

# State <sup>OF</sup> THE Environment 2014

Healthy natural heritage systems are the foundation for a sustainable community. This year we take a look at the ecological systems that connect our neighbourhoods and communities – our backyard streams.

The City of Courtenay State of the Environment annual report series is our way of sharing information on the ways that the City works with the environment on a daily basis, progresses and challenges in environmental protection and the role of citizens in contributing to the health and quality of life of our community.

To learn more on the City's Environmental Protection policies and achievements visit:

[www.courtenay.ca/climateaction.aspx](http://www.courtenay.ca/climateaction.aspx)

City of Courtenay

BRITISH COLUMBIA, CANADA





# How are we doing in some of the areas we measured last year?

This section updates categories from the 2013 report for which we have new data

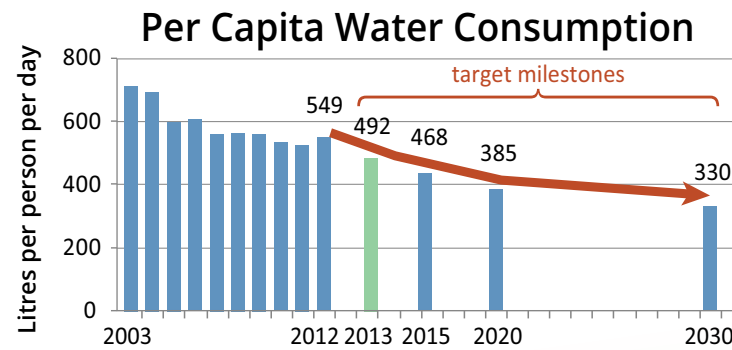


## Water

Water use is on the decrease!

Despite growth and an extremely dry year in 2013, the City of Courtenay as a whole, ended the year with water consumption which was 6.3% less than the bulk consumption recorded in 2012! It is believed that the following programs contributed to the reduced use of water:

- ✓ Summer season Water Enforcement. A temporary bylaw enforcer is retained to educate the public on water restrictions that may be in effect, and enforce the restrictions where required.
- ✓ The Commercial Toilet Rebate program, which offers a \$100 grant per fixture for commercial businesses within the City to replace old high volume toilets with low flow efficient models.
- ✓ The Water Meter Repair and Replacement Reserve, a meter replacement program which has been actively carried out for the past two years. It is believed that the replacement of many of the older meters has been instrumental in identifying internal premise leaks as more accurate meter readings have led to higher billings and as a consequence, investigation by property owners.



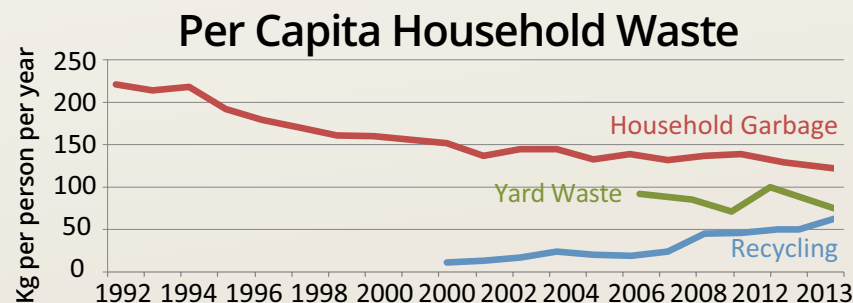
Source: C.V.R.D. water services data. Numbers refer to total per capita consumption — the total volume of water delivered to Courtenay, including 'indirect' commercial, agricultural or public uses, and any system leaks, divided by the residential population. Direct household use will be much lower.



## Waste

Recycling experienced a small increase in 2013. Yard waste is variable over the years. Garbage generation is relatively stable over the past few years.

Residential curbside recycling in the City of Courtenay is expanding on May 19, 2014 and that may mean we see more recycling! As of that date, residents can put new items in their Blue Box for collection. Aerosol cans, spiral-wound containers for frozen juice, cookie dough and other products, plus hot and cold drink cups and plastic plant pots are among the new items that will be collected with curbside recycling. This expansion is part of the City's transition to Multi-Material BC (MMBC) for recycling collection. For a full list of items that can go in Blue Boxes starting May 19, 2014 go to [www.courtenay.ca](http://www.courtenay.ca) and click on Recycling Changes in Courtenay



To see the 2013 State of the Environment Report with all categories go to [www.courtenay.ca/climateaction.aspx](http://www.courtenay.ca/climateaction.aspx) Water and waste are included on this year's report because we have new data for them.

# A tale of two urbanizing watersheds

A closer look at the Glen Urquhart and Morrison Creek streams

Our watershed ecosystems benefit us all. Often the services they provide are overlooked and undervalued. Through innovative planning and wise stewardship, we can sustainably manage our local streams for the benefit of present and future generations. In this section we look at how the land cover is changing in the riparian areas adjacent to Morrison Creek and Glen Urquhart Creek as a measure of stream health, and learn what this means.

## Why is Riparian cover important?

Ecological studies indicate that a stream should have around 30 metres of native riparian cover on each side to help ensure the stream stays healthy for all those who use it. Riparian buffers provide food and shade for fish and other species. Over time mature trees fall into the stream creating more specialized habitats such as deep pools where fish can rest and gravel areas where they can feed and lay their eggs.

Cover is another feature that is important to both adult and young fish. The cooling effects of the riparian area benefit us humans as well as wildlife! Roots in riparian areas also help protect adjacent properties from erosion and possible flooding. Beyond the riparian areas, preserving adequate water flow and areas for rainwater seepage into soil are also essential to long-term stream health.

The following pages show how much riparian cover has been modified in these two creeks within 30m of each side of the stream. This is called a "Riparian Forest Integrity Analysis". Read the watershed profiles to see how you can get involved to protect our special ecological assets!

**Riparian = Of, relating to or situated adjacent to a water body**

## Ecosystem Services = Community Benefits!

- ✓ streams and wetlands provide flood control
- ✓ wetlands filter water going to wells and aquifers
- ✓ wetlands store water and release it slowly over the dry months
- ✓ wetlands are some of the most productive/biodiverse habitats around!

## Four categories of land cover are used:

- **Impervious surface**  
roof tops, parking lots, roads, etc.
- **Open channel**  
where the creek is visible
- **Cleared**  
field or lawn and possibly invasive species
- **Canopy Cover**  
trees and shrubs

A closeup of land cover analysis measured 30m on each side.



## Why are impervious surfaces a problem?

When rainwater is unable to infiltrate into the ground naturally, it runs off the ground's surface and pools where it cannot drain. This can cause flooding and moisture problems. In the dryer months impervious surfaces result in a different problem - less moisture stored in the soil and less water available to streams. This can result in some streams or portions of streams drying out during the summer.



# Morrison Creek Profile

Map shows the portion of Morrison Creek that flows through the City of Courtenay



## Details of note:

Morrison Creek is in west Courtenay and drains into the Puntledge River.  
 Approximate stream length: **19 kilometres**  
 Approximate watershed size: **890 hectares**  
 Major tributary: **Arden Creek**  
 A number of land uses take place along its length including forest management, agriculture and urban development.

This creek is home to the rare Morrison Creek Lamprey, found nowhere else in the world! For more information on the status of this rare and endangered species search for it on the National Species at Risk Registry:

[www.sararegistry.gc.ca](http://www.sararegistry.gc.ca)

## Opportunities include:

Invasive species plant removal and replanting with native species as well as being mindful of storm drain runoff, which flow into the creek - **No soaps, oils, paints, fertilizers or pesticides**. Morrison Creek is considered to be a very productive salmonid stream for its size and is home to 6 of the 7 species of salmonids found on the coast.

## To learn more

about Morrison Creek and how you can get involved visit The Morrison Creek Streamkeepers website at:

[www.morrisoncreek.org](http://www.morrisoncreek.org) or email: [morrisoncreek@yahoo.ca](mailto:morrisoncreek@yahoo.ca)



## Major challenges include:

This stream crosses Cumberland, the Comox Valley Regional District and Courtenay, and involves many private land owners. Effective management requires coordination across boundaries.

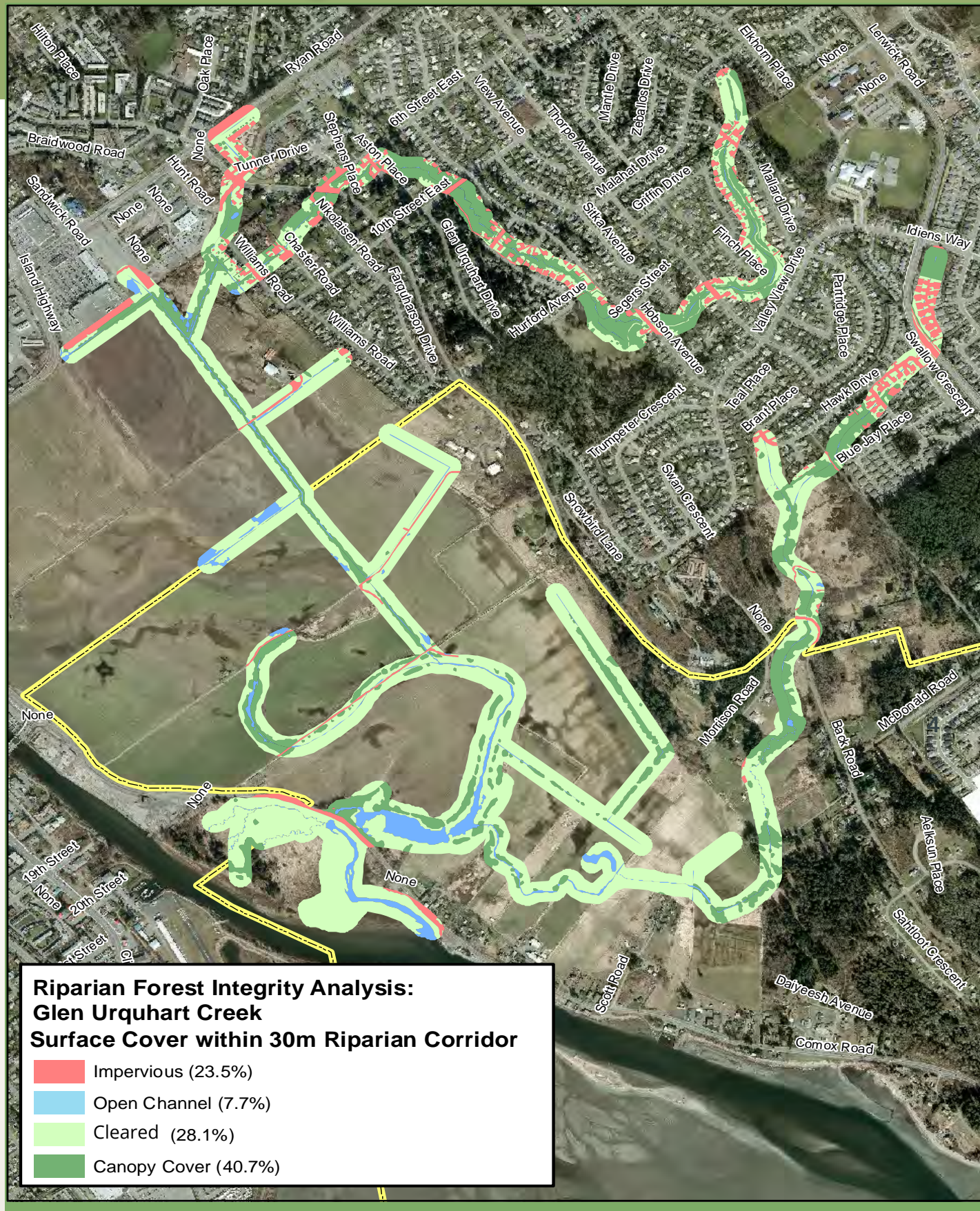
The recovery plan for the endangered Morrison Creek Lamprey lists urban development and land use changes in the watershed as the major threat to this unique species.

The key to watershed health lies in the area known as the Morrison Creek Headwaters, west of the Inland Island Highway and immediately south of Lake Trail Road. Groundwater traveling underground towards Courtenay from Comox Lake "springs" up to the surface and supplies the clean, cool, streamflows that run year-round in Morrison Creek.





# Glen Urquhart Creek Profile



## Details of note:

Glen Urquhart Creek, on Courtenay's east side, drains into the K'omoks Estuary.  
 Approximate stream length: **6 kilometres**  
 Approximate watershed size: **465 hectares**  
 Major tributaries include Mallard Creek and Bonner Creek.

The headwaters of this stream originate in a public park (Malahat Storm Park) and are fed by underground storm water connections from the developments in the Crown Isle area. This short stream is highly urbanized (residential) in its upper reaches and drains through agricultural lands before reaching the estuary.

## Opportunities Include:

With so many homes backing onto the creek, each resident can play a role in restoring their piece of the riparian area! Take out invasive plants, replant with native plants, remove any stored materials from the riparian area, and be mindful of storm drain runoff, which flows into the Creek - *No soaps, oils, paints, fertilizers or pesticides*. The City is also exploring stream restoration opportunities on the many park lands that this stream flows through.

## Join the newly founded Glen Urquhart Streamkeepers!

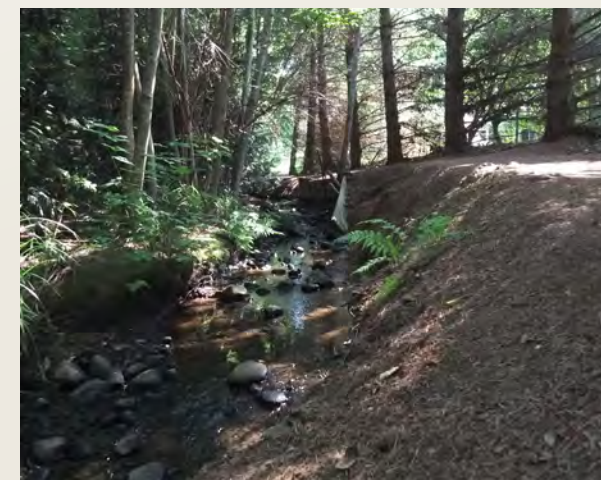
This year is the first for the group. Now's a great chance to get involved in an important project that will have long term impacts for the stream! To get involved contact **Bill** at [T.W.H@shaw.ca](mailto:T.W.H@shaw.ca)



## Major challenges include:

Eroding stream channel, degraded riparian area and exposed stream banks. The many homes close to the stream reflect the more relaxed riparian regulations that existed before the turn of this century.

Chum and Pink Salmon use the lower reaches of the stream until the Back Road culvert which represents a significant barrier to fish passage. Fish habitat does exist upstream of this and other fish barriers along the stream, representing opportunities for restoration.





# Working together, we can make a difference. Imagine what we could accomplish if each one of us helped to restore the watershed!



## Here are some things you can do to contribute to making watershed protection a habit:

- ✓ Don't pour anything down storm drains – these drains often flow untreated into local water bodies even if they don't have the yellow fish painted on them.
- ✓ Minimize your use of fertilizers and pesticides and keep your septic system in good working order to avoid ground water and surface water contamination.
- ✓ Restore local riparian areas. If it's on your property you hold the key to restoration! Get in touch with the local nature stewardship groups to learn more about what you can do.
- ✓ Prevent the spread of invasive species by gardening with non-invasive plants. Plant local as much as you can.
- ✓ Conserve water by using a rain barrel, reducing lawn and garden watering, planting drought-resistant native plants and installing low-flow household fixtures.
- ✓ Plant native trees, shrubs and wildflowers as part of local habitat. Bird, bee and bat boxes make nice additions too!

## Groups that work in Courtenay:

### Morrison Creek Streamkeepers

www.morrisoncreek.org  
morrisoncreek@yahoo.ca

### Glen Urquhart Streamkeepers

T.W.H@shaw.ca

### Millard Piercy Watershed Stewards

www.millardpiercy.org  
mpws@shaw.ca

### Brooklyn Creek Watershed Society

www.brooklyncreek.ca  
lwjefferson@shaw.ca

### Tsolum River Restoration Society

www.tsolumriver.org  
tsolumriver@shaw.ca  
250 897 4670

### Comox Valley Land Trust

www.cvlandtrust.ca  
info@cvlandtrust.ca  
250 331 0670

### Comox Valley Naturalists Society

www.comoxvalleynaturalist.bc.ca  
coordinator@comoxvalleynaturalist.bc.ca  
250 331 0143

### Project-Watershed

www.projectwatershed.ca  
estuary.projectwatershed@gmail.com  
250-703-2871

### Mountaineer Avian Rescue Society (MARS)

www.wingtips.org  
info@wingtips.org  
250 337 2021

### Comox Valley Conservation Strategy Partnership

www.cvconservationstrategy.org  
info@cvconservationstrategy.org  
250 897 1271

## Other resources

Visit [www.courtenay.ca/climateaction.aspx](http://www.courtenay.ca/climateaction.aspx) for links to carbon footprint calculators, incentive programs, and much more

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