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## **New Wood Buffalo Environmental Association Video Chronicles Traditional Knowledge and Western Science Berry Patch Monitoring in the Athabasca Oil Sands Region**

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**Fort McMurray, Alberta** – The Wood Buffalo Environmental Association’s (WBEA) newly released video, *Using Traditional Knowledge and Western Science to Monitor Berry Patches in the Athabasca Oil Sands Region*, documents the latest results of a five-year berry monitoring project carried out in partnership with Elders of the Fort McKay First Nation. **View the video at:** <https://www.youtube.com/watch?v=VGa6R7jRpnE>

Since 2010, WBEA has partnered with Fort McKay Elders in a Berry Focus Group to explore their concerns about the impact of industrial operations on wild blueberries and cranberries. The Berry Focus Group brings together both Traditional Knowledge Holders and western science to monitor berry patches in and around the community of Fort McKay and farther afield.

In the video, Fort McKay Elders share stories of their community’s long history of berry picking, the significance of berries and why they wished to be involved in this monitoring work. The Fort McKay Berry Focus Group selected five berry patches to monitor, taking care to choose patches that were at different distances from oil sands mining, upgrading operations and other industrial activities. Janelle Baker, PhD Candidate McGill University, an anthropologist who has been involved with the project from the beginning says, *“The value of having the community monitor the health of berry patches is that they’ve spent their whole lives going to the patches so they have a lifetime of already existing observations and knowing how the patches should be.”*

The evolution of the project has seen monitoring progress, at the request of the Elders, from sharing Traditional Knowledge about the berry patches to inclusion of western science parameters such as passive air pollution monitoring, meteorology monitoring and testing of berries for health promoting constituents. The results of the project for 2014, presented in the video, have provided WBEA stakeholders and the community of Fort McKay with valuable information.

Results for 2014 passive air pollution monitoring for sulphur dioxide, nitrogen dioxide and volatile organic compounds at five monitored berry patches found that patches closer to industrial development have higher average monthly air borne pollution concentrations than the most remote berry patch at Moose Lake. These western science results support the Group’s Traditional Knowledge that berries closer to their community and surrounding industries are not as healthful as those from the remote location of Moose Lake. From a western science perspective, these pollutant concentrations were not high enough to cause direct injury to the blueberry and cranberry plants.

The analysis of health promoting constituents in blueberries for the 2014 field season revealed the following:

- Phenolics, known to have antioxidant properties, were greatest in blueberries from the Moose Lake patch, which is remote from industry, and lowest in blueberries from the Target Road patch, which is closer to industrial development.
- Chlorogenic acid is reported to be involved in lowering blood pressure. The content of chlorogenic acid was greatest in Moose Lake blueberries and lower in berries from the other patches closer to industrial development.
- The content of proanthocyanidins, which are linked to reducing the risk of coronary heart disease, was higher in the remote location Moose Lake blueberries than berries from the other sites closer to industrial activity.

WBEA Executive Director, Dr. Kevin Percy states *“One of WBEA’s core values is recognition of, respect for and use of Traditional Knowledge. We are very pleased to have been a partner with the Fort McKay Berry Focus Group in this successful initiative to monitor these five berry patches over five years. This joint multi-year project, which brings together the Traditional Environmental Knowledge held by the Fort McKay Elders with western science, contributed by WBEA, is showing a degree of commonality between perceptions and beliefs offered by the Elders and findings offered by western science.”*

The aim of this ongoing project is to use the strength of both Traditional Environmental Knowledge and western science to better understand what influence regional industrial operations may have on berry health, in the Athabasca Oil Sands Region.

The Wood Buffalo Environmental Association is a working partner of the Alberta Environmental Monitoring, Evaluation and Reporting Agency ([www.aemera.org](http://www.aemera.org)) who funded the Berry Focus Group in 2015-16, as well as the production of this video.

*The Wood Buffalo Environmental Association (WBEA) is an independent, community based, not-for-profit organization, comprised of 38 members, that monitors the air in the Regional Municipality of Wood Buffalo, 24 hours a day, 365 days a year. This is done through a variety of air, land and human monitoring programs. The air quality information collected is openly shared with stakeholders and the public.*

For more information about WBEA, please visit [www.wbea.org](http://www.wbea.org).

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