

Stage 3 (Mainstream) – Bertrand Creek in the Township of Langley

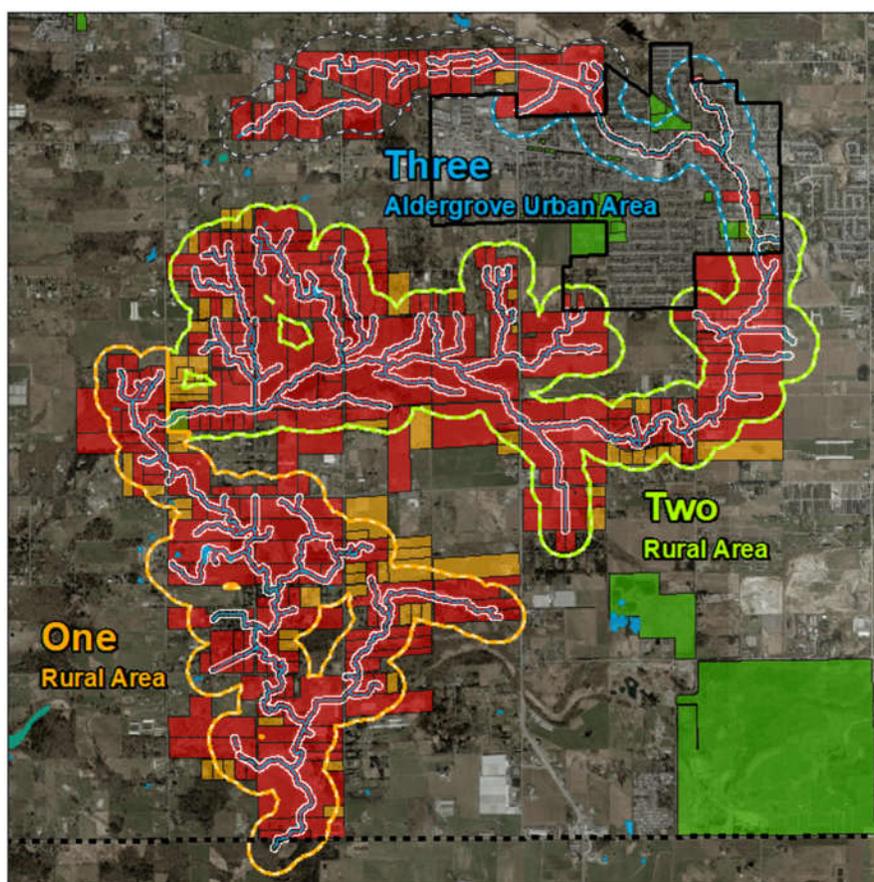
Bertrand Creek and its tributaries drain the southeast quarter of the Township of Langley and is a transboundary watershed. The Bertrand system occupies 14% of the municipality's total land base. The main stem originates in a rural area, swings through urban Aldergrove, and flows south through agricultural land into Washington State. There, it discharges into the Nooksack River.

Key Observations: The Township has developed a strategy that would allow it to compensate rural parcel owners for on-parcel M&M and restoration of ecological assets. EAP metrics would support a strategy to increase M&M of riparian assets and woodland assets that are essential for the condition of the stream system. It is therefore a natural alignment of two precedent-setting approaches.

Payment for Ecological Services

Beginning in 2016, the Township of Langley has undertaken a project called the Langley Ecological Services Initiative (LESI) with the goal of applying M&M actions in the Bertrand Creek riparian corridor.

The rationale for payment of such works is two-fold: first, that the opportunities to improve riparian conditions are found in the rural areas; and secondly, that the services provided in the rural areas would then benefit the entire community.



Quantification of riparian & woodland data are measures of assets retained or lost

The Riparian Areas Protection Regulation defines the “streamside protection and enhancement area” (SPEA) needed to support stream function and fish habitat. However, it does not address the condition of the riparian and woodlands assets within this zone.

NCA information enables evaluation of the extent to which development and land use, whether urban or rural, alter streams. EAP uses four variables to describe and quantify the condition of riparian and woodlands assets. These are:

Area of the setback zone

Extent of abutting parcel intrusion into setback zone

Area of woodland cover within the setback zone and adjoining upland area extending 200m beyond the 30m setback zone

Condition of riparian and woodland cover based on type of vegetation and proximity to the stream

Why we selected Bertrand Creek

The community values the Bertrand Creek landscape. The EAP focus on Bertrand occurs in a framework of policy and actions which protect the environment and natural assets.

The question is, how can EAP support the case for payment? In a nutshell, the answer is that EAP yields data and the understanding that would allow the Township to implement the strategy for [Payment of Ecosystem Services](#) in a way that is equitable for all residents.

Context for the Big Idea

Through the case study building blocks, EAP research has proven the validity of using parcel information for quantitative and qualitative analysis of land use impacts on the condition of stream systems.

Moreover, the NCA unit value is a measure of the [Riparian Deficit](#). Thus, it is the lynchpin for [Payment of Ecosystem Services](#). The loss of riparian/woodland assets in urban Aldergrove has created a Riparian Deficit that is 10 times greater than that of the rural area.

EAP quantifies the magnitude of the Riparian Deficit thus supporting equitable urban / rural mitigation investment (Big Idea #18):

The rural parcel areas offer considerable opportunity to undertake M&M of riparian and woodland assets, whereas opportunity is limited in urban Aldergrove. The Bertrand Creek EAP Project has provided the Township of Langley with information it needs to answer the following research question:

What is a fair method to compensate rural parcel owners who are willing to commit areas of their land to riparian and woodland maintenance and/or enhancement to support the condition of Bertrand Creek?

The concept is to fund riparian restoration in the rural area through a parcel fee on urban parcels. The [1% Guideline for Annual M&M Investment](#) establishes the annual amount to be set aside in a fund. The NCA unit value, expressed as \$ per m², establishes a [Unit Ceiling Rate](#) for compensating rural parcel owners who commit areas of their parcels to maintenance / enhancement of riparian and woodland areas. This work would help offset the Riparian Deficit in urban Aldergrove.