



Roots of Wisdom

Native Knowledge. Shared Science.

2,000 Sq. Ft. Traveling Exhibition

EXHIBIT DESCRIPTION

Against the tide of history, unlikely partners work side by side in the hope of undoing environmental and cultural damage and making a balanced and abundant future for generations to come.

In *Roots of Wisdom: Native Knowledge. Shared Science*, students and families will learn ways in which traditional knowledge of indigenous peoples and cutting-edge sciences are being applied to challenges that face people across the nation and beyond. Learn how this innovative approach to problem solving is working to improve our world.



This cross-culturally developed, interactive exhibition tells the stories of four indigenous communities, giving visitors real life examples of how traditional knowledge and Western science provide complementary solutions to ecological and health challenges. Through the voices of elders and youth, hands-on interactives, videos, graphics, and clever computer games, visitors will gather resources, examine data, and take part in the growing movement towards sustainability and reclamation of age-old practices.

Funded by the **National Science Foundation**, *Roots of Wisdom* is specially designed for students ages 11-14 and has English audio, video, and text along with language samplings from several different indigenous communities. The exhibition was developed by the Oregon Museum of Science and Industry (OMSI) in collaboration with the Indigenous Education Institute (IEI), the National Museum of the American Indian (NMAI), native community elders, educators, and youth.

Entrance to the exhibition

An entry panel introduces the collaborators of this innovative exhibition.

Video introductions to thematic areas

Visitors will explore stories of four indigenous communities. At the entrance to each community, visitors will see a video with an indigenous member of that community telling a story about an important environmental or health issue. Learn about these people, where they live, and how they are applying traditional ecological knowledge and Western science to overcome ecological and health issues that affect their daily lives.



Map- Taking Care of Homelands and Culture

Many Native communities are doing vital restoration work throughout North America and worldwide, using their traditional ecological knowledge and Western science together. Visitors see the stories of the four indigenous communities featured in the exhibition on a large map, along with restoration projects of five other North American communities.

Comment & Article Board

The comment board is a component where visitors are given pencils and paper and asked to contribute answers based on two provided questions. The questions are chosen by the host organization and serve to encourage visitors to consider the big idea of the exhibit within the context of their own lives. Visitors answer the question and then drop their answers into a slot, where museum staff will later gather, curate, and post the provided answers. In providing a framework for visitor dialogue, the comment board helps to foster a sense of community and discussion. The article board is a blank wall on the back of the comment board. We encourage hosting organizations to fill this space with their own content in the form of local articles and stories relevant to the exhibit. This is an opportunity to spotlight regional tribes, local restoration or research projects, or just highlight interesting and relevant topics. This area offers the host organization and its staff a chance to personalize the exhibit and interpret it through their own lens, bringing the big ideas of the exhibit into a local context.

Conversation Area

At the Conversation Area groups engage in storytelling, either by experiencing the traditional stories in the exhibit or telling their own stories. Through reading and/or listening to traditional stories of the four *Roots of Wisdom* communities, visitors understand the importance of stories in passing down knowledge in those cultures. Visitors can reflect about traditional knowledge, their own connections to their local environment, and their connections to family/ancestral traditions or places. This gathering area also allows visitors to feel comfortable and have a place to rest, reflect, and interact socially.

THEMATIC AREA: Traditional Knowledge/Western Science



Native Origins

Who knew that many of the foods and common household items we use today actually came to us from indigenous peoples? Native discoveries and innovations have been used and adapted over time and touch the lives of people all over the world. Visitors will view this display and realize that from duck decoys to surf boards, from chocolate to popcorn, native knowledge impacts our lives every day.

Biopiracy

Did you know that Native Americans used White Willow tree bark as a pain killer for thousands of years? This knowledge was used to develop aspirin in the 1800's. In *Biopiracy*, visitors learn about the darker side of **Native Origins**. In many cases, knowledge has been taken from indigenous people without their permission or compensation. In this exhibit, visitors explore biopiracy through the story of quinoa, a grain-like food grown by native Bolivian farmers in South America, and now used as a popular, healthy food item. Visitors also learn about bioprospecting and left reflecting on different points of view.



THEMATIC AREA: Re-establishing a Native Plant (*Eastern Band of Cherokee Indians*)

River Cane Ecology

What is river cane and why is it important? In this fun, interactive activity, visitors are invited to study the effects of this endangered North American bamboo on water quality and how it has been used by American Indians for generations. Crank the wheels and watch the balls roll down to see which environment improves water quality, filters pollutants, and slows damaging run-off. Is it a stream bank covered with river cane, or a bank that is barren?



Passing a Tradition



Can you create a beautiful basket pattern? In an intriguing video, visitors learn from a member of the Eastern Cherokee community about the revival of traditional river cane basket making. Cherokee elders are teaching the next generation about this traditional craft. In reviving their culture, they may just be saving their local ecology as well. Visitors are invited to watch the video, view a display of river cane baskets, and try their hand at weaving.

THEMATIC AREA: Restoring Fish Ponds ***(Hawaii)***

Aloha 'Āina: Love of the Land

Visitors join a stream of water on an incredible journey down a Hawaiian mountainside in this popular interactive activity. While placing shapes of plants and fish native to Hawaii in their ideal elevation and ecosystem on the “mountain”, visitors then follow “water” as it flows down the mountainside. At each stop along the journey, the “water” will pick up nutrients and feed ecosystems before eventually finding its way to the ocean. Learn how this process, once carefully tended by Hawaiian communities, has been disrupted and what is being done to restore it. When puzzle pieces are positioned correctly, visitors will be surprised by simulated sounds of thunder to tell them they were successful.



Hawaiian Fish Ponds

Beware of invasive species in this fun computer game that becomes more challenging as the player gains knowledge. In Hawaiian Fish Ponds, visitors act as caretaker of a fish pond, bringing the pond back to restored health. From pollution to predators, visitors deal with each challenge, all the while learning about this innovative form of aquaculture which could be a critical component to food sustainability for the people of Hawaii.

THEMATIC AREA: Rediscovering Traditional Foods ***(Tulalip Tribes)***

Connected to the Land

Resources are scarce and shrinking all the time. A deep and spiritual relationship to their natural environment is the foundation of land stewardship by the Tulalip Tribes in the Pacific Northwest. In a clever computer interactive, players journey through the seasons to harvest native foods in three mini-games. In spring, dig for clams; in summer, pick native blackberries; in fall, catch salmon. In winter, visitors may listen to a traditional story or song from a member of the Tulalip community.



Food: Medicine of the Land

Plants, which the Tulalip Tribes think of as the “little people,” have much to teach us. Visitors learn traditional practices of wild harvesting as well as modern gardening. Visitors may touch a watering wand to garden plants or a bee to wild native plants. Learn through science, how eating locally grown foods and native food plants are beneficial to human health.



THEMATIC AREA: Saving Streams and Wildlife ***(Confederated Tribes of the Umatilla Indian Reservation)***



Protecting an Ancient Fish

This fish looks positively prehistoric! And it is. At over 450 million years old, lampreys are far more ancient than dinosaurs! Seen as a pest in some areas of the country, this eel-like fish is important both ecologically and as a food source to many indigenous people. In this fun interactive, visitors can pick up a creepy looking “lamprey” and study it as would a scientist. Visitors learn about the traditional stewardship of the lamprey and how the fish provides medicine and sustenance for the tribes and is a critical component of the ecosystem they depend on. Find out how traditional ecological knowledge and Western science are being applied to bring this amazing little fish back from the brink of extinction in the Columbia River Basin.

Healthy Streams, Returning Salmon

Many streams and rivers throughout the world have been damaged, dammed and diverted from their original paths resulting in loss of habitat for native species of plant and animal. Damaged stream systems can pose serious threats to ecosystems and the people, plants and animals that depend on them. In this single or multi-player activity, visitors design a healthy stream that can support native species. Using durable building pieces, visitors gain points for joining puzzle pieces together and adding features found in nature to create a healthy stream system.

Players learn how traditional ecological knowledge and Western science are working together to support a healthier future for aquatic life such as salmon and lamprey.



THEMATIC AREA: Story Area



At the Story Area groups engage in storytelling, either by listening to traditional native stories around the crackling “fire pit” or telling their own stories. Through reading and/or listening to traditional stories of the four *Roots of Wisdom* communities, visitors understand the importance of stories in passing down knowledge in those cultures. Visitors can reflect about traditional knowledge, their own connections to their local environment, and their connections to family/ancestral traditions or places. This gathering area also allows visitors to feel comfortable and have a place to rest, reflect, and interact socially.

