

**TEA21 RURAL ROADSIDE INVENTORY:
NATIVE AMERICAN CONSULTATION AND ETHNOGRAPHIC STUDY
CALTRANS DISTRICT 7, COUNTY OF LOS ANGELES**

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Prepared by
Jana Fortier, Ph.D.
Department of Anthropology
University of California San Diego
La Jolla, CA 92093-0532

Cover photo: Cattails growing along Pacific Coast Highway

All photos courtesy of Jana Fortier

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All indigenous knowledge herein remains the intellectual property of Native American culture bearers and communities who provided the information

TABLE OF CONTENTS

Front Matter	i
Individuals and Agencies Consulted	5
1.0 Introduction	6
2.0 Background	9
2.1 Environmental Setting	9
2.2 Local Native American Cultural History	12
3.0 Tongva Communities in the Project Region	13
3.1 Introduction	13
3.2 Settlements	14
3.3 Economy and Trade	16
3.4 Gabrielinos on the Eve of Colonialism: An Incipient Complex Foraging Society	17
3.6 Religion & Spirituality	20
3.5 Current Situation	21
4.0 Other Native American Communities in the Project Region	22
4.1 The Tataviam (also sometimes known as Fernandeño)	22
4.3 The Chumash	22
4.3 Peoples of the Eastern Los Angeles Region: Kitanemuk, Vanyume, Cahuilla (Iviatim), and Kawaiisu (Tehachapi, Nuwa)	23
5.0 Plants of Cultural And Economic Significance	24
5.1 The Cultural Significance of Plants	24
5.2 Culturally Significant Gathering Plants in the Project Area	27
6.0 Culturally Significant Landscapes	37
7.0 Conclusions	40
Appendix 1. Table of Plant Uses & Descriptions	42
Appendix 2. Gathering Places (GP) in D7 Project Area	59
Appendix 3 Management Recommendations for Gathering Plants	69
Appendix 4. Maps of Gathering Locations	79
Bibliography	79

ACRONYMS & ABBREVIATIONS

AMSL	Above Mean Sea Level
Caltrans	California Department of Transportation
CFP	California Floristic Province
Ch.	Chumash language
CHL	California Historical Landmark
CIBA	California Indian Basketmakers Association
CL	Cultural Landscape
CSL	Culturally Significant Landscape(s)
CR	California Register of Historical Places
D7	District 7 in the Caltrans system
G.	Gabrielino language
GP	Gathering Place(s)
GPS	Global Positioning System
m.m.	mile marker
NR	National Register of Historical Places
ROW	Right of way
SR	State Route
TCP	Traditional Cultural Property

As a final note concerning abbreviations used to designate highways, interstates are designated with “I” and the interstate number; state routes are designated “SR” with the SR-number.

Language Conventions

In this report the name “Tongva” is used to refer to the contemporary Native American ethnic group also known as Gabrielino. The name “Gabrielino” is reserved for naming the language, places historically occupied by indigenous Native Americans of the area, and archaeological references to the indigenous Native Americans of the Los Angeles region. The same convention is used for other Native American groups of the region. “Tataviam,” for example, refers to contemporary Native American ethnic groups while “Fernandeño” refers to archaeological sites occupied by such groups, their language, the various Native American ethnic groups serving the San Fernando Mission, or other historical references.

Foreign terms are written according to American English pronunciation with non-standard sounds using diacritics available to standard fonts. In addition to sounds common to the English language, the following meaningful sounds written in this report include:

1. /ʔ/ A glottal stop and pause is pronounced like the pause in “oh-oh!”
2. /ɨ/ A back unrounded vowel is pronounced like the vowel in “cut.”

3. /aa/, /ii/, /oo/, /uu/ The long vowels are pronounced like the long vowels in “tamale, tiki, el toro, and laguna.”

4. Some consonant sounds and combinations are not found in English. For example, /-ngna/ is pronounced like saying the English word “bang” and adding the sound “nah” as in the village site of “Sibangna.”

5. /x/ represents a velar fricative, pronounced as in the German word “achtung” or the Spanish pronunciation of “Baja.”

Individuals and Agencies Consulted

Thanks to many individuals who were consulted during the preparation of this report.

Name	Organizational Affiliation	Tribal Affiliation
Mark Acuna	Tongva Dancers	Tongva
John Aguirre	Gabrielino/Tongva Nation	Tongva
Cindy Alvitre	Ti’at Society	Tongva
Ron Andrade	LA City/County Native American Indian Community	-
Stacy and Bert Barlow	Ti’at Society	Stacy/Tongva; Bert/Shoshone
Richard Bugbee		Luißeño, Kumeyaay
Charlie Cooke		Chumash, Fernendeno, Yokuts, Kitanemuk
Robert Dorame	Gabrielino Tongva Indians of CA	Gabrielino Tongva
Samuel Dunlap	Gabrielino/Tongva Tribal Council	Gabrielino/Tongva, Cahuilla, Luiseno
Mati Waiya	Wishtoyo Foundation	Chumash
Linda Gonzales	Ti’at Society	Gabrielino/Tongva
Randy Guzman Folkes	Fernandeno Tataviam Band of Mission Indians	Fernandeno Tataviam
Karen Keever	Santa Ynez Band of Chumash Indians	Chumash
Chester King	Topanga Anthropological Consultants	-
David Laughing Horse Robinson	CSU-Bakersfield	Kawaiisu Tribe of Tejon
Deron Marquez	San Manuel Band of Mission Indians	Serrano
Anthony Morales	Gabrielino/Tongva Tribal Council of San Gabriel	Gabrielino/Tongva
Pamela Munro	UC Los Angeles	
Rudy Ortega (Jr.)	Fernandeno Tataviam Tribal Council Inc	Fernandeno Tataviam
Vivian Parker	California Indian Basketweavers Association	
Carol Pulido	San Buenaventura Indian Council	Chumash
Beverly Salazar Folkes	-	Chumash, Fernandeno, Tataviam
Craig Torres	Ti’at Society	Gabrielino, Tongva
Julie Tumamait	Barbareno-Ventureno Band of Mission Indians	Inland Chumash
Alfred Valenzuela	San Fernando Band of Mission Indians	Chumash, Tataviam, Gabrelino, Kintenamuk, Vanyume, Serrano
John Valenzuela	San Fernando Band of Mission Indians	Chumash, Tataviam, Gabrelino, Kintenamuk, Vanyume, Serrano
Britt Wilson	Morong Band of Mission Indians	Serrano Cahuilla

1.0 Introduction

The Transportation Equity Act for the 21st Century (TEA-21) was enacted in 1998 authorizing Federal programs for highways and transit programs. Among other requirements, TEA-21 has demanded that highway plans protect and enhance the environment and also promote efficient operation of the transportation system. In fulfilling the mandates of the program, another key component has involved The National Scenic Byways Program, which designates roads with outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities as All-American Roads (AAR) or National Scenic Byways (NSB) (USDOT 2008). This report is written in order to fulfill the overall requirements of the TEA-21 mandates and specifically to provide an ethnographic consulting report for the D-07 TEA Archaeological Roadside Inventory Project. This report is one of two ethnographic reports written for the D-07 region comprising both Los Angeles County and Ventura County. This report specifically concerns ethnographic findings in the Los Angeles county portion of the D-07 region.



Figure 1 Overview of Caltrans District 7 Survey Region

The indigenous peoples of Los Angeles maintain a lasting connection to the land. This enduring connection partly is created through indigenous knowledge of culturally significant plants and animals. This report describes the results of ethnographic

interviews with Native American elders and plant surveys along designated District 7 highways. The surveys were intended to elicit information concerning culturally significant plant gathering sites and other sites with contemporary cultural significance to Native Americans who are indigenous to the Caltrans D7 Los Angeles County project area. The project area consists of highway corridors along 1) Pacific Coast Highway (SR-001); 2) Angeles Crest Highway (SR-002); 3) Golden State Freeway (I-5); 4) Antelope Valley Freeway (SR-014); 5) State Route 18 (SR-018); 6) Moorpark Freeway (SR-023); 7) Topanga Canyon Boulevard (SR-027); 8) Azuza Avenue (SR-039); 9) State Route 101 (SR-101); 10) Ronald Reagan Freeway (SR-118); 11) Korean War Veteran's Memorial Highway (SR-126); and 12) Pear Blossom Highway (SR-138). The project roads consist of approximately 400 miles of roadway (See Map 1). Along the corridors on both sides of the highways, the roads were surveyed for culturally significant plants and other Native American traditional cultural properties visible above ground, extending approximately fifty feet from the highway right-of-way. The survey team identified a total of 106 species of culturally significant plants growing along the project roadways. The culturally significant plants have been recorded and mapped as "Gathering Places" (GP) with information describing the highway and gathering site. The gathering site labeled "GP-023-02," for example, represents the second gathering site recorded along SR-023 (Moorpark Freeway). GP-023-02 represents a scattering of yuccas that contemporary Native plant gatherers use and which are growing along the eastern roadside ROW at m.m. 19.46. Most gathering sites are marked by Global Positioning System (GPS) coordinates with descriptions of the locations in Table 3. The locations of the gathering sites are reported to Caltrans in this report along with recommendations for managing the areas in a manner supportive of traditional gathering activities.

The objective of the survey has been to develop a cultural resources management strategy for the area in consultation with Native American elders. The specific goal of the survey has been to identify areas where plants used for basketmaking and other traditional activities are growing. Together, the overall survey objective has been to enable Caltrans crews working in the D7 project area to have the cultural and botanical information necessary to manage the areas in a manner that facilitates communication with Native American plant collectors. As a note concerning nomenclature, in this report, plants are described by their common English name with their scientific names given in Table 2. Readers also should refer to Table 2 to consult the summary of plant uses by the Native American ethnic groups in the project area.

Nineteen field research days surveying the project highways were conducted in 2007-08 (6/25, 6/26, 6/27, 10/20, 10/21, 10/22, 10/23, 10/24, 10/25, 11/1, 11/2, 11/23, 11/24, 12/30 in 2007; 01/12, 01/13, 02/29, 03/01, 03/02 in 2008). The roadway surveys averaged about 50 miles of highway surveyed per day.¹ However, the highways with most vegetation were surveyed more slowly while the freeways took relatively less survey time.

The survey team consisted of myself and Native American elders Linda Gonzales, Randy Guzman Folkes, and Richard Bugbee. Linda Gonzales is a Tongva elder living in the Los Angeles area. She grew up in her father's extended family who lived in the San

¹ Since the Caltrans D7 region includes Ventura County, this estimate is based on approximately 300 miles

Bernadino hills area where Ms. Gonzales spent her youth learning about plants of cultural significance to the Tongva people. Currently Ms. Gonzales splits her time working for the United American Indian Involvement (UAI) program and for the Madrona Marsh Preserve in Torrance, CA. The son of Beverly Salazar Folkes, Randy Guzman Folkes is a Chumash, Tataviam, and Tongva tribal member. As a tribal monitor for the Fernandeno Tataviam Band of Mission Indians, Mr. Guzman Folkes takes an active role in the cultural life of his Native people. He regularly helps with organization of festivals, powwows, and awards ceremonies. He plays a key role in the revitalization of Tataviam cultural life by performing at an international level of Native American dance. Richard Bugbee is a Payoomkawichum (Luisiño) tribal member living along Topanga Canyon Boulevard. He has a deep interest in the relationship between plants and people and has constructed southern California Indian houses for several museums and Native American reservations. He currently teaches at Sycuan Indian Reservation.

In addition to conducting roadway surveys with Native consultants, phone interviews were conducted with other Native Americans stakeholders and with experts from the San Diego Natural History Museum, the Santa Barbara Museum of Natural History, and the Linguistics Department at UCLA. These individuals include Mark Acuna, John Aguirre, Cindy Alvitre, Ron Andrade, Charlie Cooke, Robert Dorame, Sam Dunlap, Mati Waiya, Karen Keever, Chester King, David Laughing Horse Robinson, Deron Marquez, Pamela Munro, Anthony Morales, Rudy Ortega Jr., Beverly Salazar Folkes, Craig Torres, Julie Tumamait, Alfred Valenzuela, John Valenzuela, and Brit Wilson.

Concerning documentation, the survey team drove minimum safe speeds along the designated roadways watching for potential GP locations along the ROW that were likely candidates for Native plant harvesting. When such sites were encountered, we stopped and recorded the location. Most locations were GPS recorded using a Garmin eTrex handheld recorder. The surveyors then recorded the location visually, noting mile markers and other visible signposts. The surveyors next recorded the plant(s) photographically, including photos of the highway when convenient. In a **Plant Collecting and Documentation Field Notebook** a host of other information was recorded. The *Field Site Data* included an accession number, the date and time of collection, locality information, GPS record number, elevation, landmark information, and photo record number. The *Plant Identification Data* included the name of the Native collector and identifier of the plant species, the plant taxon, vernacular names, notable plant habits, the Native consultant's immediate recollection of plant uses (other uses were discussed later), the plant's immediate physical habitat, and associated plant communities or vegetation. Other cultural information was written in an **Ethnographic Field Notebook**. This information included general comments about memories associated with the culturally significant plants and the highway locations as we drove along the designated roadways. For example, consultants recalled ceremonies associated with plants, or animals that forage the plants, or myths that involve the plants, or events related to past collecting trips.

During later data analysis, I assessed information relating to the gathering sites, the culturally significant plants, and their uses as reported in ethnographic and botanical literatures. See the references section for the written literature that was consulted.

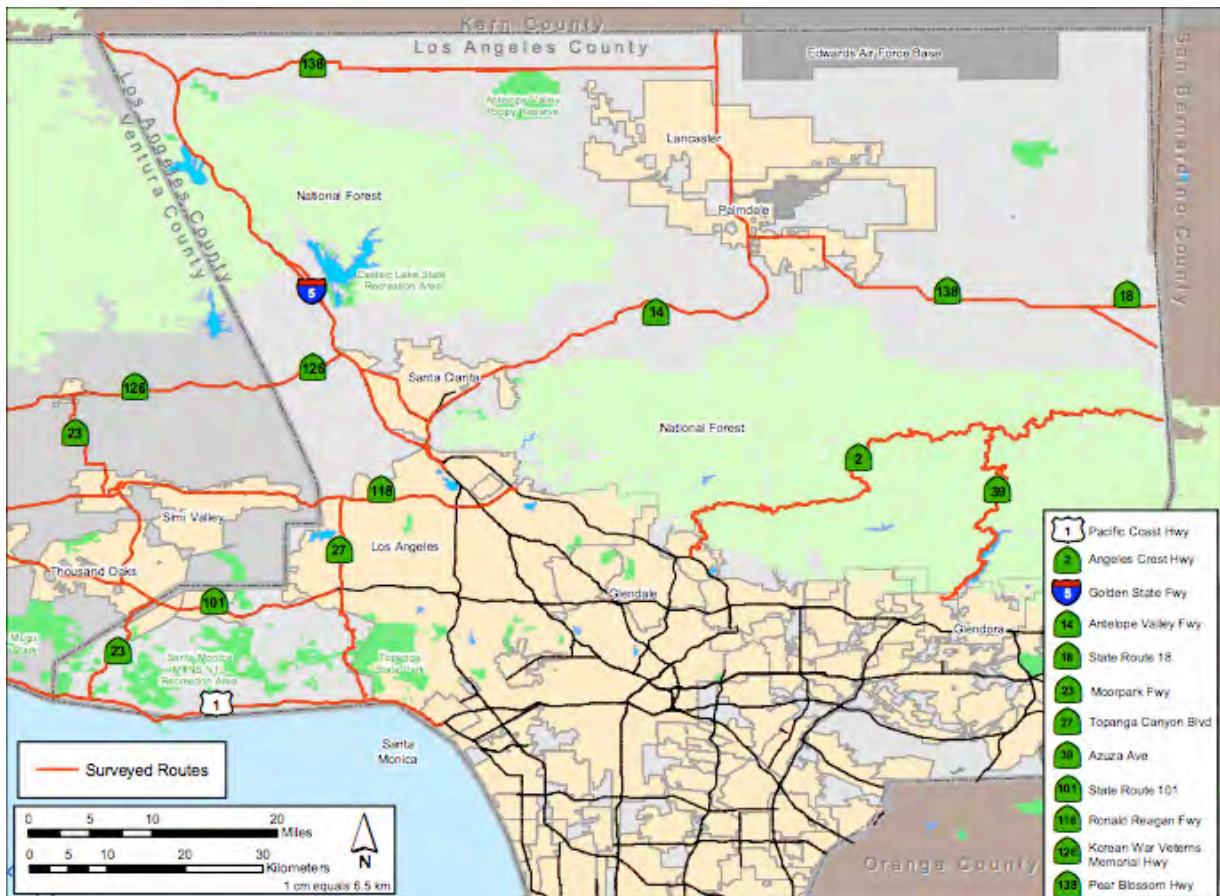


Figure 2 Overview of D7 Los Angeles County Survey Region

2.0 Background

2.1 Environmental Setting

The County of Los Angeles is part of the California Floristic Province (CFP), a zone of Mediterranean-type climate that has one of the high levels of plant endemism in the world. A number of threatened endemic species have historically lived in the Los Angeles County region, such as the kangaroo rats (*Dipodomys* spp.), the Light-Footed Clapper Rail (*Rallus Longirostris Levipes*), California Least Tern (*Sterna Antillarum Browni*), Least Bell's Vireo (*Vireo belliipusillus*), the Palos Verdes Blue Butterfly (*Glaucopsyche lygdamus palosverdesensis*), Riverside Fairy Shrimp (*Streptocephalus woottoni*), and Bull Trout (*Salvelinus Confluentus*). The CFP represents the largest and most complex biocultural diversity hotspot in the United States, yet the region is threatened by the expansion of urban areas, pollution, and road construction. In the next century, one of the goals of agencies such as Caltrans likely will be to create sustainable development practices that mitigate impacts on the flora and fauna. Part of the environmental strategy would be to incorporate appropriate indigenous management knowledge of human interaction with plants and animals of the region. Since Native Americans have lived in the region for millenia, these cultural groups have had the time and ability to develop

detailed knowledge about the micro-environments of the region. European colonists have only had a comparatively short period of time to acquire detailed knowledge of the ecology and culturally significant uses of local plant and animal communities. Further, European-descendant communities deposit knowledge with specialists, making floral and faunal knowledge more difficult to share and appreciate among the landowners and other resident stakeholders of the County.

Within the designation as a Mediterranean-like climate, according to the Köppen Climate Classification system, the Los Angeles region represents a dry-summer subtropical zone with low latitude desert climate in the northeast areas of the county. The region has an average annual temperature of about 17°C., average coldest monthly temperature of 8°C., and about 15% of total precipitation falls during summer months, from April through September. Precipitation across the County varies according to biomass, altitude, and other factors. The 2006 (Nov. 2005 - Oct. 2006) County of Los Angeles Department of Public Works records indicate yearly rainfall totals varying from about 5.6 inches at Llano to 28 inches at the San Gabriel Dam collection station. Within this macro-environmental context, the Los Angeles area highways run through of a number of different micro-environmental vegetational communities. These are summerized according to the most common vegetation types along each roadway, although there may be more variation in specific areas.

1) Pacific Coast Highway (SR-001) consists of a Coastal Strand characterized by sea salt spray and saltwater marshes at about 25meters AMSL. Along the ROW east of SR 001, Caltrans crews will encounter communities of Sagebrush Scrub, Pinyon-Juniper Woodland, and small pockets of riparian wetland.

2) Angeles Crest Highway (SR-002) stretches for over 50 miles and increases in elevation from about 600 - 1550meters AMSL asl (2000 - 5100feet AMSL). In the lower elevations, Caltrans crews will pass through Coastal Sage Scrub, Southern Oak Woodland, and Grasslands. At mid-elevations, crews will move through Chaparral and Foothill Woodlands. As they drive into higher elevations, the plant communities become dominated by Mixed Evergreen Forests and Pine Forests. At the highest peaks along Angeles Crest Highway, crews will move through Red Fir Forest, Lodgepole Forest, and even plants common to Subalpine Forests. Toward the most eastern portions of SR-002, a somewhat drier Creosote Bush Scrub community takes over.

3) Golden State Freeway (I-5) is a highly built environment, with multilane traffic and concrete shoulders with sound barriers. Few plants are amenable to growth in this environment, although some plants do grow along freeway exits. In these sections, the plant communities include Coastal Sage Scrub and Chaparral.

4) Antelope Valley Freeway (SR-014) is similarly a highly built environment, with multilane traffic, concrete shoulders, and sound barriers. Since Antelope Valley Freeway does have a few park-n-ride areas, Native collectors could do harvesting on SR-014, but would encounter healthier plants in more rural areas. The SR-014 plant communities include Chaparral, Coastal Sage Scrub, Creosote Bush Scrub, and small sections of Joshua Tree Woodland and Pinyon-Juniper Woodland.

5) SR-023 runs through the Santa Monica Mountains, beginning with the southern section known as Decker Canyon Road in Malibu. Its middle section, Moorpark Freeway

(SR-023), stretches north from the SR-101 to the SR-118, with a section being recently named the Military Intelligence Memorial Freeway. It further continues through Ventura County toward the SR-126 and this portion is known as Grimes Canyon Road. The southern portion, running through the Santa Monica Mountains, represents a riparian corridor consisting of Valley Grasslands, Chaparral, Foothill Woodlands, and some small wetlands. The roadway elevation varies from about 25meters AMSL (75feet AMSL) to 300meters AMSL (1000feet AMSL).

6) Topanga Canyon Boulevard (SR-027) is similar in environmental features to Decker Canyon Road. It represents a riparian corridor consisting of Coastal Sage Scrub, Chaparral, Foothill Woodlands, and some limited areas of grasslands and wetlands. The elevations where Native gathering places were located varies from about 20meters AMSL (65feet AMSL) to 400meters AMSL (1310feet AMSL).

7) San Gabriel Canyon Road (SR-039) travels from about Foothill Boulevard over the San Gabriel River and up to the gate about 6 miles south of SR-002. A final 6.1-mile (9.8 km) stretch of the road has been closed since 1978 due to a rock slides. The roadway travels along several different plant communities, including Coastal Sage Scrub, Yellow Pine Forest, Foothill Woodland, Chaparral, Pinyon-Juniper Woodland, and even small areas of Valley Grasslands.

8) State Route 101 (SR-101) represents a highly built environment with multiple freeway lanes. Native collectors would not carry out harvesting activities along the SR-101 unless at Park-n-Ride locations if a valuable plant species were needed. Broadly, the plant communities along the SR101 include Valley Grasslands, Chaparral and Coastal Sage Scrub. Most plant communities are introduced, non-natives that have volunteered or were planted in ROW landscaping.

9) Ronald Reagan Freeway (SR-118) travels from Saticoy in Ventura County east to Lake View Terrace in Los Angeles County. The western portion up to SR-27 is narrower than the wider, multilane freeway toward the eastern portion of the route, but there are still few notable Native American collecting places on the SR-118. The plant communities include Chaparral and Coastal Sage Scrub with Foothill Woodlands dominating the middle portions of Route 118. There do not appear to be any contemporary gathering places in the eastern portion of the Route 118 given that plant communities are introduced, non-natives that have volunteered or were planted in ROW landscaping.

10) Korean War Veteran's Memorial Highway (SR-126) consists of two-lane and four-lane highways with portions of the Los Angeles County portion sometimes known as Henry Mayo Drive. Two California Historical Landmarks (CHL) are located along SR-126, in Ventura County.

11) Pear Blossom Highway (SR-138) becomes State Route 18/"Palmdale Road" (SR-018) near the San Bernardino County border. In this arid section of L.A. County, lovely communities of Creosote Bush Scrub populate the countryside roadways. ~~Complimenting~~ Complementing the abundant scrublands, Joshua Tree Woodlands flourish along with disparate communities of Alkali Sinks, Pinyon-Juniper Woodlands, Valley Grasslands, and Chaparral.

2.2 Local Native American Cultural History

Archaeological evidence suggests that populations of Paleoindians began inhabiting the region as far back as 13,000 years ago (Erlandson 1994, 1999, Moratto 2004, Moss and Erlandson 1995). The earliest cultural period in the region, known as the Paleoindian Period, occurs during the late Pleistocene and early Holocene, circa 13,000 - 8,000 years ago. These maritime communities inhabited local islands and coastal sites where communities probably obtained more than half of their subsistence from fishing. The communities used technologies such as boats, animal bone hooks, baskets, beads, chert tools, worked shells, and cordage for nets and fishing lines, indicating that early Pacific Coastal peoples exploited a variety of marine niches and resources (Rick et al. 2006). The Arlington Springs Man, from Santa Rosa Island, represents one of the earliest dated populations in North America, and dates to about 13,000 years ago.

Beginning in the middle Holocene, a regional cultural period known as the Archaic Period spans approximately 8,000 - 1,500 years ago (Moratto 1984). Dividing the Archaic Period are cultural sub-periods and horizons. The “Milling Stone Horizon,” for example, represents a cultural period from about 7,500-4,500 years ago that is characterized by groundstone artifacts (e.g., manos and metates). Other multipurpose tools also have been recovered, including scrapers, projectile points, bone awls, shell beads and shell fishing implements. Grinding implements were used to make *piñole* of grasses and other seed-bearing plants such as chia sage. Near coastal areas, shellfish gathering continued to supply protein, but hunting and fishing apparently were relatively unimportant. In drier upland areas, communities subsisted upon not only *piñole*, but nuts of pine and oak which all provided a staple source of plant protein. They also hunted deer, rabbit, and other small vertebrates. The region where contemporary Tongva reside probably was divided socially into disparate cultural communities based upon smaller extended families who exploited different niches. Some communities exploited marine shellfish exclusively while inland communities hunted animals, fish, and birds. While trade between communities was practiced, especially in material such as asphaltum, steatite, and shells, small-scale barter on an individual, local basis may have been the norm.

Beginning about 1,500 years ago, the southern California region where contemporary Tongva reside is classified as the Protohistoric Period (Breschini 1983) or the beginning of the Late Period (King 1990). For example, the Emergent Period spans 1,500 - 200 years ago, while the Protohistoric Period dates from 1,500 - 400 years ago. During this cultural period in time, recognizably distinct regional cultural complexes emerge. New technologies and techniques emerge, such as bow and arrow technology, ceramics, yucca roasting ovens, the replacement of flexed inhumations with cremations, the appearance of the mortar and pestle, and an emphasis on inland plant food collecting and processing, especially of acorns (Meighan 1954, Moratto 2004).

Following this pre-historic period, the first interactions begin between European explorers and Native communities. In 1542, Cabrillo arrived in the Catalina and San Pedro harbor area. In 1602, Vizcaino visited the coastal sites present-day Los Angeles. In 1769, Gaspar de Portola entered the Los Angeles area. By 1771, the Mission San Gabriel

was founded and conversion to Catholicism began, with ensuing conflicts between Native communities and the Spanish missionaries. At the Tongva village site of Yaangna along the present-day Los Angeles River, missionaries and Indian converts built the first town of Los Angeles in 1781. It was called El Pueblo de Nuestra Señora la Reina de los Ángeles de Porciúncula (The Village of Our Lady, the Queen of the Angels of Porziuncola). In 1784 an assistant Mission, the Nuestra Señora Reina de los Angeles Asistencia, also was founded at the Gabrielino village of Yaanga.

In 1797, the Mission San Fernando Rey de España was founded near the contemporary community of Mission Hills. Of the people baptized at the San Fernando Mission, 37% of them were from Gabrielino speaking villages (Johnson 2006:11). However, the Missions were plagued with problems. Although the Missions were trying to assimilate the local Native American population, the Native population was dying off. The population declined during the recorded Mission period (1781-1831) due to measles, influenza, tuberculosis, syphilis, dysentery, bad food, ill treatment, and generally slave-like conditions (McCawley 1996:197). The Missions effectively were unable to sustain the numbers of converts since they died at a high rate. When Natives revolted, the missionaries were forced to move their San Gabriel church in 1775-76 to the present historical location at the Gabrielino village of Sibangna. As the Anza expedition journeyed across the Los Angeles region, they stopped at the Missions in the area and in the next decade, many Natives were forcibly converted to Christianity.

Protests continued, with one of the most famous being the revolt in 1785 in which Gabrielinos angry at the suppression of their ceremonies attempted to ambush and slay the Franciscan missionaries. Unsuccessful, the revolt leaders, including a woman named Toypurina, were exiled (Hackel 2003). By 1800, the Natives of the region became largely a serf population, working on behalf of the missions and ranch owners. The 19th century witnessed many episodes of cultural genocide for indigenous peoples of the Los Angeles region. When California became a state, European settlers poured into the region. They killed many Indians and some bounty hunters even collected money for murdering Indians. At the same time population was decreasing, the natural resource base of the Gabrielino economy was altered by the ranching and mining industries. Gabrielinos found food collecting increasingly difficult as cattle ate their plants and miners poisoned the rivers. By 1900, only isolated families managed to survive and maintain their traditions. Ethnographers such as C. Hart Merriam, A.L. Kroeber, Constance DuBois, and J.P. Harrington recorded some of the culture practices of the remaining Gabrielino survivors. Interviews and memoirs by these people form the primary ethnographic documentation for understanding Gabrielino-Tongva cultural practices.

3.0 Tongva Communities in the Project Region

3.1 Introduction

The Tongva, “people belonging to the earth,” represent the main Native American community of the Los Angeles county region. Historically, they are known as the Gabrielino following the Spanish colonial custom of naming native acolytes and bonded laborers who worked at the former Mission San Gabriel Arcangel until it was secularized

in 1834. Many of the people prefer the ethnic name Tongva rather than the name identifying them by reference to colonial rule, but both names are used by the ethnic population.

The Gabrielino language is part of the Shoshonean languages within the Uto-Aztecan language family and are part of the language sub-group known as the Takic languages. As part of the Takic group of languages, Gabrielino is related to Serrano, Luiseño, Cupeño, Fernandeno, and Cahuilla. It is most closely related to and may be considered a dialect with Fernandeno. Today Gabrielino is used in language revitalization classes and in some conversations pertaining to religious and environmental issues. It is not a language of conversation and thus may be considered moribund since the 1940s. Members of the ethnic group now speak English but a few people are revitalizing the language by inserting Gabrielino into everyday conversations and ceremonial contexts.

In the ethnographic record, which dates from about 1800 AD, the ethnic population of Gabrielinos at the time was estimated at about 5,000 people (Bean and Smith 1978, Geiger 1976). However, the population was scattered to the missions and the Native population resided in villages spanning north to Monterey and south to San Diego. The population density of the Gabrielino in the Los Angeles basin region varied from about 1 person/mi² in swampy and dry areas with few resources up to an estimated high of about 100 persons/mi² in areas of dense resources along coastal villages (Kroeber 1939, McCawley 1996). Whether there was population pressure among the Gabrielinos before the eve of European colonization is unknown, but from indirect evidence, there probably was incipient population pressure. Storehouse baskets provided winter storage of dried nuts and seeds but essential natural resources were abundant.

3.2 Settlements

Gabrielinos occupied coastal areas and had villages scattered along rivers flowing from the San Gabriel and San Bernardino Mountains. Although their villages were destroyed by 1850, the original territory stretched about 4,000 - 5,000 mi² and encompassed the Los Angeles and Santa Ana riversheds. Most of the territory is situated at below 1,000ft elevation.

Each community, comprised of two or more patrilineal clans, meaning “a set of kin whose members believe themselves to be descended from a common male ancestor, but the links to that ancestor are not specified” (Ember and Ember 2004:174). The families occupied a named and delineated community and were semi-sedentary.² There are about fifty named Gabrielino villages that have been located in the ethnographic record, although there probably were twice that number, or more, based on indirect evidence. Some of the place names and peoples associated with places included *'ongoovavetam* “People of La Salina,” *'Ashaawvetam* “people of the eagle; inhabitants of Rancho del Aguila,” and

² “community” refers to a village together with its local food collecting patches. A “territory” refers to the maximal food resource area that one generation of people would move through in their lifetime. The word “village” will refer specifically to the perimeter of Gabrieliño homes. The Gabrieliño term for a village has been given as *kikiy*. Since colonial times, another common word to describe a village is known by the Spanish term *rancheria*.

Chaawvenga, a place near San Pedro.³ Studies suggest that each community in the D7 Los Angeles project area had resources that overlapped and were shared during the year with various other patriclans. Indeed, there was a strong emphasis on the importance of sharing resources and an ethic of generosity that precluded exclusive use and enjoyment as indecent. Reportedly, hoarding of food was so discouraged that highly desirable foods such as large meat packages were given away by the hunter (Reid 1852:36 in McCawley 1996:111).

During ethnographic interviews with Gabrielinos, these villages and communities have been recorded at places with access to drinking water, protection from inclement weather, and at the intersection of resource “patches” or econiches with different major resources. For example, a community might be situated at the interstices of a valley grassland and a buckbrush shrubland. Valley grasslands covered much of central California, including the middle of Gabrielino territory. Gabrielinos gathered various useful plants such as needlegrass (*Nassella* spp.), bluegrass (*Poa secunda* subsp.), deergrass (*Muhlenbergia rigens*), adobe-lily (*Fritillaria pluriflora*), white broadiaea (*Triteleia hyacinthina*), clovers (*Trifolium* spp.), and fiddleneck (*Amsinckia menziesii* subsp.). Situating a community where a grassland slopes into the hilly chaparral shrubland, Gabrielinos could gather plants from a second vegetal community, including buckbrush (*Ceanothus cuneatus*), nude buckwheat (*Eriogonum fasciculatum*), scrub oak (*Quercus dumosa*), and mountain mahogany (*Cercocarpus betuloides*). Bird hunting would have been ideal in the grasslands while the shrubland supported deer in abundance.

Common to most foraging societies in the ethnographic record, in pre-colonial times the semi-sedentary communities of food collectors may have moved in a bilocal residence pattern, meaning that newlyweds reside near either the groom’s or the bride’s parents. The decision is based on factors such as parents’ relative resources, birth order of the newly married wife and husband, and relative abundance of local natural resources. However, ethnographic sources state that the ideal residence pattern was patrilocal, or that married couples resided with the groom’s parents (Kroeber 1976:633). In either case, households consisted of both a main house (*kiiy*) and temporary camp shelters designed for use during food collecting forays (grass-sided shelter *mamahar kiiy*; ramada *'atuukshe'*; open sided earthen-stamped shelter *orovaave kiiy*). During the summer (*'oroorevet*), from about the spring through the fall solstices, families living near grasslands collected a variety of roots, seeds, flowers, fruit, and leafy greens. In the winter (*'ochoocheve*), from fall through spring solstices, families living near shrublands collected nuts and acorns, yucca, and spent time hunting deer. Some prairie-based communities headed toward the coast during the winter to gather shellfish, fish, and hunt and scavenge sea mammals such as whale and elephant seal. Finally, communities located along the coast during the summer went on temporary food collecting trips inland during winter stormy or rainy seasons to collect tasty and abundant roots, tubers, corms, and bulbs of plants such as cattail, lilies, and wild onions.

³ Gabrieliño vocabulary is from P. Munro 2008(ms.) and McCawley 1996. Munro’s vocabulary is from J. Harrington’s notes primarily. McCawley’s vocabulary is a compilation from J.P. Harrington, C. Hart Merriam, Alexander Taylor, Oscar Loew, George Gibbs, Horatio Hale, H.W. Henshaw.

3.3 Economy and Trade

Being part of a biocultural diversity “hotspot,” the immense ecological variation enabled native peoples of the Los Angeles area to take advantage of numerous micro-environments. Tongvas collected food in mountains for antelope, mule deer, elk and other medium size prey species. They gathered protein nuts from oaks, pines, and gathered about 100 other edibles with other nutrients on a seasonal basis. Some of the historically important resources can be reviewed in Bean 1978, McCawley 1996, and Boscana 1933, although no published source presents a full picture of Tongva resource utilization. The plants of contemporary cultural significance which were located along D7 project roadways are described in the next section.

For inter-community trade, Gabrielinos in the ethnographic record relied upon both local and long-distance trade. Local trade was carried out between mainland communities and island communities. To others, coastal groups traded asphaltum, shell, abalone, and dried seafood. Inland groups traded away dried plant foods in the form of ground seed or piñole from tarweed, chia sage (*Salvia columbariae*), acorns, Madia flowers, and cherry stones (also known as *islay*). Inland Gabrielinos provided coastal and island groups with leather, dried meat, and specialty woods not available on the coast and nearby islands.

As a middleman between the island communities and other ethnic groups, mainland Gabrielinos living in what is today Los Angeles County were able to obtain unique goods from their island relatives and trade partners. One of the notable goods included soapstone (steatite). Soapstone could be obtained uncarved, or carved into delicately fashioned bowls. Soapstone vessels were used for cooking pots, pigment trays, and as smudge pots. Other items obtained from the island groups included shell beads, dried fish, seal and otter skins, whale bone implements, red ochre, kaolin, and iron sulphite. For example, an interview with Señora Welch at Dos Pueblos ranch in the late 1800s testified that, “the principal articles of barter given [by mainland Gabrielinos] in exchange for the *ollas* (were) grass-seeds, furs, skins, acorns, and roots of different kinds” (Schumacher 1879 cited in Howard 2002).

For inter-ethnic regional trade, Gabrielinos sought trade with neighboring groups including the Cahuilla and mountain ethnic groups to the east, the Chumash, Tataviam, and Kitanemuk communities to the north, and the Juaneño, Cupeño, Luiseño, and Kumeyaay communities to the south. Valuable mainland goods traded to other ethnic groups included local varieties of birds’ feathers, dried roots and woven fibres of tule (*Scirpus lacustris*), and medicinals such as *yerba santa*. Goods that circulated both within Gabrielino communities and were probably traded to other ethnic groups include precious stones such as hematite and chalcedony. From neighboring ethnic groups, mainland Gabrielinos obtained obsidian, blankets, salt, and earthenwares on a small scale.

Both currency and barter were in vogue during the pre-historic and ethnographic period. A string of clam shell disk beads measuring about 30 inches long, known as a *ponko*, represented the primary form of a general purpose money among Gabrielinos. The value of one *ponko* would have changed over time but one estimate finds that a *ponko* was worth 12.5 cents during mission times (Kroeber 1976:566). In addition, Gabrielino currency used a base two system. Four *ponko* equaled one *sayako*; two *sayako* equaled, in mission times, the equivalent of a Mexican *peso*.

Generally, the mainland Gabrielinos were situated between peoples with significantly different natural resources. This situation allowed them to advantageously pursue mercantile trade by profiting from the transportation of valuables such as asphalt and steatite inland while transporting other valuable goods back toward the island communities and northern ethnic groups.

3.4 Gabrielinos on the Eve of Colonialism: An Incipient Complex Foraging Society

The question of Gabrielino social complexity and stratification on the eve of colonialism remains a vexing one. Evaluation for this overview of indigenous Gabrielino society will focus on the degree of social stratification in Gabrielino society on the eve of colonialism, circa 1750 AD. Outside of this time period, social stratification would have varied according to time periods and spheres of social interaction (political, social, religious, economic spheres). Generally, foraging-based societies move toward increasing social stratification under certain conditions and are known as “complex foraging societies” when they satisfy a number of conditions.⁴ For example, Haida, Tsimshian, Kwakiutl and other Northwest coastal societies are considered to have an indigenous social organization marked by access to abundant resources during relatively short opportunities of food collection. In these cases, material technologies developed enabling long-term food storage. Social stratification has also occurred among fishing-based societies with incipient population pressure, as among island-based foraging societies. These conditions were not met among the indigenous populations of Los Angeles, however. While there was an indigenous fishing-based economy among Gabrielino communities living along coastal areas, there was little population pressure. Fissioning of patrilines occurred in which social conflict was been resolved by families in conflict migrating away from the area for a few years, if not a generation or longer. There are a few reports in the ethnographic record of such disputes in which clans involved in disputes migrated to nearby islands, inland, or southwards into Juaneño and Luiseño speaking territories.

Evidence in favor of social stratification does exist, though it may be explained as a function of later increasing social contact with colonial stratified societies. The strongest evidence involves Gabrielino names for social positions. The role of leaders appears to have changed over time, from egalitarian part-time leadership roles based upon natural skills of elders, to one in which male and female elders represented the clan on a part-time but hereditary basis when dealing with others, to one in which the role of leader became a full-time and inheritable social role. The named types of leaders include *tomyaar* (village head, chief); *maniisharom* (female leaders); *pa'mo tomyaar* (patrilin headman); *'ahuuhvarot* (shaman, doctor, healer); *nahoo'endar* (law givers); and *paxaa'* or *taaxkwa'* (two names for ceremonial leaders). While there was evidence that leaders had a moral obligation to give away to their relatives and in-laws the trade goods and valuables

⁴ As a comparative benchmark, features of complex foraging societies generally include 1) High population densities; 2) Seditism; 3) Occupational specializations; 4) Defence of territory; 5) Focal exploitation of resource (fish, commonly); 6) Large group residences; 7) Ranked, inherited status; 8) Ritual feasting; 9) Standardized valuables (money currencies); 10) Prestige goods; 11) Food storage; 12) Hi rates of violence, warfare (Kelly 1995). They have also been called other names such as “non-egalitarian” foraging societies, “transforaging hunter-gatherers” and “delayed-return” foraging societies.

that they obtained, the people in these positions of political influence may have had greater access to more trade partners, making them part of an incipient ranked social formation in Gabrielino society.

The evidence appears, perhaps, stronger for a more socially egalitarian society based on extensive kinship networks among a wide-ranging set of communities that traded their micro-environmentally-based resources. Gabrielino communities perhaps are best described as having had a social system that was organized as a *political heterarchy*. In heterarchical political system, power is distributed along a continuum of actors. Political decisions cannot be enforced by elders, leaders, religious edicts, or codified legal systems. Instead of such hierarchical systems of social order, people have to learn to be good orators, using the power of persuasion in order to influence each other. As such, various clans of Gabrielinos would have formed their own decisions and their clan leaders would represent their political selves to other clans.

Despite some assertions of Gabrielino social organization as being a hierarchically-organized society (Bean and Smith 1978), the contemporary evidence favors the portrait of pre-colonial Gabrielino society as a fundamentally egalitarian society, one not based upon hereditary distinctions between elites and commoners. Such a perspective is based upon linguistic, archaeological, and cultural materials. First, the Gabrielino grammar and lexicon are structured in such a way that only egalitarian social relationships are expressed. There are no levels of address or politeness in which the speakers used honorifics. Second, archaeological sites reveal no long-term storage facilities in which elites would be able to use delayed-return systems of storage to save wealth for personal savings or politically-motivated distribution. Further, there are no complex technologies indicative of stratified societies. Gabrielino material items include feather headdresses, shell money, awls, baskets, water bottles, flutes and games, multiple types of bows and arrows, a deer hunting disguise, mats, shelters, dishes, ceremonial bundles, metates and manos, shoes, dancing sticks, knives, whistles, clothing, beads, rattles, infant cradles and diapers, canoes, pipes, hair brushes and ornaments, hunting and fishing nets and traps, string and cordage, and yucca ovens. Even pottery was a storage form not used or made by Gabrielinos. Perhaps one of the most complex tools was the plank canoe (*tii'aat*). Made out of carefully shaped wood, glued together, and finally stitched with vegetal cordage, canoes enabled Gabrielinos to move into deep waters. Yet these tools and materials are all manufactured using learned *techniques* which can be described as complex. They are difficult to make unless one possesses the knowledge of how to make them, indicating that Gabrielinos carried their technologies “in the mind” rather than “in the hand,” as materially complex objects. Easier to transport than granaries, ceremonial buildings, or heavy non-portable objects which represent “congealed knowledge,” complex indigenous knowledge remains a defining feature of foraging-based societies.

Finally, looking at evidence from cultural anthropology, as incipient stratification evolved in the early ethnographic period, circa 1770-1850, different spheres of stratification emerged. Gabrielino households were drawn into spheres of exchange with colonial immigrants. Gender stratification, economic stratification, political stratification, religious stratification, and social stratification all emerged, though at different rates. On the eve of the ethnographic period, communities increasingly adopted forms of religious and political stratification, as evidenced by a range of named political offices. There

appear to be no inherited economic specialties but there was one named occupation of “carpenter” (*‘ahiihirom*) which may indicate that wood carving, perhaps canoe building, was or became an occupational specialty.⁵

In the early ethnographic record, the Gabrielino social organization was described as comprised of two or more patrilans which were not socially ranked. These patrilans are said to have had “animal-persons” as totem ancestors. The Gabrielino reportedly are related to totemic ancestors known as Wildcat (*tukuu-t*) and Coyote (*‘iitar*) (McCawley 1996:89). The neighboring Serrano further distinguished other totems such as Mountain Lion (*tukuchu*) as wildcat’s elder brother clan, and the totem Crow (*kachawa*) as a related clan. Coyote’s elder brother clan among Serranos is Wolf (S. *wanats*, G. *‘iisawt*) and an associated kin is the Buzzard (*widukut*) clan group. Ethnographic analogy suggests that there were such totemic ancestral figures among indigenous Gabrielino clans (Gifford 1922, Hage 2003).

The related Tadic groups in the region have a form of family organization known as “Karia-type system,” and Gabrielino communities partially conformed to this family system (Hage 2003).⁶ However, by the time ethnographers such as J. Harrington had started recording kinship terms, Gabrielino kinship systems displayed a combination in which female relatives were named according to a Hawaiian kinship system and male relatives according to the Karia system.⁷ Families formed “double helix” marriage alliances in which clans reciprocated marriage of their children. For example, a young man of Clan A, “Kovaache,” will marry women from the Wildcat Clan, or another “Clan B.” Ideally, marriages consist of Kovaache together with his brothers (and paternal uncle’s sons) also marrying girls from Clan B, who would be a set of Clan B sisters or parallel cousins. This creates a political alliance of two families. In the next generation, Kovaache’s children will reverse their marriage obligations. Kovaache’s Clan A daughters will seek out the Clan B boys. In the multigenerational family, Kovaache will refer to both his grandparents and his grandchildren by the *same* names (males are *kaaka’*, females are *shuuk*). This means that they have similar social roles in the family. Both are part of the family’s blood relations, much loved, and as oldest and youngest family members, *kaaka* and *shuuk* are vulnerable and must be carefully nurtured.

Since all kinship terms indicate a valorization of *reciprocal* clan obligations, Gabrielino family systems indicate an egalitarian rather than a ranked society. Even though marriage alliances were bilateral over the generations, there probably were other means of creating incipient social hierarchies. Gabrielino reportedly practiced gifting of valuables to the bride’s family, a practice known as bridewealth (or brideprice) (Kroeber 1976). The gift grants the groom the right to marry the bride and the social right to her children. Many

⁵ There are other specialized works, such as stone working or shell bead carving, but there are no *named* occupational specialties for these activities. There thus is no linguistic evidence for occupational specialization.

⁶ Karia kinship is based on bilateral cross-cousin marriage with patrilineal descent and alternate generation moieties. In addition, parental siblings of the same sex are considered “Mother” or “Father.” However, parental siblings of differing sex are labelled as “Aunt” or “Uncle” as the situation necessitates. Hawaiian kinship is marked by Ego’s reference to all females of his parent’s generation as “Mother” and all of the males as “Father”. In the generation of children, all brothers and male cousins are referred to as “Brother,” all sisters and female cousins as “Sister.”

⁷ Thanks are due to vocabularies provided by Pamela Munro and the Tongva steering committee.

societies in Oceania and Africa practice brideprice. In such societies, women contribute a great deal to primary subsistence activities, but have lower social status than men since men make more political decisions than women. In addition to emerging gender stratification, bridewealth-based societies, including the Gabrielino, have practiced polygamy occasionally among elite families.

To summarize, the materials and language of social relationships are indicative of egalitarian foraging communities in earlier cultural periods and incipient complex foraging and fishing-based societies in the early ethnographic period.

3.6 Religion & Spirituality

For extended discussions of the belief systems of Takiic speaking peoples, see Kroeber 1976, Harrington 1981, Reid 1968, Hudson 1979. For discussion of the religious belief systems of Chumash groups, see Blackburn 1975, Hudson 1977, Hudson 1978, Schiffman 1988, Lee 1981. Recorded by Gabrielino ethnographers, the names of various deities and mythological beings include *Chukit*, *Kwawar*, *Kweyaxxomar*, *Maniisar*, *Toroovem*, *Woyoot (Wiwyoot)*, *Yooyavoyñ* and others.

Non-human supernaturals include the sun (G. *Taamet*, Chumash: *Kakunupmawa*), moon (G. *Mwaar*, Ch. *'alahtin*), evil spirits (G. *Shiisho*, Ch. *'alahwich 'isqap*), the Morning Star (G. *Paahavet*, Ch. *'alnahyit 'i'aqiwī*), and the earth (G. *'ooxor*, Ch. *hutash*).

Of the human supernaturals, *Chukit* (Kroeber 1976:623) is described as a mythical leader and sister of four unnamed brothers. She is described as connected with, or inseminated by, a supernatural force of lightning and gave birth to a boy who was able to speak at birth. *Maniisar* is a female leader as well, a daughter of a village elder. *Maniisar* is related to the shamanic and initiation drug, jimson weed. Although women are not known in the ethnographic record for consuming jimson weed, possibly they are linked with it through their plant collecting and processing activities. Other female supernaturals include the Pleiades stars who are represented by a set of seven sisters who are married to a set of seven brothers. When the brothers acted without honor by taking their wives' hunted meat, the women rose to the sky, becoming a constellation of beautiful bright stars. The youngest husband was allowed to follow, having not made the food transgression.

Of the male supernaturals, *Kwawar* is a deity associated with creation. He created a set of giants and earthquakes rumble when he walks. *Woyoot* is believed to have died and transformed into the body of an eagle. *Chengiichngech* (Chingichngish) is reportedly a "wise man" who developed a following among Tongvas, Luiseños, and Acjachemem (Juaneños) (Boscana 1933).

Regarding animal-form supernaturals, animals such as raven, coyote, and rattlesnake appear as mythical beings in Tongva and other local groups' myths. Porpoises, for example, are believed to watch the world, circling it to make sure that all is in proper social harmony. Other supernatural beings who also live in the sea are known as *Toroovem*. These beneficent beings wear feather headdresses and take care of the world. Crow and Raven are believed to call out to approaching strangers if they are to be trusted, and often give advice to newcomers. Tongvas and other local peoples carve(d) animal figure effigies from stone. Effigies of pelicans and whales are two of the more common effigies recovered from prehistoric sites. The purpose and meaning of the small, palm-

size effigies is unknown, but effigies in other foraging societies may provide some analogies. In other foraging-based societies, effigies represent totemic clan figures; or the soul or the supernatural incarnation of the animal; or a figure used as hunting magic. In classic Asian shamanic religious contexts, bird effigies represent the soul-flight of shamans. Shamans adopt the birds' ability to fly, a form of sympathetic magic that enables the practitioner also to fly to the supernatural realm and interact with supernatural beings. By extension, effigies of whales might enable religious practitioners to journey to the depths of the ocean or to supernatural underworlds on behalf of his/her Native patients.

In mythological stories, humans and animals perform numerous supernatural actions and contribute to mythical events. In one story, for example, a woman dishonors her family and thus commits suicide. Her father, in remorse for his daughter, becomes an avenging eagle who destroys the people of her affinal (in-laws') village who treated her poorly.

3.5 Current Situation

By the 1990s, a resurgence in Tongva cultural identity was underway. The current population of Tongva is estimated to range from 300 to 1500, depending on membership and identity criteria. The estimates of Tongva ethnicity and population are generated by the communities themselves since Tongva were/are not a federally recognized tribe of the United States. The Tongva descendent community has succeeded in getting the City of San Gabriel and the California Legislature to pass resolutions recognizing the "Gabrielino-Tongva Nation" as the indigenous peoples of the Los Angeles Basin with a continuous unbroken history (L. Gonzales, pers. comm.). Currently, the Gabrielino/Tongva are recognized by the State of California, but not by the Federal government, and they thus are represented by a number of different social and political groups (Douglass et al 2005:13).

Importantly, a number of cultural groups also have been formed. As part of their outreach effort, representatives of the Tongva have created museum and cultural exhibits. One display reconstructs the village of Chokiishngna at Heritage Park in the City of Santa Fe Springs. Another honors the village site of Sibangna in Smith Park, City of San Gabriel. The Haramokngna Interpretive Center at Red Box opened in the San Gabriel Mountains. A Tongva Youth Center, called the Ememot Tahrahat Kekeesh, has opened in El Monte, California. By conducting cultural resource management monitoring, reviving sacred sites, and holding ceremonies, the Gabrielino Tongva continue their struggle to revive elements of the traditional culture.

Sacred sites related to Gabrielino/Tongva ethnic identity continue to be of contemporary religious and spiritual importance. Of profound importance to the Tongva people are culturally significant places and materials that signify Tongva cultural identity. Some of these include their pre-historic village sites, burial sites, culturally significant plants and their gathering areas, archaeological sites related to Tongva culture, and the cultural materials that are stored and curated in museums.

4.0 Other Native American Communities in the Project Region

4.1 The Tataviam (also sometimes known as Fernandeño)

Tataviam peoples' original territory has been estimated to lie within Los Angeles, Ventura, and Kern counties. The name Tataviam means "people facing the sun." Their territory is thought to include the upper reaches of the Santa Clara River drainage east of Piru Creek and extend north to the southwestern fringes of the Antelope Valley (King and Blackburn 1978:535). At the time of Missionary conquest, Tataviam villages were numerous in the Los Angeles region. Names of Tataviam villages from the northern part of the valley, in the Piru area near SR-126, include Kouung, Hufant, Etsent, Akauai, Kashtu, Pi'idhuku and Kamulus (> Camulos Ranch). Villages named Sabau, Auuapya, and Kashluk are located around the old pre-dam Castaic Lake. Near Castaic along SR-5 were the villages known as Kashtuk (> "Castaic") and Tsawayung. The Tataviam possibly numbered about 1000 people on the eve of European contact. Many were sent to the San Fernando Mission. Of the people with a known ethnicity who were baptized at the San Fernando Mission, 27% of them were Tataviam (Johnson 2006:12).

At the eve of Missionary colonial contact, circa 1770, evidence suggests that Tataviam economic strategies were similar to those of the Gabrielino. Tataviam collected yucca, acorns, sage seeds, cherry, juniper berries, and other plant foods found and managed in their territory. Men and women hunted rabbit, rats, deer, birds, and antelope (King and Blackburn 1978: 536). Kroeber cites the Tataviam as a dialect group of the adjacent Tongva communities (1976). Their neighbors included the Kitanemuk and Vanyume to the north, Chumash communities to the west, Gabrielino territories to the south, and Serrano communities to the east and southeast. Contemporary Tataviam and Tataviam descendants are represented by several political organizations, including the Fernandeño Tataviam Band of Mission Indians.

4.3 The Chumash

The mainland Chumash peoples' southernmost territories included portions of modern Los Angeles County near Malibu and inland toward Simi Valley. Chumash villages tended to be larger than those of Gabrielino and Tataviam communities. Of the people baptized at the San Fernando Mission, for example, fully 24% of them were Chumash (Johnson 2006:13) even though the Mission was outside Chumash territory. Populations in their home territory are estimated to have been between 5,000 and 20,000 in the Late Period of occupation (Kroeber 1976, Erlandson 2001, Cook 1976). Today, contemporary Chumash number about 5,000 people depending upon affiliation criteria.

Speaking a language unrelated to neighboring languages. Chumash communities spoke inherently unintelligible language varieties which included Obispeño, Ineseño, Purisimeño, Barbareño, Ventureño, and Cruzeño (Island Chumash, Isleño), all named after neighboring Spanish missions to which they were brought. Although the languages were extinct, there has been some language revitalization in the last generation, with a dictionary published recently (Samala Chumash Language Tutorial 2008).

Like other California coastal peoples, the coastal-dwelling Chumash relied heavily on marine resources, using canoes, fishing implements, and manufacturing beads and other items from shellfish. Together with the Gabrielino, Chumash were the only other Native

American society to develop the distinctive deep-sea capable plank canoe. Their sea mammal hunting equipment included harpoons and varieties of fishhooks, dip nets, gill nets, and other types of nets as well.

Today, contemporary Chumash communities are represented by a number of political and cultural bodies, including the Santa Ynez Band of Chumash and the Wishtoyo Foundation.

4.3 Peoples of the Eastern Los Angeles Region: Kitanemuk, Vanyume, Cahuilla (Iviatim), and Kawaiisu (Tehachapi, Nuwa)

The desert and mountain-dwelling peoples originally extended into the eastern areas of Los Angeles County. The Kitanemuk and Vanyume occupied part of the westernmost end of the Mojave Desert and the headwaters of the Santa Clarita river. Mostly in surrounding county areas, Kitanemucs also occupied the upper Tejon and Paso Creeks, the streams on the rear side of the Tehachapi Mountains, the northern slope of the Liebre and Sawmill Range, and northern Antelope Valley. The population at the time of European contact for each of these groups is estimated to have been 500–1000 people residing in the areas of modern L.A. County (Blackburn and Bean 1978:564, Kroeber 1976:611-615). A small number of Kawaiisu settlements probably existed in the area as well. Kitanemuk families were organized into patrilineal bands who probably had bilocal residence patterns. In early contact periods, they had some social differentiation with persons named as chief/extended family leaders, ceremonial experts, messengers, and shamans (Blackburn and Bean 1978:567).

Also inhabiting the southern Antelope Valley near modern-day Palmdale, and northwest to the Tehachapi, was another desert Serrano group known as the Vanyume. They were identified from an early Spanish account by Garcès in 1776 (Bean and Smith 1978b.) Kroeber identifies Vanyumes as a section of the Serrano who occupied a territory stretching from northeastern SR-County around present-day Hesperia, or just north of the junction of I-5 and SR-014, and into the headwaters of the Mohave River. According to the writings of Garcès, populations of Vanyumes in the 18th century were less than 1,000 souls who subsisted on acorns, mesquite, tule roots, grape, rabbit, otter, and other small game. Some of the archaeologically recovered materials associated with late Holocene sites in this region include significant numbers of *Olivella* shell beads, projectile points, abalone shell, groundstone implements, hemp and yucca woven sandals, steatite ornaments, and carved animal bone tools (Earle 2002). Like other groups of the region, Vanyumes and Kitanemuk communities buried their deceased family members in early and middle Holocene eras and converted to cremation in the late Holocene. Mitochondrial DNA studies of an estimated 1,000 year old buried individual uncovered during development excavations in 2004 reveals a direct genetic tie to one of the local residents, Donna Yocum. Ms. Yocum is a secretary for the San Fernando Band of Mission Indians (O'Rourke 2005). Some of the Vanyume descendent communities today live in Newhall and Hesperia.

Some of the Serrano communities living in the L.A. County region were missionized. For example, Johnson (2006) finds that 142 Vanyumé, 17 Kitanemuk, 9 Cahuilla, and 7 Kawaiisu people were recorded as being baptized at the Mission San Fernando, for a total of about 5% of mission converts. Today, the Kitanemuk and Vanyume are represented by

the San Fernando Band of Mission Indians. Outside of Los Angeles County, the Kitanemuk and Yowlumne Tejon Indians, and the Tejon Indian Tribe also represent the descendent families living in Kern County. The Cahuilla are represented by several political and social groups outside of L.A. County, including the Morongo Band of Mission Indians and the Cabazon Reservation in Riverside County. The Kawaiisu are represented by the Tejon Indian Tribe and the Kawaiisu Tribe of Tejon.

5.0 Plants of Cultural And Economic Significance

“...basket weavers among the Luiseño, Cupeño, Chumash, Tongva (Gabrielino), and Kumeyaay (Diegueño) knew that at the bottom of the stems of streamside rushes (*Juncus textilis*), completely hidden under the leaf thatch shed by the overhanging sycamores and willows, was a deep brick red band of color, prized for basketry designs.”

K. Anderson 2005:42

5.1 The Cultural Significance of Plants

Many Tongva and other Native Americans of Los Angeles County continue to do part-time collection of culturally significant plants for food, materials, and medicines. Although they no longer acquire their food and materials directly from their physical surroundings, materials such as willow for ceremonial structures and redbud for basket foundations play a critical role in preserving Tongva cultural identity. Tongva Use described in this report are based on information from Linda Gonzales with the kind assistance of Mark Acuna and Cindy Alvitre. Tataviam Use Categories as identified and described by Randy Guzman Folkes with the kind assistance of Beverly Salazar Folkes.

The Native families of Los Angeles County are and were surrounded by a wide range of foods in all seasons of the year. Children nibbled on buckwheat flowers while adults collected strips of California buckeye's inner bark to boil and grind into flour. California fuchsia seeds were beaten into baskets and the seeds ground into *piñole* balls.

A number of roots formed the basis of a good portion of the calories that families needed during the lean months. Of the culturally significant plants growing along the project area roadways, today some Tongva families dig the roots of agaves, bracken ferns, cattails, chicory (in contemporary times), giant reeds, Humboldt lilies, milkweeds, phacelias, wild onions, yarrow, and the well-known yuccas. Milkweed, for example, has ten distinct uses, but its tasty shoots and roots are one of the popular reasons for gathering it. In the past, Fages observed of the Gabrielino that they utilize the cattail reed by making bread from the roots (Priestley 1972: 22 cited in King 2000:22).

In addition to deer, whale, and other meat proteins, Tongvas could choose from a variety of vegetable proteins. The beautiful spreading live oak trees gracing the sides of highways represented a valued food source for many mainland Natives of Los Angeles. In addition to making acorn stews, the nuts were easy to store and trade with other ethnic groups living outside oak regions. The highly aromatic California laurel's leaves are

perfect for curing headaches, but the nuts may also be roasted and ground into a *piñole* treat. While adults value the California black walnut for its material in creating a game of dice, children nevertheless crush the nuts to scoop out the delicious nut meats. Perhaps one of the most versatile plants, pines provided Tongvas fully nineteen distinct culturally significant uses. Their nuts are delicious, but the soft moist, inner bark is also edible when dried and ground up into powder.

Tongvas liked to consume some fruits raw, boiled, or dried; others were soaked and made into drinks and teas. The California fuchsia's delicate blossoms are sucked for their nectar; cacti and chollas yield fruits that can be eaten raw but also baked in earth ovens or dried for winter months. Although they're a laxative, snowberries were sometimes eaten or drunk as a tea to relieve colds and stomach aches. To further aid digestion, Tongvas soaked thistle "fruit" (the green part under the flower) and chewed the nutty mixture like a cooked green. Other leafy greens provided more essential vitamins and minerals at the same time as being healthy tonics. Yerba Santa, for example, is called the "sacred herb" because not only was it easy to chew like gum, but stimulates the digestive system and helps rheumatism, colds, and stomachaches.

For refreshing drinks, women could grind juniper berries, toyon, manzanita, and sumac berries. If families are traversing desert areas, they could stop and gather the ground-up seeds of four wing saltbush. These are mixed with water and sugar from Joshua tree flowers to make a delicious and nutritious *piñole* drink. For religious or health reasons, people sometimes have needed to induce vomiting. In this case, Tongvas drink a concoction made from Indian tobacco. But in many cases, plants substances such as pine resin or sage leaves were drunk as teas for healing as much as for food. Sunflower seed shells, for example, have been ground into a hot drink while the flowers were boiled into teas when children had coughs and congestion.

When we think of the basics of life, food, clothing, and shelter may come to mind. For the Natives of Los Angeles, there were many plants and animals from which to choose. Materials for clothing included skirts made of tule, cattail, grasses, or redshank, with decorative trim of eagle feathers or beads of olivella and other seashells. Materials for shelters were obtained from tule and cattail, ash, laurel, sycamore, chamise, elderberry, and cottonwood. For food collecting, seed beaters are/were important tools. Today, Native collectors use red willow to fashion their seed beaters.

Medicinal plants were also of great importance to Native plant collectors. A fairly extensive amount has been written about the famous ceremonial use of datura, or jimson weed, in boys' initiation ceremonies. For a review among Chumash communities, see Timbrook 2007:65-73. Native consultant Richard Bugbee recalled how he brought his children out to the San Bernardino desert area and performed a personal version of the traditional initiation ceremony. But an extensive number of medicinals, even most of the useable plants that we identified along the highways being surveyed, have at least one medicinal property. As we drove along one of the roadways, Native consultant Randy Guzman Folkes recalled, "I remember my grandma, she would dry a lot of these plants... the yerba santa and sage that we're seeing just now. She would set the plant out on top of her dryer, outside. This was in the 1960s and 70s. And that's how she dried a lot of her natural plants."

Most plants were used not for only one specific purpose. Sometimes the most useful plants have had several purposes as food, medicine, and as religious items. For example, paints and dyes have been used for tattoos and body decorations, as decoration and depictions of myths on rocks, as materials during ceremonies, and as colors for baskets. Paint materials that Native plant gatherers and myself came across during survey work included purple from white nightshade, white from kaolin rock, red from red ochre, and black from the roots of dogbane. When people wanted to make dyes, they could make red dye from juniper boughs, dark purple from elderberry, red dye from Joshua tree roots, mountain mahogany roots, or oak bark. If someone finds that they're not allergic to poison oak, they can pound it to obtain fresh juice that makes a black dye. If allergies are a problem, the black husks/hulls of sunflower seeds or walnuts also made a serviceable black dye. Of course a yellow dye is eye-catching and can be made from rabbitbrush (*Chrysothamnus* spp.) or sunflowers. All of these plants were identified during the D7 roadway surveys. Many of these plants are still used when dyes and paints are needed for ceremonial events and powwows.

Since Native collectors today no longer gather food for subsistence, they reserve more time for gathering materials for powwows, ceremonial gatherings, and healing ceremonies. Native consultant Linda Gonzales, for example, brought a collection of items she had made in the past few years. The first item she showed me was a ceremonial rattle. The rattle was made with seashells and held together with pine pitch and dogbane cordage. Finally, it was decorated with wooden beads. Next, she showed me a smudge stick. The white sage was rolled into a bundle of sage that was collected in San Bernardino. It will be used as a smudge for purification at a ceremony. Gonzales explained that white sage is considered sacred, partly because it has so many uses. It is used for dandruff control, foot odor, sore throat, bronchial problems, and just a tea or tonic for illness. Sage is important in circles of Native American gifting. When giving sage to friends, Gonzales explained, "You light it at the end, take off the yarn, blow it out and the smoke is used for purification." In the course of our survey work, Gonzales showed other items that she had made, including a red willow seed beater, yucca cordage, a redshank skirt, an abalone container made with asphaltum, and hand-ground mesquite flour.

When families found leisure time, they could tell stories, eat treats, or play games. The walnut dice game, for example, was based on walnut shells. To make the dice, a person would crack walnut shells in half and fill them with asphaltum. They could then decorate the dice with abalone shells. Partners would play against each other and when so many abalone pieces landed up, or so many landed down, the player would get points for that. Also, if they all landed in one direction, the player would get no points, and if they landed with three up and three down, a player would get more points.

The goal of the interviews with Native collectors has been to identify traditional gathering areas (resource collecting areas that have been used by Native Americans) that may be located within the State's ROW. Toward this end, the research effort has identified particular plants in the natural landscape that have a notable cultural significance and a contemporary use value as food, medicine, textiles, etc. Following the work of other cultural resource specialists (Stoffle et al. 1990, Turner 1988), plants demonstrating notable cultural significance were identified as those that Native

consultants described with most detailed knowledge of their uses and meanings in Native cultural life. Plants with commercially significant value, such as those used in textiles and basketry, were also highlighted as important for collection. Since few contemporary people collect for non-commercial purposes, plants of traditional significance as food, medicine, and for recreational technologies were cited less often, even though they may have important value historically. In addition, the environment during the ethnographic period, from about 1800 to the present time, has changed drastically. Most original habitation sites are now part of an urban landscape and many indigenous plants no longer survive in these areas. Some plants used for Tongva basketry, such as deergrass (*Muhlenbergia rugens*) and juncus (*Juncus textilis*), now are rare in urban landscapes. They are found in valley grasslands, seeps, meadows, salt-marsh, dunes, and coastal wetland habitats that have been drastically reduced over the last two centuries in the D7 project area. Nevertheless, a large number of plant species useful for Native food, arts, and crafts were encountered.

Table 1 in the appendix identifies the categories of culturally significant plants that were encountered according to their uses as foods, materials, medicines, commercial goods, and those of ritual significance. The Plant Use Categories in the appendix are classified according to both indigenous concepts that have been studied for Shoshonean speaking peoples (Fowler 1967) and those of other western Native American societies

Each Native American consultant had a different set of knowledge about the plants identified along the surveyed highways in the D7 region. Their recollections about how these plants were used conforms to information in other ethnobotanical publications about plant uses among southern Californian Native Americans. Consultants in this study occasionally remarked upon uses that have not been recorded previously. The ‘Use Category’ designates culturally significant uses of each plant species according to what each Native consultant described with secondary sources consulted (Bean and Saubel 1972, Bean and Smith 1978, Eisentraut 1990, Hudson and Blackburn 1978-1987, Timbrook 2007).

5.2 Culturally Significant Gathering Plants in the Project Area

During survey of Caltrans D7 State Routes, Native consultants observed about one hundred species of culturally significant plants growing along the right-of-ways. These gathering plants are present in the Appendix, Table 2 with the gathering places presented in Table 3. Consultant Linda Gonzales provided her memories of the plant used by the Tongva. Her recollections are based on her extended family’s plant collecting, and her discussions with other Tongva elders. This does not represent the entire Tongva body of plant knowledge, but the perspective of one knowledgeable elder and her experience with useful plants that were sited along the D7 State highways.

Plant uses are not static; they reflect how plants are used today in modern situations as well as traditional usages that have been recorded and/or remembered by Native plant gatherers. Note also that there are plants used in pre-modern times that were not recorded and/or not encountered during the survey. Thus certain plants, such as holly-leaf Cherry, are and were important subsistence foods but were not encountered during the survey.

In the tables in the appendix, the locations of gathering plants (GP) are written in a notation in which the highway number is given and a sequential locational number, as in “GP-001-01.” Thus GP-001-01 refers to the first culturally significant plant on Pacific Coast Highway. Each plant location is identified with a GPS (Global Positioning Satellite) number, a name, and any other descriptive information concerning plant height, flowers, fruiting, surroundings, slope, aspect, or vegetation type. A summary and plant management recommendations of all plants encountered in the D7 project area follows this section.

Plants along SR-001 Pacific Coast Highway

Pacific Coast Highway is a historically significant roadway for many reasons. Not only is it part of the west coast network of scenic highways and is famous for its roadway near beautiful coastlines. Pacific Coast Highway is also known for running along the same route as many of the historic and prehistoric Indian settlements of the Gabrielino and Chumash. The village of Topanga, for example, lies at the junction of PCH and SR-27, Topanga Canyon Boulevard. There were numerous culturally significant plants located by Native consultants in this area since this PCH consists of a 2-4 lane roadway. Species for Caltrans crews to look out for include giant rye cane, yuccas, cacti, sumac, tobacco, oaks, giant reeds, asters, agave, willows, sagebrush, manzanita, jimson weed, and cattails.

Figure 3 Giant Wild Rye along Pacific Coast Highway (left); Redbud along Angeles Crest Highway (right)



Figure 4 Yerba Santa along Angeles Crest Highway (left); Manzanita along Angeles Crest Highway (right)



Plants along SR-002 Angeles Crest Highway

Designated a California Historical Landmark, The Angeles National Forest was created in 1892 and represents the first national forest in the State of California and second in the United States. Most of the gathering plants described grow in multiple locations along SR-002 Angeles Crest Highway. Caltrans and other maintenance teams are encouraged to carry identification manuals to facilitate identifications. This will enable teams to identify these species at other County locations in addition to those noted here. For example, stands of tree tobacco can be found growing along the shoulder across from signage indicating “*First Forest Adventure, 7 miles to fee area.*” But other clumps of the distinctive and tall yellow flowered tobacco plant will crop up along the highway as well. The locations given below represent type specimens, or mature well-formed examples, of gathering plants that Native consultants believed to be especially good for gathering opportunities. SR-2 especially was discussed by Native consultants as one of the most favorable areas for gathering.

GP-2-01 through GP-2-22 were identified by Linda Gonzales, who occasionally collects plants in this area. She identified gathering places as we drove north from the junction of Foothill Highway and SR-2 at mile marker 24.5 toward the Los Angeles County border. Caltrans maintenance crews should look out for the following culturally significant plants: Allium, ashleaf buckwheat, asters, bay laurel, big leaf maple, black sage, bluff buckwheat, California buckwheat, California fuschia, chamise, coffeeberry, coreopsis, cudweed, deer vetch, dodder, Douglas iris, ferns, hollyberry/toyon, incense cedar, ironwood, jimson weed, laurel sumac, and manzanita, mistletoes, monkeyflower, mountain mahogany, mugwort, mule’s mat, oaks, pines, Port Orford cedars, redbud, sagebrush, sages, showy penstemon, snowberry, sugarbush, tarweed, tree tobacco, white nightshade, willows, yarrow, yerba santa, and yuccas.

Figure 5 Coreopsis along Angeles Crest Highway (left); Cudweed with clumps of Yuccas nearby along Angeles Crest Highway (right)



Figure 6 Shiny-leaf Yerba Santa with Coulter Pine cone section (left); L. Gonzales examines Sagebrush (right)



Figure 7 California Fuschia along Angeles Crest Highway



Figure 8 Oak Mistletoe and View from Angeles Crest Highway



Figure 9 L. Gonzales examines Coffeeberry Bush

Figure 10 Incense Cedar (left) and Jeffrey Pine (right) along Angeles Crest Highway



Plants along I-5 Golden State Freeway

Linda described how Native families could put their Tule boat in the waterway system near the I-5 and Mulholland, along the L.A. river. Then a family could paddle down the waterways to Yangna in downtown L.A., near the present-day L.A. Civic Center and the junction of the SR-101 and SR-110. From here, Tule boats could navigate across to the San Gabriel river system, and then travel down south, taking the rivers to the ocean. In effect, these “river highways” provided Tongva and other local Native communities with a rather quick means of getting to another community or to another place for fishing or food gathering. There were no culturally significant gathering plants located on this route.

Plants along SR-014 Antelope Valley Freeway

Like I-5, Antelope Valley Freeway is a busy area with Native plant collectors unable to take advantage of few or no legal turnouts. Along the roadway, we could see, but would not attempt to access, collectable plants such as oaks, rabbitbrush, bush tobacco, sagebrush, red buckwheat. At a couple of ‘Park-n-Ride’ stops along SR-014 heading north, such as the one at Placerita Canyon Boulevard, we encountered a few tall yuccas, rabbitbrush, and red and white buckwheat which would be collectable although we saw no evidence of recent cuttings. Due to the busy area, we took no GPS points.

Plants along SR-018 State Route 18

A branching section off of SR-138, State Route 18 becomes “Palmdale Road” as it moves into San Bernadino County. Although the landscape is generally sparse and dry, there are many opportunities to stop and do collecting along the ROW of a limited number of

plants. The collectable plants that we encountered during a late fall excursion included creosote, Joshua tree, jumping cholla, and rabbitbrush, beavertail cactus, and four wing saltbush.

Plants along SR-23 Moorpark Freeway

Also known as Moorpark Freeway, this is primarily a truck route with multiple lanes and narrow shoulders. The places adjacent to SR-023 include a golf course, a mining corporation, and several commercial orchards and ranches. With few opportunities to park and too much exhaust and dust settling upon roadside plants, Native American plant collectors would avoid collecting along SR-23. Nevertheless, there are a number of culturally useful plants that Caltrans crews may want to consider during roadside management operations. These include giant reed, tree tobacco, cactus, palms, and eucalyptus which are introduced since colonial times but Native American plant collectors have developed uses for these introduced species. The indigenous useful species include sage, yucca, datura, oak, pine, and walnut trees. Other landscaping and commercial species along SR-23 include iceplant, pepper trees, orange groves, and avocado groves.

Heading north along SR-23 near Grimes Canyon Road, for example, at approximately m.m.15.00, grow bunches of datura, but the narrow shoulder and high traffic would prevent safe collection or coming-of-age rituals being carried out in such a location. Gathering places were only recorded long the route stretching through the Santa Monica Mountains. On the SR-023 we encountered jimson weed, sage, yuccas, oaks, Indian tobacco, and California walnuts, prickly pear cactus, sycamores, arroyo willows, ribbonwood, dudleyas, milkweed, sagebrush, sages, and cattails. Few GPS points or gathering places recorded for the SR-23 between the SR-118 and SR-101. Several improbable gathering places are recorded for the SR-23 between SR-118 and SR-126.

Figure 11 Dogbane along Route 39



SR-39 Azuza Avenue

SR-39 also becomes “North San Gabriel Canyon Road,” and canyon slopes, making up much of the ROW. SR-39 runs through a recreational area and is particularly rich in culturally significant and collectable plants. When we surveyed the roadway, there was evidence of plant collecting at several locations. For example, yuccas and dogbane had been harvested for their fiber. Some of the other notable plants along SR-39 include valerian, mulefat, California buckeye, sagebrush, arroyo willow, oak, yerba santa, and sugarbush.

Figure 12 Yucca hemp fibres gathered along Route 39, near Morris Reservoir



**Figure 13 Graffiti carved into Sycamore (left) says “Miguel, Irapuato, Mexico”;
A tiny Nightshade (photo right) marks the end of the motorable section of Route 39**



SR-118 Ronald Reagan Freeway

Along SR-118, also known as the Ronald Reagan Freeway, represents a highly built environment with few contemporary Native American plant gathering sites. The freeway includes structures such as multiple lane roadways, bridges over canals, and speeds exceeding those necessary for safe plant gathering.

Traveling West from the junctions of Glen Oaks to Balboa, the freeway spans four to six lanes with concrete shoulders, concrete guard rails, and/or concrete walled sound barriers. No collecting possible except at occasional off ramps where scattered tobacco, oaks, manzanita bushes grow.

Traveling West from Balboa to Reseda Boulevard, there are California sycamores and firs used as landscaping, but with five lanes of traffic, native plant collectors would search for California sycamore and fir in other areas. Between Reseda and deSoto Avenues grow tree tobacco, white buckwheat, scrub oak, California sycamores, sunflower, and puncture vine. While the highway shoulders are wide enough for stopping, there are no legal turnouts and collectors would probably proceed to the local park, known as “Michael D. Antonovich” Regional Park, for collecting. Traveling West toward Topanga Boulevard, there are some nice landscaped grasses, but none used in Native basketry.

Before the highway was built, one can see a vista in which there would have been excellent gathering areas, such as wide valleys and gentle slopes along areas such as the Butter Creek, Majico Creek, and Grimes Canyon. There continue to be recognizable and culturally useful plant species in the right-of-ways, such as elderberry trees and bamboos, but Native American plant gatherers would not stop since the roadway is busy, the plants are polluted from road dust, and stands of plants are sparse compared to rural roadways. For example, along Vinyard Avenue intersecting/near SR-118, there are open dampish fields with elderberries growing along the southern roadside. However, the bridge is the only place to stop and it would be dangerous (and illegal to park). As one drives west, the fertile lands adjacent to the highway gradually become dominated by vinyards, horse pasture, and fruit orchards.

Traveling East from Topanga Boulevard toward Porter Ranch Drive, Native gatherers encountered only rabbitbrush. Since there are five lanes of traffic with 65mph speeds, no collecting is possible. Driving East to the intersection of Laurel Canyon Boulevard (also becoming a junction with I-5), a nice cluster of thistles is growing along the off ramp. Since other collectables are missing, most people would not collect at this location.

SR-138 Pear Blossom Highway

[Also called “Antelope Highway” and “Pearblossom Highway”]

Pear Blossom Highway is marked by a Joshua Tree “Woodland” environs together with a dry Pinyon-Juniper Woodland, Creosote Bush Scrub, and Alkali Sinks. Antelope Valley may have been an area of shared use among several Native ethnic groups, including the Kitanemuk, Gabrielino, Tataviam, and Serrano.

Figure 14 Joshua Trees (left) are common along Route 138



Figure 15 Creosote (left) and Rabbitbrush (right) along Route 138



Figure 16 Buckeye (left) and Four-wing Saltbush (right) along Route 138



6.0 Culturally Significant Landscapes

The Tongva and other Native Americans of the region have had a profound influence on the history of California. For this reason, the cultural landscapes traditional to Native Americans in the D7 project area may qualify for National Register (NR) or California Register (CR) eligibility. In addition to cultural resources known to archaeologists, Native consultants interviewed for this report opined that there are several types of above-ground cultural resources that may be eligible for nomination as NR/CR cultural landscapes or landmarks. Some of the resources that we discussed include traditional plant collecting sites, petroglyphs assumed to be created by Native Americans, landscape features considered religious in nature, mining sites, village sites, cremation funeral sites, and landscape features such as boulders, water springs, or caves that are associated with sacred myths and stories. Since Tongva and other Native communities inhabited the entire D7 region prior to colonization, there may be dozens of such eligible places. This report restricts comments to those cultural landscapes which are either located within the ROW of the project area highways, or within sight of the surveyed highways. Some sites are described but their exact locations remain anonymous. For exact locations when discussing NR/CR eligibility nomination procedures, readers are encouraged to contact the Gabrielino-Tongva tribal representatives in the contact list.

Our understanding of historical significance changes over time. Today, there is a greater appreciation and understanding of native cultural history than in earlier years. Understanding of the importance of native cultural landscapes is evolving as historic preservationists grapple with how to recognize and characterize these types of traditionally important places and resources important to Native societies that were semi-nomadic and orally literate societies rather than writing-based societies. In the case of societies that were founded upon food collection and semi-annual mobility, places of cultural significance are often not built environments in the manner common to sedentary societies. The Tongva and other regional communities have had a portable culture, and carry most of their culture “in the mind” rather than building structures meant to stand for years. As orally literate societies, Native descendants demonstrate the importance of

these places by talking about culturally significant landscapes and the plant and animal resources residing upon environmental landscapes. Stories, sayings, naming systems, metaphors and other rhetorical devices capture the meaning of important permanent places; they also capture the meaning of important “movable” resources such as plants and animals. These are then communicated through a community and passed down through the generations by culture-bearers, people who are adept at remembering and communicating important information. The culture-bearers may be shamans, knowledgeable elders, messengers/runners, or village leaders. In types of societies that valorize equality and sharing of resources, culture-bearers may simply be people recognized as having the skills to remember esoteric cultural information.

Especially for the native communities of the project area, there are significant cultural landscapes about which are known and communicated and these are sometimes referred to as traditional cultural properties (TCPs). A traditional cultural property (TCP) can be defined generally as one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that are (a) rooted in that community's history, and (b) important in maintaining the continuing cultural identity of the community. As Parker and King note, “Traditional cultural properties are often hard to recognize. A traditional ceremonial location may look like merely a mountaintop, a lake, or a stretch of river; a culturally important neighborhood may look like any other aggregation of houses, and an area where culturally important economic or artistic activities have been carried out may look like any other building, field of grass, or piece of forest in the area. As a result, such places may not necessarily come to light through the conduct of archeological, historical, or architectural surveys. The existence and significance of such locations often can be ascertained only through interviews with knowledgeable users of the area, or through other forms of ethnographic research.” (Parker and King 2008). In our surveys, we found many sites of plant gathering sites of significance which are current used for plant gathering. These should be considered TCPs in the broad sense of the term. These are significant because they were likely to have been used by Native foragers in the past, and especially those gathering places that located near historically known Tongva/Gabrielino villages broadly should be considered as TCPs with care taken to follow the management outlined in the Appendix below.

Besides gathering areas, there were few other material CSLs encountered in the ROWs or viewable from the roadways in the D7 project area. While the Native consultants and I drove along the D7 roadways, we occasionally talked about where old village sites were located even though these were not visible from the roads. As a means of visualizing where historically known Indian villages resided, the following map presents an overlay of the historically known villages in relationship to D7/Los Angeles County Project area roadways.

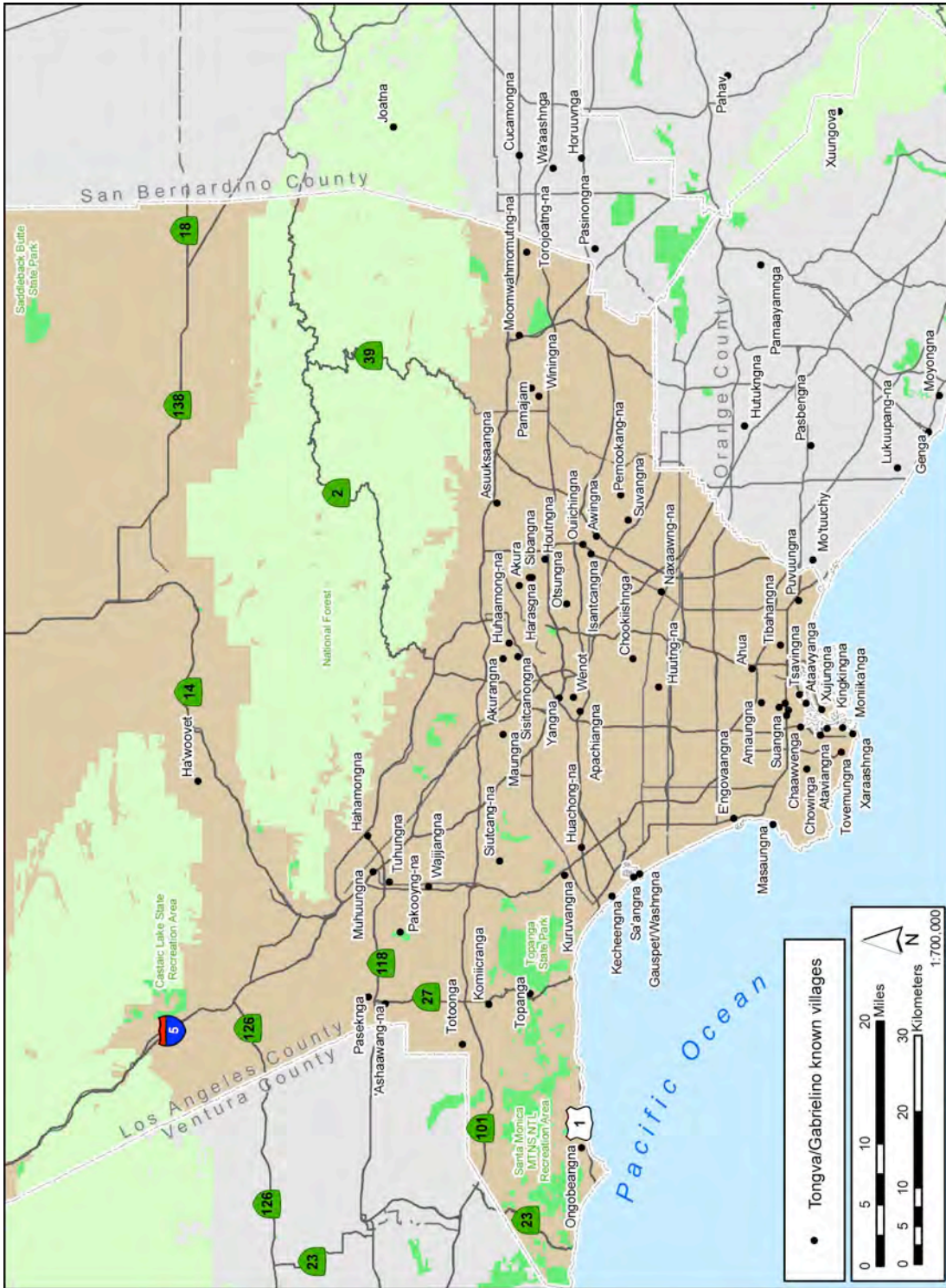


Figure 17 Historically Known Tongva/Gabrielino Villages and D7 Project State Routes

7.0 Conclusions

In summary, this report finds that there has been a growing trend among contemporary Tongva and other Native Americans of the region to revitalize their traditions. Part of the revitalization movement includes learning and teaching traditional plant gathering knowledge. Revitalization of plant gathering knowledge is especially important among Native American cultures that have been based on subsistence foraging. The Tongva communities located in the project area represent a non-agricultural society that relied upon hunting and gathering. Their environment has historically been rich in plant diversity throughout all seasons of the year. While related cultural groups living further inland along the Colorado River did resort to floodwater-based horticulture, and coastal groups did resort to intense marine fishing and trading, the mainland Tongva pursued subsistence strategies that were less labor intensive.

Today, there remain many Tongva families, and Tataviam and others, that continue to do part-time foraging of the plants identified in this report. These families are proud to carry on these traditions. All of the consultants stressed the continuing importance of gathering plants in contemporary Native American culture. People find these plants useful for a wide range of purposes. During our field research, we were able to sample fruit from yucca, used yerba santa to ease headaches, and made cordage from dogbane. We talked with Caltrans crew members who made pen holders from Manzanita wood. And we saw evidence of recent plant gathering along SR-39. Native collectors do continue to collect fairly large amounts of white sage, California black walnut, and many other plants for crafts and ceremonial structures.

The Native American revitalization movement involves finding a balance between the wider commercial economy and Tongva traditional economic pursuits. As Native Americans have searched for a way to integrate their beliefs and values with earning money for family subsistence, many are now turning to traditional knowledge of plant gathering for inspiration. Some of these products include baskets, water bottles, games, shell ornaments, feather headdresses, whistles and flutes, weapons and hunting equipment, and beads.

The materials used in the manufacture of these products necessarily must be grown and collected with high standards of quality. Plants used for traditional items must be free of herbicides and pollutants. They must regenerate in sufficient time so as not to be over harvested. Ideally, gathering plants need to be managed according to Native American timetables for burning, pruning, and collecting (See Appendix).

Caltrans can help Native Americans who gather plants, whether for commercial or personal uses, since ultimately they have many of the same management goals. Pursuant to Public Resources Code 5097.9, Caltrans can ensure Native American access to traditional gathering areas, where feasible and appropriate, whether these areas are located along state highways or other Caltrans-owned lands. Caltrans staff can refer to its

'Guide to Protecting and Using Native Plants' in such cases.

In summary, it is in the best interest of both Caltrans and Native plant gathering groups to maintain the roads, ensure public safety, and manage natural resources. Also in the best interest of both groups is the development of a strong working relationship through occasional strategy meetings to discuss future road maintenance schedules and to coordinate plant gathering schedules.

Appendix 1. Table of Plant Uses & Descriptions

Table 1 Plant Use Categories

Use #	Use Description
	Foods (“Growing Things that are Eaten ”):
01	Roots, rhizomes, bulbs, tubers, corms eaten
02	Stems, leaves, sprouts, shoots, blossoms eaten
03	Fruit, nuts, seeds eaten
04	Cambium, inner bark eaten
05	Mushroom, fungus eaten
06	Famine food
07	Beverage
08	Sweetner, flavoring, chewing substance, nibbling
09	Aids food preparation, cooking pits, food covering, wrapping
10	Smoking
11	Toxic if consumed/harmful in some way
12	Animal forage for prey species, important animals
	Materials - “Things that are Used from Forest, Grasses, Willows, Gums, or Water:
13	Wood for implements, containers, construction
14	Wood for fuel
15	Cordage, weaving, clothing
16	Bark, twigs, leaves for constructions, containers
17	Tanning, curing
18	Pigments, stains, tattoos, hair dye, decoration, cosmetic
19	Scent, incense, deodorant, cleansing agents
20	Cement, binding, waterproofing, filling substances
21	Bedding, stuffing, bandaging, toweling, diapers
22	Miscellaneous grasses, bushes, and trees that are used for materials
23	Collected for market purposes
24	Collected for use in festivals, pow-wows
	Medicines - “Things that are Chewed, Liquified, Sprinkled, Sucked,

	Smoked, and Drunk”
25	Tonic, general medicine
26	Purgative, laxative, emetic
27	Colds, coughs, flus
28	Arthritis, rheumatism, muscle aches, paralysis
29	Kidney, urinary problems
30	Eyes, teeth, gums
31	Gynecological
32	Pediatric
33	Cancers, systemic wasting
34	Heart, blood systems
35	Soothing, counter-irritants
36	Poultices, plasters for wounds
37	Analgesics, anesthetics
38	Poison remedies
39	Stomach, digestive disorders
40	Miscellaneous
	Ritual, Spiritual, Mythological Uses
41	Birth, puberty rites/initiation ceremonies
42	Death, mourning ceremonies
43	Shamanic ceremonies, witchcraft, protection against witchcraft
44	Hunting and fishing rituals
45	Plants associated with myths, culture heros, birds, dances
46	Miscellaneous symbolic uses (naming, toponymic)
47	Games, Recreational

Table 2 Culturally Significant Plants and Their Uses in the D7 Project Area

*Tongva name in bold italics.

	Common Name	Scientific Name	Uses by Gabrielino-Tongva and Tataviam	Use Category
1)	Agave 'akoo'	<i>Agave americana</i>	Although A. americana is introduced since Colonial era, it has Native significance. Young flower stalks eaten, leaf clusters roasted and eaten, flowers boiled and dried for later use. Cordage obtained from the spines.	1, 2, 15
2)	Asters	<i>Aster spp.</i>	Leaves boiled and eaten for greens.	02
3)	Beavertail Cactus	<i>Opuntia basilaris</i>	Fruits eaten raw, boiled, baked. Tongva dried the fruits. Stems peeled for poultice for wounds and inflammations.	2, 3, 35, 36
4)	Big Leaf Maple	<i>Acer macrophyllum</i>	Inner bark used for coughs colds, diarrhea, as a diuretic, and expectorant. Tongva used sap for syrup.	7, 26, 27
5)	Bracken Fern (Western Bracken, Hairy Bracken)	<i>Pteridium aquilinum var. pubescens</i>	Eaten raw. Cooking destroys vitamin B. Used in soups. Leaves used for diarrhea, antiseptic, for worms, stomach cramps, coughs, colds and laryngitis. Can cause cancer if used frequently. Root used as stimulant to loosen phlegm. Stems used for basketry.	01, 02, 16, 18, 27, 39
6)	Brickell Bush	<i>Brickellia californica</i>	Tonic tea for colds, blood system, stomach.	27, 34, 39
7)	Buckwheat, Ashy-leaf [Grey] <i>Wiika'</i>	<i>Eriogonum cinereum</i>	Tongva used flowers as tea for headaches, stomachache, blood pressure and bronchitis, and eyewash. Stems and leaves used for bladder trouble. Flowers for nibbling.	1, 3, 27, 31, 32, 34, 39
8)	Buckwheat, Bluff [Red-White]	<i>Eriogonum parvifolium</i>	See Buckwheat, Ashy-leaf	
9)	Buckwheat, California [Whitish]	<i>Eriogonum fasciculatum</i>	See Buckwheat, Ashy-leaf	

10)	Cactus	<i>Opuntia</i> spp.	See also Beavertail Cactus and Prickly Pear Cactus; Fruits eaten raw, boiled, baked. Tongva dried the fruits. Stems peeled for poultice for wounds and inflammations.	2, 3, 35, 36
11)	California Ash (Chapparal Ash)	<i>Fraxinus dipetala</i>	Bow material, digging sticks, cactus spine removal sticks, basketry, handles	13, 14, 16
12)	California Buckeye	<i>Aesculus californica</i>	Indians leached out poisons from inner bark and ground into flour. Untreated flour used to paralyze fish for easier catching	4, 11
13)	California Fushcia (Hummingbird Trumpet)	<i>Epilobium canum</i>	Seeds used for <i>piñole</i> , blossoms sucked for nectar, and as general tonic	03, 08, 25
14)	California Juniper	<i>Juniperus californica</i>	Tongva eat dried, ground berries or make a drink. Used for fumigating insects out of home or clothing. Berries made into beverage for coughs, dried and ground into cakes or hot cereal. Bark for treating colds, fever, dropsy, and constipation. Inner bark eaten as emergency food. Red dye made from the ashes of juniper boughs.	03, 04, 06, 18, 27
15)	California Laurel (California Bay, Bay Laurel) Tekaa'pe' 'akaa'	<i>Umbellularia californica</i>	Used to cure headaches, one leaf to the forehead, or crushed and inhaled for a few seconds, also as a tea for headache and stomach upset. Nuts were roasted or boiled. Used as an insect repellent, burned to fumigate lodgings against colds.	03, 08, 13, 23, 25, 39, 40
16)	California Sycamore Sheveer	<i>Platanus racemosa</i>	A poultice made from the inner bark is applied to poison oak, poison ivy, and other swellings. Tonic for asthma. Bark tea said to aid in childbirth. The wood is used to construct houses, sweat houses, and ceremonial arbors.	13, 25, 34, 35, 36, 38, 40
17)	California Walnut Takaa'pe wa'shuut	<i>Juglans californica</i>	See Walnut	

18)	Catclaw Acacia	<i>Acacia greggii</i>	Pods eaten fresh or dried and ground into flour. Boiling pods reduces bitterness. High in protein.	03, 13, 31
19)	Cattails	<i>Typha spp.</i>	Tongva dried roots, ground into meal, pollen used for cakes, the stalks for matting and bedding and young shoots eaten raw or boiled.	01, 02, 03, 13, 15, 21
20)	Chamise, Greasewood, Chamiso Blanco Hu'uuta	<i>Adenostoma fasciculatum</i>	Used for digging sticks, arrow shafts, and leaves used to treat syphilis. Oil used for skin infections and young shoots eaten after boiling several hours to make tender. Wood used as good tinder. Sticks used for a fence to enclose Tongva <i>Yovaar</i> -ceremonial area	13, 14, 16, 18, 20, 23, 40, 43
21)	Chaparral Yucca	<i>Hesperoyucca a whipplei</i>	See Yucca	
22)	Chicory	<i>Cichorium intybus</i>	Roots ground and roasted as coffee substitute, as a diuretic, and laxative. Leaves eaten raw, cooked, used for tea, skin lotion, gout, rheumatism, joint stiffness, and sore eyes.	01, 02, 03, 26, 28, 30, 40
23)	Cholla	<i>Cylindropuntia spp.</i>	Fruits eaten raw, boiled or dried.	02, 03
24)	Coffeeberry (Buckthorn)	<i>Rhamnus tomentella</i>	Berries used as hot beverage, and as coffee substitute outer bark used for constipation	03, 06, 39
25)	Coreopsis	<i>Coreopsis spp.</i>	seeds eaten	3
26)	Cottonwood	<i>Populus fremontii</i>	Sticks used for house frames. Buds, bark, leaves, and twigs used for emergency food. Buds used for salves, bladder problems, bronchitis and arthritis. Fluff used in baby 'diapers.'	02, 13, 14, 15, 18, 27, 35, 36, 40, 42, 47
27)	Coyote Brush, Dwarf Chaparral Broom	<i>Baccharis pilularis</i>	Wood used for small arrows, tea for general tonic	13, 25
28)	Creosote Bush	<i>Larrea tridentata</i>	Tea from leaves used for stomach ache, chicken pox, kidney trouble, colds, snake bites, rheumatism, venereal diseases and tetanus. When mixed with badger oil, used for burn salve. Leaves were used as a	14, 20, 27, 28, 29, 36, 30, 39,

			poultice. Sap relieved toothaches.	40
29)	Cudweed	<i>Gnaphalium spp</i>	Bruised leaves used for infections, for intestinal problems, bruises and for lung inflammation. Tea used to bring on sweating.	25, 27, 36, 40, 46
30)	Deerweed (Deer Vetch, California Broom) <i>Megaale'</i>	<i>Lotus scoparius</i>	Young stems eaten boiled or baked. Wash from plant used for pregnant women. Roots used for coughs. Used for scouring pads and brooms.	02, 03, 22, 27, 34, 35, 40
31)	Deergrass <i>Suu'ol</i>	<i>Muhlenbergia rugens</i>	Harvested late spring through summerOne of the main grasses used for basketry. Used for foundation material in coiled baskets. Flowering stalks are used after stripping off the dried flowers, before stalks are dried.	16, 24
32)	Desert Holly	<i>Atriplex hymenelytra</i>	Leaves and young shoots are cooked; Seed ground and cooked as a piñole or thickener in soups; added to flour for making bread.	02, 03
33)	Dock (Willow Dock, Yellow Dock)	<i>Rumex spp.</i>	Stems eaten boiled for greens, Rich in vitamins A and C. Roots used for liver cleansing and for astringent. Leaves used for stomach problems and to clean sores and for swellings	11, 26, 29, 31
34)	Dodder	<i>Cuscuta californica</i>	Female plant used for lack of menstruation, for bleeding too much during menstruation and for contraception. Dodder also used for kidney problems and as a laxative.	11, 26, 29, 31
35)	Dogbane (Indian Black Hemp)	<i>Apocynum cannabinum</i>	Seeds, oil, leaves, stems and fiber used for paint, clothing, nets and rope. Dried roots used for heart stimulant, kidney problems, worms, to promote sleep, and for tumors. Fresh leaves used for head lice, dandruff, as dressing for sores and wounds and as a poultice	02, 03, 14, 15, 18, 25, 28, 29, 33, 34, 35, 36, 40, 43, 46
36)	Douglas Iris (Wild Iris)	<i>Iris Douglasiana</i>	Roots used for laxative, burns, earache, gastrointestinal problems, toothache, bladder, urinary aid and venereal diseases.	26, 29, 30, 31, 36, 39, 40
37)	Dudleya,	<i>Dudleya spp.</i>	Leaves and flowers eaten raw, tea used for	02, 03,

	Live Forever		a tonic, leaves applied to sooth scrapes	25, 35
38)	Elderberry <i>Huukat</i> - <i>The Music Tree</i>	<i>Sambucus mexicana</i>	Inner bark used to induce vomiting. Flowers used as tea for bleeding of the lungs, for inflammation, to expel fluid retention, to promote fluid secretion, for burns, rheumatism, jaundice, kidney problems and for every type of infection or inflammation. Blossoms also used as tea for breaking fevers, flu, colds, and upset stomachs, and for antiseptic skin wash. Berries dried and used for pemmican or eaten raw, high in vitamins and mineral-rich, or used for a purplish-black dye. Roots used to induce sweating and as diuretic. The stems and branches are used for percussion instruments, flutes, and clappersticks because the pith can be scraped out easily.	03, 07, 10, 12, 13, 15, 18, 24, 27, 28, 31, 32, 47
39)	Four Wing Saltbush, shadscale	<i>Atriplex canescens</i>	A chenopod, the leaves and seeds are gathered for food. Seeds are cooked like oatmeal, and the leaves eaten raw or cooked. Sometimes the ashes of the plant were used as a leavening ingredient for breads or were used in making a lye to soften the hulls of corn. However the seeds were prepared, they represented a good source of niacin. The ground-up seeds were mixed with sugar and water for a <i>piñole</i> drink.	2, 3, 7, 9
40)	Giant Reed, Carrizo	<i>Arundo donax</i>	Tataviam use in clothing, arrow shafts, whistles and flutes, house construction, boat material, sleeping mat, root can be eaten.	01, 14, 15, 24, 47
41)	Giant Wild Rye	<i>Leymus condensatus</i>	Seed cooked into mush or ground into flour for bread; leaves used as a wash for sore eyes; for making mats, rope, paper etc. The stems are used for thatching roofs. The roots can be tied together and used as a hair comb; important part of the arrow shafts.	3, 13, 15, 16, 18, 24, 30
42)	Horehound	<i>Marrubium vulgare</i>	Leaves with honey used as cough, cold remedy. Tea from roots used as expectorate. Large doses used as laxative. Mission Friars are supposed to have	02, 03, 26, 27,

			brought Horehound with them as a medicinal (Hickman 2008 [Jepson Manual p. 398])	
43)	Humboldt Lily	<i>Lilium humboldtii</i>	Bulb eaten boiled, roasted, steamed, or dried and pounded for flour. Nutritious. Whole plant eaten as potherb, bulbs used in salads. Flowers eaten raw or fried.	01, 02, 03
44)	Incense Cedar	<i>Calocedrus decurrens</i>	Leaflets used to treat colds and fever and I also use as diuretic and to loosen bronchial phlegm. Leaflets dried and used with tobacco and for ceremonies.	10, 27, 40, 43, 46
45)	Indian Tobacco, (White Leafed) Peeshpevat	<i>Nicotiana attenuata, N. beglovii</i>	Leaves used as poultice to promote healing for wounds, for chest and lung congestion, for insect bites, and sores and as drink to induce vomiting. Smoke from dried leaves used for earaches. Dried leaves smoked. Seeds used for toothaches and as ointment for rheumatism. Nicotianas are sacred to the Tongva and used for ceremony. M. Acuna's Great-Grandmother used the leaves on his grandfather's cuts and wounds as a stimulant for healing.	11, 26, 30, 34, 36, 40, 43
46)	Hollyberry, Toyon, Christmasberry, California Holly 'A'shwet	<i>Heteromeles arbutifolia</i>	Berries eaten parched, boiled, toasted or ground for flour and as cold drink high in Vitamin C. Berries used for dye for fishnets. Leaves used for poultices. Bark used for wounds. Bark used for stomach and muscle aches. Leaves, stems and bark pull cyanide. State law disallows collection of stems and branches, for the general public. Hollywood derived its name from this shrub/tree for the berries which come around Christmas time. Settlers used the berries for holiday decoration. Wood used for arrows, tools, awls, scrapers, spoons, mashers, stirrers, and men's hairpins. Tea from crushed flowers used for women's problems. (Acuna 1999)	03, 13, 14, 16, 18, 25, 35, 36, 39
47)	Ironwood	<i>Olneya tesota</i>	Seeds eaten raw, roasted or dried for flour for cakes and hot cereal.	03, 13, 16, 22, 23,
48)	Jimson weed, Datura,	<i>Datura wrightii</i>	Used in rites of passage for boys to seek totem spirit guide and vision ceremonies. A	11, 27, 37, 40,

	Toluaca, Toloache, Sacred Thorn Apple <i>Maanet</i>		very powerful “Grandmother” female plant and most Tongva women will not touch outside of ceremony as to avoid imbalance. Leaves and seeds can be used for bruises, swellings, tarantual and rattlesnake bites. Can be smoked for bronchial asthma.	41, 43, 45, 46
49)	Joshua Tree	<i>Yucca brevifolia</i>	Red dye made from smaller roots. Flowers roasted, very high sugar content.	03, 18
50)	Jumping Cholla Cactus, Teddy Bear Cholla	<i>Cylindropun tia fulgida, Cylindropun tia spp., Opuntia bigelovii</i>	Fruits eaten raw, boiled or dried.	02, 03
51)	Laurel Sumac	<i>Malosma laurina; Rhus laurina</i>	Tea for anti-diarrheal remedy.	13, 31, 39, 40
52)	Lemonadebe rry	<i>Rhus integrifolia</i>	Fruit soaked for lemon drink. Leaves and dried berries used for tea for colds and coughs. Very high Vitamin C. Dried berries ground for flour. Strong tea used for diarrhea.	03, 07, 27, 31, 39
53)	Manzanita, Big-Berry Manzanita	<i>Arctostaphyl os glauca</i>	Tongva ate berries raw, in mush or ground into flour. Seeds ground into mush. Fruits and leaves used for bronchitis. Good animal forage. Dried leaves used with tobacco used for ceremonies. Wood for fuel, construction, tools, and ceremonies.	02, 03, 07, 10, 12, 13, 14, 16, 17, 22, 27, 29, 36, 43
54)	Manzanita, Mission Manzanita <i>Sovoochesh</i>	<i>Arctostaphyl os spp., Arctostaphyl os manzanita, Xylococcus bicolor</i>	Tongva ate berries raw, in mush or ground into flour. Seeds ground into mush. Fruits and leaves used for bronchitis. Good animal forage. Dried leaves used with tobacco used for ceremonies. Wood for fuel, construction, tools, and ceremonies.	02, 03, 07, 10, 12, 13, 14, 16, 17, 22, 27, 29, 36, 43
55)	Milkweed <i>Wiivor, Toohache’ar</i>	<i>Asclepias fascicularis</i>	Roots and young shoots boiled and eaten. Plant used as expectorant, for rheumatism, headache, bowel and kidney trouble, asthma and for stomach complaints. Fibers from bark made into cordage for string, fishnets and for rabbit skin capes and blankets. Sap boiled for chewing gum or for cuts, wounds, warts and tattooing.	01, 15, 16, 18, 25, 26, 28, 29, 36, 40

			Harvested late summer-winter	
56)	Mistletoe <i>Xaa'yal</i>	<i>Phoradendron</i> spp.	Tongva eat juniper mistletoe (<i>P. juniperium</i>) berries raw. Desert mistletoe (<i>P. californicum</i>) berries eaten after leaching, boiling, and mashing since berries have poisonous amines. Tea made from the leaves. Desert mistletoe used as black dye. Oak mistletoe (<i>P. Villosum</i>) used as infusion during first trimester to induce abortion. Mistletoes generally can be used as poultice for toothache.	02, 03, 11, 18, 30, 31
57)	Mistletoe, Pacific Mistletoe, Oak Mistletoe	<i>Phoradendron villosum</i>	see Mistletoe (<i>Phoradendron</i> spp.)	
58)	Mohave Yucca	<i>Yucca schidigera</i>	See Yucca	
59)	Monkeyflower ' <i>Aseeleko</i> '	<i>Mimulus</i> spp.	Young stems and leaves eaten raw as salad greens, or crushed and used as poultice. Tea from leaves used for coughs and colds. Leaves and stems used for muscle aches and ashes used for salt flavoring. Tongva used dock Mimulus root as astringent.	02, 08, 27, 30, 34, 36, 39, 40
60)	Mountain Mahogany <i>Toove</i>	<i>Cercocarpus betuloides</i>	Tea made from stems and twigs. Inner bark dried and used for colds, lung and kidney problems and stomachaches. The outer bark is used for laxative. Red dye made from the roots. Poultice made from green wood used for burns, sores, cuts and wounds. Dried sap used for earaches. Wood used for digging sticks, spears, arrow shafts and fire drills. Bark and roots soaked and boiled for red/brown dye.	2, 13, 14, 18, 22, 26, 27, 29, 31, 36, 40, 43, 44
61)	Mugwort, Douglas sagewort <i>Kwii'ash</i>	<i>Artemisia douglasiana</i>	Leaves used for colds, bronchitis, for asthma, urinary problems rheumatism, back pain, bruises, colic, fever and as a poultice for wounds. Tea from the stems used for stomachaches sore throat, coughs and for sore eyes. Used to keep rattlesnakes away. Used for poison oak and stinging nettles. Leaves rubbed for	18, 27, 28, 29, 30, 32, 36, 38, 40, 42, 43, 45, 46

			purification after handling the deceased.	
62)	Mulefat, Seep Willow, Mule's Fat, Guatamote Tokoora 'amaaxa'	<i>Baccharis salicifolia</i>	Leaves used for tea for eyewash, and stems chewed for toothache. Fluff used for 'diapers.' Stems used for arrows	12, 13, 14, 21, 30
63)	Needlegrass, Foothill Needlegrass	<i>Nassella</i> spp., <i>Nassella lepida</i>	A tasty nutritious bunchgrass that was harvested during seed gathering in fields and grasslands. Excellent forage for deer.	3, 12
64)	Oak toomshar Black Oak, <i>Q. kelloggii</i> Kwiile' , Coast Live Oak, <i>Q. agrifolia</i> Weet Sonoran Scrub Oak, <i>Q. turbinella</i>	<i>Quercus</i> spp.	Oak is considered a sacred plant and this generally applies and especially applies to black oak, coast live oak, and Sonoran Scrub oak/Shrub live oak. The acorns, known as kwaar , were a staple diet food and are still collected. After leaching tannins, Tongva processed acorns to make flour and cakes. Oak ashes were used to combat poisons or bloody urine. Bark used for goiter, stomach ache, fistulas, sinus congestion, & improve stomach metabolism. Dye made from oak bark and leached tannins used for curing deer skins. Oak knots/burls used for clubs, bowls, dippers, ladles and mortars. Fungi on oak eaten or could be used for curing wounds. Young oak sprouts used for basketry, digging sticks, arrows for small game and birds, fire drills, cooking tongs and stirring sticks.	03, 08, 11, 12, 13, 14, 16, 17, 18, 22, 23, 24, 29, 38, 39, 43, 45, 46, 47
65)	Oak Galls	-	Galls dried and ground for eye infections or attached to headdress for ceremonial dances, for basketry, hair tint, and tattoos	30, 35, 43, 45, 46
66)	Palo Verde, Jerusalem thorn, Mexican Palo Verde 'A' weet	<i>Parkinsonia Aculeata</i>	A native of tropical America, Tongva eat/ate pods boiled or roasted. Seeds ground for flour Flowering branches used in spring and summer ceremonies. Bark has astringent qualities.	03, 37, 43, 45
67)	Phacelia	<i>Phacelia</i> spp.	Entire plant eaten boiled	01, 02, 03

68)	Pines	<i>Pinus</i> spp.	Pine nuts are rich in protein raw, roasted or made into mush. Sap used for sores and burns or used for sealant glue and as tea for rheumatism, upset stomach and diarrhea. Inner bark was used as starvation food, eaten raw in slices as a snack. The soft, moist, white inner bark (cambium) is edible and very high in vitamins A and C. It can be dried and ground up into a powder. The powder can be used as a thickener in stews, soups, and bread. Branches used for firewood. Resin used for sealant, or applied to sore muscles and heated for drawing out splinters and boils. Bark, twigs and leaves used for teas for coughs and bronchial conditions.	03, 08, 12, 13, 14, 16, 19, 20, 22, 23, 24, 25, 27, 28, 36, 39, 45, 46, 47
69)	Pine, Coulter	<i>Pinus coulteri</i>	See Pines	
70)	Pine, Pinyon <i>Toovat</i>	<i>Pinus monophylla</i>	See Pines	
71)	Pine, Ponderosa	<i>Pinus ponderosa</i>	See Pines	
72)	Pine, Jeffrey	<i>Pinus jeffreyi</i>	See Pines	
73)	Poison-Oak <i>'Waar</i>	<i>Toxicodendron diversilobum</i>	Sap used to treat rattlesnake bites, warts, and ringworm. Roots boiled for eyewash. All parts poisonous- extreme dermatitis. Most Tongva immune and do not get rashes. Fresh juice made a black dye	11,18, 30
74)	Port Orford Cedar	<i>Chamaecyparis lawsoniana</i>	Leaves used as tea for diuretic, coughs and bronchial ailments. Burned in ceremony. Berries used for female troubles	02, 12, 14, 19, 27, 46
75)	Prickly Pear Cactus <i>naavot, 'ohiit</i>	<i>Opuntia</i> spp.	Fruits eaten raw, boiled, baked. Tongva also dried fruits for later. Seeds ground for flour. Leaves boiled and eaten as greens. Stems peeled for poultice for wounds and inflammations for an antiseptic or for cleansing. Tea used to maintain blood sugar levels for diabetics Spines used for tattoos, ear piercing, fishing or sewing	02, 03, 18, 29, 34, 36, 37, 44
76)	Puncture Vine	<i>Tribulus terrestris</i>	Not native, but Native consultant L. Gonzales uses for decoctions for increasing testosterone and for energy and muscle	12, 25, 40

			growth in men.	
77)	Rabbitbrush, Stickyleaf Rabbitbrush, Yellow Rabbitbrush, Green rabbitbrush	<i>Chrysotham nus viscidiflorus; C. nauseosus</i>	Used as tea for liver and stomach ailments, for maintaining blood sugar levels for diabetics and for yellow dye	12, 18, 39
78)	Redbud, Western Redbud 'Kwaahosh' 'ahiin	<i>Cercis occidentalis</i>	Used as astringent, for diarrhea and for dysentery. Flower buds used for salads or pickled. Buds, flowers and pods eaten fried	02, 03, 39
79)	Ribbonwood, (Redshank, Chamiso Colorado)	<i>Adenostoma sparsifolium</i>	Leaf infusion used for colds, muscle cramps, snake bites, and lockjaw. Bark used for clothing	15, 27, 28, 38
80)	Russian Thistle	<i>Salsola iberica, S. kali.</i>	European introduced. Tongva used young shoots for boiled greens. Can be eaten raw in salads. Related to spinach, can be used in soups and other dishes.	02
81)	Sage, Black	<i>Salvia mellifera</i>	Leaves used for flavor, as astringent for wounds, and skin inflammations, as hairwash for dandruff and as eyewash. Tea from leaves is good for stomach aches and for sore throats	08, 12, 14, 19, 27, 30, 35, 36, 39, 40
82)	Sage, White Sage 'Kasiile'	<i>Salvia apiana, (Salvia spp. is 'paa'or)</i>	Seeds eaten raw or roasted. Traditionally used by village runners for extra protein and carbohydrates. Leaves smoked alone or with tobacco or eaten. Tea used for upset stomach, to break a fever, rheumatic pains, venereal diseases, as a gargle with honey for sore throat, to clean old ulcers and wounds, massaged into scalp for dandruff, for eye irritation, given to women after childbirth for healing and for anesthetic. Leaves used to cover human scent for hunting. A leaf placed on the feet or in a shoe, used since contact, as a foot deodorizer. Dried leaves used as purifier for ceremonies to present times. Burned for ceremony and used with tobacco. Not	02, 03, 08, 10, 12, 14, 19, 24, 25, 27, 28, 30, 31, 35, 36, 37, 39, 40, 43, 44, 45, 46

			harvested while in flower. “ <i>Kasiili</i> contains thujone which can trigger epileptic seizures in pregnant women.” (Acuna 1997)	
83)	Sagebrush, Big <i>Horuuvar</i>	<i>Artemisia tridentata</i> (several variations)	Leaves made as a tea for sore eyes, hair tonic, colds, and stomachache, discomfort. Dried leaves burned for purifying air. Burned for smoke for skunk smell.	12, 14, 19, 25, 27, 30, 31, 39, 43, 45, 46
84)	Sagebrush, Coastal <i>Horuuvar</i>	<i>Artemisia californica</i>	Seeds ground for flour. Tea from leaves used for bronchitis and a wash for wounds and for women’s menstrual problems. Tongva priests burned dried leaves for ceremony. Tongva burned dried leaves for virus purification in lodgings.	03, 12, 14, 19, 25, 27, 28, 30, 31, 35, 39, 43, 45, 46
85)	Santa Barbara Sedge, Slough grass	<i>Carex barbarae</i>	The long fiborous roots have been used in basket weaving. “Roots yielded a fine white material, usually found in the finer baskets, and used especially by the lowlanders, in whose territory this plant abounded” (Barrett and Gifford 1933).	15
86)	Showy Penstemon	<i>Penstemon spectabilis</i>	Flowers boiled for kidney trouble. Whole plant used as poultice for sores and for poultice for sores and for burn salve. It is believed that a wash will stop pain and encourage new skin to grow	29, 36
87)	Snowberry	<i>Symphoricarpos spp.</i>	Berries eaten raw or cooked. Berries contain saponins and should be eaten sporadically. Strong tea from roots used for colds and stomach ache. Fruits are strong laxative	3, 25, 26, 27
88)	Sugarbush, Sugar Sumac <i>Naawe’</i>	<i>Rhus ovata</i>	Dried berries ground for flour. Strong tea used for diarrhea. Fruit soaked for lemon drink. Leaves and dried berries used for tea for colds and coughs. Dried berries ground for flour. Very high vitamin C. Tongva gave berries to Europeans for scurvy.	03, 07, 12, 27, 31, 39
89)	Sumac	<i>Rhus spp.</i>	see Sugarbush	
90)	Sunflower	<i>Helianthus annuus,</i> <i>Helianthus</i>	Seeds eaten raw or roasted. Seed shells roasted and used for hot drink. Yellow dye made from the flowers and black/dull blue	02, 03, 07, 12, 18, 27,

		spp.	dye made from the shell hulls. Teas made from flowers for coughs and congestion. Antiseptic, eyewash.	30, 40
91)	Thistle (Milk Thistle, California Thistle, & Dwarf Thistle)	<i>Silybum marianum</i> , <i>Cirsium coulteri</i> , <i>C. scariosum</i> , <i>C. occidentale</i>	Fruit contains silymarianum, used for treating liver ailments, hepatitis and cirrhosis. Leaves used for blood tonic, eaten cooked, and as salad greens, after overnight soaking in salt water	02, 25, 34, 35, 40
92)	Tree Tobacco, (Yellow Leafed)	<i>Nicotiana glauca</i>	R. Guzman Folkes noted that while local tobacco was used, the introduced variety, <i>Nicotiana glauca</i> was also incorporated into ceremonies and collected for rolling tobacco. Generally, <i>Nicotianas</i> are sacred to Indians and used for ceremony and as gifts to other Native Americans.	10, 47
93)	Valerian [red/pink] and California Valerian	<i>Centranthus ruber</i> and <i>Valeriana californica</i>	<i>C. ruber</i> is an introduced species while <i>V. californica</i> is the native species. <i>V. californica</i> was used historically while both <i>C. ruber</i> and <i>V. californica</i> are in contemporary use as sedatives and both are referred to as “valerian.” Tongva ground dried valerian (<i>C. ruber</i>) seeds into flour. Greens eaten raw, dried, cooked in broths, or for flavoring in tobacco. Tongva also use it as nerve tonic. Roots used as tea for sleep aid and in baths to relieve nervous exhaustion, for epileptic fits, as sedative, to reduce spasms in the stomach, intestines, and for blood vessels, for nervous heart conditions, diarrhea, fever, headache, and muscle tension. Consultant Gonzales uses valerian as tea for sleep aid and to relax nervous stomach or intestinal cramps	02, 03, 25, 28, 34, 35, 37, 39, 40
94)	Walnut, California Walnut, California Black Walnut <i>Takaa’pe wa’shuut</i>	<i>Juglans californica</i>	Nuts edible. Tongva use shells, decorated with asphaltum and abalone or shells, for dice. Hulls used for black dye.	03, 12, 18, 47

95)	White Alder Tukuunet	<i>Alnus rhombifolia</i>	Roots and bark were used for a yellowish dye. Dried inner bark used as poultice for burns, to induce child birth, to promote circulation, to calm stomachache and diarrhea. Leaves mixed with tobacco to induce vomiting. Arrows made from stem shoots. Dried inner bark used as poultice for burns, to induce child birth, to promote circulation, to calm stomachache and diarrhea. Leaves mixed with tobacco to induce vomiting. Arrows made from stems shoots.	18, 25, 26, 31, 34, 36, 39
96)	White Nightshade	<i>Solanum americanum</i>	Tongva used to heal ulcers, tumors and clean wounds. Berries used for making deep purple colored tattoos.	18, 33, 36, 40
97)	Wild Onion	<i>Allium spp.</i>	Whole plant eaten boiled	01, 02
98)	Willow, Arroyo Willow, Gooddings Black Willow Shaxaat	<i>Salix lasiolepis</i> and <i>S. gooddingii</i>	Tongva sing songs when harvesting Shaxaat as it is notably sacred. Branches used for construction of houses, sweat houses and granaries. Smaller wood used for seed beaters, cradleboards and fish traps. Stems dried and used for arrows. Leaves used as tea for rheumatism, worms, to stop bleeding, for fevers, to relieve pain, reduce inflammation, and help lower fevers, for gum and tonsil inflammations, for heartburn, stomach ailments and for wash for sores, eye irritations, burns and wounds. Used in poultices to relieve insect bites, burns and skin irritations. Roots used for diarrhea and to induce vomiting for blood cleansing, but is sometimes fatal. Boiled bark used for skin conditions, and for skin bleeding. Inner bark used to treat urethra and bladder irritability.	02, 04, 06, 11, 13, 25, 27, 28, 30, 34, 35, 36, 37, 38, 40, 45, 46
99)	Willow, Narrow-leaf Shaxaat	<i>Salix exigua</i>	see <i>S. lasiolepis</i>	
100	Willow, Red Shaxaat	<i>Salix laevigata</i>	See <i>S. lasiolepis</i> . L. Gonzales noted, "I use <i>laevigata</i> to make seed beaters and for medicine."	
101	Yarrow Paswat	<i>Achillea millefolium</i>	Astringent, Tonic. Whole plant eaten boiled for greens. Consume in moderation.	01, 02, 03, 25,

			Boil plant water for digestive disorders. Leaves for treatment of skin, subcutaneous skin conditions, hair loss, gastritis, ulcers, diarrhea, dysentery, female bleeding, cold, cough, liver, anemia, headache, shortness of breath, high blood pressure. Whole plant used as astringent and as tonic, for bladder problems, for digestion, for loss of menstrual flow, or for continued menstruation, as poultice for skin rash, fistulas, and to soothe hemorrhoids. Should not be taken for extended periods of time	27, 35, 39, 40
102	Yerba Santa, Felt-leaf, Fuzzy-leaf	<i>Eriodictyon crassifolium</i>	Tea made from leaves for general tonic, for rheumatism, as a stimulant, and expectorant, for colds, coughs, sore throat, stomachaches, venereal diseases, vomiting, and diarrhea. Leaves chewed for gum and used for cuts and abrasions, for pain and to keep swelling down	07, 10, 25, 27, 28, 31, 36, 37, 38, 39, 40
103	Yerba Santa, Shiny Leaf, Sticky-leaf <i>Xuuxahechot</i>	<i>Eriodictyon trichocalyx</i>	Antiseptic; chew leaves for gum and mouth cleansing. Tea from leaves for general tonic, for rheumatism, as a stimulant, and expectorant, for colds, coughs, sore throat, stomachaches, venereal diseases, vomiting, and diarrhea. Leaves chewed for gum and used for cuts and abrasions, for pain and to keep swelling down	07, 10, 25, 27, 28, 30, 31, 36, 37, 38, 39, 40
104	Yucca, Chaparral Yucca, Our Lord's Candle <i>Ako</i> , 'A'weet 'ahiin, Henu'vat	<i>Hesperoyucca whipplei</i>	Young flowers eaten raw, peeled roasted, boiled. Roots for lather, shampoo, soap, arthritis, and as a laxative. Leaf cluster roasted for a starchy food. Young stalks, flowers, buds, and fruit eaten raw, roasted or boiled. Seeds ground for flour. Leaves (<i>Ahna'nash</i>) used for fiber for string baskets, cordage, snares. Modern use as arrow shaft holders.	01, 02, 03, 12, 13, 14, 15, 16, 42, 22, 23, 24,
105	Yucca, Mohave Yucca, Spanish Bayonet <i>Huvat</i>	<i>Yucca schidigera</i> and <i>Yucca baccata</i>	Roots boiled for soap and shampoo. Flowers and young stalks eaten raw, roasted, fried, boiled or dried for cakes. Red roots used for basket patterns. Seeds ground for flour. Cordage made from fibers for housing binds, bags, nets, rope, hats, shoes, paint brushes. With spine left on, cordage used for needle and thread.	01, 02, 03, 13, 15, 16, 18, 19, 23, 26, 28

Appendix 2. Gathering Places (GP) in D7 Project Area

Table 3 Gathering Places and Culturally Significant Plants

Location	Description (Common names)	GPS UTM East/North
GP-001-01	A scattering of giant wild rye grows near the corner of Las Flores Canyon Road and SR-001.	0348886/ 3767495
GP-001-02	A scattering of chaparral yuccas grow on the eastern hillside, and along both north and south sides of mailbox #32219 to about 150ft south of the mailbox site.	0326933/ 3768163
GP-001-03	Just north of Leo Cabrillo State Park grows a large scattering of beavertail cactus and prickly pear cactus on the eastern roadside. They are growing into a steep hillside.	0320641/ 3768993
GP-001-04	Scatterings of prickly pear cactus grow on the east side of the road.	0324512/ 3768475
GP-001-05	A scattering of sugarbush (<i>Rhus ovata</i>), yellow leafy tree tobacco , scrub oaks , cactus (<i>Opuntia</i>), and some yellow asters grow across from a small yellow residence with address of Pacific Coast Hwy #265.	0360172/ 3766011
GP-001-06	A scattering of chaparral yuccas grows along a cliff face with one large agave nearby. red willow (<i>Salix laevigata</i>) trees grow along the highway as well. In the vicinity also grow puncture vine (<i>Tribulis terrestris</i>), sunflowers , and sagebrush	0361690/ 3764568
GP-001-07	A nice scattering of agave grows along the hillside.	0358265/ 3767185
GP-001-08	cactus grows along the hillside with a walking path nearby. Some manzanita grows nearby.	0357609/ 3767560
GP-001-09	Sumac bushes grow interspersed with some poor specimens of jimson weed and puncture vine .	0356982/ 3767625
GP-001-10	A bed of cattails flourishes next to the eastern roadside with a large large scattering of yuccas above on the hillside. Also in the area, road crews should look for giant wild rye on the east side of the road. This site is north of the Charthouse restaurant, and north of Coastline Drive.	0354670/ 3767809
GP-001-11	Across the road (northeast side) from the Adamson House (a State Parks site) grow sumac bushes.	0344854/ 3767280

GP-001-12	A cliff face with blackened cactus .	0318321/3770128
GP-002-01	There is a large patch of 10 collectable plant species along a turn out on the south side of the road along the shoulder across from signage saying “1st Forest Adventure, 7miles to fee area.” Culturally significant plants include tree tobacco , bluff buckwheat with dodder growing into it, ashyleaf buckwheat , deerweed , yuccas/Our Lord’s Candle , black sage , mulefat , laurel sumac , and tarweed .	0390594/ 3787992
GP-002-02	Jimson weed shrubs are located along the turnout situated across the road from the Los Angeles Ranger Station. In the turnout vicinity grow a variety of useful plants, including incense cedar , mountain mahogany , Douglas iris , California buckwheat , redbud , sugarbush , and 3 species of pin s.	0391007/ 3788750
GP-002-03	A stand of Bay laurel grows along the side of SR-2, about 300 feet northeast of the Ranger Station. Hollyberry and mountain mahogany grows nearby and intermixed with the laurel sumac . In the adjacent turnout grows a stand of coastal live oaks	0390709/ 3789138; and 0390615/ 3789136
GP-002-04	Another stand of coastal live oaks grow along the south side of SR-2. At the base grow some mugwort (<i>Artemisia douglasiana</i>) and several clusters of Yerba Santa . About 20 feet away grow manzanita bushes, some yellow flowering coreopsis spp., chamise bushes, and a clustering of monkeyflower .	0389983/ 3790618
GP-002-05	Clumps of white flowering cudweed (<i>Gnaphalium spp.</i>) grow near tufts of white flowering asters and clumps of yuccas .	0389851/ 3791566
GP-002-06	A large stand of ironwood (<i>Olneya tesota</i>) grows along the northwest ditch of SR-2. Native gatherers would not gather here, however, since no place to safely park a car.	no GPS; near M.M. 30.82
GP-002-07	Several tussocks of yerba santa grow along the slope next to the highway.	0391181/ 3792184
GP-002-08	Tufts of sticky leaf yerba santa grow along a turnout on the southeast side of the road.	0396068/ 3792126
GP-002-9	Mistletoe growing among treetops	0400495/3792295
GP-002-10	Clumps of white or Purple sage (not flowering) grow on/near boulders in a turnout along the southeast roadside.	0402885/ 3792738
GP-002-11	Two large Coulter pines stand on both sides of the	0403554/

	roadway.	3792808
GP-002-12	Clumps of big sagebrush (<i>A. tridentata</i>) adjacent to a few large pin es grow in the rear of a turnout along the southeast roadside.	0408632/ 3794175
GP-002-13	A gathering place of 9 species along a small informal turnout along northwest roadside just south of a rockface roadside cut. Species include big leaf maple , poison oak , 2 willow species, arroyo willow , California sycamore , California fushcia , white sage , chamise .	0400975/ 3792599
GP-002-14	Stand of Port Orford cedars with bark cuts probably from sap harvesting grow along the beginning of the Angeles National Forest Recreational Area	0407828/ 3798993
GP-002-15	There are California live oaks with Pacific Mistletoe , also known as oak Mistletoe (<i>Phoradendron flavescens/villosum</i>) growing along their branches. Areas with greater mistletoe densities support higher diversities of animals, and there are often owl nests and other bird nests in mistletoes so that they should not be disturbed.	0411111/ 3801166
GP-002-16	yarrow and coffeeberry growing at the edges of a turnout facing a dramatic view of the valley to the southeast of Angeles Crest Highway.	0421738/ 3802014
GP-002-17	Showy penstemon grows in ground cover near stands of incense cedar . There has been growth of wild onion in the near area in the past, but none noted during the current survey.	0413415/ 3801471
GP-002-18	A stand of mature Jeffrey pines grows in a clearing along the northwest side of the route.	0407324/ 3795671
GP-002-19	Clusters of white nightshade grow out from rocky outcropping near an informal turnout on northwest shoulder of the highway. Nearby also grow clumps of deerweed , snowberry , and bracken ferns in a shady hollow at the back of, or 15 feet into the shrubs behind the turnout.	0390602/ 3791881
GP-005-01	Along truck route 005, at a truck turnout with phone callbox #5-418T, we find collectable Indian tobacco . This is 1/4 mi. before "Roxford Street" exit, on eastern/righthand roadside, across from roads with the Los Angeles Reservoir. Tiny amounts of white sage and sunflowers . Just after the I-5/SR-210 split, lots of yuccas .	none
GP-005-02	At Call box "5-435" we encountered a lot of sunflowers which showed evidence of recent collection.	none- 1/4mi before junc 159, near L.A.

		Reservoir.
GP-018-01	Just east of the junction of SR-136 and SR-118, the desert landscape includes the culturally significant plants creosote , Joshua tree , jumping cholla , and rabbitbrush . Some beavertail cactus in region outside of right-of-way. An example of this plant community is available for review at this GPS marked gathering site.	0432553/3817674
GP-018-02	Creamy flowering four wing saltbush (<i>Atriplex canescens</i>) grows with yellow flowering rabbitbrush (<i>Chrysothamnus nauseosus</i>) nearby.	0439373/3817673
GP-023-01	(GP-023-01 through 07 located in Ventura county). Small bunches of jimson weed and sage grow intermittently, such as an example growing at m.m. 18.43.	no GPS m.m.18.43-18.45
GP-023-02	Yuccas growing along the eastern roadside right-of-way.	m.m. 19.46
GP-023-03	Privately owned oak trees growing in bottom of southern roadside ravine and Ranch Canyon Creek. White flowering Indian tobacco growing in a few clumps as well.	m.m. 19.52
GP-023-04a GP-023-04b	Yellow flowering tree tobacco grows near large oak trees north of Saticoy Golf Course toward Ranch Canyon Road Bridge.	oaks: ~m.m.20.50 to 20.92.
GP-023-05	California walnuts growing along ROW at m.m. 21.03.	m.m.21.03
GP-023-06	Some large pin es near Barsdale Ave./Hwy 23 on east roadside.	m.m. 21.95

GP-023-07	In the dry riverbed of the Santa Clara grows a large swath of giant reed , just south of the intersection with SR-126.	no m.m. or GPS
GP-023-08	Occasionally clumps of black sage, white sage, milkweed, and sagebrush are encountered in the shady underbrush along this stretch of SR-23, such as at this GP.	0324855/ 3768936
GP-023-09	Along both left and right roadsides, outside the 'Treetop House' and 300m from the 'Decker Campgrounds,' one encounters California walnut, California sycamores, and some dudleya succulents in the underbrush.	0324940/ 3770709
GP-023-10	Between m.m. 3.5 - 3.71, near the local Fire Station, grow lots of prickly pear, oak trees, and some yuccas. Some of this might be owned by the horse ranches situated along the roadways and thus may not be collected by Native gatherers.	-
GP-023-11	White flowering ribbonwood grows interspersed with yuccas along the righthand roadside as one drives toward SR-101	0328947/ 3777209
GP-023-12	In a creek with riparian wetland runs along the northern roadside with cattails and arroyo willows along the northern ROW and oaks and California sycamores growing in the southside ROW. A large turnout here attracts visitors for stopping and enjoying the view.	0328925/ 3778076
GP-023-13	On the roadside hill just outside of the ROW grow large dense groups of prickly pear cactus with large oaks and California sycamore in the vicinity.	0329432/ 3779142
GP-027-1a-1b	There is a long row of California sycamore and California ash mixed with California walnut stands along the western side of Topanga Canyon Drive. This is an area that has been harvested by Native communities in past years.	0353776/ 3770037 to 0354089/ 3768584
GP-027-	A stand of California walnut trees is located in the same vicinity but behind the stands of California sycamore and California ash , along the western side of Topanga Canyon	0354089/ 3768584

2	Drive. This is an area that has been harvested by Native communities in past years.	
GP-027-3	Another stand of California ash in a canyon depression along the western side of Topanga Canyon Drive.	0354031/ 3768970
GP-027-4	There are several dudleya succulents growing into a steep cut, along the eastern side of Topanga Canyon Drive.	0353532/ 3770796
GP-027-5	A stand of California sycamore grows along the western side of Topanga Canyon Drive.	0352306/ 3773922
GP-027-6	Stands of willow growing along north side of the road; along the south side grow several clumps of mature, 7 ft tall, Humboldt lilies.	0352733/ 3774496
GP-027-7	A stand of California walnut grows along the north side of the road.	0352493/ 3777662
GP-027-8	A large mixed stand of coastal live oak , California walnut , and willow grows along the north side of Topanga Canyon Drive.	0352042/ 3779833
GP-027-9	Several bushes of laurel sumac growing at the southeast corner of SR-118 and SR-27 (Topanga Canyon Drive).	0352263/ 3794052
GP-033-01	Near Foster County Park, 300ft. south of signage “Ventura county, Foster Park” grow lots of elderberry shrubs in ditches along the east of the road with a water source feeding them. Some stands of mulefat also grow interspersed in the ditch.	0288521/ 3803366
GP-039-01	Near m.m. 17 on a steep grade with northwest-facing	0416391/

	exposure grow a variety of useful plants. These include desert holly, buckwheat, valerian, mulefat, asters, California fushcia, Brickell bush, and chaparral yucca.	3780181
GP-039-02	Near m.m. 17.02 grow a variety of useful plants again along the northwest-facing base of a road cut. Plants include laurel sumac, California fushcia, mountain mahogany, yucca, tree tobacco, buckwheat, California buckeye, and California sagebrush.	0416832/ 3780119
GP-039-03	A variety of useful plants grow along the northwest facing base of a road cut or on the right-hand side as one drive north. This site includes a natural spring emerging from the roadside cut. These include small cattails, dogbane , two types of thistle (dwarf and California thistle), needlegrass , and baby arroyo willows . The dogbane appears to have been recently cut. On the other side of the road, a creek meanders past a recently constructed home development and walkway where laurel sumac and more thistles are growing.	0417078/ 3780258
GP-039-04	A variety of useful plants grow along the northwest facing base of a road cut, also on the right-hand side of the road driving north. These include the white flowering California buckwheat sheltered underneath two dozen yuccas . Some of the yuccas have been harvested recently. Also nearby grow sunflowers, chicory, and tobacco . The chicory has been harvested recently.	0417404/ 3780656
GP-039-05	Gazing down to the east toward the beginning of the Morris Reservoir, there is a gathering place that has been occupied by intransients. Huge oaks dominate the ROWs around m.m.20.47. Evidence of recreational rock climbing along ROW bluffs. A large walnut tree in the ROW near m.m. 21.4. Coulter pines at m.m. 21.91. Of concern, a 400-500 year old live oak tree has been marked with graffiti scratched along the exposed root surfaces. Cigarettes have been snuffed out on the roots as well. The oak tree provides an important foundation at the edge of a steep incline down toward the reservoir. It is recommended that the oak roots be reburied with soil and cordoned off for best protection from intransient destruction. Other useful plants at the gathering site include healthy groups of sugarbush, horehound, desert holly, and tree tobacco . The holly was recently trimmed or harvested poorly.	041875/ 3782387
GP-039-06	At m.m. 24.24 grow a variety of useful plants on both sides of the road. These include white sage, sticky leaf yerba	0421462/

	santa, yucca, California sagebrush, buckwheat, sunflower, and rabbitbrush. At m.m. 25.89, California fushcia and white sage grow along a cliff face on the left side of the road.	3787076
GP-039-07	About m.m. 27.19, along the right as one drives north, a row or grove of white alders grows along a small river. Lots of white sage and buckwheat grows along the opposite side of the road. Graffiti on them says “Miguel, Irapuato, Mexico.” A wet riparian environs on the right but a chaparral environs on the left, driving north. As elevation increases to 2,000 feet, transitioning into pine forest at m.m. 28.00.	0419916/ 3789530
GP-039-08	At m.m. 29.57, crews will encounter a line of oaks , sycamores , and alders . Clumps of yuccas , with more white alders grow along a steep embankment. At m.m. 30.00 to about m.m. 31.54 grow large hollyberry bushes bearing berries, along with some small yuccas . Small manzanitas and pin es (m.m. 31.85) regrowth in a (2004-05?) burned area. White sage	0422011/ 3792516
GP-039-09	Coming up on a center divider, a lovely redbud bush has been planted as landscaping. An unusually placed clump of white nightshade grows next to the m.m. 32.12 post. White nightshade is typical in wetland-riparian environments, but the species is also characteristic of disturbed places.	0422497/ 3794371
GP-101-01	A clump of either Santa Barbara sedge (<i>Carex barbarae</i>) or (invasive) Pampas Grass grows along the western roadside.	0283306/ 3799080
GP-101-02	Blackened cliff-face with a scattering of cactus	318321/3770128
GP-118-01	A stand of laurel sumac grows at the corner of the westbound on-ramp to SR-118 from SR-27, also known as Topanga Canyon Boulevard	0352263/ 3794052
GP-118-02	Clumps of dudleya grow along the north/right-hand roadside at the intersection of Yosemite and SR-118. This is probably not a good stopping place due to traffic.	no GPS

GP-118-03	Mature bushes of white sage and fresh chaparral yucca grow along the north/right-hand roadside near m.m.21.00. This sage is rare here and would be gathered.	0331965/ 3796056
GP-118-04	At junction with “Glen Oaks” grow a cluster of buckwheat , sunflower , and manzanita . Not a contemporary gathering place	none
GP-126-01	Near the edge of the ROW grow stands of elderberry, sunflower, and giant reed.	0325313/ 3808041
GP-126-02	Near Rancho Camitos and the Camulos Museum lies a rich gathering site with lovely stands of yuccas, white sage, sagebrush, datura, milkweed, elderberry, sunflower, thistles, stinging nettles, yarrow, and yellow tree tobacco. The plants lie along the edges of fallow agricultural fields and near m.m.29.07. This would have been part of the gathering territory of the Tataviam villagers of Kamulus.	0336113/ 3809148
GP-126-03	Stands of giant reed, yellow tobacco, and cactus grow along the southern ROW near m.m. 32.22.	0340863/ 3808984
GP-126-04	At m.m. 32.47 grows a lovely gathering site with giant reed, sages, elderberries, milkweed, sagebrush and some small sycamore and ash. Plants are growing along both north and south sides of the ROW. The Santa Clara River and drainage ditches feed water into this gathering area.	0341243/ 3808999
GP-126-05	Near the junction with Chiquito Cyn Road grows a small cluster of giant reed, sage, buckwheat, and thistles on the northern ROW.	0347659/ 3809916
GP-126-06	Reaching an elevation of 1,000ft., crews will begin to encounter groves of oaks with elderberries growing nearby as the example at this gathering site on the southern ROW indicates.	0351678/ 3811787
GP-138-01	A small clump of puncture vine is nestled under/near telephone pole #1450919E.	0408728/ 3820390
GP-138-02	A mature California buckeye tree grows in a vacant lot on the northern roadside.	0408820/ 3820406;
GP-138-03	A cluster of 15-20ft tall palo verdes (<i>Parkinsonia Aculeata</i>) with their feathery branches grows at the corner of 96th St. East.	0411866/ 3820366
GP-138-04	Near the junction of Hampel Avenue and SR-138 grow	0413821/

	some coyote brush bushes.	3820424
GP-138-05	There are sporadic small clumps of jimson weed and an example is at this site. Jimson weed in the area and should not be removed when possible.	0414678/ 3819365
GP-138-06	At m.m. 60.63, there grows a small creosote bush and some four wing saltbush , near the base of telephone pole # 1404391E.	0426903/ 3817737
GP-138-07	Across from a place called the “Desert Paradise” grow a scattering of Joshua trees and creosote bushes.	0427063/ 3817733
GP-138-08	A row of yellow flowering rabbitbrush bushes grows along the north side of the road.	0433236/ 3816910
GP-138-09	About 100ft before Call Box 713 on the south roadside grow jumping cholla cacti , creosote bushes, and Joshua tree cacti on both sides of the road.	0434336/ 3816115
GP-138-10	Among some broken glass and roadside garbage grow young jumping cholla , young Joshua tree , and a few clumps of very dry catclaw acacia bushes.	0435043/ 3815600
GP-138-11	Near the Los Angeles County Line and Llano we find a long series of Joshua Tree Woodland and adapted plants. At this site, about m.m. 13.00, there are Joshua trees , junipers , yuccas , and buckwheat .	0439345/ 3812479

Appendix 3 Management Recommendations for Gathering Plants

Common Name	Scientific Name	Management Recommendation	Gathering Schedule (1-12=Jan-Dec.)
Agave	<i>Agave americana</i>	Although an introduced species, used as native plant; do not cut	3-5
Asters	<i>Aster</i> spp.	Remove vegetation from ROW as necessary except during gathering season	9-11
Beavertail Cactus	<i>Opuntia basilaris</i>	Do not cut	summer-fall fruit harvests
Big Leaf Maple	<i>Acer macrophyllum</i>	Remove vegetation from ROW as necessary	Year-round occasional
Bracken Fern (Western Bracken, Hairy Bracken)	<i>Pteridium aquilinum</i> var. <i>pubescens</i>	Hand-cut around Pteridium	spring-summer gathering
Brickell Bush	<i>Brickellia californica</i>	Remove vegetation from ROW as necessary	Occasional year-round gathering
Buckwheat, Ashy-leaf [Grey] <i>Wiika</i>	<i>Eriogonum cinereum</i>	Remove vegetation from ROW as necessary	Occasional year-round gathering
Buckwheat, Bluff [Red]	<i>Eriogonum parvifolium</i>	Remove vegetation from ROW as necessary	Occasional year-round gathering
Buckwheat, California [White]	<i>Eriogonum fasciculatum</i>	Remove vegetation from ROW as necessary	Occasional year-round gathering
Cactus	<i>Opuntia</i>	Do not cut or remove	Year round gathering
California Ash (Chapparal Ash)	<i>Fraxinus dipetala</i>	Remove vegetation from ROW as necessary	Occasional year-round gathering

California Buckeye	<i>Aesculus californica</i>	Remove vegetation from ROW as necessary	occasional year-round gathering
California Fuchsia (Hummingbird Trumpet)	<i>Epilobium canum</i>	Do not remove during flowering season	8-10
California Juniper	<i>Juniperus californica</i>	Remove vegetation from ROW as necessary	8-11
California Laurel (California Bay, Bay Laurel) Tekape aka	<i>Umbellularia californica</i>	Occasional gathering for leaves & seeds	12-5
California Sycamore Xavaar, Shavaa	<i>Platanus racemosa</i>	Do not cut or remove trees; contact Gabrielino-Tongva consulting groups in the area	Occasional year-round gathering for poles
California Walnut, Southern California Black Walnut Takaa'pe wa'shuut	<i>Juglans californica</i>	Do not cut or remove trees during nut collection	10-11
Catclaw Acacia	<i>Acacia greggii</i>	Do not trim or remove the trees	Occasional-year round
Cattails	<i>Typha spp., Typha latifolia</i>	Do not trim or remove	7-12
Chamise, Greasewood, Chamiso Blanco Hu'uuta	<i>Adenostoma fasciculatum</i>	Do not trim or remove trees; contact Gabrielino-Tongva consulting groups in the area	Occasional year-round gathering
Chaparral Yucca	<i>Hesperoyucca whipplei</i>	Do not cut or remove; contact Gabrielino-Tongva consulting groups in the area	Year round gathering

Chicory	<i>Cichorium intybus</i>	Trim as necessary	spring leaves gathered
Cholla	<i>Cylindropuntia spp.</i>	Do not cut or remove; contact Gabrielino-Tongva consulting groups in the area	Year round gathering
Coffeeberry (Buckthorn)	<i>Rhamnus tomentella</i>	Do not cut or remove	10-11
Coreopsis	<i>Coreopsis spp.</i>	Trim as needed	6-9
Cottonwood	<i>Populus fremontii</i>	Trim as needed	Occasional year - round gathering
Coyote Brush, Dwarf Chaparral Broom	<i>Baccharis pilularis</i>	Prune in the spring	year-round occasional gathering
Creosote Bush	<i>Larrea tridentata</i>	Do not prune after rains	3-10
Cudweed	<i>Gnaphalium spp</i>	Do not prune during harvest period	7-9
Deerweed (Deer Vetch, California Broom) Migaali	<i>Lotus scoparius</i>	Do not prune when flowering	3-8
Deergrass Su'ul	<i>Muhlenbergia rugens</i>	Cut/burn every 2 years in Nov-Dec.	10-2
Desert Holly	<i>Atriplex hymenelytra</i>	Remove vegetation from the ROW as necessary	1-4
Dock (Willow Dock, Yellow Dock)	<i>Rumex spp.</i>	Remove vegetation from the ROW as necessary	3-12
Dodder	<i>Cuscuta californica</i>	Do not remove buckwheat bushes on which Dodder grows unless necessary for firebreaks	Occasional year-round gathering
Dogbane (Indian Black)	<i>Apocynum cannabinum</i>	Remove vegetation from the ROW as necessary	5-10

Hemp)	<i>m</i>		
Douglas Iris (Wild Iris)	<i>Iris Douglasian a</i>	Do not disturb. If possible, transplant bulbs when working in ROW	3-7
Dudleya, Live Forever	<i>Dudleya</i>	Do not disturb. If possible, transplant when working in ROW	4-8
Elderberry Huu'nkát - <i>The Music Tree</i>	<i>Sambucus mexicana</i>	Do not cut or remove trees; contact Gabrielino-Tongva consulting groups in the area	3-8
Ephedra	<i>Ephedra spp.</i>	Cut for firebreaks only	Occasional year-round gathering
Four Wing Saltbush	<i>Atriplex canescens</i>	Remove vegetation from the ROW as necessary	varies according to rainfall; 4-9
Giant Reed, Carrizo	<i>Arundo donax</i>	Remove vegetation from the ROW as necessary	2-7
Giant Wild Rye	<i>Leymus condensatus</i>	Remove vegetation from the ROW as necessary	3-8
Horehound	<i>Marrubium vulgare</i>	Remove vegetation from the ROW as necessary	Year-round
Humboldt Lily	<i>Lilium humboldtii</i>	Do not cut or remove plants	2-8
Incense Cedar	<i>Calocedrus decurrens</i>	Do not cut or remove trees; trim lower branches as necessary	4-8
Indian Tobacco, (White Leafed) Pa'esvot (N. attenuata); (N. beglovii) Pa'espevot	<i>Nicotiana attenuata, N. beglovii</i>	Do not cut or remove plants unless necessary; hand-trim around them when working in ROW	4-9
Ironwood	<i>Olneya tesota</i>	Trim as necessary when not in bloom	3-6

Jimsonweed, Datura, Toluaca, Toloache, Sacred Thorn Apple Maanet	<i>Datura wrightii</i>	Do not trim unless necessary	4-12
Joshua Tree	<i>Yucca brevifolia</i>	Do not cut or trim	year-round occasional gathering
Jumping Cholla Cactus, Teddy Bear Cholla	<i>Cylindropu ntia fulgida, Cylindropu ntia spp., Opuntia bigelovii</i>	Do not cut; trim as needed	5-8
Laurel Sumac	<i>Malosma laurina; Rhus laurina</i>	Cut/burn to the ground every three years in Nov.-Dec.	11-2
Lemonadebe rry	<i>Rhus integrifolia</i>	Trim as necessary when not in bloom	2-6
Manzanita, Big-Berry Manzanita	<i>Arctostaphyl os glauca</i>	Trim as needed	5-8
Manzanita, Mission Manzanita Soboochesh	<i>Arctostaphy los manzanita, Xylococcus bicolor</i>	Trim as needed	6-9
Milkweed, Narrow-leaf Milkweed Wiivor/Toha chear	<i>Asclepias fascicularis</i>	Do not cut; hand-trim around	5-12
Mistletoe Xaa'yal	<i>Phoradendr on flavescens, P. spp.</i>	Leave plants undisturbed	10-2

Mohave Yucca	<i>Yucca schidigera</i>	Do not cut; contact Gabrielino-Tongva consulting groups in the area	fall fruit harvests; 9-11
Monkeyflower <i>A'seleeko</i>	<i>Mimulus spp.</i>	Do not cut	Occasional year-round gathering
Mountain Mahogany <i>Toove</i>	<i>Cercocarpus betuloides</i>	Trim as needed	Occasional year-round gathering
Mugwort <i>Kwi'ash</i>	<i>Artemisia douglasiana</i>	Remove vegetation from the slope as necessary	6-10
Mulefat, Seep Willow, Mule's Fat, Guatamote <i>Tokoore 'maaxa, Shooshmat</i>	<i>Baccharis salicifolia</i>	Do not trim or remove trees	1-12
Oak, Scrub Oak, Black Oak (<i>Q. kelloggii</i> <i>Kwiili</i>), Coast Live Oak (<i>Q. agrifolia</i> <i>Wet</i>), Sonoran Scrub Oak/Shrub Live Oak (<i>Q. turbinella</i>)	<i>Quercus</i> spp.	Trim understories or "ladder" as necessary	Occasional year-round gathering
Oak Galls	-	Do not cut or trim	year-round as necessary
Palo Verdes <i>A'wetl</i>	<i>Parkinsonia Aculeata</i>	Do not cut or trim	4-8
Phacelia	<i>Phacelia spp.</i>	Do not cut or trim while in bloom	3-7
Pines <i>Toovat</i>	<i>Pinus</i> spp.	Do not cut or trim unless necessary	year-round as necessary

Poison-Oak O'aar	<i>Toxicodendron diversilobum</i>	Remove as needed	Harvested as needed year-round
Port Orford Cedar	<i>Chamaecyparis lawsoniana</i>	Do not cut	4-7 for berries, year-round for wood
Prickly Pear Cactus 'naaot	<i>Opuntia spp.</i>	Do not cut; contact Gabrielino-Tongva consulting groups in the area	7-10
Puncture Vine	<i>Tribulus terrestris</i>	Remove as necessary	year-round occasional gathering
Rabbitbrush, Stickyleaf Rabbitbrush, Yellow Rabbitbrush, Green rabbitbrush	<i>Chrysothamnus viscidiflorus</i> ; <i>C. nauseosus</i>	Remove as necessary	8-11
Redbud, Western redbud Kwahosh' a'heen	<i>Cercis occidentalis</i>	Do not cut	3-5
Ribbonwood, (Redshank, Chamiso Colorado)	<i>Adenostoma sparsifolium</i>	Do not trim or remove trees	Occasional year-round gathering
Russian Thistle	<i>Salsola iberica, S. kali.</i>	Cut/burn to the ground every three years in Nov.-Dec.	2-8
Sage, Black	<i>Salvia mellifera</i>	Remove vegetation from ROW when necessary	3-8
Sage, White Sage Kasili	<i>Salvia apiana</i>	Do not cut when in bloom or seeding; Avoid cutting when possible; harvested when not in bloom	7-2
Sagebrush, Big	<i>Artemisia tridentata (several</i>	Remove vegetation from ROW when necessary	3-10

	<i>variations)</i>		
Sagebrush, Coastal	<i>Artemisia californica</i>	Remove vegetation from ROW when necessary	3-10
Santa Barbara Sedge, Slough grass	<i>Carex barbarae</i>	Do not remove	2-8
Showy Penstemon	<i>Penstemon spectabilis</i>	Do not remove	3-7
Snowberry	<i>Symphorica rpos spp.</i>	Do not remove	5-8
Sugarbush <i>Naawi</i>	<i>Rhus ovata</i>	Trim as needed but do not remove	3-6
Sumac	<i>Rhus spp.</i>	Trim as needed but do not remove	3-7
Sunflower	<i>Helianthus annuus,</i> <i>Helianthus spp.</i>	Avoid cutting from ROW when possible	7-10
Tarweed, Slender Tarewed	<i>Deinandra fasciculata/</i> <i>Hemizonia fasciculata</i>	Avoid cutting from ROW when possible	5-9
Telegraph Weed	<i>Heterotheca grandiflora</i>	Remove vegetation from the ROW as necessary	Occasional year-round gathering
Thistle (Milk Thistle, California Thistle, & Dwarf Thistle)	<i>Silybum marianum,</i> <i>Cirsium coulteri,</i> <i>C. scariosum,</i> <i>C. occidentale</i>	Cut or burn to the ground every three years in winter; Trim as needed	Year-round occasional gathering
Toyon, Hollyberry, Christmasberry, California	<i>Heteromeles arbutifolia</i>	Do not cut or trim	9-3

Holly <i>A'shwet</i>			
Tree Tobacco, (Yellow Leafed)	<i>Nicotiana glauca</i>	Trim as necessary	Year-round gathering as necessary
Valerian, Red Valerian, Jupiter's Beard; and California Valerian	<i>Centranthus ruber and Valeriana californica</i>	Avoid cutting	3-7 for leaves; roots year-round occasional gathering
White Alder <i>Tukuunet</i>	<i>Alnus rhombifolia</i>	Trim as needed	Year-round occasional gathering
White Nightshade	<i>Solanum americanum</i>	Trim as necessary	6-10
Wild Onion	<i>Allium spp.</i>	Do not cut	4-9
Willow, Arroyo Willow, Gooddings Black Willow <i>Shaxaat</i>	<i>Salix lasiolepis and S. gooddingii</i>	Do not cut	Occasional year-round gathering
Willow, Narrow-leaf (Coyote Willow) <i>Shaxaat</i>	<i>Salix exigua</i>	Do not cut	Blooms 3-4; occasional gathering year-round
Willow, Red <i>Shaxaat</i>	<i>Salix laevigata</i>	Do not cut unless necessary	Blooms 3-4; occasional gathering year-round
Yarrow <i>Paswaat</i>	<i>Achillea millefolium</i>	Do not cut unless necessary	4-9

Yerba Santa, Felt-leaf, Fuzzy-leaf	<i>Eriodictyon crassifolium</i>	Do not cut	summer leaf gathering
Yerba Santa, Shiny Leaf, Sticky-leaf Xuxahechut	<i>Eriodictyon trichocalyx</i>	Do not cut	summer leaf gathering
Yucca, Chaparral Yucca, Our Lord's Candle Ako, A'we'hwhin, Henuu'vat	<i>Hesperoyuca whipplei</i>	Do not cut	Year-round occasional gathering
Yucca, Mohave Yucca, Spanish Bayonet Huuvat	<i>Yucca schidigera and Yucca baccata</i>	Do not cut	Year-round occasional gathering

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