

REIMAGINING NATIONAL PARKS: THE CASE FOR
HETCH HETCHY VALLEY, YOSEMITE NATIONAL PARK,
AS A PLACE FOR ENVIRONMENTAL JUSTICE AND
RESTORATION

by

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The Hetch Hetchy Valley, located within Yosemite National Park, was dammed in 1913, even after fierce opposition by the public. The damming of Hetch Hetchy illustrates how the National Parks Service model of conservation falls short in protecting ecosystem areas and preventing development within. Rather than significant development being restricted in Hetch Hetchy, the American public, including the Indigenous groups who once called the valley home, were shut out so that major development could occur. These actions contradict the mission of the National Parks Service and the purpose of setting aside lands with a National Parks status.

Using the models of collaborative governance, earth jurisprudence, and environmental justice, this paper explores the ways these models can be applied to resolve the issues within Hetch Hetchy, including the lack of access by the American public, shutting out of Indigenous groups, and the major environmental damages occurring through the presence of the dam. The use of collaborative governance encourages collaborative problem solving among the involved stakeholders, while environmental justice and earth jurisprudence demands respect and consideration for the environment and those that are typically not included in discussions of government

management. Through this exploration, a new and restored Hetch Hetchy is imagined and the contributions that such an exercise would make for the American public and democracy are discussed.

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Introduction

National Parks are some of the most beautiful natural areas in the United States. These protected lands were established so they can be enjoyed by present and future Americans. In order to ensure their longevity and protection, the National Parks Service manages the Parks to ensure their protection and access for all to visit. However, an analysis of National Park history, especially of Yosemite National Park, reveals that the Parks Service has failed to protect the natural environments and to ensure access to these land areas for all Americans.

Yosemite National Park, established in 1890, is found in central California. The park, which includes two valleys: Yosemite Valley and Hetch Hetchy Valley, received National Park status so as to prevent development and deforestation on the land (Peglar). The two valleys are geologically equivalent, and were both set aside to be conserved in perpetuity.

In 1919, the first granite rocks of the Hetch Hetchy Valley were blown up to make way for the construction of O'Shaughnessy Dam (Fisher). The Raker Act was the Congressional law that allowed for San Francisco to coordinate the damming of the valley. The law, passed in 1913, was highly contentious because of the implications for damming the Yosemite twin (Rosekrans & Laws 19). The Dam provides municipal water for San Francisco, some power to the city, and a small amount of water to irrigation districts located near the Yosemite Valley (Rosekrans & Laws 6). Through the agreements that allowed for the construction, the federal government ensured that special provisions were included in the Raker Act to allow for visitors to camp, hike, and enjoy access to the Hetch Hetchy area (Rosekrans & Laws 13). Senators also

wanted to ensure that “poor people” would also have access to the Hetch Hetchy Valley for such purposes (Rosekrans & Laws 13). The modern day shows us that these provisions were never fulfilled or completed, despite the intentions of many politicians, environmentalists, and recreational enthusiasts.

Yosemite National Park is difficult to access, and presently has a lottery system for entrance, high fees for recreational opportunities, and limited access even to the nearly desolate Hetch Hetchy. The Hetch Hetchy Valley is the least visited area of Yosemite National Park that is accessible by vehicle (Rosekrans & Laws 25). Trails, campgrounds, and boater access were all opportunities to be granted to recreationalists in the Raker Act, but these allowances never came to fruition.

Hetch Hetchy Valley needs to be reimagined in terms of opportunities intended in the Raker Act, and its issues redressed on behalf of the integrity of Yosemite National Park. At this writing, we can conceive the flooded valley as a blank canvas, we can imagine the Raker Act undone, the dam dismantled, and the valley drained. Restored to its original state, Hetch Hetchy can become a symbol as well as pilot for a National Park model that allows for environmental restoration, environmental and political justice, including respect for the Indigenous groups that once resided there.

Clearly, the model used to prevent development on National Park land through the ideals of ensuring long-term conservation was not strong enough to guarantee protections for Hetch Hetchy. Recent environmental movements within the realm of environmental law have been able to restructure the framework in which the law interacts with natural areas. Through ideals within the earth jurisprudence framework, lawyers have been able to reframe human’s relationship with the land to be that of a

symbiotic relationship; when humans and the land have a mutual relationship through their respected and defined rights.

This paper argues that we must reimagine the current conservation regime that dominates the way in which our National Parks are managed. Through a framework that is centered in environmental justice and giving rights to nature, the Hetch Hetchy Valley can be restored and resolve many of the longstanding issues that have yet to be corrected. Through the political model of collaborative governance, the Hetch Hetchy Valley can prosper as a restored natural area that is protected, in perpetuity, while also using the land as a place to heal the relationships between people and between the land.

Methods

To answer the research questions, the research conducted was completed through a variety of methods. The purpose of including a variety of methods was to ensure a holistic approach in examining the processes, effects, and theories utilized in the realm of National Parks.

The data collected to answer the questions was gathered through first-hand accounts of the relationships at play. This meant that the political relationships and tensions within, were examined through the reading of Congressional legislative sessions, gathering people's perspectives on how they use their public lands, and reading materials provided by environmental experts in relation to earth jurisprudence, environmental justice, and collaborative governance. Through the emphasis in this analysis of first-hand sources, original biases can be understood in context to why certain decisions were made. The action of examining primary sources allows for the reflection on why historical biases existed and how they have shaped equality, and the lack thereof, in the Park.

It should be acknowledged that this research into collaborative governance and earth jurisprudence is relatively new in age. Rather than having long standing traditions to cement findings, these regimes are beginning to be implemented more often. Despite this, these models have shown to be very effective in securing protections and changes to the way in which natural land is managed and governed. While the offered changes may seem radical and revolutionary, it should also be noted that simply the setting aside of land to be National Parks was radical for its time as well (Earle & Bridgeland).

The case for Hetch Hetchy is one that needs to be judged through a framework that can examine, introspectively, the effects that the existence of the reservoir has on the environment, usefulness in purpose, and its ability to provide space for the people. Therefore, this paper makes the argument that the best framework to dissect and judge the case for Hetch Hetchy is through the lens of environmental justice. Using a critical stance of environmental justice, this paper is able to look past the general claims made by both those in favor and against the restoration of Hetch Hetchy, in terms of how the existence of the reservoir restrict or provides services for the people of the United States, and allows for the meticulous framing of the ways people are affected and helped in order to place a more worthwhile judgement to the location and environment. As Iris Marion Young puts it, “Without such a critical stance, many questions about what occurs in a society and why, who benefits and who is harmed, will not be asked, and social theory is liable to reaffirm and reify the given social reality” (Young 5). Therefore, the environmental justice lens is needed in order to establish who is affected by the existence and actions on the environment and who might be missing from the conversations and rhetoric previously existing on this case.

The use of an earth jurisprudence framework is offered as a model of governance in application to this case as it coincides best with the previously existing land ethic, by Aldo Leopold, that is engrained within the governmental systems that are tied to the Hetch Hetchy area¹. Leopold was even quoted in the Supreme Court case, *Sierra Club v. Morton*, to show that the government already acknowledges that, ““The

¹ Leopold is responsible for the conservation of many land areas and for the existence of ethics in regards to forestry that are still utilized today (Bramwell).

land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land” (United States Supreme). Therefore, Leopold argues that the treatment of our land must be one in which humans are one of a part within the natural system. Thus, the use of an earth jurisprudence framework of restructuring would create this new relationship. The use of a collaborative governance model allows us to maintain this same theoretical framework and apply it to the real-world. Collaborative governance allows for the consideration of all stakeholders involved within the Hetch Hetchy debate, including, but not limited to: the city of San Francisco, National Parks Service, Native Americans, farmers, and recreationalists, to be a part of the decision-making process about the allowed actions within the boundaries of Hetch Hetchy.

In this same vein of stakeholders, it is extremely important to not discount the natural stakeholders involved because of the inclusion of so many differing groups related to the human-use of the environment. The use of the concept of earth jurisprudence is required to assist because of its inclusion of the non-human actors within the natural system. Earth jurisprudence, the idea that nature deserves rights and protections under the law, ensures that through its use, natural systems will be included and protected in discussions of actions to the natural area. This means that the governance systems that currently dominate the landscape are reconfigured to respect the cycles of the ecosystem so as to strike a balance of allowing an ecosystem to exist and provide for human benefit, without the controls and manipulative actions to use ecosystems solely for the benefit of society. With the offering that nature should be protected and considered, then the use of earth jurisprudence as an applicable theory to

the case for Hetch Hetchy is validated as it is the legal mechanism that can assist in the enshrinement of rights and the mandate for the survival of ecosystems.

Therefore, this thesis will envelop its moral argument through the use of collaborative governance and earth jurisprudence, with special attention to environmental justice, to examine the Hetch Hetchy controversy.

History of Laws/Issue

History of Yosemite National Park

Pre-Colonization-early 1800s

Yosemite National Park is located in eastern central California and encompasses two glacial valleys, the land of the National Park, now owned by the federal government, had been the land of the Miwok and Paiute people until they were forced out of the area by miners and settlers during the California genocide of Native Americans (Their). The tribes, who called themselves the Awhahneechee people, settled into the valley some 4-8,000 years ago and had cultivated and cared for the land (Their). The Indigenous people used tools like fire to cultivate and regenerate plant life and to assist in hunting for wild game. The Indigenous groups within the valley would often trade with other tribes because of the rich natural resources afforded to them from their management practices within the valley (Their).

1833-1864

Settlers in the Joseph Walker Party of 1833 are the first white people that plausibly laid eyes on the valley (Fraquhar). Less than 20 years later, the first confirmed entrance into the Yosemite Valley, and park boundary, occurred in 1851 by the Mariposa Battalion (Destruction). This battalion entered into the valley in search for Native Americans during the Mariposa Indian War². Settlers had banded together with

² This conflict arose when many miners migrated to the Sierra foothills in search for gold, which led to conflict with the Native peoples of the land who wanted to protect their homelands from being destroyed and impeded upon (Destruction).

express permission from the California state government to murder those that held the land in order to allow for the extraction economy to prosper (Destruction). Thus, in search of more of the Awhahnee people, The Mariposa Battalion documented their entrance into the Yosemite Valley. Word quickly spread, and many people made the trek to the Yosemite Valley to take in the views and scenery.

Many artists, writers, and explorers soon entered the valley after 1851 to experience the majestic place that is Yosemite. With many people writing of the beauty of the place and the need for it to be protected, President Abraham Lincoln set aside the land area under the Yosemite Valley Grant Act of 1864. This provision set aside the land, “upon the express conditions that the premises shall be held for public use, resort, and recreation” (Yosemite). Due to this language, many people looking to make money off of those visiting the area began developing the land to entice people to come and vacation. Much of the land that is currently associated with the park, like Tuolumne Meadows and other large tree groves, were not included in the act. Thus, the use of the land for natural resource extraction purposes continued to occur.³

1868-1874

Famed conservationist, and who is considered to be the father of the National Parks, John Muir, entered into Yosemite in 1868. Muir was so enveloped in his awe of Yosemite that he returned year after year. Muir resided in the valley each summer until 1874 (Perrottet). Muir is often quoted in his amazement of the natural beauties that Yosemite holds, writing,

³ It is important to note that the purposes for land retention by the federal government were for recreation, preservation, and extraction. This still remains the purpose to this day.

“Nowhere will you see the majestic operations of nature more clearly revealed beside the frails, most gentle and peaceful things. Nearly all the park is a profound solitude. Yet it is full of charming company... a place of beginnings abounding in first lessons on life, mountain-building, eternal, invincible, unbreakable order; with sermons in stones, storms, trees, flowers, and animals brimful of humanity” (Muir *Our* 27).

In 1871, conservationist John Muir walked into the Hetch Hetchy Valley and viewed the grandeur of the granite rock formations, waterfalls, and valley floor (History- Hetch). Muir was enamored with this discovery, finding it to be not only comparable to Yosemite Valley, but exceptional in that, “Hetch Hetchy is a grand landscape garden, one of nature’s rarest and most precious mountain temples. As in Yosemite, the sublime rocks of its walls seem to glow with life, whether leaning back in response of standing erect in thoughtful attitudes giving welcome to storms and calms alike” (Muir *The Yosemite* 90). Muir would often visit this little-known valley, and wrote often of its beauty. In 1873, the first entrance of Hetch Hetchy into printed media was published by the *Weekly Transcript*, with Muir’s advice being, “Tourists who can afford the time ought to visit Hetch Hetchy on their way to or from Yosemite... it certainly is worth while riding a few miles out of a direct course to assure one’s self that the world is so rich as to possess at least two Yosemites instead of one” (Muir “The Hetch Hetchy Valley”).

1874-1900

At the times that the Sierra Nevadas are being explored, the city of San Francisco is on its way to developing itself to be a metropolitan center, one of the first and largest in the west. Integral to this need in development was the desire for a dependable water system. In 1882, the first consideration for the use of the Tuolumne River, through the development of Hetch Hetchy was considered by San Francisco

(Barnes 205). As Hetch Hetchy was not part of the protected Yosemite zone, as established by President Lincoln, the valley was legally just another tract of land. But, the proposal was passed up by the city of San Francisco in lieu of a different water plan. Hetch Hetchy was safe from development, but not forgotten by the developers looking to sell San Francisco a source of dependable water.

Back in the Yosemite area, artists and entrepreneurs were visiting the valleys. Some of those notable people are Thomas Hill, Harry Cassie Best, and James Hutchings (Perrottet). Hill and Best were two famous landscape artists that were able to translate the visual beauty of the Yosemite area into art that could be consumed by the public. Hutchings was an entrepreneur responsible for commercially developing the Yosemite Valley. This led to a dichotomy in the use of the land. On one side, there were those who would visit the land to appreciate the natural beauty and splendor that would come from the adventure. The other side found that developing the land for the purpose of economy and resources was quite profitable. These people, like Hutchings, created hotels, homes, and cattle operations in the meadows as a means of using the abundance of resources for the benefits of humans and society. This led to tension between the conservationists and the developers about the future of the area.

John Muir began lobbying through writing and speaking about the Yosemite area to Congress and the Executive Branch in order to ask for expanded protections for the general area of what is Yosemite National Park. Muir was successful in his lobbying when in 1890, the park was instated into the management hands of the federal government through the recognition as being the United States' third National Park (Perrottet). Through the recognition process and apportionment of land, Yosemite

National Park was expanded to include Yosemite Valley, Hetch Hetchy valley, groves of Sequoia trees, and many meadows that make up the 1,169 square miles of land area (Park Statistics).

Despite Hetch Hetchy's now added federal protection, James Phelan, who would become Mayor of San Francisco in 1897, submitted a proposal to use the valley as a dependable and clean water supply. While the plans for the development of these wild spaces were being drawn up, recreationalists who wanted to engage in these activities banded together to form the Sierra Club in 1892.

1900-1905

In 1901, the Right-of-Way Act was passed. This Act was important because it allowed, "individuals to traverse a piece of land, forest reserve, or national park for economic purposes" (Conservation). This act opened the door for discussions of the economic development within Hetch Hetchy for the purpose of providing water for San Francisco. Mayor James Phelan, using this law, applied for a permit to develop the area, and it was denied in 1903 by Secretary of the Interior Ethan Hitchcock (Rosekrans & Laws 7).

1906-1910

Tragedy struck in 1906 with the great earthquake of San Francisco wreaking havoc on the buildings and homes of residents (Scawthorn et al. 135). Made worse, the unreliable water that was supplied by a private company through an agreement with the city of San Francisco was not able to be accessed readily, which led to a massive and destructive three-day fire that consumed much of the city (Scawthorn et al. 136). San

Francisco, parts of which were reduced to rubble, now had a greater incentive to secure a reliable water source that would service as a tool to help ensure that the city was not struck down again. This same year, Yosemite National Park opened to visitors under the National Park regulations. The opening year, Yosemite National Park hosted 5,414 visitors (Park Statistics). In 1907, Secretary of the Interior Hitchcock, who had denied Mayor Phelan's application, left office and was replaced by James R. Garfield. In 1908, Secretary Garfield, faced with a new application by the city of San Francisco to develop the Hetch Hetchy Valley into a dependable water supply, granted San Francisco the water rights to the Tuolumne River within the valley (Rosekrans & Laws 8).

But, as time moves on and political leaders change, Secretary of the Interior Garfield was replaced by Richard Ballinger. Using his power as Secretary of the Interior, Ballinger ruled that the city of San Francisco must show cause as to why the Hetch Hetchy Valley should be developed if there were other locations that were equally suitable on the Tuolumne River. Ballinger stated that without Congressional approval, the Hetch Hetchy Valley could not be dammed (Rosekrans & Laws 8).

1911-1923

In 1911, Secretary of the Interior Ballinger stepped down and was replaced by Walter Fisher. With hope that San Francisco might sway a new political official to allow development at Hetch Hetchy, the city of San Francisco developed the Freeman Report (Rosekrans & Laws 9). The Freeman Report was a red, leather bound report full of images and inaccuracies on the ways in which Hetch Hetchy could be developed to both be a water supply for San Francisco and a tourist destination of meaningful recreation similar to the tourist magnet reservoirs in Europe (Rosekrans & Laws 9). In

face of this new and convincing report, Secretary Fisher held a hearing for the Hetch Hetchy Valley with the Army Corps of Engineers board for the purpose of deciding what should be done for the city and what to be done about the valley. The Army board sided in favor of development through their publication of the Army Board Report, which was their summarization of decision, of which the facts and figures relied heavily upon the Freeman Report (Rosekrans & Laws 12). Yet, Secretary Fisher ultimately decided that Hetch Hetchy could not be developed without Congressional approval. Thus, the issue was turned over to Congress.

In 1913, under a new Secretary of the Interior, Franklin Lane, the Raker Act was passed by the Senate, House, and signed into law (Rosekrans & Laws 13). The Raker Act is monumental as it allowed for the Hetch Hetchy Valley, a patch of land within a National Park, to be developed (Rosekrans & Laws 19). Effectively, San Francisco had won their fight in ensuring that the development of a water supply would occur in the granite-domed valley.

Infrastructure to begin the construction of what would be called the O'Shaughnessy Dam, named after San Francisco's civil engineer at the time Michael Maurice O'Shaughnessy, began in 1915 (Exploring). The construction impacted the environment through the construction of the Hetch Hetchy railroad, which placed several tunnels into the rocks, the development of Camp Mather and Mather Road, and the damming of Lake Eleanor (Rosekrans & Laws 8). One year after part of a National Park was being destroyed with dynamite and digging, the Organic Act of 1916 was passed. This bill, also known as the National Park Act, created the National Parks Service. The National Parks Service was established to,

“promote and regulate the use of the Federal areas known as national parks, monuments and reservations... by such means and measures as conform to the fundamental purpose of the said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (Martin).

Despite the provisions and protections afforded to Yosemite National Park, the construction and development of Hetch Hetchy continued. In 1923, the O’Shaughnessy dam was completed (Explore).

1923-1986

After the completion and beginning usage of the dam, there was much infighting between the Parks Service employees and city officials of San Francisco (Rosekrans & Laws 23). The conflict arose over the provisions outlined in the Raker Act. As part of the agreement in allowing the city to develop the park area, they were also to construct roads, trails, and create a place to camp. These items were either not completed in any capacity, or not funded for the Parks Service to complete. The conflict grew so intense that the matter rose to the Supreme Court of the United States. In 1939, the Supreme Court ruled that San Francisco had officially violated the terms of the Raker Act (Picker & Sprain 4).

After this ruling, Secretary of the Interior Harold Ickes coordinated special sessions in which San Francisco could produce other actions in relation to funding and finishing the projects in and around Hetch Hetchy (Rosekrans & Laws 24). Many of the Congressmen who assisted in the passage of the Raker Act made public statements in regards to their disappointment in San Francisco and ultimate regret for allowing the damming of such a pristine place (Rosekrans & Laws 23). After this point, and the

National Parks Service no longer pursuing the items that San Francisco had still not completed, Hetch Hetchy largely disappeared from the public eye. And after the death of John Muir in 1914 and ineffective actions to stop the city of San Francisco, the valley remained dammed.

1987-Present

The fight to restore Hetch Hetchy was renewed by Secretary of the Interior Donald Hodel in 1987 (Morain & Houston). Hodel, appointed under Ronald Reagan, reinvigorated the subject of restoration when he explicitly called for its review and restoration (Morain & Houston). This was met with fierce opposition by California and San Francisco leaders. Mayor of San Francisco Dianne Feinstein, “called Hetch Hetchy water her ‘birthright’ and proclaimed that she would ‘do all in my power’ to fight the teardown” (Finley). The rhetoric and thoughts about Hetch Hetchy persisted throughout the rest of the 20th century, but no further action was taken.

In 2012, the fight to restore Hetch Hetchy once again was introduced to the public sphere through the organization Restore Hetch Hetchy. Restore Hetch Hetchy brought before the voters within the Bay Area Proposition F. In Proposition F, voters were able to decide if Hetch Hetchy should be drained (Rogers, San Francisco). The results came in at, “Seventy-seven percent of San Francisco voters were against Proposition F” (Rogers, San Francisco). Restore Hetch Hetchy then brought the city officials of San Francisco to court as an attempt to get the courts to order the draining of the valley. However, Superior Court Judge Kevin Seibert threw the case out (Brekke). Thus, we are left with the reality that Hetch Hetchy continues to be a reservoir of which the water covers the grand valley area that resembled Yosemite Valley. While in 2020,

2,268,313 visitors visited Yosemite National Park to enter the Yosemite Valley, Hetch Hetchy still remains as the least visited area of the Park (Park Statistics). With the gates closing each night at sundown, the public has not been able to experience the majestic beauty that Muir described as he camped along the valley floor.

History of Environmental Ethics and Politics

1940s-Collaborative Governance

The use of collaborative governance as a model of decision making to resolve issues arose out of group theory work by the scholar Arthur Bentley in 1949. In order to understand what collaborative governance is, the term should be broken down into its parts. In an article written by P.E. Digeser, “collaboration is part of our language of moral responsibility and serves as a reason for blaming and punishing those who have had a particular kind of association with a perpetrator” (Digeser 200). Thus, the term collaboration points us to two different uses; collaboration can mean the way in which groups work together for good and for assigning a negative connotation through working together to bring about bad outcomes. In relation to the topic of this paper, collaboration can be brought forth to characterize the ways in which government actors collaborated to bring about the damming of the valley without meeting the other specified provisions they agreed to, and to advocate for various stakeholders to be included in actions to restore the region.

Moving to the other word in the term, governance, political scientists also have many definitions and meanings. In the case for this paper’s purpose, governance is,

“the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through

which conflicting or diverse interests may be accommodated and co-operative action may be taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest” (The Commission).

This is the definition of choice because the definition outlines the ways in which non-formal governmental actors, put simply actors that are not related to the government, can have and deserve standing to govern issues and places of subject. The use of this definition of governance will be extremely important in relation to the issue of Hetch Hetchy due in part to the fact that the subject matter is a non-human actor (a wildlife area), many actors are not associated with the government (citizens, non-profit organizations, Native American tribes), and it still recognizes the importance of the government in their action of governing.

The two definitions above then lead us to the term and concept of collaborative governance. Put simply, “Collaborative governance... brings public and private stakeholders together in collective forums with agencies to engage in consensus-oriented decision making” (Ansell & Gash 543). Therefore, collaborative governance labels a specific set of actions by which involved actors, both governmental and non-governmental, collaborate together for a decision-making process that is found by consensus among the involved actors. It is important to note that collaborative governance has usually arisen at times when the government has failed in its ability to enact and govern the given subject. Political scientists Ansell & Gash characterize this by writing, “Although collaborative governance may now have a fashionable management cache, the untidy character of the literature on collaboration reflects the way it has bubbled up from many local experiments, often in reaction to previous governance failures” (Ansell & Gash 544).

While collaborative governance is a relatively new form of government action, it has proven to be quite successful in its applications. In the environmental arena, collaborative governance has provided the framework necessary to bring forth mutual solutions that have allowed for continued industry actions while also securing safety for the environment and protection for species. Some issues that have used a collaborative governance framework has been the management of the Klamath Water Basin in Oregon and California and the implementation of the Canterbury Water Management Strategy in New Zealand (Gosnell & Kelly 362; Newman). In both of these cases, the use of the collaborative governance model was able to break-through a “gridlock” in disagreement among involved actors to find a mutual solution that would benefit all. The success of the Klamath Water basin is particularly fitted to the above definition as it came after a time of failed government action in which allowed actions by the government led to a fish kill in which the magnitude has not been matched (Gosnell & Kelly 363). Emerging from these problems, actors such as Native American tribes, farmers, citizens, and the government were able to collectively create a management plan that would ensure the survival of the agricultural industry, salmon, and the Klamath River (Oaster). Included in these plans is the removal of multiple dams along the river (U.S. Department et al.).

The strengths of collaborative governance structures lie in the fact that the use of these plans can ensure stakeholder representation more closely aligned with themes of environmental restoration and can push for new and innovative methods to solve difficult problems. In the case of the Klamath Basin management struggles, the use of a collaborative government structure ensured that the Indigenous tribes native to the area

were able to voice their concerns and be part of the stakeholder process. This is in stark contrast to a few decades earlier in which the government only listened to agriculturalist's concerns about lack of water for farming in 2002, and through aiding the farmers, the lack of water flow led to the fish kill (Oaster). After the fish kill, the government was pressured to collaborate with all stakeholders, which allowed for the voices of the discounted Yurok, Hoopa, and Karuk tribes to be part of the management processes. Thus, a voice was given back to those whose traditional homelands were the affected area.

Continuing, collaborative government structures are quite strong in they facilitate novel ways to solve the problems at hand. Scholars Ellen Rogers and Edward Weber write about collaborative governance outcomes in that the practice of such can lead to the solving of, "*more than* just the policy problem that originally brought people to the table in order to provide improved collective outcomes for the communities in question" (Rogers & Weber, *Thinking* 549). This is particularly significant in that this revelation suggests that collaborative governance goes further than just solving the problem at hand in that it makes strides in solving attached problems associated with the stakeholders involved in that particular "ecosystem" of stakeholders. In the case of the Canterbury Water Management Strategy, this fact is modeled in that the new system that came out of a collaborative governance structure led to, "The expected outcomes from the innovation were improved water management outcomes across the economic, cultural, social and environmental well-beings and a change to a community-led collaborative approach to decision making" (Newman 1). This is significant in that the goal of creating a better water management strategy were accomplished, and the

solutions transcended beyond the issue to involve a variety of factors that pertain to the local community. Thus, collaborative governance structures are particularly helpful in that they have the advantage of using local community knowledge, which allows for solutions that are tailored to the specific location, stakeholder needs, and problem at hand.

The weaknesses of a collaborative governance structure are found in the relationships among those involved, the amount of power that each possess, and their commitment to finding a solution. Collaborative governance can prove to be weak when the groups involved have significant power imbalances and no action is taken to ensure that these imbalances are restructured to ensure equal protection and participation. Scholars Ansell and Gash write on this issue, finding that, “Weak or noninclusive representation, therefore, threatens to undermine the legitimacy of collaborative outcomes” (Ansell & Gash 556). Legitimacy in the outcomes of the process can no longer be given when groups are ignored or trampled upon. Continuing, collaborative governance can be found to be quite weak when the government agencies that are meant to partake in the solution finding mission are largely disengaged (Ansell & Gash 559). In a paper written by Steven Yaffee and Julia Wondolleck, they found that, “For some agencies involved in collaborative processes, the result has been that they were standoffish in the processes, with the appearance of ‘keeping their cards close to the vest’” (Yaffee & Wondolleck 67). This weakens the ability to find a collaborative solution because the government agencies are the enforcer/keeper of the rules and a stakeholder/representative of the issue.

Lastly, collaborative governance can seem to be weak through the government's commitment to finding a solution. As discussed, collaborative governance often arises after a failure of government actions. And because of this failure, the involvement of government agencies to change behavior and be accountable for said behavior and failures can be quite difficult. Due to this, collaborative governance is said to have solved a few notable problems but has failed to make an impacting change on governance itself. Robert Weymouth and Janette Hartz-Karp write,

“This critique notes that although proliferating rapidly, the deliberative democracy movement has failed to secure institutionalization in the existing governance structure in all but a few places around the world... This failure may manifest in political elites... viewing deliberative democratic processes as unworkable, or a revolutionary movement intending to overthrow the existing system, or alternatively, as an abrogation of the duties of duly elected representatives”
(Weymouth & Hartz-Karp 6).

This is significant in that the suggestion argues that the use of collaborative governance may not be in the best interest of government and political elites because of the democratizing nature that would place power back into the stakeholders involved in the particular community. Rather than seeing this as a weakness, however, this should be seen as an obstacle that overcoming could balance political power and further democratize the process in finding a mutual solution.

1970s- Environmental Justice

The concept of environmental justice was a term coined to characterize the social movements regarding unequal exposures to environmental pollutions and harms (History of). This movement was led by those that recognized the fact that minorities who were already marginalized and discriminated against within society were also the

ones that came into contact with severe environmental pollution. The movement began in the 1970s through the use of the Civil Rights Act in recognizing how one's race was coinciding with experiencing greater environmental pollution (Carder). In 1994, President Bill Clinton issued Executive Order 12898, titled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (History of). This executive order was extremely important because it established, "environmental justice offices in the EPA, DOJ, and other federal agencies" (History of). The executive order has allowed for federal agencies to delve into environmental issues in order to see beyond the pollution being emitted into the environment and to look at what groups the pollution is affecting and how that may be disproportionate. This executive order is also important because it gave definition to the concept of environmental justice to establish the rights of individuals and the protections afforded to them through the creation of the environmental justice offices within the federal government. In the concept of environmental justice, the federal government ensured that all citizens would be given fair treatment in relation to environmental laws and policies so that, "no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, government, and commercial operations or policies" (Learn).

The environmental justice movement has continued to pick up steam in order to protect many vulnerable populations within the United States. The focus of the movement has largely expanded, "to include public and human health concerns, in addition to natural resources such as air, land, and water" (Sze 13). Thus, the use of an environmental justice lens allows the researcher to further investigate the harms and

outcomes related to the people and the environment in order to establish that these harms might be largely affecting groups that are already disadvantaged or considered a minority. This process is important because it ensures that the researcher is not missing what might not be readily seen in how the public is being affected through the actions against and on the environment.

1990s- Earth Jurisprudence

Put simply,

“Earth jurisprudence represents an alternative approach to the law based on the belief that nature has rights. In this view, a river has the right to flow, species have the right to continue to exist in the wild, and ecosystems have the right to adapt and evolve over time. Proponents of Earth jurisprudence argue that, by treating nature as exploitable resources, contemporary legal systems actively promote environmental harms” (Humphreys 459).

In the 1990s, scholar Thomas Berry popularized the concept of earth jurisprudence in the United States and western world, as these ideals have been demonstrated to be pre-existent in many Indigenous cultures. In his writing, Berry outlined the problems in which humans have interacted with Earth. Berry writes of the separation between humans and the world by saying, “We somehow did not belong to the community of earth. We were not an integral component of the natural world. Our destiny was not here. We deserved a better world, although we had not even begun to appreciate the beauty and grandeur of this world of the full measure of its entrancing qualities” (Berry 207). Thus, Berry shows that through the separation of humans from the rest of ecosystem processes leaves society at a problematic place in which humans are so fundamentally separate that they do not see how their own actions are integral in assisting both the natural world and society to survive.

The problem with not viewing society and the natural world as one in the same set of the context of earth is that by not doing this, humans do not see the ways in which we affect the world. Berry writes that,

“We are acting on a geological and biological order of magnitude. We are changing the chemistry of the planet. We are altering the great hydrological cycles. We are weakening the ozone layer that shields us from cosmic rays. We are saturating the air, the water and the soil with toxic substances such that we can never bring them back to their original purity” (Berry 208).

In the recognition of these effects, the moral argument follows that the parties responsible for these damages must take actions in order to mitigate and ensure that these effects are resolved and altered in such a way that these effects will not be long lasting.

However, the concept of earth jurisprudence goes one step further in what it posits as the solution for the environment and the ways in which society has treated it. Rather than merely trying to restrict the ways in which humans can damage the environment. Earth jurisprudence calls for the idea that, “all our professions and institutions must be judged primarily by the extent to which they foster this mutually enhancing human-earth relationship” (Berry 212). Therefore, the paradigm is shifted by which the view is no longer one concerned with the mitigation of damages to the environment that are legalized but instead, the earth jurisprudence principles create hard lines in what can be done to the environment so as to ensure that the natural place will always be able to regenerate in a natural fashion. Thus, the core theme of earth jurisprudence is the necessity for focusing on the mutually beneficial relationship between humans and nature, as humans cannot derive or survive without the healthy existence of ecosystems.

Earth jurisprudence applied in the field

The concept of earth jurisprudence has been employed successfully throughout the world as a means to gain rights for the natural environment. In a book published by scholars Craig Kauffman and Pamela Martin, the authors outline the many areas in which earth jurisprudence has successfully created provisions that respect the environment and assert the environment's standing to be similar to those of the humans and industry existent and affecting in the particular area (Kauffman & Martin). Using the examples of implementation of earth jurisprudence within New Zealand and the United States, a better picture about how earth jurisprudence works and the giving of rights to nature emerges.

Earth jurisprudence applied in the field- United States

In the United States, earth jurisprudence as a concept has been used many times. According to Kauffman and Martin, "In the United States at least seventy-one legal provisions (e.g., ordinances and home rule charters) recognizing RoN {rights of nature} have been adopted by local governments and tribal authorities" (Kauffman & Martin 16). United States' earth jurisprudence laws are created by local communities through the process of voting (Kauffman & Martin 25; Surma). The Rights of Nature laws help to rally and unite community voices, including in the 2020 elections when 89 percent of voters in Orange County voted to create rights for nature in their municipal area (Surma). Besides the use of the ballot measure, areas can grant rights of nature by using, "executive branch bureaucrats with the authority to recognize RoN in public policy, even without creating new law" (Kauffman & Martin 25). This is significant because it presents two avenues by which nature can receive rights; the passing of laws to create

rights or the rewriting of the policies in order to institute rights within already existing frameworks. While these laws exist and have been providing fundamental rights to nature in municipal areas, especially since the first RoN law in Tamaqua, Pennsylvania, the laws have yet to be upheld by a court of law (Surma; Kauffman & Martin 63).

Laws related to earth jurisprudence within the United States are characterized by the framing of ecosystems as, “sets of ‘natural communities’ whose welfare is necessary for the well-being of human communities... The US laws restrict rights to ecosystems within the municipal boundaries” (Kauffman & Martin 63). This means that the natural area being granted protections is within the already established city limits. This is limiting in that the ecosystems being given protection only receive such protections within the bounds of the already existent municipal area, rather than the entirety of the ecosystem area of the natural subject (i.e. entirety of the river, marsh, grasslands etc.).

Despite the boundaries of United States based earth jurisprudence laws being limited in their boundaries, the provisions of the laws make them quite strong. According to Kauffman & Martin, the Rights of Nature laws within the United States typically include the rights for the ecosystem area, “to exist and ‘flourish’” (Kauffman & Martin 61). This is significant because the use of the word flourish ensures that the natural area not only withstands, but the verb also suggests that the area must, “attain full development; to be prosperous or successful” (Flourish). Therefore, this law is unique in that it prescribes actions about the given environmental areas in that it must be able to flourish. Continuing, the Rights of Nature laws, within the United States, are unique in strength because the laws that prescribe rights to nature are higher than corporate rights (Kauffman & Martin 61). This shows the strength of earth

jurisprudence laws in that they are deemed to be more important, more sacred, than those of the wants and wills, prescribed in the right to act, by corporations. It should also be noted that these earth jurisprudence laws also fare well in strengthening democracy and local governments. This is because the process of creating and passing laws in the communities where they exist came through, “environmental lawyers seeking stronger environmental laws allied with community activists seeking to challenge corporate exploitation of local ecosystems. This led RoN to be framed as an expression of community rights and a tool for strengthening democracy” (Kauffman & Martin 21). Therefore, these rights are significant and symbolic in that they place rights of nature over corporations, they apply the verb “flourish” to what nature should be doing within their rights, and they can act as a tool to strengthen the democracy of the area that works to pass these laws.

Earth jurisprudence applied in the field- New Zealand

The earth jurisprudence law being examined in the context of New Zealand is a law that granted rights to the Te Urewera National Park area in 2014 (Parliamentary Counsel). In the passage of this act, the government wrote that the Te Urewera National Park, “should have legal recognition in its own right, with the responsibilities of its care and conservation set out in the law of New Zealand” (Parliamentary Counsel P.1 § 3.9). This is significant because the government essentially granted legal personhood status to the park (Kauffman & Martin 61). Thus, this law is important, and differs than the United States’ earth jurisprudence laws, in that it establishes a legal personhood status for nature that is recognized and valid under existing law as a means of protection within the set of specified park bounds.

To give context to the Te Urewera Act, the problems arose out of a time period in New Zealand history in which the New Zealand government was settling negotiations regarding treaties signed between the Indigenous people of the area and the New Zealand government in regards to the ownership of Te Urewera (Kauffman 579). Te Urewera was the homeland for the Tūhoe Iwi peoples and this tribe had maintained a presence within Te Urewera even after the New Zealand government had assumed ownership over the land (Kauffman 585). Te Urewera was eventually conserved as a National Park in 1954, which, “restricted the Tūhoe people’s access to customary resources and obstructed their ability to develop lands adjoining or enclosed by the Park” (Kauffman 586). This action by the New Zealand government to exclude Indigenous people from their cultural homeland created conflicts between the Indigenous peoples and the government. Tensions rose between the two groups, and the New Zealand government, “began negotiating settlements of historical claims” in the 1990s (Kauffman 586). Within the settlement negotiations, tribal members coalesced to demand that the Te Urewera was returned to the tribe and that the land could be managed by them (Kauffman & Martin 72). The New Zealand government and the tribes reached an agreement that would not compromise the government’s position of giving the National Park land back to the tribe for ownership, but rather, the solution was to allow for the Te Urewera to own and manage itself. A council was appointed as guardians for the Te Urewera, in which the guardians are responsible for the care and management of the land area. This has led to the delisting of Te Urewera from the National Park’s list of New Zealand and removes the Department of Conservation as the governing body on how to manage the land (Kauffman 589).

The New Zealand law is structured in ways that make it particularly strong. For example, the protections afforded to the park area are specifically defended through the creation of a protectionary council. The law states that the council is established for the purposes of, “(a) to act on behalf of, and in name of Te Urewera; and (b) to provide governance for Te Urewera in accordance with this Act” (Parliamentary Counsel P. 2 § 17). This is a unique and strong provision within the act because the law specifically dictates guardians of the park that would speak on behalf of the natural area that, obviously, cannot speak for itself. The provision obliges humans to act within the interest of the thing deemed to have “personhood” itself. The protectionary council is responsible for implementing management decisions to ensure that the ecosystem is able to regenerate itself and maintain a healthful status. Thus, the decisions about ensuring the survival of Te Urewera is independent in that the land mass is able to act as a person through the idea that it can put its needs of survival and regeneration before considerations of tourism and other aspects related to the use of nature by humans.

The law granting rights and personhood to the Te Urewera National Park is also particularly strong because of the strength it gave in recognizing the environmental justice themes through the granting of the land to the council for Te Urewera, which is tied to the Indigenous people of New Zealand. Therefore, the law is particularly strong in the fact that it makes reparations to the Indigenous groups that were historically disclaimed, while at the same time ensuring the federal government retains a form of access to the land. Thus, the act shows strength in that it reconciles the past while ensuring protection for all stakeholders, including recognizing that the natural area is a stakeholder in and of itself.

Lastly, the act is particularly strong in that it was passed through Parliament. New Zealand's model of government is different from the United States model in that it grants parliamentary supremacy. This means that, "The Judiciary cannot interfere with decisions of Parliament (the Legislature), such as the decision to pass a law" (New). Thus, challenges to the Act that has already been passed will mean that the judiciary is unable to strike it down. The only acceptable challenges to the law are those that challenge the Executive branch through their enforcement and carrying out in the provisions of the law (New). This creates a unique buffering in that the law will continue to stand in New Zealand. And, at the time of this writing, the law remains untested in a court of law.

The weaknesses and criticisms of the Te Urewera law lie in that the law still entrenches nature as something that coincides with western law. The argument is that by fitting the rights of nature-type laws into the already existent western law regime means that the law cannot go as far as needed to truly recognize the rights of nature as outlined by its philosophy. This is shown in that the law is written so that Te Urewera owns itself, showing that the ownership is still within the systems of western property ownership (Williams 161). Therefore, the protection of this piece of nature only extends as far as the law is codified and accepted. Any changes to the law could leave the land area to be endangered to the exposure of typical environmental law regimes. Rather than the park area being always protected because it is what society believes to be the right thing to do, under the earth jurisprudence framework, the law must still be in place to ensure protection and ownership rights because of the western law regime.

Application

Earth jurisprudence at Hetch Hetchy

The protections afforded to the land through the rights of nature framework must occur at Hetch Hetchy. This is to ensure that Hetch Hetchy is afforded protections and rights that are held and considered in actions that are taken on the Hetch Hetchy land. Earth jurisprudence is required for the area, even when laws already exist to protect National Park land⁴, because Hetch Hetchy was supposed to have special protections and past actions have shown how Hetch Hetchy's rights to exist were taken away.

The earth jurisprudence model best suited to be applied at Hetch Hetchy is the model that was employed in New Zealand, while adopting certain provisions from the United States' framework. In the New Zealand model of earth jurisprudence, the national park land was given legal personhood status, as well as the appointment of park guardians that would act as representatives on the park's behalf (Parliamentary Counsel P. 2 § 17). This set-up will ensure that Hetch Hetchy is spoken for and represented, as so many decisions have been made for the natural area while being sure that people will not repeat the actions that led to its damming once again. The United States provisions of earth jurisprudence regarding the language of the protections will also be quite important when applied to Hetch Hetchy. Including the provision that Hetch Hetchy has the right to "flourish" will be an important provision that will cement Hetch Hetchy's right to be restored, provide for future generations, and establish itself as a healthy environmental location.

⁴ See Organic Act, p. 14

The New Zealand model is most applicable to Hetch Hetchy because it will respond to the environmental justice principles, while also being the easiest to recreate in a national park. The ease of applicability between the Te Urewera case and Hetch Hetchy is striking. First, the Te Urewera case shows a working and positive example of how earth jurisprudence can be applied within a national park boundary. Even while Te Urewera was already afforded protections because of its classification as parkland, the parliamentary government still moved forward to classify the natural land area with stronger protections under the law. When Te Urewera was classified as a National Park under the management of the Department of Conservation, the focus was to conserve the land area so that humans may enjoy the area for now and into the future. Te Urewera, now owning itself, means that the land area has the right to be protected from people's impact on the ecosystem so that it can continue for the benefit of having healthy ecosystems. Thus, in the Hetch Hetchy case, the boundaries of applicability should be set to encompass the Hetch Hetchy valley area. While Hetch Hetchy is already afforded protections under the Organic Act, Hetch Hetchy was vandalized and broken prior to the implementation of this legislation. Even when the act was passed, there were no actions made to mend what had been committed against the valley. Therefore, the reclassification of legal personhood status under the law would ensure that the maltreatment of Hetch Hetchy be addressed because earth jurisprudence mandates that the rights of nature would come before the rights of humans to that land area.

Continuing, the New Zealand model of appointing guardianship of the Te Urewera park to the Indigenous people proved to be an important reconciliation of past

wrongs committed by the New Zealand government unto the Maori iwi tribes. The parliamentary government was not willing to move forward in signing the land back to the tribes because of Te Urewera's protected status as a national park and the general principle that the government must own the land they seek to protect. However, the New Zealand government came to realize that the tribes did not consider land ownership to be of utmost importance; but rather, the tribes sought the ability to be reconnected to their land in a relationship best described under the earth jurisprudence model (Kauffman & Martin 145). In the case of Hetch Hetchy, the valley was the homeland for the Sierra Miwok and Paiute tribes. By allowing members of these tribes to be the caretakers and guardians of the landscape, they might be best suited to reestablish and model the best ways to reform a symbiotic relationship to nature. A guardian group will be created to operate within the collaborative governance body to speak for Hetch Hetchy. The governing body would be able to, like New Zealand, make decisions on behalf of the land, and give opportunity for the federal government to show that it as an institution willing to take steps in the 21st century to address past wrongdoings towards people traditionally associated with the land area.

Hetch Hetchy must also incorporate the United States' model of earth jurisprudence in that it will have the right to flourish. In the discussion of the United States model for earth jurisprudence, Kauffman and Martin summarized that the laws shared the characteristics that the land areas, "welfare is necessary for the well-being of human communities" (Kauffman & Martin 63). Kauffman and Martin also wrote that the United States rights of nature laws were particularly strong in that they contained the rights to flourish (Kauffman & Martin 61). In the case of Hetch Hetchy, these are

necessary rights that must be afforded to the valley boundary as it would ensure that the area could be restored and managed in a way that would be lasting overtime. This will likely mean that the prioritization of the land over the human desires for actions on the land will conflict, but the restoration of Hetch Hetchy is necessary for the wellbeing of the human relationship to the land. If the land is not healthy in its own right, then human actions on the land are not sustainable or allowable. While some goals in implementing more human access might complement with earth jurisprudence principles, it is important to note that these ideals might not always overlap. Thus, considerations will be made for how people might retain access to the land in respect to ensuring that the earth jurisprudence principles are present and effective.

For example, people have been barred from recreating at Hetch Hetchy in a meaningful way. In fact, the allowable recreation at Hetch Hetchy, which is hiking, has led to the deaths of four individuals as they traversed the infrastructure constructed to view Hetch Hetchy's Wapama Falls (Rosekrans & Laws 26). When the valley is restored, the trails that are in place to give people a way to recreate will not need to exist in their current locations. Rather, in the case of the footbridge looking to the falls, the trail does not need to be located above a massive pool of water and next to the roaring waterfall that could sweep more people away. Instead, the trail can be placed alongside the falls as is already done at Yosemite Valley with the Yosemite Falls Trail (Yosemite Valley). The trail will be constructed with first regards in location to have minimal impact upon the ecosystem. Afterwards, and within these boundaries, the trail will be constructed in terms of safety for recreationalists. Thus, trails might best be found along the granite areas of the valley as it impacts the environment least, and these

trails might have certain parameters about the width of such for impact related reasons. After these decisions, the trails can be placed with Hetch Hetchy in consideration to how humans might use them within the specified parameters. This change highlights how an earth jurisprudence framework, in which the relationship between the environment and humans is more equal, in that people are able to enjoy and connect with this place without being in danger and nature is able to be free flowing as it originally was able to do.

Therefore, the application of an earth jurisprudence model to give nature rights in the Hetch Hetchy area is necessary to ensure Hetch Hetchy will have protections, a way to reconcile with past social wrongs, to ensure that it will survive well into the future, and provide safer and better modes in how people can engage with the natural area.

Collaborative governance at Hetch Hetchy

Collaborative governance will be the model used to manage Hetch Hetchy during and after its restoration. Hetch Hetchy is a good candidate for collaborative governance because it meets the criteria as laid out in the sections describing how collaborative governance has been used in the past. For example, it has been established that collaborative governance usually comes out of past government failures of management (Ansell & Gash 544). In the case of Hetch Hetchy, the actions taken to dam the valley are largely seen as a failure to protect the environment by the government. Collaborative governance is necessary because Hetch Hetchy has a diverse array of defined stakeholders, and any changes within the existing paradigm of the system would be more valuable in implementation if the changes came from the internal

group of stakeholders. In this way, the stakeholders are identifiable to be able to take part in the program.⁵ Lastly, desired outcomes can be described in the paper that would be able to arise out of collaboration. For effective collaborative governance at Hetch Hetchy, the following must be addressed: guiding principles, stakeholders, participation, and decision making.

Guiding Principles

The guiding principles that will influence the decision making at Hetch Hetchy will be centered with the ideals of environmental justice and environmental jurisprudence. Guiding principles are necessary to informing the processes of collaborative governance because they enforce boundaries in regards to action and help to foster relationships among the stakeholders so that the process of this model is productive. In an article titled, “Using a design approach to create collaborative governance”, authors John Bryson et al. stress the importance of having guiding principles because they, “provide the rules and resources, broadly defined, that are drawn upon to create action... That action, however, is shaped by the ideas, rules, modes, media and methods” (Bryson et al. 169). This is important to stress because the guiding principles can inform what action is to be taken (goals), enforce certain provisions on how to reach those goals, but also, because they are principles, they can be bent to better meet the needs of the stakeholders and respond to the processes at hand while they occur. Thus, the, “action, in other words, reproduces the rules, resources and transformation relations that make it possible, but also can reshape those rules and

⁵ For list of stakeholders, see page 49.

resources” (Bryson et al. 169). The guiding principles shall be the following, so as to produce desired outcomes, but also meaningful modes of interaction to mend and bring about the desired change:

1. Hetch Hetchy shall be restored.
2. Environmental justice will be a centered theme to guide actions.
3. Hetch Hetchy has received protections and rights as outlined by the earth jurisprudence framework.
4. San Francisco and associated water customers shall continue to receive clean water at the same, or improved, rate as was the norm established when the Hetch Hetchy Reservoir existed.

In relation to these guiding principles, the following will explain their intended definitions, implementation, and justification for their inclusion.

1. Hetch Hetchy shall be restored

The guiding principle that Hetch Hetchy will be restored is self-explanatory. However, it is helpful to include definitions of restoration that will guide the processes of actions completed upon the land and responsibility for undertaking such actions. With Hetch Hetchy, the task of restoration is one that would be a massive undertaking. This is because the damage done unto Hetch Hetchy is categorized as ecological destruction. Destruction of the environment is defined as, “the most severe level of impact, when degradation or damage removes all macroscopic life and commonly ruins the physical environment” (What). With this level of harm done to the environment, the restoration to the Hetch Hetchy area will be a serious undertaking. Over the course of what will be on a yearly timescale, the Hetch Hetchy area will need to be restored in such a way that the valley floor is exposed and can provide ecosystem services similar

to those prior to the damming. According to Sierra College, Hetch Hetchy was a great provider of bountiful resources as,

“The Hetch Hetchy location (lower, west-slope Sierra) provided for cooler habitation during summers and more moderate temperatures during cold winters, Plant foods (seeds, berries, leaves, bulbs and tubers) were plentiful, Year-around water was available for drinking, food preparation and other practical uses. While the Tuolumne River was probably without fish at that time, other game (birds, deer and other mammals) were available for food, clothing, and ornamentation” (Medeiros).

Therefore, the goal for restoration in the Hetch Hetchy Valley will be to recreate an ecosystem that can enable the past processes to occur.

This guiding principle is justified because the actions of giving rights to the Hetch Hetchy region and the currently existing laws forces these actions to occur. Through the use of earth jurisprudence, Hetch Hetchy has been given the rights to exist, be considered in its relationship to humans, and to flourish. Hetch Hetchy cannot flourish or be effectively considered and protected while it is drowned in water. Thus, in earth jurisprudence principles alone, it cannot be dammed. Already existing laws within the federal government also mandate the undamming of Hetch Hetchy in that the allowable actions to dam the valley were not and are not allowed to exist. The Organic Act tells us that the parkland of the federal government must be managed, “in such a manner and by such means as will leave them unimpaired” (Martin). The existence of the dam flagrantly breaks this law. In the provisions of the Raker Act, the law states that the damming of the Hetch Hetchy can occur, but also other actions must be taken by the city of San Francisco in order to validate the law (United States, Congress §9). Because the law remains in the same language, despite concessions from both the city of San Francisco and the National Parks Service in regards to completing such actions, the

actions of the city must be judged in accordance with the written letter of the law and not what the agency deems acceptable. Therefore, the provisions have still not been carried out, leading to the conclusion that San Francisco does not have the right to operate a reservoir within the National Park boundary.

2. Environmental justice will be a centered theme to guide actions

Environmental justice must be a central and guiding principle through all actions taken within the Hetch Hetchy region. The definition of environmental justice as a principle must be to examine what groups are being affected by the current regime, future actions, and examining what groups of identities are left out of the conversations at hand. The South Carolina Department of Health and Environmental Control currently utilizes environmental justice as a guiding principle and their defined ideals as action items are,

- “1. Ensure that Environmental Justice Communities are Meaningfully Involved and Routinely Considered Throughout Decision-Making Processes.
2. Proactively Build and Strengthen Relationships with Communities by Sharing Information, Providing Technical Assistance, and Identifying Resources.
3. Proactively Promote Partnerships Between Communities and Other Stakeholders.
4. Encourage and Facilitate Capacity Building and Collaborative Problem Solving Within Environmental Justice Communities” (Guiding).

The definitions provided fit well into the collaborative governance project because they give depth to the discussions and considerations that the stakeholders must make in relation to their coordinated action to restore the valley and rebuild a better water project.

The guiding principle of environmental justice is justified because of the past wrongs committed against the people related to Hetch Hetchy. As outlined in the history section, the Sierra Miwok and Paiute Indigenous people were systematically pushed out of their homeland upon the discovery of the Yosemite and Hetch Hetchy Valleys. Thus, these people have been barred and kept out of their land since the arrival of colonizers into this area of California. Continuing, the passage of the Raker Act included the legislative intent to include the ability for people to recreate in the Hetch Hetchy area. Senators went even so far to state that San Francisco is, “to spend hundreds of thousands of dollars in constructing roads in this park and in that section of the country in order that visitors and campers who visit there to enjoy the beauties of nature, and who are seeking recreation and health, may have better facilities for getting around and viewing” (Rosekrans & Laws 19). This is important because the intent shows that recreation should have been an opportunity at Hetch Hetchy to be given to the American public.

It should be noted that the idea of constructing more roads and trails is not something to be advocating for at this current juncture. Roads and trails within Hetch Hetchy already exist, and it is likely that the construction of new infrastructure would fly in the face of earth jurisprudence principles. Rather, the Senate Hearing quote is significant in that it specifies the intent for the valley through the idea that Hetch Hetchy would be a place for recreation at an ecosystem that is full of natural beauty. Therefore, new changes will need to align with earth jurisprudence principles, but there should be an understanding that the original intent was focused on ensuring recreation for all Americans.

Continuing, the Raker Act specifically has rules around the pollution levels at Hetch Hetchy in response to recreationalists by writing, “All sewage from permanent camps and hotels within the watershed shall be filtered by natural percolation through porous earth or otherwise adequately purified or destroyed” (United States, Congress §9 a). This all goes to show that recreationalists, as a whole of the American public, were a discounted group unable to receive benefits from the development of Hetch Hetchy. The use of environmental justice as a principle will also inform how the space will be constructed through policy post-restoration, so as to apply to not just correcting past wrongs. Thus, the exclusions of the Indigenous and American people justify the fact that they must be considered and thought about.

3. Hetch Hetchy has received protections and rights as outlined by the earth jurisprudence framework

This guiding principle, which has been outlined in the section titled, “Earth jurisprudence at Hetch Hetchy” must be included as a principle so as to ensure Hetch Hetchy is not forgotten about, as its own entity, when making decisions about it and on its behalf. This must be a guiding principle in the discussions of collaborative governance, even when it is already included as a guarantee, because the discussions around Hetch Hetchy’s rights to exist and flourish will be central in navigating the discussions regarding what future development and tourism will look like in the natural area.

The use of this principle is justified because, without the granting of rights to Hetch Hetchy, then it might once again be used for resource collection and hoarding. If the earth jurisprudence framework was not granted to Hetch Hetchy, the existence of

Hetch Hetchy underwater or restored would be one in the same. The valley would be sequestered away solely for the benefits of society and people's need from it, whether it be water supply or a natural area to escape to. When Hetch Hetchy is restored under earth jurisprudence ideals, Hetch Hetchy becomes its own entity that can sustain relationships with the ecosystems it is meant to hold as well as providing benefits to the humans that choose to recreate within its boundaries. Therefore, it is justified and a must that earth jurisprudence should be used to differentiate the way Hetch Hetchy is considered in its relation to humans.

4. San Francisco and associated water customers shall continue to receive clean water at the same, or improved, rate as was the norm established when the Hetch Hetchy Reservoir existed.

In all likelihood, the restoration of Hetch Hetchy cannot occur without the assurance that San Francisco would be able to retain a water supply that is comparable to what they currently receive through their occupation in Hetch Hetchy. Thus, the move to restore Hetch Hetchy will be less burdensome when San Francisco will still be able to control and retain water rights to the Tuolumne, as has been the case for the past 100 years. In reality, there is no way in which a major metropolitan area, that has the political weight and existing rights, would be willing to downgrade or give up control to their already existent water systems.

But in this same vein, earth jurisprudence mandates ecosystem functions before human needs. Hetch Hetchy will need continual access to the Tuolumne River, as it is a river valley, before San Francisco is able to capture its water. San Francisco will need to divert water in a responsible way after the Tuolumne has exited the Hetch Hetchy

Valley for it to continue to retain its water rights. Even so, in ease of ensuring that the plans for Hetch Hetchy move in a faster pace, San Francisco must retain some sense of comparability to their already existent systems.

The discussions on how San Francisco will regain its water supply after the restoration of Hetch Hetchy is not something that will be discussed in this paper, as that is a more technical research analysis. However, there are many organizations that have researched output flows from existing reservoirs that water could be added to, hypothesized about the building of new reservoirs, and measured water output in terms of when California is in a drought cycle. In these papers, they find that the conveyance of water without Hetch Hetchy at the same or more rates is possible, and San Francisco would be able to decide what is preferable (Rosekrans).

This principle is justifiable because it will entice the city of San Francisco to take part in the collaborative governance structure in a meaningful way. Rather than the members of the delegation taking a stance against the restoration due to the fact that they need to ensure that their 2.4 million customers can continue to receive water, the city will be able to engage in dialogue about how best to serve the needs of their customers as well as how to respect the area they have damaged and occupied since the construction of the O'Shaughnessy Dam (Hetch). The talks to restore Hetch Hetchy cannot occur unless San Francisco is part of the process because they will need to undo their infrastructure from the valley; thus, this principle must stand to ensure that they would be more willing to take action steps to ensure that preferable outcomes for themselves and the Valley will occur.

Stakeholders

This section will discuss the stakeholders that are to be part of the collaborative governance exercise and why they deserve a seat at the table.

San Francisco Public Utilities Commission

The San Francisco Public Utilities Commission (SFPUC) must be a recognized stakeholder in the collaborative governance process because the SFPUC is the body that San Francisco gives authority to manage their water and the systems related to it. Thus, this is the group that must be included in discussions regarding the changing of access that San Francisco will retain in relation to the restoration of Hetch Hetchy and the moving of water storage to a different facility. The SFPUC is given the ability to be a stakeholder because of their pre-existent rights to the water in Tuolumne as granted by the Federal government. Because the SFPUC will be directly affected by the decisions and actions taken in this program, the council should be given the ability to make recommendations and take part in the process to find actions that will help meet their needs and desired goals.

National Parks Service

The National Parks Service (NPS) will also be a stakeholder in the process of collaborative governance because the NPS is the body that manages the National Parks on behalf of the federal government. The actions taken within the boundaries of Yosemite National Park, at Hetch Hetchy, will directly impact the NPS. Therefore, the NPS should take part in the collaborative process as they can facilitate what actions can take place in the park with the existent rules that govern their management functions

and take part in the process of recognizing the newly formed rights granted to Hetch Hetchy.

Turlock Irrigation District

The Turlock Irrigation District (TID) should also take part in the collaborative governance process because they will be directly impacted by the movement of water storage from Hetch Hetchy to a different location. The TID has enjoyed water rights to the Tuolumne River since 1887 (Fitchette). With this norm already established, the movement of water will be something that the TID will have to grapple with in terms of new costs or ease of costs with the transport of water to the TID for dispersal to their customers. At this current juncture, the cost of the water is offset from Hetch Hetchy because it is subsidized through the use of hydroelectric facilities that produce power to be sold before the water is used (Fitchette). Therefore, the decisions on where the water will go might increase costs or greatly reduce costs to the water before the use of technology that might subsidize it. Thus, the TID should be part of the process to represent their interests and water rights holdings in terms of the future water acquirement without Hetch Hetchy.

Recreationalists

Recreationalists also deserve to be part of the collaborative governance process. Recreationalists have been able to recreate at Hetch Hetchy, but not in ways they would have been able to if Hetch Hetchy had not been dammed. Thus, these recreationalists should be able to be part of the discussion in how recreation might be able to look at the newly reimagined and restored Hetch Hetchy. The stakeholder group should be made

up of a diverse group of people who recreate that can represent different abilities, different types of preferred recreation, and differing socio-economic status in what types of recreation are accessible to them. This will help ensure that the decisions made at Hetch Hetchy will consider how modern Americans would like to form relationships to Hetch Hetchy in relation to recreation from a diverse set of backgrounds.

Recreationalists will likely need to be divided into groups in regards to the type of recreation that they prefer as each interest in recreation might compete with another in terms of application to the earth jurisprudence principles and restoration of Hetch Hetchy. For example, a scenario could be imagined in which those who enjoy rock climbing might prefer trails to be built in areas that are more damaging to the environment but provide better access to Kolana Rock, a favorite place for climbers in Hetch Hetchy. Therefore, recreationalists might make up the largest group in numbers of the varying stakeholders because of these different factors. To ensure fairness within the process of decision making within the collaborative governance project, it will be necessary for this size of a group to not overwhelm the decision-making process as concerns of recreation cannot be the only issue at hand. Therefore, the rules of participation will need to be adjusted to reflect how groups might vote based upon group wishes rather than individual choice. This will be discussed further in the rules of participation section.

Lastly, there must be a process by which members are selected to represent recreationalists so as to ascertain the goal of a diverse array of positions and backgrounds. In order to achieve this goal, recruiting recreationalists should occur in two ways. First, there is already groups positioned to comment on recreation within

Hetch Hetchy as a collective. For example, the organization Restore Hetch Hetchy has organized hiking outings within the valley and has worked with rock climbers to coordinate media opportunities. Recruiting groups such as these would be the easiest way to find recreationalists who already have knowledge of Hetch Hetchy and direct concerns with future decisions. Secondly, recreationalists can be recruited from the park entrance gates. As visitors enter into Hetch Hetchy, they are greeted by a Parks Service ranger where they pay a fee to enter. Flyers can be made to recruit those who are actively using the Hetch Hetchy area to allow for them to add their input and become part of the collaborative governance program. Within these two methods of recruitment, special care will be given to ensure that a diverse array of members are recruited to ensure differing recreational interests, socio-economic status, and ability.

Indigenous Groups

The Indigenous groups associated with Hetch Hetchy and Yosemite National Park deserve to be part of the conversation regarding how Hetch Hetchy will be restored and allowed to flourish. Because the Indigenous groups have been impacted greatly by the California and United States government, their ability to take part in meaningful action on their once held lands has been seriously stunted. When past studies attempted to construct understandings of what Hetch Hetchy was like prior to the Mariposa Battalion intrusion, researchers were able to gather from native groups that in Hetch Hetchy, “meat and acorns were plentiful... almost every year a visiting tribe of 50 to 100 people would come from higher in the mountains to replenish their food supply, taking the meat back with them” (Pierini). Thus, attempts to rectify Hetch Hetchy back to a relationship in which people can benefit from the land and manage it so that the

land can be more bountiful, the Indigenous groups will be able to take a large role in ensuring that this occurs. The tribes associated with Yosemite National Park and Hetch Hetchy are: “the American Indian Council of Mariposa County, Inc. (aka Southern Sierra Miwuk Nation), Bishop Paiute Tribe, Bridgeport Indian Colony, Mono Lake Kutzadika’a, North Fork Rancheria of Mono Indians of California, Picayune Rancheria of the Chukchansi Indians, and the Tuolumne Band of Me-Wuk Indians” (7 Traditionally). These groups deserve to be part of the collaborative governance process because the literature suggests that they have all been impacted by the conservationist ideals placed onto the park and the damming of Hetch Hetchy. Rather than being able to conduct relationships among groups to acquire needed goods, as described above, the valley became a desolate place that could not provide for the tribes that were located in the valley itself nor for the tribes who traded for goods from the valley. Therefore, not just the Sierra Miwok and Paiute tribes should be part of the stakeholder make up of Indigenous people, but all groups who were associated with relationships in and among Hetch Hetchy.

Hetch Hetchy

Hetch Hetchy must be its own stakeholder within the collaborative governance project. Without the input of Hetch Hetchy, there is no feasible way to imagine how earth jurisprudence principles can actually be applied. In comparison to the Te Urewera use of earth jurisprudence, Te Urewera was spoken for by a council of protectors. This group was responsible for managing the valley and considering how Te Urewera would be impacted by the wants of human actors in and around the park. Therefore, Hetch Hetchy will also need this same level of consideration as each human-actor group

desires for the ability to impact the environment for their own benefit. To ensure that this exercise is in accordance with the principles of earth jurisprudence, in that the environment has first consideration and the ability to draw hard lines in what cannot be done to itself, then a group must be formed to speak for the valley. The Indigenous groups who resided within the valley, the Sierra Miwok and Paiute Tribes, are the best candidate for this position, as their past actions on the land display the use of earth jurisprudence principles. The ability for these tribes to act as representatives of Hetch Hetchy will allow for Hetch Hetchy to be a part of the discussion in how it will be impacted throughout the collaborative governance program in both positive and negative ways. Allowing for the Sierra Miwok and Paiute Tribes to act as these representatives is justified because the representation ensures that the proposed decisions are vetted through a group that is already connected to the earth jurisprudence principles.

Rules of Participation

The rules of participation are an important factor in influencing the actions of the stakeholders within the collaborative governance structure as the rules can ensure comradery and lasting solutions. According to David E. Booher, who analyzed The Sacramento Water Forum's successful use of collaborative governance, he writes,

“A key requirement... is for stakeholders to set ground rules. Successful collaboration requires assurance to the participants that they can protect their other alternatives for action and that other participants will not use the process for unfair advantage. Ground rules also typically include requirements for the various stakeholders to regularly consult with their constituencies to be sure they are on board with the process” (Booher 35).

Therefore, the use of the time to make rules for the Hetch Hetchy restoration and following actions will be an important step to ensure that all stakeholders are heard fairly and work collaboratively.

The Hetch Hetchy collaborative governance project stakeholders will be tasked with creating their own rules. The allowance for stakeholders to create their own rules is important because it gives each stakeholder the autonomy to influence the programs to protect themselves and their interests, while respecting other stakeholders and taking part in the collaborative program. Booher writes that in the case of the Sacramento Water Forum, “representatives of all the relevant interests were invited to participate and the ground rules and shared purpose were agreed on” (Booher 35). The ability to create their own rules allowed for the stakeholders to address their own points of view, while also addressing how they hope all stakeholders will interact with each other. This is important because the stakeholders are expected to participate, and this allowance by the governing authority, will ensure that the groups are more incentivized to participate in the case of Hetch Hetchy.

The themes of the rules in the Hetch Hetchy program are focused around the guiding principles, questions of representation, and interactions among stakeholders. Stakeholders will be asked to create rules regarding questions of what happens if a particular stakeholder defects from the program, and how the program will continue to make impactful and lasting decisions without that stakeholder’s presence or input. The group will also be tasked with considering if outward lobbying attempts to influence the decision-making process should be allowed, how often meetings take place, what meaningful input is, and how often consulting their constituents should occur.

Because these decisions are discussing changes and actions that are occurring on Federal land, rules regarding the influence and ability to dictate actions by federal agencies must happen. In the case of the Sacramento Water Forum, the stakeholders decided that the decisions made in their program could not be influenced by the White House, nor could stakeholders appeal to the Executive's authority to change the decisions made within the program (Booher 38). It is recommended that the stakeholders in Hetch Hetchy take a similar stance as a means to ensure adherence to the guiding principles and the employment of the earth jurisprudence principles. This rule will also ensure the respect to tribal sovereignty and acknowledgement that the federal government has long dictated adverse actions on Native American land without consent. Stakeholders will be unable to create rules that would change the guiding principles or create rules that would make the principles null or unimpactful.

The collaborative governance project will also be tasked with how decisions are made. As discussed under "Recreationalists" within the stakeholder section, each stakeholder group will vary in the number of representatives. Therefore, there will need to be rules around how decisions are come to. It is not recommended that each person within the governing group will have one vote, as this would surely sway decisions in ways that may not adhere to the guiding principles or discourage participation among stakeholders because of a perceived disadvantage in numbers of voting representatives. Therefore, it is recommended that the decision rules be such that they favor deliberation processes before coming to consensus decisions. This can be demonstrated as utilizing existent deliberative rules like Robert's Rules of Order to guide a more formalized process in ways of introducing ideas and sparking discussions around proposals.

Research by Taehyon Choi and Peter Robertson explains that collaborative programs with a heavier focus on the rules of deliberation rather than on the decision-making processes helped ensure that consensus making was more successful (Choi & Robertson 513). In terms of actually formalizing decisions within the program, the use of requiring a super-majority rule proved to be useful in that the rule ensured good decision making and encouraged the most amount of collaboration as compared to other tested rules (Choi & Robertson 513).

Lastly, there must be rules specifically made to address how to resolve conflicts among stakeholders, as the interests of stakeholders will often not align with the guiding principles or the interests of other stakeholders. It is important to reiterate that the guiding principles may not be changed or made to be null. Therefore, there will be decisions in which stakeholders will experience considerable loss when implementing earth jurisprudence principles to this collaborative program. While the decisions made in accordance to the guiding principles may be a short-term loss, the investment into the rights and health for the environment is one that will have lasting benefits for the future. A healthy ecosystem that can regenerate itself will mean that humans will be able to experience the wide array of ecosystem services provided from the existence of such an ecosystem, and will mean that the true cost of damaging such an ecosystem will be felt. The reality of instituting the earth jurisprudence principles means that the environment is considered first and that actions that were once acceptable to be done to the environment are reexamined and considered in face of these principles. Therefore, conflicts arising with the principles and among stakeholders because of the institution of such ideals are going to happen. However, the expectation is that the curtailing of

stakeholder's perceived rights must occur in order to accommodate the earth jurisprudence and environmental justice principles. This is justified as there will always be a loss in decision-making processes. In the past, the loser in the decision-making processes at Hetch Hetchy were those that were passed onto stakeholders and the ecosystem and they were not voiced. However, these new losses will surely be voiced by stakeholders who were able to "win" within the current regimes in place at Hetch Hetchy. Thus, the implementation of earth jurisprudence principles helps illuminate losses to the environment and show how certain actions are too impactful for the environment and that humans might need to lose so that significant ecosystem damages do not occur. This is not necessarily negative for the entirety of society as the earth jurisprudence principles would act as insurance to the investment of the natural world for the long-term continuation of ecosystem services.

Before moving onto the decision-making and action-taking process of the program, the rules set by the stakeholders must be agreed upon. It is through the processes of creating rules around these themes that stakeholders should be able to develop relationships among one another in the hope of holding each accountable in maintaining good relationships and carrying out actions for the good of the environment, people, and the stakeholders. Through these relationships, the hope is that this will prevent groups from reaching stalemates, defecting, or never being able to find common solutions.

Decision Making Authority

The decision-making authority in the Hetch Hetchy program will be categorized into a two-part process. The stakeholders will come to final decisions on the parts of the

process, and then the National Parks Service will be responsible for the finalization and carrying out of said process. The National Parks Service is given this authority, even though they are a stakeholder, because this federal agency has the sole conscripted legal authority to be able to take action on National Park land. Essentially, the NPS will be given signing rights to employ the decisions made, but does not have the authority to make decisions without the input and processes as made by the rules of the Hetch Hetchy collaborative program.

These decisions are justified in the literature. According to Chris Ansell and Alison Gash, experts on collaborative governance, they write that in collaborative governance, “Ultimate authority may lie with the public agency (as with regulatory negotiation), but stakeholders must directly participate in the decision-making process” (Ansell & Gash 546). The authority granted to the NPS is weaker than the provision above, and therefore, ensures that the decisions are born out of and are directly tied to the collaborative governance process. This is to ensure that all stakeholders are always directly engaged in the process of collaboration and mutual decision making, which is of utmost importance (Ansell & Gash 546). The use of language, in that decisions will be made on parts of the process as it comes, is derived from the Sacramento Water Form collaborative governance program in which the stakeholders found that, “rather than the goal of a final agreement, here the goal is ongoing collaboration in decision making about the programs and projects to be initiated, actions to be taken, evaluation of the results of the decisions, and change in either the actions or the initiation of new action” (Booher 39). Thus, the use of making smaller decisions on a step-by-step basis,

rather than all at once, was more effective because it ensured continuing collaboration and movement towards the final goals of resolution.

It should be noted that the conscription of the National Parks Service to be the implementor of changes for the Hetch Hetchy Valley can be perceived to go against earth jurisprudence principles. The NPS holding the Hetch Hetchy Valley even with the implementation of these principles can be perceived as going against earth jurisprudence principles because the agency retains traditional conservation principles at the rest of the National Park locations. However, the holding of Hetch Hetchy Valley by the NPS would have the possibility to show how the use of earth jurisprudence principles may make for healthier parkland ecosystems. The use of the Hetch Hetchy Valley may serve as an example among the other Park Lands, showing that it would be worthwhile to make these changes across the United States. Also, earth jurisprudence principles are focused on limiting and controlling human actions on and to the ecosystem. The federal government is the governing body given authority to control the movements and actions of all American citizens. Therefore, it would be easier to implement control of citizens in accordance to earth jurisprudence principles by the governing body that already has existent authority.

The processes to reach a decision in the Hetch Hetchy collaborative governance program will be decided both by the stakeholders and through the provisions in this paper. The stakeholders will be allowed to set the voting process and threshold minimums for actions to pass through the program to be submitted to the NPS for implementation. For example, during the rule making process, the stakeholders might decide that each decision takes a simple majority vote after a two-week review process

by the stakeholders before it can be submitted to the NPS. As discussed, the NPS will then implement the changes in respect to the collaborative governance program and guiding principles. This language is important because the NPS, as discussed, may have to follow through with actions that they may have voted against. Another provision is that all stakeholders must be given ample time to review and comment upon each action as it is proposed for the decision-making process. This provision respects the fact that stakeholders have different matters to attend to outside of the program and to be sure that stakeholders have ample time to consult their constituents. In the case of Hetch Hetchy, the decision to dam was made quickly without much discussion and consultation, therefore this process will be the opposite of such a pattern.

Recommended Outcomes

This section focuses on the recommended outcomes and solutions that should come out of the Hetch Hetchy collaborative governance program. In these actions, the justifications and impacts for more than just Hetch Hetchy will be discussed.

Establishing Water Access for Current Water Customers

With the draining of Hetch Hetchy, San Francisco's Public Utilities Commission and the Turlock Irrigation District will need to figure out where to store water and maintain water supplies for their customers. Understandably, the securing of water rights will be a heated topic of debate within the collaborative governance program because of the likely incurred costs that the SFPUC and TID will need to absorb in order to store their water at a different location. Situations in which the SFPUC and TID become hostile to moving their water to a different location are easily imagined because

of the presented history in which San Francisco government has repeatedly opposed the restoration of Hetch Hetchy. The opposition is likely because San Francisco enjoys cheap water storage, access to clean water within a reservoir that is not susceptible to pollution because of the granite it is stored on, and the ability to sell water for a profit to other governments and companies like PepsiCo. (Beverage). In summary, the SFPUC enjoys free benefits from ecosystem services by which they are able to use the exploitation of the environment without actually incurring the costs through their damages.

The establishment of new water storage areas will be a matter in which the SFPUC and TID must absorb because of the earth jurisprudence principles. The problem of establishing water access at the same rate is that the SFPUC will incur costs truer to that of the damages they are doing to the environment. While the government stakeholders may oppose this, the investment into the environment is one that is necessary to ensure the survival of ecosystems. This may mean the cost to the average bottle of water produced by PepsiCo. may rise due to these changes, humans are actually feeling the real cost of what it means to extract water from the environment, bottle it in plastic, and ship said water anywhere in the world. The dependability on the ecosystem to provide for humans is not something that can last long term unless society as a collective invests into the environment to ensure that it can reproduce the functions necessary in which we depend upon for our survival. So, while this may mean that the SFPUC will need to filter their water, charge more to companies for said water, and treat their water differently, the changes are not as radical as the stakeholders may make them seem. This realization is what will be necessary in reaching a consensus under the

collaborative governance program as the stakeholders adjust to the specifics of an earth jurisprudence model. The change in cost is merely reflective and adjusted to true costs, rather than a dramatic increase to serve as punishment against the city.

SFPUC has many options in how they choose to store water outside of Hetch Hetchy. According to the organization Restore Hetch Hetchy, San Francisco has the ability to either create new water storage facilities or to up their storage in already existing reservoirs (Rosekrans). Both of these solutions to draining Hetch Hetchy, while maintaining water capacity, are acceptable. However, in both of these solutions, San Francisco will have to rebuild water carrying infrastructure so that the water can be delivered into the city. This is because the current piping and aqueduct systems are built to bring water from Hetch Hetchy to the city. In this construction, the recommended outcomes should be focused on the implementation of clean energy gathering and engineering so that minimal environmental impacts will occur. The clean energy solutions could be the implementation of water turbines within the aqueduct channel to create energy as it flows downhill before being transferred to customers (Barnard & Ashford). This will be important because the subsidy can be used to pay for greater expenses in transport costs and offset new construction costs.

It should also be noted that the location of the new water storage facilities may not strip the Hetch Hetchy of water access. While this is likely not a legitimate concern in the reality of San Francisco obtaining rights to build water catchment sources upstream of the Hetch Hetchy Valley, the exercise of application to the earth jurisprudence framework mandates that the consideration to the environment of Hetch Hetchy must come first. Since Hetch Hetchy is a river valley, the area relies on the river

to complete its ecological cycles. Therefore, Hetch Hetchy must have access to the free-flowing Tuolumne so as to ensure its own survival and healthful future before the needs of the SFPUC and other stakeholders.

The use of clean energy infrastructure is also a recommended outcome because it will ensure less environmental impacts for nature and people. Since one of the guiding principles is that decisions must consider the impacts of decisions from an environmental justice and earth jurisprudence framework, then the stakeholders must be cognizant on how new projects impact marginalized populations. In terms of construction and the pollution that occurs through these actions, we know that marginalized populations are often exposed to this at a greater rate (Gochfeld & Burger). Therefore, the use of clean energy will be sure to offset and mitigate hazards that could impact marginalized groups like Indigenous groups and those with lower socio-economic status that cannot afford to live in areas that do not have to be exposed to this infrastructure. In the same line, earth jurisprudence principles mandates that we consider the ways in which we are impacting the environment and the relationships between people and the natural world. Through the construction of turbines, this could be considered a way in which people are using a resource more than one time before it is diverted from the environment, rather than it being a resource that is singularly extracted for capital gain and human use. Thus, the use of the funding that the energy creates should be used, in part, to give back to the environment to repair the harms committed against Hetch Hetchy and to soften the objections that certain stakeholders may make in terms of economic losses they will experience.

Ecosystem Management and Protection

The stakeholders should agree upon the ways in which the NPS will manage and restore Hetch Hetchy in a way that fits within the earth jurisprudence principles, Indigenous traditional knowledge, and scientific recommendations.

Earth jurisprudence principles should guide the ways in which the restoration is carried out in Hetch Hetchy. For example, the restoration actions on the land should consider the ways in which ecosystems can regenerate itself through the earth jurisprudence principles, while understanding that the ecosystem may need assistance along the way because of the major damages done to it through the dam construction and extended amount of time the valley has been under water. Considerations must be made in how humans will be able to interact within the landscape (i.e. trails, climbing allowances, camping), but the considerations for the ecosystems that are permanent fixtures to the valley will have first priority. In order for the earth jurisprudence model to fit, this must be the case. So long as the ecosystem is healthy and has the ability to regenerate, then it is allowable for humans to make damages in certain ways that are beneficial to themselves without jeopardizing the ecosystem and its functions. This would be in stark contrast to what has happened in the past to Hetch Hetchy because humans conserved the space for beneficial purposes to themselves and for the services (water storage) that the area could provide.

Indigenous knowledge of the area should also be utilized when restoring Hetch Hetchy. The tribes that utilized the valley for time immemorial to ensure that Hetch Hetchy was a prosperous ecosystem that thrived for the benefit of the ecosystem services it could provide for the groups (Pierini). There have been attempts to record the

memories of Indigenous people who were familiar with the valley prior to the damming. In these recordings, the Indigenous people remembered how bountiful the black oak trees were and the abundance of deer and other animal species (Richter 15). In the replanting of the Hetch Hetchy species, like the black oak, plants can be reintroduced to the wild area that are unique to this ecosystem. The ecosystem design through Indigenous knowledge will ensure that Hetch Hetchy is not a carbon copy of Yosemite, but a unique valley that deserves standing in its own right. Thus, ecosystem restoration should focus on the recreation of the Hetch Hetchy Valley to be what was similar to the first-hand accounts of what it once was. This would be respectful from an environmental justice and rights of nature point of view.

The ecosystem restoration must also be informed in scientific recommendations. This solution should be obvious in that the scientific studies of restoration can inform the actions humans will take to create the most resilient ecosystems for Hetch Hetchy. For example, the restoration of an ecosystem from the bottom up, which will occur in Hetch Hetchy because all of the trees have been cut down and land has been plunged under water, can be a prime time for invasive species to outcompete the native species that were intended for regrowth (Funk et al.). This can be dangerous in restoration as it would allow for an ecosystem that is not intended for that area or respectful of the original state of the Hetch Hetchy area. Thus, the outcome of restoration within Hetch Hetchy must be informed by scientists. This can easily occur within the stakeholder groups as they would be able to create ground rules that allow for scientists to be consulted when needed. Therefore, the use of scientific information is easily accessible

and should be used to inform how the natural ecosystem is restored within the Hetch Hetchy Valley.

The three knowledge sources listed above should be combined to bring about the best possible decisions in terms of restoring the Hetch Hetchy Valley. The focus of restoration should be on building a resilient ecosystem and implementing a scheduled plan that ensures the continual management of the ecosystem. It is also possible that the stakeholders who latch onto one of these ideals more than others could cause conflicts within the decision-making process. For example, recreationalists might attach to the scientific recommendations of a “planned ecosystem” as it would allow for scientists to quickly plant the species while still allowing for them to recreate in the area. This might not be ideal when applying earth jurisprudence principles as the impact from continued recreation might be a hard line at the time because the environment is still healing, even while recreationalists and those speaking for Hetch Hetchy have the common desire to see a restored area. Therefore, certain groups will experience losses during the implementation of changes in the valley as actions occur. This does not mean that these perceived losses to humans will be permanent, as recreation could easily be phased in as the ecosystem becomes resilient and can withstand the toll of certain recreational activities within it. However, it is important to underscore that these losses can be felt by each stakeholder group on different timescales, even if the desire for a restored Hetch Hetchy are the same.

A resilient ecosystem is necessary for Hetch Hetchy as the valley will need to be rebirthed. In the discussion of the writings made by John Muir throughout this paper, much of his writings focused on the outstanding beauty of the area and the ways in

which this beauty reinvigorated him. These feelings are a significant exchange in what the environment can provide for people other than the extraction of resources. When Hetch Hetchy is back to what it once was, the use of earth jurisprudence through the co-beneficial relationships between humans and the environment can be demonstrated. The granite temples, the serenity of the river, and views of the magnificent valley can be the ways Hetch Hetchy benefits the public, while humans give back what we stripped from Hetch Hetchy and ensure that Hetch Hetchy retains its strength until time's end. Thus, the focus on resilience will ensure that Hetch Hetchy is boisterous and healthy in its own right.

Second, a recommended outcome for the Hetch Hetchy collaborative governance project is the implementation of a scheduled management process to ensure the survival of the Hetch Hetchy ecosystem. This continued management will ensure that Hetch Hetchy is continuously considered and given respect in the desire for it to be restored and survive as its own ecosystem. In times past, Hetch Hetchy was sequestered away from the public. Visitors had to enter during daylight, leaving at dusk, and were significantly restricted in the actions that they could take on the land.⁶ In that paradigm, Hetch Hetchy was being conserved, without being managed in a way that was in accordance with the earth jurisprudence model. Thus, with the implementation of continued management, the NPS can stray from this conservation mindset that was harmful to the natural area and can have the ability to manage the land with

⁶ Currently, Hetch Hetchy has, “no lodging, and camping is available only for those beginning or ending a backpacking trip” and the most popular trail is often too unsafe to allow visitors to cross Wapama Falls (Rosekrans & Laws 25).

consideration to the variety of factors and stakeholders' issues that would be discussed in the collaborative governance program.

Increase in Respectful Recreation

Hetch Hetchy has long been a place of Yosemite National Park that has restricted recreation. For example, Hetch Hetchy pales in comparison to the number of trails offered to that of Yosemite Valley, does not allow camping in the valley, and cannot accommodate visitors wishing to picnic around the water's edge (Rosekrans & Laws 25). Thus, Hetch Hetchy must be given more opportunities for recreation that are respectful of the environment and that fit within the principles of environmental justice.

Recreational opportunities that are respectful of the environment are those that have minimal impact on the ecosystem and are less damaging. For simple comparisons, one would be able to recognize how the actions of gas-powered vehicles onto a grass valley area might be more harmful to the environment as compared to the allowance of hiking on a specified trail. Thus, these principles must be implemented in Hetch Hetchy to produce recreational opportunities that are similar to those of Yosemite Valley. For example, Hetch Hetchy should have trails that allow tourists of varying hiking abilities to visit the valley. In Yosemite Valley, there are trails that allow those opposed to hiking uphill to still take in the grandeur of the park, while also offering stronger hikers the ability to get to the top of the iconic Half-Dome (Yosemite Valley). Therefore, Hetch Hetchy can implement these low-impact trail systems to allow recreationalists to see the magnificence of nature. Best of all, the draining of Hetch Hetchy means that the ecosystem will be fresh and waiting for replanting. This is significant because the designing of trails can occur in tandem with restoration of the ecosystem so that

minimal impact to the environment in negative ways occurs. The NPS has already shown its dedication to building trails that are respectful to hiker's abilities and nature⁷, and the rebuilding of the ecosystem at the same time can make this process much easier for the environment and the involved agency and stakeholders.

In this same vein, the newly constructed Hetch Hetchy trails should be constructed to ensure that wildlife and humans are safe in their visits. Currently, visiting Hetch Hetchy in the spring, when the Wapama Falls is at its greatest discharge, is dangerous. Water can rush over the footbridge and sweep hikers from the trail and into the reservoir. This action has already claimed the lives of four hikers between 2011 and 2019 (Rosekrans & Laws 26). Thus, the recreation of trail systems that are at safer locations and near the valley floor, not the reservoir fill, will ensure the safety of hikers. Consideration to the safety of wildlife should also be given to allow for deer to once again move back to Hetch Hetchy and be part of the thriving ecosystem. In earth jurisprudence, it would be impossible to say that an ecosystem is healthy and prospering if the usual pieces of the ecosystem are unable to be a part of it. Therefore, there must be discussions regarding how humans will need to be restricted in access in ways so as to protect the ability for the ecosystem to naturally regenerate overtime.

The considerations to allow for the ecosystem to regenerate at its own natural pace, matched with the environmental justice needs of creating access to this area of Yosemite National Park, can become conflicting in this focus. On one hand, the earth jurisprudence framework will argue that humans must be limited so that wildlife can re-

⁷ According to the NPS, "The staff at Yosemite is working hard to correct and resolve accessibility deficiencies throughout the park. By using principles of universal design, Yosemite is committed to providing physical access to the greatest number of individuals" (Accessibility).

inhabit the area. While environmental justice frameworks are positioned to support an increase in tourism opportunities as these would allow for more people of differing backgrounds to visit. Thus, there will need to be compromise in the ways these two models are implemented within the collaborative governance program. In one scenario, the stakeholders might decide that in order to be respectful to the earth jurisprudence framework and the Hetch Hetchy ecosystems, visitation to Hetch Hetchy must be limited. In all likelihood, this would not mean that all visitors would not be allowed, but that the total daily numbers would be repressed. In such a case, the recommended steps would be for the National Parks Service to shoulder the cost of research in creating a skewed sort of lottery in which it prioritizes applicants for admission from known areas that have greater minority populations, or the people applying are within certain brackets of household income. This solution would show respect towards environmental justice needs while giving deference to the needs of the ecosystem. While it would be a considerable cost to shoulder by the National Parks Service in terms of research needed and employees to create such a lottery system, the benefits to the ecosystem and society would be a worthy investment. Without a healthy ecosystem, visitation would never be able to occur, and humans would never be able to enter such a space. While making this sacrifice in the short term may be difficult, it will prove to be well invested in terms of allowing for an ecosystem that was able to regenerate in a healthy and natural way. Plus, people who would often not be able to visit National Parks under the conditions as outlined under why an environmental justice framework is needed, would be given deference to in the ability to visit. Thus, this solution would respect the environmental justice principles, even when in compromise, allow members not often able to visit

National Parks the ability to do so, and give opportunity to inspire others to advocate for earth jurisprudence principles by experiencing their implementation first hand.

Hetch Hetchy should also focus on recreational opportunities that come from an environmental justice mindset. For example, we know that those of marginalized status tend to be those with lower socio-economic statuses (Ethnic). Thus, the ability for these people to take part in recreation and to visit a National Park can be cost intensive. With hiking, the person would need to purchase hiking boots, backpacks, water carriers, and other necessary gear. Climbing, something commonly done in Yosemite Valley, requires much more expensive gear. Thus, the recreational opportunities at Hetch Hetchy should be respectful of this fact in that the valley allows all of the American people the opportunity to visit and be a witness to the magnificence of nature. This mindset is not new. In fact, in the original passage of the Raker Act, Senators involved in debate voiced their opinion that poor people must also have opportunities to recreate in such an area (Rosekrans & Laws 23). This is only fair in that the federal government holds these lands for all people now and into the future. However, this cannot occur if there are so many cost barriers. Therefore, the creation of low-cost recreational opportunities such as a trail to picnic tables and benches through the valley will be an accessible way that tourists with only tennis shoes, water bottle, and sack lunch could visit the park.

In discussion of recreation, other opportunities for conflicts to arise may fracture stakeholder groups as the types of recreation desired within the valley will vary greatly. In some scenarios, choices in environmental impacts as to building a trail to allow rock climbers access to where they would like to go or to build a trail that would allow

campers to visit is something that may occur. These types of situations is where the use of the collaborative governance program will be helpful as the group will be able to deliberate on the types of recreation they would like to envision at Hetch Hetchy, when allowable, and decide on what opportunities most align with the environmental justice perspective. While not all recreationalists will be able to win in the types of recreation they may hope to receive, recreational opportunities will still be considered. The collaborative governance project works well in resolving this dispute as it may lead to coalitions among stakeholder groups to strengthen the decision-making processes. Still using this example, the Indigenous stakeholders may side with recreationalists supporting camping sites over other trails as it would give them opportunity to reconnect with the land by being able to stay overnight in certain areas. If it is determined that this does not violate earth jurisprudence principles, then these types of collaborative decisions would help bond stakeholders for times in which the stakes are even greater in decision making.

Fee System and Funding

The reality of maintaining a National Park that can sustain a resilient ecosystem in light of climate change and tourism is that there must be a staff dedicated to this work. In order to have such a staff, they must be funded to do the work. Currently, National Parks assess a fee at the entrance to the incoming tourists. At Yosemite National Park, this looks a bit different because of the immense amount of people who are visiting. At Yosemite National Park, specifically Yosemite Valley, the fee system is in place and perspective tourists must also enter a reservation system to coincide with a maximum allowable capacity within the park (Entrance). At Hetch Hetchy, tourists

wanting to visit the reservoir can simply drive to the Hetch Hetchy entrance gate and pay for their admission, and then they must exit the valley by dusk to eliminate the risk of being shut in the park when the gate closes (Operating). It is recommended that the current fee system at Hetch Hetchy be maintained. Hetch Hetchy's fee system should be maintained because it will allow for ecosystem rest and recovery, will allow for direct funding that can be used towards the Hetch Hetchy projects, and the gate system can institute daily maximums that can reflect what are allowable on a fluctuating basis.

Hetch Hetchy should maintain its current fee and gate system because it will ensure that the ecosystem that is being restored has time to recover. Even though Hetch Hetchy is the least visited area in all of Yosemite National Park, the actions taken on Hetch Hetchy land to restore it will be quite intensive (Rosekrans & Laws 25). In order to allow for the plants to regrow and to encourage wildlife to move back into the valley, it would be optimal to limit human's impact in the valley for that current time. Thus, Hetch Hetchy can continue to utilize the gate system to prevent too many campers from entering into the valley and to ensure that wildlife has the ability to be a part of their ecosystem without human interference between dusk and dawn. Posted signage along existing trails can be utilized to ensure visitors do not stray beyond designated human interaction areas. Those allowed to camp in the park may do so in designated areas as outlined by the stakeholders within the collaborative governance project. This will ensure that visitation and recreation is allowed without impacting earth jurisprudence principles in a seriously negative way.

Hetch Hetchy should also maintain its current fee and gate system because the funds collected at the gate in the form of entrance fees could be managed by the Hetch

Hetchy collaborative governance project in conjunction with the NPS to better serve the programs that will be occurring at Hetch Hetchy. While most National Parks allow you to enter the park from multiple entrances with the same ticket, the unique Hetch Hetchy ticket will ensure separate funding and accounts that will be used to accomplish the goals set out in this paper. Thus, administratively, it should be easier to allow for the stakeholders to make decisions on what programs to do based off of these specific funds. This funding plan would likely not be too difficult to implement as Hetch Hetchy is so unpopular with visitors that it is not taking much money away from current NPS operational funds.

Lastly, Hetch Hetchy should continue with its current gate and fee operations because it will allow the involved staff to limit public exposure to the environment in a more responsive and fluctuating way than they otherwise could through the obligatory entrance of a lottery with a set maximum similar to Yosemite Valley. This is a meaningful ability for the NPS to be able to do because each day of the restoration work could vary in its intensity so that limiting the maximum number of visitors per day could fluctuate on a regular basis. Thus, operating in a way that does not guarantee visitors, and with current needs not being one that needs a lottery to limit attendance, the current system is acceptable during these efforts. Changes may need to occur after Hetch Hetchy is fully restored and thriving if increases in tourism are similar to that of Yosemite Valley.

Contributions

The contributions that the restoration of Hetch Hetchy can make to the field of collaborative governance, earth jurisprudence, and environmental justice are worthwhile and relevant.

Through the use of collaborative governance at Hetch Hetchy, a successful implementation of this model can show the United States that reframing National Park land to consider stakeholders in the management process can be beneficial. Hetch Hetchy can be a symbol of strength for our governmental processes and to strengthen democracy. The exercise can show how government is willing to listen to the stakeholders that have been historically discounted from decision making processes and include the expertise and advice that these groups may give. This is important because in the case of Hetch Hetchy, excluding Indigenous groups would mean losing out on understanding what Hetch Hetchy was like prior to its damming and discovery by colonizers. This exercise strengthens democracy because it takes democracy as an exercise of our government and gives it the ability to be applied to this area of land. Thus, American use of democracy can be shown to work well even in the wildest of places and to be a remedy for the past mistakes.

The implementation of earth jurisprudence at Hetch Hetchy will be significant in advancing the earth jurisprudence movement throughout the United States. By allowing these rights to be granted to National Park land, it can show that what is considered to be the most protected areas in all of the United States still deserve to let nature be allowed to thrive. This would push the NPS out of its old ways of thinking in that conserving land is the best choice and to reframe their principles to be that of focusing

on how best to manage people's impact on the ecosystem's ability to thrive. This would mean that the entire way Federal lands are cared for and managed could be reframed to better suit the needs of the environment and to get the land out of the traditional holdings for conservation and resource extraction as binaries. It should be acknowledged that this would mean a dramatic transformation in the ways that the National Parks Service has traditionally carried out their role, but it is a needed change that will have meaningful consequences for the ways in which American society views ecosystems. At the same time, this move can show the rest of the United States that earth jurisprudence is a model that works well and can be easily implemented for their own particular surrounding ecosystems and land areas.

Lastly, the restoration of Hetch Hetchy will be of great contribution to the environmental justice movement. By involving marginalized groups, and having environmental justice ideals be a guiding principle, the actions at Hetch Hetchy can show that the American government is committed to ensuring fair and equal access to public spaces. The specific dedication to involve Indigenous groups will be a nod to acknowledge how the past wrongs of the government have worked to forcibly remove people from their land and that work can be done in order to restore these relationships and right past wrongs. The continued focus on environmental justice themes will also show that there will not be need for much updating in accessibility at Hetch Hetchy because these issues were addressed at the beginning stages, rather than through later considerations.

Therefore, Hetch Hetchy serves to be a model on how environmental justice can lead to a more inclusive space for all Americans, how it will not harm the environment, and it can work on righting the historical wrongs that allowed for the creation of the National Parks and other institutions.

Conclusion

Hetch Hetchy Valley currently exists as a hidden away reservoir within Yosemite National Park. Accessed by the smallest amount of the total visitors within Yosemite National Park, it serves mostly to store water for the city San Francisco. For the city to acquire this land, actions to remove the Indigenous people of the area had to occur. On top of this, the government granted San Francisco the ability to dam the valley only if the city was to make certain actions to encourage recreation. Yet, Hetch Hetchy stands dammed and without the trails and other infrastructure assigned to and promised to be fulfilled by the city of San Francisco.

This paper explored the ways in which models of collaborative governance and earth jurisprudence have been used to protect and find solutions in contentious environmental issues. Collaborative governance was found to be useful in the case of Hetch Hetchy as it allows the stakeholders to come together in a collaborative manner that fosters comradery and problem solving. Earth jurisprudence was shown to be a good model in instituting protections for natural land areas that go beyond the binary of either conservation or extraction. Through the use of these two models, the problem of Hetch Hetchy was applied to show that restoration, continued protections, and other beneficial outcomes can occur. In this same light, the concept of environmental justice was utilized to focus the restoration efforts on the past wrongs committed against groups of people and ensuring equal access and a wide array of opportunities for all people when Hetch Hetchy is restored.

With the application of these principles and models, Hetch Hetchy can be a symbol for a new age of environmentalism within the National Parks System. The new

Hetch Hetchy will boast a restored valley that was constructed according to the input of experts and prior knowledge of what the valley once was. Hetch Hetchy will contain new ways to recreate within the valley that meet different accessibility needs as well as modes of recreation that would require lower cost equipment. Within all of these changes, San Francisco would still be able to retain the same level of their water supply while also benefitting from the creation of new clean energy technologies that could be harvested from the flowing water from other reservoirs. In all, Hetch Hetchy will be able to exist as a healthy ecosystem that would be protected through its own right to exist so that the ecosystem within can flourish, and visitors can continue to experience joy in the natural world.

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