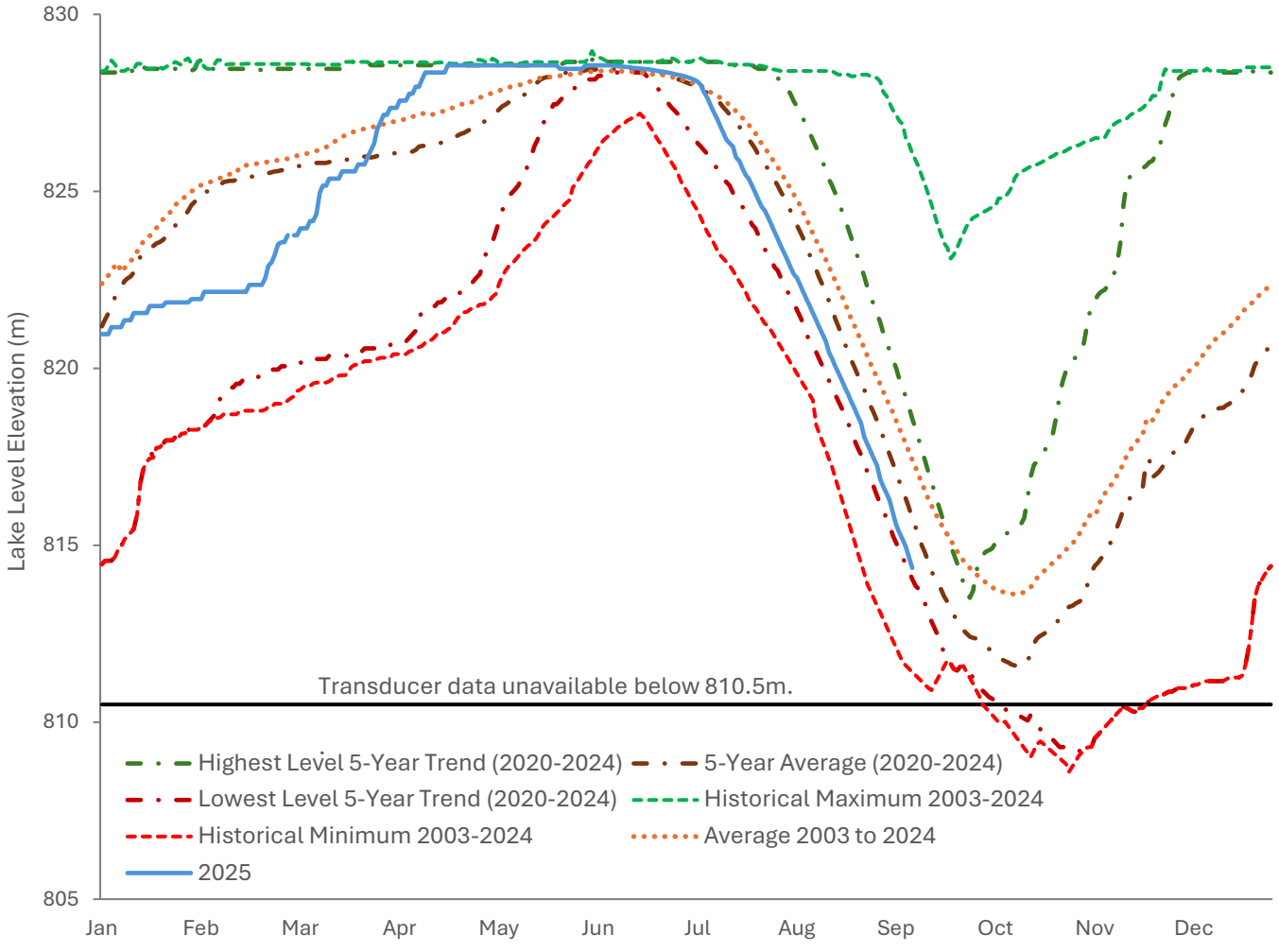


Figure 3. Historical average and current Arrowsmith Dam release flow rates, Englishman River flow at 08HB002, estimated baseflow, intake withdrawal (m^3/s), and rainfall (mm).