Weaving Indigenous and western ways of knowing can help Canada achieve its biodiversity goals, say researchers

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Gathering at a scientific field station for a Water Ceremony led by the Women's Council of Grand Council Treaty #3. Credit: IISD-Experimental Lakes Area, Author provided

The health of wildlife in Canada is socially, culturally and economically important to Indigenous and non-Indigenous Canadians.

But in this time of heightened ecological threats, exacerbated by a

dizzying variety of human activities, wildlife are facing unprecedented risks and declines. Today, over 40,000 wildlife species are threatened with extinction.

At COP15 in December, Canada committed to halt biodiversity loss, while highlighting the role of Indigenous Peoples as stewards of biodiversity.

These commitments can only be realized through innovative approaches to wildlife health in Canada that support the inclusion of Indigenous knowledge.

In our newly published paper, we examined Canadian studies that wove Indigenous and western ways of knowing to study environmental contaminants and wildlife health. We did this to call attention to the benefits of weaving knowledge systems and co-created research.

Harms of historical research practices

In Canada, natural science research has, and continues to, contribute to harms to Indigenous Peoples and communities. We can see this in the many examples of research conducted 'on' rather than 'with' Indigenous communities.

These colonial and extractive research practices cause power imbalances and create a lack of trust between Indigenous and non-Indigenous Canadians. They undermine the potential good that could arise from a more respectful and inclusive approach.

Within the last decade, the release of Calls to Action has promoted a shift toward truth and reconciliation in Canada.

Western-trained, non-Indigenous scientists have been urged by

Indigenous scholars, knowledge holders and organizations to incorporate reconciliation in all aspects of research from formulation to completion.

A good way forward

Western-trained, non-Indigenous scientists have the choice to reconcile their history by walking down a new path toward a more respectful and meaningful model of collaborative science.

Indigenous Peoples' ways of knowing have protected and sustained their relationship with the Earth for generations.

For example, Inuit hunters from Ivujivik were the first to detect signs of death and disease in common eider birds, which led to carcass collection efforts. Laboratory analysis later confirmed the presence of avian cholera.

Respectfully coupling—or weaving together—such expertise with western science approaches can increase the rigor of the research process and devise new ways to solve challenging environmental problems.

As such, weaving knowledge systems enhances our understanding of the various factors contributing to wildlife health issues and thus, enhance wildlife monitoring, management and decision-making.

It also positively influences policy development and implementation.

Moving beyond 'incorporating'

Weaving knowledge systems is more than just bringing together different ways of knowing. It is a framework to guide the entire research process.

Because each project, community and individual is unique, there is no one-size-fits-all approach for weaving knowledge systems.

That said, in any meaningful collaborative research, western-trained non-Indigenous researchers hold ethical responsibilities to promote benefits and reduce harm to Indigenous communities and community members.

This requires early and continuous engagement, authentic trust and relationship building and placing community needs and interests at the forefront.

Weaving ways of knowing also requires that the power and authority in decision-making be given to or led by Indigenous communities. More importantly, it requires a willingness to unlearn our colonial ways of thinking and doing and create a new path forward together.

Looking to the future

The power of bringing together ways of knowing can ultimately create mutual benefits for all involved.

These benefits include improved problem solving, answering questions that could not have been answered with one way of knowing alone, encouraging capacity building and promoting inter-generational knowledge transfer.

To ensure Canada delivers on its COP15 promises and protects the health of the lands, waters, wildlife and all biodiversity, we must adopt innovative and holistic approaches that center Indigenous-led research, conservation and governance.

By acknowledging their privilege and position, being flexible and meaningfully working together with Indigenous Peoples, western-

trained, non-Indigenous scientists can help improve wildlife monitoring and management in Canada while reconciling relationships with Indigenous Peoples.

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