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Recommendations for the Chamlidere Petrified Forest Management Plan

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RECOMMENDATIONS FOR THE CHAMLIDERE PETRIFIED FOREST MANAGEMENT PLAN
RECOMMENDATIONS FOR THE CHAMLIDERE PETRIFIED FOREST MANAGEMENT PLAN

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts in Anthropology

By

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ABSTRACT

Anything inherited from our ancestors or from nature can be considered as our heritage. Heritage can be classified as cultural and natural heritage. Turkey has been the cradle of many civilizations, religions, and ethnic groups because of the unprecedented natural heritage and critical geopolitical location of Anatolia. Given all the treasure of cultural and natural heritage in Turkey, heritage management practices have not been emphasized as they deserve. A petrified forest was found in Çamlıdere, Ankara (Turkey) in 2004. Çamlıdere petrified forest preserves information related to the biodiversity of forests in the Galatian Volcanic Province during the Early-Middle Miocene. When compared to its counterparts around the world (e.g., Lesvos, Greece and Arizona, U.S.), this petrified forest certainly deserves to be a Turkish National Geopark according to many researchers. Çamlıdere petrified forest is currently in the process of being converted to a geopark with the hope that it will attract tourists and provide economic benefits to the local people. This process is just beginning thanks to Kızılcahamam-Çamlıdere Geopark and Geotourism Project (KÇGGP) initiative. A comprehensive heritage management plan (HMP) is needed and required by the Turkish regulations. This thesis provides recommendations for a comprehensive HMP, which will aid the preservation endeavors at Çamlidere petrified forest. Çamlidere petrified forest is defined as a visiting site in KÇGGP. The fact that Çamlidere petrified forest is included in this project demonstrates its significance as a geopark. The project plans of KÇGGP can significantly be improved by following the steps recommended in this thesis. Seven planning steps are recommended for a comprehensive HMP for Çamlidere petrified forest: (1) determine the stakeholders, (2) conduct a geological survey and determine the significance, (3) determine the strengths and weaknesses, (4) prepare a statement of
purpose, (5) determine component plans, (6) implement component plans, and (7) monitor and evaluate the progress. The recommendations provided in this thesis comply with the Turkish legal framework and the international principles of heritage management planning. Moreover, recommendations are prepared by benefiting from a successful petrified forest preservation example from Arizona.
This thesis is approved for
Recommendation to the
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DEDICATION

I would like to dedicate my thesis to my beloved husband, Alp, who offered me unconditional love and support throughout the course of this thesis and my baby, Eren, who has been a great source of motivation and inspiration.
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CHAPTER ONE

INTRODUCTION

Heritage can be identified as the information archives of humanity. Anything inherited from our ancestors or from nature can be considered as our heritage. Heritage defines who we are, where we are, and how we or our environment came into being. Heritage is a broad term that includes both the cultural and the natural heritage. Cultural heritage covers monuments such as architectural works or structures of archeological nature, groups of buildings, and archeological sites revealing works of man and or the combined works of man and nature (United Nations Educational, Scientific and Cultural Organization 1972). Intangible domains such as “(a) oral traditions and expressions, including language as a vehicle of the intangible cultural heritage; (b) performing arts; (c) social practices, rituals and festive events; (d) knowledge and practices concerning nature and the universe; (e) traditional craftsmanship” are also parts of the cultural heritage (UNESCO 2003). Natural heritage is characterized with “the natural features consisting of physical and biological formations, geological and physiographical formations, and natural sites of outstanding universal value from the point of view of science, conservation or natural beauty” (UNESCO 1972).

Social scientists, like anthropologists, archeologists, art historians, and architects study heritage in order to turn archived data into useful information. The process of preserving the past and transferring the heritage associated with the past to the coming
generations is called Heritage Management (HM). Kerber (1994:3) gives a formal definition of HM as:

An umbrella term for activities affecting natural and cultural heritage; includes the preservation, use, protection, selective investigation of, or decision not to preserve, prehistoric and historic remains; specifically, includes the development of ways and means, including legislation and actions, to safeguard extant evidences or to preserve records of the past.

When the natural and cultural heritage definitions are considered in their broadest sense, it is possible to include almost everything under this umbrella. Nevertheless, only properties of outstanding value and significance are usually preserved. Significance and value of the property is defined relative to other properties (Thompson 1981). Significance and value defined by “relative importance” are not intrinsic characteristics of heritage. This leads to debate over which specific properties are worthy of preservation. This is why governments, countries, and international organizations like UNESCO developed criteria to evaluate the significance of the heritage and guidelines for when to invest money in preserving properties for the next generations. These criteria and guidelines are usually defined in laws, regulations, and policy statements.

Definitions are important to understand the concepts, but they are usually insubstantial and vague without a concrete example. Within the context of a specific property, this property that comes to mind is “How do I preserve the qualities that make the heritage significant - whatever those qualities may be?” One needs to follow a method, a procedure, and know the legal and financial limits to preserve the property. The methods, procedures, why the property is significant, and the limits are explained in
laws, regulations, and operational guidelines. The legislative framework usually requires a considerable planning effort to facilitate the preservation of a particular property on locality. This is usually called a Heritage Management Plan (HMP).

Turkey is located at the center of three continents and lies as a bridge between Asia and Europe. Geographically, Turkey is bounded by the Black Sea to the north, the Mediterranean Sea to the south, and the Aegean Sea to the west. Turkey has been the cradle of many civilizations, religions, and ethnic groups which resulted in rich traces of cultural and natural heritage. For example, many Biblical stories took place in provinces of ancient Turkey: Ephesus, Antioch, Cilicia, Phrygia, and Galatia. Istanbul, the biggest city in Turkey, was a capital city for centuries for the Roman, Byzantine, and Ottoman Empires. Civilizations in these cities left countless buildings, churches, tombs, water fountains, amphitheaters, and universities. Istanbul has been declared the European Capital of Culture for 2010. The natural and cultural heritage goes hand in hand in Turkey. The natural beauty of a place usually attracts people and they eventually leave cultural footprints behind while building their civilizations. Given all the treasure of cultural and natural heritage in Turkey, heritage management practices have not been emphasized as they deserve.

In 2004, a petrified forest was found in Çamlıdere, Ankara (Turkey) by a geologist, Tufan Erdogan (Gümüş 2008). Çamlıdere is about 70 miles northwest of Ankara and is on the border between the Central Anatolia Region and the Black Sea Region of Turkey. Çamlıdere petrified forest preserves information related to the biodiversity of forests in the Galatian Volcanic Province during the Early-Middle Miocene (Akkemik et al. 2009). When compared to its counterparts around the world
(e.g., Lesvos, Greece and Arizona, U.S.), this petrified forest certainly deserves to be an open museum and a Turkish National Geopark (Atabey and Saraç 2005; Gümüş 2008; Akkemik et al. 2009). A geopark is defined as “a geological heritage’s scenic spot of special geoscientific significance, rare natural attribute and aesthetically ornamental value and with given scale and distribution scope, which integrates other natural scenes and sights and that of cultural interest into a unique natural area” (Global Geoparks Network n.d.). Çamlıdere petrified forest will be a geopark in the near future and will be a major source of income for the local people. It has only been six years since the first findings from the area; therefore the process of converting the site to a geopark is just beginning. A comprehensive HMP is needed and required by the Turkish regulations.

The objective of this thesis is to present recommendations for a comprehensive Heritage Management Plan for the management of Çamlıdere petrified forest. This thesis is organized as follows. The second chapter investigates the heritage management practices in the world in terms of analyzing the legislation and applications in the heritage of different countries and organizations. The legislation on Global Geoparks Network is also given in the second chapter. The third chapter explains the HMPs and critically analyzes various approaches in the literature to investigate the common points on what to include into an HMP. As a case study, the Arizona Petrified Forest management plan is evaluated and discussed with respect to the common points in the literature. The fourth chapter focuses on the heritage management laws, regulations, and organizational structure in Turkey. The fifth chapter provides a study site discussion and recommendations for a comprehensive HMP for Çamlıdere. In the last chapter, conclusions of this thesis are given.
CHAPTER TWO

HERITAGE MANAGEMENT IN THE WORLD

In this globalized world, each natural and cultural property possesses not only a local value, but also a universal value. This universal consciousness led to establishment of worldwide organizations and legislative framework. This chapter investigates the heritage management practices in the world in terms of analyzing the legislation and its applications in the heritage of specific countries and organizations. The history of heritage management in the world is addressed in the second section chronologically by giving the conferences, charters, and organizations that had international impact. Heritage management laws and applications in Europe are addressed in the third section. The fourth section gives the United States case for heritage management. History of UNESCO and its function in preserving heritage in the world are addressed in the fifth section. The last section concludes the chapter by presenting the common points in regional laws and applications related to the heritage management using different country and organizational cases.

History of Heritage Management

Preserving architectural heritage has always been a concern for many nations. Religious concerns were the most important incentive for preserving the architectural buildings before the 19th century (Aplin 2002). For example, architectural heritage like cathedrals and castles were protected by the Roman Catholic Church in Italy (Aplin 2002). Al-Aqsa Mosque in Jerusalem and Hagia Sophia Museum in Istanbul are other examples of architectural heritage that have been preserved for centuries with respect to
religion. In 1877, a manifesto was declared by the Society for the Protection of Ancient Buildings in London, UK. This manifesto was against improper restoration practices and suggested protection instead of restoring. The first sign of modern heritage management practices can be traced back only to the late 19th century. It was seen in the US when the world’s first national park, Yellowstone National Park, was established in 1872 (Aplin 2002).

The 20th century was a stage for many developments in heritage management practices. International charters, conventions, newly established government organizations, and many regulations were established in various countries. At the beginning of 20th century in 1916, the U.S. National Park Services (NPS) was founded as a federal bureau in the Department of Interior (Aplin 2002). In 1931 the Athens Charter for the Restoration of Historic Monuments was adopted in Athens, Greece. This charter was the beginning of international and organizational studies in heritage conservation. As a result of the discussions on the charter, the necessity for national legislation emerged as a requirement for international heritage conservation (ICOMOS 1931).

Destruction of buildings and landscapes during the First and Second World Wars (WW I and WW II) initiated the awakening for preserving the natural and cultural heritage. Archeological studies were conducted increasingly to restore the destroyed cities and to tighten the roots with the past to form the new nations. Soon after the end of the war in 1945, the establishment of UNESCO increased the awareness in cultural heritage by focusing on culture as a core value. Cleere (1989) notes that heritage management practices proliferated because of the socio-economic and political
environment after 1945 as well as the technological advances during the post-world-war period.

Members of the Council of Europe signed the European Cultural Convention in 1954, which aimed to reach a common ground among its member states in understanding the importance of heritage preservation and increase the awareness of cultural heritage. In 1959, the International Center for the Study of the Preservation and Restoration of Cultural Property (ICCROM) was established in Rome. This was the first international and intergovernmental organization that focused on the study and improvement of methods of restoration of cultural heritage. In the same year, UNESCO raised $80 million from its members to save the Abu Simbel temple in the Nile valley in Egypt (UNESCO World Heritage Center 2008). The success of international collaboration on saving the heritage of an individual nation led to the “world heritage” concept in the coming years. The basic idea was to distribute the responsibility of preserving and managing a national heritage to the international community because “without the support of other countries, some of the world’s outstanding cultural and natural sites would deteriorate or, worse, disappear, often through lack of funding to preserve them” (UNESCO World Heritage Center 2008). The Venice Charter in 1964 proposed the formation of the International Council on Monuments and Sites (ICOMOS) to foster the conservation and protection of cultural heritage places around the world (ICOMOS 1964).

Washington, DC hosted a White House Conference in 1965 that called the international community for a “World Heritage Trust” that would preserve and manage the world's outstanding natural, picturesque areas, and historic sites for the present and the future of the entire world community. The idea of World Heritage Trust came to
realization in the World Heritage Convention which was signed by the members of UNESCO in the General Conference in Paris on 16 November 1972. The World Heritage Convention is the most important milestone in preserving the natural and cultural heritage in the world. The “world heritage” concept was accepted by UNESCO member states in order for them to seek support of the international community to preserve a heritage site within the boundaries of their countries. Appealing to international help was facilitated through the World Heritage List, which is a comprehensive list of all natural and cultural heritage properties in the world possessing an outstanding universal value. The first twelve sites were inscribed in the World Heritage List in 1978.

In the first two decades after the World Heritage Convention, the number of European cultural heritage sites inscribed into the World Heritage List was more than other heritage sites in the world. This unbalanced use of the World Heritage List led to the adoption of a Global Strategy in 1994 by UNESCO to make a balanced world heritage list that would also favor other regions of the world with more emphasis on natural heritage sites. In 2002, four strategic key objectives for better heritage management were adopted in the Budapest declaration by UNESCO. The Budapest declaration invited all members to focus on key strategic objectives to develop World Heritage Conservation: (1) increasing the credibility of the World Heritage List, (2) providing effective conservation of World Heritage properties, (3) supporting useful capacity building measures, and (4) developing public support through communication (UNESCO World Heritage Center 2008).

Inscribing a property into the World Heritage List just for the sake of preserving an outstanding universal value for the next generations might not seem realistic in a
capitalized world. Nevertheless, different types of values help to justify the preservation of natural and cultural heritage: associative/symbolic, informational, aesthetic, and economic value (Lipe 1984). Whether it is for the World Heritage List or for a national register list of a specific country, these values help the selection committee to assess the significance of a property (Sullivan 1997).

Associative/symbolic value of a property serves as the primary means that people associate themselves with their past cultures. Associating the current culture with the past culture makes the former more powerful and meaningful for the people living today. Symbolic value is how people conceptualize a property. For instance, the Statue of Liberty symbolizes both the independence of the US and the land of freedom.

Informational value is created by social scientists while they study heritage in order to turn archived data into useful information. The overall significance of a property may not be evident until thorough investigations are conducted (Lipe 1984). Although aesthetic appreciation is subjective, it can be used for assessing the value of a property.

Economic value has become an increasingly important driver for preserving heritage (Bowitz and Ibenholt 2009). Economic value of a heritage is approached by economists in two ways: (1) estimating the value (i.e., market price) of a property, (2) identifying the positive effects on the local economy of investing in the heritage. Bowitz and Ibenholt (2009) analyze the latter in terms of direct and indirect effects. They cite several kinds of positive effects on the local economy including input-output effects, multiplier effects, acceleration effects, ancillary spending, and derived effects. Negative effects are cited primarily in the field of environmental protection. Eco-museums and
eco-tourism are new concepts that are being discussed to convert these negatives into positive effects (Peter Davis 2000). Preservation of a property requires the involvement of the local people to sustain the economic value in the long term (Gonçalves 2007).

In summary, the world community has come a long way from the late 19th century to where it is now in terms of heritage management. Currently, many countries appreciate the importance of natural and cultural heritage in the world. Organizations in various countries are in competition to place properties in the World Heritage List to better preserve and manage their heritage as well as stimulate the local economy. This kind of race brought better heritage management practices. Many countries passed national laws and regulatory frameworks after the 1970s, in order to conform with the principles in the World Heritage Convention.

**Regulatory Framework in Europe**

Turkey is already a member of Council of Europe (CoE) and is in the screening process to enter the European Union (EU); therefore, it is important to understand the laws, applications, and organizations that are related to heritage management in Europe. Europe has a considerable number of historical and archeological sites that deserve conservation. Europe is rich especially in cultural heritage, because it has been a habitat for non-nomadic human settlement for centuries (Aplin 2002). These settlements can be seen both in villages and in civilized cities. Long-lived kingdoms, aristocratic families, and villagers preserved and maintained their heritage. After WW II, Europeans chose to preserve what remained of their heritage when rebuilding their countries (Aplin 2002). Europe have emphasized the preservation of its cultural heritage, as evidenced by the
dominance of cultural heritage sites from European countries that are inscribed into the World Heritage List.

CoE and EU are two different entities in Europe. CoE is an international organization that was founded in 1949 to support democracy and foster human rights and the rule of law in Europe. CoE covers virtually the entire European continent with its 47 member states (Council of Europe n.d.). The European Union was founded in 1993 with the existing members of European Economic Community. Because of its roots as an economic union, EU functions more like an economic and political union. On the other hand, CoE’s primary objective is to create a common democratic and legal area throughout the whole of the continent. The CoE issued several conventions for the protection of cultural and natural heritage over the last 50 years. These conventions are open for ratification to all CoE members and for access to non-member countries.

The first convention signed by the members of the CoE is the European Cultural Convention, which was held in Paris in 1954 (Council of Europe 1954). In the following years, the European Cultural Convention became a source of other conventions. This convention aimed at reaching a harmony among the CoE members’ situation on their heritage conservation and increasing consciousness of heritage conservation in Europe. The convention emphasized common action plans to protect and support the improvement of European culture by promoting joint cultural conventions between members of the Council. The articles of this convention contain general statements about heritage on a wide-ranging area of issues.
The European Charter of the Architectural Heritage of Europe ratified in Amsterdam in 1975 emphasized the social and economic benefits of heritage conservation (Council of Europe 1975). The major aim of the charter was to protect the architectural heritage, which is perceived as the main resource to maintain the European collective memory and a tool for historical and scientific study. The principles of the charter included basic codes of architectural conservation and protection. This charter asserted the importance of common European policy on all conservation issues and the protection of the architectural heritage based on the principles of the integrated conservation. The charter emphasized that legal, administrative, financial, and technical support were required to form an integrated policy that stimulated the public interest on conservation.

The first international treaty that included the principles of integrated conservation was the Convention for the Protection of the Architectural Heritage of Europe (Granada Convention), which was signed in 1985 in Granada (Council of Europe 1985). This convention adopted the principles of basic architectural heritage preservation. The articles of the Granada Convention included the importance of passing on to future generations a cultural references system, European co-ordination of conservation policies, and encouraging interaction among public authorities, private organizations, and the general public in decisions on architectural heritage protection. The Convention gives a list of sectors in which sharing information would help advance knowledge of heritage management.

In 1992, the European Convention on the Protection of the Archaeological Heritage was revised in Valetta by integrating the conservation policy with planning
principles (Council of Europe 1992). A conservation policy and planning approach was mentioned for the first time in Europe with this convention. The aim of this convention was to include the conservation and enhancement of archaeological heritage in urban and regional planning. This convention suggested regulations for the excavation and research of archaeological sites. The convention formed an institutional framework to strengthen and coordinate European archaeological heritage policies, including sharing know-how and specialists among different state parties. According to this convention, proper administrative and scientific regulation processes are required to protect archaeological heritage. This convention necessitated the establishment of educational programs to foster public awareness on heritage.

One of the series of recommendations for the protection of the cultural heritage was declared by the Council of Europe in 1996 (Council of Europe 1996). This recommendation focused on reducing unlawful acts related to heritage and the measures to prevent these acts. Illicit traffic of works of art by organized crime are mentioned particularly as unlawful acts and it is recommended that the international community takes corrective steps collaboratively.

Until 2005, all conventions emphasized a common understanding of heritage and addressed the methods to conserve heritage. In 2005, the Framework Convention on the Value of Cultural Heritage for Society addressed the reasoning behind heritage conservation and stated the positive effects of conservation of heritage on the community (Council of Europe 2005). The convention refers to the Universal Declaration of Human Rights and presented knowledge and use of heritage as part of a person’s right to take part in cultural life. Heritage is presented in the convention as a vital foundation for
economic development, the enrichment of cultural diversity, and the promotion of intercultural dialogue.

The first of the two conventions that relate to natural heritage is the Convention on the Conservation of European Wildlife and Natural Habitats, which was signed in Bern in 1979 (Council of Europe 1979). The Bern convention is concerned with the conservation of wild flora and fauna species and their habitats. Species that are in danger of extinction or exposed to the threat of human intervention are specifically protected by the Bern Convention. This convention covers most of the natural heritage on the European continent. Signatory states of the Bern Convention are required to have national policies to protect wild flora and fauna, to consider the potential effect of pollution on wildlife and natural habitats when planning and developing policies, to educate their citizens on the importance of wildlife and natural habitats, and to promote research related to the aims of this Convention.

The other CoE convention related to natural heritage is the European Landscape Convention, which was signed in Florence in 2000 (Council of Europe 2000). The main objective of the convention is to encourage the state parties on protection, managing, and planning of the European Landscapes. Landscape is defined in the Convention as “a zone or area as perceived by local people or visitors, whose visual features and character are the result of the action of natural and/or cultural (that is, human) factors” (Council of Europe 2000). This definition accepts the fact that landscapes are a combined result of natural forces and human intervention. The main reason for protecting landscape is that the landscape is a vital part of the European natural and cultural heritage.
The charter that deserves special attention is the European Geoparks Network Charter (European Geoparks n.d.). This charter was signed in 2000 on the Lesvos island of Greece, which is famous for its petrified forest. This charter is the foundation document for the European Geoparks Network (EGN), which currently includes 34 localities in 13 European countries. The EGN’s objectives are to defend geodiversity, to present geological heritage as worthwhile for public awareness, and to support sustainable economic development of geoparks via promoting geological tourism. EGN Charter defines the criteria to be considered as a European Geopark, the methods to protect and promote the territory, and the responsibilities of the member country when a territory is named as a European Geopark.

The European regulatory framework on cultural and natural heritage is rich. The council of Europe, the organization that represents all European countries, has issued many conventions and charters. While the majority of the regulatory framework is composed of cultural heritage properties, some natural heritage regulations can also be found. The common objectives of these conventions and charters are to increase consciousness of heritage in Europe, promote collaboration among European countries, and provide guidelines for managing the heritage. The Directorate of Culture and Cultural and Natural Heritage of the Council of Europe is the institution responsible for monitoring the implementation of the conventions in member states.

**Regulatory Framework in the United States**

Although European countries recognized the importance of preserving the natural and cultural heritage only after the WW II, heritage management applications in the United States (U.S.) date back to the late 19th century. The U.S. pioneered the
conservation of natural heritage by establishing Yellowstone National Park in 1872, the first national park in the world (Aplin 2002). Not long after setting up the first national park, the U.S. commenced to enact laws and regulations on natural and cultural heritage. Instead of a single comprehensive heritage management law, the U.S. enacted multiple laws and regulations for each specific area of the heritage (King 2008). Each state in the U.S. can have different details in the application, but each state has to comply with the federal law. Without getting into the state-specific details, this section gives some significant federal laws that regulate the natural and cultural heritage in the U.S..

The first federal law is the Antiquities Act of 1906. This act protects archeological sites on federal land, establishes a permit system for excavations, puts forth misdemeanor penalties for violations, and authorizes the president of the U.S. to proclaim lands of historic or scientific interest as National Monuments (National Park Service 2006). In 1916, the second federal law called National Park Service Organic Act was enacted. This law created a national agency for managing natural and cultural heritage, namely National Park Service (NPS). The mission of the NPS “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” (NPS 2006). The NPS is a bureau of the U.S. Department of the Interior. The NPS currently manages 122 historical parks or sites, 74 monuments, 58 national parks, 24 battlefields or military parks, and some other types of properties (NPS n.d.).

The National Historic Preservation Act of 1966 (NHPA) is the primary and widely used act related to cultural heritage. This act established the Advisory Council on
Historic Preservation, State Historic Preservation Offices (SHPO), National Register of Historic Places (NR), and the Section 106 review process (King 2008). The Advisory Council on Historic Preservation aims to give recommendations to the president and the Congress on historic preservation issues. The NR, managed by the NPS, is the nation's official list of districts, sites, buildings, structures, and objects that deserve preservation (King 2008). SHPO manages the nomination of state properties for NR, establishes a preservation plan, assists and advises others, and promotes statewide historic preservation. The Section 106 review process protects the historical sites that are in NR from damage and destruction. The entities that undertake federally funded or permitted projects need to comply with the Section 106 review process, which is detailed in NHPA. This process involves interacting with SHPO to check the site’s significance in national and state registers.

The National Environmental Policy Act of 1969 (NEPA) is the most comprehensive act that covers the national policy on environmental protection. NEPA makes agencies scrutinize and manage their actions on the environment with regard to their outcomes (King 2008). The main process of NEPA obliges agencies to present in-depth analysis of actions “significantly affecting the quality of the human environment” (NPS 2006). Historic properties and people are considered as part of the environment in NEPA. Because human environment includes natural and cultural heritage, agencies are required to comply with NEPA in their actions that have an influence on natural and cultural heritage (King 2008).

The Archeological Resource Protection Act of 1979 (ARPA) is specifically enacted for the protection of archeological resources on federal land (NPS 2006). The
Antiquities Act of 1906 was enacted to protect antiquities; ARPA establishes a permit system for excavations on federal land for all archeological resources that are more than a century old. The misdemeanor penalties for violation of the Antiquities Act were increased in ARPA, with felony criminal penalties for violations and civil penalties for damaging the sites. Selling of stolen artifacts is also penalized in ARPA. ARPA acknowledged the fact that archeological resources are a unique part of American heritage and that they were jeopardized in order to get monetary benefits (NPS n.d.).

This section outlined the important U.S. laws and organizations related to natural and cultural heritage. The US regulatory framework is vital for understanding the heritage management in the world, because the US is one of the first countries to plant the seeds of the modern heritage management. Because of the fact that the first laws were enacted in the early 20th century and evolved in several years, the US does not have a comprehensive heritage management law, but instead particular laws pertaining to certain fields were enacted when it was necessary.

**UNESCO and Its Legal Instruments on Heritage Management**

In this era of globalization, almost every person with a moderate interest in international and cultural relations should have heard of UNESCO. From a heritage management perspective, UNESCO functions in an important role in preserving the cultural and natural heritage for the next generations. UNESCO is mentioned in various contexts, but the founding reasons behind this organization or the activities in which it is involved are often not well known. This section aims to give an overview of UNESCO and the legal instruments that are used to manage cultural and natural resources.
In the aftermath of WWII, The United Nations (UN) was formed to stop wars between countries and to provide a platform for dialogue. The UN needed specialized organizations to work on particular issues. UNESCO is one those specialized organizations. UNESCO was founded on 16 November 1945 “to contribute to peace and security by promoting collaboration among the nations through education, science, and culture in order to further universal respect for justice, for the rule of law, and for human rights and fundamental freedoms which are affirmed for the peoples of the world, without distinction of race, sex, language or religion, by the Charter of the United Nations” (UNESCO n.d.). Twenty countries ratified the document at its inception. Now almost all of the countries in the world are members of UNESCO, because UN membership gives the right to membership of UNESCO (UNESCO n.d.).

UNESCO functions in five major sectors: (1) education, (2) natural sciences, (3) social and human sciences, (4) culture, and (5) communication and information. In each of these sectors, UNESCO issues legal instruments such as conventions, recommendations, and declarations. Conventions identify the rules that the States accept. Conventions are subject to ratification, acceptance or accession by States. Recommendations and declarations are advisory documents that do not require ratification. Issuing legal sanctions for violating the conventions is compulsory for each State, but the method and degree of the sanction are not required to be the same (UNESCO n.d.).

Since its early days of existence, UNESCO has always been a leading force in the international efforts to protect tangible and intangible heritage. Key legal instruments establishing this leadership are the Universal Copyright Convention (1952), Convention
Concerning the Protection of the World Cultural and Natural Heritage (1972),
Convention on the Protection of the Underwater Cultural Heritage (2001), Convention for
the Safeguarding of the Intangible Cultural Heritage (2003), and Convention on the

*Legal Instruments of UNESCO in Heritage Management*

Among the conventions of UNESCO, the Convention Concerning the Protection
of the World Cultural and Natural Heritage (World Heritage Convention) deserves more
attention than others. In this section, the World Heritage Convention, the Operational
Guidelines, and the UNESCO Global Geoparks Network will be explained.

World Heritage Convention of 1972 stemmed from the idea that “certain places
are of outstanding universal value and as such form part of the common heritage of
humanity (World Heritage n.d.).” Although this convention accepts the national
governance of heritage, it distributes the responsibility of protecting heritage to the
international community. Article 11.2 of this convention requires the World Heritage
Committee to compile a list of properties that possess outstanding universal value. The
list is called World Heritage List. World Heritage List currently includes almost 900
natural and cultural sites.

Twenty years after the initiation of the World Heritage Convention, the World
Heritage Center was established as the sole responsible coordinator within UNESCO for
all matters related to World Heritage. Implementation of World Heritage Convention and
World Heritage List are monitored by the World Heritage Center. The World Heritage
Center “provides advice to States Parties in the preparation of site nominations, organizes
international assistance from the World Heritage Fund upon request, and co-ordinates both the reporting on the condition of sites and the emergency action undertaken when a site is threatened (World Heritage n.d.).” The World Heritage Fund provides approximately $4 million annually for preparing nominations, training, technical cooperation, emergency assistance, and promotional assistance.

The World Heritage Convention is composed of eight sections. The first section gives the definition of natural and cultural heritage. The second section mentions the responsibilities of State parties and the international community in protecting natural and cultural heritage. The third section explains the formation of an intergovernmental committee called the “World Heritage Committee.” The fourth section sets rules for contributing to and benefiting from the “World Heritage Fund” to protect natural and cultural heritage. The fifth section states the conditions and arrangements for international assistance. The sixth section gives the rules to manage educational programs. The last two sections are reporting requirements and final clauses of the convention.

Cultural heritage is defined in Article 1 of the first section as monuments, groups of buildings, and archeological sites. Natural heritage is defined Article 2 as “the natural features consisting of physical and biological formations, geological and physiographical formations, and natural sites of outstanding universal value from the point of view of science, conservation, or natural beauty (UNESCO n.d.).” Article 4 of the second section gives the primary responsibility for identification, delineation, protection, conservation, presentation, and transmission to future generations of the cultural and natural heritage to the State parties where the heritage is situated. Article 5 explains the measures to be taken
by the State parties to perform the responsibilities in Article 4. While Article 5 states the
duties of the State party where the heritage is located, Articles 6 and 7 state that the
heritage with outstanding universal value is considered as a “world heritage” and “it is
the duty of the international community as a whole to co-operate” with the State party.

The third section of the World Heritage Convention is about the World Heritage
Committee, an intergovernmental committee to execute the rules the Convention. The
formation procedures and the office terms of members in this Committee are explained in
Articles 8 and 9. Twenty-one State parties for this committee are selected for a term of
four years by the votes of all other State parties. Article 11 is important because it is the
legal ground for the World Heritage List and the List of World Heritage in Danger.
Article 13 is about how the Committee should handle the requests for international
assistance. Article 14 mentions the external organizations to assist the Committee. These
organizations are the International Centre for the Study of the Preservation and the
Restoration of Cultural Property (ICCROM), the International Council of Monuments
and Sites (ICOMOS) and the International Union for Conservation of Nature and Natural
Resources (IUCN).

The fourth section is about the World Heritage Fund. This fund is supported by
the State parties, donations made by public or private bodies, fundraising events, and
interest on the available fund (Article 15). Articles 16, 17, and 18 give details about the
responsibilities of the State parties to contribute to the World Heritage Fund. The fifth
section explains the conditions and arrangements while requesting international
assistance. The World Heritage Committee is the sole responsible organization for
determining the eligibility of the heritage for international assistance based on the
urgency of the request, the operation contemplated, the expected cost, and the reasons why the State cannot satisfy the necessary resources on its own (Article 21). International assistance may be in the forms of studies concerning the heritage, provisions of experts, training of staff, supply of equipment, low-interest or interest-free loans, and the granting of non-repayable subsidies (Article 22).

The sixth section emphasizes and recommends educational programs to the State parties to teach preservation of the cultural and natural heritage. The seventh section is about reporting requirements of the World Heritage Committee and the State parties. The eighth section gives the final clauses about the language of the Convention, ratification requirements of the State parties, force entry date, federal state regulations, denunciation, and revision of the Convention (Articles 30-38).

**UNESCO Operational Guidelines.** As the implementation of laws is usually facilitated with regulations, conventions are facilitated with operational guidelines. The Operational Guidelines for the Implementation of the World Heritage Convention (Operational Guidelines) aim to facilitate the implementation of the World Heritage Convention by setting forth the procedures for: a) the inscription of properties on the World Heritage List and the List of World Heritage in Danger; b) the protection and conservation of World Heritage properties; c) the granting of International Assistance under the World Heritage Fund; and d) the mobilization of national and international support in favor of the Convention. Operational Guidelines explain the processes in detail on how to implement specific requirements in the World Heritage Convention.
UNESCO Global Geoparks Network. The Global Network of National Geoparks provides a platform of cooperation and exchange between experts and practitioners in geological heritage matters. UNESCO Global Geoparks Network (GGN) was established in Paris in 2004 to preserve the territories with significant geological heritage around the world. The combination of preservation, long-term development, professional management practices, and economic sustainability is emphasized in the formation of GGN (Missotten and Patzak 2008). The selection of geoparks and management of GGN are performed following the Operational Guidelines (UNESCO Global Geoparks Network 2008). GGN is also a means through which experts and practitioners in geological heritage matters can share their information. The UNESCO Global Geoparks Network has 56 members from 18 countries.

According to the Madonie Declaration of 2004, European Geoparks Network acts as the integration organization into the UNESCO GGN for the European continent (UNESCO Global Geoparks Network n.d.). A geopark application to GGN from European continent should first be approved by the European Geoparks Network. With Madonie Declaration, UNESCO accepts to benefit from European Geoparks Network’s expertise in managing geoparks globally. This seems reasonable, because European Geoparks Network was established in 2000 and they are more experienced than UNESCO in managing geoparks.

Conclusion

The laws and applications of heritage management in different countries and organizations were explored in this chapter. History of heritage management in the world is given with chronological order from different parts of the world. It can be concluded
that WW I and II initiated the development of modern heritage management. Especially at the end of the WW II, nations realized the importance of preserving their heritage in peaceful and established institutions like the Council of Europe, the United Nations, and UNESCO. The World Heritage Convention of 1972 is the major milestone in the history of heritage management and the most widely accepted document of heritage management in the world.

Council of Europe signed several conventions addressing similar issues in different years and in different cities, sometimes new conventions are only revisions of earlier ones. The majority of these conventions concentrate on cultural heritage. The conventions share three objectives in common: increasing the awareness of heritage preservation in Europe, establishing collaboration among European countries, and providing guidelines for managing the heritage.

On the other hand, the US regulatory framework is spread out to different sub-areas of specialization. The National Park Service (NPS) of the US Department of Interior plays a key role in preserving the natural and cultural heritage in the US. The Directorate of Culture and Cultural and Natural Heritage in the Council of Europe is the NPS counterpart for Europe. This directorate monitors the implementation of conventions and manages the relationship of CoE and the member states.

UNESCO is the most effective international organization in the preservation of cultural and natural heritage. The world heritage concept which was initiated by UNESCO is now recognized by almost every country. The World Heritage List provides an unprecedented opportunity to get international assistance for the countries hosting the
heritage that possesses outstanding universal value. UNESCO Global Geoparks Network is still in its infancy period, but establishment of a global network is promising for the future of geologic heritage in the world.
CHAPTER THREE

HERITAGE MANAGEMENT PLANS

Management is not a trivial task and requires a method, a way, or steps to achieve a stated objective. Heritage management (HM) is not an exception to this. Some guidelines are needed to achieve the basic objective of HM, which can be considered as the preservation of a property for the next generations. Here, the definition of a plan helps to clarify the link: “A prescribed, written sequence of actions to achieve a goal, usually ordered in phases or steps with a schedule and measureable targets; defines who is responsible for achievement, who will do the work, and links to other related works (Balanced Scorecard Institute n.d.).” Therefore, if one needs to manage the heritage effectively, a plan is needed.

The name of the plan within the HM context is Heritage Management Plan (HMP). An HMP is “a policy and priorities statement under which day-to-day management will operate and a frame of reference against which detailed working decisions will be taken by those managing the property (Natural England 2008).” An HMP is required for each property UNESCO’s inscribed into World Heritage List (World Heritage Center 2008). The Operational Guidelines for the Implementation of the World Heritage Convention states the requirement of HMP:

Each nominated property should have an appropriate management plan or other documented management system which should specify how the outstanding universal value of a property should be preserved, preferably through participatory means (World Heritage Center 2008).
UNESCO’s operational guideline is not the only place where management plans are mentioned. For example, in Resource Protection Planning Process of National Park Services (NPS), State Historic Preservation Offices (SHPOs) are required to establish a plan for long term planning of state resources. In chapter 3 of Cultural Resource Management Guideline (i.e., NPS-28), a resource management plan is required for each park where there are cultural resources.

An HMP has become a necessity in many HM applications, therefore understanding what HMPs include and their role in managing heritage are important steps to understand HM in general. There are different management approaches for historical buildings, natural landscapes, national parks, and archeological heritage. In this chapter, the general features of HMPs are explained and various approaches in the literature are critically analyzed to determine the common attributes of an HMP. As a case study, Arizona Petrified Forest management plan is evaluated against international standards.

**Heritage Management Plans in Legal Framework and Academic Literature**

Management plans within the context of heritage first stemmed from UNESCO’s Operational Guidelines for the Implementation of the World Heritage Convention. UNESCO World Heritage Center has published Operational Guidelines since 1977 and the latest one was published in 2008. World Heritage Center is not the only institution that has such work on HMPs. International Center for the Study of the Preservation and Restoration of Cultural Property (ICCROM) and International Council on Monuments and Sites (ICOMOS) are two advisory organizations for UNESCO which also work on developing HMPs. ICCROM and ICOMOS take their advisory authority from World Heritage Convention Articles 8, 13, and 14 (UNESCO 1972). ICCROM published
“Management Guidelines for World Cultural Heritage Sites” for preparation of HMPs (Feilden and Jokilehto 1998). In addition, the Burra Charter (1999), prepared by Australia ICOMOS, has gained international recognition and is successfully applied in the US, Australia, and China (Sullivan 1997). In the following paragraphs, HMP development processes are given using the guidelines that were prepared by international organizations and researchers.

The most recent Operational Guidelines for the Implementation of the World Heritage Convention (will be referred as Operational Guidelines later in this chapter) defines the aim of a management system as protecting the heritage effectively for current and next generations. Operational Guidelines recognize the diversity of the heritage, so it does not specify a strict outline for an HMP that would work for all properties. Instead, the Operational Guidelines gives common elements of an effective HMP as (World Heritage Center 2008):

a) a thorough shared understanding of the property by all stakeholders;

b) a cycle of planning, implementation, monitoring, evaluation and feedback;

c) the involvement of partners and stakeholders;

d) the allocation of necessary resources;

e) capacity-building; and

f) an accountable, transparent description of how the management system functions.

The Operational Guidelines state that a combination of long-term and short term activities is essential to preserve and interpret a property that is nominated for inscription
to the World Heritage List. Long-term planning includes both reactive and periodic monitoring of the property. Reactive monitoring is a precaution to prevent existing World Heritage List properties from destruction. Periodic monitoring is done every six years, and it includes an assessment of the national legislative efforts to apply the principles of the World Heritage Convention. Risk preparedness and being ecologically and culturally sustainable are also recommended to be included into the management plans (World Heritage Center 2008).

Europe has been a cradle of many civilizations in the past, so cultural heritage possibilities are abundant. Several conventions and charters on cultural heritage preservation were ratified by European Council members (e.g., European Cultural Convention 1954, European Convention on the Protection of the Archaeological Heritage 1992, etc.). In these conventions, European countries are required to form their own government institutions on cultural heritage preservation. For example, the UK’s English Heritage is the governmental body that is responsible for preservation of historic buildings, monuments, squares, and archaeological artifacts (English Heritage 2009). In a publication of English Heritage, Darvill (1987) has a chapter dedicated to archeology and management. Darvill (1987:30) states that an HMP is formulated and implemented in seven stages. The first stage is determining the scope of the management plan. In the second stage, archeological survey is performed and the map of the location is drawn. Assessment and determination of the management plan objectives are done in the third stage. In the discussion and debate stage, advantages and disadvantages of the stated objectives are evaluated. At the end of this stage, a schedule is prepared with specific activities and the responsible parties. In the fifth stage, the actions detailed in the
schedule are performed. The sixth stage is about implementation of the plan and annual review of the objectives and progress. The last stage is about the long-term adaptability of the plan to changing situations.

Burra Charter (1999) is one of the seminal documents on preparation of HMPs. It served as a reference to many researchers and is successfully applied in several countries (Demas 2000). The process of preparing a management plan and implementation guidelines that are mentioned in Burra Charter can best be explained on a flowchart as seen in Figure 1. The process starts with understanding the significance of a property, and then continues with developing policy. Finally, it passes to actually managing the heritage which requires the continuous revision of the plan.

Demas (2000) from Getty Conservation Institute explains a planning process that is based on Burra Charter. The methodology described in Demas (2000) includes three phases: “(1) identification and description, (2) assessment and analysis, and (3) response.” The first phase includes the determination of the aims of the planning process and the stakeholders that should be involved, and documentation and description of the heritage. In the second phase, the significance and value of the heritage are determined. The physical condition, the opportunities and threats to the current condition are also examined in the second phase. The third phase consists of establishing policies, setting objectives, developing strategies, and preparing the plan. When these phases are completed, periodic review and revision is continually performed.
Figure 1. Burra Charter process (Burra Charter 1999:10).
Pearson and Sullivan (1995) and Sullivan (1997) describe a planning process that formed a basis for the HMPs in the Training, Education, Management and Prehistory in the Mediterranean Project (TEMPER) (Orbasli 2007). The TEMPER Project was initiated in 2001 by archeologists, architects, and heritage professionals from Turkey, Greece, Malta, Israel, and the UK to advance knowledge in under utilized Mediterranean prehistoric sites (Hodder and Doughty 2007). Sullivan (1997)’s planning process is shown in Figure 2.

Figure 2. Planning process (Sullivan 1997:17).
The process in Figure 2 starts with determining the key interest groups and developing ways to involve them in the planning process. Documenting the background information of the site is performed simultaneously while determining the key players. Then, a statement of significance is written and values of the site are established. Assessing the physical condition and the management environment of the site is performed following significance assessment. Later, a management policy is defined which includes the purpose and the principles of the management plan. Next, the management policy is transformed into action and practice by the selected management strategies. These management strategies include maintenance, conservation, and visitor management strategies. The last but ever continuing step is implementation, monitoring, and reassessment of the management plan.

Spennemann (2007) argues that many HMPs fail to meet the requirements of general management principles because they do not include the review and revision of the initial plan. In rapidly changing times, there is always something that needs to be updated. If the need for revision is not addressed, then managers of the heritage end up using a plan that does not reflect the current situation. Spennemann (2007) gives an integrated architecture of heritage management process which follows the methodological steps of “identification, documentation, evaluation, formulation, implementation, and review.” Figure 3 shows the integrated process proposed by Spennemann (2007).

It can be seen from Figure 3 that the master plan lies at the center of the model. The master plan is the policy document for the heritage. It can be regarded as the constitution of an HMP, because it is fed by the historical summary and significance of
the heritage, top level management objectives, priorities, conservation standards, and a brief physical description of the heritage. Similar to the laws being derived from the constitution, each component plan is derived from the master plan. Component plans are detailed implementation of the master plan in specific areas. For example, a disaster management plan should include how the movable objects need to be mounted to the ground in the case of an earthquake. Visitor management plan should include how the visitors will be monitored. Regular maintenance practices and repair activities should be included in the physical conservation plan.

Figure 3. Integrated process for management plans (Spenneman 2007).
Another important aspect of the integrated architecture of Spennemann (2007) is the review cycles. An HMP should include the review schedules and the revision cycles in order to preserve the property and to adapt to ever-changing environment. Implementation plans are reviewed either in one year or three year intervals and the master plan is reviewed in a decade interval. These reviews should highlight of the practices that were not fruitful in the previous cycle and take corrective measures as needed.

The procedure of preparing an HMP can also be found in Feilden and Jokilehto (1998). Although Feilden and Jokilehto (1998) address the needs of heritage that are to be inscribed into the World Heritage List, the principles and procedures can be applied to other heritage. The procedures are given in the following:

1. initial survey of the site,
2. site description and boundary definition
3. identification of resources
4. evaluation of resources
5. formulation of objectives and consideration of constraints
6. definition of projects
7. work program and annual plans
8. execution of works
9. recording, reporting and review of results
10. storage of information and data
11. revision of site description and re-evaluation
12. formulation of revised objectives and reconsideration of constraints
13. definition of further projects

14. revised work program and next annual plan (Feilden and Jokilehto, 1998).

The procedure detailed in Feilden and Jokilehto (1998) is similar to the one in Spennemann (2007). If the figure of this procedure were to be drawn, it would have cyclic arrows going from end to the beginning. Starting from step 10, the procedure reevaluates the previous steps to revise the management plan.

Several institutions, researchers, and agencies defined what should be included into HMPs and how HMPs should be prepared. Although they differ in details of implementation, they share common steps such as recognition and explanation, assessment and examination, and then making decisions on the heritage (Demas 2000). Another common argument in many of these definitions is that an HMP should have a cycle of steps like planning, implementation, reviewing the results of the implementation, and revising the plan.

The planning processes detailed in Pearson and Sullivan (1995), Sullivan (1997), Demas (2000), Orbasli (2007) consist of similar steps. These steps are:

1) determining the stakeholders,

2) identify the heritage and its boundaries,

3) determining the significance,

4) determining strengths and weaknesses of the property,

5) statement of purpose,

6) determining operational strategies and implementing them, and


The key points in the UNESCO’s Operational Guidelines are stakeholder participation, resource utilization, and review cycles. These key points correspond to steps (1), (4), and (7) above. The procedure in Feilden and Jokilehto (1998) misses the first step of determining the key players, but includes the resource utilization point of Operational Guidelines (2008) and steps (2), (4), (5), (6), and (7) from the above list.

To sum up, an effective HMP should be concise and clear. It should work as a guideline for the management of the heritage. An HMP should bring all the necessary parties to the table and benefit from their opinions. Documenting the current status of a property is essential. This documentation might include satellite images, maps, historical and archeological archives. The significance of the property should be supported by documentation. At this point, the options of preserving as it is, not doing anything, or improving the use of a property with an HMP should be discussed by the key players. Then, the strengths and weaknesses of the property should be assessed with available resource capacities. Later, the mission and vision statements for the heritage should be
determined. In order to operationalize the mission and vision statements, tactical planning should be performed in areas such as visitor management, collections management, physical conservation, and disaster management. The last, but the most important step is the implementation and review of the HMP.

**An Analysis of Arizona Petrified Forest National Park Management Plan**

In March, 2010 I visited Petrified Forest National Park (PEFO) located in Apache and Navajo Counties in Arizona to see an established petrified forest park and to learn about the management planning practices in the park. I met with Patricia Thompson, Chief of Resource Management, for about an hour to get informed about the heritage management planning efforts in PEFO. I took 153 photos and voice-recorded the meeting with Ms. Thompson.

PEFO was proclaimed as a national monument in 1906. It was then converted to a National Park in 1962 by the Congress. PEFO includes the Painted Desert, Puerco River Valley, and Rainbow forest. PEFO is a great example of a National Park where both cultural and natural heritage can be observed. The area served as a habitat for amphibians, reptiles, giant ferns, and towering evergreens during the late Triassic period which was about 230 million years ago (Petrified Forest National Park [PEFO] 1993). These animals and plants were then petrified by a series of volcanic eruptions and other geological events. Human settlement in the area dates back to BC 8000. Archeological heritage such as rock art, solar calendars, multistory dwellings, and large kivas depict the extent of cultural heritage in PEFO. Since PEFO was located near old Route 66, and the Sante Fe Pacific railroad, it contains several historical buildings that were used for lodging and recreational purposes. PEFO currently covers an area of 218,533 acres and
attracts about 600,000 visitors each year. The total budget of PEFO is $3.5 million for 2010.

The unique cultural, geological, archeological, and natural heritages require an extensive heritage management effort to preserve and transfer PEFO to the next generations. In the history of PEFO, three management planning documents can be noted. All of these management plans include alternative courses of action. Here, the analysis is based on the preferred alternatives. The first comprehensive general management plan was prepared in 1993 and included 93,533 acres of land. The primary management objectives were stated in 1993 as (1) to protect the paleontological resources, archeological and ethnographic sites, the recovered shortgrass prairie ecosystem, and the colorful eroding badlands, (2) to enhance the visitor experience, (3) to encourage scientific inquiry on the Triassic period of Earth’s history.

The revision of 1993 general management plan was finished in May, 2004. The plan in 2004 does not abolish the 1993 plan, but amended and supplemented it. Specifically, 2004 plan aimed at clarifying resource definitions, and enhancing the protection and presentation methods in coordination with interested stakeholders. In December 2004, PEFO was expanded by 125,000 acres with the “Petrified Forest National Park Expansion Act of 2004”. Since this law was enacted after the preparation of 2004 plan, a new general management plan was required to cover this expansion. To address this requirement, PEFO general management plan of 2010 was prepared.

If PEFO management plans are compared with the steps of preparing a heritage management plan that was explained in previous section; determining the stakeholders,
identifying the heritage and its boundaries, and determining the significance can be found in both 1993 and 2004 management plans. Strengths and weaknesses of preferred alternatives are required for comparison. A statement of purpose was clearly mentioned in all of the general management plans. Several sub-management documents executed in PEFO cover the operational strategies and implementation steps. The following list gives most of the sub-management plans:

1. collections management plan
2. safety and site security plan
3. visitor management plan
4. maintenance plan
5. collections access policy
6. scope of collections statement
7. integrated pest management plan
8. comprehensive interpretive plan
9. disaster response plan
10. key plan for who get keys
11. staffing plan
12. housing plan
13. paleontological research plan
14. hazardous materials plan
15. wilderness management plan
16. archeological research management plan
17. cultural resources management plan
18. land protection plan

The metrics in five year strategic plans required by GPRA provide a good means for monitoring and evaluation of management plan execution. Satisfaction surveys were mentioned by Ms. Thompson to take corrective actions about visitor experience and presentation procedures. The fact that management plan was revised two times in six years (i.e., 2004 and 2010) proves that revision and being up-to-date is successfully implemented in PEFO.

Therefore, we can conclude that PEFO Management Plans are compatible with international guidelines of heritage management and has the necessary components defined in Sullivan (1997), Feilden and Jokilehto (1998), Burra Charter (1999), Orbasli (2007), and Operational Guidelines (2008). Moreover, PEFO management plans abide with the National laws in the United States such as NHPA, NAGPRA, NPS regulations, and director’s orders which are sometimes stricter than the international guidelines of heritage management. As of 30th January 2008, PEFO is in the tentative list to be inscribed into the World Heritage List of UNESCO (NPS n.d.). The nomination process is controlled by NPS Office of International Affairs in the US (Kwas 2005) and the selection process is rigorous. This nomination also shows that PEFO has universal outstanding value and is managed by management planning techniques that meet international standards.

Conclusion

This chapter provided an overview of Heritage Management Plans (HMPs) and a critical analysis of the common points in the literature on how to prepare HMPs. We can
conclude that HMPs are crucial to preserve the heritage in an effective way and pass the significant values to the next generations. HMPs serve as a guideline for the management of a specific heritage property and are prepared in several phases. Respecting the views of various key players and involving them in planning process determines the longevity of the HMP. Documenting the current status of the heritage provides a basis for future development and significance determination. The most important phase is the implementation and review of the HMP to take into account change in the physical and social environment that threatens the preservation of the property.
CHAPTER FOUR

HERITAGE MANAGEMENT IN TURKEY

In this chapter, heritage management laws, regulations, and organizational structure in Turkey are explained. In the first section, the history of heritage management laws in Turkey is given. Then, the most important law, the Law of the Preservation of Natural and Historical Monuments (Law: 2863), is analyzed. The third section explains the regulation for heritage management areas and heritage management plans in Turkey.

Background of HM in Turkey

Although there were charitable institutions helping to preserve the historical buildings during the Ottoman Empire, the notion of heritage management as we understand today was not established until the 20th Century. The first museum (Collection of Antique Works) was established in 1869 in Istanbul (Mumcu 1969). When the Republic of Turkey was established in 1923, several European institutions were replicated. One was the Directorate of Antiquities and Museums, which formed the basis for the establishment of the High Council of Ancient Monuments in 1951 (Ünver 2006). This department was mainly responsible for making decisions on preserving and restoring architectural buildings.

The Ministry of Culture was first established in 1971. It has been reorganized several times and is now called the Ministry of Culture and Tourism. Two years after the Ministry of Culture started to operate, in 1973, the Law of Ancient Monuments was enacted (Kültür Varlıklar ve Müzeler Genel Müdürlüğü [KVMGM] 1973). The Law of
Ancient Monuments is considered the first conservation law of Turkey. It includes the principles on conservation and preservation of outstanding monuments, their environment and historical, archeological, and natural sites. Although this law stated important principles, it was not used to its full extent because of the financial and political instability of Turkey in the 1970s (Ünver 2006).

Later in the 1980s, several laws and regulations related to heritage conservation and management were enacted. In the constitution of 1982, the 63rd article states explicitly that the State is responsible for the conservation of heritage:

The state shall ensure the conservation of the historical, cultural and natural heritage and wealth, and shall take supportive and encouraging measures towards that end. Any limitations to be imposed on such privately owned assets and wealth and the compensation and exemptions to be accorded to the owners of such, as a result of these limitations, shall be regulated by law. (Turkish Constitution 1982)

As required by the 63rd article of the constitution, the Law on the Conservation of Cultural and Natural Property (KVMGM 1983) was legislated in 1983. It was revised on 14th July 2004 for several articles including the ones on heritage management areas and plans. The concept of heritage management was first mentioned in Turkish laws with this revision. Currently, Ministry of Culture and Tourism (Ministry) is responsible for management and preservation of natural and cultural heritage. However, Law 2863 gives considerable rights to the municipalities and governorships in a conservation process.

Besides Law 2863, National Parks Law (2873), Incentive Law of Cultural Investments and Enterprises (5225), Tourism Incentive Law (2634), and Municipality Law (1580) affect the natural and cultural heritage. Since all of these laws need to abide
with the 63rd article of the constitution, they conform to the articles in Law 2863 on preservation of natural and cultural heritage.

The Law on the Conservation of Cultural and Natural Property (Law 2863)

The law on the conservation of cultural and natural property (2863) is composed of seven parts. The first section gives the aim, content, definitions, imperative notification, and the quality of state property. The most important change in terms of heritage management in the 2004 revision was the addition of “Management Area” and “Management Plan” definitions to this section. According to these definitions, a management area for a cultural or natural heritage aims to protect and conserve the site, to provide coordination between stakeholders, and is prepared by the Ministry. Management plans aim to facilitate the conservation of management areas using scientific methods of management such as annual and five year reviews and phase based implementation.

The distinction between immovable and movable heritage is important in Law 2863. The second and third sections of the law are dedicated to the immovable and movable heritage, respectively. The significance of natural and cultural heritage is also distinguished accordingly in the law. Immovable properties are mostly related to objects and artifacts, on the other hand, movable properties are mostly related to the buildings and archeological sites.

Significant immovable properties are defined in the second section as follows:
• Properties that were built prior to the end of the nineteenth century are considered as cultural resources. However, immovable properties built after the end of the nineteenth century might be considered significant as an exception by the Ministry.

• Immovable cultural properties within conservation sites.

• Buildings and sites that have witnessed significant episodes of the National War of Independence and the declaration of the Republic of Turkey and houses used by Ataturk who is the founder of modern Turkey are considered as cultural resources.

The second section continues with requirements and procedures for listing in national registries. Regional conservation councils are responsible for deciding the significance of the natural and cultural properties and then listing them in national registries. Council members are composed of archeologist, art historians, architects, and urban planners. Immovable property listing can be accessed online through a web based automation project (KVMGM n.d.). This project includes the Geographic Information System (GIS) data and is open to public with basic search features (Çayırezmez 2007).

Third section of the law is related to the movable cultural and natural properties. Significant movable properties are defined in the third section as follows:

• Cultural and natural properties that belong to geological, prehistoric or historic periods and that have documentary significance in terms of geology, anthropology, prehistory, archaeology are considered movable cultural and natural properties.
• Documents, artifacts, statues, and other properties with historical value that belong to the National War of Independence and the foundation of the Republic of Turkey and the personal belongings of Mustafa Kemal ATATÜRK, his documents, books are considered movable cultural and natural properties.

The third section continues with the principles for presenting the movable properties in museums and the sanctions for smuggling precious properties out of the country. Movable cultural properties can be searched through another web based system (KVMGM n.d.). The details on how to determine the significance of the property, how to open a private museum, and how to operate a military museum are given with regulations.

The fourth section of Law 2863 gives principles of conducting archeological surveys, excavation, and treasure hunting. The permission for survey is granted by the Council of Ministries per recommendation of the Ministry. The permission for excavations on private lands is also granted by the Council of Ministries. Thus, private land owners do not actually own the archaeological materials on their lands and are obliged to permit the work of experts from the Ministry.

The fifth section details the duties of Regional Conservation Councils and the Superior Council. Regional Councils operate locally, but are responsible from their decisions to the Superior Council. The eleven members of the Superior Council include the directors and undersecretaries from the offices of Prime Minister, Ministry of Culture and Tourism, Ministry of Forestry, and Ministry of Public Works and Urban
Development. The Superior Council is responsible for determining the policies for conservation of natural and cultural heritage.

The sixth section details the prizes to be awarded to people who report significant movable cultural heritage to the Ministry and the penalties that are given to people who do not obey the rules of Law 2863. The seventh section gives the procedures to organize higher level management activities in management areas.

Heritage Management Plans in Turkish Legislation

Heritage management plans (HMPs) are mentioned in the law for Conservation of Cultural and Natural Property (Law 2863) and a regulation. The definition of a management plan is given in Article 3 of Law 2863 as:

A management plan shall mean a plan revised on a five-yearly basis drafted with the view of protecting the management area, ensuring its revitalization, evaluating, also indicating the annual and five-yearly implementation phases and budget for the conservation and development project prepared by taking into account the operational project, excavation plan and landscaping project or conservation plan (KVMGM 1983).

This definition gives the objective of a plan as conservation and protection, contains the schedules for revision cycles and implementation phases, and budgetary requirements. The management plan is referred in some other articles of the Law 2863, but not explained in detail. The implementation details for a management plan is given in a regulation called “Regulation on the Substance and Procedures of the Establishment and Duties of the Site Management and the Monument Council and Identification of Management Sites” which was published in the Official Gazette on 27th of November 2005. This regulation is composed of five chapters. First chapter gives the aim, scope,
legal ground and definitions. Second chapter gives the details on identification of the management site, methods to prepare management plans, objectives of management plans, responsible authorities, implementation and control activities. Third chapter is about establishment and duties of the site management units. Fourth chapter explains the establishment, duties and working principles of the monument council. The last chapter gives when the law will take effect and the authority for execution of this regulation. In the following paragraphs, some excerpts from the regulation are given to explain how management plans are addressed.

Article 1 — The aim of this regulation is to ensure that archaeological sites, conservation sites, their interactive areas and junction points be conserved and evaluated within the scope of a sustainable management plan in coordination with public institutions and organizations, civil society organizations, and put forward the substance and procedures for the identification and development of management sites, preparation, approval, implementation and supervision of management plans and the determination of the duties, powers and responsibilities of the advisory board, site manager, coordination and audit board, audit unit and monument council that will have the function of managing the site.

Article 2 — This regulation covers the substance and procedures regarding the identification of the management sites of conservation sites, archaeological sites and interactive areas and surrounding areas, the drawing up, approval, implementation and supervision of management plans and the terms of reference of the advisory board, site manager, coordination and audit board, audit unit and monument council that will manage the site. (KVMGM 2005)

Articles 1 and 2 are from Chapter 1 and give the aim and the scope of this regulation. The aim is specifically stated as the conservation of natural and cultural heritage within a sustainable management plan. The sustainability principle is important in preservation of cultural resources, because many such plans “once completed, languish on the shelves (Spennemann 2007).” The remedy for this problem is to review and revise the heritage management plans within certain schedules. Articles 1 and 2 mention the
audit unit and the monument council, which are responsible from the implementation of the management plans.

Article 5 from Chapter 2 of the regulation gives the objectives of site management and Article 6 gives the details on how to identify the management site. Article 7 states that a draft management plan should be prepared by the competent authority. While writing the draft management plan, a minimum of two meetings are required with attendees from a variety of stakeholders such as public institutions, local community, professional chambers, and universities. After giving the authority responsible for preparing the management plan and the methodology in Article 8, Article 9 gives details about preparation of the management plan.

Article 9 — The content of the management plan of the management site shall be composed of the following parts:

a) Existing situation: needs analysis related to the management, function and conservation of the area and contacts with relevant institutions and organizations.

b) Site analysis: identification of the significance, problems, bearing capacity of the area and functional and managerial analysis of the area.

c) Vision of the site and basic policies: Policies and strategies on management, conservation, use, presentation, promotion and visitors within the scope of the management plan that will point out the future vision of the area with the aim of presenting and promoting the area at the national and international level by putting forward operational, managerial, administrative and financial models.

d) Work schedule, timing and generation of projects: Terms of reference of institutions and persons to participate in the site management, their work schedules and budget analysis, identification of financial resources, an action plan entailing short-term, medium and long-term activities to be carried out and promotion of projects.

e) Definition of monitoring, evaluation and training processes: drawing up programs to monitor, evaluate and train stakeholders to implement the management plan (KVMGM 2005).
Article 9 defines the content of a management plan. The first part of Article 9 is an assessment of current situation in terms of what is needed for the management of the area. The second part gives the significance of the management area, and managerial analysis of the surrounding region. The third part is where the management policies and vision of the management area are mentioned. These policies are important to identify the future marketing goals for the cultural or natural heritage. The fourth part is about creating project topics and determining schedule for these project topics in short, medium and long term planning horizons. The table cited in this article requires entries for the name of the activity, the responsible authority, financial resource, and a target date for the promotion of the projects. The fifth part is the most important activity in maintaining the long term applicability of the heritage management plan: monitoring, evaluation and training of the implementers of HMP. When this article is considered together with the management plan definition in the Law 2863, it can be inferred that these monitoring and evaluation activities are required to be done in an annual and five-yearly basis.

Article 10 explains the authorities that should be on the management team in three categories for (1) urban conservation sites and historic conservation sites, for (2) archaeological conservation sites, and for (3) natural conservation sites. Article 11 and 12 give details about the process of evaluation and approval of the management plan by responsible authorities. The last of article of Chapter 2, Article 13, discusses how the implementation and control of the management plan shall be done. The strategies of conservation, presentation, promotion and visitor management, and the work schedule are controlled annually. The vision, objectives and the policies are reviewed once every six
years. Article 13 works hand in hand with last paragraph of Article 9 in monitoring and evaluating the previous years’ performances.

Chapter 3 of the Regulation is about establishment and duties of the site management units. These units are responsible for the executing the management plan. A site management unit is composed of a site manager, advisory board, coordination and audit board, and an audit unit. The audit of the execution of the management plan is emphasized in Chapter 3. Figure 4 shows an example organizational structure for site management in Turkey (Ünver 2006) based on the principles detailed in Chapter 3. Chapter 4 is related to establishment, duties and working principles of the monument council when the management area consists of a monument. Chapter 5 states that the execution of this regulation is ensured by the Ministry.
Figure 4. Turkish site management organizational structure (Ünver 2006).
Conclusion

This chapter analyzed the heritage management regulations and institutions in Turkey. The legislative framework for heritage management meets international standards, but has not been applied to the abundant cultural and natural treasures in Turkey. The Law of the Preservation of Natural and Historical Monuments (2863) forms a baseline for heritage management. The Regulation on the Substance and Procedures of the Establishment and Duties of the Site Management and the Monument Council and Identification of Management Sites is the only regulation in Turkey where heritage management plans are explained in detail.

The laws and regulations are in place, but they are not effectively applied as they should be. In my opinion, the reason for this is that the laws and regulations are not always followed. They are not always followed because the government officials are not fully aware of how these new laws will be applied. In other instances, they cannot be applied because of financial reasons.
CHAPTER FIVE

A DISCUSSION ON ÇAMLIDERE PETRIFIED FOREST HMP

A town near Ankara, Çamlıdere, is an example of a region where natural and cultural heritage goes hand in hand. Çamlıdere is about 70 miles north-west of Ankara and is on the border between the Central Anatolia Region and the Black Sea Region of Turkey. Çamlıdere region is called Galatian Volcanic Province to honor Galatians who lived in this region from third to first century BC.

In 2004, a petrified forest was found in Çamlıdere by a geologist, Tufan Erdogan (Gümüş 2008). This fossilized forest contains many trees, logs and roots which were petrified with volcanic eruptions. Initial studies show that this forest came into being in the lower Miocene (18.2-16.9 million years ago). The samples of whole trees and their broken pieces are scattered richly around 250-300 m long zone within sloped layers. It is evident that if excavations are conducted, whole trees with their logs and branches might easily be found (Atabey and Saraç 2005).

When compared to its counterparts around the world (e.g., Lesvos, Greece and Arizona, U.S.), this petrified forest well deserves to be an open museum and geopark (Atabey and Saraç 2005; Gümüş 2008; Akkemik et al. 2009). The area was declared in 2005 as a First Degree Protected Area by the Ministry of Culture and Tourism in Turkey, since then neither excavations nor fencing practices have been observed. As a result, looting is one of the major enemies of the preservation in Çamlıdere petrified forest. The author of this thesis, who is a native of Çamlıdere, has experienced several examples of looting in the area. Figure 5 shows Fatma Ertem with a log at a random store in Ankara.
Çamlıdere petrified forest is currently in the process of being converted into a geopark with the hope that it will attract tourists and provide economic benefits to the local people. It has only been six years since area was discovered; therefore the process of converting the site to a geopark is in early planning phases. A heritage management plan will be eventually required following Turkish Law 2863.

The objective of this chapter is to present recommendations for a comprehensive Heritage Management Plan for the Çamlıdere petrified forest. The rest of the chapter is organized as follows. The physical landscape covering the climate, water properties, and biotic of the region will be presented. Following this the cultural landscape of the region is explained by covering people, language, rituals, and social demographics. Next, the fossilized flora is explained by covering the geological significance of Çamlıdere petrified forest. The status of the current project for building a geopark in the region is given. Finally, recommendations for a Heritage Management Plan will be presented based on the legal framework in Turkey, the Arizona Petrified forest example, and heritage management planning principles detailed in previous chapters.
Physical landscape

Physical landscape consists of the location, climate, water, and biotic characteristics of the Çamlıdere region. The petrified forest is located 10km southwest from the center of Çamlıdere and inside Pelitçik village borders. Most of the southern border is surrounded with Çamlıdere (Bayindir) Dam Lake. The most visible portion of the petrified forest is a small area, ~400 m × ~250 m. It lies at 40°26′N 32°24′E at an altitude of 1100m a.s.l. (Akkemik et al. 2009). Gümüş (2008) depicts a larger region for the core zone of the petrified forest with 5km² and a buffer zone with 300km². Figure 6 shows the location of the petrified forest.

Figure 6. The location of Çamlıdere from Google Earth™.
Figure 7. The location of the study site, buffer (A) and core zones (B) (Gümüş 2008).

Climatologic Characteristics

The climate of the region shows the characteristics of both the Central Anatolian Region and the Black Sea Region, because it lies on the border of these two geographical regions of Turkey. Topaloğlu (2005) gathered climate data for Çamlıdere from Turkish State Meteorological Service for the years 1988-1999 and concluded that the Çamlıdere region is classified as having a “winters very cold, half dry Mediterranean” climate. Figure 8 depicts the climate diagram for Çamlıdere.
Figure 8. Climate diagram of Çamlıdere (Topaloğlu 2005).

Figure 8 shows two peaks for rainfall levels. Dry climate starts in June and lasts about four months. Annual temperature amplitude of the region is 22.1°C. The average highest temperature is observed in July with a value of 19.7°C and the average lowest temperature is observed in January with a value of -2.4°C. Note that below 0.0°C values are not given in Figure 8. The annual average temperature is 8.7°C and the annual average rainfall level is 444.5mm. The month with the most rainfall is May with an average rainfall level of 65.1mm. The annual average number of days with snowfall is 32.3 days (Topaloğlu 2005).
**Hydrographic Characteristics**

Çamlıdere basin consists of several rivers, streams, and Çamlıdere Dam Lake. Çamlıdere Dam was finished in 1985 to supply water for Ankara. Main rivers and streams of the region are: Acun River, Bayindir Stream, Kayi River, Akpinar River, and Acuroğlu River. These rivers in the basin are collected in Çamlıdere Dam Lake. Acun River has the highest flow rate and is the major supply for Çamlıdere Dam Lake (Gümüş 2008). Total water volume of Çamlıdere Dam is 1160hm$^3$. The river basin that feeds Çamlıdere Dam is 722km$^2$. Çamlıdere Dam Lake covers an area of 32km$^2$ when the average water level is taken as 995m a.s.l. Figure 9 depicts the hydrography map of the region (Gümüş 2008).

![Figure 9. The hydrography of the Çamlıdere Basin (Gümüş 2008).](image)
Biotic Characteristics

Çamlıdere region depicts the characteristics of the Euro-Siberian and Irano-Turanian phytogeographic regions. Topaloğlu (2005) determined 59 family, 217 genus, and 317 species in his study. According to Topaloğlu (2005), the family which has the highest number of species is Asteraceae with 42 species and the largest genus is Veronica L. with 12 species. Euro-Siberian elements are the first with 46 species and with the ratio of 12.2%. The ratio of endemism is 6.9% with 26 species (Topaloğlu 2005).

Broad leaf trees are observed in the lower altitudes where Çamlıdere forest is exposed to human destruction. Major broad leaf trees in the region are: Quercus infectoria Oliver, Quercus pubescens Willd, Quercus macranthera Fish. et Mey, Populus tremula (Topaloğlu 2005). In the higher altitudes, needle leaf types are prevalent. Some examples of needle leaf trees that are observed in the region are Pinus sylvestris L., Pinus nigra and Abies nordmaniana subsp. bornmülleriana Mattf (Topaloğlu 2005).

The forestry flora is now cut down in the petrified forest region. Only bushes like Rosa canina L. and very few Crataegus orientalis trees can be observed. Gümüş (2008) has visited the petrified forest region and took several flowering plant (phanerogam) photos. Figure 10 shows these phanerogams with their associated names. Astragalus sp. is the most widespread flowering plant in the region.
Figure 10. Phanerogam of Çamlıdere flora (Gümüş 2008).
Cultural landscape

Çamlıdere reflects the general characteristics of rural Anatolian culture. Nomadic traits can still be seen in the daily life. Ethnic roots of the people in Çamlıdere can be traced back to Oghuz Turks. Oghuz Turks was a union of Turkic tribes in Central Asia around the 5th century AD. Çamlıdere was settled by the Seljuk Turks during the mass-migrations from the Central Asia to Anatolia. Later on, Çamlıdere became a settlement for many branches of Oghuz Turks. There is no diversity of denomination as the total population is Sunni Muslim. The people in this rural area are typically conservative and religious in outlook. Spoken language is Turkish and words that are similar to Central Asian dialects can be seen in daily life (City of Çamlıdere n.d.).

Social demographics

According to Turkish Statistical Institute’s data in 2000, Çamlıdere has a total area of 650 km². As of the 2008 census, the town has a total population of 9,862 people. Male population is 4,944 and female population is 4,918. Çamlıdere’s population has decreased by 40% in 2008 when compared to 2000 census (TSI 2008). Figure 11 shows this drastic decrease, but the population decreased because of a different technique used in conducting the census in 2008. Before 2008, people were going to their hometowns to be counted regardless of where they lived. In 2008, people were counted in the cities according to their living addresses. The majority of the town population is over 50 years old. Most of the new generation migrates to bigger cities either for education or to earn their livings.
Çamlıdere cuisine

Most of the traditional food in Çamlıdere can also be seen in many parts of Anatolia. Drying meat and vegetables in summer for winter use is a typical practice in Çamlıdere. Drying the food is a characteristic of nomadic cuisine. When Turks were living as nomadic tribes, they did not have the means to preserve the food for longer times. Drying practices emerged from this need.

Yoghurt is a dressing that is always seen in Çamlıdere kitchens. The cuisine of Çamlıdere includes foods that are cooked mostly with flour and meat. Some examples of this cuisine includes yahni (stew), toyga soup (a wedding soup made from wheat flour and yogurt), tarhana soup (traditional Turkish cereal food consisting of flour, yoghurt, and vegetables fermented and dried), and hoshmerim (a dessert made with wheat and
butter), yufka (flattened bread), katmer (layered pastry), chorek (ring-shaped buns), bazlama (flat bread baked on a griddle), and ayran (diluted yogurt beverage).

**Rituals in Çamlıdere**

Çamlıdere Summer Festival, *sinsin* dance, and visiting the tomb of Sheikh Ali Semerkandi can be given as examples of rituals in Çamlıdere. The summer festival has been held annually in July since 1960s. This festival attracts thousands of people from Ankara and other cities in the region. The festival includes oil-wrestling, *sinsin*, music, dance, circumcisions of boys, and visiting the tomb of Sheikh Ali Semerkandi. Oil-wrestling is the Turkish national sport held all over Turkey since the Ottoman Empire. The wrestlers wear leather knickers called *kisbet* and are covered from head to toe with olive oil. The categories are divided into groups by height, not by weight, from infants up to the adults called *pehlivan* category. The oil-wrestling matches are commenced solemnly by the master of ceremonies called *cazgır*. Figure 12 depicts oil-wrestlers in a summer fest.

![Oil-wrestlers in a Summer Festival](image_url)

**Figure 12. Oil-wrestlers in a Summer Festival**
Sinsin is a traditional folk dance that dates back to Shamanism which was the religion of Turkic ancestors. Although Shamanic Turks converted to Islam; they conserved some of the Shamanic traditions as seen in Sinsin. Sinsin is a folk dance that men dance around the fire at night accompanied by the *davul* (deep-toned drum) and *zurna* (a type of flute). Fire was considered a holy symbol and the shaman (i.e., religious leader) was believed to have control over fire. Men gather around the fire and one man begins to dance with specific figures around the fire by being on the alert not to get caught by other dancers. When the dancer is caught by another dancer, he is out of the game. This folk dance takes place in summer festival and wedding ceremonies. Figure 13 shows a *Sinsin* dance from a wedding.

![Figure 13. Sinsin dance at a wedding.](image)

Visiting the Tomb of Sheikh Ali Semerkandi is an important ritual in Çamlıdere. Almost everybody who visits Çamlıdere spends some time in his tomb. He travelled around China, Makkah, and Medina. He preached Islam for several years in Anatolia and was a respected religious scholar in 14th century. The last stop of his journey was
Çamlıdere. He settled in Çamlıdere and died in Çamlıdere. His tomb attracts many tourists to the region.

**Economy of Çamlıdere**

The economy of Çamlıdere is based mostly on stockbreeding and agriculture. Wheat is the major crop, but is not produced sufficiently because of the limited agricultural area. As ongoing out-migration from Çamlıdere to other provinces because of the inadequate job opportunities, the population continues to decrease. Recently, as part of a project on the North Ankara Basin Organic Beekeeping, beekeeping and honey production began to develop in Çamlıdere. Beekeeping is an important activity that contributes to the protection of the environment, and agricultural and forestry production through the pollination action of bees.

Çamlıdere is home to a scout camp and many other places for camping. Çamlıdere has an attractive woodland district with lakes, meadows, hiking trails and picnic areas. In summertime numerous day-trippers come to Çamlıdere from Ankara to picnic and enjoy with Çamlıdere cuisine. Figures 14, 15, and 16 depict a scene from Çamlıdere forest, a beekeeper, and the cooking of bazlama, respectively.

Figure 14. Çamlıdere forest. Figure 15. Organic beekeeping. Figure 16. Flat bread.
Fossilized Flora

Çamlıdere petrified forest is located inside the Galatian Volcanic Province which came into being in the Early-Middle Miocene (18.2-16.9 million years ago) (Muratçay 2006). Çamlıdere petrified forest deserves to be converted to a geopark because of its geologic significance (Atabey and Saraç 2005; Gümüş 2008; Akkemik et al. 2009). For example, Çamlıdere petrified forest preserves information related to biodiversity of forests in the Galatian Volcanic Province during the Early-Middle Miocene (Akkemik et al. 2009).

Fossil Characteristics

In the Early-Middle Miocene, Ankara and its neighborhood were volcanically active. A volcanic eruption that happened in these times resulted in a pyroclastic flow which knocked down many of the trees in this area. The pyroclastic flow relocated trunks of the trees leaving only the stumps (Kenrick and Davis 2004). Clouds of fine ash buried the forest in this life position (Türkecan et al. 1991; Koçyiğit et al. 2003). Before the discovery of the Çamlıdere petrified forest, Juniperus and Cupressus wood materials have been found preserved in the neighborhood of this forest (Akkemik et al. 2006). Figure 17 and 18 depict some petrified wood samples. The petrified forest at Çamlıdere is very different from the other fossiliferous localities in Turkey, because it is characterized by dense silicified tree stems, branches, and roots covering the surface (Akkemik et al. 2009). Figure 19 depicts the location and geologic map of Çamlıdere Basin. Çamlıdere petrified forest is located north of Çamlıdere Dam Lake near Pelitcik village. According to Altun et al. (2002), the petrified forest area contains various conglomerate, sandstone, and mudstone rocks.
Figure 17. Petrified wood samples.

Figure 18. A stack of petrified woods from the area.
1- Lower-Middle Miocene sandstone, claystone, clayey limestone, diatomite, chert, tuffite, conglomerate; 2- Lower-Middle Miocene andesite, basalt, pyroclastic rock; 3- Lower-Middle Miocene dacite, andesite, pyroclastic rock; 4- Lower-Middle Miocene andesite, dacite, pyroclastic rock; 5- Upper Miocene conglomerate, sandstone, mudstone; 6- Pliocene loosely consolidated Conglomerate, sanstone, claystone; 7- Alluvium” (Altun et al. 2002).

Figure 19. “Location and geologic map of Peçenek Basin” (Altun et al. 2002).

In a taxonomic study of the Çamlidere petrified forest (Akkemik et al. 2009); the researchers identified two types of fossilized woods covering the area extensively: *Taxodium* and *Sequoia*. They used regular techniques like cutting thin sections from transversal, radial, and tangential directions and investigating the fossil wood features. Findings suggest that these genera were wiped out from Anatolia and Europe during late Miocene. *Taxodium* and *Sequoia* fossils were widespread in the forests of Europe, Asia, and America. In spite of the fact that *Sequoia* has the ability to reproduce even from
burned stumps and roots, researchers indicate that the fossilized flora is composed mostly of *Taxodium*. Because of the reproducing ability, *Sequia* dominance would be expected in the area, but floods carried more *Taxodium* to the Çamlıdere region than *Sequia* reproduction (Gümüş 2008; Akkemik et al. 2009).

**Geologic Significance**

Çamlıdere petrified forest is geologically significant and deserves to be declared as a geopark for several reasons. First of all, the fossilized woods are well preserved. (Akkemik et al. 2009). Secondly, Çamlıdere petrified forest exemplifies the biotics and ecology of the lower Miocene (Gümüş 2008). Thirdly, petrified woods are scattered densely in an area of easy access (Atabey and Saraç 2005).

Fossils are rare important materials helping researchers to understand the geologic times and the formation of the Earth. Most of the fossils that were discovered present the cast/mold type fossilization (Gümüş 2008). In this type of fossilization, high temperature and pressure usually destroys the morphology of the fossil. The periphery of the fossil provides the only characteristics that can be observed most of the time. Petrifaction is a unique type of fossilization where the material is silicified and the morphologic structure is preserved. Therefore, petrified fossils provide more information of the living organism and the ecologic characteristics (Gümüş 2008). Figures 20 and 21 depict a cast/mold type and silicified type fossil respectively from the study site (Gümüş 2008). Petrified forests are rare in the world.
Çamlıdere petrified forest shows similar characteristics with Arizona Petrified Forest and Lesvos Petrified Forest (Gümüş 2008) in terms of representing the characteristics of a certain geologic time. Arizona Petrified Forest was declared as a National Monument in 1906 and is well preserved with a comprehensive management plan (National Park Service n.d.). Arizona petrified forest attracted over half a million visitors in 2008 (NPS n.d.). Lesvos Petrified Forest is both in the European Geoparks Network and UNESCO’s
Global Geoparks Network (Zouros 2003). Both of these petrified forests are well protected. If properly preserved and necessary research is conducted, Çamlıdere petrified forest can shed light to formation of Galatian Volcanic Province and the geologic ages of the Early-Middle Miocene.

Most of the petrified woods in the world are located under the coal reserves and are very difficult to locate. On the other hand, Çamlıdere petrified forest is in an area of easy access. Pelitcik village is right next to the petrified forest which shows that the forest is located in an area which can even be used for human settlement. Being easily accessible makes Çamlıdere petrified forest an attractive place for researchers and proponents of geotourism. For instance, Ankara which is the second largest city of Turkey is only 100 km away and has more than enough potential visitors for geotourism. Ankara also hosts several prominent universities that could commute to Çamlıdere in an hour and conduct research.

**Current Project on Çamlıdere Petrified Forest**

Recently Kızılcahamam-Çamlıdere Geopark and Geotourism Project (KÇGGP) was initiated by the Ankara University, Kızılcahamam Municipality, Local Governorship of Kızılcahamam, Local Governorship of Çamlıdere, and Turkish Association for Conservation of Geologic Heritage (TACGH). Muzaffer Eker, the researcher in the project coordination office in Kızılcahamam was contacted to learn about the current status of the project. Most of the information, figures, and maps were retrieved from Mr. Eker via email and from the project website (Kızılcahamam- Çamlıdere Geopark&Geotourism Project n.d.). The objectives of this project are listed as (1) to help
social and economical development of Kızılcahamam-Çamlıdere regions through geotourism, (2) to expose and present the significant geological heritage to the interested parties, (3) to introduce the concepts such as geotourism, geopark, geological heritage to Turkish people and promote a legal framework pertaining to these concepts, (4) to establish the first geopark of Turkey. Sustainable natural conservation was selected as the project implementation methodology. Support from the local people is viewed as one of the critical success factors of project implementation.

KÇGGP covers the cultural and geological heritage both from Kızılcahamam and Çamlıdere regions. Çamlıdere petrified forest located in Pelitçik and Yahsiyan villages is a part of the bigger project. Figure 22 depicts the region proposed to be a geopark within the project. It can be seen in Figure 22 that the geological heritage is presented via geotours and georoutes, where each tour or route touch on significant heritage.
Figure 22. Kızılcahamam-Çamlıdere Geopark and Geotourism Project Map.

Georoute-3 includes Pelitcik (Çamlıdere) petrified forest, Alicin monastery, Abacı village fairy chimneys, Mahkeme Agacin village man made caves and Early Roman period chapels. Figure 23 and Figure 24 depict the Alicin monastery and the Mahkeme Agacin village man made caves. The structure on the Alicin mountain is known as a monastery by the local people, but there is no sign of religious or social life in the structure. The cultural traits of Early Roman period are more visible in the cave-chapels in Mahkeme Agacin village.
A heritage management plan specifically for Çamlıdere petrified forest has not been prepared yet. It is considered as one of the steps for KÇGKP. Mr. Eker stated that if funding is found, the petrified forest region would be converted to a geopark. A drawing of the future geopark can be seen on Figure 25. Mr. Eker also stated that excavations are not planned for the petrified forest at this time. The S-shaped path is where the petrified is exposed. The river flowing through the geopark is Akpınar River.
Figure 25. The drawing of future Çamlıdere petrified forest geopark.

**Recommendations for Çamlıdere petrified forest heritage management plan**

I visited Çamlıdere petrified forest on 5\textsuperscript{th} of August 2009. In my visit to Çamlıdere petrified forest, I met with Caner Can, the Mayor of Çamlıdere for about an hour and to get informed about the situation of Çamlıdere petrified forest. I took 122 photos and got a map of the petrified forest area. Although Kızılcahamam-Çamlıdere Geopark and Geotourism Project (KÇGGP) is an important step in recognizing the significance of Çamlıdere petrified forest, the lack of a comprehensive HMP specific for Çamlıdere petrified forest is a matter of worry. Preparing a comprehensive heritage management plan is beyond the scope of this thesis and should be performed by the necessary stakeholders including the ones mentioned in KÇGGP. Here, recommendations for a comprehensive heritage management plan is given based on the legal framework in Turkey, Arizona Petrified forest example, and heritage management planning principles detailed in previous chapters. The HMP for Çamlıdere petrified forest should be included as a part of KÇGGP.
Seven planning steps are recommended for Çamlıdere petrified forest HMP and these steps are detailed in the following subsections:

1) Determine the stakeholders
2) Conduct a geological survey and determine the significance
3) Determine the strengths and weaknesses of the geopark
4) Prepare a statement of purpose
5) Determine component plans
6) Implement component plans
7) Monitor and evaluate the progress

These seven planning steps meet the requirements listed for a Management Plan in the Turkish Regulations. Regulation on the Substance and Procedures of the Establishment and Duties of the Site Management and the Monument Council and Identification of Management Sites is the only regulation in Turkey related to heritage management plans and was explained in detail in chapter four. The first and second planning steps correspond to the “Existing Situation” and “Site Analysis” sections of Article 9 in this Regulation. The third and fourth steps cover the “Vision of the site and basic policies” section of Article 9. The fifth and sixth steps cover the “Work schedule, timing and generation of projects” section of Article 9. Finally, seventh step covers the “Definition of monitoring, evaluation and training processes” section of Article 9. Therefore, it can be concluded that the HMP steps detailed below satisfy the requirements of the Regulation, hence the Turkish legal framework.
Determine the stakeholders

The stakeholders defined in KÇGKP include a university, an NGO (i.e., TACGH), local governorships, and local municipalities. Since the majority of the project is related to Kızılcahamam town, Çamlıdere town seems to be underrepresented. This underrepresentation will cause conflict among the stakeholders in the future. Two examples can be given to this underrepresentation. Firstly, the Mayor of Çamlıdere is not included in the executive board for the project. Secondly, only representatives from Kızılcahamam Municipality are included in administrative and technical coordination group.

The extent of KÇGKP requires the aforementioned heritage to be considered as a Management Area as it is defined in Law 2863 on the conservation of cultural and natural property. This law states that management areas are defined by the Ministry of Culture and Tourism (Ministry). Unfortunately, the executive board of KÇGKP does not include a representative from the Ministry.

Therefore, in order to achieve coordination among stakeholders and to avoid possible conflicts in the future, Çamlıdere officials and representatives from the Ministry should be included in the administrative bodies for the Çamlıdere petrified forest HMP.

Conduct a geological survey and determine the significance

Previous academic work cited previously in this chapter and the research conducted by the researchers in KÇGKP should be reported in the geological survey section of the HMP. The fact that Çamlıdere petrified forest is declared as a first degree protected area by the Ministry prohibits anyone from excavating the natural resources
from Çamlıdere petrified forest without permission of the Ministry. Previous geological research is sufficient for determining the significance of Çamlıdere petrified forest. Additional geological excavation will be required when the project is mature enough to build infrastructure such as visitor center, bridges, park, and picnic areas. Additional research will ensure that the geological heritage is preserved while building the infrastructure.

*Determining the strengths and weaknesses*

The strengths of Çamlıdere petrified forest are its (1) high potential for local and international tourism, (2) presentation with geological heritage in Kızılcahamam, (3) close proximity to Ankara, and (4) ease of access. Its similarity with Arizona and Lesvos petrified forests proves that there is a high potential for geotourism. Çamlıdere is already a hot spot for local tourism and the petrified forest would be another reason to visit Çamlıdere. The ongoing project with Kızılcahamam (KÇGGP) can be considered as strength, because the geological heritage in Kızılcahamam and Çamlıdere is well recognized in this project. Kızılcahamam is better than Çamlıdere in presenting their local heritage. The close proximity of Çamlıdere to the second largest city of Turkey can be considered as strength. The city of Ankara does not host the kind of natural beauty Çamlıdere has. Being only an hour away from this natural beauty is attractive for people living in Ankara. Unlike most of the fossilized forests in other parts of the world, Çamlıdere petrified forest is easily accessible. Ease of access makes infrastructure development and presentation of the heritage cheaper.

The weaknesses of Çamlıdere petrified forest are (1) the lack of national legal framework for geoparks and geotourism, (2) the lack of awareness among local people,
and (3) excavations might be required in the near future. The lack of legal framework for geoparks or geotourism can be considered as weakness, because recognition and funding rely on legal grounding. One of the aims of KÇGGP is promoting such legal framework in the parliament, but it will require extra effort from the executors of KÇGGP. The lack of awareness among local people can be considered as weakness, because looting is a major problem in many open museums. In my visit to Arizona petrified forest (PEFO), I was informed that an average of one-ton petrified wood was stolen every month from PEFO (PEFO 2004). Yet PEFO is an admirable example of security and fencing practices. Soon after the establishment of the geopark, Pelitcik villagers would see this new park as a source of income and would sell the petrified wood they found from the area. Local people involvement is seen as key in implementing KÇGGP. Countermeasures should be taken in advance to prevent looting and educating the local people. No excavations are planned for Çamlıdere petrified forest in KÇGGP. This fact was confirmed by Mr. Eker, the researcher at the project office in Kızılıcahamam. When compared to PEFO, Çamlıdere petrified forest does not have many logs above the ground. The amount of logs above the ground was considered as sufficient for presentation in KÇGGP, but in my opinion, it will be a more appealing spot for geotourism if some excavations are conducted.

*Prepare a statement of purpose*

The objectives of KÇGGP are sufficient in the short term to serve as a statement of purpose of Çamlıdere petrified forest. These objectives are given as (1) to help social and economical development of Kızılıcahamam-Çamlıdere regions through geotourism, (2) to expose and present the significant geological heritage to the interested parties, (3)
to introduce the concepts such as geotourism, geopark, geological heritage to Turkish people and promote legal framework pertaining these concepts, (4) to establish the first geoparks of Turkey.

For the long term, forward looking statements might be required beyond the short term (5 years) objectives. The medium (10 years) and long (25 years) term objectives are required in the World Heritage Convention Operational Guidelines (2008) to be inscribed in the World Heritage List. KÇGGP is still in its infancy period, but having long term objectives on hand right from the beginning will help the short term planning and implementation efforts to be useful in the long run.

Determine component plans

Out of 18 component plans that were reported in PEFO management plan, the component plans that might be suitable for Çamlıdere petrified forest are the collections management plan, visitor management plan, comprehensive interpretive plan, safety and site security plan, disaster response plan, paleontological research plan, and land protection plan. In addition to these plans, a geological research plan should be written for Çamlıdere petrified forest, because several academicians are expected to conduct research in this area. Another planning effort should be done to prepare a long-term development plan, which is a requirement of National Parks Law (2873). Although, there is no national legislation for geoparks, Çamlıdere petrified forest needs to abide with the current National Parks Law.

The characteristics of Turkish people should be taken into consideration while preparing the component plans. For example, Turkish people like to picnic and for some
families picnic is their only way of socialization. In order to accommodate this characteristic, a recreational area should be prepared accordingly. Quality of picnic tables should be emphasized and should be prepared as many as the park area permits. Another reality is that geotourism and geopark themes are novel to Turkish people. Petrified woods might not be that appealing to them if it is not combined with cultural heritage. For instance, there should be a local woman cooking *bazlama* in traditional dress within the park. Recreational facilities like children’s playground should be structured uniquely to attract more people to the park. Inspired from PEFO, there should be an instructive video screening in the visitor management center. This would help Turkish people to get more acquainted with the significance of petrified wood and geological phases of time.

*Implement component plans*

The tasks that were detailed in Article 9 of the Regulation should be followed in the implementation step. At this step work schedules and timing for the execution of each component plan should be determined. Identification of financial resources and budget analysis should be performed. Then, for each component plan a short-term, a medium-term, and a long-term action plan should be identified. These action plans should then be executed accordingly.

*Monitor and evaluate the progress*

KÇGGP emphasizes sustainable natural conservation as the project implementation methodology. This is only possible with monitoring and evaluating the progress of the HMP execution. Annual and five-yearly revision of the HMP is required by the law for Conservation of Cultural and Natural Property (2863) in Article 3. The Regulation mentions monitoring and evaluation together with the training processes in
Article 9 as “… drawing up programs to monitor, evaluate and train stakeholders to implement the management plan.” Monitoring and evaluation is also mentioned in almost every international guideline for HMP. Therefore, monitoring and evaluation should be an indispensable part of the Çamlıdere petrified forest HMP.

Monitoring and evaluation step requires objective, quantifiable, and measurable performance factors. Without tangible criteria, it is almost impossible to evaluate the execution of a HMP. A good example for this kind of performance factors can be found in five year strategic plan for PEFO. Inspired from PEFO five year strategic management plan, the following performance factors can be applied in Çamlıdere petrified forest:

a) Number of visitors in a month
b) Condition of the geological heritage that is measured by TACGH. The condition levels can be good, fair, or poor
c) Revenue generated by the gift shop at park
d) Percentage of visitors that are satisfied with park facilities, services, and recreational opportunities.
e) Percentage of visitors that are satisfied with commercial services in the park.
f) Percentage of visitors that understand and appreciate the significance of the park they are visiting

**Conclusion**

Recommendations for a comprehensive Çamlıdere petrified forest management plan is investigated in this chapter. It is evident from the current project that Çamlıdere petrified forest will be converted into a geopark or an open museum in the future. As a
cure for the out-migration from Çamlıdere, having another source of income (i.e., geotourism) can keep the local people in their hometowns.
CHAPTER SIX

CONCLUSION

This thesis provided recommendations for a comprehensive heritage management plan to guide the preservation endeavors at Çamlidere petrified forest. The effort on preparing a comprehensive HMP for Çamlidere petrified forest is in its significance determination and early project planning phase. The recommendations provided in this thesis comply with the Turkish legal framework and the international principles of heritage management planning. Moreover, recommendations are prepared by benefiting from a successful petrified forest preservation example from Arizona.

When heritage management practices in the world are investigated, it can be concluded that World Wars initiated the development of heritage management as we understand today. The mass destruction which took place in these wars made it clear that the heritage in the world is in danger of extinction. Establishment of UNESCO, ICOMOS, and ICCROM provided an institutional base for heritage preservation. The World Heritage Convention (1972) is a major milestone in the history of heritage management and is the most widely accepted document of heritage management in the world. UNESCO is the most effective international organization in preservation of cultural and natural heritage. The world heritage concept initiated by UNESCO is now recognized by almost every country. Global Geoparks Network is still in its infancy period, but the establishment of a global network is promising for the future of geologic heritage in the world.
It can be concluded that HMPs are crucial to preserve the heritage in an effective way and pass the significant values to the next generations. Respecting the views of various key players and involving them in planning process determines the longevity of the HMP. Documenting the current status of the heritage provides a basis for future development and significance determination. The most important phase is the review and revision of the HMP which ensures that preservation management is implemented regardless of the changes in the environment.

Çamlidere petrified forest was formed in the Early-Middle Miocene by volcanic eruptions. In this volcanic region, Taxodium and Sequoia are the major types of fossilized woods. Çamlidere petrified forest is significant in terms of several reasons. First, the fossils in this region are very well preserved because of petrifaction. Second, the counterparts of Çamlidere petrified forest are places of tourist attraction around the world. Thirdly, the location of the petrified forest makes it easily accessible for researchers and visitors.

Çamlidere petrified forest is defined as a visiting site in Kızılcahamam-Çamlidere Geopark and Geotourism Project (KÇGGP). The fact that Çamlidere petrified forest is included in this project proves its significance as a geopark. The project plans of KÇGGP can significantly be improved by following the steps recommended in this thesis. Seven planning steps are recommended for a comprehensive HMP for Çamlidere petrified forest: (1) determine the stakeholders, (2) conduct a geological survey and determine the significance, (3) determine the strengths and weaknesses, (4) prepare a statement of purpose, (5) determine component plans, (6) implement component plans, and (7) monitor and evaluate the progress.
As a cure for the out-migration from Çamlidere, having another source of income (i.e., geotourism) can keep the local people in their hometowns. Çamlidere is not economically self-sustainable and the economy of Çamlidere is based primarily on stockbreeding and agriculture. As recommended in this thesis, blending the cultural and natural heritage successfully by the involvement of local people will help for a sustainable preservation of Çamlidere petrified forest.

The legislative framework for heritage management in Turkey is not mature enough to preserve the abundant cultural and natural treasures in Anatolia. The laws and regulations are in place, but they are not effectively applied as they should be. Çamlidere petrified forest is an important opportunity for Turkey to understand the requirements of a geopark and develop the necessary legislation.

As a future work, a comprehensive HMP for Çamlidere petrified forest can be prepared by involving the key stakeholders in Kizilcahamam, Çamlidere, and the Ministry. Public hearings and presentations can be conducted in Çamlidere to involve the local people. When an HMP is finalized, financial assistance should be sought from international institutions like Global Geoparks Network, UNESCO, and European Union. Then, the comprehensive HMP can be executed in conjunction with the ongoing project (i.e., KÇGGP).
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