

## Stage 3 (Mainstream) – Bings / Menzies Creek in the Municipality of North Cowichan

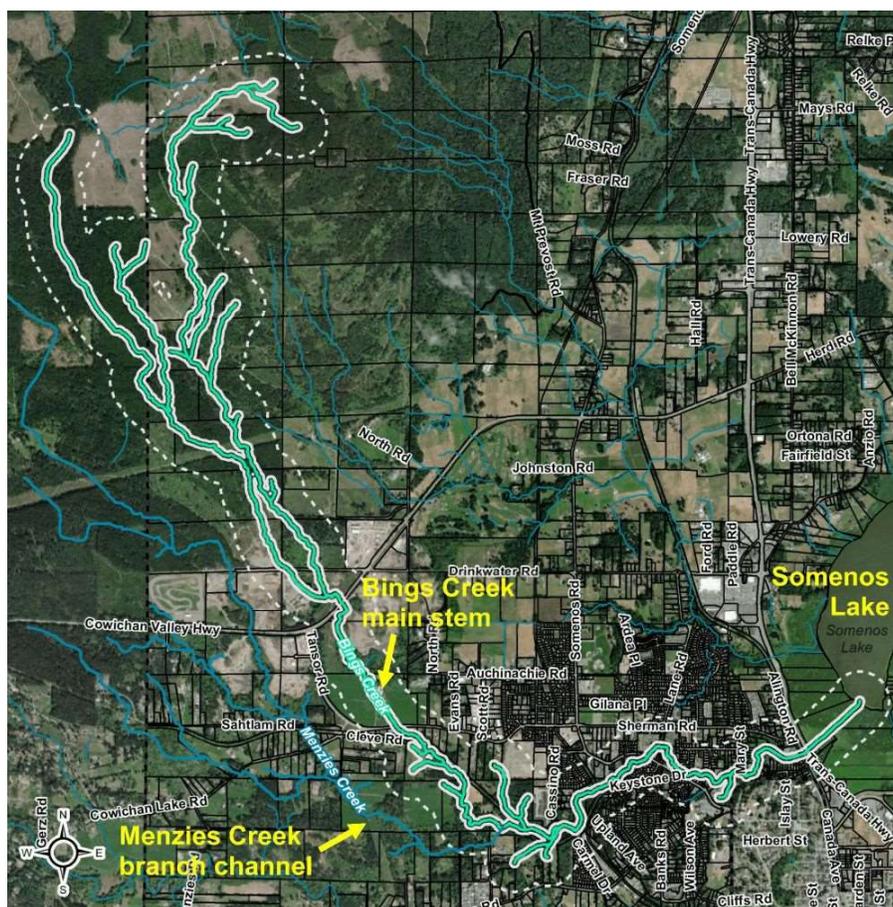
The Bings / Menzies stream system in the Municipality of North Cowichan (MNC), a small (1<sup>st</sup> order) creek, originates as two parallel channels on the slopes of Mount Prevost. Upstream from the Trans-Canada Highway, the two merge and flow under the highway into Somenos Lake. The stream is a landmark in the community landscape and in the cultural history of the Cowichan region First Nations.

**Key Observations:** MNC has a robust bylaw for streamside protection. Within the regulated setback zone, only about 9% of the area is impervious. However, the benefits of riparian protection are undermined by the upland strata development because the impervious coverage as a proportion of total strata area ranges from 49% to 75%. The average is 60%. These are extreme percentages.

### Watershed History

*“The big flowing creek of the past was big enough to hold salmon and canoes. People could travel up the creek into the base of the mountain. And when they got up there, they could take a detour and go up Menzies Creek up into the Hill 60 and Chemainus River area. So, imagine once again, that these creeks were highways from cultural and hunting areas to the village of S’aumna. The base of these creeks, and the whole way up for that matter, would be populated with homes, people, and artifacts.”*

– Cowichan Tribes oral history



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## Why we selected Bings / Menzies Creek

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Viewed through an environmental lens, the Bings and Bowker case studies are at opposite ends of the land use continuum. The defining difference is streamside setback regulation, or lack thereof.

The Bowker creekshed was fully urbanized in the last century, and well before the *Fish Protection Act* became law in 1997. In stark contrast, the protected stream corridor for Bings Creek is the central feature around which urban development has taken place in this century. Comparison of these contrasting realities adds new insights.

In the Bings creekshed, strata parcel development is a dominant land use. It replaces native vegetation from 60% or more of the parcel area with hard (impervious) surfaces and alters what remains.

This scale of landscape alteration has a material impact because it short-circuits pathways by which water would naturally reach the Bings Creek channel. This conclusion is validated by the streamflow history as recorded by the Bings Creek gauging station.

### Context for Two Big Ideas

Viewed through the EAP lens, the strategic importance of the Bings / Menzies Creek project as a building block is that it culminated in the concept of the **Riparian Deficit** as the environmental equivalent of the **Infrastructure Liability** (gap or deficit). This is a powerful outcome.

EAP is about ensuring that streams survive in an urbanizing setting. The riparian deficit concept adds balance to the asset management conversation by giving equal weight to the environmental protection perspective and associated financial case for stream systems.

**EAP addresses loss of riparian integrity as a stream health factor** (*Big Idea #15*): All EAP building blocks are important, but Bings is especially significant because it closed the EAP analytical loop vis-à-vis the **Road Map for Protecting Stream System Integrity** (explained in Part C). It allowed us to unequivocally state, this is how communities can reconnect hydrology and stream ecology by design.

**NCA value is a measure of the Riparian Deficit** (*Big Idea #16*): The NCA financial value alerts communities to the extent of alteration of the riparian features and hydrology of the stream system. This is the Riparian Deficit. The term accounting is key to this process. Simply put, it asks the question: How well are we doing?

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### Case Study Outcome: Why the NCA value is a measure of the Riparian Deficit

*The most important finding is that the NCA value for the Bings urban area is relatively low compared to several other EAP case studies. A deeper dive into the analysis led to the observation that MNC policies and regulations - notably **Development Permit Area 3 – Natural Environment (DPA3)** – have prevented subdivision of large parcels abutting the stream.*

*Understanding what the numbers are telling us led to a breakthrough in the evolution of the EAP methodology as a tool to support integration of stream systems into Asset Management Strategies. We describe this new concept as the “riparian deficit”. In effect, DPA3 has minimized the order-of-magnitude of the deficit when compared to other case studies.*

*A comparatively low value is a positive indicator of the effectiveness of streamside setback regulation.*

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