A Healthy Environment Supports All Water Users (Video 4)

This resource is intended for teachers. It outlines how the Alberta WaterPortal's video *A Healthy Environment Supports All Water Users* aligns with the curriculum presented in Alberta Education's Programs of Study.

Curriculum Links What courses from Alberta Education's Program of Studies are applicable to this video?	• Grade 8 Science – Freshwater and Saltwater Systems • Science 20 – Unit D – Changes in Living Systems • Biology 20 – Unit B – Ecosystems and Population Change • Career and Technology Studies (CTS) - Cluster D: Natural Resources (Agriculture and Environmental Stewardship) • Social Studies 10 • ENS 115: Resource Management • ENS 1040: Living with the Environment • ENS 1115: Resource Management • ENS 2010: Water Management 1 • ENS 2030: Ecological Economics • ENS 2040: Environmental Health and Safety • ENS 3040: Energy & the Environment • ENS 3110: Integrated Resource Management • ENS 3120: Water management 2 • Sci 9 Environmental Chemistry • Sci 10: Energy Flow in Global Systems
Key Concepts	• Habitat reclamation is necessary to ensure species diversity. • We need to balance the interests of a growing human population with sustainable ecosystems. • Science and technology can address the human impacts on aquatic systems. • Human water use (domestic and industrial) create impacts such as pollutants in ground and surface water. • Agriculture and forestry practices impact stream flow and water quality. • Science has a role in monitoring environments and supporting development of environmental technologies.

	• There are problems with water pollution that cannot be solved using scientific and technological knowledge alone. • Actions and policies associated with globalization impact the environment. • Environmental services are the benefits gained from the resources and processes provided by ecosystems. • Environmental services also provide economic and social benefits. • How we use land impacts the environmental services provided by ecosystems. • Land use activities can provide both positive and negative environmental services.
Objectives	• Students will investigate various land use practices common in Alberta and their impact on environmental services / ecosystem changes. • Students will look at some of the impacts humans have on aquatic systems and how to reduce the impact.
Glossary of Terms	**Environmental Services:** the benefits gained from the resources and processes provided by ecosystems.
Classroom and Online Activity Suggestions	• Brainstorm ideas individuals can take to protect water bodies in their local environment. • Create a poster showing ecosystem services around your environment. • Give a presentation about a land use activity that helps protect water quality. • Draw a picture of a land use activity that shows beneficial environmental services. • Create a report that discusses the use of water by society, the impact such use has on water quality and quantity in ecosystems, and the need for water purification and conservation. Keep in mind activities such as manufacturing and processing, the petrochemical industry, agricultural systems, the mining industry and domestic daily water consumption.* • Give a presentation that evaluates the impact that human activity has had, or could have, on the biodiversity in an ecosystem, Consider wetlands management, land use, habitat

	fragmentation, urbanization , or the monoculturing of forests, lawns, and field crops.* • Create a poster that provides evidence from a variety of sources for or against human activity being responsible for ecosystem change. Analyze the relationship between human activity and changing ecosystems.*

*Indicates Activity was amended from the CBE Program of Studies.