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On our changing climate

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Over the last 60 years the Earth has been warming, and here in the Ottawa Valley, by about half a degree Celsius.

So what? Well, wildlife has already been affected showing changes in their spatial distribution and breeding patterns.

For example, 22 bird species at or near their northern breeding limit in our region have shown range shifts northward over the last 20 years.

In Algonquin Park, 80 species of birds (68 per cent of those analyzed) are now arriving earlier in the spring, and 31 species (26 per cent) are leaving later in the fall than they did 40 years ago.

Current climate models predict that by 2050 the Ottawa Valley will be about 3 degrees Celsius warmer and 6 per cent wetter on an annual basis than it is today.

In turn, changes in habitat suitability are expected to cause a 20 per cent turnover in species composition of birds, mammals and amphibians (based on ranges of 271 species analyzed). Of that, half is from species being gained as the region gets warmer and wetter, the other half from species being lost through northward shifts in their climatic envelopes.

So more change is coming! What should we do to get ready?

First off – to manage, we need to measure. It's easy to lose track of incremental change. So it's critical that we establish our baseline now and monitor for change. A good

place to start is with wildlife and freshwater quality, levels and flows. The BRWP River-Watch program is working on all of these for our watershed.

Next, we need to think about what might happen in the future.

Over the past five years, the BRWP has been working with residents to understand what they most value about our watershed and to envision a series of possible futures. By having a sense of our possible futures, we can then assess our vulnerability to change.

Two factors emerged as the most likely to influence the path forward – the level of local engagement in decision-making and whether decisions are based on a short-term or a long-term perspective. For each future, we crafted a narrative that tells the story of how the watershed would develop over the next 40 years.

To augment these stories, we worked with a local artist to visualize what the Bonnechere River watershed could look like by the middle of this century.

The paintings have given us the means to talk with folks of all ages, local governments, and other decision makers about choice in a way that is grounded in our home place, local identity and local distinctiveness.

It has also inspired our original musical comedy theatre production, *Bonnechere River: Future Tense*, which is touring the watershed this summer (see the performance schedule on our website), and a photographic commission that will premiere during our

dinner theatre at the Horton Community Hall on Aug. 23.

Now our challenge is to engage more actively around impacts of climate change and adaptation measures for current plans and practices.

As one local example, the Mississippi Valley Conservation has been assessing effects of projected climate change on water management practices to achieve flood control, water supply, waste assimilation, recreation, hydropower generation and conservation of aquatic ecosystems.

The findings can be used to revise water management plans for local rivers (including the Bonnechere) which are based on past experience and expectations of climate norms that now require modification to address social and environmental impacts expected under new climate regimes, and to resolve conflicts created among competing interests for water resources.

At the local level, research shows that we also need to evolve more collaborative governance and collective action given that our current administrative structures are not particularly conducive to integrated planning and decision making.

To help foster stewardship innovation for our watershed, the BRWP is organizing a residents' engagement series this fall on climate change impacts and adaptation.

For all of our events, check our website (www.BonnechereRiver.ca) and facebook page (www.facebook.com/bonnechereRiver), both updated regularly.