

ENVIRONMENTAL LAW SECTION

Valuing the Cultural Component of Environmental Damage

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Interest in assessing the cultural component of environmental damage in litigation has grown significantly in recent years. This shift reflects changing social values, the rise of environmental justice, increased Native American empowerment, and a broader understanding of how natural environments are intertwined with human culture. New legal precedent has also emerged in the Ninth Circuit Court of Appeals decision for *Confederated Tribes of the Colville Reservation v. Teck Cominco Metals Ltd.* No. 24-5565 (9th Cir. Sept. 3, 2025). The court ruled that under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), damages may include lost uses of injured natural resources when those uses have a cultural dimension. This raises a central question: How are the cultural values attached to natural and cultural resources identified, valued, and compensated?

As an archaeologist and cultural heritage expert witness, I am frequently asked to assess damage to archaeological sites and other heritage resources. On U.S. federal and tribal lands, damage valuation has traditionally relied on the Archaeological Resources Protection Act of 1979 (ARPA). ARPA regulations specify a formula that limits valuation to the scientific information value of an archaeological resource, with additional components for commercial value and the cost of restoration and repair. The exclusion

of other, non scientific, cultural damage has long frustrated many Native American people, who view cultural meaning, identity, and continuity as inseparable from the environment and the physical remains of their heritage.

New frameworks are emerging to address these gaps. In a recent case in Washington State involving a National Recreation Area managed by the National Park Service (NPS), my Department of Justice client requested that I assess damage to an archaeological site using the System Unit Resource Protection Act (SURPA), which applies uniquely to NPS lands. Unlike ARPA, SURPA does not include a prescribed valuation method in its regulations. As a result, other types of value—beyond scientific information—may be incorporated into a SURPA damage assessment. In this case, Native American cultural values were included.

This year, I worked on two wildfire related damage cases in northeastern California. In both, tribes and tribal entities claimed cultural damage to archaeological sites, non-archaeological cultural sites, and natural resources destroyed or affected by extensive fires. These claims involved resources on tribal land as well as resources located on land owned or administered by others but that still were a part of the tribal cultural landscape and ancestral territory. These cases highlight the complexity of cultural landscapes, where significance extends far beyond property boundaries and includes places essential to identity, memory, and practice. The damage claims in these cases explicitly linked cultural values to damaged natural resources and sought compensation for this cultural damage.

The United Nations Educational, Scientific

and Cultural Organization (UNESCO) defines two types of heritage: tangible and intangible. Under ARPA and many other cultural resource damage frameworks, tangible heritage is valued through the cost of scientific investigation, restoration, and the market-determined commercial value of physical objects such as sites, artifacts, and cultural features. Intangible heritage, the values attached to these physical objects or natural resources, is increasingly becoming part of environmental damage cases. This raises another key question: How are the cultural values attached to natural and cultural resources appraised and quantified?

Two methods with potential for valuing intangible heritage have been legally tested in other contexts, but are novel in application for financially appraising cultural values:

- Contingent valuation is a survey based method used to estimate the monetary value of resources not traded in a market. In cultural systems with shared beliefs and values, surveys can quantify the breadth of cultural knowledge within a community, the importance of cultural values attached to natural resources and places, and the monetary value of damage. Some research suggests that contingent valuation may undervalue cultural importance in heritage contexts, and the method can be both expensive and time consuming.

- Habitat and Resource Equivalency (HRE) analysis is another method used in natural resource damage assessments that may be adapted for intangible heritage. HRE is based on the concept of “services” and how people use natural environments. These uses may include economic activities such as hunting, fishing,

gathering clay for pottery, harvesting plants for basketry, or obtaining timber or earth for shelter. Cultural beliefs and values are expressed through these activities and through engagement with the natural environment. When use is curtailed—such as after a wildfire—culturally appropriate alternative locations may be required. Ecological recovery timelines may differ from cultural recovery timelines: for example, a natural setting may take a century to recover ecologically, yet may become culturally usable again within thirty years.

Both contingent valuation and HRE are grounded in Western frameworks that emphasize resource use and exploitation. These approaches may not be appropriate in cultural systems where resource use is not the primary measure of value. The CERCLA opinion in *Confederated Tribes of the Colville Reservation v. Teck Cominco Metals Ltd.* acknowledges this by recognizing additional categories of value, including passive use, non-consumptive value, option value, existence value, and nonuse value. This opinion opens the door for new, more culturally appropriate, methods for assessing and appraising environmental value.

Arizonans are fortunate to live in a state with a rich natural and cultural environment that includes Native American communities, federal and tribal lands, and visible archaeological and historic resources. When these natural and cultural resources are damaged and litigation follows, incorporating intangible cultural values into damage calculations is becoming increasingly common. ■