CHAPTER 30

Water and Culture
Malibu, CA. Chumash ceremonial leader Mati Waiya performs a water blessing ceremony. The Chumash inhabited the central and southern coastal regions of California and three of the Channel Islands.
Chapter 30. Water and Culture

California Water Plan Update 2013 is the first update to include a resource management strategy based on the relationship between water and culture. Chapter 30, “Water and Culture,” presents the emerging thinking of many Water Plan Advisory Committee members and other stakeholders regarding the importance of linking cultural considerations to water management. In many respects, the chapter represents more of an annotated outline than a fully developed strategy. Even so, the water plan stakeholders asked that the chapter be included, if only to improve awareness of the need for the strategy and to continue dialogue on what it should include.

Water and culture are connected in myriad ways, with subtle and complex implications for water management in California. Some cultural relationships to water are so pervasive, they may be easy to overlook. Other cultural considerations are less apparent and may be difficult to recognize. Increasing the awareness of how cultural values, uses, and practices are affected by water management, as well as how they affect water management, will help inform policies and decisions. Even regulations reflect cultural values, particularly by how they are put into practice when water is viewed as a commodity, and all the more by the sum total of laws, regulations, and policies intended to control water. (See Box 30-1 for a list of some of the California and federal laws and policies addressing cultural resources.) Water resources have shaped the history of California, contributing to the current social, cultural, and economic patterns across the state. The presence of freshwater sources has influenced the location of settlements and communities for hundreds, even thousands, of years. Water resources have also been pivotal to key economic activities, such as fishing, mining, agriculture, manufacturing, tourism, and recreation. These historic aspects of development continue to have ramifications for water managers today.

Water and water-dependent resources also shape individual and collective experiences that contribute to individual and community well-being, sense of identity, and connection with the natural world. These experiences are inextricably linked to values, traditions, and lifestyles, which in turn inform perspectives and expectations regarding water resources and conditions. Cultural considerations by their nature are inherently linked to every resource management strategy. More importantly, the consideration of culture in water management decisions is, in many cases, legally mandated by State and federal laws. Utilizing cultural considerations in the framing, development, and promotion of management decisions is vital to ensuring legal compliance and sustainable practices.

What is Culture?

Most people have a reference point for the word culture, but it is not an easily defined term. Culture is contextual. No single definition of culture satisfies all the diverse perspectives within California. Culture can and does include lifeways, mindsets, spirituality, creation stories, livelihoods, personal and community histories, and artistic and other practices that represent the diversity of California’s social fabric.

Likewise, how the scientific community describes and defines culture varies to a substantial degree. Even State, tribal and federal entities have varying definitions whose application is intended to assist the implementation and understanding of laws related to preservation and incorporation of culture via resource management decisions.
Any definition of culture must include far more than what may feasibly be contained in this chapter. Owing to the complex nature of culture and its interconnectedness with water, water management agencies and decision-makers should look to the local communities, groups, and California Native American Tribes to understand those cultures. This process of inquiry facilitates

### Box 30-1 Laws and Policies

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<th><strong>California</strong></th>
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<td>- California Environmental Quality Act (CEQA) — California Public Resources Code, Section 21000 et seq.</td>
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<td>- Native American Historical, Cultural and Sacred Sites — California Public Resources Code (PRC), Sections 5079.60 et seq.</td>
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<td>- Governor’s Executive Order No. W-26-92 — Management of significant heritage resources under jurisdiction of State agencies.</td>
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<td>- Governor’s Executive Order No. B-10-11 — Encourages communication and consultation with California Native American Tribes.</td>
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<td>- California Natural Resources Agency Tribal Consultation Policy.</td>
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<td>- National Historic Preservation Act (NHPA) — United States Code (USC), Title16, Sections 470 et seq.</td>
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<td>- National Environmental Policy Act (NEPA) — 42 USC Sections 4321 et seq.</td>
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<td>- Archaeological Resources Protection Act (ARPA) — 16 USC Sections 470aa et seq.</td>
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<td>- Archaeological and Historic Preservation Act (AHPA) — 16 USC Sections 469 et seq.</td>
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<td>- Native American Graves Protection and Repatriation Act — 25 USC Sections 3001 et seq.</td>
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<td>- (Federal) Executive Order 13175 — Consultation and Coordination with Indian Tribal Governments (2000).</td>
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understanding how management decisions affect local cultures, as well as how water resources and water policy are affected by those same cultures.

In some cases, legal requirements mandate that agencies and decision-makers engage with California Native American Tribes. Engaging with tribes and tribal community leaders regarding water resource management in a timely manner is the best way to ensure local, State, federal, and international legal obligations are met.

**Cultural Resources and Cultural Resources Management**

*Cultural resources* is a term that is diverse in ways similar to “culture” itself, in that it includes both physical and intangible aspects of social practices, routines, and ways of life. Intangible aspects of culture involve language, beliefs, practices, and traditions. These are often associated with cultural resources comprised of physical objects or places, including structures, cultural landscapes (which combine natural and constructed elements), specific locations with special significance, and/or natural materials.

Management choices for some cultural elements are guided by statutory requirements. For example, cultural resources representing historic artifacts, sites, and buildings may be protected under the National Historic Preservation Act (NHPA). The equitable distribution of effects and benefits is evaluated with regard to environmental justice and public trust factors. Other cultural materials, uses, and practices might need to be assessed within the context of a particular policy or project.

For more information on cultural resources and cultural resources management, see Volume 4, *Reference Guide*, the article “What is Culture? Approaching Cultural Diversity in California and Varying Definitions of Culture.”

**Cultural Considerations and Water Management in California**

Expression of cultural connections to water and water-dependent resources can involve a wide range of activities and material objects. The following categories of cultural activities are offered to encourage reflection and discussion with the community on the different ways water and culture interface. The categories are for illustrative purposes only and contain areas of overlap.

**Subsistence Activities** include traditional hunting, fishing, and collecting plants for food sources, medicinal properties, and raw materials. Water flows and water quality are critical aspects of supporting water-dependent subsistence activities. Public health risks can occur if food sources are obtained from contaminated water bodies. These risks are increased with higher consumption levels of locally obtained food sources that can occur in subsistence households and communities. This can well exceed safe consumption levels. For example, no more than three servings a week of fish caught in a particular lake or stream should be eaten, to avoid any health risk present in that particular lake or stream. Also, communication relating to risks or contamination may be hampered by language barriers.
Recreation Activities embrace a broad spectrum of pursuits that range from full-body contact with water (swimming, surfing) to minimal contact (water providing the scenic backdrop for hiking and wildlife viewing). Recreational pursuits encompass motorized and non-motorized activities. These activities range, for example, from boating and riding jet skis to picnicking and kayaking. Here again, water flows and water quality are key factors contributing to recreational experiences. Public health risks can occur if waters are contaminated. Beach closures, which protect public health, also affect recreation and tourism. Another factor that can influence water-related recreation is the availability of facilities, such as boat ramps, parking, restrooms, and general-purpose stores.

Spiritual Activities draw upon the cleansing, healing, and renewing properties of water. Examples include outdoor baptisms, sweat lodges, lakeside weddings, Native American ceremonies, and the blessing of the fleet in fishing communities. While these examples focus on particular activities, some perspectives see an inherent spirituality in water itself, which is always present. These events and perspectives share a common theme in transcending the mundane through a sacred and profound connection to water. In addition to water levels/flows and water quality, those seeking a spiritual experience may include considerations of aesthetics and solitude. A busy pattern of recreational use on public lands could interfere with sacred pursuits.

Historic Preservation seeks to maintain the legacy of the past by protecting historical features (i.e., artifacts, sites, places, buildings, cultural landscapes). Some historic objects may be directly related to water infrastructure (e.g., diversions, flumes, mills). Other historic features may not be directly related to water resources, but are challenged by water management projects and activities. For example, receding waterlines at lakes or reservoirs could expose protected historic features. Conversely, surface storage facilities could inundate historically or culturally significant features or locations that are important to a community. Another example is water system upgrades that need to modify or replace historic infrastructure or support buildings, or new water projects where ground-disturbing activities could destroy historic resources. Water managers are encouraged to review, with their legal office, the legal requirements that might be associated with these situations. A list of key statutory provisions is provided in another section of this resource management strategy.

Public Art has recorded and served as an integrated expression of water in California. This extends to utilizing water infrastructure as the location of art, presentations of art in music and other mediums as a water-related transference of culture, and art providing the platform to express people’s relationship with water and the watershed.

One response to the Rim Fire, a major fire event in 2013, was a community healing process using art as method of expression. Groveland, California, a town of roughly 2500 human inhabitants located less than 25 miles west of Yosemite National Park on State Route 120, was affected in multiple ways by the fire. Economic damages to the tourism economy have closed many local businesses. As the fire burned over several months, local author Elizabeth Dougherty wrote that the citizens turned to the sky “waiting for fall rains to douse the last of its burning fervor. Whether at an art exhibit, a yard sale, a trivia night, a visit to the town dump, the need continues for each person to tell their experience, their story, of how the Rim Fire came into their lives, onto their properties, into the bodies of their cattle, igniting their deeply adored Stanislaus Forest and Tuolumne River Watershed” (Dougherty pers. comm. Oct. 24, 2013).
The relationship of the Rim Fire to the large population centers may not have been readily apparent, yet this same land base is the watershed that provides water to the San Francisco Bay area. A coalition of community advocates organized a mixed-media art show, “Standing with the Watershed,” in downtown San Francisco and sought artists to share their visceral experiences of both the Tuolumne River watershed itself and the use of these waters in San Francisco and Silicon Valley. Dougherty wrote, “We want to enliven the souls of those who visit during the two month exhibit with the energy and vitality of this watershed pre-, during-, and post Rim Fire. We want to celebrate the watershed and its inhabitants in all forms. Viva la Tuolumnne!” (Dougherty pers. comm. Oct. 24, 2013.)

The Great Wall of Los Angeles, a monumental work by Judith Baca, is a novelization of the city of Los Angeles’s past. It is situated on flood infrastructure. The work is symbolic on multiple levels and creates a new relationship with a waterway and the evolution of the city. Still other symbolic and important art-water installations, including the use of bridges, can be found throughout California.

Lifeways represent the larger collective mindsets and practices that represent the diversity of California’s social fabric. Shared passions, beliefs, histories, and experiences bring people together to create group and community identities. Several of the lifeways, which have come to typify California to the rest of the world, have a strong connection to water.

- California Native American Tribes often describe their social and cultural identities in terms of being inseparable from the natural world.
- Fishing towns and villages share social and cultural identities that derive from livelihoods that also define ways of life.
- Ranching and agricultural communities were settled near water sources; these working landscapes also provide habitat and vistas that characterize the West.
- The surfing and beach culture of California is directly associated with coastal and ocean resources, projecting an iconic image and serving as a key economic driver.
- The environmental movement in California has strongly advocated for coastal and riverine protections throughout the state.
- Access to water is the foundation of many local economies.

These lifeways are characterized by a close relationship with the land and waters. The well-being of the social fabric, economy, environment, and community are one. This creates responsibilities to long-term stewardship and heightened awareness, knowledge, and expertise regarding local conditions.

Also, any social, cultural, or economic uses of waterways or water-dependent resources can affect the resource base. This can result from trash, overuse, or the introduction of non-native species.

**California Native American Tribes’ Relationships with Water**

In California, the relationship of California Native American Tribes and water is fully rooted. California Native American Tribe village sites and areas for cultural practices are found within a quarter-mile of water, whether it is a spring, creek, river, or lake that still exists or once existed.
It is routine for excavations near a water body to uncover artifacts, such as bedrock mortars, petroglyphs, and tools, affirming the Native American relationship with water (Goode pers. comm. Oct. 18, 2011).

A desire to preserve the California Native American Tribes’ relationship to water, among other water-related heritages, has led to enactment of multiple State and federal requirements for protecting various cultural resources. Those requirements are often embedded in other statutes triggered by a wide range of water management actions. As a simple example, any water project that requires a federal permit or uses federal funds may be subject to the NHPA. Depending on the activity, Section 106, which requires agencies to engage in a good faith effort to consult with tribes on a government-to-government basis, may be triggered. Each activity and situation is different; however, the awareness that such triggers may exist allow water managers to take these requirements into account early in a process and conduct meaningful outreach and government-to-government consultation, as appropriate.

A less obvious trigger might include such laws as the California Coastal Act. Section 30244 states, “Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.”

Because each and every situation is different, water managers are advised to consult with their own legal representatives to determine the best course of action. Nonetheless, timely, frequent, and meaningful outreach toward and engagement with California Native American Tribes and stakeholders (when the situation is appropriate to government-to-government consultation) — can help managers identify potential issues and mitigation strategies. Some managers avoid outreach and engagement, thinking that these activities are overly time consuming or costly; however, time and again upfront planning with the appropriate organizations and individuals prevents far more costly implementation delays and/or litigation.

Beyond legal considerations, the California Native American Tribes’ traditional practices for land stewardship consider the need for sustainability (Goode pers. comm. Oct. 18, 2011) and regeneration for future generations. As with many other first peoples, these traditional practices and knowledge have been maintained and passed down through generations and make up the basis of what is termed Traditional (or Tribal) Ecological Knowledge (TEK). TEK offers a perspective on California Native American Tribes’ culture, their relationships with water, and various sustainable and adaptable water management tools and techniques.

There is a growing awareness among resource managers of the value of this knowledge for present-day decision-making. One example of TEK is cultural burning or prescribed burning, which is becoming more prevalent in land use practices with the aim of improving water flows. When water management (and land use management) decisions are made without reference to California Native American Tribes’ relationships to water and/or TEK, these decisions may result in a lack of access to water, adverse changes to water quality, and unmanaged water diversions, all of which have significant impacts on the lifeways of California Native American Tribes.

For more information on TEK and cultural burning, as well as on ways to incorporate them into water management decisions, see the articles related to “Water and Culture” in Volume 4, Reference Guide.
**Implications for Water Management**

Understanding the activities and accomplishments of past groups is important because the decisions made in the present are often influenced by the past. Simply stated, in order to understand the future, there first must be an understanding of the common past and heritage shared by all. This is particularly relevant within California, as the state’s history is inextricably bound to the availability and development of water infrastructure. Without understanding the basis and context of existing infrastructure and management, it is difficult to understand the consequences of future actions.

In today’s context, cultural practices and perspectives may also be a source of conflict or result in special management needs. When immigrants bring cultural practices to California and continue to observe them, those practices sometimes result in unintended consequences. For example, a food supply even partially based on subsistence fishing may expose a community to high levels of contaminants. In other cases, when well-intended parties introduce non-native species without an understanding of the potential impacts, native species often suffer.

Historic practices that were of high utility at one time, such as gold mining, have created unintended consequences resulting from demands of competing uses or increased concerns over potential negative impacts. Gold mining left residual effects such as erosion, sedimentation, and mercury contamination. Add increased population growth and urbanization, and water quality impacts are exacerbated. Some historic practices may not have been a problem in more rural or agrarian settings, but are now in conflict with other values. Moreover, conflicts can arise as communities attempt to retain historic character in the face of dramatic change.

A sample of other current water management issues directly tied to past economic and development patterns are:

- Placer mining legacy issues of heavy metals contamination.
- Reclamation of floodplains and wetlands and developing them.
- Hydropower operations and consequences for sediment management, fish passage, and water flows and temperature.
- A hybrid system of water rights that encompasses riparian and appropriate rights and adjudicated groundwater basins.
- Historic placement of industrial facilities and dairies near waterways to help manage waste, which now results in legacy issues.
- Logging activities and flash dams, which modified watersheds.
- Construction of large-scale water infrastructure systems, which have fundamentally changed many areas of the state.
- Railroad construction and the dewatering of high-elevation meadows.

Today there is a new urgency in planning and protecting the shoreline for water-dependent uses. Many view the preservation of land for water-dependent uses, in part, as the preservation of the historical and cultural resources that contribute to the charm of coastal communities. Policy-makers have used restrictive zoning, tax abatement, public acquisition of critical parcels through fee-simple or less-than-fee purchases, and transfer of development rights to surrounding lands to conserve those lands best suited for water-dependent uses. The public benefits are protected or required. The unique characteristics of waterfronts provide a wide array of public benefits.
involving the economy and jobs, the culture of the community, the physical environment, access to the waterfront, and many other dimensions. These public benefits provide local communities with both the rationale and the goals for developing programs to preserve and maintain water-dependent uses (Walker and Arnn 1998).

**Potential Benefits**

In addition to ensuring compliance with relevant legal mandates to consider culture, the consideration of culture and cultural activities can help frame management decisions. Cultural activities can assist in developing sustainable management decisions (see Volume 4, Reference Guide, the articles on cultural burning and TEK). A failure to utilize cultural considerations can have significant cultural and political impacts, which may result in communities delaying projects and or funding for essential projects. Likewise, cultural activities can help frame and promote needed management decisions, particularly in the following ways.

1. Using traditional knowledge and practices to better sustain and integrate water management and provide models of sustainability.
2. Continuing passage of traditional practices and knowledge to future generations.
3. Improving recognition and support of cultural diversity and heritage resources.
4. Creating potential partners and alliances for projects, and leveraging different funding sources.
5. Preserving a community’s and a culture’s understanding of California’s history.
6. Understanding the historical context for community establishment, avoiding repetition of past problems, recognizing the challenges for sustainability, and ensuring remediation.
7. Avoiding conflict and litigation.
8. Avoiding costs (remediation).
10. Protecting the integrity of peace of mind, quality of life, and life passages.
11. Serving as models of sustainability.
12. Learning more about natural processes (rivers/oceans are teachers).
13. Complying with cultural resource management laws, requirements for State agencies to have inventory of historic assets and report them to the Office of Historic Protection, under the auspices of the California Department of Parks and Recreation.
Potential Costs

Sample costs associated with furthering the incorporation of cultural considerations into water management decisions include:

- Education and outreach.
- Restoration.
- Research.
- Mitigation.
- Retreat.
- Historic preservation involving taking inventory, evaluating structures for significance, and making management plans (e.g., cultural landscape management plans). Costs depend on scale.
- Interpretive exhibits, markers, plaques.
- Legal considerations. State and federal laws support the consideration of culture in resource management decisions. (Volume 4, Reference Guide, provides some information on existing laws.)
- Repatriation.

Major Implementation Issues

1. Lack of information and education regarding which laws apply and the ability to determine who is responsible.
2. Private landowners have considerations that differ from government agencies when cultural remains or artifacts are found on their property.
3. Concerns similar to those associated with habitat for endangered species (i.e., safe harbor) that protection or mitigation efforts may constrain future choices. Once there is a historic designation, it is difficult to remove a building.
4. Inherent rights to access and use the waters of the State — bottom of the river versus banks of the river (Article 10 of the California Constitution).
5. Coastal access triggers discussion of mean low- and high-tide levels.
6. Lack of information regarding whom to contact, which procedures apply, and the hiring process involved for cultural monitors and archaeologists.
7. Lack of agency alignment regarding roles and responsibilities; relevant issues may not be referred to other, related programs.
8. Cultural distrust based on past experiences makes communication difficult with regard to cultural considerations.
9. Economic impacts related to addressing non-native species and dependence on revenue from existing invasive species (e.g., striped bass).
10. Information on cultural and historical resources exists in various databases. Some of the information, such as regional information centers, is a fee-for-service basis.
11. Important water resources may originate in areas with little ability to influence public discourse.

**Climate Change**

Climate change is projected to have a significant impact on water and water-dependent resources in California. Increased air temperatures will result in warmer water temperatures, a shift in precipitation with more precipitation falling as rain rather than snow, more frequent and intense droughts, and rising sea levels. While future precipitation is somewhat uncertain, greater flood magnitudes are anticipated to result from more frequent atmospheric river-storm events (Dettinger 2011). In addition, changes in the type and timing of precipitation will result in altered surface runoff and volumes, with more runoff occurring in the winter and less in the spring and summer. These changes will affect the water-dependent resources that currently support many cultural activities.

Changes in temperature and precipitation will affect ecosystems throughout the state and affect the subsistence activities that these ecosystems support, especially those that rely on specific species of plants and animals that are particularly vulnerable to the projected changes. Changes in surface runoff and volume, greater salinity intrusion associated with sea level rise, and warmer water temperatures will also affect recreation and spiritual practices associated with water as water levels, stream flows, and water quality are reduced. Historic preservation activities will also be affected, with important cultural sites being at greater risk as a result of exposure during extended drought periods, inundation, or physical damage during extreme flood events. More frequent and intense wildfires could also affect all of these cultural activities.

**Adaptation**

Probably the biggest impact on water-dependent culture resources will come from large-scale ecosystem changes. On the other hand, while climate change creates challenges for ecosystems, maintaining and creating healthy and resilient ecosystems can also reduce the impacts associated with the anticipated changes in temperature and hydrology. Certain actions, such as high-elevation meadow restoration, can slow down increased winter runoff, allowing it to recharge underlying aquifers and then slowly release that water to help maintain summer in-stream flows. Floodplain restoration also provides similar benefits by protecting water resources while also providing critical habitat for many species. In coastal areas, wetlands can provide a buffer against rising sea levels while improving water quality and providing habitat for many species.

**Mitigation**

1. Provide outreach and financial and technical assistance to the extent feasible to protect culture resources and increase better understanding of a) carbon sequestration potential with watershed and riparian forests, and b) water conservation and water use efficiency for climate change mitigation.

2. Mitigate, minimize, and reduce greenhouse gas emissions related to water project impacts on culture resources, to the extent feasible.
3. Identify tribal opportunities for water recycling and renewable energy and promote understanding of cultural practices and implications associated with climate change mitigation and responses.

4. Provide benefits and incentives for tribal water and energy-use efficiency projects.

Other Resource Management Strategies

- Chapter 3, “Urban Water Use Efficiency,” describes attitudes about recycled water, water meters, lawns, and desalination.
- Chapter 4, “Flood Management,” discusses lifestyles and land use.
- Chapter 8, “Water Transfers,” discusses how, as timing of water deliveries from natural systems changes, the traditional approaches for water transfers need to be revisited.
- Chapter 17, “Matching Water Quality to Use,” recognizes that not all water uses require the same quality of water. Conflicts can occur when water designated as non-potable is accessible to the public, who may not be aware that the water quality does not meet public health standards.
- Chapter 18, “Pollution Prevention,” discusses proper land-use management practices to prevent sediments and pollutants from entering water bodies.
- Chapter 22, “Ecosystem Restoration,” discusses rehabilitating human-altered landscapes and biological communities for their sustainability and enjoyment of current and future use.
- Chapter 23, “Forest Management,” discusses prescribed burning, the impacts of forest management, and other activities that affect water quantity and quality.
- Chapter 24, “Land Use Planning and Management,” discusses the physical environmental, economic, and social impacts of land use planning and water management.
- Chapter 29, “Outreach and Engagement,” discusses the tools and practices by water management agencies that allow groups and individuals to contribute to good water management outcomes.
- Chapter 31, “Water-Dependent Recreation,” provides additional discussion on recreational aspects of culture and water.

The cultural context needs to be considered when implementing any resource management strategy. Every approach requires looking at the cultural context, and any given land use activity may require a cultural resource inventory.

Recommendations

1. Water management agencies should have an appointed preservation officer who is responsible for cultural resource stewardship, developing policies and plans for the protection of historical resources, and ensuring that the agency follows these policies as well as applicable State and federal requirements.

2. Water management agencies should have cultural resource management programs, which include the following:
A. Inventory of all cultural resources within the jurisdiction of the agency.
B. Program of systematic condition assessment of cultural resources.
C. Develop treatment plans and prioritized programs for routine maintenance of individual resources.
D. Establish and maintain a data file for each cultural resource or groups of resources organized by field division(s).
E. Identified research goals for archaeological, ethnographic, and historical research proposed within the jurisdiction.
F. Management of any archaeological or historical object collections maintained by the agency.
G. Establish and maintain relationships with California Native American Tribes and communities who may have an interest in the cultural resources of the agency.
H. Staff training and education about cultural resource management.
I. Coordination with local archaeological and historical societies and other groups with an interest in cultural resource protection.

3. Educate the public about the Surfrider Foundation, the Bolsa Chica $150 million settlement, *Cadillac Desert* (Marc Reisner), Mary Austin, Tahoe Blue, and Friends of the River.

4. Educate children about how watersheds work. Add the hydrologic cycle to the California education standard. Every student should learn the hydrologic cycle from headwater to ocean, as well as the impacts and dependency people have on water.

5. Expand inclusion and integration of traditional/indigenous practices and knowledge in resources management and planning processes and decisions.

6. Educate the public about resource stewardship activities associated with different groups and organizations.

7. Centralize information on cultural and historical resources into a single database.

8. Protect sensitive sites from vandalism.

9. Investigate use of the General Planning Process to better integrate water and cultural considerations.

10. Collaboratively identify statewide, local, and inter-agency efforts to implement early engagement and incorporation of culture to ensure non-duplication of efforts and maximize resources.

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**Cultural Values and Natural Resources**


Cultural Resource Management, Historic Preservation, and Public Lands Management


Native Americans and Cultural Resource Management


Traditional Ecological Knowledge/Indigenous Knowledge


Federal Agencies


Selected Articles, Case Studies, and Guidelines


**Water and Values**


