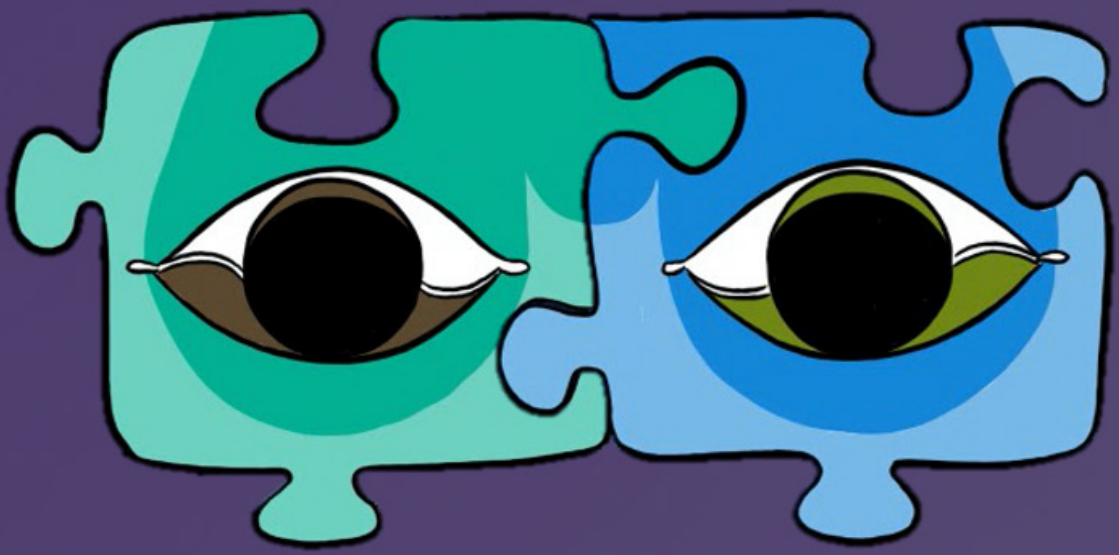


A visual representation of *Two-Eyed Seeing*, or *Etuaptmumk* in Mi'kmaw, which, like binoculars, leads to a wider and deeper field of view than a single lens alone. Courtesy of Nicole Marie Burton and Andrea Reid.

20 Essential Reads

to Enable Two-Eyed Seeing in Aquatic Research and Management

by **Andrea Reid, Jesse Popp, Deborah McGregor, Jacquie Miller,** and **Albert Marshall**

Two-Eyed Seeing, or *Etuaptmumk* in the Mi'kmaw language, is defined by Mi'kmaw Elder Dr. Albert Marshall as "learning to see from one eye with the strengths of Indigenous Knowledges and ways of knowing, and from the other eye with the strengths of Western knowledges and ways of knowing … and learning to use both these eyes together, for the benefit of all." (Read more about this concept on the Institute for Integrative Science & Health's website.)

There has been a proliferation of interest in this guiding principle for bridging knowledge systems and creating space to learn from multiple ways of knowing and being.

In October 2020, a paper in the journal *Fish and Fisheries* reviewed the transformative potential for Two-Eyed Seeing for fisheries research and management if carried out in a good way. Following this, the lead and senior authors of this article, Drs. Andrea Reid and Albert Marshall, joined a dialogue as part of the *Reconciling Ways of Knowing* forum, alongside fellow Indigenous scholars Drs. Jesse Popp and Deborah McGregor to speak to these very subjects. Together with forum host Jacquie Miller, this team has compiled a list of essential reads for applying Two-Eyed Seeing in a good way to research and management in the aquatic realm and beyond. Please see the following page.

20 Essential Reads

On bridging knowledge systems in the aquatic sciences:

1. McGregor, D.M.D., 2008. Linking traditional ecological knowledge and western science: Aboriginal perspectives form the 2000 State of the Lakes Ecosystem Conference. The Canadian Journal of Native Studies, 28(1), pp. 139-158. Link.
2. Reid, A.J., Eckert, L.E., Lane, J.F., Young, N., Hinch, S.G., Darimont, C.T., Cooke, S.J., Ban, N.C. and Marshall, A., "Two-Eyed Seeing": An Indigenous framework to transform fisheries research and management. Fish and Fisheries. Link.

For researchers seeking to decolonize research, aquatic or otherwise:

3. Cajete, G., 2000. Native science: Natural laws of interdependence. Clear Light Pub. Link.
4. Wilson, S., 2008. Research is ceremony: Indigenous research methods. Fernwood Publishing. Link.
5. Kovach, M., 2010. Indigenous methodologies: Characteristics, conversations, and contexts. University of Toronto Press. Link.
6. Smith, L.T., 2012. Decolonizing methodologies: Research and indigenous peoples. Zed Books Ltd. Link.
7. McGregor, D., Restoule, J.P. and Johnston, R. eds., 2018. Indigenous research: Theories, practices, and relationships. Canadian Scholars' Press. Link.
8. Wong, C., Ballegooyen, K., Ignace, L., Johnson, M.J. and Swanson, H., 2020. Towards reconciliation: 10 Calls to Action to natural scientists working in Canada. FACETS, 5(1), pp. 769-783. Link.

On interweaving knowledge systems:

9. Battiste, M. and Henderson, J.Y., 2000. Protecting Indigenous knowledge and heritage: A global challenge. UBC Press. Link.
10. Ransom, J.W. and Ettenger, K.T., 2001. 'Polishing the Kaswentha': a Haudenosaunee view of environmental cooperation. Environmental science & policy, 4(4-5), pp. 219-228. Link.
11. Bartlett, C., Marshall, M. and Marshall, A., 2012. Two-eyed seeing and other lessons learned within a co-learning journey of bringing together indigenous and mainstream knowledges and ways of knowing. Journal of Environmental Studies and Sciences, 2(4), pp. 331-340. Link.
12. Kimmerer, R.W., 2012. Searching for synergy: integrating traditional and scientific ecological knowledge in environmental science education. Journal of Environmental Studies and Sciences, 2(4), pp. 317-323. Link.
13. Kimmerer, R.W., 2013. Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants. Milkweed Editions. Link.
14. Kimmerer, R.W., 2013. The fortress, the river and the garden: A new metaphor for cultivating mutualistic relationship between scientific and traditional ecological knowledge. In Contemporary studies in environmental and Indigenous pedagogies (pp. 49-76). Brill Sense. Link.
15. Latulippe, N., 2015. Bridging parallel rows: Epistemic difference and relational accountability in cross-cultural research. International Indigenous Policy Journal, 6(2). Link.
16. Johnson, J.T., Howitt, R., Cajete, G., Berkes, F., Louis, R.P. and Kliskey, A., 2016. Weaving Indigenous and sustainability sciences to diversify our methods. Sustainability Science, 11(1), pp. 1-11. Link.

On bridging knowledge systems beyond aquatic sciences:

17. Reo, N.J. and Whyte, K.P., 2012. Hunting and morality as elements of traditional ecological knowledge. Human Ecology, 40(1), pp. 15-27. Link.
18. Reo, N.J., Whyte, K.P., McGregor, D., Smith, M.A. and Jenkins, J.F., 2017. Factors that support Indigenous involvement in multi-actor environmental stewardship. AlterNative: An International Journal of Indigenous Peoples, 13(2), pp. 58-68. Link.
19. Nelson, M.K. and Shilling, D. eds., 2018. Traditional ecological knowledge: learning from indigenous practices for environmental sustainability. Cambridge University Press. Link.
20. Popp, J.N., Priadka, P., Young, M., Koch, K. and Morgan, J., 2020. Indigenous Guardianship and moose monitoring: weaving Indigenous and Western ways of knowing. Human–Wildlife Interactions, 14(2), p. 17. Link.

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