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# Environment, Bear and Ant Lesson Plan

By: Lushootseed Language Department  
Lena Jones, HCC Education Curator

*This project correlates to the exhibits of Our Ancestral Lands, A Life Built on Stories, and Environment.*

*5<sup>th</sup> to 6<sup>th</sup> Grades*

## Student Section:



difəx<sup>w</sup> łushuyləp (This is what you folks will do.):

- 1) Read and hear the story of “Bear and Ant” by Hagan Sam on the Lushootseed Language Department’s website, <https://tulaliplushootseed.com/bear-and-ant/>

As the Department notes, stories of Bear and Ant have been told all over Lushootseed speaking land and as far away as the Pueblo people.

It is said this is why we have day and night and not one long day and one long night. Some stories say it is why we sometimes see bears dig up ant mounds. In some versions of the story, it is said the Creator allowed sčətx<sup>w</sup>əd Bear to hibernate during the winter to give him some of what he had asked for. In some stories, other animals join Ant in her dance, and also have cinched waists. Can you name a couple of those insects which have narrow waists that segment their body?

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Our elders tell us the lessons from the stories told are what we take away from them when we hear the stories. Each time we hear them, we may take something different away than when we previously heard the story. What lesson did this telling have for you? \_\_\_\_\_

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- 2) Working hard is valued in Tulalip's ancestral teaching. One of Tulalip's employees has spent a lifetime working hard for the Tulalip people and the surrounding land and water. Read about Terry Williams in the "Notable Tribal Leaders section". His work helped advance tribal, national, and international cooperative environmental management and conservation.
  
- 3) In understanding Bear's talents and importance, read the article by Tatum McConnell of Vital Ground Foundation, "The Macro and the Micro: How Grizzly Bears and Insects Interact", <https://www.vitalground.org/grizzly-ecology-bears-insects/>. Find the definitions of the words below from the article.



Umbrella Species:

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Hyperphagia:

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Mutualistic Relationship:

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4) Fill in the blanks from the article for the following statements:

- As stated in the study, “[d]isturbances to predators can \_\_\_\_\_ food webs and alter ecosystem functioning...”
- Protecting and connecting key \_\_\_\_\_ benefits all walks of life, and it comes back to impact our own lives, too.

5) Read Critter Catalog, “Ants, Fourmis”, toward the bottom section under the heading “What roles to they have in the ecosystem?”

<http://www.biokids.umich.edu/critters/Formicidae/> . Answer the following questions.

- What do ants do that have ecosystem impact? \_\_\_\_\_
- What other species besides treehoppers do ants have a mutualistic relationship with? \_\_\_\_\_

6) Optional. Read one or more the following articles, to learn more about bears and ants. Write a summary of what intrigues or fascinates you about bears and ants from the article.

- <https://www.vitalground.org/grizzly-ecology-bears-and-dirt/>, to learn a day in the life of a conservationist and ecologist, and to find out why Grizzly Bears can be considered Ecosystem Engineers.
- <https://www.sciencemag.org/news/2015/01/ant-plant-and-bear-oh-my>, to learn more about the study with the rabbitbush, ants, treehoppers, and bears.
- <https://animaldiversity.org/accounts/Formicidae/#:~:text=Ants%20are%20placed%20in%20a,possesion%20of%20a%20metapleural%20gland>, to learn about ant habitat and ants' evolutionary and ecological phenomena.

# NOTABLE TRIBAL LEADERS

## Terry Williams



*"We all share a common planet with many common problems to overcome. Working together, perhaps we can solve them and make this a better place for everyone."*

—Terry Williams

The 2004 Ecotrust Indigenous Leadership Award honored Terry Williams as a finalist for his vision and leadership in natural resource and environmental management, explaining the

following:

He has helped increase tribal sovereignty through tribal environmental regulatory and programmatic development. Williams is a member of the Tulalip Tribes and lives in Marysville, Washington.

An illustration of William's work is reflected in the proposed Bio-Gas facility for the Tulalip Tribes and the Lower Skykomish River Dairy Farmers. The sewage treatment system for cow manure provides greater water quality protection for fish and a potential income stream for farmers. This facility will collect methane from the waste and generate power. Collected and processed compost and fertilizer materials with safe bacteria levels may develop into a product for local markets.

Since 1982, Williams has served as a Fisheries and Natural Resources Commissioner for the Tulalip Tribes. In this role, he directs pre-season fisheries negotiations, governmental planning and cooperative habitat management. Since 1985, Williams has served on the Northwest Indian Fisheries Commission. He has

also represented the Tulalip Tribes on the Pacific Fisheries Management Council since 1985 and served on the Pacific Salmon Commission since 1997.

Appointed by Environmental Protection Agency (EPA) administrator Carol Browner, Williams served as the director of the EPA American Indian Environmental Office in Washington, D.C. from 1995 to 1996. This office addressed specific environmental issues of Indian tribes nationwide. From 2003 to 2004, Williams served as Chair of the Tribal Committee of the National Environmental Justice Advisory Committee. This year, he was a participant in the EPA Tribal Trust Program that addressed cultural sustainability via restoration and protection of endangered species.



*1Terry Williams, Combat Veteran*

Williams has also worked on tribal issues at the international level. In 1997, the Secretary for Policy and International Affairs Office of the Department of the Interior appointed Williams to represent indigenous peoples on the U.S. delegation to the United Nations Conference on Biodiversity.

Williams currently serves on the Salmon Homecoming Alliance Board and the Northwest Straits Commission. He is also a member of the Snohomish Basin Salmon Recovery Forum, a multi-interest coalition that guides salmon conservation efforts in the Snohomish River basin. The forum is developing a local salmon conservation plan and prioritizing critical restoration projects.

Appointed by Governor Booth Gardner, Williams served from 1985 to 1995 on the Puget Sound Water Quality Authority. He also served on the board of the Center for Streamside Studies, Adopt-A-Stream Foundation and the Native American Fish and Wildlife Society. Williams has received the Washington State Environmental Award and the Seventh Generation Legacy Award for his work.

Info from 2004 Ecotrust Indigenous Leadership Award to Terry.

**Teachers Section:**



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Wasp, bee

Our elders tell us the lessons from the stories told are what we take away from them when we hear the stories. Each time we hear them, we may take something different away than when we previously heard the story. What lesson did this telling have for you? [Response is personal and subjective.] Work hard and you will be rewarded. There is power in small things as well to improve our community, along with prayer and fasting. We each have needs and talents, and we must understand, accommodate, and respect others’ needs and talents. Find a way to help your community and bring light to your community.

- 2) Working hard is valued in Tulalip’s ancestral teaching. One of Tulalip’s employees has spent a lifetime working hard for the Tulalip people and the

surrounding land and water. Read about Terry Williams in the “Notable Tribal Leaders” section. His work helped advance tribal, national, and international cooperative environmental management and conservation

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Umbrella Species:

Generalist behaviors lead them to use different types of habitat conducive to a broad range of species.

Hyperphagia:

Period bears search for food and pack on the fat that will provide their only source of nutrition during months of rest.

Mutualistic Relationship:

Each species provides a benefit to the other.

- 4) Fill in the blanks from the article for the following statements:

- As stated in the study, “[d]isturbances to predators can destabilize food webs and alter ecosystem functioning...”



- Protecting and connecting key habitat benefits all walks of life, and it comes back to impact our own lives, too.
- 5) Read Critter Catalog, “Ants, Fourmis”, toward the bottom section under the heading “What roles to they have in the ecosystem?”  
<http://www.biokids.umich.edu/critters/Formicidae/> . Answer the following questions.
- What do ants do that have ecosystem impact? Disperse seeds, create habitat, biodegradation, soil aeration
  - What other species besides treehoppers do ants have a mutualistic relationship with? Aphids, some caterpillars
- 6) Optional. Read one or more the following articles, to learn more about bears and ants. Write a summary of what intrigues or fascinates you about bears and ants from the article.
- a. <https://www.vitalground.org/grizzly-ecology-bears-and-dirt/>, to learn a day in the life of a conservationist and ecologist, and to find out why Grizzly Bears can be considered Ecosystem Engineers.
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